Data Manager Quick Links

New Data Warehouse - Starting January 1, 2020 – Important Information for ALL SITES!

Database Transition Resources Page

STS National Database Webinars Page

Data Manager Education

Data Collection Resources (version specific abstraction documents)

Ask an Abstraction Question

STS National Database News - Publication for STS Data Managers

Public Reporting

Contact Information

# CONGENITAL HEART SURGERY DATABASE TRAINING MANUAL

V3.41

STS National Database™
Using data to drive quality

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**Current Date: 3/03/2021**

***Note:*** **- ALL fields defined in these specifications with "Core: Yes" are to be collected by all sites.**

**- A data record must be created for each time the patient enters the Operating Room.**

**- Fields indicated with a gray background are no longer being collected.**

## Administrative

| | | | |
|---|---|---|---|
| *Long Name:* | Participant ID | *SeqNo:* | 10 |
| *Short Name:* | **ParticID** | *Core:* | Yes |
| *Section Name*: | Administrative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Participant ID is a unique number assigned to each database participant by the STS. A database participant is defined as one entity that signs a Participation Agreement with the STS, submits one data file to the harvest, and gets back one report on their data. The participant ID must be entered into each record. Each participant's data, if submitted to harvest, must be in one data file. If one participant keeps their data in more than one file (e.g., at two sites), then the participant must combine them back into one file for harvest submission. If two or more participants share a single purchased software, and enter cases into one database, then the data must be extracted into two different files, one for each participant ID, with each record having the correct participant ID number. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User or Automatic | | |
| *Format:* | Text | | |

---

| | | | |
|---|---|---|---|
| *Long Name:* | STS Data Version | *SeqNo:* | 20 |
| *Short Name:* | **DataVrsn** | *Core:* | Yes |
| *Section Name*: | Administrative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Version number of the STS Data Specifications/Dictionary, to which each record conforms. It will identify which fields should have data, and what are the valid data for each field. This must be entered into the record automatically by the software at the time the record is created. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | Automatic | | |

*Format:* Text

---

*Long Name:* Software Vendor Identifier
*Short Name:* **VendorID**
*Section Name*: Administrative
*DBTableName:* Operations
*Definition:* Identifying code (assigned by STS) given to identify software vendor (up to 8 characters). Vendors should use standard name identification across sites. Changes to Software Vendor Identifier must be reported to the STS.

*SeqNo:* 40
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* Automatic
*Format:* Text

---

*Long Name:* Software Version
*Short Name:* **SoftVrsn**
*Section Name*: Administrative
*DBTableName:* Operations
*Definition:* Vendor's software product name and version number identifying the software which created this record. Vendor controls the value in this field.

*SeqNo:* 50
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* Automatic
*Format:* Text

---

*Long Name:* Operation Table Record Identifier
*Short Name:* **OperationID**
*Section Name*: Administrative
*DBTableName:* Operations
*Definition:* An arbitrary, unique value generated by the software that permanently identifies each operation record in the participant's database. The value of the identifier is a combination of a code assigned to the software developer by the STS, and a value generated by the software to create a unique value. Once

*SeqNo:* 60
*Core:* Yes
*Harvest:* Yes

assigned to a record, this number can never be changed or reused. The data warehouse will use this value to communicate issues about individual records with the participant. This field is the primary key that links this record with the associated records in the Diagnosis, Risk Factors, Preoperative Factors, Procedures, Complications, Anesthesia Adverse Events, Preoperative Medications, Intraoperative Pharmacology, and ICU Pharmacology tables.

*Intent / Clarification:*

*Data Source:* Automatic
*Format:* Text

---

*Long Name:* Operations Link to Demographics Table
*Short Name:* **PatID**
*Section Name*: Administrative
*DBTableName:* Operations
*Definition:* An arbitrary, unique value generated by the software that permanently identifies each patient demographic record in the participant's database. This field is the foreign key that links this record with the associated record in the Demographics table.

*SeqNo:* 70
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* Automatic
*Format:* Text

---

*Long Name:* Patient Participating In STS-Related Clinical Trial
*Short Name:* **ClinTrial**
*Section Name*: Administrative
*DBTableName:* Operations
*Definition:* Indicate which, if any, STS-related clinical trial in which the patient is participating. The STS will assign a code to each clinical trial as they begin collecting data.

*SeqNo:* 81
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)
Harvest Codes:

| Code: | Value: |
|---|---|

| | |
|---|---|
| 1 | None |
| 2 | Trial 1 |
| 3 | Trial 2 |
| 4 | Trial 3 |
| 5 | Trial 4 |
| 6 | Trial 5 |
| 7 | Trial 6 |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Patient Participating In STS-Related Clinical Trial - Patient ID | *SeqNo:* | 82 |
| *Short Name:* | **ClinTrialPatID** | *Core:* | Yes |
| *Section Name*: | Administrative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the patient identifier used to identify the patient in the clinical trial. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text |
| *ParentLongName:* | Patient Participating In STS-Related Clinical Trial |
| *ParentShortName:* | **ClinTrial** |
| *ParentHarvestCodes:* | <>1 And Is Not Missing |
| *ParentValues:* | Is Not "None" And Is Not Missing |

---

## Demographics

| | | | |
|---|---|---|---|
| *Long Name:* | Demographics Table Patient Identifier | *SeqNo:* | 90 |
| *Short Name:* | **PatID** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Demographics | | |
| *Definition:* | An arbitrary value (not a recognizable ID like Social Security Number or Medical Record Number) that uniquely and permanently identifies each patient. The value of the identifier is a combination of a code assigned to the software developer by the STS, and a value generated by the software to create a unique value. Once assigned to a patient, this can never be changed or reused. This field is the primary key that links this demographics record with the associated records in the Non-Cardiac Abnormalities, Noncardiac Congenital Anatomic | | |

Abnormalities, Chromosomal Abnormalities, and Syndromes tables.

*Intent / Clarification:*

*Data Source:* Automatic
*Format:* Text

---

*Long Name:* Demographics Table Data Version
*Short Name:* **DemogDataVrsn**
*Section Name*: Demographics
*DBTableName:* Demographics
*Definition:* Version number of the STS Data Specifications/Dictionary, to which this Demographics record conforms as assigned by the software. This value will determine which fields should have data and what the valid data are for each field. This must be entered into the record automatically by the software at the time the record is created. See Software Specifications document for description of how this value can be modified after the record was created.

*SeqNo:* 100
*Core:* Yes
*Harvest:* Optional

*Intent / Clarification:*

*Data Source:* Automatic
*Format:* Text

---

*Long Name:* Patient National Identification (Social Security Number)
*Short Name:* **PatNationalID**
*Section Name*: Demographics
*DBTableName:* Demographics
*Definition:* Indicate the patient's Social Security Number (SSN). Although this is the Social Security Number in the USA, other countries may have a different National Patient Identifier Number. For example in Canada, this would be the Social Insurance Number. This field should be collected in compliance with state/local privacy laws.

*SeqNo:* 110
*Core:* Yes
*Harvest:* Optional

*Intent / Clarification:*

*Data Source:* User
*Format:* Text

| | | | |
|---|---|---|---|
| *Long Name:* | Medical Record Number | *SeqNo:* | 120 |
| *Short Name:* | **MedRecN** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Optional |
| *DBTableName:* | Demographics | | |
| *Definition:* | Indicate the patient's medical record number at the hospital where surgery occurred. This field should be collected in compliance with state/local privacy laws. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text | | |

| | | | |
|---|---|---|---|
| *Long Name:* | Patient Last Name | *SeqNo:* | 140 |
| *Short Name:* | **PatLName** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Optional |
| *DBTableName:* | Demographics | | |
| *Definition:* | Indicate the patient's last name documented in the medical record. This field should be collected in compliance with state/local privacy laws. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text | | |

| | | | |
|---|---|---|---|
| *Long Name:* | Patient First Name | *SeqNo:* | 150 |
| *Short Name:* | **PatFName** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Optional |
| *DBTableName:* | Demographics | | |
| *Definition:* | Indicate the patient's first name documented in the medical record. This field should be collected in compliance with state/local privacy laws. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |

*Format:* Text

---

*Long Name:* Patient Middle Name
*Short Name:* **PatMName**
*Section Name*: Demographics
*DBTableName:* Demographics
*Definition:* Indicate the patient's middle name or middle initial as documented in the medical record. Leave "blank" if no middle name. This field should be collected in compliance with state/local privacy laws.

*SeqNo:* 170
*Core:* Yes
*Harvest:* Optional

*Intent / Clarification:*

*Data Source:* User
*Format:* Text

---

*Long Name:* Patient's Region
*Short Name:* **PatRegion**
*Section Name*: Demographics
*DBTableName:* Demographics
*Definition:* Indicate the region of the country (i.e., state or province) in which the patient permanently resides at time of admission.

*SeqNo:* 180
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text

---

*Long Name:* Patient's Postal Code
*Short Name:* **PatPostalCode**
*Section Name*: Demographics
*DBTableName:* Demographics
*Definition:* Indicate the ZIP Code of the patient's residence. Outside the USA, this data may be known by other names such as Postal Code. This field should be collected in compliance with state/local privacy laws.

*SeqNo:* 190
*Core:* Yes
*Harvest:* Optional

*Intent / Clarification:*

*Data Source:* User
*Format:* Text

---

*Long Name:* Patient's Country
*Short Name:* **PatientCountry**
*Section Name*: Demographics
*DBTableName:* Demographics
*Definition:* Indicate the patient's country of residence at time of admission. This field should be collected in compliance with state/local privacy laws.

*SeqNo:* 201
*Core:* Yes
*Harvest:* Optional

*Intent / Clarification:*

*Data Source:* User
*Format:* Text

---

## Birth Information

*Long Name:* Temporary Date Field
*Short Name:* **TempDt**
*Definition:* **To further understand the impact of Covid-19 on surgical patients, STS will begin collecting the date of positive PCR testing for Covid-19 patients with surgery dates starting May 1, 2020. If there is more than one positive test date, collect the date that is closest to the OR date. Positive antibody testing is not captured in this field. Sites have the option to retroactively collect this field back to January 1 if they choose to do so. To achieve this, the temporary field (TempDt) will be utilized for patients who have a confirmed Covid-19 diagnosis through PCR testing.**

*SeqNo:* 6723

*Intent / Clarification:* Use only as directed by STS, do not add custom field here .

| | | | |
|---|---|---|---|
| *Long Name:* | Temporary Coded Field | *SeqNo:* | 6724 |
| *Short Name:* | **TempCode** | | |
| *Definition:* | **This field will be used to collect data on Covid-19. Please complete on patients entered into the database starting April 1, 2020. Sites have the option to retroactively collect this field back to January 1 if they choose to do so.**<br><br>**Did the patient have a laboratory confirmed diagnosis of Covid-19?**<br>• **No (Harvest code 10)**<br>• **Yes, prior to hospitalization for this surgery (Harvest Code 11)**<br>• **Yes, in hospital prior to surgery (Harvest Code 12)**<br>• **Yes, in hospital after surgery (Harvest Code 13)**<br>• **Yes, after discharge within 30 days of surgery (Harvest Code 14)** | | |

*Intent / Clarification:* Use only as directed by STS, do not add custom field here .

May 2020: **There are many tests for different types of coronavirus. The STS is only collecting data on the one that causes COVID 19 which is SARS-CoV-2.**

May 2020: **Code No for patients who are not tested and for patients who are tested for Covid-19 and that test is negative**

May 2020: Can I abstract a patient who is assumed to be Covid-19+ but was not tested**? No, only code yes for a patient who has been confirmed to have Covid-19 through laboratory testing.**

May 2020: **If the patient was tested within 30 days of surgery but the result comes back after 30 days, still code this as within 30 days.**

May 2020: During a follow up phone call, a patient says that they tested positive for COVID-19. Shall I take their word, or do I need an official result? **Code Yes, after discharge within 30 days of surgery for patients who self-report testing positive for COVID-19 within 30 days of surgery.**

May 2020: For Harvest Code 10, does this only apply to the pre-op status? How do we collect post-op hospitalized patients who test negative? **Harvest Code 10 - NO applies to any of the above timeframe's pre-op, during hospitalization, and post-op. For example, if the patient tested negative or was not tested pre-op, then code as NO. If the patient is then tested and is negative or not tested during the hospitalization, code NO. If the patient is discharged and is found to be COVID 19 positive within 30 days of surgery, remove code 10 and code Yes to Code 13.**

May 2020: For harvest Code 11 - Yes, prior to hospitalization for this surgery. Can you specify the time frame? **There is no timeframe for harvest Code 11. Capture any COVID 19 positive test pre-op and enter the date in SEQ 6723 TempDt**

| | | | |
|---|---|---|---|
| *Long Name:* | Born By IVF | *SeqNo:* | 202 |
| *Short Name:* | **BornByIVF** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate whether the patient was conceived by in vitro | | |

fertilization.

*Intent / Clarification:* If Born By IVF is not known, leave the field blank.

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Patient Adopted
*Short Name:* **PatientAdopted**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate whether the patient is adopted by the current legal guardians/parents.

*SeqNo:* 203
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:* If Patient Adopted is not known, leave the field blank.

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

January 2020: When a patient has been adopted by one, unrelated parent who married a birth parent after the patient's birth, is this considered "adopted"? (i.e the patient has one birth parent and one adoptive parent)When the mother changes her last name by marriage and/or remarriage (on this occasion, several times), do you want her name at the time of the patient's birth, or at the time of the current operative procedure? **Only select adopted if no biological parent is with the patient. Mother's name should be included as the name of the mother at the time of birth.**

---

*Long Name:* Birth Location Is Known
*Short Name:* **BirthLocKnown**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate whether the location (city, state, country) of the patient's birth is known.

*SeqNo:* 208
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Born at Home
*Short Name:* **BornHome**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate whether the patient was born at home.

*SeqNo:* 209
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Birth Location Is Known
*ParentShortName:* **BirthLocKnown**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Hospital Name Known
*Short Name:* **HospNameKnown**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate whether the name of the hospital is known.

*SeqNo:* 210
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Born at Home
*ParentShortName:* **BornHome**
*ParentHarvestCodes:* 2
*ParentValues:* = "No"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Birth Hospital Name
*Short Name:* **BirthHospName**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate the name of the hospital where the patient was born.

*SeqNo:* 211
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Hospital Name Known
*ParentShortName:* **HospNameKnown**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

---

*Long Name:* Birth Hospital TIN
*Short Name:* **BirthHospTIN**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate the Taxpayer Identification Number for the hospital where the patient was born. This field will be blank for Non-US participants.

*SeqNo:* 212
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Hospital Name Known
*ParentShortName:* **HospNameKnown**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

May 2019: Our hospital serves patients from several states as well as Canada. I know that Canadian hospitals will not have a TIN, but I am having difficulty finding TINs for many of the other hospitals. Is there a database that that STS users can access or a download somewhere so we can get these numbers? Any information would be helpful.
**Here's a link which may help:** https://www.cms.gov/OpenPayments/Downloads/2018-Reporting-Cycle-Teaching-Hospital-List-pdf.pdf **It may not be exhaustive (as it specifies "teaching hospitals") but could be used to create a parred down list with relevant nearby hospitals for sites.**

| | | | |
|---|---|---|---|
| *Long Name:* | City of Birth | *SeqNo:* | 219 |
| *Short Name:* | **BirthCit** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate the city in which the patient was born. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text |

| | |
|---|---|
| *ParentLongName:* | Birth Location Is Known |
| *ParentShortName:* | **BirthLocKnown** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Yes" |

| | | | |
|---|---|---|---|
| *Long Name:* | Birth Region | *SeqNo:* | 220 |
| *Short Name:* | **BirthSta** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate the region of the country (i.e., state or province) in which the patient was born. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text |

| | |
|---|---|
| *ParentLongName:* | Birth Location Is Known |
| *ParentShortName:* | **BirthLocKnown** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Yes" |

| | | | |
|---|---|---|---|
| *Long Name:* | Country of Birth | *SeqNo:* | 231 |
| *Short Name:* | **BirthCountry** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate the country in which patient was born. This field should be collected in compliance with state/local privacy laws. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text

*ParentLongName:* Birth Location Is Known
*ParentShortName:* **BirthLocKnown**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

---

*Long Name:* Mode of Delivery Known
*Short Name:* **DelivModeKnown**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate whether the mode of delivery is known.

*SeqNo:* 232
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Mode of Delivery
*Short Name:* **DelivMode**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate the mode of delivery.

*SeqNo:* 233
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:* The intent is to collect how labor began. "Other C-Section" should be used to capture an unscheduled, emergent C-Section such as in a situation where the baby needs to be delivered emergently (severe eclampsia, abruption, fetal distress, etc.)

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Mode of Delivery Known
*ParentShortName:* **DelivModeKnown**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Spontaneous onset labor with vaginal delivery |
| 2 | Spontaneous onset labor with cesarean section |
| 3 | Induction of labor with vaginal delivery |
| 4 | Induction of labor with subsequent cesarean section |
| 5 | Scheduled cesarean section |
| 6 | Other cesarean section |

---

*Long Name:* Mother's Gravidity And Parity Known
*SeqNo:* 234
*Short Name:* **GravParKnown**
*Core:* Yes
*Section Name*: Demographics
*Harvest:* Yes
*DBTableName:* Birth Information
*Definition:* Indicate whether the patient's mother's gravidity and parity are known.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Mother's Gravidity
*SeqNo:* 235
*Short Name:* **Gravidity**
*Core:* Yes
*Section Name*: Demographics
*Harvest:* Yes
*DBTableName:* Birth Information
*Definition:* Indicate the number of times the mother of the patient has been pregnant, regardless of whether these pregnancies were carried to term. This includes the current pregnancy.
*Low Value:* 1
*High Value:* 30

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Mother's Gravidity And Parity Known
*ParentShortName:* **GravParKnown**
*ParentHarvestCodes:* 1

*Parent Value:* = "Yes"

July 2019: Do these refer to the mother's gravidity and parity at the time of the patient's birth, or at the time when the operation was performed? Particularly in older patients, the mother may have had several more pregnancies after the birth of the patient who is having the operation. **These are to be collected at the time of the patient's birth.**

---

*Long Name:* Mother's Parity
*SeqNo:* 236
*Short Name:* **Parity**
*Core:* Yes
*Section Name*: Demographics
*Harvest:* Yes
*DBTableName:* Birth Information
*Definition:* Indicate the number of >20-week births the patient's mother has had. Pregnancies with multiple babies (twins, triplets, etc.) count as 1 birth.
*Low Value:* 0
*High Value:* 30

*Intent / Clarification:* Include current patient in count.

*Data Source:* User
*Format:* Integer

*ParentLongName:* Mother's Gravidity And Parity Known
*ParentShortName:* **GravParKnown**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

June 2020: Does parity include the current birth or just the previous births? **Parity does include the current birth.**

---

*Long Name:* APGAR Scores Known
*SeqNo:* 237
*Short Name:* **ApgarKnown**
*Core:* Yes
*Section Name*: Demographics
*Harvest:* Yes
*DBTableName:* Birth Information
*Definition:* Indicate whether the patient's APGAR scores are known.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)
Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | APGAR Score At 1 Minute | *SeqNo:* | 238 |
| *Short Name:* | **Apgar1** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate the patient's APGAR score at 1 minute after birth. | | |
| *Low Value:* 0 | | | |
| *High Value:* 10 | | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Integer | | |
| *ParentLongName:* | APGAR Scores Known | | |
| *ParentShortName:* | **ApgarKnown** | | |
| *ParentHarvestCodes:* | 1 | | |
| *Parent Value:* | = "Yes" | | |

| | | | |
|---|---|---|---|
| *Long Name:* | APGAR Score At 5 Minutes | *SeqNo:* | 239 |
| *Short Name:* | **Apgar5** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate the patient's APGAR score at 5 minutes after birth. | | |
| *Low Value:* 0 | | | |
| *High Value:* 10 | | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Integer | | |
| *ParentLongName:* | APGAR Scores Known | | |
| *ParentShortName:* | **ApgarKnown** | | |
| *ParentHarvestCodes:* | 1 | | |
| *Parent Value:* | = "Yes" | | |

| | | | |
|---|---|---|---|
| *Long Name:* | Mother's Name Known | *SeqNo:* | 240 |
| *Short Name:* | **MatNameKnown** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate whether the name of patient's biological mother at time of patient's birth is known. If the patient is adopted and the name of the patient's biological mother is not known, indicate whether the name of the patient's adopted mother is | | |

known. This field should be collected in compliance with state/local privacy laws.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Mother's Last Name
*Short Name:* **MatLName**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate the last name of patient's biological mother at time of patient's birth, if it is known. If the patient is adopted, if the last name of the patient's biological mother is known, please enter the last initial of the patient's biological mother. If the patient is adopted, if the last name of the patient's biological mother is not known, please enter the last name of the patient's adopted mother.

*SeqNo:* 250
*Core:* Yes
*Harvest:* Optional

*Intent / Clarification:*

*Data Source:* User
*Format:* Text

*ParentLongName:* Mother's Name Known
*ParentShortName:* **MatNameKnown**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

---

*Long Name:* Mother's First Name
*Short Name:* **MatFName**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate the first name of patient's biological mother at time of patient's birth, if it is known. If the patient is adopted, if the first name of the patient's biological mother is known, please enter the first name of the patient's biological mother. If the patient is adopted, if the first name of the patient's biological mother is not known, please enter the first name of the

*SeqNo:* 260
*Core:* Yes
*Harvest:* Optional

patient's adopted mother. This field should be collected in compliance with state/local privacy laws.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text

*ParentLongName:* Mother's Name Known
*ParentShortName:* **MatNameKnown**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

---

*Long Name:* Mother's Middle Name
*Short Name:* **MatMName**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate the middle name of patient's biological mother at time of patient's birth, if it is known. If the patient is adopted, if the first name of the patient's biological mother is known, please enter the first name of the patient's biological mother. If the patient is adopted, if the first name of the patient's biological mother is not known, please enter the first name of the patient's adopted mother. This field should be collected in compliance with state/local privacy laws.

*SeqNo:* 280
*Core:* Yes
*Harvest:* Optional

*Intent / Clarification:*

*Data Source:* User
*Format:* Text

*ParentLongName:* Mother's Name Known
*ParentShortName:* **MatNameKnown**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

---

*Long Name:* Mother's National Identification (Social Security Number) Known
*Short Name:* **MatSSNKnown**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate whether the Social Security Number (SSN) of patient's biological mother at time of patient's birth is known. If the patient is adopted and the SSN of the patient's

*SeqNo:* 290
*Core:* Yes
*Harvest:* Yes

biological mother is not known, please indicate whether the SSN of the patient's adopted mother is known. This field should be collected in compliance with state/local privacy laws.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes and Value Definitions:

| Code: | Value: | Definition: |
|---|---|---|
| 1 | Yes | The mother's national identification number (such as Social Security Number) is known and will be collected. |
| 2 | No | The mother's national identification number (such as Social Security Number) is not known and will be not collected. |
| 3 | Refused | Patient chose not to provide the information. |

---

*Long Name:* Mother's National Identification (Social Security Number)
*Short Name:* **MatSSN**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate the Social Security Number (SSN) of patient's biological mother at time of patient's birth, if it is known. Although this is the SSN in the USA, other countries may have a different National Patient Identifier Number. For example in Canada, this would be the Social Insurance Number. If the patient is adopted, if the SSN of the patient's biological mother is known, please enter the SSN of the patient's biological mother. If the patient is adopted, if the SSN of the patient's biological mother is not known, please enter the SSN of the patient's adopted mother. This field should be collected in compliance with state/local privacy laws.

*SeqNo:* 300
*Core:* Yes
*Harvest:* Optional

*Intent / Clarification:*

*Data Source:* User
*Format:* Text

*ParentLongName:* Mother's National Identification (Social Security Number) Known
*ParentShortName:* **MatSSNKnown**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

| | | | |
|---|---|---|---|
| *Long Name:* | Date of Birth | *SeqNo:* | 310 |
| *Short Name:* | **DOB** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Optional |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate the patient's date of birth using 4-digit format for year. This field should be collected in compliance with state/local privacy laws. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Date - mm/dd/yyyy

---

| | | | |
|---|---|---|---|
| *Long Name:* | Birth Weight Known | *SeqNo:* | 320 |
| *Short Name:* | **BirthWtKnown** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate whether the patient's birth weight is known. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Birth Weight | *SeqNo:* | 330 |
| *Short Name:* | **BirthWtKg** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate the patient's APGAR score at 1 minute after birth. | | |
| *Low Value:* | 0.100 | | |
| *High Value:* | 10.000 | | |

*Intent / Clarification:*

*Data Source:* User

*Format:* Real, at least 3 decimal places

*ParentLongName:* Birth Weight Known
*ParentShortName:* **BirthWtKnown**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Sex At Birth
*Short Name:* **Gender**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate the patient's gender at birth as male, female or ambiguous.

*SeqNo:* 340
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Male |
| 2 | Female |
| 3 | Ambiguous |

---

*Long Name:* Premature Birth
*Short Name:* **Premature**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate whether the patient was born prematurely as defined by a gestational period of less than 37 weeks.

*SeqNo:* 350
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |
| 3 | Unknown |

| | | | |
|---|---|---|---|
| *Long Name:* | Gestational Age At Birth Known | *SeqNo:* | 360 |
| *Short Name:* | **GestAgeKnown** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate whether the patient's gestational age at birth is known. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Gestational Age At Birth In Weeks | *SeqNo:* | 370 |
| *Short Name:* | **GestAgeWeeks** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate the number of full weeks in the patient's estimated gestational age at birth. This field is a required field for neonates and infants and is an optional field for children and adults. | | |
| *Low Value:* | 16 | | |
| *High Value:* | 44 | | |

*Intent / Clarification:* If the patient’s gestational age is 36 and 5/7, please enter ‘36’.

*Data Source:* User
*Format:* Integer

*ParentLongName:* Gestational Age At Birth Known
*ParentShortName:* **GestAgeKnown**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

| | | | |
|---|---|---|---|
| *Long Name:* | Gestational Age at Birth In Days | *SeqNo:* | 371 |
| *Short Name:* | **GestAgeDays** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate the number of additional days in the patient’s estimated gestational age at birth. (Example, for 36 weeks and | | |

5 days, enter “5”.) This field is a required field for neonates and infants and is an optional field for children and adults.

*Intent / Clarification:* If the patient’s gestational age is 36 and 5/7, please enter ‘5’

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Gestational Age At Birth Known
*ParentShortName:* **GestAgeKnown**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 0 | 0 |
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |
| 6 | 6 |
| 9 | Unknown |

---

*Long Name:* Multiple Gestation
*Short Name:* **MultGest**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate whether the patient was part of a multiple gestation, such as twins or triplets.

*SeqNo:* 372
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:* Include multiples even if expired in utero as the pregnancy originated as multiple gestations.

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |
| 3 | Unknown |

---

*Long Name:* Antenatal Diagnosis of Congenital Heart Disease
*Short Name:* **AntenatalDiag**

*SeqNo:* 373
*Core:* Yes

*Section Name*: Demographics *Harvest:* Yes
*DBTableName:* Birth Information
*Definition:* Indicate whether a cardiac anomaly was diagnosed antenatally (e.g., fetal ultrasound).

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |
| 3 | Unknown |

---

*Long Name:* Pregnancy Related Complications *SeqNo:* 375
*Short Name:* **PregComplications** *Core:* Yes
*Section Name*: Demographics *Harvest:* Yes
*DBTableName:* Birth Information
*Definition:* Indicate whether the mother had any pregnancy-related complications.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |
| 3 | Unknown |

---

*Long Name:* Pre-Eclampsia *SeqNo:* 377
*Short Name:* **PregCompPreE** *Core:* Yes
*Section Name*: Demographics *Harvest:* Yes
*DBTableName:* Birth Information
*Definition:* Indicate whether the mother had pre-eclampsia.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Pregnancy Related Complications
*ParentShortName:* **PregComplications**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |
| 3 | Unknown |

---

*Long Name:* Gestational Diabetes (GDM) *SeqNo:* 378
*Short Name:* **PregCompGestDM** *Core:* Yes
*Section Name*: Demographics *Harvest:* Yes
*DBTableName:* Birth Information
*Definition:* Indicate whether the mother had gestational diabetes.

*Intent / Clarification:* Code 'yes' to Gestational Diabetes if the Mother had any type of diabetes during pregnancy (Type 1, Type 2 or Gestational).
The intent is to capture the presence of any diabetes during gestation.

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Pregnancy Related Complications
*ParentShortName:* **PregComplications**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |
| 3 | Unknown |

March 2019: What if the mom has type 1 diabetes? Should this be selected in that case or recorded under other? Although PregCompOther is to indicate whether the mother had PREGNANCY-RELATED complications and type 1 diabetes is not pregnancy related. **If there is maternal diabetes present (Type 1, 2 or gestational) code 'yes' to the field Gestational Diabetes**

---

*Long Name:* Hypertension *SeqNo:* 379
*Short Name:* **PregCompHTN** *Core:* Yes
*Section Name*: Demographics *Harvest:* Yes
*DBTableName:* Birth Information

*Definition:* Indicate whether the mother had hypertension during pregnancy.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Pregnancy Related Complications
*ParentShortName:* **PregComplications**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |
| 3 | Unknown |

---

*Long Name:* HELLPP Syndrome *SeqNo:* 380
*Short Name:* **PregCompHELLPP** *Core:* Yes
*Section Name*: Demographics *Harvest:* Yes
*DBTableName:* Birth Information
*Definition:* Indicate whether the mother had HELLP Syndrome (HELLP stands for H- hemolysis, EL-elevated liver enzymes, LP – low platelet counts).

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Pregnancy Related Complications
*ParentShortName:* **PregComplications**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |
| 3 | Unknown |

---

*Long Name:* Polyhydramnios *SeqNo:* 381

| | | | |
|---|---|---|---|
| *Short Name:* | **PregCompPolyhydra** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate whether the mother had polyhydramnios. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Pregnancy Related Complications
*ParentShortName:* **PregComplications**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |
| 3 | Unknown |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Oligohydramnios | *SeqNo:* | 382 |
| *Short Name:* | **PregCompOligohydra** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate whether the mother had oligohydramnios. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Pregnancy Related Complications
*ParentShortName:* **PregComplications**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |
| 3 | Unknown |

May 2019: I have a patient who was delivered early due to anhydramnios. Since this is not an option, should I select oligohydramnios since no amniotic fluid (anhydramnios) is technically severe oligohydramnios? **Yes, code as oligohydramnios.**

| | | | |
|---|---|---|---|
| *Long Name:* | Hydrops | *SeqNo:* | 383 |
| *Short Name:* | **PregCompHydrops** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate whether the mother had Hydrops. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Pregnancy Related Complications
*ParentShortName:* **PregComplications**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |
| 3 | Unknown |

| | | | |
|---|---|---|---|
| *Long Name:* | Other Pregnancy-Related Complications | *SeqNo:* | 384 |
| *Short Name:* | **PregCompOther** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate whether the mother had other pregnancy related complications. | | |

*Intent / Clarification:* Maternal smoking and alcohol abuse which does not result in Fetal Alcohol Syndrome should be captured here, amongst other pregnancy-related complications.

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Pregnancy Related Complications
*ParentShortName:* **PregComplications**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |

2 No
3 Unknown

August 2020: Is IUGR (intrauterine growth retardation) considered a pregnancy-related complication, or should it be considered under noncardiac congenital anatomic abnormalities?
**Currently IUGR is not directly captured in the database, but will be considered. One can capture it as an Other pregnancy related complication.**

---

| | | | |
|---|---|---|---|
| *Long Name:* | Race Documented | *SeqNo:* | 385 |
| *Short Name:* | **RaceDocumented** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate whether race is documented. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |
| 3 | Patient declined to disclose |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Race - Caucasian | *SeqNo:* | 390 |
| *Short Name:* | **RaceCaucasian** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate whether the patient's race, as determined by the patient or family, includes Caucasian. This includes a person having origins in any of the original peoples of Europe, the Middle East, or North Africa. Definition source: Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity : The minimum categories for data on race and ethnicity for Federal statistics, program administrative reporting, and civil rights compliance reporting. (www.whitehouse.gov/omb/fedreg/1997standards.html) | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Race Documented
*ParentShortName:* **RaceDocumented**

*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Race - Black / African American
*Short Name:* **RaceBlack**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate whether the patient's race, as determined by the patient or family, includes Black / African American. This includes a person having origins in any of the black racial groups of Africa. Terms such as "Haitian" or "Negro" can be used in addition to "Black or African American." Definition source: Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity : The minimum categories for data on race and ethnicity for Federal statistics, program administrative reporting, and civil rights compliance reporting. (www.whitehouse.gov/omb/fedreg/1997standards.html)

*SeqNo:* 400
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Race Documented
*ParentShortName:* **RaceDocumented**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Race - Asian
*Short Name:* **RaceAsian**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate whether the patient's race, as determined by the patient or family, includes Asian. This includes a person having

*SeqNo:* 410
*Core:* Yes
*Harvest:* Yes

origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam. Definition source: Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity : The minimum categories for data on race and ethnicity for Federal statistics, program administrative reporting, and civil rights compliance reporting. (www.whitehouse.gov/omb/fedreg/1997standards.html)

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Race Documented
*ParentShortName:* **RaceDocumented**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Race - American Indian / Alaskan Native
*Short Name:* **RaceNativeAm**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate whether the patient's race, as determined by the patient or family, includes American Indian / Alaskan Native. This includes a person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment. Definition source: Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity: The minimum categories for data on race and ethnicity for Federal statistics, program administrative reporting, and civil rights compliance reporting. (www.whitehouse.gov/omb/fedreg/1997standards.html)

*SeqNo:* 420
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Race Documented
*ParentShortName:* **RaceDocumented**

*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Race - Native Hawaiian / Pacific Islander
*SeqNo:* 430
*Short Name:* **RaceNativePacific**
*Core:* Yes
*Section Name*: Demographics
*Harvest:* Yes
*DBTableName:* Birth Information
*Definition:* Indicate whether the patient's race, as determined by the patient or family, includes Native Hawaiian / Pacific Islander. This includes a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands. Definition source: Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity : The minimum categories for data on race and ethnicity for Federal statistics, program administrative reporting, and civil rights compliance reporting. (www.whitehouse.gov/omb/fedreg/1997standards.html)

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Race Documented
*ParentShortName:* **RaceDocumented**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Race - Other
*SeqNo:* 440
*Short Name:* **RaceOther**
*Core:* Yes
*Section Name*: Demographics
*Harvest:* Yes
*DBTableName:* Birth Information
*Definition:* Indicate whether the patient's race, as determined by the patient or family, includes any other race.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Race Documented
*ParentShortName:* **RaceDocumented**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Hispanic Or Latino Ethnicity
*Short Name:* **Ethnicity**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate if the patient is of Hispanic or Latino ethnicity as determined by the patient / family. Hispanic or Latino ethnicity includes patient report of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.

*SeqNo:* 450
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes and Value Definitions:

| Code: | Value: | |
|---|---|---|
| 1 | Yes | |
| 2 | No | |
| 3 | Not Documented | This includes unknown or patient declined. |

---

*Long Name:* Date of Last Follow-Up
*Short Name:* **LFUDate**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate the date on which the last follow-up was made. If patient dies in the hospital, this value will be the same as the

*SeqNo:* 460
*Core:* Yes
*Harvest:* Yes

| | |
|---|---|
| | date of death. If no follow-up is made after patient is discharged, this value will be the same as the discharge date. |
| *Intent / Clarification:* | This field could be updated when the 30- or 365-day follow-up occurs or at any other point in which the patient's status is known (e.g. lab or clinic visits, subsequent admissions, contact with provider or family, etc.) |
| *Data Source:* | User |
| *Format:* | Date - mm/dd/yyyy |

July 2020: What is the purpose of this data collection field? If you are asking for a 30-day and 365-day follow-up, isn't that sufficient? **The date of last follow up fields allows the database to be longitudinal and allows for the creation of Kaplan Meier survival curves/long term survival analysis. Please update the field as often as possible**.

---

| | | | |
|---|---|---|---|
| *Long Name:* | Last Follow-Up New York Heart Association Classification | *SeqNo:* | 470 |
| *Short Name:* | **LFUNYHA** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate the patient's New York Heart Association (NYHA) classification at the time of the last follow-up. If no follow-up is made after patient is discharged, this value will be the same as the classification at the time of their last discharge. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Date - mm/dd/yyyy | | |

Harvest Codes and Value Definitions:

| Code: | Value: | Definition: |
|---|---|---|
| 5 | Not assessed | The NYHA Classification was not assessed/documented at last follow-up |
| 1 | NYHA 1 | Asymptomatic |
| 2 | NYHA 2 | Symptomatic with exertion |
| 3 | NYHA 3 | Symptomatic with activities of daily living |
| 4 | NYHA 4 | Symptomatic at rest |

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| | | | |
|---|---|---|---|
| *Long Name:* | Mortality Status At Last Follow-Up | *SeqNo:* | 480 |
| *Short Name:* | **LFUMortStat** | *Core:* | Yes |
| *Section Name*: | Demographics | *Harvest:* | Yes |
| *DBTableName:* | Birth Information | | |
| *Definition:* | Indicate the mortality status of the patient at the time of the last follow-up. If no follow-up is made after patient is | | |

discharged, this value will be the same as the Mortality Status At Hospital Discharge.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Alive |
| 2 | Dead |

---

*Long Name:* Mortality Date
*Short Name:* **MtDate**
*Section Name*: Demographics
*DBTableName:* Birth Information
*Definition:* Indicate the patient's date of death.

*SeqNo:* 490
*Core:* *Yes*
*Harvest:* *Yes*

*Intent / Clarification:*

*Data Source:* User
*Format:* Date - mm/dd/yyyy

*ParentLongName:* Mortality Status At Last Follow-Up
*ParentShortName:* **LFUMortStat**
*ParentHarvestCodes:* 2
*Parent Value:* = "Dead"

---

## Noncardiac Congenital Anatomic Abnormalities

*Long Name:* Noncardiac Congenital Anatomic Abnormalities Table Unique Record Identifier
*Short Name:* **NCAAUniqueID**
*Section Name*: Noncardiac Congenital Anatomic Abnormalities
*DBTableName:* NCAA
*Definition:* Unique identifier for the record in the Noncardiac Congenital Anatomic Abnormalities table.

*SeqNo:* 510
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* Automatic
*Format:* Text

| | | | |
|---|---|---|---|
| *Long Name:* | Noncardiac Congenital Anatomic Abnormalities Link to Demographics Table | *SeqNo:* | 520 |
| *Short Name:* | **PatID** | *Core:* | Yes |
| *Section Name*: | Noncardiac Congenital Anatomic Abnormalities | *Harvest:* | Yes |
| *DBTableName:* | NCAA | | |
| *Definition:* | An arbitrary, unique value generated by the software that permanently identifies each patient demographic record in the participant's database. This field is the foreign key that links this record with the associated record in the Demographics table. | | |

*Intent / Clarification:*

*Data Source:* Automatic
*Format:* Text

| | | | |
|---|---|---|---|
| *Long Name:* | Major Noncardiac Abnormality | *SeqNo:* | 530 |
| *Short Name:* | **NCAA** | *Core:* | Yes |
| *Section Name*: | Noncardiac Congenital Anatomic Abnormalities | *Harvest:* | Yes |
| *DBTableName:* | NCAA | | |
| *Definition:* | Indicate all of the major noncardiac abnormalities the patient has or select None. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes and Value Definitions:

| Code: | Value: | Definition: |
|---|---|---|
| 5 | None | No known major noncardiac abnormality. |
| 80 | Major abnormality of head, Choanal atresia | A congenital anomaly in which a bony or membranous occlusion blocks the passageway between the nose and pharynx. The condition, caused by the failure of the nasopharyngeal septum to rupture during embryonic development, may result in ventilation problems in the neonate and requires surgical correction. |
| 90 | Major abnormality of head, Cleft lip | A congenital anomaly consisting of one or more clefts in the upper lip that result from the failure of the maxillary and median nasal processes to close during embryonic development. Treatment is surgical repair in infancy. |
| 100 | Major abnormality of head, Cleft palate | A congenital fissure in the roof of the mouth, resulting from incomplete fusion of the palate during embryonic development. It may involve only the uvula or extend through the entire palate. |
| 440 | Major abnormality of head, Craniosynostosis | |
| 450 | Major abnormality of head, | Macrocephaly is defined as a head circumference which is greater than 2 |

| | | |
|---|---|---|
| | Macrocephaly | standard deviations larger than the average for a given age and sex. It refers to an abnormally large head inclusive of the scalp, cranial bone and intracranial contents. Macrocephaly may be due to megalencephaly (true enlargement of the brain) or due to other conditions such as hydrocephalus or cranial thickening. |
| 460 | Major abnormality of head, Microcephaly | Microcephaly is defined as smaller than normal circumference of the head because the cerebral cortex has not developed properly or has stopped growing. Microcephaly can be present at birth or may develop in the first few years of life. |
| 470 | Major abnormality of head, Micrognathia | |
| 120 | Major abnormality of brain, Hydrocephalus | Hydrocephalus is excessive CSF accumulation in the brain creating potentially harmful pressure. It may be congenital or acquired. Congenital hydrocephalus is present at birth and may be caused by either events or influences that occur during fetal development, or genetic abnormalities. Acquired hydrocephalus develops at the time of birth or at some point afterward. This type of hydrocephalus can affect individuals of all ages and may be caused by injury or disease. |
| 480 | Major abnormality of brain, Tuberous Sclerosis | |
| 160 | Major abnormality of spinal cord, Myelomeningocele | Developmental defect of the central nervous systemprotrude through a gap in the vertebral column; frequently accompanied by hydrocephalus and mental retardation. A hernial sac containing a portion of the spinal cord, its meninges, and cerebrospinal fluid protrudes through a congenital cleft in the vertebral column. The defect is covered by a thin membrane or skin. |
| 170 | Major abnormality of spinal cord, Spina bifida | Characterized by defective closure of the vertebral canal with herniation of the spinal cord and/or meninges. May cause skull enlargement due to an accumulation of cerebrospinal fluid. In its most severe form, termed spinal rachischisis, the entire spinal canal is open, exposing the spinal cord and nerves. More commonly, the abnormality appears as a localized mass on the back that is covered by skin or by the meninges. |
| 660 | Major abnormality of spinal cord, Tethered Cord | |
| 190 | Major abnormality of spine, Scoliosis | Scoliosis is a lateral (side-to-side) curve in the spine, usually combined with a rotation of the vertebrae. "Most commonly presents as idiopathic (90%) but can present as a congenital or acquired defect. |
| 640 | Major abnormality of vertebra, Hemi-vertebrae | |
| 650 | Major abnormality of vertebra, Butterfly vertebrae | |
| 490 | Major abnormality of larynx - trachea - or bronchus, Laryngeal cleft | |
| 210 | Major abnormality of larynx - trachea - or bronchus, Laryngomalacia | Abnormal laxity of the laryngeal support cartilage resulting in excessive inward collapse and collapse of the lumen with inspiration during spontaneous ventilation. Characterized by inspiratory stridor. |
| 220 | Major abnormality of larynx - trachea - or bronchus, Congenital tracheal stenosis | Primary Tracheal narrowing at any level between the larynx and carina with significantly smaller than expected luminal diameter (not secondary to trauma or prolonged intubation). Frequently related to complete cartilaginous tracheal rings. |
| 230 | Major abnormality of larynx - trachea - or bronchus, | Abnormal laxity of the tracheal supporting structures resulting in inward collapse of the lumen during expiration during spontaneous ventilation. |

| | | |
|---|---|---|
| | Tracheomalacia | Characterized by expiratory stridor. May extend down into bronchi (tracheobronchial malacia). |
| 70 | Major abnormality of larynx - trachea - or bronchus, Tracheoesophageal fistula (TEF) | Presence of any type of patent communication below the larynx connecting the tracheo-bronchial tree to the esophagus. May be associated with other anomalies, including VATER, VACTERL and tracheal clefts. Typically congenital, but may occur due to trauma or pressure necrosis. |
| 240 | Major abnormality of larynx - trachea - or bronchus, Bronchomalacia | A deficiency in the cartilaginous wall of the bronchus that may lead to atelectasis or obstructive emphysema. |
| 500 | Major abnormality of chest wall, Pectus carinatum | |
| 510 | Major abnormality of chest wall, Pectus Excavatum | |
| 520 | Major abnormality of lung, Alveolar capillary dysplasia | |
| 260 | Major abnormality of lung, Congenital lobar emphysema (CLE) | A developmental anomaly of the lower respiratory tract characterized by isolated hyperinflation of a lobe in the absence of extrinsic bronchial obstruction. |
| 270 | Major abnormality of lung, Cystic congenital adenomatous malformation of the lung (CAM) | Cystic congenital adenomatous malformation of the lung (CAM): A spectrum of cystic and solid lesions of the lung that result from abnormal embryogenesis and typically present with symptoms of respiratory distress in newborns and infants. |
| 280 | Major abnormality of lung, Cystic fibrosis | Cystic fibrosis (also known as CF or mucoviscidosis) is an autosomal recessive genetic disorder affecting most critically the lungs, and also the pancreas, liver, and intestine. It is characterized by abnormal transport of chloride and sodium across an epithelium, leading to thick, viscous secretion. |
| 530 | Major abnormality of lung, Hypoplastic lung | |
| 290 | Major abnormality of lung, Pulmonary lymphangiectasia | Pulmonary lymphangiectasia (PL) is a rare developmental disorder involving the lung characterized by pulmonary subpleural, interlobar, perivascular and peribronchial lymphatic dilatation. PL presents at birth with severe respiratory distress, tachypnea and cyanosis, with a very high mortality rate at or within a few hours of birth. Secondary PL may be caused by a cardiac lesion. |
| 20 | Major abnormality of abdominal wall, Congenital diaphragmatic hernia (CDH), Bochdalek hernia | A developmental defect of the diaphragm that allows abdominal viscera to herniate into the chest. The volume of herniated contents may be small or large enough to contain most of the gut, spleen, or liver. |
| 30 | Major abnormality of abdominal wall, Gastroschisis | A congenital defect characterized by a defect in the anterior abdominal wall through which the intestines protrude. There is no sac covering the intestines. The defect is usually located to the right of the umbilicus. |
| 60 | Major abnormality of abdominal wall, Omphalocele | A defect in the medial anterior abdominal wall through which intraabdominal contents are extruded. The defect is covered by amnion and peritoneum and usually occurs at the base of the umbilical cord. The abdominal herniation usually includes small bowel and may include large bowel and/or liver. |
| 540 | Major abnormality of gastrointestinal system, Esophageal atresia | |
| 550 | Major abnormality of gastrointestinal system, Pyloric stenosis | |

| | | |
|---|---|---|
| 310 | Major abnormality of gastrointestinal system, Biliary atresia | Biliary atresia is characterized by absence or discontinuity of the extrahepatic biliary system, resulting in obstruction to bile flow. |
| 320 | Major abnormality of gastrointestinal system, Duodenal atresia | Congenital absence or closure of a portion of the duodenum. |
| 330 | Major abnormality of gastrointestinal system, Duodenal stenosis | Stricture or narrowing of a portion of the duodenum. |
| 340 | Major abnormality of gastrointestinal system, Jujenal atresia | The congenital absence or closure of the middle section of the small intestine. |
| 350 | Major abnormality of gastrointestinal system, Jujenal stenosis | A constriction or narrowing of the middle section of the small intestine. |
| 360 | Major abnormality of gastrointestinal system, Ileal atresia | Congenital absence or closure of a portion of the ileum. |
| 370 | Major abnormality of gastrointestinal system, Ileal stenosis | Stricture or narrowing of a portion of the ileum. |
| 50 | Major abnormality of gastrointestinal system, Intestinal malrotation | Abnormal placement and fixation of intestines. |
| 40 | Major abnormality of gastrointestinal system, Hirschsprung's disease(Congenital aganglionic megacolon) | A disorder of the enteric nervous system characterized by an absence of ganglion cells in the distal colon resulting in a functional obstruction. |
| 380 | Major abnormality of gastrointestinal system, Stenosis of large intestine | A constriction or narrowing of the distal portion of the intestine, extending from its junction with the small intestine to the anus and comprising the cecum, colon, rectum, and anal canal. |
| 390 | Major abnormality of gastrointestinal system, Atresia of large intestine | Colonic atresia is usually segmental, most often involving the ascending colon, and may be accompanied of the small intestine, rectum, or anal canal. |
| 400 | Major abnormality of gastrointestinal system, Atresia of rectum | Congenital absence or closure of a portion of the rectum. Atresia of the rectum proper, or a portion of the rectum, is very rare. It can occur with or without anomalies of the small intestine, colon, or anal canal. |
| 410 | Major abnormality of gastrointestinal system, Stenosis of rectum | A constriction or narrowing of the terminal portion of the large intestine, extending from the sigmoid flexure to the anal canal. |
| 10 | Major abnormality of gastrointestinal system, Anal Atresia (imperforate anus) | Anal atresia, or imperforate anus, is a specific type of what are commonly referred to as anorectal malformations. Atresia of the anal canal occurs with or without a fistulous opening to an ectopic location on the perineum, within the urinary system, or into the vaginal vestibule. |
| 560 | Major abnormality of genitalia, Ambiguous genitalia | |
| 570 | Major abnormality of genitalia, Hypospadiasis | |
| 580 | Major abnormality of genitalia, Rectovaginal fistula | |

| | | |
|---|---|---|
| 590 | Major abnormality of genitalia, Undescended testis | |
| 600 | Major abnormality of kidney, Horseshoe kidney | |
| 610 | Major abnormality of kidney, Hydronephronsis | |
| 620 | Major abnormality of kidney, Polycystic kidney | |
| 630 | Major abnormality of kidney, Single kidney | |
| 990 | Other | Other major non-cardiac abnormality. |

August 2019: Can we count kyphosis as scoliosis in the NCAAs? Or should kyphosis and lordosis be added to the list of NCAAs because why only have scoliosis, but not the others? If any of them are severe enough, it would cause the same strain on the spinal cord no matter which one of them a patient has. Is there a reason we are only capturing scoliosis? **Do not include kyphosis or lordosis as scoliosis as they are not scoliosis. You can include them as other NCAAs. These may be considered for inclusion in the future.**

**January 2021:** Should Single Kidney be selected if a patient has 2 kidneys but only one is functioning? **Yes, ONLY if it can be well documented that there is zero function in that kidney.**

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| | | | |
|---|---|---|---|
| *Long Name:* | Major Noncardiac Abnormality - Other - Specify | *SeqNo:* | 540 |
| *Short Name:* | **NCAAOthSp** | *Core:* | Yes |
| *Section Name*: | Noncardiac Congenital Anatomic Abnormalities | *Harvest:* | Yes |
| *DBTableName:* | NCAA | | |
| *Definition:* | Indicate the other major noncardiac abnormality. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text | | |
| *ParentLongName:* | Major Noncardiac Abnormality | | |
| *ParentShortName:* | **NCAA** | | |
| *ParentHarvestCodes:* | 990 | | |
| *ParentValues:* | = "Other" | | |

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## Chromosomal Abnormalities

| | | | |
|---|---|---|---|
| *Long Name:* | Chromosomal Abnormalities Table Unique Record Identifier | *SeqNo:* | 550 |
| *Short Name:* | **ChromAbUniqueID** | *Core:* | Yes |
| *Section Name*: | Chromosomal Abnormalities | *Harvest:* | Yes |
| *DBTableName:* | ChromAbnormalities | | |
| *Definition:* | Unique identifier for the record in the Chromosomal Abnormalities table. | | |
| *Intent / Clarification:* | | | |

*Data Source:* Automatic
*Format:* Text

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*Long Name:* Chromosomal Abnormalities Link to Demographics Table
*Short Name:* **PatID**
*Section Name*: Chromosomal Abnormalities
*DBTableName:* ChromAbnormalities
*Definition:* An arbitrary, unique value generated by the software that permanently identifies each patient demographic record in the participant's database. This field is the foreign key that links this record with the associated record in the Demographics table.

*SeqNo:* 560
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* Automatic
*Format:* Text

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*Long Name:* Chromosomal Abnormality
*Short Name:* **ChromAb**
*Section Name*: Chromosomal Abnormalities
*DBTableName:* ChromAbnormalities
*Definition:* Indicate whether the patient has one of the following chromosomal abnormalities.

*SeqNo:* 570
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes and Value Definitions:

| Code | Value | Definition |
|---|---|---|
| 5 | No chromosomal abnormality identified | This patient has no chromosomal abnormality identified. |
| 490 | Known Mosaicism | |
| 360 | 1p36 del | |
| 370 | 1q21.1 del | |
| 380 | 1q21.1 dup | |
| 70 | 1q42.1 | |
| 100 | 2p21 | |
| 110 | 3p22 | |
| 400 | 3q dup | |
| 150 | 4p16 | |
| 410 | 4q del | |
| 420 | 5p15.2 del | |

| | | |
|---|---|---|
| 430 | 5p15.33 del | |
| 170 | 6p12 | |
| 180 | 7q11 | |
| 440 | 7q11.23 del | |
| 450 | 7q11.23 dup | |
| 200 | 7q32 | |
| 210 | 7q34 | |
| 460 | 8p23.1 del | |
| 470 | 8p23.1 dup | |
| 220 | 8q12 | |
| 480 | 9q34.3 del | |
| 10 | 11p15.5 | |
| 20 | 11q | |
| 30 | 12p1.21 | |
| 40 | 12p12.1 | |
| 50 | 12q24 | |
| 320 | 15q11.2 del | |
| 60 | 15q21.1 | |
| 330 | 16p11.2 del | |
| 340 | 17p11.2 del | |
| 350 | 17q21.31 del | |
| 80 | 20p12 | |
| 90 | 22q11 deletion | Deletions or mutations involving the long arm of chromosome 22 (critical region 22q11.2) are associated with the DiGeorge sequence, velocardiofacial syndrome, conotruncal face anomaly syndrome, CATCH 22, and some isolated conotruncal malformations. |
| 390 | 22q11 dup | |
| 120 | 45X0 | Turner syndrome (45XO) is a chromosomal deletion abnormality, which occurs in 1:5000 live female births. Although common in first trimester, most 45XO conceptuses are spontaneously aborted. Affected individuals are missing one X chromosome. The major features include short stature, primary amenorrhea due to ovarian dysgenesis, webbed neck, congenital lymphedema, and cubitus valgus. Cardiovascular abnormalities occur in 20-40% of cases, the most common of which is coarctation of the aorta (70%). Additional defects include bicommissural aortic valve, aortic stenosis, a spectrum of left-sided obstructive defects and/or hypoplastic defects, hypoplastic left heart syndrome; aortic dilation, dissection, and rupture. |
| 130 | 47,XXY | Klinefelter, or 47XXY syndrome, is a sporadic chromosomal abnormality in which males have at least two X chromosomes and at least one Y chromosome. Incidence is 1:500 males or 1:1000 births. Klinefelter syndrome occurs usually in association with advanced maternal age at conception. It is the most common sex chromosome disorder and the most common cause of hypogonadism and infertility. Cardiovascular abnormalities in more than 50% of cases include mitral valve prolapse, varicose veins and deep venous thrombosis. |
| 230 | Monosomy X | |
| 250 | Trisomy 08 | Trisomy 8, or Warkany syndrome, is a chromosomal abnormality, which is a frequent cause of first trimester spontaneous abortions. Complete Trisomy 8 is usually an early lethal disorder. Incidence is |

| | | |
|---|---|---|
| | | 1:25,000-50,000 births. Affected individuals have an extra (or third) copy of chromosome 8. Cardiovascular abnormalities include septal defects and great vessel anomalies |
| 260 | Trisomy 09 | Trisomy 9, or Rethore syndrome, is a rare chromosomal abnormality, which is a frequent cause of first trimester spontaneous abortions. Incidence is 1:100,000 births. Affected individuals have an extra (or third) copy of chromosome 9. Most affected individuals die during infancy or early childhood. Cardiovascular abnormalities occur in 75% of cases and include VSD, ASD, PDA, valve defects, DORV, persistent left SVC, and endocardial fibroelastosis. |
| 270 | Trisomy 13 | Patau or Bartholin-Patau syndrome, or Trisomy 13, is a chromosomal abnormality. Incidence is 1:5000-10,000 births. Sporadic cases occur usually in association with advanced maternal age at conception. Affected individuals have an extra (or third) copy of chromosome 13. More than 90% of individuals with Trisomy 13 die within their first days or weeks of life. Only 5-10% survive beyond 1 year of age. Cardiovascular abnormalities in 80% of cases include VSD, PDA, ASD; dextrocardia in more than 50% of cases; and anomalous pulmonary venous connection, overriding aorta, pulmonary stenosis, hypoplastic aorta, mitral valve atresia, aortic valve atresia, and bicuspid aortic valve in fewer than 50% of cases. |
| 280 | Trisomy 18 | Edwards syndrome, or Trisomy 18, is a chromosomal abnormality. Incidence is 1:3000-5000 births. Sporadic cases of Edwards syndrome occur usually in association with advanced maternal age at conception. Affected individuals have an extra (or third) copy of chromosome 18. Approximately 50% of infants with Trisomy 18 die within the first week of life, approximately 40% die within the first month of life, only 5-10% survive beyond the first year. Cardiovascular abnormalities in more than 50% of cases include VSD, ASD and PDA; bicuspid aortic and/or pulmonary valves, nodularity of valve leaflets, pulmonic stenosis, coarctation of the aorta in 10-50% of cases; and anomalous coronary artery, TGA, TOF, dextrocardia and aberrant subclavian artery in less than 10% of cases. |
| 290 | Trisomy 21 | Down syndrome, or Trisomy 21, is the most frequent chromosomal abnormality. Incidence is 1:600-1000 live births. Sporadic cases of Down syndrome occur in strong association with advanced maternal age at conception. Affected individuals have an extra (or third) copy of chromosome 21. Cardiovascular abnormalities in 40-50% of cases, in decreasing order of frequency, include AVSD, VSD, TOF and PDA. Left-sided obstructive defects, such as coarctation and aortic valve stenosis, are rare. |
| 310 | Other chromosomal or genetic abnormality | This patient has other chromosomal abnormality(ies) that are not on this list. |

<u>February 2020:</u> For Turner Syndrome patients, should both 45XO and Monosomy X be selected in the Chromosomal Abnormality table if, in fact, one entire X chromosome is missing? If it's only partially missing, do we select 45XO only?
**If you have Turner Syndrome, only code 45XO.**
<u>March 2020:</u> We recently came across a patient that has Turner syndrome and our genetic counselors noticed in the Chromosomal Abnormalities drop-down, both 45X,O (code 120) and Monosomy X (code 230) are options to choose from. These are synonymous terms, so are we supposed to select both of them or is the 45X,O the only one preferred? This is also similar to the Trisomies where it was recently decided that it should only be entered as a chromosomal abnormality and not a syndrome. How should we be entering Turner's? And what is the reasoning

behind it? To reduce redundancy and improve clarity of definitions? The Training Manual implies that it is fair to use both, but we want to make sure we are doing the right thing. **For Turner Syndrome, select 45XO under chromosomal abnormalities and select Turner Syndrome under syndromes. Do not use Monosomy X for Turner Syndrome. To additionally clarify, you should select the chromosomal abnormalities and syndromes for the trisomies. The current version upgrade duplicated them in the syndromes section and data managers were instructed to select only specific terms, but to also to continue to select the appropriate terms in the chromosomal abnormalities section.**
July 2020: We have coded Factor V leiden mutation in preop factors in coagulation hyper.
Should we also code it in chromosomal abnormalities or syndrome? **No, it should not be included as a syndrome or chromosomal abnormality.**

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| | | | |
|---|---|---|---|
| *Long Name:* | Genes With Identified Abnormality | *SeqNo:* | 572 |
| *Short Name:* | **Gene** | *Core:* | Yes |
| *Section Name*: | Chromosomal Abnormalities | *Harvest:* | Yes |
| *DBTableName:* | ChromAbnormalities | | |
| *Definition:* | Indicate whether the patient has one or more genes with identified abnormalities. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Chromosomal Abnormality |
| *ParentShortName:* | **ChromAb** |
| *ParentHarvestCodes:* | 310 |
| *ParentValues:* | = "Other chromosomal or genetic abnormality" |

Harvest Codes:

| Code: | Value: |
|---|---|
| 10 | ABCC9 |
| 20 | ACTC1 |
| 30 | ADAMTS10 |
| 40 | AK7 |
| 50 | ANKRD11 |
| 60 | ANKS3 |
| 70 | ANKS6 |
| 80 | ARID1B |
| 90 | ARMC4 |
| 100 | B3GALTL |
| 110 | B9D1 |
| 120 | B9D2 |
| 130 | BBIP1 |
| 140 | BBS1 |
| 150 | BBS10 |
| 160 | BBS12 |
| 170 | BBS2 |
| 180 | BBS4 |
| 190 | BBS7 |
| 200 | BBS9 |
| 210 | BCOR |
| 220 | BRAF |

230 C21orf59
240 C2CD3
250 C5orf42
260 CACNA1C
270 CBP
280 CC2D2A
290 CCDC103
300 CCDC114
310 CCDC151
320 CCDC39
330 CCDC40
340 CCDC65
350 CCNO
360 CDK13
370 CDKN1C
380 CEP120
390 CEP152
400 CEP290
410 CEP41
420 CHD4
430 CHD7
440 CITED2
450 COL1A1
460 COL1A2
470 COL5A1
480 CRKL
490 CSPP1
500 DGCR2
510 DHCR7
520 DLL4
530 DNAAF1 / LRRC50
540 DNAAF2
550 DNAAF3
560 DNAFF5 (or HEATR2)
570 DNAH11
580 DNAH5
590 DNAI1
600 DNAI2
610 DNAJB13
620 DNAL1
630 DOCK6
640 DYNC2H1
650 DYX1C1 (aka DNAAF4)
660 EFTUD2
670 EHTM1
680 ELN
690 EP300
700 ESC02
710 EST-1
720 EVC
730 EVC2
740 FBN1
750 FBN2

| | |
|---|---|
| 760 | FGF8 |
| 770 | FGFR1 |
| 780 | FLNA |
| 790 | FMR1 |
| 800 | FOXC1 |
| 810 | FTO |
| 820 | GALNT11 |
| 830 | GANAB |
| 840 | GAS8 |
| 850 | GATA4 |
| 860 | GATA6 |
| 870 | GDF1 |
| 880 | GJA1 |
| 890 | GPC3 |
| 900 | GRK5 |
| 910 | HNRNPK |
| 920 | HOXA1 |
| 930 | HRAS |
| 940 | HYDIN |
| 950 | IFT122 |
| 960 | IFT140 |
| 970 | IFT27 |
| 980 | IFT43 |
| 990 | IFT80 |
| 1000 | INPP5E |
| 1010 | INTU |
| 1020 | INVS |
| 1030 | JAG1 |
| 1040 | KAT6B |
| 1050 | KDM6A |
| 1060 | KIAA0556 |
| 1070 | KIAA0586 |
| 1080 | KIAA0753 |
| 1090 | KIF7 |
| 1100 | KMT2D (MLL2) |
| 1110 | KRAS |
| 1120 | LRRC6 |
| 1130 | LTBP4 |
| 1140 | MAP2K1 |
| 1150 | MAP2K2 |
| 1160 | MAPK1 |
| 1170 | MCIDAS |
| 1180 | MED12 |
| 1190 | MED13L |
| 1200 | MEGF8 |
| 1210 | MID1 |
| 1220 | MKKS |
| 1230 | MKSS (BBS6) |
| 1240 | MKS1 |
| 1250 | MYH11 |
| 1260 | MYH6 |
| 1270 | MYH7 |
| 1280 | NF1 |

1290 NHS
1300 NIPBL
1310 NKX2-5
1320 NKX2-6
1330 NME8 (aka TXNDC3)
1340 NODAL
1350 NOTCH1
1360 NPHP3
1370 NR2F2
1380 NSD1
1390 OFD1
1400 PDGFRA
1410 PEX1
1420 PIBF1
1430 PIH1D3
1440 PITX2
1450 PKD1
1460 PKD2
1470 PKHD1
1480 PQBP1
1490 PRKD1
1500 PTEN
1510 PTPN11
1520 RAB23
1530 RAD21
1540 RAI1
1550 RBM10
1560 RBPJ
1570 RDR2
1580 RECQL4
1590 ROR2
1600 RPGR
1610 RPGRIP1L
1620 RPL35A
1630 RPS10
1640 RPS17
1650 RPS24
1660 RPS26
1670 RSK2
1680 RSPH1
1690 RSPH3
1700 RSPH4A
1710 RSPH9
1720 SALL1
1730 SALL4
1740 SEMA3E
1750 SH3PXD2B
1760 SHH
1770 SHOC2
1780 SHROOM3
1790 SMAD2
1800 SMAD3
1810 SMAD6

| | |
|---|---|
| 1820 | SMARCA4 |
| 1830 | SMARCB1 |
| 1840 | SMARCE1 |
| 1850 | SMC1L1 |
| 1860 | SMC3 |
| 1870 | SMS |
| 1880 | SNAP29 |
| 1890 | SOS2 |
| 1900 | SPAG1 |
| 1910 | STRA6 |
| 1920 | TAB2 |
| 1930 | TBX1 |
| 1940 | TBX20 |
| 1950 | TBX5 |
| 1960 | TCOF1 |
| 1970 | TCTEX1D2 |
| 1980 | TCTN1 |
| 1990 | TCTN2 |
| 2000 | TCTN3 |
| 2010 | TFAP2B |
| 2020 | TGFBR1 or 2 |
| 2030 | TLL1 |
| 2040 | TMEM107 |
| 2050 | TMEM138 |
| 2060 | TMEM216 |
| 2070 | TMEM231 |
| 2080 | TMEM67 |
| 2090 | TRIM32 (BBS11) |
| 2100 | TSC1 |
| 2110 | TSC2 |
| 2120 | TTC25 |
| 2130 | TTC8 (BBS8) |
| 2140 | TWIST |
| 2150 | WDR19 |
| 2160 | ZFPM2/FOG2 |
| 2170 | ZIC3 |
| 2180 | ZNF423 |
| 9999 | Unlisted Gene or Chromosomal Anamoly |

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| | | | |
|---|---|---|---|
| *Long Name:* | Unlisted Gene or Chromosomal Anomaly - Specify | *SeqNo:* | 580 |
| *Short Name:* | **ChromAbOthSp** | *Core:* | Yes |
| *Section Name*: | Chromosomal Abnormalities | *Harvest:* | Yes |
| *DBTableName:* | ChromAbnormalities | | |
| *Definition:* | Indicate the other chromosomal abnormalities. | | |

*Intent / Clarification:*

*Data Source:* User

*Format:* Text

*ParentLongName:* Genes With Identified Abnormality
*ParentShortName:* **Gene**
*ParentHarvestCodes:* 9999
*ParentValues:* = "Unlisted Gene or Chromosomal Anomaly"

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## Syndromes

*Long Name:* Syndromes Table Unique Record Identifier
*Short Name:* **SynUniqueID**
*Section Name*: Syndromes
*DBTableName:* Syndromes
*Definition:* Unique identifier for the record in the Syndromes table.

*SeqNo:* 590
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* Automatic
*Format:* Text

August 2019: For the familial CHD syndromes, what is considered familial? Does it matter how many generations it goes back or is it if there is any family history of CHD, we should count it? **The definition is still pending. The surgeon task force is defining this field.**

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*Long Name:* Syndromes Link to Demographics Table
*Short Name:* **PatID**
*Section Name*: Syndromes
*DBTableName:* Syndromes
*Definition:* An arbitrary, unique value generated by the software that permanently identifies each patient demographic record in the participant's database. This field is the foreign key that links this record with the associated record in the Demographics table.

*SeqNo:* 600
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* Automatic
*Format:* Text

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*Long Name:* Syndrome
*Short Name:* **Syndrome**
*Section Name*: Syndromes
*DBTableName:* Syndromes

*SeqNo:* 610
*Core:* Yes
*Harvest:* Yes

*Definition:* Indicate whether the patient has a "Syndrome" or "Syndromic abnormality". A "syndrome" is defined as a group of signs and symptoms that occur together, and characterize a particular abnormality [1]. [1]. Tchervenkov CI, Jacobs JP, Weinberg PM, Aiello VD, Beland MJ, Colan SD, Elliott MJ, Franklin RC, Gaynor JW, Krogmann ON, Kurosawa H, Maruszewski B, Stellin G. The nomenclature, definition and classification of hypoplastic left heart syndrome. Cardiology in the Young, 2006; 16(4): 339–368, August 2006.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes and Value Definitions:

| Code: | Value: | Definition: |
|---|---|---|
| 5 | No syndromic abnormality identified | This patient has no syndromic abnormality identified. |
| 680 | 1p36 deletion syndrome | |
| 690 | 1q21.1 duplication syndrome | |
| 710 | 3q duplication syndrome | |
| 720 | 4q deletion syndrome | |
| 730 | 7q11.23 duplication syndrome | |
| 740 | 8p23.1 deletion syndrome | |
| 660 | 15q11.2 deletion syndrome | |
| 670 | 16p11.2 deletion syndrome | |
| 700 | 22q11.2 duplication syndrome | |
| 750 | Adams-Oliver syndrome | |
| 10 | Alagille syndrome (intrahepatic biliary duct agenesis) | Alagille syndrome, or Alagille-Watson syndrome, is an autosomal dominant condition [mapped to 20p12 & 1p13-p11] of intrahepatic biliary duct agenesis or arteriohepatic dysplasia. Incidence is 1:70,000 births. The 20-year predicted life expectancy is 75% for all patients, 80% for those not requiring a liver transplant, and 60% for those requiring a liver transplant. Typical manifestations include intrahepatic cholestasis, distinctive facies, anterior chamber abnormalities of the eye, and butterfly hemiverterbrae. The most common cardiovascular abnormality is peripheral pulmonary artery stenosis. Additional defects include ASD, VSD, coarctation of the aorta and TOF. |
| 760 | Alstrom syndrome | |
| 580 | Alveolar Capillary Dysplasia syndrome | |
| 20 | Apert syndrome | Apert syndrome, also known as Apert-Crouzon disease or Vogt cephalodactyly, is an autosomal dominant condition [mapped to 10q26] of acrocephalosyndactyly. Incidence is 1:65,000-88,000 births; it occurs in strong association with advanced paternal age at conception. Apert syndrome is similar to Crouzon and Pfeiffer syndromes. Cardiovascular abnormalities include pulmonic stenosis, VSD, overriding aorta, and endocardial fibroelastosis. |
| 770 | Baller-Gerold syndrome | |
| 780 | Bardet-Biedl syndrome | |
| 790 | Beckwith-Wiedmann syndrome | |
| 30 | Brugada syndrome (Sudden | Brugada syndrome, also known as sudden unexplained nocturnal death |

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| | unexplained nocturnal death syndrome) (SUNDS) | syndrome (SUNDS), is an autosomal dominant condition [mapped to 3p21, 3p22.3, 12p13.3 & 10p12], occurring in 1:2000 births. Brugada syndrome is associated with the risk of sudden cardiac death. Mean age of sudden death is approximately 40 years. Symptoms include right bundle branch block and ST segment elevation on ECG, idiopathic ventricular fibrillation, and cardiac arrest. Brugada syndrome, in its typical form is sinus rhythm with anterior raised ST segment in V1 and V2 due to a genetic ion-channel defect involving a sodium-channel defect isolated to SCN5A gene. Brugada syndrome is a type of "Channelopathy." A ventricular tachycardia due to a genetic ion-channel defect is also known as a "Channelopathy" or "Ion channelopathy." This diagnosis is most commonly Long QT syndrome, but also includes Brugada syndrome, Jervell and Lange-Nielsen syndrome, Romano-Ward syndrome, Andersen syndrome, etc. |
| 800 | Brugada/Timothy syndrome | |
| 810 | Cantu syndrome | |
| 40 | Cardiofaciocutaneous syndrome | Cardiofaciocutaneous syndrome (CFC) is a sporadic condition [mapped to 7q34] affecting the heart, face, skin and hair. Incidence is 1:333,000-500,000 births. CFC is similar to Noonan and Costello syndromes. Cardiovascular abnormalities include pulmonary valve stenosis, ASD and hypertrophic cardiomyopathy. |
| 50 | Carpenter syndrome | Carpenter syndrome is an autosomal recessive condition [mapped to 6p11] of acrocephalopolysyndactyly, type II. Incidence is 1:1,000,000 births. Cardiovascular abnormalities in 50% of cases include ASD, VSD, pulmonic stenosis, TOF,<br>TGA and PDA. |
| 60 | Cat-eye syndrome | The cat-eye syndrome, or Schmid-Fraccaro syndrome, is an autosomal dominant condition [mapped to 22q11], associated with coloboma of the iris. Incidence is 1:50,000-150,000 births. The classic pattern of malformations includes mild mental deficiency, hypertelorism, down-slanting palpebral fissures, iris coloboma, pre-auricular pits or tags, and anal and renal malformations. Cardiovascular abnormalities in 40% of cases include TAPVC, ASD, VSD, persistent left superior vena cava, TOF, interruption of the inferior vena cava, and tricuspid atresia. |
| 590 | Caudal Regression syndrome | |
| 830 | Char syndrome | |
| 70 | CHARGE Association | CHARGE syndrome, or Hall-Hittner syndrome, is an autosomal dominant condition [mapped to 8q12.1 & 7q21.11]; some sporadic cases have been reported. Incidence is 1:8500-10,000 births. CHARGE syndrome is a nonrandom association of congenital anomalies which may include Coloboma, Heart defects, Atresia choanae, Retarded growth and development and/or central nervous system anomalies, Genital anomalies and/or hypogonadism and Ear anomalies and/or deafness. Diagnosis is made if 4/6 major (or 3 major & 3 minor) defects are present. Heart defects are present in 75% to 80% of cases. Of those with heart defects, most have conotruncal anomalies (TOF, DORV, truncus arteriosus) and aortic arch anomalies (vascular ring, aberrant subclavian artery, IAA, coarctation of the aorta, right aortic arch, and aortic valve stenosis). Other cardiovascular abnormalities include PDA, AVSD, VSD, and ASD. |
| 600 | Chiari l Malformation | |

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| 840 | Chromosome 17q12 deletion syndrome | |
| 850 | Coffin Lowry syndrome | |
| 860 | Coffin Siris syndrome | |
| 80 | Cornelia de Lange syndrome | Cornelia de Lange syndrome (CDLS), also known as de Lange or Brachmann-de Lange syndrome, is an autosomal dominant condition [mapped to 5p13.1, Xp11.22-11.21 & 10q25]; some X-linked and sporadic cases have been reported. Incidence is 1:10,000-30,000 births. Cardiovascular abnormalities in 25% of cases most commonly include VSD and ASD. |
| 90 | Costello syndrome | Costello syndrome is an autosomal dominant condition [mapped to 12p12.1 & 11p15.5]; some sporadic cases have been reported. Incidence is 1:1,000,000 births. Cardiovascular abnormalities include ASD, VSD, pulmonic stenosis, mitral valve prolapse, hypertrophic cardiomyopathy and arrhythmias. |
| 870 | Cranioectodermal dysplasia (Sensenbrenner syndrome) | |
| 100 | Cri-du-chat syndrome | Cri-du-chat (cat cry), or LeJeune syndrome, is a chromosome deletion syndrome [mapped to 5p15.2]. Incidence is 1:20,000-50,000 births. Cri-du-chat refers to the distinctive cry of children with this disorder, caused by abnormal larynx development. Cardiovascular abnormalities in 30% of cases most commonly include VSD and ASD. Rare defects include TOF and AVSD. |
| 610 | Dandy Walker Malformation | |
| 110 | Deletion 10p syndrome | Deletions on the short arm of chromosome 10 are associated with septal defects, particularly ASDs, and DiGeorge/velocardiofacial 2 syndrome. |
| 120 | Deletion 8p syndrome | Deletions on the short arm of chromosome 8 are associated with ASD, AVSC, conotruncal abnormalities, pulmonic valve stenosis and Tetralogy of Fallot. |
| 130 | DiGeorge syndrome (velocardiofacial syndrome) (conotruncal anomaly face syndrome) (22q11 deletion) | DiGeorge syndrome, also known as Shprintzen, Takao, velocardiofacial, or conotruncal anomaly face syndrome, is an autosomal dominant condition [mapped to 22q11.2]. Incidence is 1:4000 births. Cardiovascular anomalies are seen in association with hypoplasia or aplasia of the thymus and parathyroid gland, which are derivatives of pharyngeal pouches III and IV, and which can result in abnormalities of the immune system and calcium metabolism respectively. Cardiovascular abnormalities include conotruncal or outflow tract defects of the heart, such as tetralogy of Fallot, truncus arteriosus, and interrupted aortic arch, particularly type B IAA. Additional defects include VSD, right aortic arch, aberrant right subclavian artery, and PDA. |
| ~~880~~ | ~~Distinct Disorder~~ | DO NOT USE |
| 140 | Down syndrome (Trisomy 21) | Down syndrome, or Trisomy 21, is the most frequent chromosomal abnormality. Incidence is 1:600-1000 live births. Sporadic cases of Down syndrome occur in strong association with advanced maternal age at conception. Affected individuals have an extra (or third) copy of chromosome 21. Cardiovascular abnormalities in 40-50% of cases, in decreasing order of frequency, include AVSD, VSD, TOF and PDA. Left-sided obstructive defects, such as coarctation and aortic valve stenosis, are rare. |

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| 890 | Duane Radial Ray (Okihiro) syndrome | |
| 620 | Duchenne Muscular Dystrophy | |
| 150 | Edwards syndrome (Trisomy 18) | Edwards syndrome, or Trisomy 18, is a chromosomal abnormality. Incidence is 1:3000-5000 births. Sporadic cases of Edwards syndrome occur usually in association with advanced maternal age at conception. Affected individuals have an extra (or third) copy of chromosome 18. Approximately 50% of infants with Trisomy 18 die within the first week of life, approximately 40% die within the first month of life, only 5-10% survive beyond the first year. Cardiovascular abnormalities in more than 50% of cases include VSD, ASD and PDA; bicuspid aortic and/or pulmonary valves, nodularity of valve leaflets, pulmonic stenosis, coarctation of the aorta in 10-50% of cases; and anomalous coronary artery, TGA, TOF, dextrocardia and aberrant subclavian artery in less than 10% of cases. |
| 570 | Ehlers-Danlos Syndrome | Ehlers-Danlos syndrome is a group of inherited disorders marked by extremely loose joints, hyperelastic skin that bruises easily, and easily damaged blood vessels. A variety of gene mutations involve collagen of the skin, bone, blood vessels, and internal organs. The abnormal collagen leads to the symptom which can include rupture of internal organs or abnormal heart valves. |
| 160 | Ellis-van Creveld syndrome | Ellis-van Creveld syndrome, or chondroectodermal dysplasia, is an autosomal recessive condition [mapped to 4p16] of skeletal dysplasia. Incidence is 1:60,000-200,000 births. Major features include short stature of prenatal onset (short limbs), hypoplastic nails and dental anomalies, postaxial polydactyly, narrow thorax, and cardiac defects. Cardiovascular abnormalities in more than 50% of cases most commonly include ASD or common atrium. Additional defects include PDA, persistent left superior vena cava, hypoplastic left heart defects, coarctation of the aorta, TAPVC, and TGA. |
| ~~900~~ | ~~Familial atrial septal defects~~ | DO NOT USE |
| 910 | Familial CHD | |
| ~~920~~ | ~~Familial non-syndromic CHD~~ | DO NOT USE |
| 165 | Fetal alcohol syndrome (FAS) | Indicate whether the patient has a history of Fetal alcohol syndrome (FAS). Fetal alcohol syndrome (FAS) is a condition that results from prenatal alcohol exposure. FAS is a group of problems that can include mental retardation, birth defects, abnormal facial features, growth problems, problems with the central nervous system, trouble remembering and/or learning, vision or hearing problems, and behavior problems. Mothers who consume large quantities of alcohol during pregnancy may have babies who are born with Fetal Alcohol Syndrome (or FAS). A diagnosis of FAS is based on three factors: 1) prenatal and postnatal growth retardation; 2) central nervous system abnormalities, and, 3) abnormalities of the face. Many of these children display significant disabilities, learning disorders, and emotional problems as they mature. |
| 166 | Fetal drug exposure | Indicate whether the patient has a history of Fetal drug exposure. Fetal drug exposure can lead to numerous problems including low birth weight, prematurity, small for Gestational Age (SGA), failure to Thrive (FTT), neurobehavioral symptoms, infectious diseases, and Sudden Infant Death Syndrome (SIDS). |

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| 380 | Fetal rubella syndrome (Congenital rubella syndrome) | Indicate whether the patient has a history of maternal rubella virus infection during first trimester of pregnancy. Fetal rubella syndrome is associated with PDA, peripheral pulmonary stenosis, fibromuscular and intimal proliferation of medium and large arteries, VSD and ASD. |
| 930 | Fragile X | |
| 170 | Goldenhar syndrome | Goldenhar syndrome, also known as hemifacial microsomia, oculoauriculovertebral dysplasia or spectrum, and facioauriculovertebral sequence, is an autosomal dominant condition [mapped to 14q32]. Incidence is 1:3000-5000 births. Cardiovascular abnormalities include VSD, PDA, TOF and coarctation. |
| 190 | Heterotaxy syndrome, Asplenia syndrome | "Asplenia syndrome" can be defined as a subset of heterotaxy with components of bilateral right-sidedness, usually associated with absence of the spleen. |
| 200 | Heterotaxy syndrome, Polysplenia syndrome | "Polysplenia syndrome" can be defined as a subset of heterotaxy with components of bilateral left-sidedness, usually associated with multiple spleens. |
| 180 | Heterotaxy syndrome, Unknown if asplenia or polysplenia | Heterotaxy is synonymous with 'visceral heterotaxy' and 'heterotaxy syndrome'. Heterotaxy is defined as an abnormality where the internal thoraco-abdominal organs demonstrate abnormal arrangement across the left-right axis of the body. By convention, heterotaxy does not include patients with either the expected usual or normal arrangement of the internal organs along the left-right axis, also known as 'situs solitus', nor patients with complete mirror-imaged arrangement of the internal organs along the left-right axis also known as 'situs inversus'. |
| 210 | Holt-Oram syndrome | Holt-Oram, or heart hand, syndrome is an autosomal dominant condition [mapped to 12q24.1]. Incidence is 1:100,000 births. Holt-Oram syndrome was first described in 1960 by Holt and Oram who noted the association of radial anomalies with atrial septal defects. Cardiovascular abnormalities in 75% of cases most commonly include ASD. Additional defects include first degree AV block, bradycardia, fibrillation, AVSD, VSD, HLHS and PDA. |
| 220 | Jacobsen syndrome | Jacobsen syndrome is a chromosome deletion syndrome [mapped to 11q23]. Incidence is 1:100,000 births. Associated cardiovascular abnormalities include VSD and ASD. |
| 940 | Joubert syndrome | |
| 230 | Kabuki syndrome | Kabuki, or Niikawa-Kuroki, syndrome is an autosomal dominant condition. Incidence is 1:32,000 births. Affected individuals have a facial appearance similar to Japanese Kabuki theatre actors. Cardiovascular abnormalities in 50% of cases include ASD, VSD, coarctation of the aorta, bicuspid aortic valve, mitral valve prolapse, TOF, single ventricle with common atrium, DORV, TGA, and pulmonic, aortic and mitral valve stenoses. |
| 240 | Kartagener syndrome (Siewert syndrome) (Primary ciliary dyskinesia) | Kartagener syndrome, also known as Siewert syndrome or primary ciliary dyskinesia, is an autosomal recessive condition [mapped to 9p21-p13]. Incidence is 1:30,000 births. Features include situs inversus and asplenia. Cardiovascular abnormalities include dextrocardia. |
| 950 | Kleefstra syndrome | |
| 250 | Klinefelter syndrome (XXY Syndrome) | Klinefelter, or 47XXY syndrome, is a sporadic chromosomal abnormality in which males have at least two X chromosomes and at least one Y chromosome. Incidence is 1:500 males or 1:1000 births. Klinefelter |

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| | | syndrome occurs usually in association with advanced maternal age at conception. It is the most common sex chromosome disorder and the most common cause of hypogonadism and infertility. Cardiovascular abnormalities in more than 50% of cases include mitral valve prolapse, varicose veins and deep venous thrombosis. |
| 960 | Koolen-De Vries syndrome | |
| 260 | LEOPARD syndrome | LEOPARD is an acronym for multiple Lentigines, Electrocardiographic conduction abnormalities, Ocular hypertelorism, Pulmonic stenosis, Abnormal genitalia, Retardation of growth, and sensorineural Deafness. LEOPARD syndrome is an autosomal dominant condition [mapped to 12q24.1 & 3p25]. Cardiovascular abnormalities include pulmonic stenosis in 40% of cases, and hypertrophic cardiomyopathy in 20% of cases. Additional defects include subaortic stenosis, complete heart block, bundle branch block, prolonged P-R and QRS, and abnormal P waves. |
| 270 | Loeys-Dietz syndrome | Loeys-Dietz syndrome is an autosomal dominant condition [mapped to 3p22 & 9q22]. Cardiovascular abnormalities include aortic and arterial aneurysms/dissections with tortuosity of the arteries, PDA, ASD, bicuspid aortic and pulmonic valves, and mitral valve prolapse. |
| 290 | Marfan syndrome | Marfan syndrome is an autosomal dominant condition [mapped to 5q21.1]. Incidence is 1:5000 births. Marfan syndrome is the most common connective tissue disorder, and is associated with the risk of sudden cardiac death. Cardiovascular abnormalities include aortic root dilation, aortic dissection and rupture, aortic regurgitation, ascending aortic aneurysm, mitral valve prolapse, mitral regurgitation, tricuspid valve prolapse, premature calcification of the mitral annulus, pulmonary artery dilatation and CHF. |
| 300 | Marfan-like syndrome | Marfan-like syndrome is a connective tissue disorder, resembling Marfan syndrome. |
| 970 | McKusick-Kaufman syndrome | |
| 980 | Meckel-Gruber syndrome | |
| 990 | Microphthalmia syndromic 9 | |
| 1000 | Mowat Wilson syndrome | |
| 310 | Mucopolysaccharidosis type IH (Hurler syndrome) | Hurler syndrome, also known as mucopolysaccharidosis type IH (MPS IH), is an autosomal recessive condition [mapped to 4p16.3]. Incidence is 1:100,000 births. MPS is a lysosomal storage disease. Affected individuals appear normal at birth; subtle changes may be evident during the first 6 months. Survival beyond 10 years of age is unusual. Cardiovascular abnormalities include valve anomalies, coronary artery narrowing, and mitral and atrial regurgitation. |
| 320 | Mucopolysaccharidosis type IH/S (Hurler-Scheie syndrome) | Hurler-Scheie syndrome, also known as mucopolysaccharidosis type IH/S (MPS IH/S), is an autosomal recessive disorder [mapped to 4p16.3]. Incidence is 1:500,000 births. MPS is a lysosomal storage disease. Onset of symptoms occurs between ages 3 and 8 years. Survival to adulthood is typical. Cardiovascular abnormalities include mitral valve anomalies. |
| 330 | Mucopolysaccharidosis type II (Hunter syndrome) | Hunter syndrome, also known as mucopolysaccharidosis type II (MPS 2), is an X-linked recessive disorder [mapped to Xq28]. Incidence is 1:100,000-170,000 births. MPS is a lysosomal storage disease. Individuals with Hunter syndrome appear normal at birth. Symptoms emerge between ages 2 and 4. Life expectancy is 10-20 years. Cardiovascular abnormalities include valve anomalies, ischemic heart |

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| | | disease, ventricular hypertrophy and CHF. |
| 340 | Mucopolysaccharidosis type IS (Scheie syndrome) | Scheie syndrome, also known as mucopolysaccharidosis type IS (MPS IS), is an autosomal recessive disorder [mapped to 4p16.3], which occurs in 1:500,000 births. Scheie syndrome is a lysosomal storage disease. Survival to a late age is typical. Cardiovascular abnormalities include aortic regurgitation, aortic and mitral valve abnormalities. |
| 1010 | Nance Horan syndrome | |
| 1020 | Nephronophthisis | |
| 1030 | Neurofibromatosis | |
| ~~1040~~ | ~~Non-syndromic CHD~~ | **DO NOT USE**<br>August 2019: I noticed changes in the syndromes available for coding in STS. "non-syndromic CHD" is not defined. Should we be marking this for our kids with no syndromes? **Nothing relational implied.** |
| 350 | Noonan syndrome | Noonan syndrome is an autosomal dominant condition [mapped to 12q24.1]. Incidence is 1:1000-2500 births. Major features include short stature, seen in about half, mental retardation (usually mild), characteristic facial features, a shield chest deformity, cubitus valgus, and a short webbed neck. Cardiovascular abnormalities occur in at least 50% of cases and include pulmonary valve stenosis (75%) secondary to a dysplastic pulmonary valve with thickened valve leaflets, ASD (30%) usually associated with pulmonary stenosis, PDA (10%), VSD (10%), and hypertrophic cardiomyopathy (10-20%) that can involve both ventricles. Rare lesions include TOF, coarctation of the aorta, subaortic stenosis, and Ebstein malformation. Hypertrophic cardiomyopathy is observed in 10% to 20% and can involve both ventricles. |
| 1050 | Oculofaciocardiodental | |
| 1060 | Oral-facial-digital syndromes (types I-XVI and unclassified) | |
| 360 | Patau syndrome (Trisomy 13) | Patau or Bartholin-Patau syndrome, or Trisomy 13, is a chromosomal abnormality. Incidence is 1:5000- 10,000 births. Sporadic cases occur usually in association with advanced maternal age at conception. Affected individuals have an extra (or third) copy of chromosome 13. More than 90% of individuals with Trisomy 13 die within their first days or weeks of life. Only 5-10% survive beyond 1 year of age. Cardiovascular abnormalities in 80% of cases include VSD, PDA, ASD; dextrocardia in more than 50% of cases; and anomalous pulmonary venous connection, overriding aorta, pulmonary stenosis, hypoplastic aorta, mitral valve atresia, aortic valve atresia, and bicuspid aortic valve in fewer than 50% of cases. |
| 1070 | Peter's Plus syndrome | |
| 540 | Pierre Robin syndrome | Pierre Robin Syndrome is characterized by an unusually small mandible (micrognathia), posterior displacement or retraction of the tongue (glossoptosis), and upper airway obstruction. Incomplete closure of the roof of the mouth (cleft palate) is present in the majority of patients, and is commonly U-shaped. |
| 1080 | Polycystic Kidney Disease | |
| 1090 | Primary ciliary dyskinesia (PCD) | |
| 530 | Prune Belly Syndrome | Prune belly syndrome, also known as Eagle-Barrett syndrome, is |

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| | | characterized by three main features: Anterior abdominal wall musculature ("stomach muscles") deficient or absent, urinary tract anomalies (such as a very large bladder) and bilateral cryptorchidism (two undescended testicles.) The incidence of prune belly syndrome is about 1 in 40,000 births; 95% of cases occur in males. It is thought that prune belly syndrome is a multisystem disease complex that derives from a primary defect in mesodermal development at about 8 weeks' gestation. The major prognostic factor is the degree of dilation of the urinary tract; 20% of patients are stillborn, 30% die of renal failure or urosepsis within the first two years of life, and the remaining 50% have varying degrees ofurinary pathology. |
| 370 | Rethore syndrome (Trisomy 9) | Trisomy 9, or Rethore syndrome, is a rare chromosomal abnormality, which is a frequent cause of first trimester spontaneous abortions. Incidence is 1:100,000 births. Affected individuals have an extra (or third) copy of chromosome 9. Most affected individuals die during infancy or early childhood. Cardiovascular abnormalities occur in 75% of cases and include VSD, ASD, PDA, valve defects, DORV, persistent left SVC, and endocardial fibroelastosis. |
| 1100 | Roberts syndrome | |
| 1110 | Robinow syndrome | |
| 390 | Rubinstein-Taybi syndrome | Rubinstein-Taybi or Rubinstein syndrome is an autosomal dominant condition [mapped to 16p13.3 & 22q13]. Incidence is 1:100,000-125,000 births.<br>Cardiovascular abnormalities occur in 30% of cases and include ASD, VSD and PDA. |
| 1120 | Saethre Chotzen syndrome | |
| 1130 | Short Rib Polydactyl Type I | |
| 1140 | Short rib thoracic dysplasias including Jeune chondrodysplasia, Saldino Mainzer | |
| 550 | Sickle cell disease | Sickle-cell disease (SCD), or sickle-cell anemia (SCA) is an autosomal recessive genetic blood disorder with overdominance, characterized by red blood cells that assume an abnormal, rigid, sickle shape. Sickling decreases the cells' flexibility and results in a risk of various complications. The sickling occurs because of a mutation in the hemoglobin gene. Sickle-cell disease occurs more commonly in people (or their descendants) from parts of tropical and sub-tropical regions where malaria is or was common. |
| 560 | Sickle cell trait | Sickle cell trait describes a condition in which a person has one abnormal allele of the hemoglobin beta gene (is heterozygous), but does not display the severe symptoms of sickle cell disease that occur in a person who has two copies of that allele (is homozygous). Those who are heterozygous for the sickle cell allele produce both normal and abnormal hemoglobin (the two alleles are co-dominant). Sickle cell disease is a blood disorder in which the body produces an abnormal type of the oxygen-carrying substance hemoglobin in the red blood cells. Sickling and sickle cell disease also confer some resistance to malaria parasitization of red blood cells, so that individuals with sickle-cell trait (heterozygotes) have a selective |

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| | | advantage in some environments. |
| 1150 | Sifrim-Hitz-Weiss syndrome (SIHWES) | |
| 1160 | Simpson-Golabi-Behemel syndrome | |
| 410 | Situs inversus | Situs inversus is defined as an abnormality where the internal thoraco-abdominal organs demonstrate mirror-imaged atrial arrangement across the left-right axis of the body. |
| 1170 | Smith Magenis syndrome | |
| 420 | Smith-Lemli-Opitz syndrome | Smith-Lemli-Opitz syndrome is an autosomal recessive condition mapped to 11q12-q13]. Incidence is 1:20,000-40,000 births. Cardiovascular abnormalities include VSD, ASD, coarctation of the aorta, and PDA. |
| 1180 | Sotos syndrome | |
| 630 | Spinal Muscular Atrophy, Type II | |
| ~~1190~~ | ~~Sporadic and familial CHD~~ | DO NOT USE |
| ~~1200~~ | ~~Syndromic CHD~~ | DO NOT USE |
| 1210 | TAR Syndrome | |
| 640 | Thalassemia - Major | |
| 650 | Thalassemia – Minor | |
| ~~1220~~ | ~~Trisomy 13~~ | DO NOT USE |
| ~~1230~~ | ~~Trisomy 18~~ | DO NOT USE |
| ~~1250~~ | ~~Trisomy 21~~ | DO NOT USE |
| 430 | Turner syndrome (45XO) | Turner syndrome (45XO) is a chromosomal deletion abnormality, which occurs in 1:5000 live female births. Although common in first trimester, most 45XO conceptuses are spontaneously aborted. Affected individuals are missing one X chromosome. The major features include short stature, primary amenorrhea due to ovarian dysgenesis, webbed neck, congenital lymphedema, and cubitus valgus. Cardiovascular abnormalities occur in 20-40% of cases, the most common of which is coarctation of the aorta (70%). Additional defects include bicommissural aortic valve, aortic stenosis, a spectrum of left-sided obstructive defects and/or hypoplastic defects, hypoplastic left heart syndrome; aortic dilation, dissection, and rupture. |
| 440 | VACTERL syndrome (VACTER/VATER/VATER R syndrome) | VACTERL syndrome is a nonrandom association of defects, including Vertebral anomalies, Anal atresia, Cardiovascular anomalies, Tracheoesophageal fistula, Esophageal atresia, Renal and/or Radial anomalies, and Limb anomalies. Diagnosis is made if 3/7 defects are present. Incidence is 1:6000 births. Cardiovascular malformations include VSD, TOF, TGA and PDA. |
| 450 | VACTERL-H syndrome (VATER association with hydrocephalus) (Briard-Evans syndrome) | VACTERL-H association is also known as VATER association with hydrocephalus, Briard-Evans syndrome, David-O'Callaghan syndrome (autosomal recessive type), and Hunter-MacMurray syndrome (X-linked type) [mapped to 10q23.31 & Xp22.31]. VACTERL-H is an autosomal recessive condition; some X-linked cases have been reported. VACTERL- H is a nonrandom association of defects, including Vertebral anomalies, Anal atresia, Cardiac malformations, TracheoEsophageal fistula, Renal anomalies, Limb anomalies and |

| | | |
|---|---|---|
| | | Hydrocephalus. Diagnosis is made if 3/7 defects are present with hydrocephalus. Cardiovascular abnormalities include VSD, TOF, TGA and PDA. |
| 520 | von Willebrand disease (vWD) | Von Willebrand disease (vWD) is the most common hereditary coagulation abnormality described in humans, although it can also be acquired as a result of other medical conditions. It arises from a qualitative or quantitative deficiency of von Willebrand factor (vWF), a multimeric protein that is required for platelet adhesion. There are three forms of vWD: inherited, acquired and pseudo or platelet type. There are three types of hereditary vWD: vWD Type I, vWD Type II and vWD III. Within the three inherited types of vWD there are various subtypes. Platelet type vWD is also an inherited condition. vWD Type I is the most common type of the disorder and those that have it are typically asymptomatic or may experience mild symptoms such as nosebleeds although there may be severe symptoms in some cases. There are various factors that affect the presentation and severity of symptoms of vWD such as blood type. |
| 460 | Warkany syndrome (Trisomy 8) | Trisomy 8, or Warkany syndrome, is a chromosomal abnormality, which is a frequent cause of first trimester spontaneous abortions. Complete Trisomy 8 is usually an early lethal disorder. Incidence is 1:25,000-50,000 births. Affected individuals have an extra (or third) copy of chromosome 8. Cardiovascular abnormalities include septal defects and great vessel anomalies. |
| 470 | Williams syndrome (Williams-Beuren syndrome) | Williams syndrome, or Williams-Beuren syndrome, is an autosomal dominant condition [mapped to 7q11.23]. Incidence is 1:7500 births. Williams syndrome was initially described by Williams and colleagues in four unrelated children with mental retardation, an unusual facial appearance, and supravalvar stenosis. Cardiovascular abnormalities occur in at least 50% of cases and include supravalvar aortic stenosis, bicuspid aortic valve, mitral valve prolapse, mitral regurgitation, coronary artery stenosis, pulmonary valve stenosis, ASD, VSD and peripheral pulmonary artery stenosis. Supravalvar aortic stenosis is the most frequent single defect, but any of the systemic or pulmonary arteries can be affected. |
| 490 | Wolf-Hirschhorn syndrome | Wolf-Hirschhorn syndrome is a chromosome deletion syndrome [mapped to 4p16.3]. Incidence is 1:96,000 births. Affected individuals have a 35% risk of mortality prior to age 2. Cardiovascular abnormalities include ASD and VSD. |
| 1260 | X-linked heterotaxy | |
| 510 | Other syndromic abnormality | This patient has other syndromic abnormality(ies) that are not on this list |

September 2019: Was WPW once part of the new version under syndromes and is now no longer there? For a surgery at my center that was done in January this year, WPW was entered as a syndrome, but it came back as an error in my DQR and now it is not in the list of syndromes in my software or in the training manual. Trying to figure out how it got entered in the first place, especially with a code associated with it. **Correct, it was removed from the syndromes as it is an arrhythmia not a syndrome**.
October 2019: What's the difference between #880 "distinct syndrome" and #510 "other syndromic abnormality? **Distinct disorder should not be used and data managers will be notified. Other syndromic abnormality can be used to capture any other syndromic**.

December 2020: Where should mitochondrial disorders be coded? Syndrome? Pre-op factor? **These would be best included in the syndromes, not preoperative factors.**
February 2021: For fetal drug exposure, does this include legally prescribed medications that are known to be contraindicated in pregnancy, such as lithium? **Yes**
February 2021: The question involves field #166 - fetal drug exposure. Is there a set of drug classifications to be considered for this field? Is it only for illicit/illegal drug use? Are we to consider ANY drugs the mother took during pregnancy, i.e.: insulin, metformin, lovenox, antidepressants, etc.? **Consider any medications the mother took during pregnancy that are not normally prescribed during pregnancy. This will be clarified in the upcoming upgrade.**

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| | | | |
|---|---|---|---|
| *Long Name:* | Syndrome - Other - Specify | *SeqNo:* | 620 |
| *Short Name:* | **SyndromeOthSp** | *Core:* | Yes |
| *Section Name*: | Syndromes | *Harvest:* | Yes |
| *DBTableName:* | Syndromes | | |
| *Definition:* | Indicate the other “Syndrome” or “Syndromic abnormality”. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text | | |
| *ParentLongName:* | Syndrome | | |
| *ParentShortName:* | **Syndrome** | | |
| *ParentHarvestCodes:* | 510 | | |
| *ParentValues:* | = "Other syndromic abnormality" | | |

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## Hospitalization

| | | | |
|---|---|---|---|
| *Long Name:* | Hospital Name | *SeqNo:* | 630 |
| *Short Name:* | **HospName** | *Core:* | Yes |
| *Section Name*: | Hospitalization | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the full name of the facility where the procedure was performed. Values should be full, official hospital names with no abbreviations or variations in spelling for a single hospital. Values should also be in mixed-case. | | |
| *Intent / Clarification:* | | | |

*Data Source:* User
*Format:* Text (categorical values specified by STS)

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*Long Name:* Hospital Zip Code
*Short Name:* **HospZIP**
*Section Name*: Hospitalization
*DBTableName:* Operations
*Definition:* Indicate the ZIP Code of the hospital. Outside the USA, these data may be known by other names such as Postal Code. This field should be collected in compliance with state/local privacy laws.

*SeqNo:* 640
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* Lookup
*Format:* Text

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*Long Name:* Hospital State
*Short Name:* **HospStat**
*Section Name*: Hospitalization
*DBTableName:* Operations
*Definition:* Indicate the region of the country (i.e., state or province) in which the hospital is located.

*SeqNo:* 650
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* Lookup
*Format:* Text

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*Long Name:* Hospital National Provider Identifier
*Short Name:* **HospNPI**
*Section Name*: Hospitalization
*DBTableName:* Operations
*Definition:* Indicate the hospital's National Provider Identifier (NPI). This number, assigned by the Center for Medicare and Medicaid Services (CMS), is used to uniquely identify facilities for Medicare billing purposes.

*SeqNo:* 660
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* Lookup

*Format:* Text

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*Long Name:* Primary Payor
*Short Name:* **PayorPrim**
*Section Name*: Hospitalization
*DBTableName:* Operations
*Definition:* Indicate the primary insurance payor for this admission.

*SeqNo:* 771
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | None / self |
| 2 | Medicare |
| 3 | Medicaid |
| 4 | Military Health |
| 5 | Indian Health Service |
| 6 | Correctional Facility |
| 7 | State Specific Plan |
| 8 | Other Government Insurance |
| 9 | Commercial Health Insurance |
| 10 | Health Maintenance Organization |
| 11 | Non-U.S. Plan |
| 13 | Charitable Care/Foundation Funding (internal) |
| 14 | Charitable Care/Foundation Funding (external) |

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*Long Name:* Primary Payor Medicare Fee For Service
*Short Name:* **PrimMCareFFS**
*Section Name*: Hospitalization
*DBTableName:* Operations
*Definition:* Indicate whether the patient is covered by Medicare Fee For Service (Part B).

*SeqNo:* 772
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Primary Payor
*ParentShortName:* **PayorPrim**

*ParentHarvestCodes:* 2
*ParentValues:* = "Medicare"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Secondary (Supplemental) Payor
*Short Name:* **PayorSecond**
*Section Name*: Hospitalization
*DBTableName:* Operations
*Definition:* Indicate which if any secondary insurance payor was used for this admission.

*SeqNo:* 773
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Primary Payor
*ParentShortName:* **PayorPrim**
*ParentHarvestCodes:* <>1 And Is Not Missing
*ParentValues:* Is Not "None / self" And Is Not Missing

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | None / self |
| 2 | Medicare |
| 3 | Medicaid |
| 4 | Military Health |
| 5 | Indian Health Service |
| 6 | Correctional Facility |
| 7 | State Specific Plan |
| 8 | Other Government Insurance |

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*Long Name:* Secondary Payor Medicare Fee For Service
*Short Name:* **SecondMCareFFS**
*Section Name*: Hospitalization
*DBTableName:* Operations
*Definition:* Indicate whether the patient is covered by Medicare Fee For Service (Part B).

*SeqNo:* 774
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Secondary (Supplemental) Payor
*ParentShortName:* **PayorSecond**
*ParentHarvestCodes:* 2
*ParentValues:* = "Medicare"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Date of Admission
*Short Name:* **AdmitDt**
*Section Name*: Hospitalization
*DBTableName:* Operations
*Definition:* Indicate the date the patient was admitted to the hospital. For those patients who originally enter the hospital in an out-patient capacity (i.e., catheterization), but then are not discharged, the admit date is the date of the patients entry into the hospital.

*SeqNo:* 780
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:* This is the date of admission to your facility, not necessarily the start of the patient's "episode of care".

*Data Source:* User
*Format:* Date - mm/dd/yyyy

October 2019: I have a patient who had a long complex admission with multiple events. He was eventually discharged to a chronic care center so he has a hospital discharge date but no database discharge date. He was readmitted a week later to our hospital and then had another cpb cardiovascular operation. My question is when I add this latest surgery, do I create a new visit since he was discharged from the hospital or add it to the existing visit (where all his previous surgeries are) since it is within the same episode of care. My vendor offers these options to add events: create a new visit or add to existing visit. If I create a new visit, I am concerned it will count as an index procedure when it is not or just add to existing with the new admit date? **You should create a new hospital admission and discharge, however, upon analysis, this is 1 episode of care which will be linked by the common database discharge date.**

March 2021: I need clarification on admission date and time. The PC4 data manager and I are interpreting the definition differently. If a patient comes in for clinic visit to have cath, and then is admitted, do we capture date and time of the start to clinic visit? Or when they are admitted to the unit? Same goes for ED. If patient is admitted to ED, then goes to ICU, do we capture admit time and date to ED, or ICU? **STS does not collect admit time. The dates/times spent in ED or clinic are not included unless a cardiac operation procedure is completed. The billing status of the patient is also not a factor (observation or short stay**

**status). The STS definition is the date the episode of care starts. If the patient goes from clinic to cath to the ICU, the STS episode of care would start the date the patient went to the cath lab. If the patient comes from the ED and goes to the ICU, the STS episode of care date is the date the patient arrived in the ICU. If cardiac surgery was performed in the ED, perhaps an ECMO cannulation etc., the episode of care starts the date the patient underwent the procedure.**

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| | | | |
|---|---|---|---|
| *Long Name:* | Location From Which Patient Admitted | *SeqNo:* | 781 |
| *Short Name:* | **AdmitFromLoc** | *Core:* | Yes |
| *Section Name*: | Hospitalization | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the location from which the patient was admitted. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Home |
| 2 | Other acute care center |
| 3 | Other chronic care center |
| 4 | Born at operative center |

April 2019: If a patient presents at an outside hospital but is sent to our hospital, should this be admit from "home" or admit from "other acute care facility". **If the patient was admitted at the acute care facility, the answer is other acute care facility. If the patient was seen in a clinic or emergency department at the other hospital and then transferred to your facility, the answer is home.**

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| | | | |
|---|---|---|---|
| *Long Name:* | Date of Surgery | *SeqNo:* | 790 |
| *Short Name:* | **SurgDt** | *Core:* | Yes |
| *Section Name*: | Hospitalization | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the date of surgery which equals the date the patient enters the OR or equivalent. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Date - mm/dd/yyyy

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| | | | |
|---|---|---|---|
| *Long Name:* | Height in Centimeters | *SeqNo:* | 800 |
| *Short Name:* | **HeightCm** | *Core:* | *Yes* |
| *Section Name*: | Hospitalization | *Harvest:* | *Yes* |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the height of the patient in centimeters at the time of surgery. | | |
| *Low Value:* | 15.0 | | |
| *High Value:* | 250.0 | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Real |

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| | | | |
|---|---|---|---|
| *Long Name:* | Weight in Kilograms | *SeqNo:* | 810 |
| *Short Name:* | **WeightKg** | *Core:* | *Yes* |
| *Section Name*: | Hospitalization | *Harvest:* | *Yes* |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the weight of the patient in kilograms at the time of surgery. | | |
| *Low Value:* | 0.001 | | |
| *High Value:* | 200.000 | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Real, at least 3 decimal places |

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| | | | |
|---|---|---|---|
| *Long Name:* | Patient Age In Days | *SeqNo:* | 820 |
| *Short Name:* | **AgeDays** | *Core:* | Yes |
| *Section Name*: | Hospitalization | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Calculate the patient's age in days at the time of the surgery procedure. The patient's age will be calculated by the software from the date of birth and the date of surgery. | | |
| *Low Value:* | 0 | | |
| *High Value:* | 40150 | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User or Automatic |
| *Format:* | Integer |

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## Pre-Operative Factors

| | | | |
|---|---|---|---|
| *Long Name:* | Preoperative Factor Table Unique Record Identifier | *SeqNo:* | 830 |
| *Short Name:* | **PoFUniqueID** | *Core:* | Yes |
| *Section Name*: | Preoperative Factors | *Harvest:* | Yes |
| *DBTableName:* | PreopFactors | | |
| *Definition:* | Unique identifier for the record in the Preoperative Factors table. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | Automatic | | |
| *Format:* | Text | | |

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| | | | |
|---|---|---|---|
| *Long Name:* | Preoperative Factor Link to Operations Table | *SeqNo:* | 840 |
| *Short Name:* | **OperationID** | *Core:* | Yes |
| *Section Name*: | Preoperative Factors | *Harvest:* | Yes |
| *DBTableName:* | PreopFactors | | |
| *Definition:* | An arbitrary, unique value generated by the software that permanently identifies each operation record in the participant's database. This field is the foreign key that links the Preoperative Factor record with the associated record in the Operations table. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | Automatic | | |
| *Format:* | Text | | |

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| | | | |
|---|---|---|---|
| *Long Name:* | Preoperative Factor | *SeqNo:* | 850 |
| *Short Name:* | **PreopFactor** | *Core:* | Yes |
| *Section Name*: | PreopFactor | *Harvest:* | Yes |
| *DBTableName:* | PreopFactors | | |
| *Definition:* | Indicate the factors that are present preoperatively that may impact the patient's outcome. | | |
| *Intent / Clarification:* | Pay attention to defined time frames. Each Preoperative Factor has its own defined time frame for inclusion. | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |

Harvest Codes and Value Definitions:

| Code: | Value: | Definition: |
|---|---|---|
| 10 | No preoperative factors identified | This patient has no preoperative factors identified. |
| 200 | Cardio-pulmonary resuscitation | Chest compression with medications within 48 hours prior to surgery. Select this factor if chest compression took place within the 48 hours prior to OR Entry Date and Time, or at the time of OR Entry Date and Time. |
| 210 | Preoperative complete AV block | Arrhythmia-Atrioventricular conduction disorder, AV block, Third degree ROOT Definition. Third degree AV block is defined as the absence of AV node conduction. This factor should be selected if it developed / was present during this hospitalization before OR Entry Date and Time and was present at the time of OR Entry Date and Time |
| 220 | Preoperative/Preprocedural mechanical circulatory support (IABP, VAD, ECMO, or CPS) | Code this factor if the patient is supported with mechanical support, of any type (IABP, VAD, ECMO, or CPS), for resuscitation/CPR or support, at the time of OR Entry Date and Time. |
| 230 | Shock, Persistent at time of surgery | Shock ROOT Definition = Shock is defined as "a state of inadequate tissue perfusion". A modern definition according to Simeone states that shock is a "clinical condition characterized by signs and symptoms which arise when the cardiac output is insufficient to fill the arterial tree with blood under sufficient pressure to provide organs and tissues with adequate blood flow." A historic definition according to Blalock in 1940 is that "Shock is a peripheral circulatory failure, resulting from a discrepancy in the size of the vascular bed and the volume of the intravascular fluid". Code this factor if the patient had a metabolic acidosis with pH < 7.2 and/or Lactate > 4 mmol /liter at the time of OR Entry Date and Time and /or on one or more inotropes at doses greater than: Dopamine/Dobutamine > 10 mcg/kg/min; Epinephrine/norepinephrine > 0.1 mcg/kg/min; Vasopressin > 0.5 milliunits/kg/min |
| 240 | Shock, Resolved at time of surgery | Shock ROOT Definition = Shock is defined as "a state of inadequate tissue perfusion". A modern definition according to Simeone states that shock is a "clinical condition characterized by signs and symptoms which arise when the cardiac output is insufficient to fill the arterial tree with blood under sufficient pressure to provide organs and tissues with adequate blood flow." A historic definition according to Blalock in 1940 is that "Shock is a peripheral circulatory failure, resulting from a discrepancy in the size of the vascular bed and the volume of the intravascular fluid". Code this factor if the patient had a metabolic acidosis with pH < 7.2 and/or Lactate > 4 mmol /liter at any time after the date and time of admission to the hospital but not at the time of OR Entry Date and Time. This factor should be coded if shock was present at any time after the date and time of admission to the hospital but not at the time of OR Entry Date and Time, including situations where shock was present after admission to the hospital where this operation was performed, and situations where shock was present while the patient was hospitalized at another “transferring facility” that subsequently transferred the patient who ultimately arrived at this hospital in this same hospitalization and /or on one |

| | | |
|---|---|---|
| | | or more inotropes at doses greater than: Dopamine/Dobutamine > 10 mcg/kg/min; Epinephrine/norepinephrine > 0.1 mcg/kg/min; Vasopressin > 0.5 milliunits/kg/min<br><br>Clarify: we should code the shock present at transferring facility even if shock not present at this facility |
| 250 | Diabetes mellitus, Insulin dependent | Code this factor if the patient has evidence of insulin dependent diabetes mellitus at the time OR Entry Date and Time as manifested by the fact that the patient has the diagnosis of diabetes mellitus that is controlled with insulin. |
| 260 | Diabetes mellitus, Non-insulin dependent | Code this factor if the patient has evidence of non-insulin dependent diabetes mellitus at the time OR Entry Date and Time as manifested by the fact that the patient has the diagnosis of diabetes mellitus that is controlled with dietary modification with or without oral medications (oral anti-hyperglycemic agents). |
| 270 | Hypothyroidism | Hypothyroidism refers to decreased levels of triiodothyronine (T3) and thyroxine (T4), and reverse triiodothyronine (reverse T3), with high levels of thyroid-stimulating hormone (TSH). Symptoms of hypothyroidism include bradycardia, pericardial effusions, hypertension and a narrowed pulse pressure and myxedema. Studies have also shown decreases in cardiac output and cardiac contractility, decreased diastolic relaxation and diastolic filling. In those with congestive heart failure (CHF), decreased levels of T3 have been shown to be proportional to New York Heart Association class, poor outcomes, mortality, poor hemodynamics, and hyponatremia. This factor may be coded (1) if the TSH > 20 mU / liter, or (2) if the patient has pituitary failure with hypothyroidism, or (3) if the patient is receiving medication to treat hypothyroidism at the time of OR Entry Date and Time. |
| 280 | Currently taking steroids as treatment for adrenal insufficiency | Code this factor if the patient is taking steroids (as treatment for adrenal insufficiency) at the time of OR Entry Date and Time. Inhaled steroids should not be included as they are generally taken for reactive airway disease and are not the equivalent to systemic steroid ingestion. The intent of the field was probably related to factors such as: 1) potential increased infection risk, 2) potential impact on healing, and 3) potential for adrenal suppression (and need for “stress” steroid coverage).<br><br>Clarify: Do not code if the only steroids that the patient received was a one time stress dose on call prior to the OR. |
| 290 | Currently taking steroids for any reason other than treatment of adrenal insufficiency | Code this factor if the patient is taking steroids (for any reason other than treatment of adrenal insufficiency) at the time of OR Entry Date and Time. Inhaled steroids should not be included as they are generally taken for reactive airway disease and are not the equivalent to systemic steroid ingestion.<br><br>Clarify: Do not code if the only steroids that the patient received was a one time stress dose on call prior to the OR. |
| 295 | Colostomy present | Code this factor if the patient has a colostomy (involving the large intestine) present at the time of OR Entry Date and Time. |
| 300 | Enterostomy of small | Code this factor if the patient has an enterostomy (involving |

| | | |
|---|---|---|
| | intestine present | thesmall intestine) present at the time of OR Entry Date and Time. |
| 305 | Esophagostomy present | Code this factor if the patient has an esophagostomy present at the time of OR Entry Date and Time. |
| 307 | Gastrostomy present | Code this factor if the patient has a gastrostomy present at the time of OR Entry Date and Time. |
| 310 | Hepatic dysfunction | Hepatic dysfunction is defined as dysfunction of the liver that results in hypoalbuminemia (<2 grams/dL), coagulopathy (PT > 1.5 x upper limits of normal), and hyperbilirubinemia (> 3.0 x upper limits of normal). Code this factor if the patient develops 2 out of these 3 laboratory abnormalities within 24 hours of the time of OR entry Date and time. |
| 320 | Necrotizing entero-colitis, Treated medically | Necrotizing enterocolitis (NEC) ROOT Definition = Necrotizing enterocolitis is defined as an acute reduction in the supply of oxygenated blood to the small intestine or large intestine, typically resulting in acidosis, abdominal distention, pneumatosis, and/or intestinal perforation, that prompts initiation of antibiotics or exploratory laparotomy. Select this factor if NEC is present during the same hospitalization as this operation (but prior to this operation) and was managed without surgery to treat the NEC. Code this factor if this occurred at any time during the same hospitalization but prior to surgery, do not code if NEC diagnosed at prior hospitalization or if it occurred at transferring hospital. Do not code if treatment was completed at an outside or transferring facility. |
| 330 | Necrotizing entero-colitis, Treated surgically | Necrotizing enterocolitis (NEC) ROOT Definition = Necrotizing enterocolitis is defined as an acute reduction in the supply of oxygenated blood to the small intestine or large intestine, typically resulting in acidosis, abdominal distention, pneumatosis, and/or intestinal perforation, that prompts initiation of antibiotics, bowel rest, or exploratory laparotomy. Select this factor if NEC is present during the same hospitalization (but prior to this operation) as this operation and was managed with surgery to treat the NEC. Code this factor if this occurred at any time during the same hospitalization but prior to surgery, do not code if NEC diagnosed at prior hospitalization or if it occurred at transferring hospital. Do not coded if treatment was completed at an outside or transferring facility. |
| 340 | Coagulation disorder, Hypercoagulable state | Hypercoagulable state is characterized by elevation of prothrombotic factors that increase risk of thrombosis (clotting) in blood vessels. Laboratory findings may include Anti thrombin III deficiency, primary (hereditary) thrombophilia, Protein C deficiency, Protein S deficiency, factor V Leiden mutation, or prothrombin gene mutation. If a TEG is performed, the R and K times are decreased and the MA and Angle (alpha) are increased. Code this factor if the patient has evidence of a hypercoagulable state at the time OR Entry Date and Time. |
| 350 | Coagulation disorder, Hypocoagulable state not secondary to medication(intrinsic hypocoagulable state) | Code this factor if the patient has evidence of a coagulopathy at the time OR Entry Date and Time or within 24 hours as manifest by one or more of the following: PT/PTT above normal, Thrombocytopenia <100,000 or Fibrinogen split products positive (>10%), TEG findings of prolonged R and K times and decreased MA and Angle (alpha) and the coagulopathy is NOT secondary to |

| | | |
|---|---|---|
| | | medications such as Heparin or Warfarin or aspirin. |
| 360 | Coagulation disorder, Hypocoagulable state secondary to medication | Code this factor if the patient has evidence of a coagulopathy at the time OR Entry Date and Time or within 24 hours as manifest by one or more of the following: PT/PTT above normal, Thrombocytopenia <100,000 or Fibrinogen split products positive (>10%), TEG findings of prolonged R and K times and decreased MA and Angle (alpha), and the coagulopathy is secondary to medications such as Heparin or Warfarin or aspirin. |
| 590 | Dyslipidemia | Current or previous diagnosis of dyslipidemia according to National Cholesterol Education Program criteria, defined as any of the following:<br>- Total cholesterol greater than or equal to 200 mg/dL (5.18 mmol/L)<br>- LDL greater than or equal to 130 mg/dL (3.37 mmol/L)<br>- HDL less than or equal to 40 mg/dL (1.04 mmol/L) in males and less than or equal to 50 mg/dL (1.30 mmol/L) in females<br>Code this factor if the patient meets one of the above criteria at time of hospitalization for surgery. |
| 370 | Endocarditis | This factor should be coded if endocarditis present at any time after the date and time of admission to the hospital and prior to OR Entry Date and Time, including situations where endocarditis was present after admission to the hospital where this operation was performed, and situations where endocarditis was present while the patient was hospitalized at another "transferring facility" that subsequently transferred the patient who ultimately arrived at this hospital in this same hospitalization. Code this factor if endocarditis is diagnosed prior to OR Entry Date and Time, using the Duke Criteria for the Diagnosis of Infective Endocarditis (IE): The definitive diagnosis of infective endocarditis requires one of the following four situations: 1) Histologic and/or microbiologic evidence of infection at surgery or autopsy such as positive valve culture or histology; 2) Two major criteria; 3) One major criterion and three minor criteria; 4) Five minor criteria. The two major criteria are: 1) Blood cultures positive for IE 2) Evidence of endocardial involvement. Blood cultures positive for IE requires: 1) Typical microorganism consistent with IE isolated from 2 separate blood cultures, as noted in number two below (viridans streptococci, Streptococcus bovis, Staphylococcus aureus, or HACEK group [HACEK, Haemophilus species {H. aprophilus and H. paraaphrophilus}, Actinobacillus actinoinycetemcomitans, Cardiobacterium hominis, Eikenella corrodens, and Kingella kingae.]) or (Community-acquired enterococci in the absence of a primary focus); 2) Microorganisms consistent with IE isolated from persistently positive blood cultures defined as: (At least 2 positive cultures of blood samples obtained > 12 hours apart) or (All of 3 or a majority of 4 or more separate cultures of blood, the first and the last sample obtained > 1 hr apart); 3) Single blood culture positive for Coxiella burnetii or an antiphase I IgG antibody titer of >1 :800. Evidence of endocardial involvement requires 1) Positive results of echocardiography for IE defined as: (Oscillating intracardiac mass on the valve or supporting structures in the path |

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| | | of regurgitant jets or on implanted material in the absence of an alternative anatomic explanation) or (Abscess) or (New partial dehiscence of a valvar prosthesis) or 2) New valvar regurgitation (worsening or changing or preexisting murmur not sufficient). The six minor criteria are: 1) Predisposing heart disease or injection drug use (IVDA); 2) Temperature of > 38C; 3) Vascular phenomenon (major arterial emboli, septic pulmonary infarcts, mycotic aneurysm, intracranial or conjunctival hemorrhage, Janeway's lesions); 4) Immunologic phenomenon (glomerulonephritis, Osler's nodes, Roth's spots, rheumatoid factor); 5) Microbiologic evidence (a positive blood culture that does not meet a major criterion as noted above) or serologic evidence of active infection with an organism consistent with IE; 6) Echocardiographic findings that are consistent with IE but do not meet a major criterion as noted above.<br><br>References: 1) Dhawan VK Infectious Endocarditis in Elderly Patients. Clin. Infect. Dis. 2002;34:806-812. 2) Durack DT, Lukes AS, Bright DK. New criteria for diagnosis of infective endocarditis: utilization of specific echocardiographic findings. Duke Endocarditis Service. Am. J. Med. 1994;96:200-209. 3) Li IS, Sexton DJ, Mick N, et al. Proposed modifications to the Duke criteria for the diagnosis of infective endocarditis. Clin. Infect. Dis. 2000;30:633-638. 4) http://gold.aecom.yu.edu/id/almanac/dukeendocarditis.htm, accessed July 5, 2006. |
| 380 | Sepsis | Sepsis ROOT Definition = Sepsis is defined as "evidence of serious infection accompanied by a deleterious systemic response". Sepsis may be diagnosed by the presence of a Systemic Inflammatory Response Syndrome (SIRS) resulting from suspected or proven infection. A systemic inflammatory response syndrome (SIRS) is present when at least two of the following criteria are present: hypo- or hyperthermia (>38.5 or <36.0), tachycardia or bradycardia, tachypnea, leukocytosis or leukopenia, and thrombocytopenia. Code this factor if the patient has signs of sepsis within 48 hours of OR Entry Date and Time. PC4 definition: Temperature instability and abnormal WBC (leukopenia or leukocytosis) and hemodynamic instability requiring at least one of the following: (1) volume > 40 cc/kg; (2) new or increased inotropic support; or (3) new or increased mechanical ventilation support. |
| 390 | Sepsis with positive blood culture | Code this factor if the patient has a positive blood culture within 48 hours of OR Entry Date and Time, combined with the diagnosis of sepsis. Sepsis ROOT Definition = Sepsis is defined as "evidence of serious infection accompanied by a deleterious systemic response". Sepsis may be diagnosed by the presence of a Systemic Inflammatory Response Syndrome (SIRS) resulting from suspected or proven infection. A systemic inflammatory response syndrome (SIRS) is present when at least two of the following criteria are present: hypo- or hyperthermia (>38.5 or <36.0), tachycardia or bradycardia, tachypnea, leukocytosis or leukopenia, and thrombocytopenia. Code this factor if the patient has signs of sepsis and a positive blood culture within 48 hours of OR Entry |

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| | | Date and Time. |
| 400 | Preoperative neurological deficit | Code this factor if the patient has any deficit of neurologic function identified by the care team (during the hospitalization of this operation prior to the time of OR Entry Date and Time). Define further – Do include central or systemic neurologic deficits including muscular dystrophy, cerebral palsy, neurologic deficits manifesting from a previous stroke. Do not include vocal cord paralysis or diaphragm paralysis. Do not include ADHD, ADD, autism, or developmental delays. Do include sensorineural hearing loss, but not conductive hearing loss. These should be not what is included/covered by the NCAA, syndromes, or chromosomal abnormalities. |
| 410 | Seizure during lifetime | Seizure ROOT Definition = A seizure is defined as the clinical and/or electroencephalographic recognition of epileptiform activity. Select this preoperative factor for any prior seizure during the lifetime of the patient. |
| 420 | Seizure within 48 hours prior to surgery | Seizure ROOT Definition = A seizure is defined as the clinical and/or electroencephalographic recognition of epileptiform activity. Select this preoperative factor for any prior seizure during the 48 hours prior to surgery. |
| 430 | Stroke, CVA, or Intracranial hemorrhage > Grade 2 during lifetime | Indicate whether the patient had a stroke, CVA, or intracranial hemorrhage > Grade 2 at any time during the patient's lifetime. Stroke ROOT Definition = A stroke is any confirmed neurological deficit of abrupt onset caused by a disturbance in blood flow to the brain, when the neurologic deficit does not resolve within 24 hours. An IVH (Intraventricular hemorrhage) is diagnosed by the existence of a neurologic imaging study indicating a new or previously unsuspected collection of intraventricular hemorrhage that may extend to include an intraparenchymal component. A Grade 1 IVH requires the existence of a neurologic imaging study indicating a new or previously unsuspected collection of intraventricular hemorrhage with a limited germinal matrix involvement. A Grade 2 IVH requires the existence of a neurologic imaging study indicating a new or previously unsuspected collection of intraventricular hemorrhage that involves an area of up to, but not more than 50% of the ventricular cross-sectional area in sagittal view. A Grade 3 IVH requires the existence of a neurologic imaging study indicating a new or previously unsuspected collection of intraventricular hemorrhage that involves at least 50% of the ventricular cross-sectional area in sagittal view but not an intraparenchymal component. A Grade 4 IVH requires the existence of a neurologic imaging study indicating a new or previously unsuspected collection of intraventricular hemorrhage that includes an intraparenchymal component extending beyond the germinal matrix. |
| 440 | Stroke, CVA, or Intracranial hemorrhage > Grade 2 within 48 hours prior to surgery | Indicate whether the patient had a stroke, CVA, or intracranial hemorrhage > Grade 2 occurring within the 48 hours prior to surgery. Stroke ROOT Definition = A stroke is any confirmed neurological deficit of abrupt onset caused by a disturbance in blood flow to the brain, when the neurologic deficit does not resolve within 24 hours. An IVH (Intraventricular hemorrhage) is diagnosed by the existence of a neurologic imaging study |

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| | | indicating a new or previously unsuspected collection of intraventricular hemorrhage that may extend to include an intraparenchymal component. A Grade 1 IVH requires the existence of a neurologic imaging study indicating a new or previously unsuspected collection of intraventricular hemorrhage with a limited germinal matrix involvement. A Grade 2 IVH requires the existence of a neurologic imaging study indicating a new or previously unsuspected collection of intraventricular hemorrhage that involves an area of up to, but not more than 50% of the ventricular cross-sectional area in sagittal view. A Grade 3 IVH requires the existence of a neurologic imaging study indicating a new or previously unsuspected collection of intraventricular hemorrhage that involves at least 50% of the ventricular cross-sectional area in sagittal view but not an intraparenchymal component. A Grade 4 IVH requires the existence of a neurologic imaging study indicating a new or previously unsuspected collection of intraventricular hemorrhage that includes an intraparenchymal component extending beyond the germinal matrix. |
| 450 | Renal dysfunction | Renal dysfunction is defined as the oliguria with sustained urine output < 0.5 cc/kg/hr for 24 hours and/or a rise in creatinine > 1.5 times upper limits of normal for age, without needing dialysis (including peritoneal dialysis and/or hemodialysis) or hemofiltration present at the Date and Time of OR Entry or within 24 hours of Date and Time of OR Entry. |
| 460 | Renal failure requiring dialysis | Renal failure is defined as oliguria with sustained urine output < 0.5 cc/kg/hr for 24 hours and/or a rise in creatinine > 1.5 times upper limits of normal for age, with need for dialysis (including peritoneal dialysis and/or hemodialysis) or hemofiltration present at the Date and Time of OR Entry or within 24 hours of Date and Time of OR Entry. |
| 470 | Mechanical ventilation to treat cardiorespiratory failure | This patient was supported with mechanical ventilation to treat cardiorespiratory failure during the hospitalization of this operation and prior to OR Entry Date and Time. Pre-operative non-invasive ventilation should NOT be coded as pre-operative mechanical ventilation. The intent of the field is to capture patients on support with a mechanical ventilator for cardiorespiratory failure via intubation or tracheostomy. Hi-flow gases, VapoTherm, and other “non-invasive” forms of respiratory support (up to and including BiPap without an endotracheal tube) would not meet this definition. |
| 600 | Non-Invasive respiratory support to treat cardiorespiratory failure | The timeframe of anytime during the hospitalization should be applied. Non-Invasive respiratory support should be administered through a ventilator support machine (i.e. CPAP, BiPAP) without the presence of an endotracheal tube or tracheostomy tube. This does not include high flow nasal cannula. |
| 480 | Respiratory Syncytial Virus | Code this factor if the patient is diagnosed with Respiratory Syncytial Virus (RSV) during the hospitalization of this operation within 4 weeks prior to the time of OR Entry Date and time and was present at the time of OR Entry Date and Time. Do not include if RSV diagnosed at outside hospital or transferring hospital unless diagnosis reconfirmed. |

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| 490 | Single lung | Code this factor if the patient has only one lung present at the time of OR Entry Date and Time |
| 500 | Tracheostomy present | Code this factor if the patient has a tracheostomy present at the time of OR Entry Date and Time. |
| 510 | Asthma | Asthma is the common chronic inflammatory disease of the airways characterized by variable and recurring symptoms, reversible airflow obstruction, and bronchospasm. Symptoms include wheezing, coughing, chest tightness, and shortness of breath. Asthma is clinically classified according to the frequency of symptoms, forced expiratory volume in 1 second (FEV1), and peak expiratory flow rate. Asthma may also be classified as atopic (extrinsic) or non-atopic (intrinsic). It is thought to be caused by a combination of genetic and environmental factors. Treatment of acute symptoms is usually with an inhaled short-acting beta-2 agonist (such as salbutamol). Symptoms can be prevented by avoiding triggers, such as allergens and irritants, and by inhaled corticosteroids. Code this factor if the clinician documents the patient has a diagnosis of asthma or reactive airway disease. |
| 520 | Bronchopulmonary dysplasia (BPD) | Bronchopulmonary dysplasia (BPD) is a chronic lung disorder that is most common among children who were born prematurely, with low birth weights and who received prolonged mechanical ventilation to treat respiratory distress syndrome. BPD is characterized by inflammation and scarring in the lungs. The high pressures of oxygen delivery result in necrotizing bronchiolitis and alveolar septal injury, further compromising oxygenation of blood. Today, with the advent of surfactant therapy and high frequency nasal ventilation and oxygen supplementation, infants with BPD experience much milder injury without necrotizing bronchiolitis or alveolar septal fibrosis. It develops most commonly in the first 4 weeks after birth. Code this factor if the clinician documents the diagnosis of BPD. |
| 530 | ICD (AICD) ([automatic] implantable cardioverter defibrillator) present | An implantable cardioverter-defibrillator (ICD) is a small battery-powered electrical impulse generator that is implanted in patients who are at risk of sudden cardiac death due to ventricular fibrillation and ventricular tachycardia. The device is programmed to detect cardiac arrhythmia and correct it by delivering a jolt of electricity. In current models, the ability to convert tachyarrhythmias has been extended to include both atrial and ventricular arrhythmias. There also exists the ability to perform biventricular pacing for asystole or bradycardia. Code this factor if an AICD or life vest is present at the time and date of OR entry. |
| 540 | Pacemaker present | A pacemaker is a medical device that uses electrical impulses, delivered by electrodes contacting the heart muscles, to regulate the beating of the heart. The purpose of a pacemaker is to maintain an adequate heart rate, either because the heart's native pacemaker is not fast enough, or there is a block in the heart's electrical conduction system. Pacemakers are externally programmable and allow the physician to select the optimum pacing modes for individual patients. Some have multiple electrodes stimulating differing positions within the heart to improve synchronization of the upper (atria) and lower (ventricles) chambers of the heart. Code this factor if the patient is actively |

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| | | being paced with a temporary or permanent pacemaker. Do not include if the patient has pacing wires but is not actively being paced. |
| 570 | Tobacco use | Code this factor if there is current or previous patient use of any tobacco product, including cigarettes, cigars, pipes, and chewing tobacco. Do not include maternal smoking or secondhand exposure to tobacco products. Do not include other products including marijuana use. |
| 580 | Family History of Coronary artery disease | Code this factor if the patient has/had any direct blood relatives (only include if parents, siblings, children) who have had any of the following diagnosed at age less than 55 years for male relatives or less than 65 years for female relatives:<br>- Coronary artery disease (i.e., angina, previous CABG or PCI)<br>- Myocardial Infarction (MI) |
| 590 | Dyslipidemia | Current or previous diagnosis of dyslipidemia according to National Cholesterol Education Program criteria, defined as any of the following:<br>- Total cholesterol greater than or equal to 200 mg/dL (5.18 mmol/L)<br>- LDL greater than or equal to 130 mg/dL (3.37 mmol/L)<br>- HDL less than or equal to 40 mg/dL (1.04 mmol/L) in males and less than or equal to 50 mg/dL (1.30 mmol/L) in females<br>Code this factor if the patient meets <u>one of the above criteria</u> at time of hospitalization for surgery |
| 610 | Transferred from another hospital after undergoing cardiac surgical operation at that hospital during this episode of care | |
| 620 | Admitted from home after undergone a cardiac surgical operation within the past 30 days. | |
| 777 | Other preoperative factors | This patient has other preoperative factor(s) that are not on this list. |

<u>February 2019</u>: Should invasive mechanical ventilation be coded as a preoperative factor for a patient on their sternal closure operation who was NOT intubated prior to their index surgery, but was intubated for their sternal closure because of their index operation? **Select all applicable preoperative factors prior to the sternal closure, including mechanical ventilation for respiratory failure. Please note that only the preoperative factors for the index operation will be analyzed.**

<u>February 2019:</u> Please define 'hospitalization'. Is this synonymous with 'episode of care'? Does the start of the hospitalization include time spent at an OSH leading up to the admission to the surgical center? Does it also include time after hospital discharge until they qualify for having a 'database discharge date' (i.e. if they are discharged to another facility)? **Hospitalization is the date of hospital admission to the date of hospital discharge at the hospital where the surgery was performed. Episode of care is defined by the date of hospital admission to the date of database discharge at the hospital where the surgery was performed. Please refer to your data analysis report for more detailed information. Some preoperative factors may be coded if they occurred at an outside hospital but the dates of admission/discharge do not change – just code the preoperative factors that allow for this.**

<u>February 2019:</u> For Coagulation disorder, Hypocoagulable state not secondary to medication (intrinsic hypocoagulable state), I don't understand the parts that were added to the definition with v3.41 "TEG findings of

prolonged R and K times and decreased MA and Angle (alpha)". I have a neonate with congenital syphilis with a platelet count 107,000 at entry to OR . But my team feels it should count as a factor. Their reasons: (1) thrombocytopenia diagnosis from hematology given (2) platelets were transfused which is why the level was over 100 (3) platelets on peripheral smear were large cell meaning they do not function normally. Should we assign it as a pre-op factor? **Include preoperative factor Coagulation disorder, Hypocoagulable state not secondary to medication if the thrombocytopenia (<100,000) occurred within 24 hours prior to going to the OR.**

April 2019: If a patient has a long-term (e.g. >1 month) NG tube, should we mark gastrostomy present as a preop risk factor? One of my surgeons feels like it should be since at our institution, we like to wait quite some time before doing a gastrostomy. **No, a nasogastric tube is not a gastrostomy tube. Only select this field if a gastrostomy tube is present.**

April 2019: Preop Factor: Transferred from another hospital after undergoing cardiac surgical operation at that hospital during this episode of care. Question: In reference to "cardiac surgical operation", does this include only CPB and no CPB cases done at that hospital or can it include CPB, no CPB, ECMO, thoracic, VAD etc. I have a patient that was cannulated for ECMO at an OSH. This patient was transferred to our facility, where days later he was decannulated from ECMO. Would he qualify for the preop factor listed; Transferred from another hospital after undergoing cardiac surgical operation at that hospital during this episode of care. **Cardiac surgical operation includes CPB or No CPB Cardiovascular operations only. Only code the preoperative factor Cardiac Surgical Operation if the patient underwent a CPB or No CPB Cardiovascular operation at the previous hospital. In this scenario, do not code this factor.**

May 2019: The definition for hepatic dysfunction gives only one test result to determine coagulopathy (PT > 1.5 x upper limits of normal), but the definition for coagulation disorder, hypocoagulable state gives a couple test results to determine coagulopathy (PT/PTT above normal, Thrombocytopenia <100,000 or Fibrinogen split products positive (>10%), TEG findings of prolonged R and K times and decreased MA and Angle (alpha)). If a patient has hypoalbuminemia and thrombocytopenia <100,000 (PT level was increased but doesn't meet 1.5x limit) can I code him as having hepatic dysfunction, or is the increased PT level the only way to determine a coagulopathy in this specific situation? **No, this scenario does not represent hepatic dysfunction as the thrombocytopenia is not caused by hepatic dysfunction.**

July 2019: Do preop factors count for subsequent surgeries in risk stratification calculations, or are the preop factors only accounted for on the index operation? For example, is it important to enter preop factors for cases such as sternal closures where there is no STAT category associated with it? **Preop factors are only analyzed for the index case. We recommend completing the prep factors for local use for subsequent operations**.

August 2019: A patient is on immunosuppressive therapy for vasculitis, using Imuran (azathioprine) and adalimumab. Would you capture this under "Currently taking steroids for any reason other than treatment of adrenal insufficiency"? **The patient is not taking steroids.**

August 2019: If patient has his/her initial surgery (Index operation) and have preop factors such as seizure during lifetime, gastrostomy, etc., would I list those same preop factors for any/all subsequent surgeries during the same admission? **Yes, list all applicable pre-operative factors with each surgery.**

August 2019: For patients who progressed from requiring non-invasive respiratory support to requiring mechanical ventilation in the CICU (before surgery), should I only capture the pre-op risk factor of #470 Invasive Mechanical Ventilation or use both 470 and 600 (Non-invasive? **Code both. Gives a more complete picture of the patient**

August 2019: Should hypotonia be counted as a preop neurologic deficit? **No. Hypotonia is too nonspecific by itself, only include if the hypotonia is associated with a well-defined condition or neurologic disorder.**

September 2019: If a patient is taken into the OR for a scheduled surgery, and arrests prior to going on bypass, is this arrest considered a Preop Factor? Or is it a complication because it happened during surgery? Or is it neither? **If the patient was already in the OR, the arrest would be considered a complication and not a preoperative factors.**

October 2019: I am looking for clarification as to if this should be entered for all patients with Complete AV block or only patients for which Complete AV block developed within the hospitalization.

For example, I have a patient with a history of a primum ASD with cleft mitral valve status post repair that subsequently developed complete heart block. She then had an epicardial single chamber pacemaker placed. She recently came in for surgery for placement of a new permanent epicardial dual chamber pacemaker/explantation of old permanent pacemaker system. I know that I should select 'Pacemaker present' as a preop factor for this operation but am unsure if I should also select 'Preoperative complete AV block' as well. The 'Preoperative complete AV block'

didn't develop during the hospitalization but technically it was present. **Yes, capture the AV block complete for all patients where this is present, whether the patient is actively being treated for it (and not in complete AV block).**
November 2019: For infants and neonates, are the terms bronchopulmonary dysplasia and chronic lung disease interchangeable? We had not been coding this way, but after further discussion with other data managers and looking into the terms more thoroughly, it seems the terms mean the same thing. Is it correct to code BPD for an infant (ex-preemie) with chronic lung disease? **May code BPD for neonate and infant patients with chronic lung disease as BPD is the most common form of chronic lung disease in this population.**
November 2019: What type of surgical operation would '*Admitted from home after having undergone a cardiac surgical operation within the past 30 days*' preop factor apply to? If a patient is readmitted within 30 days of a surgical operation, would it only be added to a subsequent operation in a readmission if the operation type was 'CPB' or 'No CPB'? or any operation type? **Yes, only coded for CPB cardiovascular and NO CPB cardiovascular.**
December 2019: Should Prematurity be collected as an "Other" preop factor? If so, then would it only be collected for any CPB/No CPB operation that occurred during the 1st year of life? or only the Index Operation for any hospitalization during the first year of life? **Do not collect as preop factor. This information is collected for Sequence #350- (Premature Birth).**
January 2020: If this preoperative factor is selected (transferred from another hospital after undergoing cardiac surgical operation at that hospital during this episode of care) will this prevent the first cardiac procedure of the current admission in our facility from being coded as the index case? **No, the first cardiac procedure done at your facility will be the index operation for this episode of care at your facility**
January 2020: The patient in question has Down's syndrome/Trisomy 21, fetal alcohol syndrome, microcephaly,developmental delay. The patient is cared for by family, can bath and feed self. There is documentation of mild retardation, insight and judgement impaired, psychiatric delusions. There are no CT/MRI brain tests available. Besides entering in the above issues in syndromes, chromosomal abnormalities, and NCAA, should I also mark this patient as having preop factor 400 - preop neurological deficit? **No, do not include neurologic deficit as a preoperative factor.**
February 2020: We just noticed that the PC4 definition for Sepsis has been added to the training manual under preop risk factors. What is the purpose of this? If a patient meets the PC4 definition criteria, can we count it? The STS and PC4 definition are different. **The difference in the definitions are related to time. In the STS database, the patient only meets the definition of sepsis if it was present within 48 hours of OR Entry Date and Time. Only utilize the STS definition as the PC4 definition will be reviewed.**
March 2020: Should data managers be coding for #470, Mechanical ventilation to treat cardiorespiratory failure when a patient was intubated for a cath procedure (or any other procedure requiring anesthesia) and the team decides to leave the patient intubated overnight for the index procedure the following day(or sometime shortly afterward)? I am referring to patients who were definitely not experiencing cardiorespiratory failure. It does not seem as though we should capture this as a preoperative factor based on this clarification in the STS training manual: "The intent of the field is to capture patients on support with a mechanical ventilator for cardiorespiratory failure via intubation or tracheostomy." **Correct, do not use this for patients with elective intubations/periods of mechanical ventilation. Only code for patients with respiratory failure**
March 2020: 290 - Currently taking steroids for any reason other than treatment of adrenal insufficiency
Code this factor if the patient is taking steroids (for any reason other than treatment of adrenal insufficiency) at the time of OR Entry Date and Time. Inhaled steroids should not be included as they are generally taken for reactive airway disease and are not the equivalent to systemic steroid ingestion. My surgeon questioned if this should be coded when steroids are given for about 24 hours pre-operative for the surgical case**. This should only be coded when the steroids are given to treat a medical problem not just as a standing pre-op order. Steroids given only as a preoperative or pre-bypass medication/prophylaxis should not be included as a preoperative factor.**
June 2020: With vaping becoming more and more popular, used among a younger age group, and increasing harm on lung tissue, we feel like it should be reconsidered to be included in the tobacco use preop risk factor. Will you please look into this and let us know if we can code tobacco use when a patient uses vaping? **If the patient vaped tobacco, select yes. If the patient vaped a different substance, select no.**

September 2020: Is lab documentation required (and what would that be?) to confirm a preop factor hypercoag state diagnosis of Factor V Leiden mutation or is the H&P mention of diagnosis of Factor V Leiden mutation sufficient? Are there other diagnoses that are considered hypercoag conditions? Are there any diagnoses for preop factor hypo coag state that would not need to meet the need for abnormal PT/PTT/platelet count preop labwork?) **Factor V Leiden mutation can be included as a hypercoagulable state if there is documentation of the mutation in the medical record (seq number 340). The lab values in the definition must be met to code the associated coagulopathy for sequence number 350 and 360, hypocoagulable state related to medication or unrelated to medication.**
September 2020: Our patient has a pre-op diagnosis of transient abnormal myelopoiesis. How is this best documented under the choices provided, if able? **It can be included as an 'other' preoperative factor and included as free text.**
October 2020: I have a patient who was put on VA ECMO in another hospital and then was transferred to us and had a surgery. In the preop factors should I check the option of: Transferred from another hospital after undergoing cardiac surgical operation at that hospital during this episode of care? Can you please add a definition to this category? The Task Force is working on defintions. **No, do not check. This factor is to be utilized for prior cardiac interventions (CPB or No CPB Cardiovascular cases only).**
January 2021: For the preop factor 620:Admitted from home after undergone a cardiac surgical operation within the past 30 days, should this be coded if the patient was admitted within 30 days of a previous surgery but did not have another surgery until after 30 days, or does the surgery also need to be within 30 days and not just the admit? **Use the preop factor if the patient was re-admitted within 30 days regardless of when the subsequent surgery took place. Also code the applicable complications on the index operation.**
February 2021: Would a patient that comes in and is on CPAP at night (as he is at home), be considered a preop factor for Non invasive therapy? Sleep apnea not resp failure, but a condition.**Yes, code Non-invasive support as a preoperative factor.**
March 2021: A patient has cardiac catheterization X2 with iodine contrast prior to CT surgery for ASD/PDA repair. Postoperatively the patient required temporary pacing due to bradycardia. An endocrine consult was obtained and a TSH level drawn (postoperatively) which resulted 196uU/ml. The endocrine note reads this is most likely related to the preoperative iodine contrast and recommends thyroid replacement. Can hypothyroidism be listed as a preoperative risk factor? **No, the lab value needs to be measured prior to the cardiac surgery before hypothyroidism can be coded.**

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| *Long Name:* | PreOpFactor Other - Specify | *SeqNo:* | 851 |
| *Short Name:* | **PreOpFactorSpecify** | *Core:* | Yes |
| *Section Name*: | Preoperative Factors | *Harvest:* | Yes |
| *DBTableName:* | PreopFactor | | |
| *Definition:* | Indicate any other factors that are present pre-operatively that may impact the patient's outcome. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text | | |
| *ParentLongName:* | Preoperative Factor | | |
| *ParentShortName:* | **PreopFactor** | | |

*ParentHarvestCodes:* 777
*ParentValues:* = "Other preoperative factors"

## Diagnosis

*Long Name:* Diagnosis Table Unique Record Identifier
*Short Name:* **DiagUniqueID**
*Section Name*: Diagnosis
*DBTableName:* Diagnosis
*Definition:* Unique identifier for the record in the Diagnosis table.

*Intent / Clarification:*

*Data Source:* Automatic
*Format:* Text

*SeqNo:* 870
*Core:* Yes
*Harvest:* Yes

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*Long Name:* Diagnosis Link to Operations Table
*Short Name:* **OperationID**
*Section Name*: Diagnosis
*DBTableName:* Diagnosis
*Definition:* An arbitrary, unique value generated by the software that permanently identifies each operation record in the participant's database. This field is the foreign key that links the Diagnosis record with the associated record in the Operations table.

*Intent / Clarification:*

*Data Source:* Automatic
*Format:* Text

*SeqNo:* 880
*Core:* Yes
*Harvest:* Yes

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*Long Name:* Diagnoses
*Short Name:* **Diagnosis**
*Section Name*: Diagnosis
*DBTableName:* Diagnosis
*Definition:* Indicate all diagnoses noted at the time of the surgical procedure or documented by preoperative studies. This entry may duplicate the Fundamental Diagnosis.

*Intent / Clarification:*

*Data Source:* User

*SeqNo:* 890
*Core:* Yes
*Harvest:* Yes

*Format:* Text (categorical values specified by STS)

Harvest Codes and Value Definitions:

| Code: | Value: | Definition: |
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| 10 | PFO | A small interatrial communication (or potential communication) confined to the region of the oval fossa (fossa ovalis) characterized by no deficiency of the primary atrial septum (septum primum) and a normal limbus with no deficiency of the septum secundum (superior interatrial fold). |
| 20 | ASD, Secundum | A congenital cardiac malformation in which there is an interatrial communication confined to the region of the oval fossa (fossa ovalis), most commonly due to a deficiency of the primary atrial septum (septum primum) but deficiency of the septum secundum (superior interatrial fold) may also contribute. |
| 30 | ASD, Sinus venosus | A congenital cardiac malformation in which there is a caval vein (vena cava) and/or pulmonary vein (or veins) that overrides the atrial septum or the septum secundum (superior interatrial fold) producing an interatrial or anomalous venoatrial communication. Although the term sinus venosus atrial septal defect is commonly used, the lesion is more properly termed a sinus venosus communication because, while it functions as an interatrial communication, this lesion is not a defect of the atrial septum. |
| 40 | ASD, Coronary sinus | A congenital cardiac malformation in which there is a deficiency of the walls separating the left atrium from the coronary sinus allowing interatrial communication through the coronary sinus ostium. |
| 50 | ASD, Common atrium (single atrium) | Complete absence of the interatrial septum."Single atrium" is applied to defects with no associated malformation of the atrioventricular valves."Common atrium" is applied to defects with associated malformation of the atrioventricular valves. |
| 2150 | ASD, Postoperative interatrial communication | A surgically created communication between the atria. |
| 71 | VSD, Type 1 (Subarterial) (Supracristal) (Conal septal defect) (Infundibular) | A VSD that lies beneath the semilunar valve(s) in the conal or outlet septum. |
| 73 | VSD, Type 2(Perimembranous) (Paramembranous) (Conoventricular) | A VSD that is confluent with and involves the membranous septum and is bordered by an atrioventricular valve, not including type 3 VSDs. |
| 75 | VSD, Type 3 (Inlet) (AV canal type) | A VSD that involves the inlet of the right ventricular septum immediately inferior to the AV valve apparatus. |
| 77 | VSD, Type 4 (Muscular) | A VSD completely surrounded by muscle. |
| 79 | VSD, Type: Gerbode type(LV-RA communication) | A rare form of VSD in which the defect is at the membranous septum; the communication is between the left ventricle and right atrium. |
| 80 | VSD, Multiple | More than one VSD exists. Each individual VSD may be coded separately to specify the individual VSD types. |
| 100 | AVC (AVSD), Complete(CAVSD) | Indicate if the patient has the diagnosis of “AVC (AVSD), Complete (CAVSD).” An “AVC (AVSD), Complete (CAVSD)” is a “complete atrioventricular canal” or a “complete atrioventricular septal defect” and occurs in a heart with the phenotypic feature of a common atrioventricular junction. An “AVC (AVSD), Complete (CAVSD)” is defined as an AVC with a common AV valve and both a defect in the atrial septum |

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| | | just above the AV valve (ostium primum ASD [a usually crescent-shaped ASD in the inferior (posterior) portion of the atrial septum just above the AV valve]) and a defect in the ventricular septum just below the AV valve. The AV valve is one valve that bridges both the right and left sides of the heart. Balanced AVC is an AVC with two essentially appropriately sized ventricles. Unbalanced AVC is an AVC defect with two ventricles in which one ventricle is inappropriately small. Such a patient may be thought to be a candidate for biventricular repair, or, alternatively, may be managed as having a functionally univentricular heart. AVC lesions with unbalanced ventricles so severe as to preclude biventricular repair should be classified as single ventricles. Rastelli type A: The common superior (anterior) bridging leaflet is effectively split in two at the septum. The left superior (anterior) leaflet is entirely over the left ventricle and the right superior (anterior) leaflet is similarly entirely over the right ventricle. The division of the common superior (anterior) bridging leaflet into left and right components is caused by extensive attachment of the superior (anterior) bridging leaflet tothe crest of the ventricular septum by chordae tendineae. Rastelli type B: Rare, involves anomalous papillary muscle attachment from the right side of the ventricular septum to the left side of the common superior (anterior) bridging leaflet. Rastelli type C: Marked bridging of the ventricular septum by the superior (anterior) bridging leaflet, which floats freely (often termed a "free-floater") over the ventricular septum without chordal attachment to the crest of the ventricular septum. |
| 110 | AVC (AVSD), Intermediate(transitional) | An AVC with two distinct left and right AV valve orifices but also with both an ASD just above and a VSD just below the AV valves. While these AV valves in the intermediate form do form two separate orifices they remain abnormal valves. The VSD is often restrictive. |
| 120 | AVC (AVSD), Partial (incomplete) (PAVSD) (ASD, primum) | An AVC with an ostium primum ASD (a usually crescent-shaped ASD in the inferior (posterior) portion of the atrial septum just above the AV valve) and varying degrees of malformation of the left AV valve leading to varying degrees of left AV valve regurgitation. No VSD is present. |
| 140 | AP window (aortopulmonary window) | Indicate if the patient has the diagnosis of “AP window (aortopulmonary window).” An “AP window (aortopulmonary window)” is defined as a defect with side-to-side continuity of the lumens of the aorta and pulmonary arterial tree, which is distinguished from common arterial trunk (truncus arteriosus) by the presence of two arterial valves or their atretic remnants. (In other words, an aortopulmonary window is a communication between the main pulmonary artery and ascending aorta in the presence of two separate semilunar [pulmonary and aortic] valves. The presence of two separate semilunar valves distinguishes AP window from truncus arteriosus. Type 1 proximal defect: AP window located just above the sinus of Valsalva, a few millimeters above the semilunar valves, with a superior rim but little inferior rim separating the AP window from the semilunar valves. Type 2 distal defect: AP window located in the uppermost portion of the ascending aorta, with a well-formed inferior rim but little superior rim. Type 3 total defect: AP window involving the majority of the ascending aorta, with little superior and inferior rims. The intermediate type of AP window is similar to the total defect but with adequate superior and inferior rims. In the event of AP window occurring in association with interrupted aortic arch, code “Interrupted aortic arch + AP window (aortopulmonary window)”, and then use additional |

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| | | (secondary) diagnostic codes to describe the interrupted aortic arch and AP window separately to provide further documentation about the individual interrupted arch and AP window types.) |
| 150 | Pulmonary artery origin from ascending aorta (hemitruncus) | One pulmonary artery arises from the ascending aorta and the other pulmonary artery arises from the right ventricle. DOES NOT include origin of the right or left pulmonary artery from the innominate artery or the aortic arch via a patent ductus arteriosus or collateral artery. |
| 160 | Truncus arteriosus | Indicate if the patient has the diagnosis of "Truncus arteriosus." A truncus arteriosus is also known as a common arterial trunk and is defined as a heart in which a single arterial trunk arises from the heart, giving origin to the coronary arteries, the pulmonary arteries, and the systemic arterial circulation. In the majority of instances there is a ventricular septal defect and a single semilunar valve which may contain two, three, four, or more leaflets and is occasionally dysplastic. Often, the infundibular septum is virtually absent superiorly. In most instances the truncal valve overrides the true interventricular septum (and thus both ventricles), but very rarely the truncal valve may override the right ventricle entirely. In such instances, there may be no ventricular septal defect or a very small ventricular septal defect, in which case the left ventricle and mitral valve may be extremely hypoplastic. |
| 170 | Truncal valve insufficiency | Functional abnormality - insufficiency - of the truncal valve. May be further subdivided into grade of insufficiency (I, II, III, IV or mild, moderate, severe). |
| 2470 | Truncal valve stenosis | |
| 2010 | Truncus arteriosus + Interrupted aortic arch | Indicate if the patient has the diagnosis of "Truncus arteriosus + Interrupted aortic arch." {A truncus arteriosus is also known as a common arterial trunk and is defined as a heart in which a single arterial trunk arises from the heart, giving origin to the coronary arteries, the pulmonary arteries, and the systemic arterial circulation. In the majority of instances there is a ventricular septal defect and a single semilunar valve which may contain two, three, four, or more leaflets and is occasionally dysplastic. The infundibular septum is virtually absent superiorly. In most instances the truncal valve overrides the true interventricular septum (and thus both ventricles), but very rarely the truncal valve may override the right ventricle entirely. If in such case there is no ventricular septal defect, then the left ventricle and mitral valve may be extremely hypoplastic.} {Interrupted aortic arch is defined as the loss of luminal continuity between the ascending and descending aorta. In most cases blood flow to the descending thoracic aorta is through a PDA, and there is a large VSD. Arch interruption is further defined by site of interruption. In type A, interruption is distal to the left subclavian artery; in type B interruption is between the left carotid and left subclavian arteries; and in type C interruption occurs between the innominate and left carotid arteries.} |
| 180 | Partial anomalous pulmonary venous connection (PAPVC) | Some, but not all of the pulmonary veins connect to the right atrium or to one or more of its venous tributaries. This definition excludes sinus venosus defects with normally connected but abnormally draining pulmonary veins (the pulmonary veins may drain abnormally into the right atrium via the atrial septal defect). |
| 190 | Partial anomalous pulmonary venous connection (PAPVC), | The right pulmonary vein(s) connect anomalously to the inferior vena cava or to the right atrium at the insertion of the inferior vena cava. The descending vertical vein resembles a scimitar (Turkish sword) on frontal |

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| | scimitar | chest x-ray. Frequently associated with: hypoplasia of the right lung with bronchial anomalies; dextroposition and/or dextrorotation of the heart; hypoplasia of the right pulmonary artery; and anomalous subdiaphragmatic systemic arterial supply to the lower lobe of the right lung directly from the aorta or its main branches. |
| 200 | Total anomalous pulmonary venous connection (TAPVC), Type 1 (supracardiac) | All of the pulmonary veins connect anomalously with the right atrium or to one or more of its venous tributaries. None of the pulmonary veins connect normally to the left atrium. In Type 1 (supracardiac) TAPVC, the anomalous connection is at the supracardiac level and can be obstructed or nonobstructed. |
| 210 | Total anomalous pulmonary venous connection (TAPVC), Type 2 (cardiac) | All of the pulmonary veins connect anomalously with the right atrium or to one or more of its venous tributaries. None of the pulmonary veins connect normally to the left atrium. In Type 2 (cardiac) TAPVC, the anomalous connection is to the heart, either to the right atrium directly or to the coronary sinus. Most patients with type 2 TAPVC are nonobstructed. |
| 220 | Total anomalous pulmonary venous connection (TAPVC), Type 3 (infracardiac) | All of the pulmonary veins connect anomalously with the right atrium or to one or more of its venous tributaries. None of the pulmonary veins connect normally to the left atrium. In Type 3 (infracardiac) TAPVC, the anomalous connection is at the infracardiac level (below the diaphragm), with the pulmonary venous return entering the right atrium ultimately via the inferior vena cava. In the vast majority of patients infracardiac TAPVC is obstructed. |
| 230 | Total anomalous pulmonary venous connection (TAPVC), Type 4 (mixed) | All of the pulmonary veins connect anomalously with the right atrium or to one or more of its venous tributaries. None of the pulmonary veins connect normally to the left atrium. In Type 4 (mixed) TAPVC, the anomalous connection is at two or more of the above levels (supracardiac, cardiac, infracardiac) and can be obstructed or nonobstructed. |
| 250 | Cor triatriatum | In the classic form of cor triatriatum a membrane divides the left atrium (LA) into a posterior accessory chamber that receives the pulmonary veins and an anterior chamber (LA) that communicates with the mitral valve. In differentiating cor triatriatum from supravalvar mitral ring, in cor triatriatum the posterior compartment contains the pulmonary veins while the anterior contains the left atrial appendage and the mitral valve orifice; in supravalvar mitral ring, the anterior compartment contains only the mitral valve orifice. Cor triatriatum dexter (prominent venous valve producing obstruction of the IVC and tricuspid valve) is to be coded as a systemic venous obstruction, not as a form of cor triatriatum. |
| 260 | Pulmonary venous stenosis | Any pathologic narrowing of one or more pulmonary veins. Can be further subdivided by etiology (congenital, acquired-postoperative, acquired-non postoperative) and extent of stenosis (diffusely hypoplastic, long segment focal/tubular stenosis, discrete stenosis). |
| 2480 | Pulmonary venous stenosis, Acquired | Any pathologic narrowing of one or more pulmonary veins that develops after previous surgery or transcatheter intervention involving the pulmonary veins. (def added Nov 2020) |
| 2490 | Pulmonary venous stenosis, Spontaneous | Any pathologic narrowing of one or more pulmonary veins that develops without a history of previous surgery or transcatheter intervention involving the pulmonary veins. (def added Nov 2020) |
| 270 | Systemic venous anomaly | Anomalies of the systemic venous system (superior vena cava (SVC), inferior vena cava (IVC), brachiocephalic veins (often the innominate vein), azygos vein, coronary sinus, levo-atrial cardinal vein) arising from one or |

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| | | more anomalies of origin, duplication, course, or connection. Examples include abnormal or absent right SVC with LSVC, bilateral SVC, interrupted right or left IVC, azygos continuation of IVC, and anomalies of hepatic drainage. Bilateral SVC may have, among other configurations: 1) RSVC draining to the RA and the LSVC to the LA with completely unroofed coronary sinus, 2) RSVC draining to the RA and LSVC to the coronary sinus which drains (normally) into the RA, or 3) RSVC to the coronary sinus which drains (abnormally) into the LA and LSVC to LA. Anomalies of the inferior vena caval system include, among others: 1) left IVC to LA, 2) biatrial drainage, or 3) interrupted IVC (left or right) with azygos continuation to an LSVC or RSVC. |
| 280 | Systemic venous obstruction | Obstruction of the systemic venous system (superior vena cava (SVC), inferior vena cava (IVC), brachiocephalic veins (often the innominate vein), azygos vein, coronary sinus, levo-atrial cardinal vein) arising from congenital or acquired stenosis or occlusion. Cor triatriatum dexter (prominent venous valve producing obstruction of the IVC and tricuspid valve) is to be coded as a systemic venous obstruction, not as a form of cor triatriatum. |
| 290 | TOF | Indicate if the patient has the diagnosis of “TOF”. Only use this diagnosis if it is NOT known if the patient has one of the following four more specific diagnoses: (1). “TOF, Pulmonary stenosis”, (2). “TOF, AVC (AVSD)”, (3). “TOF, Absent pulmonary valve”, (4). “Pulmonary atresia, VSD (Including TOF, PA)”, or (5). “Pulmonary atresia, VSD-MAPCA (pseudotruncus)”. {“TOF” is “Tetralogy of Fallot” and is defined as a group of malformations with biventricular atrioventricular alignments or connections characterized by anterosuperior deviation of the conal or outlet septum or its fibrous remnant, narrowing or atresia of the pulmonary outflow, a ventricular septal defect of the malalignment type, and biventricular origin of the aorta. Hearts with tetralogy of Fallot will always have a ventricular septal defect, narrowing or atresia of the pulmonary outflow, and aortic override; hearts with tetralogy of Fallot will most often have right ventricular hypertrophy.} (An additional, often muscular [Type 4] VSD may be seen with TOF and should be coded separately as a secondary diagnosis as “VSD, Type 4 (Muscular)”. Pulmonary arteries may be diminutive or there may be an absent left or right pulmonary artery; additional coding for pulmonary artery and/or branch pulmonary artery stenoses may be found under RVOT obstruction. Abnormal coronary artery distribution may also be associated with tetralogy of Fallot and may be coded separately under coronary artery anomalies. The presence of associated anomalies such as additional VSD, atrial septal defect, right aortic arch, left superior vena cava, and coronary artery anomalies must be subspecified as an additional or secondary diagnosis under the primary TOF diagnosis. TOF with absent pulmonary valve or TOF with associated complete atrioventricular canal are NOT to be secondary diagnoses under TOF - they are separate entities and should be coded as such. Controversy surrounds the differentiation between TOF and double outlet right ventricle [DORV]; in the nomenclature used here, DORV is defined as a type of ventriculoarterial connection in which both great vessels arise predominantly from the right ventricle. TOF with pulmonary atresia is to be coded under "Pulmonary atresia-VSD.") |
| 2140 | TOF, Pulmonary stenosis | Indicate if the patient has the diagnosis of “TOF, Pulmonary stenosis”. Use this diagnosis if the patient has tetralogy of Fallot and pulmonary stenosis. |

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| | | Do not use this diagnosis if the patient has tetralogy of Fallot and pulmonary atresia. Do not use this diagnosis if the patient has tetralogy of Fallot and absent pulmonary valve. Do not use this diagnosis if the patient has tetralogy of Fallot and atrioventricular canal. {Tetralogy of Fallot is defined as a group of malformations withbiventricular atrioventricular alignments or connections characterized by anterosuperior deviation of the conal or outlet septum or its fibrous remnant, narrowing or atresia of the pulmonary outflow, a ventricular septal defect of the malalignment type, and biventricular origin of the aorta. Hearts with tetralogy of Fallot will always have a ventricular septal defect, narrowing or atresia of the pulmonary outflow, and aortic override; hearts with tetralogy of Fallot will most often have right ventricular hypertrophy. (An additional, often muscular [Type 4] VSD may be seen with TOF and should be codedseparately as a secondary diagnosis as “VSD, Type 4 (Muscular)”. Pulmonary arteries may be diminutive or there may be an absent left or right pulmonary artery; additional coding for pulmonary artery and/or branch pulmonary artery stenoses may be found under RVOT obstruction. Abnormal coronary artery distribution may also be associated with tetralogy of Fallot and may be coded separately under coronary artery anomalies. The presence of associated anomalies such as additional VSD, atrial septal defect, right aortic arch, left superior vena cava, and coronary artery anomalies must be subspecified as an additional or secondary diagnosis under the primary TOF diagnosis. TOF with absent pulmonary valve or TOF with associated complete atrioventricular canal are NOT to be secondary diagnoses under TOF - they are separate entities and should be coded as such. Controversy surrounds the differentiation between TOF and double outlet right ventricle [DORV]; in the nomenclature used here, DORV is defined as a type of ventriculoarterial connection in which both great vessels arise predominantly from the right ventricle. TOF with pulmonary atresia is to be coded under "Pulmonary atresia-VSD.")} |
| 300 | TOF, AVC (AVSD) | TOF with complete common atrioventricular canal defect is a rare variant of common atrioventricular canal defect with the associated conotruncal abnormality of TOF. The anatomy of the endocardial cushion defect is that of Rastelli type C in almost all cases. |
| 310 | TOF, Absent pulmonary valve | Indicate if the patient has the diagnosis of “TOF, Absent pulmonary valve.” “TOF, Absent pulmonary valve” is “Tetralogy of Fallot with Absent pulmonary valve” and is defined as a malformation with all of the morphologic characteristics of tetralogy of Fallot (anterosuperior deviation of the conal or outlet septum or its fibrous remnant, narrowing of the pulmonary outflow, a ventricular septal defect of the malalignment type, and biventricular origin of the aorta), in which the ventriculo-arterial junction of the right ventricle with the main pulmonary artery features an atypical valve with rudimentary cusps that lack the anatomical semi-lunar features of normal valve cusps and which functionally do not achieve central coaptation. The physiologic consequence is usually a combination of variable degrees of both stenosis and regurgitation of the pulmonary valve. A developmental accompaniment of this anatomy and physiology is dilatation of the main pulmonary artery and central right and left pulmonary arteries, which when extreme, is associated with abnormal arborization of lobar and segmental pulmonary artery branches and with compression of the trachea and mainstem bronchi. One theory holds that absence of the arterial duct or ductal ligament (which is a nearly constant |

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| | | finding in cases of tetralogy of Fallot with absent pulmonary valve) in combination with pulmonary `valve stenosis and regurgitation, comprise the physiologic conditions which predispose to central pulmonary artery dilatation during fetal development. (Tetralogy of Fallot with Absent Pulmonary Valve Syndrome is a term frequently used to describe the clinical presentation when it features both circulatory alterations and respiratory distress secondary to airway compression. |
| 320 | Pulmonary atresia | Pulmonary atresia defects which do not readily fall into pulmonary atresia-intact ventricular septum or pulmonary atresia-VSD (with or without MAPCAs) categories. These may include complex lesions in which pulmonary atresia is a secondary diagnosis, for example, complex single ventricle malformations with associated pulmonary atresia. |
| 330 | Pulmonary atresia, IVS | Pulmonary atresia (PA) and intact ventricular septum (IVS) is a duct-dependent congenital malformation that forms a spectrum of lesions including atresia of the pulmonary valve, a varying degree of right ventricle and tricuspid valve hypoplasia, and anomalies of the coronary circulation. An RV dependent coronary artery circulation is present when coronary artery fistulas (coronary sinusoids) are associated with a proximal coronary artery stenosis. Associated Ebstein's anomaly of the tricuspid valve can be present; the tricuspid diameter is enlarged and the prognosis is poor. |
| 340 | Pulmonary atresia, VSD(Including TOF, PA) | Pulmonary atresia (PA) and ventricular septal defect (VSD) is a heterogeneous group of congenital cardiac malformations in which there is lack of luminal continuity and absence of blood flow from either ventricle (in cases with ventriculo-arterial discordance) and the pulmonary artery, in a biventricular heart that has an opening or a hole in the interventricular septum (VSD). The malformation forms a spectrum of lesions including tetralogy of Fallot with pulmonary atresia. Tetralogy of Fallot with PA is a specific type of PA-VSD where the intracardiac malformation is more accurately defined (extreme under development of the RV infundibulum with marked anterior and leftward displacement of the infundibular septum often fused with the anterior wall of the RV resulting in complete obstruction of blood flow into the pulmonary artery and associated with a large outlet, subaortic ventricular septal defect). In the vast majority of cases of PA-VSD the intracardiac anatomy is that of TOF. The pulmonary circulation in PA-VSD is variable in terms of origin of blood flow, presence or absence of native pulmonary arteries, presence or absence of major aortopulmonary collateral arteries (MAPCA(s)), and distal distribution (pulmonary parenchymal segment arborization) abnormalities. Native pulmonary arteries may be present or absent. If MAPCAs are present this code should not be used; instead, Pulmonary atresia, VSD-MAPCA (pseudotruncus) should be used. |
| 350 | Pulmonary atresia, VSD-MAPCA | MAPCA(s) are large and distinct arteries, highly variable in number, that usually arise from the descending thoracic aorta, but uncommonly may originate from the aortic arch or the subclavian, carotid or even the coronary arteries. MAPCA(s) may be associated with present or absent native pulmonary arteries. If present, the native pulmonary arteries may be hypoplastic, and either confluent or nonconfluent. Systemic pulmonary collateral arteries have been categorized into 3 types based on their site of origin and the way they connect to the pulmonary circulation: direct aortopulmonary collaterals, indirect aortopulmonary collaterals, and true bronchial arteries. Only the first two should be considered MAPCA(s). If |

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| | | MAPCA(s) are associated with PA-VSD or TOF, PA this code should be used. |
| 360 | MAPCA(s) (major aortopulmonary collateral[s]) (without PA-VSD) | Rarely MAPCA(s) may occur in patents who do not have PA-VSD, but have severe pulmonary stenosis. The intracardiac anatomy in patients who have MAPCA(s) without PA should be specifically coded in each case as well. |
| 370 | Ebstein's anomaly | Indicate if the patient has the diagnosis of “Ebstein's anomaly”. Ebstein's anomaly is a malformation of the tricuspid valve and right ventricle that is characterized by a spectrum of several features: (1) incomplete delamination of tricuspid valve leaflets from the myocardium of the right ventricle; (2) downward (apical) displacement of the functional annulus; (3) dilation of the "atrialized" portion of the right ventricle with variable degrees of hypertrophy and thinning of the wall; (4) redundancy, fenestrations, and tethering of the anterior leaflets; and (5) dilation of the right atrioventricular junction (the true tricuspid annulus). These anatomical and functional abnormalities cause tricuspid regurgitation (and rarely tricuspid stenosis) that results in right atrial and right ventricular dilatation and atrial and ventricular arrhythmias. With increasing degrees of anatomic severity of malformation, the fibrous transformation of leaflets from their muscular precursors remains incomplete, with the septal leaflet being most severely involved, the posterior leaflet less severely involved, and the anterior leaflet usually the least severely involved. Associated cardiac anomalies include an interatrial communication, the presence of accessory conduction pathways often associated with Wolff-Parkinson-White syndrome, and dilation of the right atrium and right ventricle in patients with severe Ebstein's anomaly. (Varying degrees of right ventricular outflow tract obstruction may be present, including pulmonary atresia in some cases. Such cases of Ebstein's anomaly with pulmonary atresia should be coded witha Primary Diagnosis of “Ebstein’s anomaly”, and a Secondary Diagnosis of “Pulmonary atresia”.) (Some patients with atrioventricular discordance and ventriculoarterial discordance in situs solitus [congenitally corrected transposition] have an Ebstein-like deformity of the left-sided morphologically tricuspid valve. The nature of the displacement of the septal and posterior leaflets is similar to that in right-sided Ebstein's anomaly in patients with atrioventricular concordance and ventriculoarterial concordance in situs solitus. These patients with “Congenitally corrected TGA” and an Ebstein-like deformity of the left-sided morphologically tricuspid valve should be coded with a Primary Diagnosis of “Congenitally corrected TGA”, and a Secondary Diagnosis of “Ebstein's anomaly”.) |
| 380 | Tricuspid regurgitation, non- Ebstein's related | Non-Ebstein's tricuspid regurgitation may be due to congenital factors (primary annular dilation, prolapse, leaflet underdevelopment, absent papillary muscle/chordae) or acquired (post cardiac surgery or secondary to rheumatic fever, endocarditis, trauma, tumor, cardiomyopathy, iatrogenic or other causes). |
| 390 | Tricuspid stenosis | Tricuspid stenosis may be due to congenital factors (valvar hypoplasia, abnormal subvalvar apparatus, double-orifice valve, parachute deformity) or acquired (post cardiac surgery or secondary to carcinoid, rheumatic fever, tumor, systemic disease, iatrogenic, or other causes). |
| 400 | Tricuspid regurgitation and tricuspid stenosis | Tricuspid regurgitation present with tricuspid stenosis may be due to congenital factors or acquired. |

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| 410 | Tricuspid valve, Other | Tricuspid valve pathology not otherwise specified in diagnosis definitions 370, 380, 390 and 400. |
| 420 | Pulmonary stenosis, Valvar | Pulmonary stenosis, Valvar ranges from critical neonatal pulmonic valve stenosis with hypoplasia of the right ventricle to valvar pulmonary stenosis in the infant, child, or adult, usually better tolerated but potentially associated with infundibular stenosis. Pulmonary branch hypoplasia can be associated. Only 10% of neonates with Pulmonary stenosis, Valvar with intact ventricular septum have RV-to-coronary artery fistula(s). An RV dependent coronary artery circulation is present when coronary artery fistulas (coronary sinusoids) are associated with a proximal coronary artery stenosis; this occurs in only 2% of neonates with Pulmonary stenosis, Valvar with IVS. |
| 430 | Pulmonary artery stenosis (hypoplasia), Main (trunk) | Indicate if the patient has the diagnosis of “Pulmonary artery stenosis (hypoplasia), Main (trunk).” “Pulmonary artery stenosis (hypoplasia), Main (trunk)” is defined as a congenital or acquired anomaly with pulmonary trunk (main pulmonary artery) narrowing or hypoplasia. The stenosis or hypoplasia may be isolated or associated with other cardiac lesions. Since the narrowing is distal to the pulmonic valve, it may also be known as supravalvar pulmonary stenosis. |
| 440 | Pulmonary artery stenosis, Branch, Central (within the hilar bifurcation) | Indicate if the patient has the diagnosis of “Pulmonary artery stenosis, Branch, Central (within the hilar bifurcation).” “Pulmonary artery stenosis, Branch, Central (within the hilar bifurcation)” is defined as a congenital or acquired anomaly with central pulmonary artery branch (within the hilar bifurcation involving the right or left pulmonary artery, or both) narrowing or hypoplasia. The stenosis or hypoplasia may be isolated or associated with other cardiac lesions. Coarctation of the pulmonary artery is related to abnormal extension of the ductus arteriosus into a pulmonary branch, more frequently the left branch. |
| 450 | Pulmonary artery stenosis, Branch, Peripheral (at or beyond the hilar bifurcation) | Indicate if the patient has the diagnosis of “Pulmonary artery stenosis, Branch, Peripheral (at or beyond the hilar bifurcation).” “Pulmonary artery stenosis, Branch, Peripheral (at or beyond the hilar bifurcation)” is defined as a congenital or acquired anomaly with peripheral pulmonary artery narrowing or hypoplasia (at or beyond the hilar bifurcation). The stenosis or hypoplasia may be isolated or associated with other cardiac lesions. |
| 470 | Pulmonary artery, Discontinuous | Indicate if the patient has the diagnosis of “Pulmonary artery, Discontinuous.” Pulmonary artery, Discontinuous” is defined as a congenital or acquired anomaly with discontinuity between the branch pulmonary arteries or between a branch pulmonary artery and the main pulmonary artery trunk. |
| 490 | Pulmonary stenosis, Subvalvar | Subvalvar (infundibular) pulmonary stenosis is a narrowing of the outflow tract of the right ventricle below the pulmonic valve. It may be due to a localized fibrous diaphragm just below the valve, an obstructing muscle bundle or to a long narrow fibromuscular channel. |
| 500 | DCRV | The double chambered right ventricle is characterized by a low infundibular (subvalvar) stenosis rather than the rare isolated infundibular stenosis that develops more superiorly in the infundibulum, and is often associated with one or several closing VSDs. In some cases, the VSD is already closed. The stenosis creates two chambers in the RV, one inferior including the inlet and trabecular portions of the RV and one superior including the infundibulum. |
| 510 | Pulmonary valve, Other | Other anomalies of the pulmonary valve may be listed here including but |

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| | | not restricted to absent pulmonary valve. |
| 530 | Pulmonary insufficiency | Pulmonary valve insufficiency or regurgitation may be due to congenital factors (primary annular dilation, prolapse, leaflet underdevelopment, etc.) or acquired (for example, post cardiac surgery for repair of tetralogy of Fallot, etc.). |
| 540 | Pulmonary insufficiency and pulmonary stenosis | Pulmonary valve insufficiency and pulmonary stenosis beyond the neonatal period, in infancy and childhood, may be secondary to leaflet tissue that has become thickened and myxomatous. Retraction of the commissure attachment frequently creates an associated supravalvar stenosis. |
| 2130 | Shunt failure | Indicate if the patient has the diagnosis of "Shunt failure." This diagnostic subgroup includes failure of any of a variety of shunts ("Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)", "Shunt, Systemic to pulmonary, Central (from aorta or to main pulmonary artery)", "Shunt, Systemic to pulmonary, Other", and "Sano Shunt"), secondary to any of the following etiologies: shunt thrombosis, shunt occlusion, shunt stenosis, shunt obstruction, and shunt outgrowth. This diagnosis ("Shunt failure") would be the primary diagnosis in a patient with, for example, "Hypoplastic left heart syndrome (HLHS)" who underwent a "Norwood procedure" with a "Modified Blalock-Taussig Shunt" and now requires reoperation for thrombosis of the "Modified Blalock-Taussig Shunt." The underlying or fundamental diagnosis in this patient is "Hypoplastic left heart syndrome (HLHS)", but the primary diagnosis for the operation to be performed to treat the thrombosis of the "Modified Blalock-Taussig Shunt" would be "Shunt failure." Please note that the choice "2130 Shunt failure" does not include "520 Conduit failure." |
| 520 | Conduit failure | Indicate if the patient has the diagnosis of "Conduit failure." This diagnostic subgroup includes failure of any of a variety of conduits (ventricular [right or left]-to-PA conduits, as well as a variety of other types of conduits [ventricular {right or left}-to-aorta, RA-to-RV, etc.]), secondary to any of the following etiologies: conduit outgrowth, obstruction, stenosis, insufficiency, or insufficiency and stenosis. This diagnosis ("Conduit failure") would be the primary diagnosis in a patient with, for example, "Truncus arteriosus" repaired in infancy who years later is hospitalized because of conduit stenosis/ insufficiency. The underlying or fundamental diagnosis in this patient is "Truncus arteriosus", but the primary diagnosis for the operation to be performed during the hospitalization (in this case, "Conduit reoperation") would be "Conduit failure." Please note that the choice "520 Conduit failure" does not include "2130 Shunt failure." |
| 550 | Aortic stenosis, Subvalvar | Subaortic obstruction can be caused by different lesions: subaortic membrane or tunnel, accessory mitral valve tissue, abnormal insertion of the mitral anterior leaflet to the ventricular septum, deviation of the outlet septum (seen in coarctation of the aorta and interrupted aortic arch), or a restrictive bulboventricular foramen in single ventricle complexes. The Shone complex consists of subvalvar aortic stenosis in association with supravalvar mitral ring, parachute mitral valve, and coarctation of aorta. Subvalvar aortic stenosis may be categorized into two types: localized subvalvar aortic stenosis, which consists of a fibrous or fibromuscular ridge, and diffuse tunnel subvalvar aortic stenosis, in which circumferential narrowing commences at the annular level and extends downward for 1-3 cm. Idiopathic hypertrophic subaortic stenosis |

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| | | (IHSS) is also known as hypertrophic obstructive cardiomyopathy (HOCM), and is characterized by a primary hypertrophy of the myocardium. The obstructive forms involve different degrees of dynamic subvalvar aortic obstruction from a thickened ventricular wall and anterior motion of the mitral valve. Definitive nomenclature and therapeutic options for IHSS are listed under cardiomyopathy. |
| 2500 | Aortic stenosis, Subvalvar, Discrete | |
| 2510 | Aortic stenosis, Subvalvar, IHSS | |
| 2520 | Aortic stenosis, Subvalvar, Tunnel-like | |
| 560 | Aortic stenosis, Valvar | Valvar aortic stenosis may be congenital or acquired. In its congenital form there are two types: critical (infantile), seen in the newborn in whom systemic perfusion depends on a patent ductus arteriosus, and noncritical, seen in infancy or later. Acquired valvar stenosis may be seen after as a result of rheumatic valvar disease, or from stenotic changes of an aortic valve prosthesis. Congenital valvar stenosis may result: (1) from complete fusion of commissures (acommissural) that results in a dome-shaped valve with a pinpoint opening (seen most commonly in infants with critical aortic valve stenosis); (2) from a unicommissural valve with one defined commissure and eccentric orifice (often with two raphes radiating from the ostium indicating underdeveloped commissures of a tricuspid aortic valve); (3) from a bicuspid aortic valve, with leaflets that can be equal in size or discrepant, and in left-right or anterior-posterior position; and finally (4) from a dysplastic tricuspid valve, which may have a gelatinous appearance with thick rarely equal in size leaflets, often obscuring the commissures. The dysplastic, tricuspid or bicuspid form of aortic valve deformity may not be initially obstructive but may become stenotic later in life due to leaflet thickening and calcification. |
| 570 | Aortic stenosis, Supravalvar | Congenital supravalvar aortic stenosis is described as three forms: an hourglass deformity, a fibrous membrane, and a diffuse narrowing of the ascending aorta. The disease can be inherited as an autosomal dominant trait or part of Williams-Beuren syndrome in association with mental retardation, elfin facies, failure to thrive, and occasionally infantile hypercalcemia. Supravalvar aortic stenosis may involve the coronary artery ostia, and the aortic leaflets may be tethered. The coronary arteries can become tortuous and dilated due to elevated pressures and early atherosclerosis may ensue. Supravalvar aortic stenosis may also be acquired: (1) after a neoaortic reconstruction such as arterial switch, Ross operation, or Norwood procedure; (2) at a suture line from a previous aortotomy or cannulation; and (3) from a narrowed conduit. |
| 590 | Aortic valve atresia | Aortic valve atresia will most often be coded under the Hypoplastic left heart syndrome/complex diagnostic codes since it most often occurs as part of a spectrum of cardiac malformations. However, there is a small subset of patients with aortic valve atresia who have a well-developed left ventricle and mitral valve and a large VSD nonrestrictive or restrictive). The diagnostic code "Aortic valve atresia" enables users to report those patients with aortic valve atresia and a well-developed systemic ventricle without recourse to either a hypoplastic left heart syndrome/complex diagnosis or a single ventricle diagnosis. |
| 600 | Aortic insufficiency | Congenital aortic regurgitation/insufficiency is rare as an isolated entity. |

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| | | There are rare reports of congenital malformation of the aortic valve that result in aortic insufficiency shortly after birth from an absent or underdeveloped aortic valve cusp. Aortic insufficiency is more commonly seen with other associated cardiac anomalies: (1) in stenotic aortic valves (commonly stenotic congenital bicuspid aortic valves) with some degree of aortic regurgitation due to aortic leaflet abnormality; (2) in association with a VSD (especially in supracristal or conal type I VSD, more commonly seen in Asian populations); (3) secondary to aortic-left ventricular tunnel; (4) secondary to tethering or retraction of aortic valve leaflets in cases of supravalvar aortic stenosis that may involve the aortic valve; and similarly (5) secondary to encroachment on an aortic cusp by a subaortic membrane; or (6) turbulence caused by a stenotic jet can create progressive aortic regurgitation. Aortic insufficiency may also result from: (1) post-procedure such as closed or open valvotomy or aortic valve repair, VSD closure, balloon valvotomy, or diagnostic catheterization; (2) in the neo-aorta post arterial switch, pulmonary autograft (Ross) procedure, homograft placement, Norwood procedure, or Damus-Kaye-Stansel procedure; (3) as a result of endocarditis secondary to perforated or prolapsed leaflets or annular dehiscence; (4) secondary to annulo-aortic ectasia with prolapsed or noncoapting leaflets; (5) secondary to trauma, blunt or penetrating; or (6) as a result of aortitis, bacterial, viral or autoimmune. Aortic regurgitation secondary to prosthetic failure should be coded first as either conduit failure or prosthetic valve failure, as applicable, and secondarily as aortic regurgitation secondary to prosthetic failure (perivalvar or due to structural failure). The underlying fundamental diagnosis that led to the initial conduit or valve prosthesis placement should also be described. |
| 610 | Aortic insufficiency and aortic stenosis | Aortic insufficiency is often seen in association with stenotic aortic valve, commonly the stenotic congenital bicuspid aortic valve. The degree of aortic regurgitation is due to the severity of the aortic leaflet abnormality. |
| 620 | Aortic valve, Other | This diagnostic subgroup may be used to delineate aortic valve cusp number (unicuspid, bicuspid, tricuspid, more than three cusps), commissural fusion (normal, partially fused, completely fused), and valve leaflet (normal, thickened, dysplastic, calcified, gelatinous), annulus (normal, hypoplastic, calcified), or sinus description (normal, dilated). Note that any extensive descriptors chosen within those made available by a vendor will be converted, at harvest, to Aortic valve, Other. |
| 630 | Sinus of Valsalva aneurysm | The sinus of Valsalva is defined as that portion of the aortic root between the aortic root annulus and the sinotubular ridge. A congenital sinus of Valsalva aneurysm is a dilation usually of a single sinus of Valsalva. These most commonly originate from the right sinus (65%-85%), less commonly from the noncoronary sinus (10%-30%), and rarely from the left sinus (<5%). A true sinus of Valsalva aneurysm presents above the aortic annulus. The hierarchical coding system distinguishes between congenital versus acquired, ruptured versus nonruptured, sinus of origin, and chamber/site of penetration (right atrium, right ventricle, left atrium, left ventricle, pulmonary artery, pericardium). A nonruptured congenital sinus of Valsalva aneurysm may vary from a mild dilation of a single aortic sinus to an extensive windsock deformity. Rupture of a congenital sinus of Valsalva aneurysm into an adjacent chamber occurs most commonly between the ages of 15-30 years. Rupture may occur spontaneously, after trauma, after strenuous physical exertion, or from acute bacterial |

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| | | endocarditis. Congenital etiology is supported by the frequent association of sinus of Valsalva aneurysms with VSDs. Other disease processes are also associated with sinus of Valsalva aneurysm and include: syphilis, endocarditis, cystic medial necrosis, atherosclerosis, and trauma. Acquired sinus of Valsalva aneurysms more frequently involve multiple sinuses of Valsalva; when present in multiple form they are more appropriately classified as aneurysms of the aortic root. |
| 640 | LV to aorta tunnel | The aortico-left ventricular tunnel (LV-to-aorta tunnel) is an abnormal paravalvular (alongside or in the vicinity of a valve) communication between the aorta and left ventricle, commonly divided into 4 types: (1) type I, a simple tunnel with a slit-like opening at the aortic end and no aortic valve distortion; (2) type II, a large extracardiac aortic wall aneurysm of the tunnel with an oval opening at the aortic end, with or without ventricular distortion; (3) type III, intracardiac aneurysm of the septal portion of the tunnel, with or without right ventricular outflow obstruction; and (4) type IV, a combination of types II and III. Further differentiation within these types may be notation of right coronary artery arising from the wall of the tunnel. If a LV-to-aorta tunnel communicates with the right ventricle, many feel that the defect is really a ruptured sinus of Valsalva aneurysm. |
| 650 | Mitral stenosis, Supravalvar mitral ring | Supravalvar mitral ring is formed by a circumferential ridge of tissue that is attached to the anterior mitral valve leaflet (also known as the aortic leaflet) slightly below its insertion on the annulus and to the atrium slightly above the attachment of the posterior mitral valve leaflet (also known as the mural leaflet). Depending on the diameter of the ring orifice, varying degrees of obstruction exist. The underlying valve is usually abnormal and frequently stenotic or hypoplastic. Supravalvar mitral ring is commonly associated with other stenotic lesions such as parachute or hammock valve (subvalvar stenosis), papillary muscle fusion (subvalvar stenosis), and double orifice mitral valve (valvar stenosis). Differentiation from cor triatriatum focuses on the compartments created by the supravalvar ring. In cor triatriatum the posterior compartment contains the pulmonary veins; the anterior contains the left atrial appendage and the mitral valve orifice. In supravalvar mitral ring, the posterior compartment contains the pulmonary veins and the left atrial appendage; the anterior compartment contains only the mitral valve orifice. When coding multiple mitral valvar lesions the predominant defect causing the functional effect (regurgitation, stenosis, or regurgitation and stenosis) should be listed as the primary defect. |
| 660 | Mitral stenosis, Valvar | Valvar mitral stenosis may arise from congenital (annular and / or leaflet) or acquired causes, both surgical (after mitral valve repair or replacement or other cardiac surgery) and non-surgical (post rheumatic heart disease, infective endocarditis, ischemia, myxomatous degeneration, trauma, or cardiomyopathy). Mitral valve annular hypoplasia is distinguished from severe mitral valve hypoplasia and mitral valve atresia, which are typically components of hypoplastic left heart syndrome. When coding multiple mitral valvar lesions the predominant defect causing the functional effect (regurgitation, stenosis, or regurgitation and stenosis) should be listed as the primary defect. |
| 670 | Mitral stenosis, Subvalvar | Congenital subvalvar mitral stenosis may be due to obstructive pathology of either the chordae tendineae and / or papillary muscles which support the valve leaflets. When coding multiple mitral valvar lesions the |

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| | | predominant defect causing the functional effect (regurgitation, stenosis, or regurgitation and stenosis) should be listed as the primary defect. |
| 680 | Mitral stenosis, Subvalvar, Parachute | In parachute mitral valve, all chordae are attached to a single papillary muscle originating from the posterior ventricular wall. When the interchordal spaces are partially obliterated valvar stenosis results. This defect also causes valvar insufficiency, most commonly due to a cleft leaflet, a poorly developed anterior leaflet, short chordae, or annular dilatation. This lesion is also part of Shone's anomaly, which consists of the parachute mitral valve, supravalvar mitral ring, subaortic stenosis, and coarctation of the aorta. When coding multiple mitral valvar lesions the predominant defect causing the functional effect (regurgitation, stenosis, or regurgitation and stenosis) should be listed as the primary defect. |
| 695 | Mitral stenosis | Stenotic lesions of the mitral valve not otherwise specified in the diagnosis definitions 650, 660, 670, and 680. |
| 700 | Mitral regurgitation and mitral stenosis | Mitral regurgitation and mitral stenosis may arise from congenital or acquired causes or after cardiac surgery. Additional details to aid in coding specific components of the diagnosis are available in the individual mitral stenosis or mitral regurgitation field definitions. When coding multiple mitral valve lesions the predominant defect causing the functional effect (regurgitation, stenosis, or regurgitation and stenosis) should be listed as the primary defect. |
| 710 | Mitral regurgitation | Mitral regurgitation may arise from congenital (at the annular, leaflet or subvalvar level) or acquired causes both surgical (after mitral valve repair or replacement, subaortic stenosis repair, atrioventricular canal repair, cardiac transplantation, or other cardiac surgery) and non-surgical (post rheumatic heart disease, infective endocarditis, ischemia (with chordal rupture or papillary muscle infarct), myxomatous degeneration including Barlow's syndrome, trauma, or cardiomyopathy). Congenital lesions at the annular level include annular dilatation or deformation (usually deformation is consequent to associated lesions). At the valve leaflet level, mitral regurgitation may be due to a cleft, hypoplasia or agenesis of leaflet(s), excessive leaflet tissue, or a double orifice valve. At the subvalvar level, mitral regurgitation may be secondary to chordae tendineae anomalies (agenesis, rupture, elongation, or shortening as in funnel valve), or to papillary muscle anomalies (hypoplasia or agenesis, shortening, elongation, single-parachute, or multiple-hammock valve). When coding multiple mitral valvar lesions the predominant defect causing the functional effect (regurgitation, stenosis, or regurgitation and stenosis) should be listed as the primary defect. |
| 720 | Mitral valve, Other | Mitral valve pathology not otherwise coded in diagnosis definitions 650 through 710. |
| 730 | Hypoplastic left heart syndrome (HLHS) | Hypoplastic left heart syndrome (HLHS) is a spectrum of cardiac malformations characterized by a severe underdevelopment of the left heart-aorta complex, consisting of aortic and/or mitral valve atresia, stenosis, or hypoplasia with marked hypoplasia or absence of the left ventricle, and hypoplasia of the ascending aorta and of the aortic arch with coarctation of the aorta. Hypoplastic left heart complex is a subset of patients at the favorable end of the spectrum of HLHS characterized by hypoplasia of the structures of the left heart-aorta complex, consisting of aortic and mitral valve hypoplasia without valve stenosis or atresia, hypoplasia of the left ventricle, hypoplasia of the left ventricular outflow |

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| | | tract, hypoplasia of the ascending aorta and of the aortic arch, with or without coarctation of the aorta. |
| 2080 | Shone's syndrome | Shone's syndrome is a syndrome of multilevel hypoplasia and obstruction of left sided cardiovascular structures including more than one of the following lesions: (1) supravalvar ring of the left atrium, (2) a parachute deformity of the mitral valve, (3) subaortic stenosis, and (4) aortic coarctation. The syndrome is based on the original report from Shone [1] that was based on analysis of 8 autopsied cases and described the tendency of these four obstructive, or potentially obstructive, conditions to coexist. Only 2 of the 8 cases exhibited all four conditions, with the other cases exhibiting only two or three of the anomalies [2]. [1] Shone JD, Sellers RD, Anderson RG, Adams P, Lillehei CW, Edwards JE. The developmental complex of "parachute mitral valve", supravalvar ring of left atrium, subaortic stenosis, and coarctation of the aorta. Am J Cardiol 1963; 11: 714–725. [2]. Tchervenkov CI, Jacobs JP, Weinberg PM, Aiello VD, Beland MJ, Colan SD, Elliott MJ, Franklin RC, Gaynor JW, Krogmann ON, Kurosawa H, Maruszewski B, Stellin G. The nomenclature, definition and classification of hypoplastic left heart syndrome. Cardiology in the Young, 2006; 16(4): 339–368, August 2006.Please note that the term "2080 Shone's syndrome" may be the "Fundamental Diagnosis" of a patient; however, the term "2080 Shone's syndrome" may not be the "Primary Diagnosis" of an operation. The term "2080 Shone's syndrome" may be a "Secondary Diagnosis" of an operation. |
| 740 | Cardiomyopathy (including dilated, restrictive, and hypertrophic) | Cardiomyopathy is a term applied to a wide spectrum of cardiac diseases in which the predominant feature is poor myocardial function in the absence of any anatomic abnormalities. Cardiomyopathies can be divided into three relatively easily distinguishable entities: (1) dilated, characterized by ventricular dilatation and systolic dysfunction; (2) hypertrophic, characterized by physiologically inappropriate hypertrophy of the left ventricle; and (3) restrictive, characterized by diastolic dysfunction, with a presentation often identical to constrictive pericarditis. Also included in this diagnostic category are patients with a cardiomyopathy or syndrome confined to the right ventricle, for example: (1) arrhythmogenic right ventricular dysplasia; (2) Uhl's syndrome (hypoplasia of right ventricular myocardium, parchment heart); or (3) spongiform cardiomyopathy. |
| 750 | Cardiomyopathy, End-stage congenital heart disease | Myocardial abnormality in which there is systolic and/or diastolic dysfunction in the presence of structural congenital heart disease without any (or any further) surgically correctable lesions. |
| 760 | Pericardial effusion | Inflammatory stimulation of the pericardium that results in the accumulation of appreciable amounts of pericardial fluid (also known as effusive pericarditis). The effusion may be idiopathic or acquired (e.g., postoperative, infectious, uremic, neoplastic, traumatic, drug-induced). |
| 770 | Pericarditis | Inflammatory process of the pericardium that leads to either (1) effusive pericarditis with accumulation of appreciable amounts of pericardial fluid or (2) constrictive pericarditis that leads to pericardial thickening and compression of the cardiac chambers, ultimately with an associated significant reduction in cardiac function. Etiologies are varied and include idiopathic or acquired (e.g., postoperative, infectious, uremic, neoplastic, traumatic, drug-induced) pericarditis. |
| 780 | Pericardial disease, Other | A structural or functional abnormality of the visceral or parietal |

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| | | pericardium that may, or may not, have a significant impact on cardiac function. Included are absence or partial defects of the pericardium. |
| 790 | Single ventricle, DILV | A congenital cardiac malformation in which both atria connect to a single, morphologically left ventricle. The version of the IPCCC derived from the International Congenital Heart Surgery Nomenclature and Database Project of the EACTS and STS uses the term "single ventricle" as synonymous for the "functionally univentricular heart.” The term "functionally univentricular heart" describes a spectrum of congenital cardiovascular malformations in which the ventricular mass may not readily lend itself to partitioning that commits one ventricular pump to the systemic circulation, and another to the pulmonary circulation. A heart may be functionally univentricular because of its anatomy or because of the lack of feasibility or lack of advisability of surgically partitioning the ventricular mass. Common lesions in this category typically include double inlet right ventricle (DIRV), double inlet left ventricle (DILV), tricuspid atresia, mitral atresia, and hypoplastic left heart syndrome. Other lesions which sometimes may be considered to be a functionally univentricular heart include complex forms of atrioventricular septal defect, double outlet right ventricle, congenitally corrected transposition, pulmonary atresia with intact ventricular septum, and other cardiovascular malformations. Specific diagnostic codes should be used whenever possible, and not the term "functionally univentricular heart.” Reference: Jacobs JP, Franklin RCG, Jacobs ML, Colan SD, Tchervenkov CI, Maruszewski B, Gaynor JW, Spray TL, Stellin G, Aiello VD, Béland MJ, Krogmann ON, Kurosawa H, Weinberg PM, Elliott MJ, Mavroudis C, Anderson R. Classification of the Functionally Univentricular Heart: Unity from mapped codes. In 2006 Supplement to Cardiology in the Young: Controversies and challenges in the Management of the Functionally Univentricular Heart, Jacobs JP, Wernovsky G, Gaynor JW, and Anderson RH (editors). Cardiology in the Young, Volume 16, Supplement 1: 9 - 21, February 2006. |
| 800 | Single ventricle, DIRV | A congenital cardiac malformation in which both atria connect to a single, morphologically right ventricle. The version of the IPCCC derived from the International Congenital Heart Surgery Nomenclature and Database Project of the EACTS and STS uses the term "single ventricle" as synonymous for the "functionally univentricular heart.” The term "functionally univentricular heart" describes a spectrum of congenital cardiovascular malformations in which the ventricular mass may not readily lend itself to partitioning that commits one ventricular pump to the systemic circulation, and another to the pulmonary circulation. A heart may be functionally univentricular because of its anatomy or because of the lack of feasibility or lack of advisability of surgically partitioning the ventricular mass. Common lesions in this category typically include double inlet right ventricle (DIRV), double inlet left ventricle (DILV), tricuspid atresia, mitral atresia, and hypoplastic left heart syndrome. Other lesions which sometimes may be considered to be a functionally univentricular heart include complex forms of atrioventricular septal defect, double outlet right ventricle, congenitally corrected transposition, pulmonary atresia with intact ventricular septum, and other cardiovascular alformations. Specific diagnostic codes should be used whenever possible, and not the term "functionally univentricular heart.” Reference: Jacobs JP, Franklin RCG, Jacobs ML, Colan SD, Tchervenkov CI, |

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| | | Maruszewski B, Gaynor JW, Spray TL, Stellin G, Aiello VD, Béland MJ, Krogmann ON, Kurosawa H, Weinberg PM, Elliott MJ, Mavroudis C, Anderson R. Classification of the Functionally Univentricular Heart: Unity from mapped codes. In 2006 Supplement to Cardiology in the Young: Controversies and Challenges in the Management of the Functionally Univentricular Heart, Jacobs JP, Wernovsky G, Gaynor JW, and Anderson RH (editors). Cardiology in the Young, Volume 16, Supplement 1: 9 - 21, February 2006. |
| 810 | Single ventricle, Mitral atresia | A congenital cardiac malformation in which there is no orifice of mitral valve. The version of the IPCCC derived from the International Congenital Heart Surgery Nomenclature and Database Project of the EACTS and STS uses the term "single ventricle" as synonymous for the "functionally univentricular heart." The term "functionally univentricular heart" describes a spectrum of congenital cardiovascular malformations in which the ventricular mass may not readily lend itself to partitioning that commits one ventricular pump to the systemic circulation, and another to the pulmonary circulation. A heart may be functionally univentricular because of its anatomy or because of the lack of feasibility or lack of advisability of surgically partitioning the ventricular mass. Common lesions in this category typically include double inlet right ventricle (DIRV), double inlet left ventricle (DILV), tricuspid atresia, mitral atresia, and hypoplastic left heart syndrome. Other lesions which sometimes may be considered to be a functionally univentricular heart include complex forms of atrioventricular septal defect, double outlet right ventricle, congenitally corrected transposition, pulmonary atresia with intact ventricular septum, and other cardiovascular malformations. Specific diagnostic codes should be used whenever possible, and not the term "functionally univentricular heart." Reference: Jacobs JP, Franklin RCG, Jacobs ML, Colan SD, Tchervenkov CI, Maruszewski B, Gaynor JW, Spray TL, Stellin G, Aiello VD, Béland MJ, Krogmann ON, Kurosawa H, Weinberg PM, Elliott MJ, Mavroudis C, Anderson R. Classification of the Functionally Univentricular Heart: Unity from mapped codes. In 2006 Supplement to Cardiology in the Young: Controversies and Challenges in the Management of the Functionally Univentricular Heart, Jacobs JP, Wernovsky G, Gaynor JW, and Anderson RH (editors). Cardiology in the Young, Volume 16, Supplement 1: 9 - 21, February 2006. |
| 820 | Single ventricle, Tricuspid atresia | A congenital cardiac malformation in which there is no orifice of tricuspid valve. The version of the IPCCC derived from the International Congenital Heart Surgery Nomenclature and Database Project of the EACTS and STS uses the term "single ventricle" as synonymous for the "functionally univentricular heart." The term "functionally univentricular heart" describes a spectrum of congenital cardiovascular malformations in which the ventricular mass may not readily lend itself to partitioning that commits one ventricular pump to the systemic circulation, and another to the pulmonary circulation. A heart may be functionally univentricular because of its anatomy or because of the lack of feasibility or lack of advisability of surgically partitioning the ventricular mass. Common lesions in this category typically include double inlet right ventricle (DIRV), double inlet left ventricle (DILV), tricuspid atresia, mitral atresia, and hypoplastic left heart syndrome. Other lesions which sometimes may be considered to be a functionally univentricular heart include complex forms of atrioventricular septal defect, double outlet right ventricle, congenitally |

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| | | corrected transposition, pulmonary atresia with intact ventricular septum, and other cardiovascular malformations. Specific diagnostic codes should be used whenever possible, and not the term "functionally univentricular heart.” Reference: Jacobs JP, Franklin RCG, Jacobs ML, Colan SD, Tchervenkov CI, Maruszewski B, Gaynor JW, Spray TL, Stellin G, Aiello VD, Béland MJ, Krogmann ON, Kurosawa H, Weinberg PM, Elliott MJ, Mavroudis C, Anderson R. Classification of the Functionally Univentricular Heart: Unity from mapped codes. In 2006 Supplement to Cardiology in the Young: Controversies and Challenges in the Management of the Functionally Univentricular Heart, Jacobs JP, Wernovsky G, Gaynor JW, and Anderson RH (editors). Cardiology in the Young, Volume 16, Supplement 1: 9 - 21, February 2006. |
| 830 | Single ventricle, Unbalanced AV canal | Single ventricle anomalies with a common atrioventricular (AV) valve and only one completely well-developed ventricle. If the common AV valve opens predominantly into the morphologic left ventricle, the defect is termed a left ventricular (LV)–type or LV-dominant AV septal defect. If the common AV valve opens predominantly into the morphologic right ventricle, the defect is termed a right ventricular (RV)–type or RV-dominant AV septal defect. The version of the IPCCC derived from the International Congenital Heart Surgery Nomenclature and Database Project of the EACTS and STS uses the term "single ventricle" as synonymous for the "functionally univentricular heart.” The term "functionally univentricular heart" describes a spectrum of congenital cardiovascular malformations in which the ventricular mass may not readily lend itself to partitioning that commits one ventricular pump to the systemic circulation, and another to the pulmonary circulation. A heart may be functionally univentricular because of its anatomy or because of the lack of feasibility or lack of advisability of surgically partitioning the ventricular mass. Common lesions in this category typically include double inlet right ventricle (DIRV), double inlet left ventricle (DILV), tricuspid atresia, mitral atresia, and hypoplastic left heart syndrome. Other lesions which sometimes may be considered to be a functionally univentricular heart include complex forms of atrioventricular septal defect, double outlet right ventricle, congenitally corrected transposition, pulmonary atresia with intact ventricular septum, and other cardiovascular malformations. Specific diagnostic codes should be used whenever possible, and not the term "functionally univentricular heart.” |
| 840 | Single ventricle, Heterotaxia syndrome | "Heterotaxia syndrome" is synonymous with "heterotaxy", "visceral heterotaxy", and "heterotaxy syndrome.” Heterotaxy is defined as an abnormality where the internal thoraco-abdominal organs demonstrate abnormal arrangement across the left-right axis of the body. By convention, heterotaxy does not include patients with either the expected usual or normal arrangement of the internal organs along the left-right axis, also known as ‘situs solitus’, nor patients with complete mirror-imaged arrangement of the internal organs along the left-right axis also known as ‘situs inversus’.The version of the IPCCC derived from the International Congenital Heart Surgery Nomenclature and Database Project of the EACTS and STS uses the term "single ventricle" as synonymous for the "functionally univentricular heart.” The term "functionally univentricular heart" describes a spectrum of congenital cardiovascular malformations in which the ventricular mass may not readily lend itself to partitioning that commits one ventricular pump to |

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| | | the systemic circulation, and another to the pulmonary circulation. A heart may be functionally univentricular because of its anatomy or because of the lack of feasibility or lack of advisability of surgically partitioning the ventricular mass. Common lesions in this category typically include double inlet right ventricle (DIRV), double inlet left ventricle (DILV), tricuspid atresia, mitral atresia, and hypoplastic left heart syndrome. Other lesions which sometimes may be considered to be a functionally univentricular heart include complex forms of atrioventricular septal defect, double outlet right ventricle, congenitally corrected transposition, pulmonary atresia with intact ventricular septum, and other cardiovascular malformations. Specific diagnostic codes should be used whenever possible, and not the term "functionally univentricular heart." Reference: Jacobs JP, Franklin RCG, Jacobs ML, Colan SD, Tchervenkov CI, Maruszewski B, Gaynor JW, Spray TL, Stellin G, Aiello VD, Béland MJ, Krogmann ON, Kurosawa H, Weinberg PM, Elliott MJ, Mavroudis C, Anderson R. Classification of the Functionally Univentricular Heart: Unity from mapped codes. In 2006 Supplement to Cardiology in the Young: Controversies and Challenges in the Management of the Functionally Univentricular Heart, Jacobs JP, Wernovsky G, Gaynor JW, and Anderson RH (editors). Cardiology in the Young, Volume 16, Supplement 1: 9 - 21, February 2006. |
| 850 | Single ventricle, Other | If the single ventricle is of primitive or indeterminate type, other is chosen in coding. It is recognized that a considerable variety of other structural cardiac malformations (e.g., biventricular hearts with straddling atrioventricular valves, pulmonary atresia with intact ventricular septum, some complex forms of double outlet right ventricle) may at times be best managed in a fashion similar to that which is used to treat univentricular hearts. They are not to be coded in this section of the nomenclature, but according to the underlying lesions. The version of the IPCCC derived from the International Congenital Heart Surgery Nomenclature and Database Project of the EACTS and STS uses the term "single ventricle" as synonymous for the "functionally univentricular heart." The term "functionally univentricular heart" describes a spectrum of congenital cardiovascular malformations in which the ventricular mass may not readily lend itself to partitioning that commits one ventricular pump to the systemic circulation, and another to the pulmonary circulation. A heart may be functionally univentricular because of its anatomy or because of the lack of feasibility or lack of advisability of surgically partitioning the ventricular mass. Common lesions in this category typically include double inlet right ventricle (DIRV), double inlet left ventricle (DILV), tricuspid atresia, mitral atresia, and hypoplastic left heart syndrome. Other lesions which sometimes may be considered to be a functionally univentricular heart include complex forms of atrioventricular septal defect, double outlet right ventricle, congenitally corrected transposition, pulmonary atresia with intact ventricular septum, and other cardiovascular malformations. Specific diagnostic codes should be used whenever possible, and not the term "functionally univentricular heart." Reference: Jacobs JP, Franklin RCG, Jacobs ML, Colan SD, Tchervenkov CI, Maruszewski B, Gaynor JW, Spray TL, Stellin G, Aiello VD, Béland MJ, Krogmann ON, Kurosawa H, Weinberg PM, Elliott MJ, Mavroudis C, Anderson R. Classification of the Functionally Univentricular Heart: Unity from mapped codes. In 2006 Supplement to Cardiology in the Young: |

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| | | Controversies and Challenges in the Management of the Functionally Univentricular Heart, Jacobs JP, Wernovsky G, Gaynor JW, and Anderson RH (editors). Cardiology in the Young, Volume 16, Supplement 1: 9 - 21, February 2006. |
| 851 | Single Ventricle + Total anomalous pulmonary venous connection (TAPVC) | Indicate if the patient has the diagnosis of "Single Ventricle + Total anomalous pulmonary venous connection (TAPVC).” In the event of Single Ventricle occurring in association with Total anomalous pulmonary venous connection (TAPVC), code "Single Ventricle + Total anomalous pulmonary venous connection (TAPVC)", and then use additional (secondary) diagnostic codes to describe the Single Ventricle and the Total anomalous pulmonary venous connection (TAPVC) separately to provide further documentation about the Single ventricle and Total anomalous pulmonary venous connection (TAPVC) types. {"Total anomalous pulmonary venous connection (TAPVC)" is defined as a heart where all of the pulmonary veins connect anomalously with the right atrium or to one or more of its venous tributaries. None of the pulmonary veins connect normally to the left atrium.} The version of the IPCCC derived from the International Congenital Heart Surgery Nomenclature and Database Project of the EACTS and STS uses the term "single ventricle" as synonymous for the "functionally univentricular heart.” The term "functionally univentricular heart" describes a spectrum of congenital cardiovascular malformations in which the ventricular mass may not readily lend itself to partitioning that commits one ventricular pump to the systemic circulation, and another to the pulmonary circulation. A heart may be functionally univentricular because of its anatomy or because of the lack of feasibility or lack of advisability of surgically partitioning the ventricular mass. Common lesions in this category typically include double inlet right ventricle (DIRV), double inlet left ventricle (DILV), tricuspid atresia, mitral atresia, and hypoplastic left heart syndrome. Other lesions which sometimes may be considered to be a functionally univentricular heart include complex forms of atrioventricular septal defect, double outlet right ventricle, congenitally corrected transposition, pulmonary atresia with intact ventricular septum, and other cardiovascular malformations. Specific diagnostic codes should be used whenever possible, and not the term "functionally univentricular heart.” Reference: Jacobs JP, Franklin RCG, Jacobs ML, Colan SD, Tchervenkov CI, Maruszewski B, Gaynor JW, Spray TL, Stellin G, Aiello VD, Béland MJ, Krogmann ON, Kurosawa H, Weinberg PM, Elliott MJ, Mavroudis C, Anderson R. Classification of the Functionally Univentricular Heart: Unity from mapped codes. In 2006 Supplement to Cardiology in the Young: Controversies and Challenges in the Management of the Functionally Univentricular Heart, Jacobs JP, Wernovsky G, Gaynor JW, and Anderson RH (editors). Cardiology in the Young, Volume 16, Supplement 1: 9 - 21, February 2006. |
| 870 | Congenitally corrected TGA | Indicate if the patient has the diagnosis of “Congenitally corrected TGA.” Congenitally corrected transposition is synonymous with the terms ‘corrected transposition’ and ‘discordant atrioventricular connections with discordant ventriculo-arterial connections’, and is defined as a spectrum of cardiac malformations where the atrial chambers are joined to morphologically inappropriate ventricles, and the ventricles then support morphologically inappropriate arterial trunks [1]. [1] Jacobs JP, Franklin RCG, Wilkinson JL, Cochrane AD, Karl TR, Aiello VD, Béland MJ, Colan SD, Elliott, MJ, Gaynor JW, Krogmann ON, Kurosawa H, Maruszewski B, Stellin |

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| | | G, Tchervenkov CI, Weinberg PM. The nomenclature, definition and classification of discordant atrioventricular connections. In 2006 Supplement to Cardiology in the Young: Controversies and Challenges of the Atrioventricular Junctions and Other Challenges Facing Paediatric Cardiovascular Practitioners and their Patients, Jacobs JP, Wernovsky G, Gaynor JW, and Anderson RH (editors). Cardiology in the Young, Volume 16 (Supplement 3): 72-84, September 2006. |
| 872 | Congenitally corrected TGA, IVS | Indicate if the patient has the diagnosis of "Congenitally corrected TGA, IVS." "Congenitally corrected TGA, IVS" is "Congenitally corrected transposition with an intact ventricular septum", in other words, "Congenitally corrected transposition with no VSD." (Congenitally corrected transposition is synonymous with the terms 'corrected transposition' and 'discordant atrioventricular connections with discordant ventriculo-arterial connections', and is defined as a spectrum of cardiac malformations where the atrial chambers are joined to morphologically inappropriate ventricles, and the ventricles then support morphologically inappropriate arterial trunks [1]. [1] Jacobs JP, Franklin RCG, Wilkinson JL, Cochrane AD, Karl TR, Aiello VD, Béland MJ, Colan SD, Elliott, MJ, Gaynor JW, Krogmann ON, Kurosawa H, Maruszewski B, Stellin G, Tchervenkov CI, Weinberg PM. The nomenclature, definition and classification of discordant atrioventricular connections. In 2006 Supplement to Cardiology in the Young: Controversies and Challenges of the Atrioventricular Junctions and Other Challenges Facing Paediatric Cardiovascular Practitioners and their Patients, Jacobs JP, Wernovsky G, Gaynor JW, and Anderson RH (editors). Cardiology in the Young, Volume 16 (Supplement 3): 72-84, September 2006.) |
| 874 | Congenitally corrected TGA, IVS-LVOTO | Indicate if the patient has the diagnosis of "Congenitally corrected TGA, IVS-LVOTO." "Congenitally corrected TGA, IVS-LVOTO" is Congenitally corrected transposition with an intact ventricular septum and left ventricular outflow tract obstruction", in other words, "Congenitally corrected transposition with left ventricular outflow tract obstruction and no VSD." (Congenitally corrected transposition is synonymous with the terms 'corrected transposition' and 'discordant atrioventricular connections with discordant ventriculo-arterial connections', and is defined as a spectrum of cardiac malformations where the atrial chambers are joined to morphologically inappropriate ventricles, and the ventricles then support morphologically inappropriate arterial trunks [1]. [1] Jacobs JP, Franklin RCG, Wilkinson JL, Cochrane AD, Karl TR, Aiello VD, Béland MJ, Colan SD, Elliott, MJ, Gaynor JW, Krogmann ON, Kurosawa H, Maruszewski B, Stellin G, Tchervenkov CI, Weinberg PM. The nomenclature, definition and classification of discordant atrioventricular connections. In 2006 Supplement to Cardiology in the Young: Controversies and Challenges of the Atrioventricular Junctions and Other Challenges Facing Paediatric Cardiovascular Practitioners and their Patients, Jacobs JP, Wernovsky G, Gaynor JW, and Anderson RH (editors). Cardiology in the Young, Volume 16 (Supplement 3): 72-84, September 2006.) |
| 876 | Congenitally corrected TGA, VSD | Indicate if the patient has the diagnosis of "Congenitally corrected TGA, VSD." "Congenitally corrected TGA, VSD" is "Congenitally corrected transposition with a VSD." (Congenitally corrected transposition is synonymous with the terms 'corrected transposition' and 'discordant atrioventricular connections with discordant ventriculo-arterial connections', and is defined as a spectrum of cardiac malformations |

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| | | where the atrial chambers are joined to morphologically inappropriate ventricles, and the ventricles then support morphologically inappropriate arterial trunks [1]. [1] Jacobs JP, Franklin RCG, Wilkinson JL, Cochrane AD, Karl TR, Aiello VD, Béland MJ, Colan SD, Elliott, MJ, Gaynor JW, Krogmann ON, Kurosawa H, Maruszewski B, Stellin G, Tchervenkov CI, Weinberg PM. The nomenclature, definition and classification of discordant atrioventricular connections. In 2006 Supplementto Cardiology in the Young: Controversies and Challenges of the Atrioventricular Junctions and Other Challenges Facing Paediatric Cardiovascular Practitioners and their Patients, Jacobs JP, Wernovsky G, Gaynor JW, and Anderson RH (editors). Cardiology in the Young, Volume 16 (Supplement 3): 72-84, September 2006.) |
| 878 | Congenitally corrected TGA, VSD-LVOTO | Indicate if the patient has the diagnosis of “Congenitally corrected TGA, VSD-LVOTO.” “Congenitally corrected TGA, VSD-LVOTO” is “Congenitally corrected transposition with a VSD and left ventricular outflow tract obstruction.” (Congenitally corrected transposition is synonymous with the terms ‘corrected transposition’ and ‘discordant atrioventricular connections with discordant ventriculo-arterial connections’, and is defined as a spectrum of cardiac malformations where the atrial chambers are joined to morphologically inappropriate ventricles, and the ventricles then support morphologically inappropriate arterial trunks [1]. [1] Jacobs JP, Franklin RCG, Wilkinson JL, Cochrane AD, Karl TR, Aiello VD, Béland MJ, Colan SD, Elliott, MJ, Gaynor JW, Krogmann ON, Kurosawa H, Maruszewski B, Stellin G, Tchervenkov CI, Weinberg PM. The nomenclature, definition and classification of discordant atrioventricular connections. In 2006 Supplementto Cardiology in the Young: Controversies and Challenges of the Atrioventricular Junctions and Other Challenges Facing Paediatric Cardiovascular Practitioners and their Patients, Jacobs JP, Wernovsky G, Gaynor JW, and Anderson RH (editors). Cardiology in the Young, Volume 16 (Supplement 3): 72-84, September 2006.) |
| 880 | TGA, IVS | A malformation of the heart in which there is atrioventricular concordance and ventriculoarterial discordance with an intact ventricular septum. There may be d, l, or ambiguous transposition (segmental diagnoses include S, D, D, S, D, L, S, D, A). Also to be included in this diagnostic grouping are those defects with situs inversus, L-loop ventricles and either d or l transposition (segmental diagnosis of I,L,L and I,L,D) and occasionally those defects with ambiguous situs of the atria which behave as physiologically uncorrected transposition and are treated with arterial switch (segmental diagnoses include A,L,L and A,D,D).88 |
| 890 | TGA, IVS-LVOTO | A malformation of the heart in which there is atrioventricular concordance and ventriculoarterial discordance with an intact ventricular septum and associated left ventricular obstruction. There may be d, l, or ambiguous transposition (segmental diagnoses include S, D, D, S, D, L, S, D, A). Also to be included in this diagnostic grouping are those defects with situs inversus, L-loop ventricles and either d or l transposition (segmental diagnosis of I,L, L and I,L,D) and occasionally those defects with ambiguous situs of the atria which behave as physiologically uncorrected transposition and are treated with arterial switch (segmental diagnoses include A,L,L and A,D,D). |
| 900 | TGA, VSD | A malformation of the heart in which there is atrioventricular concordance and ventriculoarterial discordance with one or more ventricular septal defects. There may be d, l, or ambiguous transposition (segmental |

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| | | diagnoses include S, D, D, S, D, L, S, D, A). Also to be included in this diagnostic grouping are those defects with situs inversus, L-loop ventricles and either d or l transposition (segmental diagnosis of I,L, L and I,L,D) and occasionally those defects with ambiguous situs of the atria which behave as physiologically uncorrected transposition and are treated with arterial switch (segmental diagnoses include A,L,L and A,D,D). |
| 910 | TGA, VSD-LVOTO | A malformation of the heart in which there is atrioventricular concordance and ventriculoarterial discordance with one or more ventricular septal defects and left ventricular outflow tract obstruction. There may be d, l, or ambiguous transposition (segmental diagnoses include S, D, D, S, D, L, S, D, A). Also to be included in this diagnostic grouping are those defects with situs inversus, L-loop ventricles and either d or l transposition (segmental diagnosis of I, L, L and I, L, D) and occasionally those defects with ambiguous situs of the atria which behave as physiologically uncorrected transposition and are treated with arterial switch (segmental diagnoses include A, L, L and A, D, D). |
| 930 | DORV, VSD type | Double outlet right ventricle is a type of ventriculoarterial connection in which both great vessels arise entirely or predominantly from the right ventricle. In double outlet right ventricle, VSD type, there is an associated subaortic or doubly-committed VSD and no pulmonary outflow tract obstruction. Subaortic VSD's are located beneath the aortic valve. Doubly-committed VSD's lie beneath the leaflets of the aortic and pulmonary valves (juxtaarterial). In the nomenclature developed for DORV, there must be usual atrial arrangements and concordant atrioventricular connections, and normal or near-normal sized ventricles. Discordant atrioventricular connection with DORV is to be coded under congenitally corrected TGA. DORV associated with univentricular atrioventricular connections, atrioventricular valve atresia, or atrial isomerism is to be coded under the appropriate single ventricle listing. |
| 940 | DORV, TOF type | Double outlet right ventricle is a type of ventriculoarterial connection in which both great vessels arise entirely or predominantly from the right ventricle. In double outlet right ventricle, TOF type, there is an associated subaortic or doubly-committed VSD and pulmonary outflow tract obstruction. Subaortic VSD's are located beneath the aortic valve. Doubly-committed VSD's lie beneath the leaflets of the aortic and pulmonary valves (juxtaarterial). DORV can occur in association with pulmonary atresia, keeping in mind in coding that in the nomenclature developed for DORV, there must be usual atrial arrangements and concordant atrioventricular connections, and normal or near-normal sized ventricles (in this situation DORV is coded as a primary diagnosis). Discordant atrioventricular connection with DORV is to be coded under congenitally corrected TGA. DORV associated with univentricular atrioventricular connections, atrioventricular valve atresia, or atrial isomerism is to be coded under the appropriate Single ventricle listing. |
| 950 | DORV, TGA type | Double outlet right ventricle is a type of ventriculoarterial connection in which both great vessels arise entirely or predominantly from the right ventricle. In double outlet right ventricle, TGA type, there is an associated subpulmonary VSD. Most frequently, there is no pulmonary outflow tract obstruction (Taussig-Bing heart). The aorta is usually to the right and slightly anterior to or side-by-side with the pulmonary artery. Associated aortic outflow tract stenosis (subaortic, aortic arch obstruction) is commonly associated with the Taussig-Bing heart and if present should be |

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| | | coded as a secondary diagnosis. Rarely, there is associated pulmonary outflow tract obstruction. In the nomenclature developed for DORV, there must be usual atrial arrangements and concordant atrioventricular connections, and normal or near-normal sized ventricles. Discordant atrioventricular connection with DORV is to be coded under congenitally corrected TGA. DORV associated with univentricular atrioventricular connections, atrioventricular valve atresia, or atrial isomerism is to be coded under the appropriate single ventricle listing. |
| 960 | DORV, Remote VSD (uncommitted VSD) | Double outlet right ventricle is a type of ventriculoarterial connection in which both great vessels arise entirely or predominantly from the right ventricle. In double outlet right ventricle, Remote VSD type, there is a remote or noncommitted VSD. The VSD is far removed from both the aortic and pulmonary valves, usually within the inlet septum. Many of these VSD's are in hearts with DORV and common atrioventricular canal/septal defect. In the nomenclature developed for DORV, there must be usual atrial arrangements and concordant atrioventricular connections, and normal or near-normal sized ventricles. Discordant atrioventricular connection with DORV is to be coded under congenitally corrected TGA. DORV associated with univentricular atrioventricular connections, atrioventricular valve atresia, or atrial isomerism is to be coded under the appropriate single ventricle listing. |
| 2030 | DORV + AVSD (AV Canal) | Indicate if the patient has the diagnosis of “DORV + AVSD (AV Canal).” In the event of DORV occurring in association with AVSD (AV Canal), code “DORV + AVSD (AV Canal)”, and then use additional (secondary) diagnostic codes to describe the DORV and the AVSD (AV Canal) separately to provide further documentation about the DORV and AVSD (AV Canal) types. {“DORV” is “Double outlet right ventricle” and is defined as a type of ventriculoarterial connection in which both great vessels arise entirely or predominantly from the right ventricle.} In this case, the DORV exists in combination with an atrioventricular septal defect and common atrioventricular junction guarded by a common atrioventricular valve. |
| 975 | DORV, IVS | Double outlet right ventricle is a type of ventriculoarterial connection in which both great vessels arise entirely or predominantly from the right ventricle. In the rare case of double outlet right ventricle with IVS the ventricular septum is intact. In the nomenclature developed for DORV, there must be usual atrial arrangements and concordant atrioventricular connections, and normal or near-normal sized ventricles. Discordant atrioventricular connections with DORV are to be coded under congenitally corrected TGA. DORV associated with univentricular atrioventricular connections, atrioventricular valve atresia, or atrial isomerism is to be coded under the appropriate single ventricle listing. |
| 980 | DOLV | Double outlet left ventricle is a type of ventriculoarterial connection in which both great vessels arise entirely or predominantly from the left ventricle. In the nomenclature developed for DOLV, there must be usual atrial arrangements and concordant atrioventricular connections, and normal or near-normal sized ventricles. Discordant atrioventricular connection with DOLV is to be coded under congenitally corrected TGA. DOLV associated with univentricular atrioventricular connections, atrioventricular valve atresia, or atrial isomerism is to be coded under the appropriate single ventricle listing. |
| 990 | Coarctation of aorta | Indicate if the patient has the diagnosis of “Coarctation of aorta.” A “Coarctation of the aorta” generally indicates a narrowing of the |

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| | | descending thoracic aorta just distal to the left subclavian artery. However, the term may also be accurately used to refer to a region of narrowing anywhere in the thoracic or abdominal aorta. |
| 1000 | Aortic arch hypoplasia | Hypoplasia of the aortic arch is hypoplasia of the proximal or distal transverse arch or the aortic isthmus. The isthmus (arch between the left subclavian and insertion of the patent ductus arteriosus / ligamentum arteriosum) is hypoplastic if its diameter is less than 40% of the diameter of the ascending aorta.The proximal transverse arch (arch between the innominate and left carotid arteries) and distal transverse arch (arch between the left carotid and left subclavian arteries) are hypoplastic if their diameters are less than 60% and 50%, respectively, of the diameter of the ascending aorta. |
| 92 | VSD + Aortic arch hypoplasia | A ventricular septal defect, any type, associated with hypoplasia of the aortic arch. (See diagnosis definition 1000 for a definition of hypoplasia of the aortic arch.) |
| 94 | VSD + Coarctation of aorta | Indicate if the patient has the diagnosis of “VSD + Coarctation of aorta.” In the event of a VSD occurring in association with Coarctation of aorta, code “VSD + Coarctation of aorta”, and then use additional (secondary) diagnostic codes to describe the VSD and the Coarctation of aorta separately to provide further documentation about the individual VSD and Coarctation of aorta types. {A "VSD" is a "Ventricular Septal Defect" and is also known as an "Interventricular communication.” A VSD is defined as "a hole between the ventricular chambers or their remnants.” (The VSD is defined on the basis of its margins as seen from the aspect of the morphologically right ventricle. In the setting of double outlet right ventricle, the defect provides the outflow from the morphologically left ventricle. In univentricular atrioventricular connections with functionally single left ventricle with an outflow chamber, the communication is referred to by some as a bulboventricular foramen.)} {A “Coarctation of the aorta” generally indicates a narrowing of the descending thoracic aorta just distal to the left subclavian artery. However, the term may also be accurately used to refer to a region of narrowing anywhere in the thoracic or abdominal aorta.} |
| 1010 | Coronary artery anomaly, Anomalous aortic origin of coronary artery (AAOCA) | Anomalous aortic origins of the coronary arteries include a spectrum of anatomic variations of the normal coronary artery origins. Coronary artery anomalies of aortic origin to be coded under this diagnostic field include: anomalies of take-off (high take-off), origin (sinus), branching, and number. An anomalous course of the coronary artery vessels is also significant, particularly those coronary arteries that arise or course between the great vessels. |
| 1020 | Coronary artery anomaly, Anomalous pulmonary origin (includes ALCAPA) | In patients with anomalous pulmonary origin of the coronary artery, the coronary artery (most commonly the left coronary artery) arises from the pulmonary artery rather than from the aorta. Rarely, the right coronary artery, the circumflex, or both coronary arteries may arise from the pulmonary artery. |
| 1030 | Coronary artery anomaly, Fistula | The most common of coronary artery anomalies, a coronary arteriovenous fistula is a communication between a coronary artery and either a chamber of the heart (coronary-cameral fistula) or any segment of the systemic or pulmonary circulation (coronary arteriovenous fistula). They may be congenital or acquired (traumatic, infectious, iatrogenic) in origin, and are mostly commonly seen singly, but occasionally multiple fistulas |

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| | | are present. Nomenclature schemes have been developed that further categorize the fistulas by vessel of origin and chamber of termination, and one angiographic classification scheme by Sakakibara has surgical implications. Coronary artery fistulas can be associated with other congenital heart anomalies such as tetralogy of Fallot, atrial septal defect, ventricular septal defect, and pulmonary atresia with intact ventricular septum, among others. The major cardiac defect should be listed as the primary diagnosis and the coronary artery fistula should be as an additional secondary diagnoses. |
| 1040 | Coronary artery anomaly, Aneurysm | Coronary artery aneurysms are defined as dilations of a coronary vessel 1.5 times the adjacent normal coronaries. There are two forms, saccular and fusiform (most common), and both may be single or multiple. These aneurysms may be congenital or acquired (atherosclerotic, Kawasaki, systemic diseases other than Kawasaki, iatrogenic, infectious, or traumatic) in origin. |
| 2420 | Coronary artery anomaly, Ostial Atresia | |
| 1050 | Coronary artery anomaly, Other | Coronary artery anomalies which may fall within this category include coronary artery bridging and coronary artery stenosis, as well as secondary coronary artery variations seen in congenital heart defects such as tetralogy of Fallot, transposition of the great arteries, and truncus arteriosus (with the exception of variations that can be addressed by a more specific coronary artery anomaly code). |
| 1070 | Interrupted aortic arch | Indicate if the patient has the diagnosis of “Interrupted aortic arch.” Interrupted aortic arch is defined as the loss of luminal continuity between the ascending and descending aorta. In most cases blood flow to the descending thoracic aorta is through a PDA, and there is a large VSD. Arch interruption is further defined by site of interruption. In type A, interruption is distal to the left subclavian artery; in type B interruption is between the left carotid and left subclavian arteries; and in type C interruption occurs between the innominate and left carotid arteries. |
| 2020 | Interrupted aortic arch + VSD | Indicate if the patient has the diagnosis of “Interrupted aortic arch + VSD.” In the event of interrupted aortic arch occurring in association with VSD, code “Interrupted aortic arch + VSD”, and then use additional (secondary) diagnostic codes to describe the interrupted aortic arch and the VSD separately to provide further documentation about the individual interrupted aortic arch and VSD types. {Interrupted aortic arch is defined as the loss of luminal continuity between the ascending and descending aorta. In most cases blood flow to the descending thoracic aorta is through a PDA, and there is a large VSD. Arch interruption is further defined by site of interruption. In type A, interruption is distal to the left subclavian artery; in type B interruption is between the left carotid and left subclavian arteries; and in type C interruption occurs between the innominate and left carotid arteries.} {A "VSD" is a "Ventricular Septal Defect" and is also known as an "Interventricular communication.” A VSD is defined as "a hole between the ventricular chambers or their remnants.” (The VSD is defined on the basis of its margins as seen from the aspect of the morphologically right ventricle. In the setting of double outlet right ventricle, the defect provides the outflow from the morphologically left ventricle. In univentricular atrioventricular connections with functionally single left ventricle with an outflow chamber, the communication is referred to by some as a bulboventricular foramen.)} |

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| 2000 | Interrupted aortic arch + AP window (aortopulmonary window) | Indicate if the patient has the diagnosis of "Interrupted aortic arch + AP window (aortopulmonary window)". In the event of interrupted aortic arch occurring in association with AP window, code "Interrupted aortic arch + AP window (aortopulmonary window)", and then use additional (secondary) diagnostic codes to describe the interrupted aortic arch and the AP window separately to provide further documentation about the individual interrupted aortic arch and AP window types. {Interrupted aortic arch is defined as the loss of luminal continuity between the ascending and descending aorta. In most cases blood flow to the descending thoracic aorta is through a PDA, and there is a large VSD. Arch interruption is further defined by site of interruption. In type A, interruption is distal to the left subclavian artery; in type B interruption is between the left carotid and left subclavian arteries; and in type C interruption occurs between the innominate and left carotid arteries.} {An "AP window (aortopulmonary window)" is defined as a defect with side-to-side continuity of the lumens of the aorta and pulmonary arterial tree, which is distinguished from common arterial trunk (truncus arteriosus) by the presence of two arterial valves or their atretic remnants. (In other words, an aortopulmonary window is a communication between the main pulmonary artery and ascending aorta in the presence of two separate semilunar [pulmonary and aortic] valves. The presence of two separate semilunar valves distinguishes AP window from truncus arteriosus. Type 1 proximal defect: AP window located just above the sinus of Valsalva, a few millimeters above the semilunar valves, with a superior rim but little inferior rim separating the AP window from the semilunar valves. Type 2 distal defect: AP window located in the uppermost portion of the ascending aorta, with a well-formed inferior rim but little superior rim. Type 3 total defect: AP window involving the majority of the ascending aorta, with little superior and inferior rims. The intermediate type of AP window is similar to the total defect but with adequate superior and inferior rims. In the event of AP window occurring in association with interrupted aortic arch, code "Interrupted aortic arch + AP window (aortopulmonary window)", and then use additional (secondary) diagnostic codes to describe the interrupted aortic arch and AP window separately to provide further documentation about the individual interrupted arch and AP window types.)} |
| 1080 | Patent ductus arteriosus | Indicate if the patient has the diagnosis of "Patent ductus arteriosus." The ductus arteriosus (arterial duct) is an essential feature of fetal circulation, connecting the main pulmonary trunk with the descending aorta, distal to the origin of the left subclavian artery. In most patients it is on the left side. If a right aortic arch is present, it may be on the right or the left; very rarely it is bilateral. When luminal patency of the duct persists post-natally, it is referred to as patent ductus arteriosus (patent arterial duct). The length and diameter may vary considerably from case to case. The media of the ductus consists mainly of smooth muscle that is arranged spirally, and the intima is much thicker than that of the aorta. (A patent ductus arteriosus is a vascular arterial connection between the thoracic aorta and the pulmonary artery. Most commonly a PDA has its origin from the descending thoracic aorta, just distal and opposite the origin of the left subclavian artery. The insertion of the ductus is most commonly into the very proximal left pulmonary artery at its junction with the main pulmonary artery. Origination and insertion sites can be variable, however.) |

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| 1090 | Vascular ring | The term vascular ring refers to a group of congenital vascular anomalies that encircle and compress the esophagus and trachea. The compression may be from a complete anatomic ring (double aortic arch or right aortic arch with a left ligamentum) or from a compressive effect of an aberrant vessel (innominate artery compression syndrome). |
| 1100 | Pulmonary artery sling | In pulmonary artery sling, the left pulmonary artery originates from the right pulmonary artery and courses posteriorly between the trachea and esophagus in its route to the left lung hilum, causing a sling-like compression of the trachea. |
| 1110 | Aortic aneurysm (including pseudoaneurysm) | An aneurysm of the aorta is defined as a localized dilation or enlargement of the aorta at any site along its length (from aortic annulus to aortoiliac bifurcation). A true aortic aneurysm involves all layers of the aortic wall. A false aortic aneurysm (pseudoaneurysm) is defined as a dilated segment of the aorta not containing all layers of the aortic wall and may include postoperative or post-procedure false aneurysms at anastomotic sites, traumatic aortic injuries or transections, and infectious processes leading to a contained rupture. |
| 1120 | Aortic dissection | Aortic dissection is a separation of the layers of the aortic wall. Extension of the plane of the dissection may progress to free rupture into the pericardium, mediastinum, or pleural space if not contained by the outer layers of the media and adventitia. Dissections may be classified as acute or chronic (if they have been present for more than 14 days). |
| 1130 | Lung disease, Benign | Lung disease arising from any etiology (congenital or acquired) which does not result in death or lung or heart-lung transplant; examples might be non-life threatening asthma or emphysema, benign cysts. |
| 1140 | Lung disease, Malignant | Lung disease arising from any etiology (congenital or acquired, including pulmonary parenchymal disease, pulmonary vascular disease, congenital heart disease, neoplasm, etc.) which may result in death or lung or heart-lung transplant. |
| 1160 | Tracheal stenosis | Tracheal stenosis is a reduction in the anatomic luminal diameter of the trachea by more than 50% of the remaining trachea. This stenosis may be congenital or acquired (as in post-intubation or traumatic tracheal stenosis). |
| 2430 | Tracheomalacia | |
| 1170 | Airway disease, Other | Included in this diagnostic category would be airway pathology not included under the definition of tracheal stenosis such as tracheomalacia, bronchotracheomalacia, tracheal right upper lobe, bronchomalacia, subglottic stenosis, bronchial stenosis, etc. |
| 1430 | Pleural disease, Benign | Benign diseases of the mediastinal or visceral pleura. |
| 1440 | Pleural disease, Malignant | Malignant diseases of the mediastinal or visceral pleura. |
| 1450 | Pneumothorax | A collection of air or gas in the pleural space. |
| 1460 | Pleural effusion | Abnormal accumulation of fluid in the pleural space. |
| 1470 | Chylothorax | The presence of lymphatic fluid in the pleural space secondary to a leak from the thoracic duct or its branches. Chylothorax is a specific type of pleural effusion. |
| 1480 | Empyema | A collection of purulent material in the pleural space, usually secondary to an infection. |
| 1490 | Esophageal disease, Benign | Any benign disease of the esophagus. |
| 1500 | Esophageal disease, Malignant | Any malignant disease of the esophagus. |

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| 1505 | Mediastinal disease | Any disease of the mediastinum awaiting final benign/malignant pathology determination. |
| 1510 | Mediastinal disease, Benign | Any benign disease of the mediastinum. |
| 1520 | Mediastinal disease, Malignant | Any malignant disease of the mediastinum. |
| 1540 | Diaphragm paralysis | Paralysis of diaphragm, unilateral or bilateral. |
| 1550 | Diaphragm disease, Other | Any disease of the diaphragm other than paralysis. |
| 2160 | Rib tumor, Benign | Non-cancerous tumor of rib(s) (e.g., fibrous dysplasia). |
| 2170 | Rib tumor, Malignant | Cancerous tumor of rib(s)- primary (e.g., osteosarcoma, chondrosarcoma). |
| 2180 | Rib tumor, Metastatic | Cancerous tumor metastasized to rib(s) from a different primary location. |
| 2190 | Sternal tumor, Benign | Non-cancerous tumor of sternum (e.g., fibrous dysplasia). |
| 2200 | Sternal tumor, Malignant | Cancerous tumor of sternum - primary (e.g., osteosarcoma, chondrosarcoma). |
| 2210 | Sternal tumor, Metastatic | Cancerous tumor metastasized to sternum from a different primary location. |
| 2220 | Pectus carinatum | Pectus carinatum represents a spectrum of protrusion abnormalities of the anterior chest wall. Severe deformity may result in dyspnea and decreased endurance. Some patients develop rigidity of the chest wall with decreased lung compliance, progressive emphysema, and increased frequency of respiratory tract infections. |
| 2230 | Pectus excavatum | Pectus excavatum is a congenital chest wall deformity in which several ribs and the sternum grow abnormally, producing a concave, or caved-in, appearance in the anterior chest wall. Pectus excavatum is the most common type of congenital chest wall abnormality. It occurs in an estimated 1 in 300-400 births, with male predominance (male-to-female ratio of 3:1). The condition is typically noticed at birth, and more than 90% of cases are diagnosed within the first year of life. Worsening of the chest's appearance and the onset of respiratory symptoms are usually reported during rapid bone growth in the early teenage years. |
| 2240 | Thoracic outlet syndrome | Thoracic outlet syndrome (TOS) is caused by compression at the superior thoracic outlet wherein excess pressure is placed on a neurovascular bundle passing between the anterior scalene and middle scalene muscles. It can affect the brachial plexus (nerves that pass into the arm from the neck), the subclavian artery, and - rarely - the vein, which does not normally pass through the scalene hiatus. TOS may occur due to a positional cause - for example, by abnormal compression from the clavicle (collarbone) and shoulder girdle on arm movement. There are also several static forms, caused by abnormalities, enlargement, or spasm of the various muscles surrounding the arteries, veins, and/or brachial plexus, a fixation of a first rib, or a cervical rib. The most common causes of thoracic outlet syndrome include physical trauma from a car accident, repetitive injuries from a job such as frequent non-ergonomic use of a keyboard, sports-related activities, anatomical defects such as having an extra rib, and pregnancy. |
| 1180 | Arrhythmia | Any cardiac rhythm other than normal sinus rhythm. |
| 2440 | Arrhythmia, Atrial, Atrial fibrillation | |
| 2450 | Arrhythmia, Atrial, Atrial flutter | |
| 2460 | Arrhythmia, Atrial, Other | |

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| 2050 | Arrhythmia, Junctional | Indicate if the patient has the diagnosis of ‘‘Arrhythmia, Junctional’’. “Arrhythmias arising from the atrioventricular junction; may be bradycardia, tachycardia, premature beats, or escape rhythm [1]. [1]. Jacobs JP. (Editor). 2008 Supplement to Cardiology in the Young: Databases and The Assessment of Complications associated with The Treatment of Patients with Congenital Cardiac Disease, Prepared by: The Multi-Societal Database Committee for Pediatric and Congenital Heart Disease, Cardiology in the Young, Volume 18, Supplement S2, pages 1 – 530, December 9, 2008, page 379. |
| 2060 | Arrhythmia, Ventricular | Indicate if the patient has the diagnosis of ‘‘Arrhythmia, Ventricular’’. “Arrhythmia, Ventricular’’ ROOT Definition = Abnormal rhythm originating from the ventricles [1]. [1]. Jacobs JP. (Editor). 2008 Supplement to Cardiology in the Young: Databases and The Assessment of Complications associated with The Treatment of Patients with Congenital Cardiac Disease, Prepared by: The Multi-Societal Database Committee for Pediatric and Congenital Heart Disease, Cardiology in the Young, Volume 18, Supplement S2, pages 1 –530, December 9, 2008, page 393. |
| 1185 | Arrhythmia, Heart block | Atrioventricular block may be congenital or acquired, and may be of varying degree (first, second, or third degree). |
| 1190 | Arrhythmia, Heart block, Acquired | Atrioventricular block, when acquired, may be post-surgical, or secondary to myocarditis or other etiologies; the block may be first, second or third degree. |
| 1200 | Arrhythmia, Heart block, Congenital | Atrioventricular block, when congenital, may be first, second or third degree block. |
| 1220 | Arrhythmia, Pacemaker, Indication for replacement | Indications for pacemaker replacement may include end of generator life, malfunction, or infection. |
| 2530 | Short QT Syndrome | |
| 2540 | Long QT Syndrome (Ward Romano Syndrome) | |
| 2550 | Wolff-Parkinson-White syndrome (WPW syndrome) | |
| 1230 | Atrial Isomerism, Left | In isomerism, both appendages are of like morphology or structure; in left atrial isomerism both the right atrium and left atrium appear to be a left atrium structurally. |
| 1240 | Atrial Isomerism, Right | In isomerism, both appendages are of like morphology or structure; in right atrial isomerism both the right atrium and left atrium appear to be a right atrium structurally. |
| 2090 | Dextrocardia | Indicate if the patient has the diagnosis of ‘‘Dextrocardia’’. Dextrocardia’’ is most usually considered synonymous with a right-sided ventricular mass, whilst ‘‘dextroversion’’ is frequently defined as a configuration where the ventricular apex points to the right. In a patient with the usual atrial arrangement, or situs solitus, dextroversion, therefore, implies a turning to the right of the heart [1]. [1]. Jacobs JP, Anderson RH, Weinberg P, Walters III HL, Tchervenkov CI, Del Duca D, Franklin RCG, Aiello VD, Béland MJ, Colan SD, Gaynor JW, Krogmann ON, Kurosawa H, Maruszewski B, Stellin G, Elliott MJ. The nomenclature, definition and classification of cardiac structures in the setting of heterotaxy. In 2007 Supplement to Cardiology in the Young: Controversies and Challenges Facing Paediatric Cardiovascular Practitioners and their Patients, Anderson RH, Jacobs JP, and Wernovsky G, editors. Cardiology in the Young, Volume |

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| | | 17, Supplement 2, pages 1–28, doi: 10.1017/S1047951107001138, September 2007. |
| 2100 | Levocardia | Indicate if the patient has the diagnosis of ‘‘Levocardia’’. ‘‘Levocardia’’ usually considered synonymous with a left-sided ventricular mass, whilst ‘‘levoversion’’ is frequently defined as a configuration where the ventricular apex points to the left [1]. [1]. Jacobs JP, Anderson RH, Weinberg P, Walters III HL, Tchervenkov CI, Del Duca D, Franklin RCG, Aiello VD, Béland MJ, Colan SD, Gaynor JW, Krogmann ON, Kurosawa H, Maruszewski B, Stellin G, Elliott MJ. The nomenclature, definition and classification of cardiac structures in the setting of heterotaxy. In 2007 Supplement to Cardiology in the Young: Controversies and Challenges Facing Paediatric Cardiovascular Practitioners and their Patients, Anderson RH, Jacobs JP, and Wernovsky G, editors. Cardiology in the Young, Volume 17, Supplement 2, pages 1–28, doi: 10.1017/S1047951107001138, September 2007. |
| 2110 | Mesocardia | Indicate if the patient has the diagnosis of ‘‘Mesocardia’’. “Mesocardia’’ is most usually considered synonymous with the ventricular mass occupying the midline [1]. [1]. Jacobs JP, Anderson RH, Weinberg P, Walters III HL, Tchervenkov CI, Del Duca D, Franklin RCG, Aiello VD, Béland MJ, Colan SD, Gaynor JW, Krogmann ON, Kurosawa H, Maruszewski B, Stellin G, Elliott MJ. The nomenclature, definition and classification of cardiac structures in the setting of heterotaxy. In 2007 Supplement to Cardiology in the Young: Controversies and Challenges Facing Paediatric Cardiovascular Practitioners and their Patients, Anderson RH, Jacobs JP, and Wernovsky G, editors. Cardiology in the Young, Volume 17, Supplement 2, pages 1–28, doi: 10.1017/S1047951107001138, September 2007. |
| 2120 | Situs inversus | Indicate if the patient has the diagnosis of “Situs inversus” of the atrial chambers. The development of morphologically right-sided structures on one side of the body, and morphologically left-sided structures on the other side, is termed lateralization. Normal lateralization, the usual arrangement, is also known as ‘‘situs solitus’’. The mirror-imaged arrangement is also known as ‘‘situs inversus’’. The term ‘‘visceroatrial situs’’ is often used to refer to the situs of the viscera and atria when their situs is in agreement. The arrangement of the organs themselves, and the arrangement of the atrial chambers, is not always the same. Should such disharmony be encountered, the sidedness of the organs and atrial chambers must be separately specified [1]. [1]. Jacobs JP, Anderson RH, Weinberg P, Walters III HL, Tchervenkov CI, Del Duca D, Franklin RCG, Aiello VD, Béland MJ, Colan SD, Gaynor JW, Krogmann ON, Kurosawa H, Maruszewski B, Stellin G, Elliott MJ. The nomenclature, definition and classification of cardiac structures in the setting of heterotaxy. In 2007 Supplement to Cardiology in the Young: Controversies and Challenges Facing Paediatric Cardiovascular Practitioners and their Patients, Anderson RH, Jacobs JP, and Wernovsky G, editors. Cardiology in the Young, Volume 17, Supplement 2, pages 1–28, doi: 10.1017/S1047951107001138, September 2007. |
| 1250 | Aneurysm, Ventricular, Right (including pseudoaneurysm) | An aneurysm of the right ventricle is defined as a localized dilation or enlargement of the right ventricular wall. |
| 1260 | Aneurysm, Ventricular, Left(including pseudoaneurysm) | An aneurysm of the left ventricle is defined as a localized dilation or enlargement of the left ventricular wall. |

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| 1270 | Aneurysm, Pulmonary artery | An aneurysm of the pulmonary artery is defined as a localized dilation or enlargement of the pulmonary artery trunk and its central branches (right and left pulmonary artery). |
| 1280 | Aneurysm, Other | A localized dilation or enlargement of a cardiac vessel or chamber not coded in specific fields available for aortic aneurysm, sinus of Valsalva aneurysm, coronary artery aneurysm, right ventricular aneurysm, left ventricular aneurysm, or pulmonary artery aneurysm. |
| 1290 | Hypoplastic RV | Small size of the right ventricle. This morphological abnormality usually is an integral part of other congenital cardiac anomalies and, therefore, frequently does not need to be coded separately. It should, however, be coded as secondary to an accompanying congenital cardiac anomaly if the right ventricular hypoplasia is not considered an integral and understood part of the primary congenital cardiac diagnosis. It would rarely be coded as a primary and/or isolated diagnosis. |
| 1300 | Hypoplastic LV | Small size of the left ventricle. This morphologicaabnormality usually is an integral part of other congenital cardiac anomalies and, therefore, frequently does not need to be coded separately. It should, however, be coded as secondary to an accompanying congenital cardiac anomaly if the left ventricular hypoplasia is not considered an integral and understood part of the primary congenital cardiac diagnosis. It would rarely be coded as a primary and/or isolated diagnosis. |
| 2070 | Postoperative bleeding | Indicate if the patient has the diagnosis of “Postoperative bleeding.” |
| 1310 | Mediastinitis | Inflammation/infection of the mediastinum, the cavity between the lungs which holds the heart, great vessels, trachea, esophagus, thymus, and connective tissues. In the United States mediastinitis occurs most commonly following chest surgery. |
| 1320 | Endocarditis | An infection of the endocardial surface of the heart, which may involve one or more heart valves (native or prosthetic) or septal defects or prosthetic patch material placed at previous surgery. |
| 1325 | Rheumatic heart disease | Heart disease, usually valvar (e.g., mitral or aortic), following an infection with group A streptococci. |
| 1330 | Prosthetic valve failure | Indicate if the patient has the diagnosis of “Prosthetic valve failure.” This diagnosis is the primary diagnosis to be entered for patients undergoing replacement of a previously placed valve (not conduit) prosthesis, whatever type (e.g., bioprosthetic, mechanical, etc.). Failure may be due to, among others, patient somatic growth, malfunction of the prosthesis, or calcification or overgrowth of the prosthesis (e.g., pannus formation). Secondary or fundamental diagnosis would relate to the underlying valve disease entity. As an example, a patient undergoing removal or replacement of a prosthetic pulmonary valve previously placed for pulmonary insufficiency after repair of tetralogy of Fallot would have as a primary diagnosis “Prosthetic valve failure”, as a secondary diagnosis “Pulmonary insufficiency”, and as a fundamental diagnosis “Tetralogy of Fallot.” |
| 1340 | Myocardial infarction | A myocardial infarction is the development of myocardial necrosis caused by a critical imbalance between the oxygen supply and demand of the myocardium. While a myocardial infarction may be caused by any process that causes this imbalance it most commonly results from plaque rupture with thrombus formation in a coronary vessel, resulting in an acute reduction of blood supply to a portion of the myocardium. Myocardial infarction is a usual accompaniment of anomalous left coronary artery from the pulmonary artery (ALCAPA). |

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| 1350 | Cardiac tumor | An abnormal growth of tissue in or on the heart, demonstrating partial or complete lack of structural organization, and no functional coordination with normal cardiac tissue. Commonly, a mass is recognized which is distinct from the normal structural components of the heart. A primary cardiac tumor is one that arises directly from tissues of the heart, (e.g., myxoma, fibroelastoma, rhabdomyoma, fibroma, lipoma, pheochromocytoma, teratoma, hemangioma, mesothesioloma, s sarcoma). A secondary cardiac tumor is one that arises from tissues distant from the heart, with subsequent spread to the otherwise normal tissues of the heart, (e.g., renal cell tumor with caval extension from the kidney to the level of the heart or tumor with extension from other organs or areas of the body (hepatic, adrenal, uterine, infradiaphragmatic)). N.B., in the nomenclature system developed, cardiac thrombus and cardiac vegetation are categorized as primary cardiac tumors. |
| 1360 | Pulmonary AV fistula | An abnormal intrapulmonary connection (fistula) between an artery and vein that occurs in the blood vessels of the lungs. Pulmonary AV fistulas may be seen in association with congenital heart defects; the associated cardiac defect should be coded as well. |
| 1370 | Pulmonary embolism | A pulmonary embolus is a blockage of an artery in the lungs by fat, air, clumped tumor cells, or a blood clot. |
| 1385 | Pulmonary vascular obstructive disease | Pulmonary vascular obstructive disease (PVOD) other than those specifically defined elsewhere (Eisenmenger's pulmonary vascular obstructive disease, primary pulmonary hypertension, persistent fetal circulation). The spectrum includes PVOD arising from (1) pulmonary arterial hypertension or (2) pulmonary venous hypertension or (3) portal hypertension, or (4) collage vascular disease, or (5) drug or toxin induced, or (6) diseases of the respiratory system, or (7) chronic thromboembolic disease, among others. |
| 1390 | Pulmonary vascular obstructive disease (Eisenmenger's) | "Eisenmenger syndrome" could briefly be described as"Acquired severe pulmonary vascular disease associated with congenital heart disease (Eisenmenger)." Eisenmenger syndrome is an acquired condition. In Eisenmenger-type pulmonary vascular obstructive disease, long-term left-to-right shunting (e.g., through a ventricular or atrial septal defect, patent ductus arteriosus, aortopulmonary window) can lead to chronic pulmonary hypertension with resultant pathological changes in the pulmonary vessels. The vessels become thick-walled, stiff, noncompliant, and may be obstructed. In Eisenmenger syndrome, the long-term left-to-right shunting will reverse and become right to left. Please note that the specific heart defect should be coded as a secondary diagnosis. |
| 1400 | Primary pulmonary hypertension | Primary pulmonary hypertension is a rare disease characterized by elevated pulmonary artery hypertension with no apparent cause. Two forms are included in the nomenclature, a sporadic form and a familial form which can be linked to the BMPR-II gene. |
| 1410 | Persistent fetal circulation | Persistence of the blood flow pattern seen in fetal life, in which high pulmonary vascular resistance in the lungs results in decreased blood flow to the lungs. Normally, after birth pulmonary pressure falls with a fall in pulmonary vascular resistance and there is increased perfusion of the lungs. Persistent fetal circulation, also known as persistent pulmonary hypertension of the newborn, can be related to lung or diaphragm malformations or lung immaturity. |
| 1420 | Meconium aspiration | Aspiration of amniotic fluid stained with meconium before, during, or after birth can lead to pulmonary sequelae including (1) pneumothorax, |

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| | | (2) pneumomediastinum, (3) pneumopericardium, (4) lung infection, and (5) meconium aspiration syndrome (MAS) with persistent pulmonary hypertension. |
| 2250 | Kawasaki disease | Kawasaki disease, also known as Kawasaki syndrome, is an acute febrile illness of unknown etiology that primarily affects children younger than 5 years of age. It was first described in Japan in 1967, and the first cases outside of Japan were reported in Hawaii in 1976. It is characterized by fever, rash, swelling of the hands and feet, irritation and redness of the whites of the eyes, swollen lymph glands in the neck, and irritation and inflammation of the mouth, lips, and throat. Serious complications of Kawasaki disease include coronary artery dilatations and aneurysms, and Kawasaki disease is a leading cause of acquired heart disease in children in the United States. The standard treatment with intravenous immunoglobulin and aspirin substantially decreases the development of coronary artery abnormalities. |
| 1560 | Cardiac, Other | Any cardiac diagnosis not specifically delineated in other diagnostic codes. |
| 1570 | Thoracic and/or mediastinal, Other | Any thoracic and/or mediastinal disease not specifically delineated in other diagnostic codes. |
| 1580 | Peripheral vascular, Other | Any peripheral vascular disease (congenital or acquired) or injury (from trauma or iatrogenic); vessels involved may include, but are not limited to femoral artery, femoral vein, iliac artery, brachial artery, etc. |
| 2260 | Complication of cardiovascular catheterization procedure | Unspecified complication of cardiovascular catheterization procedure. |
| 2270 | Complication of cardiovascular catheterization procedure, Device embolization | Migration or movement of device introduced during a cardiac catheterization procedure to an unintended location. |
| 2280 | Complication of cardiovascular catheterization procedure, Device malfunction | Malfunction of a device introduced during a cardiac catheterization procedure. |
| 2290 | Complication of cardiovascular catheterization procedure, Perforation | Perforation or puncture caused by a device introduced during a cardiac catheterization procedure. |
| 2300 | Complication of interventional radiology procedure | Unspecified complication of interventional radiology procedure. |
| 2310 | Complication of interventional radiology procedure, Device embolization | Migration or movement of device introduced during an interventional radiology procedure to an unintended location. |
| 2320 | Complication of interventional radiology procedure, Device malfunction | Malfunction of a device introduced during an interventional radiology procedure. |
| 2330 | Complication of interventional radiology procedure, Perforation | Perforation or puncture caused by a device introduced during an interventional radiology procedure. |

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| 2340 | Foreign body, Intracardiac foreign body | Presence of a foreign body within the heart. |
| 2350 | Foreign body, Intravascular foreign body | Presence of a foreign body within an artery or vein. |
| 2360 | Open sternum with closed skin | Sternotomy edges not re-approximated prior to closure of skin incision. |
| 2370 | Open sternum with open skin (includes membrane placed to close skin) | Sternotomy and skin incision left open following surgery, covered with a membrane or dressing. |
| 2380 | Retained sternal wire causing irritation | Surgically placed wire causing soft tissue irritation, pain or swelling (not infected). |
| 2390 | Syncope | A transient, self-limited loss of consciousness with an inability to maintain postural tone that is followed by spontaneous recovery. The term syncope excludes seizures, coma, shock, or other states of altered consciousness. |
| 2400 | Trauma, Blunt | Injury (ies) sustained from blunt force, caused by motor vehicle accidents, falls, blows or crush injuries. |
| 2410 | Trauma, Penetrating | Injury (ies) sustained as a result of sharp force, including cutting or piercing instruments or objects, bites, or firearm injuries from projectiles. |
| 2560 | Cardio-respiratory failure not secondary to known structural heart disease | |
| 2570 | Myocarditis | |
| 2580 | Common AV valve insufficiency | |
| 2590 | Protein-losing enteropathy | |
| 2600 | Plastic bronchitis | |
| 7000 | Normal heart | Normal heart. |
| 7777 | Miscellaneous, Other | Any disease (congenital or acquired) not specifically delineated in other diagnostic codes. |

## Status Post

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| 4010 | Status post - PFO, Primary closure |
| 4020 | Status post - ASD repair, Primary closure |
| 4030 | Status post - ASD repair, Patch |
| 4040 | Status post - ASD repair, Device |
| 6110 | Status post - ASD repair, Patch + PAPVC repair |
| 4050 | Status post - ASD, Common atrium (single atrium), Septation |
| 4060 | Status post - ASD creation /enlargement |
| 4070 | Status post - ASD partial closure |
| 4080 | Status post - Atrial septal |

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| | fenestration |
| 4085 | Status post - Atrial fenestration closure |
| 4100 | Status post - VSD repair, Primary closure |
| 4110 | Status post - VSD repair, Patch |
| 4120 | Status post - VSD repair, Device |
| 4130 | Status post - VSD, Multiple, Repair |
| 4140 | Status post – VSD creation/ enlargement |
| 4150 | Status post - Ventricular septal fenestration |
| 4170 | Status post - AVC (AVSD) repair, Complete (CAVSD) |
| 4180 | Status post - AVC (AVSD) repair, Intermediate (Transitional) |
| 4190 | Status post - AVC (AVSD) repair, Partial (Incomplete) (PAVSD) |
| 6300 | Status post - Valvuloplasty, Common atrioventricular valve |
| 6250 | Status post - Valvuloplasty converted to valve replacement in the same operation, Common atrioventricular valve |
| 6230 | Status post - Valve replacement, Common atrioventricular valve |
| 4210 | Status post - AP window repair |
| 4220 | Status post - Pulmonary artery origin from ascending aorta (hemitruncus) repair |
| 4230 | Status post - Truncus arteriosus repair |
| 4240 | Status post - Valvuloplasty, Truncal valve |
| 6290 | Status post – Valvuloplasty converted to valve replacement in the same operation, Truncal valve |

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| 4250 | Status post - Valve replacement, Truncal valve |
| 6220 | Status post - Truncus + Interrupted aortic arch repair (IAA) repair |
| 4260 | Status post - PAPVC repair |
| 4270 | Status post - PAPVC, Scimitar, Repair |
| 6120 | Status post - PAPVC repair, Baffle redirection to left atrium with systemic vein translocation (Warden) (SVC sewn to right atrial appendage) |
| 4280 | Status post - TAPVC repair |
| 6200 | Status post - TAPVC repair + Shunt - systemic-to pulmonary |
| 4290 | Status post - Cor triatriatum repair |
| 4300 | Status post - Pulmonary venous stenosis repair |
| 4310 | Status post - Atrial baffle procedure (non-Mustard, non-Senning) |
| 4330 | Status post – Anomalous systemic venous connection repair |
| 4340 | Status post - Systemic venous stenosis repair |
| 4350 | Status post - TOF repair, No ventriculotomy |
| 4360 | Status post - TOF repair, Ventriculotomy, Nontransanular patch |
| 4370 | Status post - TOF repair, Ventriculotomy, Transanular patch |
| 7330 | Status post – TOF repair, Ventriculotomy, Transanular patch, plus native valve reconstruction |
| 7340 | Status post – TOF repair, |

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| | Ventriculotomy, Transanular patch, with monocusp or other surgically fashioned RVOT valve |
| 4380 | Status post - TOF repair, RV-PA conduit |
| 4390 | Status post - TOF - AVC (AVSD) repair |
| 4400 | Status post - TOF - Absent pulmonary valve repair |
| 4420 | Status post - Pulmonary atresia - VSD (including TOF,PA) repair |
| 6700 | Status post - Pulmonary atresia - VSD - MAPCA repair, Complete single stage repair (1-stage that includes bilateral pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit]) |
| 6710 | Status post - Pulmonary atresia - VSD - MAPCA repair, Status post prior complete unifocalization (includes VSD closure + RV to PA connection [with or without conduit]) |
| 6720 | Status post - Pulmonary atresia - VSD - MAPCA repair, Status post prior incomplete unifocalizarion (includes completion of pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit]) |
| 6730 | Status post - Unifocalization MAPCA(s), Bilateral pulmonary unifocalization - Complete unifocalization (all usable MAPCA[s] are incorporated) |
| 6740 | Status post - Unifocalization MAPCA(s), Bilateral pulmonary unifocalization - |

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| | Incomplete unifocalization (not all usable MAPCA[s] are incorporated) |
| 6750 | Status post - Unifocalization MAPCA(s), Unilateral pulmonary unifocalization |
| 4440 | Status post - Unifocalization MAPCA(s) |
| 4450 | Status post - Occlusion of MAPCA(s) |
| 4460 | Status post - Valvuloplasty, Tricuspid |
| 6280 | Status post - Valvuloplasty converted to valve replacement in the same operation, Tricuspid |
| 4465 | Status post - Ebstein's repair |
| 4470 | Status post - Valve replacement, Tricuspid (TVR) |
| 4480 | Status post - Valve closure, Tricuspid (exclusion, univentricular approach) |
| 4490 | Status post - Valve excision, Tricuspid (without replacement) |
| 4500 | Status post - Valve surgery, Other, Tricuspid |
| 4510 | Status post – RVOT procedure |
| 4520 | Status post – 1 ½ ventricular repair |
| 4530 | Status post – PA, reconstruction (plasty), Main (trunk) |
| 4540 | Status post - PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation) |
| 4550 | Status post - PA, reconstruction (plasty), Branch, Peripheral (at or beyond the first lobar branch) |
| 7350 | Status post – PA, reconstruction (plasty) |

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| | Branch, Peripheral (at or beyond the first lobar branch, proximal to first segmental branch) |
| 7360 | Status post – PA, reconstruction (plasty), Branch, Peripheral (at or beyond the first lobar branch, beyond the first segmental branch) |
| 4570 | Status post - DCRV repair |
| 7370 | Status post – RV Rehabilitation, Endocardial Resection |
| 4590 | Status post - Valvuloplasty, Pulmonic |
| 6270 | Status post - Valvuloplasty converted to valve replacement in the same operation, Pulmonic |
| 4600 | Status post - Valve replacement, Pulmonic (PVR) |
| 4630 | Status post - Valve excision, Pulmonary (without replacement) |
| 4640 | Status post - Valve closure, Semilunar |
| 4650 | Status post - Valve surgery, Other, Pulmonic |
| 4610 | Status post - Conduit placement, RV to PA |
| 4620 | Status post - Conduit placement, LV to PA |
| 5774 | Status post - Conduit placement, Ventricle to aorta |
| 5772 | Status post - Conduit placement, Other |
| 4580 | Status post - Conduit reoperation |
| 4660 | Status post - Valvuloplasty, Aortic |
| 6240 | Status post - Valvuloplasty converted to valve replacement in the same operation, Aortic |
| 6310 | Status post - Valvuloplasty converted |

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| | to valve replacement in the same operation, Aortic – with Ross procedure |
| 6320 | Status post - Valvuloplasty converted to valve replacement in the same operation, Aortic – with Ross-Konno procedure |
| 4670 | Status post - Valve replacement, Aortic (AVR) |
| 4680 | Status post - Valve replacement, Aortic (AVR), Mechanical |
| 4690 | Status post - Valve replacement, Aortic (AVR), Bioprosthetic |
| 4700 | Status post – Valve replacement, Aortic (AVR), Homograft |
| 4715 | Status post - Aortic root replacement, Bioprosthetic |
| 4720 | Status post - Aortic root replacement, Mechanical |
| 4730 | Status post - Aortic root replacement, Homograft |
| 4735 | Status post - Aortic root replacement, Valve sparing |
| 4740 | Status post - Ross procedure |
| 4750 | Status post - Konno procedure |
| 4760 | Status post - Ross-Konno procedure |
| 4770 | Status post - Other annular enlargement procedure |
| 4780 | Status post - Aortic stenosis, Subvalvar, Repair |
| 6100 | Status post - Aortic stenosis, Subvalvar, Repair, With myectomy for IHSS |
| 4790 | Status post - Aortic stenosis, Supravalvar, Repair |
| 4800 | Status post - Valve |

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| | surgery, Other, Aortic |
| 7380 | Status post – Extended Ventricular Septoplasty (modified Konno, VSD creation and patch enlargement of LVOT, sparing aortic valve) for tunnel type sub aortic stenosis |
| 4810 | Status post - Sinus of Valsalva, Aneurysm repair |
| 4820 | Status post - LV to aorta tunnel repair |
| 4830 | Status post - Valvuloplasty, Mitral |
| 6260 | Status post - Valvuloplasty converted to valve replacement in the same operation, Mitral |
| 4840 | Status post - Mitral stenosis, Supravalvar mitral ring repair |
| 4850 | Status post - Valve replacement, Mitral (MVR) |
| 4860 | Status post - Valve surgery, Other, Mitral |
| 4870 | Status post - Norwood procedure |
| 4880 | Status post - HLHS biventricular repair |
| 7390 | Status post – LV Endocardial Fibroelastosis resection |
| 6755 | Status post - Conduit insertion right ventricle to pulmonary artery + Intraventricular tunnel left ventricle to neoaorta + Arch reconstruction (Rastelli and Norwood type arch reconstruction) (Yasui) |
| 6160 | Status post - Hybrid Approach "Stage 1", Application of RPA & LPA bands |
| 6170 | Status post - Hybrid Approach "Stage 1", Stent placement in arterial duct |

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| | (PDA) |
| 6180 | Status post - Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands |
| 6140 | Status post - Hybrid approach "Stage 2", Aortopulmonary amalgamation + Superior Cavopulmonary anastomosis(es) + PA Debanding + Aortic arch repair (Norwood [Stage 1] + Superior Cavopulmonary anastomosis(es) + PA Debanding) |
| 6150 | Status post - Hybrid approach "Stage 2", Aortopulmonary amalgamation + Superior Cavopulmonary anastomosis(es) + PA Debanding + Without aortic arch repair |
| 6760 | Status post - Hybrid Approach, Transcardiac balloon dilation |
| 6770 | Status post - Hybrid Approach, Transcardiac transcatheter device placement |
| 1590 | Status post - Transplant, Heart |
| 1610 | Status post - Transplant, Heart and lung |
| 4910 | Status post - Partial left ventriculectomy (LV volume reduction surgery) (Batista) |
| 4920 | Status post - Pericardial drainage procedure |
| 4930 | Status post - Pericardiectomy |
| 4940 | Status post - Pericardial procedure, Other |
| 4950 | Status post - Fontan, Atrio-pulmonary connection |
| 4960 | Status post - Fontan, Atrio-ventricular |

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| | connection |
| 4970 | Status post - Fontan, TCPC, Lateral tunnel, Fenestrated |
| 4980 | Status post - Fontan, TCPC, Lateral tunnel, Nonfenestrated |
| 5000 | Status post - Fontan, TCPC, External conduit, Fenestrated |
| 5010 | Status post - Fontan, TCPC, External conduit, Nonfenestrated |
| 6780 | Status post - Fontan, TCPC, Intra/extracardiac conduit, Fenestrated |
| 6790 | Status post - Fontan, TCPC, Intra/extracardiac conduit, Nonfenestrated |
| 7310 | Status post - Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Fenestrated |
| 7320 | Status post - Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Nonfenestrated |
| 5025 | Status post - Fontan revision or conversion (Re-do Fontan) |
| 5030 | Status post - Fontan, Other |
| 6340 | Status post - Fontan + Atrioventricular valvuloplasty |
| 5035 | Status post - Ventricular septation |
| 5050 | Status post - Congenitally corrected TGA repair, Atrial switch and ASO (double switch) |
| 5060 | Status post - Congenitally corrected TGA repair, Atrial switch and Rastelli |
| 5070 | Status post - Congenitally corrected TGA repair, VSD closure |
| 5080 | Status post - Congenitally corrected TGA repair, |

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| | VSD closure and LV to PA conduit |
| 5090 | Status post - Congenitally corrected TGA repair, Other |
| 5110 | Status post - Arterial switch operation (ASO) |
| 5120 | Status post - Arterial switch operation (ASO) and VSD repair |
| 5123 | Status post - Arterial switch procedure + Aortic arch repair |
| 5125 | Status post - Arterial switch procedure and VSD repair + Aortic arch repair |
| 5130 | Status post - Senning |
| 5140 | Status post - Mustard |
| 5145 | Status post - Atrial baffle procedure, Mustard or Senning revision |
| 5150 | Status post - Rastelli |
| 5160 | Status post - REV |
| 6190 | Status post - Aortic root translocation over left ventricle (Including Nikaidoh procedure) |
| 6210 | Status post - TGA, Other procedures (Kawashima, LV-PA conduit, other) |
| 7400 | Status post – Double root translocation |
| 5180 | Status post - DORV, Intraventricular tunnel repair |
| 7410 | Status post – DORV repair – No Ventriculotomy |
| 7420 | Status post – DORV repair, Ventriculotomoy, Nontransannular patch |
| 7430 | Status post – DORV repair, Ventriculotomy, Transannular patch |
| 7440 | Status post – DORV repair, RV-PA conduit |
| 7450 | Status post – DORV – AVC (AVSD) repair |
| 5200 | Status post - DOLV repair |
| 5210 | Status post - Coarctation repair, End to end |

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| 5220 | Status post - Coarctation repair, End to end, Extended |
| 7460 | Status post – Coarctation repair, Descending aorta anastomosed to Ascending aorta |
| 5230 | Status post - Coarctation repair, Subclavian flap |
| 5240 | Status post - Coarctation repair, Patch aortoplasty |
| 5250 | Status post - Coarctation repair, Interposition graft |
| 7470 | Status post – Coarctation repair, Extra-anatomic Bypass graft |
| 5260 | Status post - Coarctation repair, Other |
| 5275 | Status post - Coarctation repair + VSD repair |
| 5280 | Status post - Aortic arch repair |
| 5285 | Status post - Aortic arch repair + VSD repair |
| 5290 | Status post - Coronary artery fistula ligation |
| 5291 | Status post - Anomalous origin of coronary artery from pulmonary artery repair |
| 5300 | Status post - Coronary artery bypass |
| 5305 | Status post - Anomalous aortic origin of coronary artery (AAOCA) repair |
| 5310 | Status post - Coronary artery procedure, Other |
| 5320 | Status post - Interrupted aortic arch repair |
| 5330 | Status post - PDA closure, Surgical |
| 5340 | Status post - PDA closure, Device |
| 5360 | Status post - Vascular ring repair |
| 5365 | Status post - Aortopexy |
| 5370 | Status post - Pulmonary artery sling repair |
| 5380 | Status post - Aortic aneurysm repair |

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| 5390 | Status post - Aortic dissection repair |
| 5400 | Status post - Lung biopsy |
| 1600 | Status post - Transplant, Lung(s) |
| 5420 | Status post - Lung procedure, Other |
| 5440 | Status post - Tracheal procedure |
| 6800 | Status post - Muscle flap, Trunk (i.e., intercostal, pectus, or serratus muscle) |
| 6810 | Status post - Muscle flap, Trunk (i.e. latissimus dorsi) |
| 6820 | Status post - Removal, Sternal wire |
| 6830 | Status post - Rib excision, Complete |
| 6840 | Status post - Rib excision, Partial |
| 6850 | Status post - Sternal fracture, Open treatment |
| 6860 | Status post - Sternal resection, Radical resection of the sternum |
| 6870 | Status post - Sternal resection, Radical resection of sternum with mediastinal lymphadenectomy |
| 6880 | Status post - Tumor of chest wall - Excision including ribs |
| 6890 | Status post - Tumor of chest wall - Excision including ribs, With reconstruction |
| 6900 | Status post - Tumor of soft tissue of thorax - Excision of deep subfascial or intramuscular tumor |
| 6910 | Status post - Tumor of soft tissue of thorax - Excision of subcutaneous tumor |
| 6920 | Status post - Tumor of soft tissue of thorax - Radical resection |

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| 6930 | Status post - Hyoid myotomy and suspension |
| 6940 | Status post - Muscle flap, Neck |
| 6950 | Status post - Procedure on neck |
| 6960 | Status post - Tumor of soft tissue of neck - Excision of deep subfascial or intramuscular tumor |
| 6970 | Status post - Tumor of soft tissue of neck - Excision of subcutaneous tumor |
| 6980 | Status post - Tumor of soft tissue of neck - Radical resection |
| 6990 | Status post - Pectus bar removal |
| 7005 | Status post - Pectus bar repositioning |
| 7010 | Status post - Pectus repair, Minimally invasive repair (Nuss), With thoracoscopy |
| 7020 | Status post - Pectus repair, Minimally invasive repair (Nuss), Without thoracoscopy |
| 7030 | Status post - Pectus repair, Open repair |
| 7040 | Status post - Division of scalenus anticus, With resection of a cervical rib |
| 7050 | Status post - Division of scalenus anticus, Without resection of a cervical rib |
| 7060 | Status post - Rib excision, Excision of cervical rib |
| 7070 | Status post - Rib excision, Excision of cervical rib, With sympathectomy |
| 7080 | Status post - Rib excision, Excision of first rib |
| 7090 | Status post - Rib excision, Excision of first rib, With sympathectomy |
| 7100 | Status post - Procedure on thorax |

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| 5450 | Status post - Pacemaker implantation, Permanent |
| 5460 | Status post – Pacemaker procedure |
| 6350 | Status post - Explantation of pacing system |
| 5470 | Status post - ICD (AICD) implantation |
| 5480 | Status post - ICD (AICD) ([automatic] implantable cardioverter defibrillator) procedure |
| 5490 | Status post - Arrhythmia surgery - atrial, Surgical Ablation |
| 5500 | Status post - Arrhythmia surgery - ventricular, Surgical Ablation |
| 6500 | Status post - Cardiovascular catheterization procedure, Diagnostic |
| 6520 | Status post - Cardiovascular catheterization procedure, Diagnostic, Angiographic data obtained |
| 6550 | Status post - Cardiovascular catheterization procedure, Diagnostic, Electrophysiology alteration |
| 6540 | Status post - Cardiovascular catheterization procedure, Diagnostic, Hemodynamic alteration |
| 6510 | Status post – Cardiovascular catheterization procedure, Diagnositc, Hemodynamic data obtained |
| 6530 | Status post - Cardiovascular catheterization procedure, Diagnostic, Transluminal test |

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| | occlusion |
| 6410 | Status post - Cardiovascular catheterization procedure, Therapeutic |
| 6670 | Status post - Cardiovascular catheterization procedure, Therapeutic, Adjunctive therapy |
| 6570 | Status post - Cardiovascular catheterization procedure, Therapeutic, Balloon dilation |
| 6590 | Status post - Cardiovascular catheterization procedure, Therapeutic, Balloon valvotomy |
| 6600 | Status post - Cardiovascular catheterization procedure, Therapeutic, Coil implantation |
| 6610 | Status post - Cardiovascular catheterization procedure, Therapeutic, Device implantation |
| 7110 | Status post - Cardiovascular catheterization procedure, Therapeutic, Device implantation attempted |
| 6690 | Status post - Cardiovascular catheterization procedure, Therapeutic, Electrophysiological ablation |
| 7120 | Status post - Cardiovascular catheterization procedure, Therapeutic, Intravascular foreign body removal |
| 6640 | Status post - Cardiovascular catheterization |

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| | procedure, Therapeutic, Perforation (establishing interchamber and/or intervessel communication) |
| 6580 | Status post - Cardiovascular catheterization procedure, Therapeutic, Septostomy |
| 6620 | Status post - Cardiovascular catheterization procedure, Therapeutic, Stent insertion |
| 6630 | Status post - Cardiovascular catheterization procedure, Therapeutic, Stent re-dilation |
| 6650 | Status post - Cardiovascular catheterization procedure, Therapeutic, Transcatheter Fontan completion |
| 6660 | Status post - Cardiovascular catheterization procedure, Therapeutic, Transcatheter implantation of valve |
| 5590 | Status post - Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS) |
| 5600 | Status post - Shunt, Systemic to pulmonary, Central (shunt from aorta) |
| 7130 | Status post - Shunt, Systemic to pulmonary, Central (shunt from aorta), Central shunt with an end-to-side connection |

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| | between the transected main pulmonary artery and the side of the ascending aorta (i.e. Mee shunt) |
| 7230 | Status post - Shunt, Sysytemic to pulmonary, Potts - Smith type (descending aorta to pulmonary artery) |
| 5610 | Status post - Shunt, Systemic to pulmonary, Other |
| 5630 | Status post - Shunt, Ligation and takedown |
| 6095 | Status post - Shunt, Reoperation |
| 5640 | Status post - PA banding (PAB) |
| 5650 | Status post - PA debanding |
| 7200 | Status post - PA band adjustment |
| 5660 | Status post - Damus-Kaye-Stansel procedure (DKS) (creation of AP anastomosis without arch reconstruction) |
| 5670 | Status post - Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn) |
| 5680 | Status post - Glenn(unidirectional cavopulmonary anastomosis) (unidirectional Glenn) |
| 5690 | Status post - Bilateral bidirectional cavopulmonary anastomosis (BBDCPA) (bilateral bidirectional Glenn) |
| 5700 | Status post - HemiFontan |
| 6330 | Status post - Superior cavopulmonary anastomosis(es) (Glenn or HemiFontan) + Atrioventricular valvuloplasty |
| 6130 | Status post - Superior |

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| | Cavopulmonary anastomosis(es) + PA reconstruction |
| 7300 | Status post - Takedown of superior cavopulmonary anastomosis |
| 7140 | Status post - Hepatic vein to azygous vein connection, Direct |
| 7150 | Status post - Hepatic vein to azygous vein connection, Interposition graft |
| 7160 | Status post – Kawashima operation (superior cavopulmonary connection in setting of interrupted IVC with azygous continuation) |
| 5710 | Status post - Palliation, Other |
| 6360 | Status post - ECMO cannulation |
| 6370 | Status post - ECMO decannulation |
| 5910 | Status post - ECMO procedure |
| 5900 | Status post - Intraaortic balloon pump (IABP) insertion |
| 5920 | Status post - Right/left heart assist device procedure |
| 6390 | Status post - VAD explantation |
| 6380 | Status post - VAD implantation |
| 7170 | Status post - VAD change out |
| 6420 | Status post - Echocardiography procedure, Sedated transesophageal echocardiogram |
| 6430 | Status post - Echocardiography procedure, Sedated transthoracic echocardiogram |
| 6435 | Status post - Non-cardiovascular, Non- |

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| | thoracic procedure on cardiac patient with cardiac anesthesia |
| 6440 | Status post - Radiology procedure on cardiac patient, Cardiac Computerized Axial Tomography (CT Scan) |
| 6450 | Status post - Radiology procedure on cardiac patient, Cardiac Magnetic Resonance Imaging (MRI) |
| 6460 | Status post - Radiology procedure on cardiac patient, Diagnostic radiology |
| 6470 | Status post - Radiology procedure on cardiac patient, Non-Cardiac Computerized Tomography (CT) on cardiac patient |
| 6480 | Status post - Radiology procedure on cardiac patient, Non-cardiac Magnetic Resonance Imaging (MRI) on cardiac patient |
| 6490 | Status post - Radiology procedure on cardiac patient, Therapeutic radiology |
| 5720 | Status post - Aneurysm, Ventricular, Right, Repair |
| 5730 | Status post - Aneurysm, Ventricular, Left, Repair |
| 5740 | Status post - Aneurysm, Pulmonary artery, Repair |
| 5760 | Status post - Cardiac tumor resection |
| 5780 | Status post - Pulmonary AV fistula repair/occlusion |
| 5790 | Status post - Ligation, Pulmonary artery |
| 5802 | Status post - Pulmonary embolectomy, Acute pulmonary embolus |
| 5804 | Status post - Pulmonary embolectomy, Chronic pulmonary embolus |

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| 5810 | Status post - Pleural drainage procedure |
| 5820 | Status post - Pleural procedure, Other |
| 5830 | Status post - Ligation, Thoracic duct |
| 5840 | Status post - Decortication |
| 5850 | Status post - Esophageal procedure |
| 5860 | Status post - Mediastinal procedure |
| 5870 | Status post - Bronchoscopy |
| 5880 | Status post - Diaphragm plication |
| 5890 | Status post - Diaphragm procedure, Other |
| 5930 | Status post - VATS (video-assisted thoracoscopic surgery) |
| 5940 | Status post - Minimally invasive procedure |
| 5950 | Status post - Bypass for noncardiac lesion |
| 5960 | Status post - Delayed sternal closure |
| 5970 | Status post - Mediastinal exploration |
| 5980 | Status post - Sternotomy wound drainage |
| 7180 | Status post - Intravascular stent removal |
| 7220 | Status post - Removal of transcatheter delivered device from heart |
| 7210 | Status post - Removal of transcatheter delivered device from blood vessel |
| 5990 | Status post - Thoracotomy, Other |
| 6000 | Status post - Cardiotomy, Other |
| 6010 | Status post - Cardiac procedure, Other |
| 6020 | Status post - Thoracic and/or mediastinal procedure, Other |
| 6030 | Status post - Peripheral vascular procedure, Other |

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| 6040 | Status post – Miscellaneous procedure, Other |
| 11777 | Status post - Other procedure |

May 2019: How should I enter the diagnosis of a Mustard or Senning baffle leak? This is for patients who had surgery years ago, not recently. **Code the appropriate status post procedure (s/p Mustard or Senning) as well as an ASD to cover the leak; there is no other appropriate code.**

June 2019: We have a patient with the following diagnoses: 1. HLHS, s/p Norwood procedure with a 4mm BT Shunt; 2. Bilateral pulmonary vein stenosis, s/p sutureless repair, s/p bilateral pulmonary vein stents; 3. Obstructed Damus-Kaye-Stansel. Procedures performed: 1. Revision of Damus-Kaye-Stansel; 2. Aortic Arch augmentation; 3. BT Shunt replacement and ECMO. My question is two part: 1. how should I code the obstructed DKS? 2. How do I code the DKS Revision? **Code: Diagnosis: Supravalvar aortic stenosis, D570, s/p DKS; Procedure: if the DKS was taken down and redone, code DKS, but if the DKS was revised with a patch aortoplasty, code "aortic stenosis, supravalvar, repair."**

November 2019: We had a patient born with a complete AV canal whose VSD spontaneously closed shortly before her surgery. She also had no atrial septum with a single cavernous atrium, bilateral SVC and an unroofed coronary sinus. I made her fundamental diagnosis complete AV canal, but do I also make that her primary diagnosis even though she no longer had a VSD? Her common AV valve was now naturally divided into right and left components but still abnormal, with significant clefts in both the (now) left and right AV valves. My surgeon said even though her VSD closed, her valves were still abnormal and needed to be repaired as if the VSD were still present. I coded her procedures as common atrium septation, atrial baffle procedure and complete AV canal repair. Is it still appropriate to code complete AV canal repair? **Diagnosis: (120) AVC (AVSD), Partial (incomplete) (PAVSD) (ASD, primum) patient only has ASD primum component and no VSD. Procedure: (190) AVC (AVSD) repair, Partial (Incomplete) (PAVSD)**

February 2020: Patient is diagnosed with HLHS and has a Norwood. Several days later it is discovered that the patient has an ALCAPA off right pulmonary artery and patient goes back to surgery. Would you go back to the Norwood surgery and add the diagnosis of ALCAPA? Why or why not? **Yes, you can include the ALCAPA diagnosis to the HLHS diagnoses included with the Norwood procedure as the diagnosis did exist at the time of the Norwood but was unrealized. The complication of unplanned cardiac reoperation should also be included with the Norwood procedure.**

June 2020: The definition for TOF includes this description: "The presence of associated anomalies such as additional VSD, atrial septal defect, right aortic arch, left superior vena cava, and coronary artery anomalies must be subspecified as an additional or secondary diagnosis under the primary TOF diagnosis." How is a right aortic arch or left superior vena cava captured as additional or secondary diagnoses? What is the coding sequence used for each? **Systemic venous anomaly, code 270 can be used to capture the left superior vena cava. There is no code for a right aortic arch. The order does not matter following the coding of the primary diagnosis.**

August 2020: When a patient was cannulated peripherally for ECMO by anesthesia in the ITU (for intractable ventricular arrhythmias) prior to a cardiac operation, do we use the above code? If not, what code would be appropriate? "11777 = Status Post Other, Specify 1?" or "6030 = Status post - Peripheral vascular procedure, Other?" **You can include ECMO cannulation as a status post diagnosis.**

September 2020: What would the STS diagnosis be for my patient that has surgery in June 2020 for a superficial wound infection and has a wound vac applied s/p TGA repair 1/2020. My MD says the diagnosis says the diagnosis should be superficial wound infection diagnosis # 263, but I cannot find this in the list of options. The patient has an infectious disease consult with a dx of recurrent sternal wound infection on

Keflex at home. Please advise on how I should code her current diagnosis, besides all her s/p procedures and dx. **There is no diagnosis code for superficial wound infection. Cardiac, Other is the best option.**
October 2020: The new data harvest platform is not allowing for the use of code 1590 (Status post – Transplant, Heart) as the primary diagnosis, this was allowed by the DCRI submission. Perhaps because these codes were part of core diagnoses lists that preceded the rules and implementation of the other s/p diagnoses codes with numbers >4000. For the anesthesia data collection of (OpType =Interventional Cardiology) standard post-transplant diagnostic cath cases, what should be entered as the primary procedure for these cases if s/p transplant is not allowed? Also, for surgical cases of ecmo or retransplant due to cardiac rejection, what should be entered as the primary procedures in these cases? **This will need to be looked at the time of future upgrade. For now, you can use Cardiac, Other (1560) for the interventional cardiology cases. For ECMO or retransplant, you can also use Cardiac, Other.**
October 2020: Please clarify the definition: 1330 Prosthetic valve failure: Indicate if the patient has the diagnosis of "Prosthetic valve failure." This diagnosis is the primary diagnosis to be entered for patients undergoing replacement of a previously placed valve (not conduit) prosthesis, whatever type (e.g., bioprosthetic, mechanical, etc.).In the past our center has used the conduit failure code for conduits with or without prosthetic valves. I've pasted a recent question from one of our surgeons regarding coding these situations of conduits with valves. For the prosthetic valve failure issue, even if it's a standalone prosthetic valve that was either sewn into a Dacron conduit, or if it was a valve alone w patch of pericardium, that doesn't count as valve failure? **If the valve is in a conduit, use conduit failure. If the valve is in the native outflow tract, utilize prosthetic valve failure.**
November 2020: When is it most appropriate to use #2490 Pulm Venous Stenosis, Spontaneous as well as #2480, Acquired as opposed to just using #260(Pulm Venous stenosis)? There is no explanation in the training manual. **Code #260 can be used now, unless you know if the stenosis was acquired or spontaneously occurred. A formal definition is being established by the core group for the training manual. This will be addressed in the future upgrade.**
November 2020: Should I use the diagnosis code #1220 "arrhythmia, pacemaker, indication for replacement" for ICD's that need to be replaced, since there is no code for ICD indication for replacement, or just use the specific arrhythmia type as the diagnosis? **Yes, arrhythmia, pacemaker, indication for replacement for ICDs can be used. This will be reviewed during the upgrade.**
November 2020: Two questions regarding the CAVSD 1. If a patient has multiple ASD's or VSD's can we code these in addition to the included VSD and ASD in the procedure.For example a patient has CAVSD and has two seperate VSD's a type 1 and type 4 as well as the classic ASD, could I code for an additional VSD repair? 2. The CAVSD repair includes the mitral cleft repair (left AV Valve) but if the right side of the AV valve is repaired the we can also code Tricuspid valvuloplasy. Is this correct? **Yes, code the multiple ASDs and VSDs as well as specific types. You can code a tricuspid valvuloplasty if desired as the CAVSD will remain the primary procedure.**
November 2020: My hospital has an adult cardiac surgeon who was added to our congenital contract once he started being the primary surgeon on our adult congenital cases. I only enter the cases he does that are on congenital patients, but I'm having some difficulty determining if certain diagnoses should be considered congenital. I have 4 examples. 1) An aortic root replacement in a patient with endocarditis, s/p AVR as an adult for a bicuspid aortic valve with aortic stenosis and calcific deposits. **Not Congenital** 2) Aortic aneurysm repair and aortic root replacement on a patient with newly diagnosed severe AI and an aortic root aneurysm with no prior ops. **Not Congenital** 3) Aortic root replacement and/or aneurysm repair in a patient with Marfan syndrome and no prior ops. **Leave up to the program to determine which database as many congenital programs handle the Marfan's related operations** 4) AVR on a patient with a bicuspid

aortic valve, AS and AI with no prior ops. **Not Congenital**
December 2020: Our CH surgeons performed an urgent valve replacement on a patient admitted in cardiogenic shock with sepsis and endocarditis per request by the Adult Cardiology Service. She has no history of congenital heart disease. She was evaluated and denied VAD/transplant care by 4 institutions. She later passed away. Should she be entered into the CH database**? If done by a congenital surgeon, please include the case in the congenital database regardless of whether the heart disease is congenital or acquired. If an institution has both the adult and congenital databases, the institution can come up with a consistent approach to determine which database (or both) is appropriate and make the determination prior to the operation.**
January 2021: Patient undergoes truncus arteriosus + interrupted arch repair, the truncal valve was not replaced at that time. Returns the following year with truncal valve insufficiency requiring replacement - is the correct primary procedure truncal valve replacement? Returns again months later with 'aortic valve' insufficiency again requiring replacmeent - is the correct primary procedure now aortic valve replacement? **Yes, the first replacement is a truncal valve replacement. The second replacement is also a truncal valve replacement.**
March 2021: What would be the appropriate diagnosis for Hypoplastic Systemic RV with Criss-cross AV valves (atrioventricular discordance) and d-TGA (VA discordance), VSD, PDA, hypoplastic Tricuspid valve, transverse aortic arch? I chose Single Ventricle, TA. Is this correct and how do you address the criss-cross valves? Patient had a coarc repair and PA band for initial palliation. **Single ventricle, Other.**

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| *Long Name:* | Primary Diagnosis Indicator | *SeqNo:* | 900 |
| *Short Name:* | **PrimDiag** | *Core:* | Yes |
| *Section Name*: | Diagnosis | *Harvest:* | Yes |
| *DBTableName:* | Diagnosis | | |
| *Definition:* | Indicate the diagnosis of primary importance at the time of this surgical procedure. Example: fundamental diagnosis of Tetralogy of Fallot. The current Diagnoses are both pulmonary insufficiency and residual ventricular septal defect. In this case, pulmonary insufficiency will be flagged as the primary diagnosis. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |

*Harvest Codes:*

| Code: | *Value:* |
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| 1 | Yes |
| 2 | No |

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|---|---|---|---|
| *Long Name:* | Fundamental Diagnosis | *SeqNo:* | 374 |
| *Short Name:* | **FundDiagnosis** | *Core:* | Yes |
| *Section Name*: | Diagnosis | *Harvest:* | Yes |
| *DBTableName:* | Diagnosis | | |
| *Definition:* | The fundamental diagnosis is a diagnosis that is carried with a patient throughout life, through all operations and hospitalizations. The fundamental diagnosis is the most complex cardiac anomaly or condition (congenital or acquired) of the patient. Most frequently, the primary diagnosis will also be the fundamental diagnosis. For some operations, however, the fundamental diagnosis and primary diagnosis will be different. For example, consider a child who underwent repair of subaortic stenosis, subsequently develops complete atrioventricular (AV) block, and undergoes pacemaker placement within the same hospitalization. The primary diagnosis for the pacemaker surgery is "Arrhythmia, Heart block, Acquired", while the fundamental diagnosis is "Aortic stenosis, Subvalvar". Similarly, a patient who has a complete AV canal defect and undergoes either palliation or repair of the defect has a primary and fundamental diagnosis of "AVC (AVSD), Complete CAVSD". Subsequently, the child develops mitral insufficiency and is re-hospitalized for mitral valve replacement. The primary diagnosis for the mitral valve replacement operation is "Mitral regurgitation", but the fundamental diagnosis is "AVC (AVSD), Complete CAVSD." The utilization of the fundamental diagnosis field, it is hoped, will clarify designation of a primary diagnosis, and enable greater specificity in the lesion specific report analyses. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |

June 2019: Patient has diagnosis 2500, discrete subvalvar stenosis. There is not a notation stating this cannot be used as a Fund Diagnosis on the 3.41form, but the vendor states that it is not listed on the 3.41 Congenital Fund Diagnosis list. Why would this not be acceptable as a Fund Diagnosis? **Agree that D2500, D2510, and D2520 (discrete, IHSS, and Tunnel-like variants of subaortic stenosis would seem reasonable as fundamental diagnoses, but the fall back would be to use D0550 Aortic stenosis, Subvalvar, as the fundamental diagnosis. Discuss with your software vendor.**

September 2019: I have an 18 year old female who is followed due to a history of tricuspid valve endocarditis. She initially presented in March 2016 with MSSA endocarditis with severe tricuspid valve regurgitation, septic pulmonary emboli and septic arthritis of her left knee. I do not believe this case gets entered into the STS Congenital Registry as she does not have a history of Congenital Heart Disease, but I will send an inquiry to STS to confirm. If you do want cases such as these to be captured I believe you have to get Certified with the Adult STS Cardiac Registry and she would be entered there. My Congenital MD's did this case and gave her a Fundamental Diagnosis of Tricuspid Regurgitation, Non-Ebstein's related. This patient did not have tricuspid regurg until after the MSSA bacteremia in 2016, so I do not see this as being a congenital case, nor do I see this a the Fundamental Dx as she was not born with it. Am I thinking correctly? **No, this is incorrect. The Congenital Heart Surgery Database includes patients with congenital heart disease or *acquired* heart disease. Any case completed by a congenital surgeon are to be included in the database. The fundamental diagnosis is the lifelong diagnosis, regardless of whether they were born with the heart disease or acquired it. The fundamental diagnosis in this scenario is Tricuspid regurgitation, Non-Ebstein's related.**

September 2019: Can you please clarify if these patients should be entered into the STS Congenital database. An 18 year old that had MSSA endocarditis subsequently developed severe tricuspid regurgitation and required a valve replacement. She has no history of CHD, so I interpreted this as an acquired heart disease and did not think she should be entered into the database. When I questioned our Physicians the response I received was; "This patient should be entered in our STS congenital database on the basis that her heart condition and heart surgery were performed as a pediatric patient. We often operate on children who did NOT have a congenital heart disease. For example, if we transplant a child with myocarditis, this would not be a congenital condition. Or if we do an aortic valve replacement in a child due to endocarditis, it would still be included in the congenital database.' Can you please help me clear the muddy water? **No, this is incorrect. The Congenital Heart Surgery Database includes patients with congenital heart disease or *acquired* heart disease. Any case completed by a congenital surgeon are to be included in the database. The fundamental diagnosis is the lifelong diagnosis, regardless of whether they were born with the heart disease or acquired it. The fundamental diagnosis in this scenario is Tricuspid regurgitation, Non-Ebstein's related.**

January 2020: For patients with coarctation of the aorta as well as a hypoplastic aortic arch (these are usually Neonates/infants when this comes up), which of the two diagnoses is the most appropriate to choose for the Fundamental? **Hypoplastic aortic arch.**

January 2020: Is the VSD the most appropriate fundamental diagnosis in the case below? The surgeon's choice was VSD Type 2 for fund Diag and the following for the encounter: #490 PS, Subvalvar (primary) and #73, #420, #430, and #10 as secondary diagnoses. POSTOPERATIVE DIAGNOSES: Multilevel right ventricular outflow tract obstruction, restrictive perimembranous ventricular septal defect, patent foramen ovale. PROCEDURE: Nontransannular right ventricular outflow tract patch with division of obstructing right ventricular muscle bundles, open pulmonary valvotomy, pericardial patch enlargement of the main pulmonary artery, suture closure of patent foramen ovale, Dacron patch closure of restrictive perimembranous ventricular septal defect. **The fundamental diagnosis would be DCRV (500) or pulmonary stenosis, subvalvar (490) depending on the level of obstruction.**

January 2020: I have a 76 year old patient that had a TAVR complicated by a post op VSD likely created by wire positioning.It was unable to be closed in the cath large due to the size and the Adult cardiac surgeon took the patient to the OR, he opened the chest, the Congenital surgeon did the closure of iatragenic VSD, repair of large LV-RA shunt, Tricuspid valve repair and the Adult cardiac surgeon then took the case back over and resumed position of primary surgeon.There is a lot of back and forth here as to whether this case should be entered in the Adult or Congenital database. The VSD was manmade and not congenital.
**If I enter it in Congenital what would my Fundamental diagnosis be? The case can be entered into either or both databases. If entered into the congenital the fundamental diagnosis is related to the aortic valve disease, aortic stenosis or aortic regurgitation.**

February 2020: For the purposes of the STS data collection is it preferable to list the more specific dx of SV, Unbalanced AVSD or SV, Heterotaxy as fundamental dx (as well as the primary)in a case such as the one below? I seem to remember but can't find it in Training Manual that if possible we should not use SV, Heterotaxy for the fundamental. I may have imagined that. Note: If the answer to this question could include the rationale I think it could take care of variations of the same question in the future.PREOPERATIVE DIAGNOSIS:1. Heterotaxy syndrome.2. Left atrial isomerism.3. Severely unbalanced atrioventricular septal defect. 4. Looped ventricles.5. Dextrocardia.6. Transposition of great vessels. POSTOPERATIVE DIAGNOSIS:1. Heterotaxy syndrome.2. Left atrial isomerism. 3.Severely unbalanced atrioventricular septal defect. 4. L-looped ventricles.5. Dextrocardia.6. Transposition of great vessels.**You can use the Single ventricle, Heterotaxy diagnosis (840) for both the primary and fundamental diagnoses.**

March 2020: I can't find anything in our Training Manual but seem to remember being told that Single Ventricle, Other is less preferred over a more specific dx code for fundamental that would better describe the anatomy. Is this correct? If so, how should I boil down the example below: DORV, Severe subpulmonary obstruction, dextrocardia (situs inversus), straddling mitral valve, Rt Ao arch with mirror image branching, Type 2 VSD with inlet extension, bilat SVCand Lt sided IVC. s/p Bilat BDG, pulm valvectomy, MPA division, atrial septectomy, and removal of PDA stent/PDA ligation. **If the patient has heterotaxy, code single ventricle, heterotaxy. If the patient does not have heterotaxy, code single ventricle, other**

June 2020: What is the best choice for Fundamental diagnoisis for this patient with complex abnormalities of the heart who underwent Norwood? The surgeon describes "Heterotaxia with hypoplastic LV and L-loop heart; Aortic

atresia; ASD; PDA; Hypoplastic aortic arch with CoA." However, the patient has atrial situs solitus and does not have visceral heterotaxy. By echo, the patient has 1. {S,L,S}. 2. Double outlet right ventricle, L-looped. 3. Supero-inferior ventricles with pseudo criss-cross atrioventricular valves. 4. Moderately hypoplastic left ventricular cavity. 5. There is a atretic aortic valve. 6. Large perimembranous with outlet extension-type ventricular septal defect. 7. Rightward cardiac apex. None of the options seem to be a good fit. **The best fundamental diagnosis is Single ventricle, heterotaxy (diagnosis 840).**

July 2020: What is the primary diagnosis and primary procedure for a 'pink' TOF? **The primary diagnosis is TOF, pulmonary stenosis. The primary procedure is dependent on the completed repair. If there is a ventriculotomy, infundibular patch, dilator in the valve, any procedure in the outflow tract, the primary procedure should be coded as the appropriate TOF repair. If there was only a VSD repair done transatrially, the procedure be coded as the appropriate VSD repair.**

December 2020: Is Single Ventricle, Other appropriate to utilize as the fundamental diagnosis in the following scenarios: - Patient with severely hypoplastic right ventricle, d-TGA with VSD and aortic arch hypoplasia, anomalous coronary. Underwent initial palliation with PA banding and arch reconstruction. Second admission to undergo DKS + BDCPA. **Single ventricle, Other**

-Patient with DORV, TGA type with PS. Severely hypoplastic LV. Dysplastic mitral valve that straddles the ventricular septum with greater committment to the RV. Mild to moderate mitral regurgitation. Underwent atrial septectomy and RVOT stent placement in the cath lab. Returned for BDCPA. **Single ventricle, DIRV**

February 2021: What diagnosis and procedure codes should be used for a patient with complete Tracheal Agenesis (absence of trachea down to the carina and absence of laryngeal structure), undergoing Esophageal carinoplasty? We have done a few of these now. Can a code for Tracheal agenesis be added to the next version? Airway disease seems inadequate. This patient also has TAPVR and DORV. Would you use Tracheal agenesis as Fundamental diagnosis, even though it's not cardiac? **The fundamental diagnosis should be the most appropriate cardiac diagnosis. There is not a specific procedure code for tracheal agenesis – the best is likely Airway disease, other.**

February 2021: For a complex single ventricle patient with Heterotaxy, TAPVR, unbalanced AVSD, DORV, pulmonary stenosis, what is the best choice for Fundamental diagnosis? Would it be 851 Single ventricle + TAPVC, since Heterotaxy can be coded as a syndrome? I wish there was a single code that included all of the above.**Single ventricle, heterotaxy is the best diagnosis.**

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| *Long Name:* | Procedures Table Unique Record Identifier | *SeqNo:* | 910 |
| *Short Name:* | **ProcUniqueID** | *Core:* | Yes |
| *Section Name*: | Diagnosis | *Harvest:* | Yes |
| *DBTableName:* | Procedures | | |
| *Definition:* | Unique identifier for the record in the Procedures table. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | Automatic | | |
| *Format:* | Text | | |

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|---|---|---|---|
| *Long Name:* | Procedures Link to Operations Table | *SeqNo:* | 920 |
| *Short Name:* | **OperationID** | *Core:* | Yes |
| *Section Name*: | Procedures | *Harvest:* | Yes |

*DBTableName:* Procedures
*Definition:* An arbitrary, unique value generated by the software that permanently identifies each operation record in the participant's database. This field is the foreign key that links the Procedure record with the associated record in the Operations table.

*Intent / Clarification:*

*Data Source:* Automatic
*Format:* Text

## Procedures

*Long Name:* Procedures
*Short Name:* **Procedure**
*Section Name*: Procedures
*DBTableName:* Procedures
*Definition:* Indicate ALL procedures that were performed during this surgical procedure.

*SeqNo:* 930
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes and Value Definitions:

| Code: | Value: | Definition: |
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| 10 | PFO, Primary closure | Suture closure of patent foramen ovale (PFO). |
| 20 | ASD repair, Primary closure | Suture closure of secundum (most frequently), coronary sinus, sinus venosus or common atrium ASD. |
| 30 | ASD repair, Patch | Patch closure (using any type of patch material) of secundum, coronary sinus, or sinus venosus ASD. |
| 40 | ASD repair, Device | Closure of any type ASD (including PFO) using a device. |
| 2110 | ASD repair, Patch + PAPVC repair | Patch closure (using any type of patch material) of secundum, coronary sinus, or sinus venosus ASD plus PAPVC repair, any type |
| 50 | ASD, Common atrium (single atrium), Septation | Septation of common (single) atrium using any type patch material. |
| 60 | ASD creation/enlargement | Creation of an atrial septal defect or enlargement of an existing atrial septal defect using a variety of modalities including balloon septostomy, blade septostomy, or surgical septectomy. Creation may be accomplished with or without use of cardiopulmonary bypass. |
| 70 | ASD partial closure | Intentional partial closure of any type ASD (partial suture or fenestrated patch closure). |
| 80 | Atrial septal fenestration | Creation of a fenestration (window) in the septum between the atrial chambers. Usually performed using a hole punch, creating a specifically sized communication in patch material placed on the atrial septum. |
| 85 | Atrial fenestration closure | Closure of previously created atrial fenestration using any method including device, primary suture, or patch. |

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| 100 | VSD repair, Primary closure | Suture closure of any type VSD. |
| 110 | VSD repair, Patch | Patch closure (using any type of patch material) of any type VSD. |
| 120 | VSD repair, Device | Closure of any type VSD using a device. |
| 130 | VSD, Multiple, Repair | Closure of more than one VSD using any method or combination of methods. Further information regarding each type of VSD closed and method of closure can be provided by additionally listing specifics for each VSD closed. In the case of multiple VSDs in which only one is closed the procedure should be coded as closure of a single VSD. The fundamental diagnosis, in this case, would be "VSD, Multiple" and a secondary diagnosis can be the morphological type of VSD that was closed at the time of surgery. |
| 140 | VSD creation/enlargement | Creation of a ventricular septal defect or enlargement of an existing ventricular septal defect. |
| 150 | Ventricular septal fenestration | Creation of a fenestration (window) in the septum between the ventricular chambers. Usually performed using a hole punch, creating a specifically sized communication in patch material placed on the ventricular septum. |
| 170 | AVC (AVSD) repair, Complete (CAVSD) | Repair of complete AV canal (AVSD) using one- or two-patch or other technique, with or without mitral valve cleft repair. |
| 180 | AVC (AVSD) repair, Intermediate (Transitional) | Repair of intermediate AV canal (AVSD) using ASD and VSD patch, or ASD patch and VSD suture, or other technique, with or without mitral valve cleft repair. |
| 190 | AVC (AVSD) repair, Partial (Incomplete) (PAVSD) | Repair of partial AV canal defect (primum ASD), any technique, with or without repair of cleft mitral valve. |
| 2300 | Valvuloplasty, Common atrioventricular valve | Common AV valve repair, any type |
| 2250 | Valvuloplasty converted to valve replacement in the same operation, Common atrioventricular valve | Common AV valve repair attempted, converted to valve replacement with prosthetic valve during the same operation |
| 2230 | Valve replacement, Common atrioventricular valve | Replacement of the common AV valve with a prosthetic valve |
| 210 | AP window repair | Repair of AP window using one- or two-patch technique with cardiopulmonary bypass; or, without cardiopulmonary bypass, using transcatheter device or surgical closure. |
| 220 | Pulmonary artery origin from ascending aorta (hemitruncus) repair | Repair of pulmonary artery origin from the ascending aorta by direct reimplantation, autogenous flap, or conduit, with or without use of cardiopulmonary bypass. |
| 230 | Truncus arteriosus repair | Truncus arteriosus repair that most frequently includes patch VSD closure and placement of a conduit from RV to PA. In some cases, a conduit is not placed but an RV to PA connection is made by direct association. Very rarely, there is no VSD to be closed. Truncal valve repair or replacement should be coded separately (Valvuloplasty, Truncal valve; Valve replacement, Truncal valve), as would be the case as well with associated arch anomalies requiring repair (e.g., Interrupted aortic arch repair). |
| 240 | Valvuloplasty, Truncal valve | Truncal valve repair, any type. |
| 2290 | Valvuloplasty converted to valve replacement in the same operation, Truncal valve | Truncal valve repair attempted, converted to valve replacement with prosthetic valve during the same operation |
| 250 | Valve replacement, Truncal valve | Replacement of the truncal valve with a prosthetic valve. |

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| 2220 | Truncus + Interrupted aortic arch repair (IAA) repair | Truncus arteriosus repair usually includes patch VSD closure and placement of a conduit from RV to PA. In some cases, a conduit is not placed but an RV to PA connection is made by direct association. (Very rarely, there is no VSD) plus repair of interrupted aortic arch |
| 260 | PAPVC repair | PAPVC repair revolves around whether an intracardiac baffle is created to redirect pulmonary venous return to the left atrium or if the anomalous pulmonary vein is translocated and connected to the left atrium directly. If there is an associated ASD and it is closed, that procedure should also be listed. |
| 270 | PAPVC, Scimitar, Repair | In scimitar syndrome, PAPVC repair also revolves around whether an intracardiac baffle is created to redirect pulmonary venous return to the left atrium or if the anomalous pulmonary vein is translocated and connected to the left atrium directly. If there is an associated ASD and it is closed, that procedure should also be listed. Occasionally an ASD is created; this procedure also must be listed separately. Concomitant thoracic procedures (e.g., lobectomy, pneumonectomy) should also be included in the procedures listing. |
| 2120 | PAPVC repair, Baffle redirection to left atrium with systemic vein translocation(Warden) (SVC sewn to right atrial appendage) | An intracardiac baffle is created to redirect pulmonary venous return to the left atrium and SVC sewn to right atrial appendage) |
| 280 | TAPVC repair | Repair of TAPVC, any type. Issues surrounding TAPVC repair involve how the main pulmonary venous confluence anastomosis is fashioned, whether an associated ASD is closed or left open or enlarged (ASD closure and enlargement may be listed separately), and whether, particularly in mixed type TAPVC repair, an additional anomalous pulmonary vein is repaired surgically. |
| 2200 | TAPVC repair + Shunt - systemic-to-pulmonary | Repair of TAPVC, any type plus a systemic to pulmonary shunt creation |
| 290 | Cor triatriatum repair | Repair of cor triatriatum. Surgical decision making revolves around the approach to the membrane creating the cor triatriatum defect, how any associated ASD is closed, and how any associated anomalous pulmonary vein connection is addressed. Both ASD closure and anomalous pulmonary venous connection may be listed as separate procedures. |
| 300 | Pulmonary venous stenosis repair | Repair of pulmonary venous stenosis, whether congenital or acquired. Repair can be accomplished with a variety of approaches: sutureless, patch venoplasty, stent placement, etc. |
| 310 | Atrial baffle procedure (non- Mustard, non-Senning) | The atrial baffle procedure code is used primarily for repair of systemic venous anomalies, as in redirection of left superior vena cava drainage to the right atrium. |
| 330 | Anomalous systemic venous connection repair | With the exception of atrial baffle procedures (harvest code 310), anomalous systemic venous connection repair includes a range of surgical approaches, including, among others: ligation of anomalous vessels, reimplantation of anomalous vessels (with or without use of a conduit). December 2020: ~~or redirection of anomalous systemic venous flow through directly to the pulmonary circulation (bidirectional Glenn to redirect LSVC or RSVC to left or right pulmonary artery, respectively).~~ |
| 340 | Systemic venous stenosis repair | Stenosis or obstruction of a systemic vein (most commonly SVC or IVC) may be relieved with patch or conduit placement, excision of the stenotic area with primary reanastomosis or direct reimplantation. |
| 350 | TOF repair, No ventriculotomy | Tetralogy of Fallot repair (assumes VSD closure and relief of pulmonary stenosis at one or more levels), without use of an incision in the infundibulum of the right ventricle for exposure. In most cases this would be a transatrial and |

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| | | transpulmonary artery approach to repair the VSD and relieve the pulmonary stenosis. If the main pulmonary artery incision is extended proximally through the pulmonary annulus, this must be considered "transannular" and thus a ventricular incision, though the length of the incision onto the ventricle itself may be minimal. |
| 360 | TOF repair, Ventriculotomy, Nontransanular patch | Tetralogy of Fallot repair (assumes VSD closure and relief of pulmonary stenosis at one or more levels), with use of a ventriculotomy incision, but without placement of a trans- pulmonary annulus patch. If the main pulmonary artery incision is extended proximally through the pulmonary annulus, this must be considered "transannular" and thus a ventricular incision, though the length of the incision onto the ventricle itself may be minimal. |
| 370 | TOF repair, Ventriculotomy, Transanular patch | Tetralogy of Fallot repair (assumes VSD closure and relief of pulmonary stenosis at one or more levels), with use of a ventriculotomy incision and placement of a trans-pulmonary annulus patch. If the main pulmonary artery incision is extended proximally through the pulmonary annulus, this must be considered "transannular" and thus a ventricular incision, though the length of the incision onto the ventricle itself may be minimal. |
| 3330 | TOF repair, Ventriculotomy, Transanular patch, plus native valve reconstruction | |
| 3340 | TOF repair, Ventriculotomy, Transanular patch with monocusp or other surgically fashioned RVOT valve | |
| 380 | TOF repair, RV-PA conduit | Tetralogy of Fallot repair (assumes VSD closure and relief of pulmonary stenosis at one or more levels), with placement of a right ventricle-to-pulmonary artery conduit. In this procedure the major components of pulmonary stenosis are relieved with placement of the RV-PA conduit. |
| 390 | TOF - AVC (AVSD) repair | Tetralogy of Fallot repair (assumes VSD closure and relief of pulmonary stenosis at one or more levels), with repair of associated AV canal defect. Repair of associated atrial septal defect or atrioventricular valve repair(s) should be listed as additional or secondary procedures under the primary TOF-AVC procedure. |
| 400 | TOF - Absent pulmonary valve repair | Repair of tetralogy of Fallot with absent pulmonary valve complex. In most cases this repair will involve pulmonary valve replacement (pulmonary or aortic homograft, porcine, other) and reduction pulmonary artery arterioplasty. |
| 420 | Pulmonary atresia - VSD (including TOF, PA) repair | For patients with pulmonary atresia with ventricular septal defect without MAPCAs, including those with tetralogy of Fallot with pulmonary atresia, repair may entail either a tetralogy-like repair with transannular patch placement, a VSD closure with placement of an RV-PA conduit, or an intraventricular tunnel VSD closure with transannular patch or RV-PA conduit placement. To assure an accurate count of repairs of pulmonary atresia-VSD without MAPCAs, even if a tetralogy-type repair or Rastelli-type repair is used, the pulmonary atresia-VSD code should be the code used, not Rastelli procedure or tetralogy of Fallot repair with transannular patch. |
| 2700 | Pulmonary atresia – VSD-MAPCA repair, Complete - single stage repair (1-stage that includes bilateral pulmonary unifocalization | 1-stage repair that includes bilateral pulmonary unifocalization+ VSD closure + RV to PA connection [with or without conduit]) |

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| | + VSD closure + RV to PA connection [with or without conduit]) | |
| 2710 | Pulmonary atresia - VSD - MAPCA repair, Status post prior complete unifocalization (includes VSD closure + RV to PA connection [with or without conduit]) | VSD closure + RV to PA connection [with or without conduit] |
| 2720 | Pulmonary atresia - VSD - MAPCA repair, Status post prior incomplete unifocalization (includes completion of pulmonary unifocalization + VSD closure+ RV to PA connection [with or without conduit]) | Completion of pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit])Pulmonary atresia - VSD - MAPCA repair, Status post prior incomplete unifocalization |
| 2730 | Unifocalization MAPCA(s), Bilateral pulmonary unifocalization - Complete unifocalization (all usable MAPCA[s] are incorporated) | Complete unifocalization , all usable MAPCA[s] are incorporated |
| 2740 | Unifocalization MAPCA(s), Bilateral pulmonary unifocalization - Incomplete unifocalization (not all usable MAPCA[s] are incorporated) | Incomplete unifocalization, not all usable MAPCA[s] are incorporated |
| 2750 | Unifocalization MAPCA(s), Unilateral pulmonary unifocalization | MAPCA(s), Unilateral pulmonary unifocalization (one side) |
| 440 | Unifocalization MAPCA(s) | Anastomosis of aortopulmonary collateral arteries into the left, right, or main pulmonary artery or into a tube graft or other type of confluence. The unifocalization procedure may be done on or off bypass. |
| 450 | Occlusion of MAPCA(s) | Occlusion, or closing off, of MAPCAs. This may be done with a transcatheter occluding device, usually a coil, or by surgical techniques. |
| 460 | Valvuloplasty, Tricuspid | Reconstruction of the tricuspid valve may include but not be limited to a wide range of techniques including: leaflet patch extension, artificial chordae placement, and papillary muscle translocation with or without detachment. Annuloplasty techniques that may be done solely or in combination with leaflet, chordae or muscle repair to achieve a competent valve include: eccentric annuloplasty, Kay annular plication, purse- string annuloplasty (including semicircular annuloplasty), sliding annuloplasty, and annuloplasty with ring placement. Do not use this code if tricuspid valve malfunction is secondary to Ebstein's anomaly; instead use the Ebstein's repair procedure code. |
| 2280 | Valvuloplasty converted to valve replacement in the same operation, Tricuspid | Tricuspid valve repair attempted, converted to valve replacement with prosthetic valve during the same operation |

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| 465 | Ebstein's repair | To assure an accurate count of repairs of Ebstein's anomaly of the tricuspid valve, this procedure code was included. Repair of Ebstein's anomaly may include, among other techniques, repositioning of the tricuspid valve, plication of the atrialized right ventricle, or right reduction atrioplasty. Often associated ASD's may be closed and arrhythmias addressed with surgical ablation procedures. These procedures should be entered as separate procedure codes. |
| 470 | Valve replacement, Tricuspid (TVR) | Replacement of the tricuspid valve with a prosthetic valve. |
| 480 | Valve closure, Tricuspid (exclusion, univentricular approach) | In a functional single ventricle heart, the tricuspid valve may be closed using a patch, thereby excluding the RV. Tricuspid valve closure may be used for infants with Ebstein's anomaly and severe tricuspid regurgitation or in patients with pulmonary atresia-intact ventricular septum with sinusoids. |
| 490 | Valve excision, Tricuspid (without replacement) | Excision of the tricuspid valve without placement of a prosthetic valve. |
| 500 | Valve surgery, Other, Tricuspid | Other tricuspid valve surgery not specified in procedure codes. |
| 510 | RVOT procedure | Included in this procedural code would be all RVOT procedures not elsewhere specified in the nomenclature system. These might be, among others: resection of subvalvar pulmonary stenosis (not DCRV type; may be localized fibrous diaphragm or high infundibular stenosis), right ventricular patch augmentation, or reduction pulmonary artery arterioplasty. |
| 520 | 1 1/2 ventricular repair | Partial biventricular repair; includes intracardiac repair with bidirectional cavopulmonary anastomosis to volume unload a small ventricle or poorly functioning ventricle. |
| 530 | PA, reconstruction (plasty), Main (trunk) | Reconstruction of the main pulmonary artery trunk commonly using patch material. If balloon angioplasty is performed or a stent is placed in the main pulmonary artery intraoperatively, this code may be used in addition to the balloon dilation or stent placement code. If MPA reconstruction is performed with PA debanding, both codes should be listed. |
| 540 | PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation) | Reconstruction of the right or left branch (or both right and left) pulmonary arteries (within the hilar bifurcation) commonly using patch material. If balloon angioplasty is performed or a stent is placed in the right or left (or both) pulmonary artery intraoperatively, this code may be used in addition to the balloon dilation or stent placement code. If, rarely, branch PA banding (single or bilateral) was performed in the past and reconstruction is performed associated with debanding, both codes should be listed. |
| 550 | PA, reconstruction (plasty), Branch, Peripheral (at or beyond the first lobar branch) | Reconstruction of the peripheral right or left branch (or both right and left) pulmonary arteries (at or beyond the hilar bifurcation) commonly using patch material. If balloon angioplasty is performed or a stent is placed in the right or left (or both) peripheral pulmonary artery intraoperatively, this code may be used in addition to the balloon dilation or stent placement code. |
| 3350 | PA, reconstruction (plasty), Branch, Peripheral (at or beyond the first lobar branch, proximal to first segmental branch) | |
| 3360 | PA, reconstruction (plasty), Branch, Peripheral (at or beyond the first lobar branch, beyond the first segmental branch) | |

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| 570 | DCRV repair | Surgical repair of DCRV combines relief of the low infundibular stenosis (via muscle resection) and closure of a VSD when present. A ventriculotomy may be required and is repaired by patch enlargement of the infundibulum. VSD closure and patch enlargement of the infundibulum, if done, should be listed as separate procedure codes. |
| 3370 | RV Rehabilitation, Endocardial Resection | |
| 590 | Valvuloplasty, Pulmonic | Valvuloplasty of the pulmonic valve may include a range of techniques including but not limited to: valvotomy with or without bypass, commissurotomy, and valvuloplasty. |
| 2270 | Valvuloplasty converted to valve replacement in the same operation, Pulmonic | Pulmonic valve repair attempted, converted to valve replacement with prosthetic valve during the same operation |
| 600 | Valve replacement, Pulmonic (PVR) | Replacement of the pulmonic valve with a prosthetic valve. Care must be taken to differentiate between homograft pulmonic valve replacement and placement of a homograft RV-PA conduit. |
| 630 | Valve excision, Pulmonary (without replacement) | Excision of the pulmonary valve without placement of a prosthetic valve. |
| 640 | Valve closure, Semilunar | Closure of a semilunar valve (pulmonic or aortic) by any technique. |
| 650 | Valve surgery, Other, Pulmonic | Other pulmonic valve surgery not specified in procedure codes. |
| 610 | Conduit placement, RV to PA | Placement of a conduit, any type, from RV to PA. Intent/Clarification: This is initial conduit placement only. Replacements should be included under conduit reoperations. |
| 620 | Conduit placement, LV to PA | Placement of a conduit, any type, from LV to PA. Intent/Clarification: This is initial conduit placement only. Replacements should be included under conduit reoperations. |
| 1774 | Conduit placement, Ventricle to aorta | Placement of a conduit from the right or left ventricle to the aorta. Intent/Clarification: This is initial conduit placement only. Replacements should be included under conduit reoperations. |
| 1772 | Conduit placement, Other | Placement of a conduit from any chamber or vessel to any vessel, valved or valveless, not listed elsewhere. Intent/Clarification: This is initial conduit placement only. Replacements should be included under conduit reoperations. |
| 580 | Conduit reoperation | Conduit reoperation is the code to be used in the event of conduit failure, in whatever position (LV to aorta, LV to PA, RA to RV, RV to aorta, RV to PA, etc.), and from whatever cause (somatic growth, stenosis, insufficiency, infection, etc.). |
| 660 | Valvuloplasty, Aortic | Valvuloplasty of the aortic valve for stenosis and/or insufficiency including, but not limited to the following techniques: valvotomy (open or closed), commissurotomy, aortic valve suspension, leaflet (left, right or noncoronary) partial resection, reduction, or leaflet shaving, extended valvuloplasty (freeing of leaflets, commissurotomy, and extension of leaflets using autologous or bovine pericardium), or annuloplasty (partial - interrupted or noncircumferential sutures, or complete - circumferential sutures). |
| 2240 | Valvuloplasty converted to valve replacement in the same operation, Aortic | Aortic valve repair attempted, converted to valve replacement with prosthetic valve during the same operation |
| 2310 | Valvuloplasty converted to valve replacement in the same operation, Aortic – with Ross procedure | Aortic valve repair attempted, converted to valve replacement with a pulmonary autograft and replacement of the pulmonary valve with a homograft conduit during the same operation |
| 2320 | Valvuloplasty converted to valve replacement in the same operation, Aortic – | Aortic valve repair attempted, converted to Konno aortoventriculoplasty using a pulmonary autograft root for the aortic root replacement. |

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| | with Ross Konno procedure | |
| 670 | Valve replacement, Aortic (AVR) | Replacement of the aortic valve with a prosthetic valve (mechanical, bioprosthetic, or homograft). Use this code only if type of valve prosthesis is unknown or does not fit into the specific valve replacement codes available. Autograft valve replacement should be coded as a Ross procedure. |
| 680 | Valve replacement, Aortic (AVR), Mechanical | Replacement of the aortic valve with a mechanical prosthetic valve. |
| 690 | Valve replacement, Aortic (AVR), Bioprosthetic | Replacement of the aortic valve with a bioprosthetic prosthetic valve. |
| 700 | Valve replacement, Aortic (AVR), Homograft | Replacement of the aortic valve with a homograft prosthetic valve. |
| 715 | Aortic root replacement, Bioprosthetic | Replacement of the aortic root (that portion of the aorta attached to the heart; it gives rise to the coronary arteries) with a bioprosthesis (e.g., porcine) in a conduit, often composite. |
| 720 | Aortic root replacement, Mechanical | Replacement of the aortic root (that portion of the aorta attached to the heart; it gives rise to the coronary arteries) with a mechanical prosthesis in a composite conduit. |
| 730 | Aortic root replacement, Homograft | Replacement of the aortic root (that portion of the aorta attached to the heart; it gives rise to the coronary arteries) with a homograft. |
| 735 | Aortic root replacement, Valve sparing | Replacement of the aortic root (that portion of the aorta attached to the heart; it gives rise to the coronary arteries) without replacing the aortic valve (using a tube graft). |
| 740 | Ross procedure | Replacement of the aortic valve with a pulmonary autograft and replacement of the pulmonary valve with a homograft conduit. Intent/Clarification: Do not list the pulmonary homograft conduit placement as a separate procedure. The conduit related details can be included in the valve section of the database. |
| 750 | Konno procedure | Relief of left ventricular outflow tract obstruction associated with aortic annular hypoplasia, aortic valvar stenosis and/or aortic valvar insufficiency via Konno aortoventriculoplasty. Components of the surgery include a longitudinal incision in the aortic septum, a vertical incision in the outflow tract of the right ventricle to join the septal incision, aortic valve replacement, and patch reconstruction of the outflow tracts of both ventricles. |
| 760 | Ross-Konno procedure | Relief of left ventricular outflow tract obstruction associated with aortic annular hypoplasia, aortic valvar stenosis and/or aortic valvar insufficiency via Konno aortoventriculoplasty using a pulmonary autograft root for the aortic root replacement. Intent/Clarification: Do not list the pulmonary homograft conduit placement as a separate procedure. The conduit related details can be included in the valve section of the database. |
| 770 | Other annular enlargement procedure | Techniques included under this procedure code include those designed to effect aortic annular enlargement that are not included in other procedure codes. These include the Manouguian and Nicks aortic annular enlargement procedures. |
| 780 | Aortic stenosis, Subvalvar, Repair | Subvalvar aortic stenosis repair by a range of techniques including excision, excision and myotomy, excision and myomectomy, myotomy, myomectomy, initial placement of apical-aortic conduit (LV to aorta conduit replacement would be coded as conduit reoperation) , Vouhé aortoventriculoplasty(aortic annular incision at commissure of left and right coronary cusps is carried down to the septum and RV infundibulum; septal muscle is resected, incisions are closed, and the aortic annulus is reconstituted), or other aortoventriculoplasty techniques. |
| 2100 | Aortic stenosis, Subvalvar, Repair, With myectomy for IHSS | Subvalvar aortic stenosis repair including excision and myectomy |

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| 790 | Aortic stenosis, Supravalvar, Repair | Repair of supravalvar aortic stenosis involving all techniques of patch aortoplasty and aortoplasty involving the use of all autologous tissue. In simple patch aortoplasty a diamond- shaped patch may be used, in the Doty technique an extended patch is placed (Y-shaped patch, incision carried into two sinuses), and in the Brom repair the ascending aorta is transected, any fibrous ridge is resected, and the three sinuses are patched separately. |
| 800 | Valve surgery, Other, Aortic | Other aortic valve surgery not specified in other procedure codes. |
| 3880 | Extended Ventricular Septoplasty (modified Konno, VSD creation and patch enlargement of LVOT, sparing aortic valve for tunnel type sub aortic stenosis) | |
| 810 | Sinus of Valsalva, Aneurysm repair | Sinus of Valsalva aneurysm repair can be organized by site of aneurysm (left, right or noncoronary sinus), type of repair (suture, patch graft, or root repair by tube graft or valved conduit), and approach used (from chamber of origin (aorta) or from chamber of penetration (LV, RV, PA, left or right atrium, etc.). Aortic root replacement procedures in association with sinus of Valsalva aneurysm repairs are usually for associated uncorrectable aortic insufficiency or multiple sinus involvement and the aortic root replacement procedure should also be listed. Additional procedures also performed at the time of sinus of Valsalva aneurysm repair include but are not limited to VSD closure, repair or replacement of aortic valve, and coronary reconstruction; these procedures should also be coded separately from the sinus of Valsalva aneurysm repair. |
| 820 | LV to aorta tunnel repair | LV to aorta tunnel repair can be accomplished by suture, patch, or both, and may require reimplantation of the right coronary artery. Associated coronary artery procedures should be coded separately from the LV to aorta tunnel repair. |
| 830 | Valvuloplasty, Mitral | Repair of mitral valve including, but not limited to: valvotomy (closed or open heart), cleft repair, annuloplasty with or without ring, chordal reconstruction, commissuorotomy, leaflet repair, or papillary muscle repair. |
| 2260 | Valvuloplasty converted to valve replacement in the same operation, Mitral | Mitral valve repair attempted, converted to valve replacement with prosthetic valve during the same operation |
| 840 | Mitral stenosis, Supravalvar mitral ring repair | Supravalvar mitral ring repair. |
| 850 | Valve replacement, Mitral (MVR) | Replacement of mitral valve with prosthetic valve, any kind, in suprannular or annular position. |
| 860 | Valve surgery, Other, Mitral | Other mitral valve surgery not specified in procedure codes. |
| 870 | Norwood procedure | The Norwood operation is synonymous with the term'Norwood (Stage 1)' and is defined as an aortopulmonary connection and neoaortic arch construction resulting in univentricular physiology and pulmonary blood flow controlled with a calibrated systemic-to-pulmonary artery shunt, or a right ventricle to pulmonary artery conduit, or rarely, a cavopulmonary connection. When coding the procedure “Norwood procedure”, the primary procedure of the operation should be “Norwood procedure.” The second procedure that is coded as part of the Norwood(Stage 1) operation (Procedure 2 after the Norwood procedure) must then document the source of pulmonary blood flow and be chosen from the following eight choices: 1. Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS) 2. Shunt, Systemic to pulmonary, Central (from aorta or to |

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| | | main pulmonary artery) 3. Shunt, Systemic to pulmonary, Other 4. Conduit placement, RV to PA 5. Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn) 6. Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn) 7. Bilateral bidirectional cavopulmonary anastomosis (BBDCPA) (bilateral bidirectional Glenn) 8. HemiFontan |
| 880 | HLHS biventricular repair | Performed in patients who have small but adequately sized ventricles to support systemic circulation. These patients usually have small, but not stenotic, aortic and/or mitral valves. Primary biventricular repair has consisted of extensive aortic arch and ascending aorta enlargement with a patch, closure of interventricular and interatrial communications, and conservative approach for left ventricular outflow tract obstruction (which may include mitral stenosis at any level, subaortic stenosis, aortic stenosis, aortic arch hypoplasia, coarctation, or interrupted aortic arch). Concurrent operations (e.g., coarctation repair, aortic valve repair or replacement, etc.) can be coded separately within the database. |
| 3390 | LV Endocardial Fibroelastosis resection | |
| 2755 | Conduit insertion right ventricle to pulmonary artery + Intraventricular tunnel left ventricle to neoaorta + arch reconstruction (Rastelli and Norwood type arch reconstruction) (Yasui) | |
| 2160 | Hybrid Approach "Stage 1", Application of RPA & LPA bands | A “Hybrid Procedure” is defined as a procedure that combines surgical and transcatheter interventional approaches. The term“Hybrid approach” is used somewhat differently than the term“Hybrid Procedure.” A “Hybrid approach” is defined as any of a group of procedures that fit into the general silo of procedures developed from the combined use of surgical and transcatheter interventional techniques. Therefore, not all procedures classified as “Hybrid approach” are truly “Hybrid Procedures.” |
| 2170 | Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) | A “Hybrid Procedure” is defined as a procedure that combines surgical and transcatheter interventional approaches. The term“Hybrid approach” is used somewhat differently than the term“Hybrid Procedure.” A “Hybrid approach” is defined as any of a group of procedures that fit into the general silo of procedures developed from the combined use of surgical and transcatheter interventional techniques. Therefore, not all procedures classified as “Hybrid approach” are truly “Hybrid Procedures.” |
| 2180 | Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands | A “Hybrid Procedure” is defined as a procedure that combines surgical and transcatheter interventional approaches. The term“Hybrid approach” is used somewhat differently than the term“Hybrid Procedure.” A “Hybrid approach” is defined as any of a group of procedures that fit into the general silo of procedures developed from the combined use of surgical and transcatheter interventional techniques. Therefore, not all procedures classified as “Hybrid approach” are truly “Hybrid Procedures.” |
| 2140 | Hybrid approach "Stage 2", Aortopulmonary amalgamation + Superior Cavopulmonary anastomosis(es) + PA Debanding + Aortic arch repair (Norwood [Stage 1] + Superior Cavopulmonary | A “Hybrid Procedure” is defined as a procedure that combines surgical and transcatheter interventional approaches. The term“Hybrid approach” is used somewhat differently than the term“Hybrid Procedure.” A “Hybrid approach” is defined as any of a group of procedures that fit into the general silo of procedures developed from the combined use of surgical and transcatheter interventional techniques. Therefore, not all procedures classified as “Hybrid approach” are truly “Hybrid Procedures.” It should be acknowledged that a Hybrid approach "Stage 2"(Aortopulmonary amalgamation + Superior |

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| | anastomosis(es) + PA Debanding) | Cavopulmonary anastomosis(es) + PA Debanding, with or without Aortic arch repair) gets its name not because it has any actual hybrid elements, but because it is part of a planned staged approach that is typically commenced with a hybrid procedure. |
| 2150 | Hybrid approach "Stage 2", Aortopulmonary amalgamation + Superior Cavopulmonary anastomosis(es) + PA Debanding + Without aortic arch repair | A “Hybrid Procedure” is defined as a procedure that combines surgical and transcatheter interventional approaches. The term“Hybrid approach” is used somewhat differently than the term“Hybrid Procedure.” A “Hybrid approach” is defined as any of a group of procedures that fit into the general silo of procedures developed from the combined use of surgical and transcatheter interventional techniques. Therefore, not all procedures classified as “Hybrid approach” are truly “Hybrid Procedures.” It should be acknowledged that a Hybrid approach "Stage 2"(Aortopulmonary amalgamation + Superior Cavopulmonary anastomosis(es) + PA Debanding, with or without Aortic arch repair) gets its name not because it has any actual hybrid elements, but because it is part of a planned staged approach that is typically commenced with a hybrid procedure. |
| 2760 | Hybrid Approach, Transcardiac balloon dilation | |
| 2770 | Hybrid Approach, Transcardiac transcatheter device placement | Heart transplantation, any technique, allograft or xenograft. |
| 890 | Transplant, Heart | |
| 900 | Transplant, Heart and lung | Heart and lung (single or double) transplantation. |
| 910 | Partial left ventriculectomy (LV volume reduction surgery) (Batista) | Wedge resection of LV muscle, with suturing of cut edges together, to reduce LV volume. |
| 920 | Pericardial drainage procedure | Pericardial drainage can include a range of therapies including, but not limited to: pericardiocentesis, pericardiostomy tube placement, pericardial window creation, and open pericardial drainage (pericardiotomy). |
| 930 | Pericardiectomy | Surgical removal of the pericardium. |
| 940 | Pericardial procedure, Other | Other pericardial procedures that include, but are not limited to: pericardial reconstruction for congenital absence of the pericardium, pericardial biopsy, pericardial mass or cyst excision. |
| 950 | Fontan, Atrio-pulmonary connection | The atrio-pulmonary Fontan is a type of Fontan with connection of the atrium to the pulmonary artery. “The Fontan” is defined as an operation or intervention that results in caval flow from both the upper and lower body draining to the pulmonary circulation in a patient with a functionally univentricular heart. |
| 960 | Fontan, Atrio-ventricular connection | The atrio-ventricular Fontan is a type of Fontan with atrio- ventricular connection, either direct or with RA-RV conduit, valved or nonvalved. "The Fontan" is defined as an operation or intervention that results in caval flow from both the upper and lower body draining to the pulmonary circulation in a patient with a functionally univentricular heart. |
| 970 | Fontan, TCPC, Lateral tunnel, Fenestrated | The lateral tunnel Fontan is a TCPC type of Fontan Procedure created with anastomosis of SVC and right atrium to the branch pulmonary artery and an intra-atrial baffle to direct IVC flow to pulmonary artery. “The Fontan” is defined as an operation or intervention that results in caval flow from both the upper and lower body draining to the pulmonary circulation in a patient with a functionally univentricular heart. A “TCPC” is a Fontan where both the superior caval vein and the inferior caval vein are connected to the pulmonary circulation through separate connections that are either direct connections or tubular pathways. A fenestration of a Fontan is defined as a communication that is created to allow flow of blood between the systemic and pulmonary venous chambers. |

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| 980 | Fontan, TCPC, Lateral tunnel, Nonfenestrated | The lateral tunnel Fontan is a TCPC type of Fontan Procedure created with anastomosis of SVC and right atrium to the branch pulmonary artery and an intra-atrial baffle to direct IVC flow to pulmonary artery. “The Fontan” is defined as an operation or intervention that results in caval flow from both the upper and lower body draining to the pulmonary circulation in a patient with a functionally univentricular heart. A “TCPC” is a Fontan where both the superior caval vein and the inferior caval vein are connected to the pulmonary circulation through separate connections that are either direct connections or tubular pathways. A fenestration of a Fontan is defined as a communication that is created to allow flow of blood between the systemic and pulmonary venous chambers. |
| 1000 | Fontan, TCPC, External conduit, Fenestrated | The external conduit Fontan is a TCPC type of Fontan operation created with anastomosis of SVC to the branch pulmonary artery a conduit outside of the heart to connect the infradiaphragmatic systemic venous return to the pulmonary artery. “The Fontan” is defined as an operation or intervention that results in caval flow from both the upper and lower body draining to the pulmonary circulation in a patient with a functionally univentricular heart. A “TCPC” is a Fontan where both the superior caval vein and the inferior caval vein are connected to the pulmonary circulation through separate connections that are either direct connections or tubular pathways. A fenestration of a Fontan is defined as a communication that is created to allow flow of blood between the systemic and pulmonary venous chambers. |
| 1010 | Fontan, TCPC, External conduit, Nonfenestrated | The external conduit Fontan is a TCPC type of Fontan operation created with anastomosis of SVC to the branch pulmonary artery a conduit outside of the heart to connect the infradiaphragmatic systemic venous return to the pulmonary artery. “The Fontan” is defined as an operation or intervention that results in caval flow from both the upper and lower body draining to the pulmonary circulation in a patient with a functionally univentricular heart. A “TCPC” is a Fontan where both the superior caval vein and the inferior caval vein are connected to the pulmonary circulation through separate connections that are either direct connections or tubular pathways. A fenestration of a Fontan is defined as a communication that is created to allow flow of blood between the systemic and pulmonary venous chambers. |
| 2780 | Fontan, TCPC, Intra/extracardiac conduit, Fenestrated | The TCPC with Intra/extracardiac conduit is a TCPC type of Fontan operation created with a tube where the tube is attached to the inferior caval vein inside of the heart, and then the tube passes outside of the heart and is attached to the pulmonary artery outside of the heart. “The Fontan” is defined as an operation or intervention that results in caval flow from both the upper and lower body draining to the pulmonary circulation in a patient with a functionally univentricular heart. A “TCPC” is a Fontan where both the superior caval vein and the inferior caval vein are connected to the pulmonary circulation through separate connections that are either direct connections or tubular pathways. A fenestration of a Fontan is defined as a communication that is created to allow flow of blood between the systemic and pulmonary venous chambers. |
| 2790 | Fontan, TCPC, Intra/extracardiac conduit, Nonfenestrated | The TCPC with Intra/extracardiac conduit is a TCPC type of Fontan operation created with a tube where the tube is attached to the inferior caval vein inside of the heart, and then the tube passes outside of the heart and is attached to the pulmonary artery outside of the heart. “The Fontan” is defined as an operation or intervention that results in caval flow from both the upper and lower body draining to the pulmonary circulation in a patient with a functionally univentricular heart. A “TCPC” is a Fontan where both the superior caval vein and the inferior caval vein are connected to the pulmonary circulation through separate connections that are either direct connections or tubular pathways. A |

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| | | fenestration of a Fontan is defined as a communication that is created to allow flow of blood between the systemic and pulmonary venous chambers. |
| 3310 | Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Fenestrated | |
| 3320 | Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Nonfenestrated | |
| 1025 | Fontan revision or conversion(Re-do Fontan) | "Fontan revision or conversion (Re-do Fontan)" is defined as an operation where a previously created Fontan circuit is either modified or taken down and changed into a different type of Fontan. "The Fontan" is defined as an operation or intervention that results in caval flow from both the upper and lower body draining to the pulmonary circulation in a patient with a functionally univentricular heart. A "TCPC" is a Fontan where both the superior caval vein and the inferior caval vein are connected to the pulmonary circulation through separate connections that are either direct connections or tubular pathways. |
| 1030 | Fontan, Other | Other Fontan procedure not specified in procedure codes. May include takedown of a Fontan procedure. "The Fontan" is defined as an operation or intervention that results in caval flow from both the upper and lower body draining to the pulmonary circulation in a patient with a functionally univentricular heart. |
| 2340 | Fontan + Atrioventricular valvuloplasty | "Fontan + Atrioventricular valvuloplasty" is defined as an operation to repair the systemic atrioventricular valve combined with a Fontan operation. Please also code the type of Fontan operation performed as the second procedure of this operation. "The Fontan" is defined as an operation or intervention that results in caval flow from both the upper and lower body draining to the pulmonary circulation in a patient with a functionally univentricular heart. |
| 1035 | Ventricular septation | Creation of a prosthetic ventricular septum. Surgical procedure used to septate univentricular hearts with two atrioventricular valves. Additional procedures, such as resection of subpulmonic stenosis, should be listed separately. |
| 1050 | Congenitally corrected TGA repair, Atrial switch and ASO (double switch) | Repair of congenitally corrected TGA by concomitant atrial switch (Mustard or Senning) and arterial switch operation. VSD closure is usually performed as well; this should be coded separately. |
| 1060 | Congenitally corrected TGA repair, Atrial switch and Rastelli | Repair of congenitally corrected TGA by concomitant atrial switch (Mustard or Senning) and VSD closure to the aortic valve with placement of an RV-to-PA conduit. |
| 1070 | Congenitally corrected TGA repair, VSD closure | Repair of congenitally corrected TGA by VSD closure only. |
| 1080 | Congenitally corrected TGA repair, VSD closure and LV to PA conduit | Repair of congenitally corrected TGA by VSD closure and placement of an LV-to-PA conduit. |
| 1090 | Congenitally corrected TGA repair, Other | Any procedures for correction of CCTGA not otherwise specified in other listed procedure codes. |
| 1110 | Arterial switch operation (ASO) | Arterial switch operation is used for repair of transposition of the great arteries (TGA). The pulmonary artery and aorta are transected and translocated so that the pulmonary artery arises from the right ventricle and the aorta from the left ventricle. Coronary artery transfer is also accomplished. |
| 1120 | Arterial switch operation (ASO) and VSD repair | Arterial switch operation is used for repair of transposition of the great arteries (TGA). The pulmonary artery and aorta are transected and translocated so that the pulmonary artery arises from the right ventricle and the aorta from the left |

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| | | ventricle. Coronary artery transfer is also accomplished. The VSD is closed, usually with a patch. |
| 1123 | Arterial switch procedure + Aortic arch repair | Concomitant arterial switch operation and repair of the aortic arch in patients with transposition of the great arteries with intact ventricular septum and associated coarctation of the aorta or interrupted aortic arch. |
| 1125 | Arterial switch procedure and VSD repair + Aortic arch repair | Concomitant arterial switch operation with VSD closure and repair of aortic arch in patients with transposition of the great arteries with VSD and associated coarctation of the aorta or interrupted aortic arch. |
| 1130 | Senning | Atrial baffle procedure for rerouting of venous flow in TGA resulting in a "physiological repair." The caval flow is directed behind the baffle to the mitral valve, left ventricle and pulmonary artery while the pulmonary venous flow is directed in front of the baffle to the tricuspid valve, right ventricle, and aorta. The Senning procedure uses atrial wall to construct the baffle. |
| 1140 | Mustard | Atrial baffle procedure for rerouting of venous flow in TGA resulting in a "physiological repair." The caval flow is directed behind the baffle to the mitral valve, left ventricle and pulmonary artery while pulmonary venous flow is directed in front of the baffle to the tricuspid valve, right ventricle, and aorta. The Mustard procedure uses patch material to construct the baffle. |
| 1145 | Atrial baffle procedure, Mustard or Senning revision | Revision of a previous atrial baffle procedure (either Mustard or Senning), for any reason (e.g., obstruction, baffle leak). |
| 1150 | Rastelli | Most often used for patients with TGA-VSD and significant LVOTO, the Rastelli operation consists of an LV-to-aorta intraventricular baffle closure of the VSD and placement of an RV-to-PA conduit. |
| 1160 | REV | The Lecompte (REV) intraventricular repair is designed for patients with abnormalities of ventriculoarterial connection in whom a standard intraventricular tunnel repair cannot be performed. It is also suitable for patients in whom an arterial switch procedure with tunneling of the VSD to the pulmonary artery cannot be performed because of pulmonary (left ventricular outflow tract) stenosis. A right ventriculotomy incision is made. The infundibular (conal) septum, located between the two semilunar valves, is aggressively resected if its presence interferes with the construction of a tunnel from the VSD to the aorta. The VSD is then tunneled to the aorta. The decision to perform or not to perform the Lecompte maneuver should be made at the beginning of the operation. If the Lecompte maneuver is not performed the pulmonary artery is translocated to the right ventricular outflow tract on the side of the aorta that provides the shortest route. (When the decision to perform the Lecompte maneuver has been made, the great vessels are transected and this maneuver is performed at the beginning of the operation.) The pulmonary artery orifice is then closed. The aorta, if it had been transected during the performance of the Lecompte maneuver, is then reconstructed. A vertical incision is made on the anterior aspect of the main pulmonary artery. The posterior margin of the pulmonary artery is sutured to the superior aspect of the vertical right ventriculotomy incision. A generous patch of autologous pericardium is used to close the inferior portion of the right ventriculotomy and the anterior portion of the pulmonary artery. A monocusp pericardial valve is inserted extemporaneously. |
| 2190 | Aortic root translocation over left ventricle (Including Nikaidoh procedure) | |

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| 2210 | TGA, Other procedures (Kawashima, LV-PA conduit, other) | |
| 3400 | Double root translocation | |
| 1180 | DORV, Intraventricular tunnel repair | Repair of DORV using a tunnel closure of the VSD to the aortic valve. This also includes the posterior straight tunnel repair of Kawashima |
| 3410 | DORV repair, No Ventriculotomy | |
| 3420 | DORV repair, Ventriculotomy, Nontransannular patch | |
| 3430 | DORV repair, Ventriculotomy, Transannular patch | |
| 3440 | DORV repair, RV-PA conduit | |
| 3450 | DORV – AVC (AVSD) repair | |
| 1200 | DOLV repair | Because of the morphologic variability of DOLV, there are many approaches to repair, including: intraventricular tunnel repair directing the VSD to the pulmonary valve, the REV procedure, or the Rastelli procedure. In the case of DOLV use this code for tunnel closure to the pulmonary valve. If the REV or Rastelli procedures are performed then use those respective codes. |
| 1210 | Coarctation repair, End to end | Repair of coarctation of aorta by excision of the coarctation segment and end-to-end circumferential anastomosis of the aorta. |
| 1220 | Coarctation repair, End to end, Extended | Repair of coarctation of the aorta by excision of the coarctation segment and end-to-end anastomosis of the oblique ends of the aorta, creating an extended anastomosis. |
| 3460 | Coarctation repair, Descending aorta anastomosed to Ascending aorta | |
| 1230 | Coarctation repair, Subclavian flap | Repair of coarctation of the aorta by ligating, dividing, and opening the subclavian artery, incising the coarctation site, and folding down the subclavian artery onto the incision in the aorta, suturing the subclavian "flap" in place, creating a roof over the area of the previous coarctation. |
| 1240 | Coarctation repair, Patch aortoplasty | Repair of coarctation of the aorta by incising the coarctation site with placement of a patch sutured in place longitudinally along the aortotomy edge. |
| 1250 | Coarctation repair, Interposition graft | Repair of coarctation of the aorta by resection of the coarctation segment and placement of a prosthetic tubular interposition graft anastomosed circumferentially to the cut ends of the aorta. |
| 3470 | Coarctation repair, Extra-anatomic Bypass graft | |
| 1260 | Coarctation repair, Other | Any repair of coarctation not specified in procedure codes. This may include, for example, a combination of two approaches for coarctation repair or extra-anatomic bypass graft, etc. |
| 1275 | Coarctation repair + VSD repair | Coarctation of aorta repair, any technique, and simultaneous VSD repair, any type VSD, any type repair. |
| 1280 | Aortic arch repair | Aortic arch repair, any technique. |
| 1285 | Aortic arch repair + VSD repair | Aortic arch repair, any technique, and simultaneous VSD repair, any type VSD, any type repair. This includes repair of IAA with VSD. |

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| 1290 | Coronary artery fistula ligation | Coronary artery fistula repair using any technique. If additional technique information may be supplied by another procedure code, please list separately (e.g., bypass graft). |
| 1291 | Anomalous origin of coronary artery from pulmonary artery repair | Repair of anomalous origin of the coronary artery (any) from the pulmonary artery, by any technique (ligation, translocation with aortic implantation, Takeuchi operation, or bypass graft). If additional technique information may be supplied by another procedure code, please list separately (for example, bypass graft). |
| 1300 | Coronary artery bypass | Coronary artery bypass graft procedure, any technique (with or without CPB, venous or arterial graft, one or more grafts, etc.), for any coronary artery pathology (coronary arterial fistula, aneurysm, coronary bridging, atresia of left main, acquired coronary artery disease, etc.). |
| 1305 | Anomalous aortic origin of coronary artery from aorta (AAOCA) repair | |
| 1310 | Coronary artery procedure, Other | Any coronary artery procedure not specifically listed. |
| 1320 | Interrupted aortic arch repair | Repair of interrupted aortic arch (any type) by any technique (direct anastomosis, prosthetic graft, etc.). Does not include repair of IAA-VSD. |
| 1330 | PDA closure, Surgical | Closure of a PDA by any surgical technique (ligation, division, clip) using any approach (i.e., thoracotomy, thoracoscopic, etc.). |
| 1340 | PDA closure, Device | Closure of a PDA by device using transcatheter techniques. |
| 1360 | Vascular ring repair | Repair of vascular ring (any type, except pulmonary artery sling) by any technique. |
| 1365 | Aortopexy | Surgical fixation of the aorta to another structure (usually the posterior aspect of the sternum) to relieve compression on another vessel or structure (e.g., trachea). |
| 1370 | Pulmonary artery sling repair | Pulmonary artery sling repair by any technique. |
| 1380 | Aortic aneurysm repair | Aortic aneurysm repair by any technique. |
| 1390 | Aortic dissection repair | Aortic dissection repair by any technique. |
| 1400 | Lung biopsy | Lung biopsy, any technique. |
| 1410 | Transplant, lung(s) | Lung or lobe transplantation of any type. |
| 1420 | Lung procedure, Other | Included in this procedure code would be any lung procedure other than transplant, such as, but not limited to: pneumonectomy (left or right), lobectomy (any lobe), bilobectomy (two lobes), segmental lung resection (any segment), or wedge resection. |
| 1440 | Tracheal procedure | Any tracheal procedure, including but not limited to relief of tracheal stenosis (any means including pericardial graft, autograft insertion, homograft insertion, resection with reanastomosis, rib cartilage insertion, or slide tracheoplasty). Tracheal stent placement or balloon dilation should be coded separately. |
| 2800 | Muscle flap, Trunk (i.e. intercostal, pectus, or serratus muscle) | A trunk muscle flap (intercostal, pectus, or serratus muscle) is rotated to buttress or augment a suture line, anastomosis or fill the pleural space. |
| 2810 | Muscle flap, Trunk (i.e. latissimus dorsi) | A trunk muscle flap (latissimus dorsi) is rotated to buttress or augment a suture line, anastomosis or fill the pleural space. |
| 2820 | Removal, Sternal wire | Excision of wire used to approximate sternum, previous sternotomy |
| 2830 | Rib excision, Complete | Complete excision of rib(s) |
| 2840 | Rib excision, Partial | Partial excision of rib(s) |

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| 2850 | Sternal fracture, Open treatment | Repair of a sternal fracture with sutures, wires, plates or bars. |
| 2860 | Sternal resection, Radical resection of the sternum | Involves removal of the sternum with complex reconstructive requirements for either a tumor or severe sternal infection. |
| 2870 | Sternal resection, Radical resection of sternum with mediastinal lymphadenectomy | Involves resection of the sternum and mediastinal lymph node dissection. |
| 2880 | Tumor of chest wall - Excision including ribs | Excision of ribs and attached muscles for a benign or malignant tumor of the chest wall. When three or less ribs are taken or if the defect is covered by the scapula, reconstruction may not be necessary. |
| 2890 | Tumor of chest wall - Excision including ribs, With reconstruction | Resection of the chest wall tumor with reconstruction of the defect, usually with plastic mesh (marlex, prolene), methylmethracralate/mesh sandwich or a muscle flap. |
| 2900 | Tumor of soft tissue of thorax- Excision of deep subfascial or intramuscular tumor | Excision of a deep chest wall tumor that involves the muscles but not the ribs. These would usually be benign tumors such as a fibroma or a deep lipoma. |
| 2910 | Tumor of soft tissue of thorax- Excision of subcutaneous tumor | Excision of tumor in the skin/fat of the chest wall-typically a lipoma. |
| 2920 | Tumor of soft tissue of thorax- Radical resection | En-bloc, radical excision of a cancer of the chest wall muscles, involving the skin, fat and muscles. Typically it would be a desmoid tumor or a sarcoma malignant fibrous histiocytoma, rhabdomyosarcoma. |
| 2930 | Hyoid myotomy and suspension | Typically done as a suprahyoid laryngeal release to reduce tension on a cervical tracheal resection anastomosis. The hyoid bone is cut laterally on both sides to allow it to drop down andthus lower the larynx and trachea. |
| 2940 | Muscle flap, Neck | A neck muscle flap is rotated to buttress or augment a suture line, anastomosis or fill a space. Commonly used neck muscles are strap muscles, sternocleidomastoid muscle, levator scapulae. |
| 2950 | Procedure on neck | Unlisted procedure of the neck |
| 2960 | Tumor of soft tissue of neck - Excision of deep subfascial or intramuscular tumor | Excision of a tumor that involves the muscles of the neck. These would usually be benign tumors such as a fibroma or a deep lipoma. |
| 2970 | Tumor of soft tissue of neck - Excision of subcutaneous tumor | Excision of a tumor in the skin/fat of the neck-typically a lipoma. |
| 2980 | Tumor of soft tissue of neck - Radical resection | A surgical procedure in which the fibrofatty contents of the neckare removed for the treatment of cervical lymphatic metastases. Neck dissection is most commonly used in the management of cancers of the upper aerodigestive tract. It is also used for malignancies of the skin of the head and neck area, the thyroid, and the salivary glands. |
| 2990 | Pectus bar removal | Removal of a previously implanted chest wall bar |
| 3000 | Pectus bar repositioning | Repositioning of a previously implanted chest wall bar |
| 3010 | Pectus repair, Minimally invasive repair (Nuss), With thoracoscopy | Placement of a Nuss transverse chest wall bar to push the sternum forward to repair a pectus deformity, with thoracoscopy |
| 3020 | Pectus repair, Minimally invasive repair (Nuss), Without thoracoscopy | Placement of a Nuss transverse chest wall bar to push the sternum forward to repair a pectus deformity, without thoracoscopy |

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| 3030 | Pectus repair, Open repair | Resection of several costal cartilages, a partial osteotomy of the sternum, and often placement of a temporary bar for stabilization of pectus chest wall deformity |
| 3040 | Division of scalenus anticus, With resection of a cervical rib | Repair of Thoracic Outlet Syndrome variant where the scalenus anticus muscle or a band from it impinges on the brachial plexus along with resection of the abnormal cervical rib |
| 3050 | Division of scalenus anticus, Without resection of a cervical rib | Repair of Thoracic Outlet Syndrome variant where the scalenus anticus muscle or a band from it impinges on the brachial plexus along without resection of the abnormal cervical rib |
| 3060 | Rib excision, Excision of cervical rib | Removal of the first rib or a cervical rib for treatment of Thoracic Outlet Syndrome |
| 3070 | Rib excision, Excision of cervical rib, With sympathectomy | Removal of the first rib or a cervical rib and sympathectomy for treatment of Thoracic Outlet Syndrome |
| 3080 | Rib excision, Excision of first rib | Removal of the first rib |
| 3090 | Rib excision, Excision of first rib, With sympathectomy | Removal of the first rib and sympathectomy |
| 3100 | Procedure on thorax | Unlisted procedure on thorax |
| 1450 | Pacemaker implantation, Permanent | Implantation of a permanent pacemaker of any type (e.g., single-chamber, dual-chamber, atrial antitachycardia), with any lead configuration or type (atrial, ventricular, atrial and ventricular, transvenous, epicardial, transmural), by any technique (sternotomy, thoracotomy etc.). Code this for first time implants or when generators were replaced and leads were added (not removed). |
| 1460 | Pacemaker procedure | Any revision to a previously placed pacemaker system including revisions to leads, generators, pacemaker pockets. This may include explantation of pacemakers or leads as well. Clarification – this includes placement of temporary pacing wires. Code this if either the generator and/or leads were revised or removed. In the event of removal, only the generator or leads removed, not both. |
| 2350 | Explantation of pacing system | Removal of pacemaker generator and wires. If a generator and a wire were both removed, code this as the primary procedure. |
| 1470 | ICD (AICD) implantation | Implantation of an (automatic) implantable cardioverter defibrillator system. |
| 1480 | ICD (AICD) ([automatic] implantable cardioverter defibrillator) procedure | Any revision to a previously placed AICD including revisions to leads, pads, generators, pockets. This may include explantation procedures as well. |
| 1490 | Arrhythmia surgery - atrial, Surgical Ablation | Surgical ablation (any type) of any atrial arrhythmia. |
| 1500 | Arrhythmia surgery - ventricular, Surgical Ablation | Surgical ablation (any type) of any ventricular arrhythmia. |
| 2500 | Cardiovascular catheterization procedure, Diagnostic | Invasive diagnostic procedure involving the heart and great vessels |
| 2520 | Cardiovascular catheterization procedure, Diagnostic, Angiographic data obtained | Invasive diagnostic procedure involving the heart and great vessels using angiography |
| 2550 | Cardiovascular catheterization procedure, Diagnostic, | |

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| | Electrophysiology alteration | |
| 2540 | Cardiovascular catheterization procedure, Diagnostic, Hemodynamic alteration | Invasive diagnostic procedure involving pressure or flow alteration in the cardiovascular system |
| 2510 | Cardiovascular catheterization procedure, Diagnostic, Hemodynamic data obtained | Invasive diagnostic procedure involving pressure and flow assessment of the heart and great vessels |
| 2530 | Cardiovascular catheterization procedure, Diagnostic, Transluminal test occlusion | |
| 2410 | Cardiovascular catheterization procedure, Therapeutic | Invasive therapeutic procedure involving the heart and great vessels |
| 2670 | Cardiovascular catheterization procedure, Therapeutic, Adjunctive therapy | |
| 1540 | Cardiovascular catheterization procedure, Therapeutic, Balloon dilation | Invasive therapeutic procedure involving balloon dilatation of a cardiovascular structure |
| 2590 | Cardiovascular catheterization procedure, Therapeutic, Balloon valvotomy | Invasive therapeutic procedure involving balloon dilatation of a valve |
| 1580 | Cardiovascular catheterization procedure, Therapeutic, Coil implantation | Invasive therapeutic procedure involving implantation of a coil |
| 1560 | Cardiovascular catheterization procedure, Therapeutic, Device implantation | Invasive therapeutic procedure involving implantation of a device |
| 3110 | Cardiovascular catheterization procedure, Therapeutic, Device implantation attempted | Invasive therapeutic procedure involving attempted but unsuccessful implantation of a device |
| 2690 | Cardiovascular catheterization procedure, Therapeutic, Electrophysiological ablation. | Invasive therapeutic procedure involving Catheter based creation of lesions in the heart with radiofrequency energy, cryotherapy , or ultrasound energy to cure or control arrhythmias |
| 3120 | Cardiovascular catheterization procedure, Therapeutic, Intravascular foreign body removal | Invasive therapeutic procedure involving removal of an intravascular foreign body |
| 2640 | Cardiovascular catheterization procedure, Therapeutic, Perforation | Invasive therapeutic procedure establishing interchamber and/or intervessel communication |

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| | (establishing interchamber and/or intervessel communication) | |
| 2580 | Cardiovascular catheterization procedure, Therapeutic, Septostomy | Invasive therapeutic procedure establishing an intracardiac septa communication |
| 1550 | Cardiovascular catheterization procedure, Therapeutic, Stent insertion | Invasive therapeutic procedure involving implantation of a stent |
| 2630 | Cardiovascular catheterization procedure, Therapeutic, Stent re-dilation | Invasive therapeutic procedure involving dilatation of a previously implanted stent |
| 2650 | Cardiovascular catheterization procedure, Therapeutic, Transcatheter Fontan completion | |
| 2660 | Cardiovascular catheterization procedure, Therapeutic, Transcatheter implantation of valve | Invasive therapeutic procedure involving deployment/ implantation of a valve |
| 1590 | Shunt, Systemic to pulmonary, Modified Blalock- Taussig Shunt (MBTS) | Placement of a tube graft from a branch of the aortic arch to the pulmonary artery with or without bypass, from any approach (thoracotomy, sternotomy). |
| 1600 | Shunt, Systemic to pulmonary, Central (shunt from aorta) | A direct anastomosis or placement of a tube graft from the aorta to the pulmonary artery with or without bypass, from any approach (thoracotomy, sternotomy). |
| 3130 | Shunt, Systemic to pulmonary, Central (shunt from aorta), Central shunt with an end-to-side connection between the transected main pulmonary artery and the side of the ascending aorta (i.e. Mee shunt) | Creation of a central shunt with an end-to-side connection between the transected main pulmonary artery and the side of the ascending aorta |
| 3230 | Shunt, Systemic to pulmonary, Potts - Smith type(descending aorta to pulmonary artery) | |
| 1610 | Shunt, Systemic to pulmonary, Other | Placement of any other systemic-to-pulmonary artery shunt, with or without bypass, from any approach (thoracotomy, sternotomy) that is not otherwise coded. Includes classic Blalock-Taussig systemic-to-pulmonary artery shunt. |
| 1630 | Shunt, Ligation and takedown | Takedown of any shunt. |
| 2095 | Shunt, Reoperation | Revision or replacement of a previously created shunt |
| 1640 | PA banding (PAB) | Placement of a pulmonary artery band, any type. |
| 1650 | PA debanding | Debanding of pulmonary artery. Please list separately any pulmonary artery reconstruction required. |
| 3200 | PA band adjustment | |

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| 1660 | Damus-Kaye-Stansel procedure(DKS) (creation of AP anastomosis without arch reconstruction) | In the Damus-Kaye-Stansel procedure the proximal transected main pulmonary artery is connected by varying techniques to the aorta. |
| 1670 | Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn) | Superior vena cava to pulmonary artery anastomosis allowing flow to both pulmonary arteries with an end-to-side superior vena-to-pulmonary artery anastomosis. |
| 1680 | Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn) | Superior vena cava to ipsilateral pulmonary artery anastomosis (i.e., LSVC to LPA, RSVC to RPA). |
| 1690 | Bilateral bidirectional cavopulmonary anastomosis(BBDCPA) (bilateral bidirectional Glenn) | Bilateral superior vena cava-to-pulmonary artery anastomoses (requires bilateral SVCs). |
| 1700 | HemiFontan | A HemiFontan is an operation that includes a bidirectional superior vena cava (SVC)-to-pulmonary artery anastomosis and the connection of this “SVC-pulmonary artery amalgamation” to the atrium, with a “dam” between this “SVC-pulmonary artery amalgamation” and the atrium. This operation can be accomplished with a variety of operative strategies including the following two techniques and other techniques that combine elements of both of these approaches: (1) Augmenting both branch pulmonary arteries with a patch and suturing the augmented branch pulmonary arteries to an incision in the medial aspect of the superior vena cava. (With this approach, the pulmonary artery patch forms a roof over the SVC-to-pulmonary artery anastomosis and also forms a “dam” between the SVC-pulmonary artery amalgamation and the right atrium.) (2) Anastomosing both ends of the divided SVC to incisions in the top and bottom of the right pulmonary artery, and using a separate patch to close junction of the SVC and the right atrium. |
| 2330 | Superior cavopulmonary anastomosis(es) (Glenn or HemiFontan) + Atrioventricular valvuloplasty | |
| 2130 | Superior Cavopulmonary anastomosis(es) + PA reconstruction | |
| 3300 | Takedown of superior cavopulmonary anastomosis | |
| 3140 | Hepatic vein to azygous vein connection, Direct | |
| 3150 | Hepatic vein to azygous vein connection, Interposition graft | |
| 3160 | Kawashima operation (superior cavopulmonary connection in setting of | |

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| | interrupted IVC with azygous continuation) | |
| 1710 | Palliation, Other | Any other palliative procedure not specifically listed. |
| 2360 | ECMO cannulation | Insertion of cannulas for extracorporeal membrane oxygenation |
| 2370 | ECMO decannulation | Removal of cannulas for extracorporeal membrane oxygenation |
| 1910 | ECMO procedure | Any ECMO procedure (cannulation, decannulation, etc.). |
| 1900 | Intraaortic balloon pump (IABP) insertion | Insertion of intraaortic balloon pump by any technique. |
| 1920 | Right/left heart assist device procedure | Any right, left, or biventricular assist device procedure (placement, removal etc.). |
| 2390 | VAD explantation | Removal of ventricular assist device |
| 2380 | VAD implantation | Insertion of a ventricular assist device |
| 3170 | VAD change out | Removal of previously inserted ventricular assist device and insertion of a new device |
| 2420 | Echocardiography procedure, Sedated transesophageal echocardiogram | Procedural sedation for echocardiogram |
| 2430 | Echocardiography procedure, Sedated transthoracic echocardiogram | Procedural sedation for echocardiogram, transthoracic |
| 2435 | Non-cardiovascular, Non-thoracic procedure on cardiac patient with cardiac anesthesia | Anesthesia provided by cardiac anesthesiologist for patient with congenital heart disease undergoing a non- cardiovascular, non-thoracic procedure |
| 2440 | Radiology procedure on cardiac patient, Cardiac Computerized Axial Tomography (CT Scan) | A patient with congenital heart disease undergoing cardiac CT scan |
| 2450 | Radiology procedure on cardiac patient, Cardiac Magnetic Resonance Imaging (MRI) | A patient with congenital heart disease undergoing cardiac MRI |
| 2460 | Radiology procedure on cardiac patient, Diagnostic radiology | A patient with congenital heart disease undergoing a diagnostic radiology procedure |
| 2470 | Radiology procedure on cardiac patient, Non-Cardiac Computerized Tomography (CT) on cardiac patient | A patient with congenital heart disease undergoing a non-cardiac CT scan |
| 2480 | Radiology procedure on cardiac patient, Non-cardiac Magnetic Resonance Imaging(MRI) on cardiac patient | A patient with congenital heart disease undergoing non-cardiac MRI |
| 2490 | Radiology procedure on cardiac patient, Therapeutic radiology | A patient with congenital heart disease undergoing a therapeutic radiology procedure |
| 1720 | Aneurysm, Ventricular, Right, Repair | Repair of right ventricular aneurysm, any technique. |

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| 1730 | Aneurysm, Ventricular, Left, Repair | Repair of left ventricular aneurysm, any technique. |
| 1740 | Aneurysm, Pulmonary artery, Repair | Repair of pulmonary artery aneurysm, any technique. |
| 1760 | Cardiac tumor resection | Resection of cardiac tumor, any type. |
| 1780 | Pulmonary AV fistula repair/occlusion | Repair or occlusion of a pulmonary arteriovenous fistula. |
| 1790 | Ligation, Pulmonary artery | Ligation or division of the pulmonary artery. Most often performed as a secondary procedure. |
| 1802 | Pulmonary embolectomy, Acute pulmonary embolus | Acute pulmonary embolism (clot) removal, through catheter or surgery. |
| 1804 | Pulmonary embolectomy, Chronic pulmonary embolus | Chronic pulmonary embolism (clot) removal, through catheter or surgery. |
| 1810 | Pleural drainage procedure | Pleural drainage procedure via thoracocentesis, tube thoracostomy, or open surgical drainage. |
| 1820 | Pleural procedure, Other | Other pleural procedures not specifically listed; may include pleurodesis (mechanical, talc, antibiotic or other), among others. |
| 1830 | Ligation, Thoracic duct | Ligation of the thoracic duct; most commonly for persistent chylothorax. |
| 1840 | Decortication | Decortication of the lung by any technique. |
| 1850 | Esophageal procedure | Any procedure performed on the esophagus. |
| 1860 | Mediastinal procedure | Any non-cardiovascular mediastinal procedure not otherwise listed. |
| 1870 | Bronchoscopy | Bronchoscopy, rigid or flexible, for diagnostic, biopsy, or treatment purposes (laser, stent, dilation, lavage). |
| 1880 | Diaphragm plication | Plication of the diaphragm; most often for diaphragm paralysis due to phrenic nerve injury. |
| 1890 | Diaphragm procedure, Other | Any diaphragm procedure not specifically listed. |
| 1930 | VATS (video-assisted thoracoscopic surgery) | Video-assisted thoracoscopic surgery utilized; this code should be used in addition to the specific procedure code (e.g., if PDA ligated using VATS technique, PDA ligation should be primary procedure, VATS should be secondary procedure). |
| 1940 | Minimally invasive procedure | Any procedure using minimally invasive technique; this code should be used in addition to the specific procedure code (e.g., if ASD closed using minimally invasive technique, ASD repair should be primary procedure, minimally invasive procedure should be listed additionally). |
| 1950 | Bypass for noncardiac lesion | Use of cardiopulmonary bypass for noncardiac lesion; this code may be used in addition to the specific procedure code if one is available (e.g., tracheal procedures may be done using CPB - the tracheal procedure should be the primary procedure and use of cardiopulmonary bypass for noncardiac lesion should be listed additionally). |
| 1960 | Delayed sternal closure | Sternal closure effected after patient has left operating room with sternum open, either because of swelling or electively after complex heart procedures. This procedure should be operative type No CPB Cardiovascular. |
| 1970 | Mediastinal exploration | Mediastinal exploration, most often for postoperative control of bleeding or tamponade, but may be exploration to assess mediastinal mass, etc. |
| 1980 | Sternotomy wound drainage | Drainage of the sternotomy wound. |
| 3180 | Intravascular stent removal | Removal of a previously placed intravascular stent |
| 3220 | Removal of transcatheter- | |

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| | delivered device from heart | |
| 3210 | Removal of transcatheter-delivered device from blood vessel | |
| 1990 | Thoracotomy, Other | Any procedure performed through a thoracotomy incision not otherwise listed. |
| 2000 | Cardiotomy, Other | Any procedure involving an incision in the heart that is not otherwise listed. |
| 2010 | Cardiac procedure, Other | Any cardiac procedure, bypass or non-bypass that is not otherwise listed. |
| 2020 | Thoracic and/or mediastinal procedure, Other | Any thoracic and/or mediastinal procedure not otherwise listed. |
| 2030 | Peripheral vascular procedure, Other | Any peripheral vascular procedure; may include procedures such as femoral artery repair, iliac artery repair, etc. |
| 2040 | Miscellaneous procedure, Other | Any miscellaneous procedure not otherwise listed. |
| 2050 | Organ procurement | Procurement of an organ for transplant (most likely, heart, lungs, or heart and lungs). |
| 7777 | Other procedure | Any procedure on any organ system not otherwise listed. |
| 7800 | Operation canceled before skin incision | Surgical procedure canceled after patient enters the operating room but prior to skin incision |
| 7810 | Operation aborted after skin Incision | Surgical procedure canceled after skin incision made |

February 2019: There is a PA Band adjustment procedure choice when a PA band is restricted at chest closure, but there does not seem to be a correlating procedure for a Sano shunt restriction with a clip.
Recently, many of our Sano shunts undergo clip placement to restrict shunt flow at the time of delayed sternal closure. How should this be coded? I have found 2 procedures that may fit the shunt restriction, however I would like clarification: should I use RV to PA Conduit re-operation or cardiac other or is there a 3rd option that is better suited... mediastinal, delayed sternal closure would be the 2nd procedure listed. **Code RV to PA conduit re-operation or Shunt re-operation to capture this procedure.**
February 2019: What is the best way to code this procedure? Subxiphoid incision to place a temporary pacing wires; Surgery Type and Procedure Name? **Pacemaker, procedure, Operation type No CPB Cardiovascular**
February 2019: We have an adult patient with infective endocarditis and severe mitral valve dysfunction secondary to perivalvular abscess, prosthetic mitral valve dehiscence and basilar posterolateral fistula between his LV and LA with severe regurgitation. His surgery included debridement of abscessed tissue on his mitral valve annulus followed by repair of his mechanical valve dehiscence. Does this just get coded as a mitral valvuloplasty, or is there a way to code the debridment of the abscessed tissue? **Mitral valve, Other**
March 2019: What is the difference between a Coarctation repair, end to end extended and Aortic Arch repair? The definition for Aortic Arch Repair is extremely vague. **In the aortic arch repair the incision extends beyond the origin of the left internal carotid assuming a left aortic arch**
March 2019: Patient with Hypoplastic left heart syndrome with mitral atresia, heterotaxy syndrome with left atrial isomerism, interrupted inferior vena cava with azygos continuation to the right superior vena cava, status post first-stage Norwood procedure and status post Kawashima procedure, status post pacemaker for sick sinus syndrome with non-function of pacemaker and low heart rates, mild right pulmonary artery narrowing. Procedures: Fontan with 16mm Goretex h-graft from hepatic veins to azygos continuation to the RSVC, patch enlargement of the RPA, placement of new PPM. Do I have to call this Fontan, Other (#1030) which has no STAT score and does this mean that I make the PA Reconstruction the primary with a STAT score of 3? **Use 3310 or 3320**
April 2019: Dx: TAPVR (cardiac), PDA. Procedure: "excised all of the atrial septum. We then were able to see where the coronary sinus was traveling through the posterior aspect of the left atrium, and this was completely unroofed.

Then closed the entire area of atrial septal defect using a piece of CorMatrix. Using long list, what's correct way to code this? **TAPVC repair, type 2,cardiac, coronary sinus type,**

May 2019: How would you code decompression of thoracic duct via innominate vein turn down to atrial appendage, or via LSVC to atrial appendage? We have done this for some of our single ventricle patients. **There is no procedure code for this currently in the database, thus code as Cardiac, Other.**

May 2019: Best way to code: Left AV Valve replacement with 25 mm St. Jude valve, with left AV valve annular reconstruction. Right AV valve commisuroplasty. **MV replacement, Tricuspid valvuloplasty.**

June 2019: How best to code following procedure: excision of the ventricular septal defect patch, enlargement of ventriculoseptal defect and baffle closure of the ventricular septal defect to the aorta. **It would be useful to understand the fundamental diagnosis. If that diagnosis is DORV or DTGA/VSD/PS and the prior operation were a Rastelli or a DORV intraventricular repair, then I think that one could use the code for VSD enlargement P0140 or the code for the original DORV operation P1180. This procedure might also be: 3380= Extended Ventricular Septoplasty (modified Konno, VSD creation and patch enlargement of LVOT, sparing aortic valve) for tunnel type sub aortic stenosis.**

June 2019: Arch reconstruction with homograft patch, hilum to hilum PA patch plasty. Bi-directional Glenn shunt. Would this be coded as Norwood Hybrid Stage 2? **Should be coded as Superior Cavopulmonary anastomosis +PA reconstruction and separate code for aortic arch reconstruction P1280. There is no PA to Ao anastomosis and therefore Hybrid Stage 2 does not seem to be correct. Can put the aortic arch reconstruction as the primary, bi-directional Glenn as secondary. You can determine which one is most pertinent. This information is included in the Report Overview of the Data Analysis Report.**

June 2019: I have a follow-up to the March 2019 FAQ on differentiating between an end-to-end extended coarctation repair and aortic arch repair which says "in the aortic arch repair the incision extends beyond the origin of the left internal carotid assuming a left aortic arch." When our surgeons repair neonates with a coarctation and distal arch hypoplasia from the side, they clamp the arch just distal to the brachiocephalic/innominate artery and incise the underside of the arch up to the clamp. The incision doesn't extend beyond the left carotid because they can't clamp past it and maintain brain perfusion. The STS definition of aortic arch hypoplasia includes a definition of distal arch hypoplasia when the diameter of the distal transverse arch (arch between the left carotid and left subclavian arteries) is less than 50% of the diameter of the ascending aorta. Since our neonates undergoing this operation meet this criteria for distal arch hypoplasia, my surgeons believe these patients should be coded with an aortic arch repair. **The procedure code describes the procedure, not the diagnosis. Therefore, this sounds like an extended end to end coarctation repair.**

June 2019: What is the best way to code a procedure for single ventricle (HLHS) with systemic atrioventricular valve regurgitation that: 1. Underwent valvuloplasty on the systemic AV valve (in this case a tricuspid valve)? 2. Subsequently in another OR setting, underwent a valve replacement on the same systemic AV valve (in this case a triscuspid valve). The options from the long list are to use: 1. Atrioventricular valve repair/replacement in single ventricle (but it traces back to "cardiac, other"). 2. Tricuspid valve repair/replacement (seems to understate the surgery). 3. Common AV Valve" repair/ replacement (may be appropriate since is the systemic valve?) **Current options only involve Tricuspid valve repair P0460 or tricuspid valve replacement P0470.**

June 2019: We recently operated on a patient with an infection of a Melody valve placed several years ago inside a pre-existing RV-PA conduit. The Melody valve and conduit were replaced with a valved homograft. I coded the procedure as: 580 conduit replacement, RV to PA Homograft. Should I also code: 3220 Removal of transcatheter delivered device from heart? **Conduit reoperation P580 with endocarditis as a risk factor. You can also code: "3220= Removal of transcatheter delivered device from heart"**

June 2019: I would like some clarification regarding conduit reoperations. In the Nov 2018 training manual, there is an example of a conduit reoperation for upsizing that states the Conduit RV to PA operation should be the primary and then Conduit reoperation should be the secondary operation. The data specs in both 3.3 and 3.41 state to choose conduit reoperation for ANY conduit failure including growth and to include Conduit RV to PA only for the initial operation. So if a patient comes in for conduit failure for any reason and gets a new conduit, we should only be coding conduit reoperation. Is this correct? Otherwise, the stat score changes if you then add the type of conduit. **You can code this type of case as a conduit reoperation. However, coding the conduit type details as a secondary procedure would trump conduit reop for primary procedure so you cannot code together. You can code the type of valved conduit, if applicable, in the valve section.**

July 2019: How would I code this procedure? I have the Mod BT Shunt and the PDA Closure. However, I'm not sure what the procedure code for the transannular patch, ventriculotomy would be. It doesn't appear to fit in any of the procedure codes for this diagnosis or the diagnoses that have this procedure. **RVOT procedure; 510.**
July 2019: Please advise the most appropriate procedure codes for the following: Placement of right atrial venous access for hemodialysis, partial sternal closure, and WoundVAC placement to sternal wound. **Operation type No CPB Cardiovascular, and the procedures are all coded as Other, Cardiac and Other, Mediastinal.**
August 2019: What is the proper way to code a delayed sternal closure with wound vac application? I have been using sternal wound drainage procedure but am not sure that is the correct code for a wound vac since the definition is very vague. I use the short list so not sure if there are any modifiers but it would be nice to just have wound vac as an option since it is done so frequently and is something we would like to track as sternal infections seems to be one of our issues affecting our ranking. **The presence of a wound vac doesn't change anything; code as cardiac other. Update January 2020: Delayed sternal closures should be coded as No CPB Cardiovascular. If a wound vac is applied without a delayed sternal closure, the operation type is Other or Thoracic.**
August 2019: Regarding DORV repairs: Codes 3410 3420 3430 and 3440. There are no STAT scores assigned. What is the impact of using one of these codes for the primary procedure? Will this procedure (which is the index in this case) not be included in analysis for our center? Our surgeons were discussing using #1180 DORV, Intraventricular tunnel repair instead. **Code 1180 and then code the new DORV repair. STAT scores for new procedures have not been determined yet.**
August 2019: Do chest tube placements done after index cardiac surgery in a patient count as a procedure? i.e. are chest tube insertions counted in the denominator of the cases from a center that is used during analysis.
**If a chest tube is placed by a cardiac surgeon, the case can be entered into the database as a procedure. The operation type is Thoracic. Only CPB Cardiovascular and No CPB Cardiovascular operations are used in the analysis. Center volume only include index operations. The chest tube should be included as a complication of the index operation.**
September 2019: If a Cone Procedure is performed on a patient who does not have Ebstein's Anomaly, can we still use the procedure code of Ebstein's anomaly repair, Cone procedure? **No, if the patient does not have Ebstein's do not use this procedure code. Use Valvuloplasty, Tricuspid valve**
October 2019: Pt has a diagnosis of TAPVC-mixed type w/ left sided venous obstruction. She underwent direct anastomosis of left sided pulmonary veins to left atrium & right sided veins were repaired with a Warden procedure. Can I use 280 TAPVC repair as a primary procedure and 2120 as a secondary procedure to capture the Warden procedure? **Yes, code 280 TAPVC as the primary procedure and the Warden procedure as a secondary procedure.** Patient developed thrombus in her central veins and returned to surgery for a thrombectomy of the innominate vein & balloon embolectomy of IJ veins. The patient also required cannulation to VA ECMO. What procedure code from the short list would best describe the thrombectomy/embolectomy? Would the op type be ECMO? **If the embolectomy and thrombectomy were done off pump, this would be op type No CPB Cardiovascular. Include ECMO cannulation as a secondary procedure and also a complication. You can code the procedure as Mediastinal, Other as the great vessels are located in the mediastinum.** The patient then developed post-operative mediastinal bleeding requiring return to OR for a mediastinal exploration / washout. The procedure was done while the patient was still on ECMO support. Would this op type also be ECMO? **The exploration for mediastinal bleeding is op type ECMO and code the complication of bleeding requiring reoperation on a previous operation.**
November 2019: (540) PA, Reconstruction, Branch includes placing a stent in one or both branch PAs intraoperatively. Does this code also include dilating an existing stent? If not, which procedure code would you use for LPA stent dilation done by the surgeon intraoperatively? Should be able to use both codes **(540) - PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation)** for PA plasty and **(2630) - Cardiovascular catheterization procedure, Therapeutic, Stent re-dilation.**
November 2019: In a patient with congenitally corrected TGA, if the systemic AV valve is replaced, should it be coded as Mitral valve replacement or Tricuspid valve replacement? **Use (470) Valve replacement, Tricuspid (TVR), the systemic AV valve is the morphologically the Tricuspid valve.**
November 2019: Patient with PA-VSD-MAPCAs, s/p left MBT shunt, s/p coil embolization of right and left aortopulmonary collaterals. Procedures:Unifocalization of the left MAPCA, RPA reconstruction, complete TOF-PA repair consiting of closure of the VSD and creation of an RV to PA conduit. How would this best be coded? Use code

**(2700) Pulmonary atresia - VSD - MAPCA repair, Complete single stage repair (1-stage that includes bilateral pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit])**

December 2019: I know this question has been asked before, but I don't see an formal answer in the FAQs. Our congenital heart surgeons plan to start performing some of the adult congenital heart surgery cases at the adult institution across town later this month. What is the best way to handle these cases so we don't miss out on our case volume? Should the cases be entered by both the Adult Database and the Congenital Database? If so, do we count them in our present database or do we need to set up something different for the cases performed at the adult hospital?**If case done by Congenital Surgeon in Adult hospital can be entered into Congenital database. If Congenital Surgeon goes over to assist Adult Surgeon, then enter into Adult database.**

December 2019: Which procedure would be most appropriate for placement of temporary pacing wires in a newborn with heart block? We used cardiac, other because we didn't place a pacemaker or revise a previously placed system. Should we not take the "previously placed" part of the spec literally? Thank you for the guidance.1460 Pacemaker procedure Any revision to a previously placed pacemaker system including revisions to leads, generators, pacemaker pockets.This may include explantation of pacemakers or leads as well. **Use code 1460 Pacemaker Procedure**

January 2020: Question for clarification: If a shunt is performed and the surgeon note reads "central shunt from the carotid artery to PA", is this considered a MBTS (1590) or a Shunt, systemic to pulmonary, other (1610)? **The procedure should be coded as MBTS (1590).**

January 2020: Patient with diagnosis of TOF with left discontinuous pulmonary arteries. Underwent unifocalization with reattachment of the LPA to the main PA. What is the best primary procedure code to capture this repair? **Unifocalization procedures are coded with MAPCAs. Code (540) PA Reconstruction Branch Central.**

February 2020: I have a patient who had a PFO primary closure, an ASD patch repair and Warden procedure for PAPVC. There is a combination procedure of ASD repair, patch + PAPVC repair (the definition states any type of repair), but in the PAPVC repair definition, it states to code if the patient also had an ASD repair. So which is it? Wouldn't it be more important to know what type of PAPVC repair the patient had or do you want us to code the type of PAPVC repair after coding the combination procedure (which has a lower stat score than the Warden)? This seems to happen frequently when the combination code has a lower stat score than one component of the repair which does not make sense to me. **The primary procedure in this scenario is the Warden procedure for PAPVC. One would code the combination repair of ASD repair, patch + PAPVC repair for any repair type with the new exception of the Warden procedure. Those would now be coded as the Warden procedure.**

**February 2020:** The data manager call for January brought up the change in definition for field 1460 "Pacemaker procedure". The inclusion of temporary wires in this definition now creates a conundrum as to what is done for prior patients who may have had this as their only procedure, ans was coded as "Cardiac Other" in prior harvests. 1. What guidelines should be followed for updating prior surgeries when there is a significant change in definitions? **All pacemaker procedures are to be coded as No CPB Cardiovascular, temporary or permanent. This is not a significant change in definition**. 2. Since all procedures and diagnoses that apply for a given operation should be included, do we now need to add pacemaker procedure for every patient that receives temporary wire placement? **No need to include on every operation as temporary wires are just a part of the operation.**

February 2020: The patient went to the OR for a BCPS and PA plasty, however in the OR they were unable to tolerate the pressures and the BCPS was taken down and shunt put in . Do I code the BCPS , BCPS takedown as well as the shunt and if so then what is the primary operation? **In this scenario, code the shunt as the primary procedure and code the BCPS take down. Currently you cannot code the BCPS.**

February 2020: If a patient undergoes RPA & LPA banding, placed surgically, but ultimately goes down a 2 ventricle path, should the procedure be coded as 1640 PA Banding, or 2160 Hybrid Approach Stage 1, Application of RPA & LPA Bands"? Does it matter whether or not the initial thought was that the patient would have a subsequent Norwood? **The initial procedure should be coded as 2160 Hybrid Approach Stage 1 regardless of the eventual 2 ventricle repair path.**

February 2020: I am looking for assistance in coding a procedure. The diagnosis is DORV, TOF Type. Operative findings are significant right ventricular outflow tract obstruction, hypoplastic main pulmonary artery, extremely stenotic left pulmonary artery, large subarterial VSD, aortic valve and pulmonary valve in continuity. The repair consisted of a

longitudinal incision in the distal RVOT extending across the hypoplastic pulmonary valve annulus into the main PA and LPA. This was then patch augmented with Gore Tex. The VSD was also patch closed. This seems different than the typical TOF repairs that are performed at our institution. Would it be more of a DORV Repair, Fallot Type (1180)?**The correct procedure code is DORV, Intraventricular tunnel repair. List the DORV Repair, Fallot type as a secondary procedure.**

February 2020: The patient had a Kawashima Operation which can also be called a BiDirectional Glenn. Does this qualify for the Procedure Specific Factors and therefore as the Primary Procedure over the also coded Shunt Lig and Take Down and Pulmonary Arterioplasty? **Kawashima is a specific type of Glenn completed for patients with an interrupted IVC. Kawashima also has procedure specific factors and will then be the primary procedure. List the shunt ligation and take down and PA plasty as secondary procedures.**

February 2020: I have a coding question. My surgeon performed an Aortic stenosis, subvalvar repair and myomectomy of LV outflow tract-not related to IHSS. How do I code the myomectomy? I can't seem to find one that fits. **There is not a procedure that currently fits the myectomy. Only code the aortic stenosis, subvalvar repair**

March 2020**:** My patient had a heart transplant in November 2019 performed by the Congenital and Adult surgeon. I have entered the patient in the Congenital data base, but the adult surgeon followed the patient throughout the hospital stay and the patient returned to the OR 6 days after the primary procedure for bleeding from a right hemothorax performed only by the adult cardiac surgeon.I have entered this as a complication, but my question is: Do I enter the second operation as another case as my Congenital surgeon was not in the OR or just list it as a complication. **If the adult surgeon is not listed on the congenital STS database contract, include the bleeding requiring reoperation as a complication only. If the adult surgeon is on the congenital STS database contract, the case should also be entered into the database.**

March 2020: How do I code a Patient with IAA and VSD? If I use the combo procedure of aortic arch repair + VSD repair, it has a lower STAT score than just an IAA repair which does not make sense to me. Also, I sent a question similar to this regarding a PAPVC question back in January and have not received a response. If an IAA repair is completed with VSD repair. **If a patient underwent IAA + VSD repair, code the repair as aortic arch repair + VSD (1285) per the current specs.**

March 2020: The Training Manual for v3.3 states that procedure 2100 “Aortic stenosis, Subvalvar, Repair, With myectomy for IHSS” does not have to be for IHSS only. The Training Manual for v3.41 doesn’t make any mention of this. Should we still be coding 2100 for non-IHSS cases? Please clarify in the current training manual. **The code 2100 is to include the repair for IHSS only. Use 780 for patients without IHSS. The current training manual is correct.**

March 2020: Patient w/previous DORV repair. The fundamental diagnosis is DORV, VSD type. The principal diagnosis for this procedure was AI/AS. Secondary diagnoses included pulmonary stenosis subvalvar (RVOTO) & aortic stenosis subvalvar (LVOTO). Procedures included a takedown of the previous DORV repair, redo of intracardiac baffle, as well as sequences 510, 590, 660, & 790. We use the short list and I am not sure how I capture the takedown of the previous DORV repair and redoing the baffle. what would be most accurate in reflecting what procedure was done? **There is no current way to capture the takedown DORV repair. This repair represents a DORV repair as the primary procedure.**

May 2020: When a PPM generator and leads are removed in cath lab by a cardiologist, should we code as cardiovascular procedure rather than one of the pacemaker procedures that come with a STAT score? Should any case not performed by heart surgeon have a STAT score? **Only surgeon procedures are included in the database. If a cardiologist performs the procedure, it should not be captured in the STS database.**

June 2020: The patient has a diagnosis of AV discordance,superior-inferior ventricle, double outlet RV and normal related great vessels, straddling MV, s/p BCPS and PA band.We called this CC TGA ( there is no VSD) as we felt it fell into the "spectrum" as mentioned in the Manual. I'm having trouble coding the operation which is 1-1/2 ventricle repair with double switch procedure (Intraventricular baffle + Hemi-Mustard). The double switch is the hemi mustard/BCPS combo. They already have the BCPS. Do I count this baffle as a mustard or atrial baffle nonmustard/senning or perhaps there is a better code to use.**The primary procedure is a Double switch (code 1050).**

June 2020: Under procedures there are two similar codes and I would like clarification on the distinction between them. Code 3210 - Removal of transcatheter-delivered device from blood vessel, and Code 3220 - Removal of

transcatheter-delivered device from heart. Often times the surgeon, while doing a Glenn, will remove a stent to the pulmonary artery or the Sano shunt that was previously inserted in the cath lab. Is this removal of a transcatheter-delivered device from a vessel, or from the heart? Does it depend if the stent was in the pulmonary artery or in the shunt, or for a transcatheter-delivered device to the heart, is this only for things like valves? **When removing a septal occulder type device, utilize the transcatheter delivered device from the heart.**

July 2020: What is the primary diagnosis and primary procedure for a 'pink' TOF? **The primary diagnosis is TOF, pulmonary stenosis. The primary procedure is dependent on the completed repair. If there is a ventriculotomy, infundibular patch, dilator in the valve, any procedure in the outflow tract, the primary procedure should be coded as the appropriate TOF repair. If there was only a VSD repair done transatrially, the procedure be coded as the appropriate VSD repair.**

August 2020: This 2.1 Kg patient had an intraoperative epicardial echo after being weaned from bypass for a Arterial switch procedure. We are using the short term list, should the procedure be coded under 7777 Other procedure? or is there another field we should use. **There is no place to capture this procedure and can be coded as other procedure.**

August 2020: A patient had primary procedure 1305-Unroofing of anomalous right coronary artery from the left sinus. Post-cardiopulmonary bypass transesophageal echocardiogram was performed. Do we code the TEE to 2420=Echocardiography procedure, Sedated transesophageal echocardiogram or 7777 = Other Procedure? Also, do we even need to code this procedure since it is not the prmary procedure and is normal to do a TEE in most cases and would be covered in the Patient Process Measures? **TEEs can best be captured in the patient process measures.**

September 2020: Does STS want all organ procurement captured and reported to STS database? If the organ procurement occurred after the patient's reported time of death, how do we report this without receiving the error time of death cannot be less than date/time of surgery? **It is up to the local program to capture the organ procurements. The record will still be accepted into IQVIA. For now, ignore the warning that is received.**

**September 2020:** What is the best way to code a Glenn takedown? This is all I could find that might fit: 330 Anomalous systemic venous connection repair With the exception of atrial baffle procedures (harvest code 310), anomalous systemic venous connection repair includes a range of surgical approaches,including, among others: ligation of anomalous vessels, reimplantation of anomalous vessels (with or without use of a conduit), or redirection of anomalous systemic venous flow through directly to the pulmonary circulation (bidirectional Glenn to redirect LSVC or RSVC to left or right pulmonary artery,respectively). ~~**There is no specific code for a Glenn takedown and there is likely another primary procedure done concomitantly. One can code the anomalous systemic venous connection repair or systemic venous stenosis repair.**~~ **October 2020 Clarification - There is in fact a code for this, it's 3300- Takedown of superior cavopulmonary anastomosis. This was an addition to the procedure list in the v3.41 upgrade, and is how these cases should be coded.**

September 2020: I use the short list. A patient had an aortic valve replacement with a mechanical valve and a patch enlargement of the aortic root with a hemashield woven graft. I can use seq830 to capture the AVR, but I am not sure how to capture the aortic root enlargement. What is the best option? **You can use procedure code 770, Other annular enlargement procedure.**

October 2020: If the primary diagnosis is "ASD, Sinus venosus, SVC type, Partial anomalous pulmonary venous return (PAPVR)" and the procedures performed include: "1) PAPVC repair, Baffle redirection to left atrium, ASD patch 2) ASD repair, sinus venosus, ASD patch and SVC patch 3) Echocardiography, TEE, congenital" which is the primary procedure? I read in the interpretation guide that this might be an exception when determining Primary Procedure-- that it would become a combined procedure, but I am just unsure. Could someone please help/verify? **Use the combination code 2110 ASD repair + PAPVC repair as the primary procedure.**

October 2020: How do I code these procedures? (Diagnosis is Right descending aorta, Kommerell's diverticulum)1. Resection of Kommerell's diverticulum. 2. Division of left subclavian artery (resulting in retrograde flow via vertebral artery). 3. Division of ligamentum arteriosum. **These would all represent vascular ring repairs.**

October 2020: How should RV-PA conduit placement be coded in a patient with TOF who is s/p complete repair? In general, can 380 TOF repair RV-PA conduit be used if the patient is already s/p TOF repair? or should it be just coded as 610 Conduit placement RV to PA? In this particular case, the patient has RVOTO, bilateral PA stenosis and residual VSD, and in addition to the conduit placement, bilateral central PA plasty and resection of RVOT infundibular muscle bundle, and VSD repair was done. Can 380 TOF repair RV-PA conduit be used for this situation? **No, this is not a redo TOF repair. Utilize conduit reoperation or conduit placement depending if the patient received a replacement of an existing conduit and code each of the other procedures separately.**

October 2020: Patient has a diagnosis of AAOCO and Pectus Excavatum. Surgeon # 1 repaired the AAOCO and then Surgeon #2 repaired the pectus within the same OR time. Do I just code the pectus repair under procedures after the AAOCO repair and the second surgeon just won't get credit for the surgery realizing it doesn't get analyzed anyway or do I enter a second event to capture the pectus repair since the other CTS surgeon did that portion? **This is one operation and the primary procedure is the AAOCO repair. That surgeon that completes the primary procedure will be the surgeon of record.**

November 2020: The patient is status post repair of partial av septal defect, left ventricle to right atrium shunt. The patient is now having a primary procedure 2300 Valvuloplasty, Common atrioventricular valve. The operative note also includes suture closure of left ventricle to right atrial shunt. I am unclear how to code this secondary procedure. Could you give me some indication how to properly capture? **The valvuloplasty repair is not a common AV valve following the AVC repair, this should be coded as a valvuloplasty, mitral. The closure of the LV to RA shunt can be coded as an ASD closure.**

November 2020: If a patient has an existing pacemaker, and both the leads and generator are replaced, should this be coded as 1460 Pacemaker Procedure, or should I code primary procedure as 1450 Pacemaker implantation and secondary procedure 2350 Explantation of pacing system? **Code as a Pacemaker implantation with the secondary explantation of pacing system.**

November 2020: Patient with hypoplastic aortic arch, coarctation of the aorta, VSD and ASD. Surgeon repaired the aortic arch and coarc, patch repair of VSD, primary closure of ASD. I coded the combo code of ASD + VSD repair. Do I need to code they type of VSD repair as secondary codes or the type of Coarc repair? It seems some procedures want these types of modifiers and some don't and does it matter one way or the other so long as the primary procedure is correct? Another example is when a Stage 2 hybrid is done. Is it necessary to code the PDA ligation and stent removal or is that an assumed part of the procedure (though the definition does not include this)? **The primary procedure is aortic arch reconstruction + VSD repair. You do not need to include the specific repair types, but can for local use.**

December 2020: A patient underwent an RV to pulmonary artery shunt. What selection would I use from the short list to best describe this procedure? Sano shunts or RV to PA shunts are currently included as Conduit placement (610).

December 2020: Two separate questions regarding PAPVC repair.

1) Is 260 to be used only when pulmonary veins are translocated and connected to the left atrium directly? **Yes, 260 PAPVC repair** For example, in a patient with PAPVC, with R veins to R atrium, a baffle was used but systemic vein translocation was not done, should 2120 be used or 260? **Do not code 2120 (Warden) but code 260 PAPVC repair can be used if you baffle or translocate the vein.**

2) Is 2110 to be used only if the ASD is closed with a separate patch? Or should it be used if, for example, a secundum ASD is extended and baffle is secured to the margin of the ASD? **Code 2110 is used with ASD repairs and PAPVC repair, regardless of the ASD type. This may be reviewed in the spec upgrade.**

December 2020: What code would be most appropriate for a Fontan takedown? **If there is a fontan revision, there is no need to code a separate fontan takedown. There is no specific code for the takedown of a fontan so use Cardiac, Other.**
January 2021: What is the difference between #3210 "removal of transcatheter-delivered device from blood vessel" and #3180 "intravascular stent removal", since they can overlap? Which code should I use for: **To be most specific, use the following codes**: 1. An RPA stent explantation **use Intravascular stent removal**; 2. A CoA stent explantation **use Intravascular stent removal**; 3. Explantation of a stented Melody valve apparatus **use Removal of transcatheter delivered device from heart.**
January 2021: What should be used as the diagnosis and primary operation be for this "dcsa VSD of almost DORV type with the aortic valve overriding and the pulmonary annulus is small with a bicuspid valve creating mild stenosis": Can I use DORV VSD type? and "The VSD was then closed working through the pulmonary valve using interrupted pledgetted 5/0 prolene and a bovine pericardial patch.A monocsup valve was then created from a 0.1mm gortex sheet and fixed to the valve leaflets and into the infundibulotomy. A transannula r patch of bovine pericardium was then used to complete the repair of the RVOT" What operation should I use, DORV repair with ventriculotomy , transannular patch? There is no STAT score for this option. **Use 3430 DORV, ventriculomy with TAP, there is a STAT score for this now – See Appendix C https://www.sts.org/sites/default/files/CHSD%20Appendix%20C_Updated7232020.pdf**
January 2021: I am cleaning up some historical data and am looking for clarification as to when to use the following codes:
Code 3180 - Intravascular stent removal - Removal of a previously placed intravascular stent
Code 3210 - Removal of transcatheter-delivered device from blood vessel - No definition provided in training manual
Code 3220 - Removal of transcatheter-delivered device from heart - No definition provided in training manual
Example 1 - Patient with h/o PA-IVS s/p complete repair. Due to stenosis within the PA's, patient later has pulmonary artery stent placed in cath lab. Pt subsequently undergoes surgical intervention to remove pulmonary artery stent and place an RV to PA conduit. Which of the above listed codes should be selected for the PA stent removal?
Example 2 - Patient with h/o HLHS s/p Norwood with Sano shunt. Patient then has stent placed in the Sano shunt/proximal RPA in cath lab. Patient then has the stent removed during Glenn palliation. Which of the above listed codes should be selected for the Sano shunt/proximal RPA stent removal?
Example 3 - Patient with CoA undergoes stent placement at 3 months of age in cath lab (no prior surgical interventions). Later presents for surgical repair at which time the stent is removed. Which of the above listed codes should be selected for the resection of the stent? **For all of the scenarios above, to be most specific, if a stent is removed, use 3180 Intravascular stent removal code.**
January 2021: I am looking for clarification on how to code partial and transitional AVC repairs. Typically when a patient undergoes repair of a partial or transitional AV canal defect, the surgeon also repairs the mitral valve cleft. Should this procedure be listed out as well? If so, is it correct that the mitral valve repair would then be the primary procedure as 830 (Valvuloplasty, Mitral) has a STAT score of 0.4 / STAT level 2 and 190 (AVC repair, partial) has a STAT score of 0.1 / STAT level 1? This seems in-line with what is listed in the Training Manual (refer to July 2019) but wanted to be certain we are coding these procedures correctly. **The mitral valvuloplasty should not be coded separately with partial or transitional canal repairs, if you do a complete repair, you can, if you prefer this level of granularity. However, it SHOULD NOT be coded with the partial or transitional.**
February 2021: We recently had to remove the entire pacemaker generator system and place new d/t infection/erosion from old pacer. I planned to use #2350-explantation of pacing system but didn't know

which is appropriate in addition: #1450 pacemaker implantation, permanent or pacemaker procedure? **Yes, explantation and implant are the correct procedure codes.**
Also, is it correct to use ##1460, Pacemaker procedure for ordinary pacemaker generator changes? **Yes, pacemaker procedure for generator changes.**
March 2021: The long list procedure (available to CardioAccess users only) "Cardiac vegetation resection, excision, intracardiac vegetation, with CPB" converts to (1760) cardiac tumor resection. Should we use this for the primary procedures on patients with endocarditis vegetations? Even if the vegetations are only in the conduit or on a valve? Should the primary diagnosis be Cardiac Tumor? **The primary diagnosis should be the principle reason the patient went to the OR – in this case the patient went to the OR for endocarditis and may be a better diagnosis to use. If the procedure includes removing a vegetation from within the heart, cardiac tumor resection is the best procedure to use. If a conduit or valve was repaired, utilize the conduit reoperation or valvuloplasty/valve replacement procedures.**
March 2021: A heart/liver transplant was performed by our congenital cardiac surgeon and general surgeon within the same operation. Obviously, this procedure carries a much greater risk and complexity than a single heart transplant. How should this be coded since combined heart/liver transplant is not an option on the procedure list? **There is no current way to capture heart/liver transplants done concomitantly. This will be reviewed with the current upgrade.**
March 2021: What is the differentiation between a PA reimplantation and a unifocalization? The patient's diagnosis was anomalous RPA from PDA emanating from the innominate artery. There was not a diagnosis of MAPCAs. The procedure describes the interposition graft sewn to the dissected RPA, MPA arteriotomy made, tube graft secured to the MPA in a end-to-end fashion. Is that a unifocalization or RPA reimplantation? The RPA reimplantation matched in the long list to "Cardiac, Other" so we are wanting to be careful. **Currently, the best way to code this is (530) PA, reconstruction (plasty), Main (trunk). This will be reviewed in the next upgrade.**

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|---|---|---|---|
| *Long Name:* | Primary Procedure Indicator | *SeqNo:* | 940 |
| *Short Name:* | **PrimProc** | *Core:* | Yes |
| *Section Name*: | Procedures | *Harvest:* | Yes |
| *DBTableName:* | Procedures | | |
| *Definition:* | Indicate whether this procedure is considered the PRIMARY Procedure performed during this operation. Note that the primary procedure is determined at the data warehouse using the methodology published in the Journal of Thoracic and Cardiovascular Surgery (“An empirically based tool for analyzing mortality associated with congenital heart surgery” Sean M. O’Brien, David R. Clarke, Jeffrey P. Jacobs, Marshall L. Jacobs, Francois G. Lacour-Gayet, Christian Pizarro, Karl F. Welke, Bohdan Maruszewski, Zdzislaw Tobota, Weldon J. Miller, Leslie Hamilton, Eric D. Peterson, Constantine Mavroudis and Fred H. Edwards J Thorac Cardiovasc Surg 2009;138:1139-1153 DOI: 10.1016/j.jtcvs.2009.03.071). If the | | |

above methodology does not return a primary procedure, this field will be used to designate primary procedure.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

January 2019: Hi, on the last Core group call I asked about a procedure where an ASD is repaired and the surgeon also does a pericardial window. It was stated that I should code the pericardial window as the surgeon dictated that it was done, and if audited my procedures coded would not match what the surgeon dictated. Can this decision be added to the FAQ document? **Every ASD repair (or intracardiac repair) requires the pericardium to be opened and should not be included as a pericardial window. Only code the pericardial window when performing a pericardial drainage procedure.**

February 2019: Complex cardiac patient comes to ED in cardiac arrest (septic and RSV positive). CPR led to ROSC and admitted to PICU for several days. Patient's subsequent extubation led to respiratory and cardiac failure. CT Surgeon prepped neck for ECMO while undergoing CPR (got as far as dissecting out the neck vessels when patient had ROSC again) so operation to place on ECMO aborted. How do I code this? Is operative type "Other"? Procedure "miscellaneous or "other procedure" or "procedure on neck" or "operation aborted after skin incision"? Patient died 2 days later. Do I check the operative mortality box as it wasn't a CPB or no CPB surgery? **Operation type, Other. Yes, check the operative mortality box as the definition does not specify operation type. The operation type will be handled during the analysis.**

July 2019: This is about index procedure determination specifically in reference to a child who has a PA Banding, then goes on for Norwood. Why would the first operation (with lower stat score) be the index procedure, when a Norwood carries a stat 5 score? **The PA Banding is the index procedure because it is the first cardiovascular case the patient had. Currently, this is the way rules work. A group of surgeons are looking at updating the rules so this type of thing doesn't happen.**

July 2019: We have two procedure codes: 190 (AVC repair, partial) and 830 (mitral valvuloplasty). Following the guidelines in the Interpretation Guide, it seems that I should make #830 the primary procedure for the higher STAT score. I cannot find any exceptions in the Interpretation Guide and ask that you verify. **Currently, the mitral valvuloplasty will be the primary procedure. This may be updated with a specific rule in the future.**

July 2019: I can't find the "Exceptions" for VSD Repairs, when it comes to coding multiple procedures that also includes a VSD Procedure. Can you direct me to the area on the website? This was from a few years ago. Not the "Rule" in the Harvest Report. It was a page with a list of exceptions. **The list is in the Overview section of the Data Harvest Report.**

July 2019: I have a question about coding TOF, PS (or any TOF that requires PA reconstruction). If the patient has a TOF, PS repair (any type), but also has PA reconstruction, do you have to code the PA reconstruction (might have a higher stat score than the TOF repairs, but don't most forms of TOF have some form of RVOT/PS?) The data specs say Tetralogy of Fallot repair assumes VSD closure and relief of pulmonary stenosis at one or more levels. It also says to code RVOT obstruction separately, but if you then list the RVOT obstruction repair, it will be higher than the TOF repair, which is the main reason the patient is having the operation. It would be great to have some simple coding examples of these cases in the training manual. This actual patient had a patch closure of VSD, patch enlargement of Left PA, patch enlargement of main PA, and tricuspid valvuloplasty. Surgeon selected TOF, ventriculotomy, transannular patch and PA reconstruction, central, within hilar branch. **Repairs done to the main PA or branch PAs**

**prior to the hilar bifurcation are considered to be a part of the TOF repair. Procedures to the branch PAs beyond the hilar bifurcation should be included as a PA reconstruction procedure. However, the TOF repair is an operation with procedure specific factors and thus will remain the primary procedure of the operation.**

August 2019: Patient admitted 6/21-6/25 for permanent pacemaker for acquired heart block related to Single ventricle anatomy (s/p Fontan). Discharged home. Readmitted 7/2-7/5 for pericardial effusion treated with Lasix and steroids. Readmitted 7/10 for recurrent pericardial effusion (second readmission related to pacemaker). Pericardiocentesis done 7/10 by CTS surgeon at bedside emergently to relieve tamponade and then taken to OR on 7/12 for pericardial window and placement of antibiotic pocket around pacemaker site. I coded the readmit, pericardial effusion requiring drainage as complications of the index procedure for the first admit. Would this be correct? I assume the pericardiocentesis will then be the index procedure for the 7/10 admit. Do I then need to code the remaining complications to this 7/10 admission or back to the original admit? I understand that it is now a new episode of care but the reason for the admission is based on the initial index procedure of the first admit. **Everything happened within 30 days. So all complications should go back to the original operation (pacemaker). Anything over 30 days can go to the second procedure.**

August 2019: Not sure which to choose as primary procedure for a patient recently listed for heart transplant. A CentriMag left ventricular assist device with Berlin Heart cannulas was placed on CPB, followed by removal of old biventricular pacemaker system with placement of new epicardial dual-chambered Azure XT dual-chambered pacemaker system with bipolar epicardial pacemaker leads. **Primary procedure: VAD; Op Type: VAD**

August 2019: Our intention was to code the procedure described below as a VAD with CPB and the VAD implantation being the primary procedure but wanted to make sure this is the most appropriate choice. This patient came to our hospital already on ECMO support from outstanding hospital in end stage cardiomyopathy. PREOPERATIVE DIAGNOSIS: End-stage cardiomyopathy, status post cannulation for veno-arterial extracorporeal membrane oxygenation through the neck, patent ductus arteriosus, status post creation of atrial septal defect. POSTOPERATIVE DIAGNOSIS: End-stage cardiomyopathy, status post cannulation for veno-arterial extracorporeal membrane oxygenation through the neck, patent ductus arteriosus, status post creation of atrial septal defect. PROCEDURE: Placement of PediMag left ventricular assist device with 6 mm Berlin Heart apical and aortic cannulas, ligation of patent ductus arteriosus, suture closure of atrial septal defect, placement of double-lumen 7-French Hickman right atrial catheter, decannulation of extracorporeal membrane oxygenation with repair of right carotid artery and right jugular vein. **The primary procedure is VAD Insertion with/without CPB depending on whether it was used or not.**

January 2020: Regarding the newer procedure codes for PA,VSD, MAPCA repairs that don't have a STAT score, can you please advise the most appropriate codes for the following scenario:PREOPERATIVE DIAGNOSIS:1. Pulmonary atresia, ventricular septal defect, major aortopulmonary collaterals. 2. Status post unifocalization and left modified Blalock-Taussig shunt. POSTOPERATIVE DIAGNOSIS: 1. Pulmonary atresia, ventricular septal defect, major aortopulmonary collaterals. 2. Status post unifocalization and left modified Blalock-Taussig shunt. PROCEDURE:1. Redo sternotomy and takedown of mediastinal adhesions. 2. Takedown of Blalock-Taussig shunt.3. Unifocalization of left lower lobe major aortopulmonary collateral artery. 4. Ventricular septal defect closure with right ventricle-to-pulmonary artery conduit (Rastelli) using a 14 mm pulmonary homograft conduit. 5. Atrial septal defect closure (primary).
6. Patent foramen ovale creation. Also, these newer procedures are on the PSF list so even if we are not making them the primary because they don't have a STAT score should we go ahead and fill in the PSFs as if it were the primary, for the sake of data collection?**Code PA/VSD/MAPCA repair s/p prior incomplete unifocalization (2720). The timing for when the new STAT scores will be ready is not yet determined.**

October 2020: If a procedure is a benchmark procedure with procedure specific factors, will it be the primary procedure even if it has a lower STAT score than other procedures done at the same time? **This is true with the exception of VSD repairs.**

January 2021: What is the best way to capture the following repair in a patient with DORV, TGA type - LV to aorta intraventricular tunnel repair, VSD closure, and an RV to PA conduit - Rastelli vs. DORV, Intraventricular tunnel repair? **Rastelli is the best choice for this procedure.**

## Procedure Specific Factors

| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors – Procedure-Specific Factors – Primary Procedure | *SeqNo:* | 948 |
| *Short Name:* | **PSFPrimProc** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate which, if any, of the following "benchmark operations" was the primary procedure for this operation. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes:

| Code: | Value: |
|---|---|
| 10 | None of the listed procedures |
| 100 | VSD repair, Primary closure |
| 110 | VSD repair, Patch |
| 120 | VSD repair, Device |
| 130 | VSD, Multiple, Repair |
| 390 | TOF – AVC (AVSD) repair |
| 350 | TOF repair, No ventriculotomy |
| 360 | TOF repair, Ventriculotomy, Nontransanular patch |
| 370 | TOF repair, Ventriculotomy, Transanular patch |
| 380 | TOF repair, RV-PA conduit |
| 400 | TOF – Absent pulmonary valve repair |
| 2700 | Pulmonary atresia – VSD – MAPCA repair, Complete single stage repair (1-stage that includes bilateral pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit]) |
| 2710 | Pulmonary atresia – VSD – MAPCA repair, Status post prior complete unifocalization (includes VSD closure + RV to PA connection [with or without conduit]) |
| 2720 | Pulmonary atresia – VSD – MAPCA repair, Status post prior incomplete unifocalizarion (includes completion of pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit]) |
| 420 | Pulmonary atresia – VSD (including TOF, PA) repair |
| 170 | AVC (AVSD) repair, Complete (CAVSD) |
| 1670 | Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn) |
| 1680 | Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn) |
| 1690 | Bilateral bidirectional cavopulmonary anastomosis (BBDCPA) (bilateral bidirectional Glenn) |
| 1700 | HemiFontan |
| 2330 | Superior cavopulmonary anastomosis(es) (Glenn or HemiFontan) + Atrioventricular valvuloplasty |
| 2130 | Superior Cavopulmonary anastomosis(es) + PA reconstruction |

| | |
|---|---|
| 3160 | Kawashima operation (superior cavopulmonary connection in setting of interrupted IVC with azygous continuation) |
| 950 | Fontan, Atrio-pulmonary connection |
| 960 | Fontan, Atrio-ventricular connection |
| 970 | Fontan, TCPC, Lateral tunnel, Fenestrated |
| 980 | Fontan, TCPC, Lateral tunnel, Nonfenestrated |
| 1000 | Fontan, TCPC, External conduit, Fenestrated |
| 1010 | Fontan, TCPC, External conduit, Nonfenestrated |
| 2780 | Fontan, TCPC, Intra/extracardiac conduit, Fenestrated |
| 2790 | Fontan, TCPC, Intra/extracardiac conduit, Nonfenestrated |
| 3310 | Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Fenestrated |
| 3320 | Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Nonfenestrated |
| 1030 | Fontan, Other |
| 2340 | Fontan + Atrioventricular valvuloplasty |
| 1025 | Fontan revision or conversion (Re-do Fontan) |
| 1110 | Arterial switch operation (ASO) |
| 1123 | Arterial switch procedure + Aortic arch repair |
| 1120 | Arterial switch operation (ASO) and VSD repair |
| 1125 | Arterial switch procedure and VSD repair + Aortic arch repair |
| 230 | Truncus arteriosus repair |
| 2220 | Truncus + Interrupted aortic arch repair (IAA) repair |
| 870 | Norwood procedure |
| 2160 | Hybrid Approach “Stage 1”, Application of RPA & LPA bands |
| 2170 | Hybrid Approach “Stage 1”, Stent placement in arterial duct (PDA) |
| 2180 | Hybrid Approach “Stage 1”, Stent placement in arterial duct (PDA) + application of RPA & LPA bands |
| 465 | Ebstein’s repair |

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|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors – Apical VSD | *SeqNo:* | 949 |
| *Short Name:* | **PSFApicalVSD** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Apical VSD was present. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |

| | |
|---|---|
| *ParentLongName:* | Procedure-Specific Factors – Procedure-Specific Factors – Primary Procedure |
| *ParentShortName:* | **PSFPrimProc** |
| *ParentHarvestCodes:* | 100\|110\|120\|130\|1120\|1125 |
| *ParentValues:* | = “VSD repair, Primary closure”, “VSD repair, Patch”, “VSD repair, Device”, “VSD, Multiple, Repair”, “Arterial switch |

operation (ASO) and VSD repair" or "Arterial switch procedure and VSD repair + Aortic arch repair"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors – Straddling AV valve | *SeqNo:* | 950 |
| *Short Name:* | **PSFStradAVVal** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Straddling AV valve was present. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |

| | |
|---|---|
| *ParentLongName:* | Procedure-Specific Factors – Procedure-Specific Factors – Primary Procedure |
| *ParentShortName:* | **PSFPrimProc** |
| *ParentHarvestCodes:* | 100\|110\|120\|130\|1120\|1125 |
| *ParentValues:* | = "VSD repair, Primary closure", "VSD repair, Patch", "VSD repair, Device", "VSD, Multiple, Repair", "Arterial switch operation (ASO) and VSD repair" or "Arterial switch procedure and VSD repair + Aortic arch repair" |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors – Major coronary crossing RVOT – Coronary anomaly restricting RVOT enlargement, (LAD from RCA etc.) | *SeqNo:* | 951 |
| *Short Name:* | **PSFMajCorRVOT** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Major coronary crossing RVOT – Coronary anomaly restricting RVOT enlargement, (LAD from RCA etc.) was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors – Procedure-Specific Factors – Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 390|350|360|370|380|400|2700|2710|2720|420
*ParentValues:* = "TOF – AVC (AVSD) repair", "TOF repair, No ventriculotomy", "TOF repair, Ventriculotomy, Nontransanular patch", "TOF repair, Ventriculotomy, Transanular patch", "TOF repair, RV-PA conduit", "TOF – Absent pulmonary valve repair", "Pulmonary atresia – VSD – MAPCA repair, Complete single stage repair (1-stage that includes bilateral pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit])", "Pulmonary atresia – VSD – MAPCA repair, Status post prior complete unifocalization (includes VSD closure + RV to PA connection [with or without conduit])", "Pulmonary atresia – VSD – MAPCA repair, Status post prior incomplete unifocalizarion (includes completion of pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit])" or "Pulmonary atresia – VSD (including TOF, PA) repair"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Procedure-Specific Factors – VSD, Multiple, Repair
*Short Name:* **PSFVSDMultRep**
*Section Name*: Procedure-Specific Factors
*DBTableName:* Operations
*Definition:* Indicate whether VSD, Multiple, Repair was present.

*SeqNo:* 952
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors – Procedure-Specific Factors – Primary Procedure

*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 390|350|360|370|380|400|2700|2710|2720|420
*ParentValues:* = "TOF – AVC (AVSD) repair", "TOF repair, No ventriculotomy", "TOF repair, Ventriculotomy, Nontransanular patch", "TOF repair, Ventriculotomy, Transanular patch", "TOF repair, RV-PA conduit", "TOF – Absent pulmonary valve repair", "Pulmonary atresia – VSD – MAPCA repair, Complete single stage repair (1-stage that includes bilateral pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit])", "Pulmonary atresia – VSD – MAPCA repair, Status post prior complete unifocalization (includes VSD closure + RV to PA connection [with or without conduit])", "Pulmonary atresia – VSD – MAPCA repair, Status post prior incomplete unifocalizarion (includes completion of pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit])" or "Pulmonary atresia – VSD (including TOF, PA) repair"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Procedure-Specific Factors – Restrictive VSD
*SeqNo:* 953
*Short Name:* **PSFRestrictVSD**
*Core:* Yes
*Section Name*: Procedure-Specific Factors
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether Restrictive VSD was present.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors – Procedure-Specific Factors – Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 390|350|360|370|380|400|2700|2710|2720|420
*ParentValues:* = "TOF – AVC (AVSD) repair", "TOF repair, No ventriculotomy", "TOF repair, Ventriculotomy, Nontransanular patch", "TOF repair, Ventriculotomy, Transanular patch", "TOF repair, RV-PA conduit", "TOF – Absent pulmonary valve repair", "Pulmonary atresia – VSD – MAPCA repair, Complete single stage repair (1-stage that includes bilateral pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit])",

"Pulmonary atresia – VSD – MAPCA repair, Status post prior complete unifocalization (includes VSD closure + RV to PA connection [with or without conduit])", "Pulmonary atresia – VSD – MAPCA repair, Status post prior incomplete unifocalizarion (includes completion of pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit])" or "Pulmonary atresia – VSD (including TOF, PA) repair"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors – Hypoplastic branch pulmonary arteries (diminished pulmonary vascular bed) | *SeqNo:* | 954 |
| *Short Name:* | **PSFHypoBrPulmArt** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Hypoplastic branch pulmonary arteries (diminished pulmonary vascular bed) was present. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |
| *ParentLongName:* | Procedure-Specific Factors – Procedure-Specific Factors – Primary Procedure | | |
| *ParentShortName:* | **PSFPrimProc** | | |
| *ParentHarvestCodes:* | 390\|350\|360\|370\|380\|400\|2700\|2710\|2720\|420 \|1670\|1680\|1690\|1700\|2330\|2130\|3160\|950 \|960\|970\|980\|1000\|1010\|2780\|2790\|3310\|3320\|1030\|2340\|1025 | | |
| *ParentValues:* | = "TOF – AVC (AVSD) repair", "TOF repair, No ventriculotomy", "TOF repair, Ventriculotomy, Nontransanular patch", "TOF repair, Ventriculotomy, Transanular patch", "TOF repair, RV-PA conduit", "TOF – Absent pulmonary valve repair", "Pulmonary atresia – VSD – MAPCA repair, Complete single stage repair (1-stage that includes bilateral pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit])", "Pulmonary atresia – VSD – MAPCA repair, Status post prior complete unifocalization (includes VSD closure + RV to PA connection [with or without conduit])", "Pulmonary atresia – VSD – MAPCA repair, Status post prior incomplete unifocalizarion (includes completion of pulmonary unifocalization + VSD closure + RV to PA connection [with or without | | |

conduit])", "Pulmonary atresia – VSD (including TOF, PA) repair", "Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn)", "Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn)", "Bilateral bidirectional cavopulmonary anastomosis (BBDCPA) (bilateral bidirectional Glenn)", "HemiFontan", "Superior cavopulmonary anastomosis(es) (Glenn or HemiFontan) + Atrioventricular valvuloplasty", "Superior Cavopulmonary anastomosis(es) + PA reconstruction", "Kawashima operation (superior cavopulmonary connection in setting of interrupted IVC with azygous continuation)", "Fontan, Atrio-pulmonary connection", "Fontan, Atrio-ventricular connection", "Fontan, TCPC, Lateral tunnel, Fenestrated", "Fontan, TCPC, Lateral tunnel, Nonfenestrated", "Fontan, TCPC, External conduit, Fenestrated", "Fontan, TCPC, External conduit, Nonfenestrated", "Fontan, TCPC, Intra/extracardiac conduit, Fenestrated", "Fontan, TCPC, Intra/extracardiac conduit, Nonfenestrated", "Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Fenestrated", "Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Nonfenestrated", "Fontan, Other", "Fontan + Atrioventricular valvuloplasty" or "Fontan revision or conversion (Re-do Fontan)"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

November 2019: Should the procedure specific of hypoplastic branch PAs only be coded if the hypoplasia is congenital, or should I code it when they're hypoplastic due to (now debanded) bilateral PA banding? Our patient had a PA plasty along with her Glenn to enlarge her PAs that were narrowed as a result of her bilateral PA banding? **Code PA hypoplasia as a procedure specific factor for both congenital and acquired PA hypoplasia.**

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors – AV Valve regurgitation grade 3 and 4 (Severe AV Valve regurgitation) | *SeqNo:* | 955 |
| *Short Name:* | **PSFAVRegurg34** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether AV Valve regurgitation grade 3 and 4 (Severe AV Valve regurgitation) was present. | | |
| *Intent / Clarification:* | This should be coded if any of the following grades of regurgitation are present: grade3, grade 4, moderate, or severe. | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |

*ParentLongName:* Procedure-Specific Factors – Procedure-Specific Factors – Primary Procedure

*ParentShortName:* **PSFPrimProc**

*ParentHarvestCodes:* 390|350|360|370|380|400|2700|2710|2720|420 |1670|1680|1690|1700|2330|2130|3160|950 |960|970|980|1000|1010|2780|2790|3310|3320|1030|2340|1025

*ParentValues:* = "TOF – AVC (AVSD) repair", "TOF repair, No ventriculotomy", "TOF repair, Ventriculotomy, Nontransanular patch", "TOF repair, Ventriculotomy, Transanular patch", "TOF repair, RV-PA conduit", "TOF – Absent pulmonary valve repair", "Pulmonary atresia – VSD – MAPCA repair, Complete single stage repair (1-stage that includes bilateral pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit])", "Pulmonary atresia – VSD – MAPCA repair, Status post prior complete unifocalization (includes VSD closure + RV to PA connection [with or without conduit])", "Pulmonary atresia – VSD – MAPCA repair, Status post prior incomplete unifocalizarion (includes completion of pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit])", "Pulmonary atresia – VSD (including TOF, PA) repair", "Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn)", "Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn)", "Bilateral bidirectional cavopulmonary anastomosis (BBDCPA) (bilateral bidirectional Glenn)", "HemiFontan", "Superior cavopulmonary anastomosis(es) (Glenn or HemiFontan) + Atrioventricular valvuloplasty", "Superior Cavopulmonary anastomosis(es) + PA reconstruction", "Kawashima operation (superior cavopulmonary connection in setting of interrupted IVC with azygous continuation)", "Fontan, Atrio-pulmonary connection", "Fontan, Atrio-ventricular connection", "Fontan, TCPC, Lateral tunnel, Fenestrated", "Fontan, TCPC, Lateral tunnel, Nonfenestrated", "Fontan, TCPC, External conduit, Fenestrated", "Fontan, TCPC, External conduit, Nonfenestrated", "Fontan, TCPC, Intra/extracardiac conduit, Fenestrated", "Fontan, TCPC, Intra/extracardiac conduit, Nonfenestrated", "Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Fenestrated", "Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Nonfenestrated", "Fontan, Other", "Fontan + Atrioventricular valvuloplasty" or "Fontan revision or conversion (Re-do Fontan)"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Procedure-Specific Factors - Double orifice left atrioventricular valve *SeqNo:* 956

*Short Name:* **PSFDoubOrif** *Core:* Yes

*Section Name*: Procedure-Specific Factors *Harvest:* Yes

*DBTableName:* Operations

*Definition:* Indicate whether Double orifice left atrioventricular valve was present.

*Intent / Clarification:*

*Data Source:* User

*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure

*ParentShortName:* **PSFPrimProc**

*ParentHarvestCodes:* 390|170

*ParentValues:* = "TOF - AVC (AVSD) repair" or "AVC (AVSD) repair, Complete (CAVSD)"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Procedure-Specific Factors - Single papillary muscle in the left ventricle and/or parachute left atrioventricular valve *SeqNo:* 957

*Short Name:* **PSFSingPap** *Core:* Yes

*Section Name*: Procedure-Specific Factors *Harvest:* Yes

*DBTableName:* Operations

*Definition:* Indicate whether Single papillary muscle in the left ventricle and/or parachute left atrioventricular valve was present.

*Intent / Clarification:*

*Data Source:* User

*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure

*ParentShortName:* **PSFPrimProc**

*ParentHarvestCodes:* 390|170

*ParentValues:* = "TOF - AVC (AVSD) repair" or "AVC (AVSD) repair, Complete (CAVSD)"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Procedure-Specific Factors - Hypoplastic posterior mural leaflet
*SeqNo:* 958
*Short Name:* **PSFHypoPostMLeaf**
*Core:* Yes
*Section Name*: Procedure-Specific Factors
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether Hypoplastic posterior mural leaflet was present.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 390|170
*ParentValues:* = "TOF - AVC (AVSD) repair" or "AVC (AVSD) repair, Complete (CAVSD)"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Procedure-Specific Factors - Atrioventricular septal defect with ventricular imbalance: dominant left ventricle, hypoplastic right ventricle
*SeqNo:* 959
*Short Name:* **PSFASDDomLeft**
*Core:* Yes
*Section Name*: Procedure-Specific Factors
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether Atrioventricular septal defect with ventricular imbalance: dominant left ventricle and hypoplastic right ventricle was present.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 390|170
*ParentValues:* = "TOF - AVC (AVSD) repair" or "AVC (AVSD) repair, Complete (CAVSD)"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Procedure-Specific Factors - Atrioventricular septal defect with ventricular imbalance: dominant right ventricle, hypoplastic left ventricle
*SeqNo:* 960

*Short Name:* **PSFASDDomRight**
*Core:* Yes

*Section Name*: Procedure-Specific Factors
*Harvest:* Yes

*DBTableName:* Operations
*Definition:* Indicate whether Atrioventricular septal defect with ventricular imbalance: dominant right ventricle and hypoplastic left ventricle was present.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 390|170
*ParentValues:* = "TOF - AVC (AVSD) repair" or "AVC (AVSD) repair, Complete (CAVSD)"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Common atrioventricular valve with unbalanced commitment of valve to left ventricle | *SeqNo:* | 961 |
| *Short Name:* | **PSFCAVLeft** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Common atrioventricular valve with unbalanced commitment of valve to left ventricle was present. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |
| *ParentLongName:* | Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure | | |
| *ParentShortName:* | **PSFPrimProc** | | |
| *ParentHarvestCodes:* | 390\|170 | | |
| *ParentValues:* | = "TOF - AVC (AVSD) repair" or "AVC (AVSD) repair, Complete (CAVSD)" | | |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Common atrioventricular valve with unbalanced commitment of valve to right ventricle | *SeqNo:* | 962 |
| *Short Name:* | **PSFCAVRight** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Common atrioventricular valve with unbalanced commitment of valve to right ventricle was present. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |
| *ParentLongName:* | Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure | | |
| *ParentShortName:* | **PSFPrimProc** | | |
| *ParentHarvestCodes:* | 390\|170 | | |
| *ParentValues:* | = "TOF - AVC (AVSD) repair" or "AVC (AVSD) repair, Complete (CAVSD)" | | |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Moderate to severe systemic ventricular dysfunction | *SeqNo:* | 963 |
| *Short Name:* | **PSFModSevSVD** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Moderate to severe systemic ventricular dysfunction was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 1670|1680|1690|1700|2330|2130|3160|950|960|970|980|1000|1010|2780|2790| 3310|3320|1030|2340|1025
*ParentValues:* = "Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn)", "Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn)", "Bilateral bidirectional cavopulmonary anastomosis (BBDCPA) (bilateral bidirectional Glenn)", "HemiFontan", "Superior cavopulmonary anastomosis(es) (Glenn or HemiFontan) + Atrioventricular valvuloplasty", "Superior Cavopulmonary anastomosis(es) + PA reconstruction", "Kawashima operation (superior cavopulmonary connection in setting of interrupted IVC with azygous continuation)", "Fontan, Atrio-pulmonary connection", "Fontan, Atrio-ventricular connection", "Fontan, TCPC, Lateral tunnel, Fenestrated", "Fontan, TCPC, Lateral tunnel, Nonfenestrated", "Fontan, TCPC, External conduit, Fenestrated", "Fontan, TCPC, External conduit, Nonfenestrated", "Fontan, TCPC, Intra/extracardiac conduit, Fenestrated", "Fontan, TCPC, Intra/extracardiac conduit, Nonfenestrated", "Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Fenestrated", "Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Nonfenestrated", "Fontan, Other", "Fontan + Atrioventricular valvuloplasty" or "Fontan revision or conversion (Re-do Fontan)"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Systemic ventricular outflow tract obstruction (subaortic obstruction) | *SeqNo:* | 964 |
| *Short Name:* | **PSFSysVentObs** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Systemic ventricular outflow tract obstruction (subaortic obstruction) was present. | | |
| *Intent / Clarification:* | Indicate whether obstruction between the dominant ventricle and the systemic circulation was present (e.g., Restrictive bulboventricular foramen/VSD in a patient with tricuspid atresia and transposition of the great arteries). | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |
| *ParentLongName:* | Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure | | |
| *ParentShortName:* | **PSFPrimProc** | | |
| *ParentHarvestCodes:* | 1670\|1680\|1690\|1700\|2330\|2130\|3160\|950\|960\|970\|980\|1000\|1010\|2780\|2790\| 3310\|3320\|1030\|2340\|1025 | | |
| *ParentValues:* | = "Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn)", "Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn)", "Bilateral bidirectional cavopulmonary anastomosis (BBDCPA) (bilateral bidirectional Glenn)", "HemiFontan", "Superior cavopulmonary anastomosis(es) (Glenn or HemiFontan) + Atrioventricular valvuloplasty", "Superior Cavopulmonary anastomosis(es) + PA reconstruction", "Kawashima operation (superior cavopulmonary connection in setting of interrupted IVC with azygous continuation)", "Fontan, Atrio-pulmonary connection", "Fontan, Atrio-ventricular connection", "Fontan, TCPC, Lateral tunnel, Fenestrated", "Fontan, TCPC, Lateral tunnel, Nonfenestrated", "Fontan, TCPC, External conduit, Fenestrated", "Fontan, TCPC, External conduit, Nonfenestrated", "Fontan, TCPC, Intra/extracardiac conduit, Fenestrated", "Fontan, TCPC, Intra/extracardiac conduit, Nonfenestrated", "Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Fenestrated", "Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Nonfenestrated", "Fontan, Other", "Fontan + | | |

Atrioventricular valvuloplasty" or "Fontan revision or conversion (Re-do Fontan)"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Ventricular dominance | *SeqNo:* | 965 |
| *Short Name:* | **PSFVentDom** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate ventricular dominance. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 1670|1680|1690|1700|2330|2130|3160|950|960|970|980|1000|1010|2780|2790| 3310|3320|1030|2340|1025
*ParentValues:* = "Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn)", "Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn)", "Bilateral bidirectional cavopulmonary anastomosis (BBDCPA) (bilateral bidirectional Glenn)", "HemiFontan", "Superior cavopulmonary anastomosis(es) (Glenn or HemiFontan) + Atrioventricular valvuloplasty", "Superior Cavopulmonary anastomosis(es) + PA reconstruction", "Kawashima operation (superior cavopulmonary connection in setting of interrupted IVC with azygous continuation)", "Fontan, Atrio-pulmonary connection", "Fontan, Atrio-ventricular connection", "Fontan, TCPC, Lateral tunnel, Fenestrated", "Fontan, TCPC, Lateral tunnel, Nonfenestrated", "Fontan, TCPC, External conduit, Fenestrated", "Fontan, TCPC, External conduit, Nonfenestrated", "Fontan, TCPC, Intra/extracardiac conduit, Fenestrated", "Fontan, TCPC, Intra/extracardiac conduit, Nonfenestrated", "Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Fenestrated", "Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Nonfenestrated", "Fontan, Other", "Fontan + Atrioventricular valvuloplasty" or "Fontan revision or conversion (Re-do Fontan)"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Left ventricular dominance |
| 2 | Right ventricular dominance |
| 3 | Balanced |
| 4 | Indeterminate ventricular dominance |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Posterior coronary loop: circumflex coming off the RCA | *SeqNo:* | 970 |
| *Short Name:* | **PSFPostLoopCirc** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Posterior coronary loop: circumflex coming off the RCA was present. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |

| | |
|---|---|
| *ParentLongName:* | Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure |
| *ParentShortName:* | **PSFPrimProc** |
| *ParentHarvestCodes:* | 1110\|1123\|1120\|1125 |
| *ParentValues:* | = "Arterial switch operation (ASO)", "Arterial switch procedure + Aortic arch repair", "Arterial switch operation (ASO) and VSD repair" or "Arterial switch procedure and VSD repair + Aortic arch repair" |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Posterior Coronary Loop: left trunk coming off the RCA | *SeqNo:* | 971 |
| *Short Name:* | **PSFPostLoopLeftTrunc** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Posterior Coronary Loop: left trunk coming off the RCA was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 1110|1123|1120|1125
*ParentValues:* = "Arterial switch operation (ASO)", "Arterial switch procedure + Aortic arch repair", "Arterial switch operation (ASO) and VSD repair" or "Arterial switch procedure and VSD repair + Aortic arch repair"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Procedure-Specific Factors - Double Coronary Loops
*Short Name:* **PSFDoubleLoops**
*Section Name*: Procedure-Specific Factors
*DBTableName:* Operations
*Definition:* Indicate whether Double Coronary Loops (inverted origin of right and left coronary arteries) was present.

*SeqNo:* 972
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 1110|1123|1120|1125
*ParentValues:* = "Arterial switch operation (ASO)", "Arterial switch procedure + Aortic arch repair", "Arterial switch operation (ASO) and VSD repair" or "Arterial switch procedure and VSD repair + Aortic arch repair"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |

| | |
|---|---|
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Single Coronary Ostium | *SeqNo:* | 973 |
| *Short Name:* | **PSFSingOst** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Single coronary ostium was present. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |

| | |
|---|---|
| *ParentLongName:* | Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure |
| *ParentShortName:* | **PSFPrimProc** |
| *ParentHarvestCodes:* | 1110\|1123\|1120\|1125 |
| *ParentValues:* | = "Arterial switch operation (ASO)", "Arterial switch procedure + Aortic arch repair", "Arterial switch operation (ASO) and VSD repair" or "Arterial switch procedure and VSD repair + Aortic arch repair" |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Intramural coronary | *SeqNo:* | 974 |
| *Short Name:* | **PSFIntramuralCor** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Intramural coronary was present. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |

| | |
|---|---|
| *ParentLongName:* | Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure |
| *ParentShortName:* | **PSFPrimProc** |

*ParentHarvestCodes:* 1110|1123|1120|1125
*ParentValues:* = "Arterial switch operation (ASO)", "Arterial switch procedure + Aortic arch repair", "Arterial switch operation (ASO) and VSD repair" or "Arterial switch procedure and VSD repair + Aortic arch repair"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Procedure-Specific Factors - Large infundibular coronary artery from LAD
*SeqNo:* 975
*Short Name:* **PSFLgInfundArt**
*Core:* Yes
*Section Name*: Procedure-Specific Factors
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether Large infundibular coronary artery from LAD was present.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 1110|1123|1120|1125
*ParentValues:* = "Arterial switch operation (ASO)", "Arterial switch procedure + Aortic arch repair", "Arterial switch operation (ASO) and VSD repair" or "Arterial switch procedure and VSD repair + Aortic arch repair"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Procedure-Specific Factors - Malaligned commissures
*SeqNo:* 976
*Short Name:* **PSFMalComm**
*Core:* Yes
*Section Name*: Procedure-Specific Factors
*Harvest:* Yes
*DBTableName:* Operations

*Definition:* Indicate whether Malaligned commissures was present.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 1110|1123|1120|1125
*ParentValues:* = "Arterial switch operation (ASO)", "Arterial switch procedure + Aortic arch repair", "Arterial switch operation (ASO) and VSD repair" or "Arterial switch procedure and VSD repair + Aortic arch repair"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Procedure-Specific Factors - Take down of a commissure
*SeqNo:* 977
*Short Name:* **PSFTakeDownComm**
*Core:* Yes
*Section Name*: Procedure-Specific Factors
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether Take down of a commissure was present.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 1110|1123|1120|1125
*ParentValues:* = "Arterial switch operation (ASO)", "Arterial switch procedure + Aortic arch repair", "Arterial switch operation (ASO) and VSD repair" or "Arterial switch procedure and VSD repair + Aortic arch repair"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |

| | |
|---|---|
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Aorto-pulmonary diameter mismatch | *SeqNo:* | 978 |
| *Short Name:* | **PSFAortoPulMis** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Aorto-pulmonary diameter mismatch was present. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |

| | |
|---|---|
| *ParentLongName:* | Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure |
| *ParentShortName:* | **PSFPrimProc** |
| *ParentHarvestCodes:* | 1110\|1123\|1120\|1125 |
| *ParentValues:* | = "Arterial switch operation (ASO)", "Arterial switch procedure + Aortic arch repair", "Arterial switch operation (ASO) and VSD repair" or "Arterial switch procedure and VSD repair + Aortic arch repair" |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Side by side vessels | *SeqNo:* | 979 |
| *Short Name:* | **PSFSideBySide** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Side by side vessels was present. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 1110|1123|1120|1125
*ParentValues:* = "Arterial switch operation (ASO)", "Arterial switch procedure + Aortic arch repair", "Arterial switch operation (ASO) and VSD repair" or "Arterial switch procedure and VSD repair + Aortic arch repair"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Procedure-Specific Factors - Posterior native aorta
*SeqNo:* 980
*Short Name:* **PSFPostNatAorta**
*Core:* Yes
*Section Name*: Procedure-Specific Factors
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether Posterior native aorta was present.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 1110|1123|1120|1125
*ParentValues:* = "Arterial switch operation (ASO)", "Arterial switch procedure + Aortic arch repair", "Arterial switch operation (ASO) and VSD repair" or "Arterial switch procedure and VSD repair + Aortic arch repair"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Procedure-Specific Factors - Subaortic obstruction/ conal septum malalignment
*SeqNo:* 981

| | | | |
|---|---|---|---|
| *Short Name:* | **PSFSubAObs** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Subaortic obstruction / conal septum malalignment was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 1110|1123|1120|1125
*ParentValues:* = "Arterial switch operation (ASO)", "Arterial switch procedure + Aortic arch repair", "Arterial switch operation (ASO) and VSD repair" or "Arterial switch procedure and VSD repair + Aortic arch repair"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Bicuspid native aortic valve (Bicuspid neopulmonary valve) | *SeqNo:* | 982 |
| *Short Name:* | **PSFBicusNatAortic** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Bicuspid native aortic valve (Bicuspid neopulmonary valve) was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 1110|1123|1120|1125
*ParentValues:* = "Arterial switch operation (ASO)", "Arterial switch procedure + Aortic arch repair", "Arterial switch operation (ASO) and VSD

repair" or "Arterial switch procedure and VSD repair + Aortic arch repair"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Bicuspid native pulmonary valve (Bicuspid neoaortic valve) | *SeqNo:* | 983 |
| *Short Name:* | **PSFBicusNatPulm** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Bicuspid native pulmonary valve (Bicuspid neoaortic valve) was present. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |

| | |
|---|---|
| *ParentLongName:* | Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure |
| *ParentShortName:* | **PSFPrimProc** |
| *ParentHarvestCodes:* | 1110\|1123\|1120\|1125 |
| *ParentValues:* | = "Arterial switch operation (ASO)", "Arterial switch procedure + Aortic arch repair", "Arterial switch operation (ASO) and VSD repair" or "Arterial switch procedure and VSD repair + Aortic arch repair" |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Truncus type 3 ( PA Branches from PDA or descending aorta) | *SeqNo:* | 984 |
| *Short Name:* | **PSFTruncType3** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Truncus type 3 (PA Branches from PDA or descending aorta) was present. | | |

*Intent / Clarification:* This refers to the Van Praagh classification scheme which may also be referred to as Type A3.

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 230|2220
*ParentValues:* = "Truncus arteriosus repair" or "Truncus + Interrupted aortic arch repair (IAA) repair"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Procedure-Specific Factors - Abnormal coronary
*Short Name:* **PSFAbnormalCor**
*Section Name*: Procedure-Specific Factors
*DBTableName:* Operations
*Definition:* Indicate whether Abnormal coronary was present.

*SeqNo:* 985
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 230|2220
*ParentValues:* = "Truncus arteriosus repair" or "Truncus + Interrupted aortic arch repair (IAA) repair"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Truncal valve regurgitation (moderate to severe) | *SeqNo:* | 986 |
| *Short Name:* | **PSFTruncValRegurg** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Truncal valve regurgitation (moderate to severe) was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 230|2220
*ParentValues:* = "Truncus arteriosus repair" or "Truncus + Interrupted aortic arch repair (IAA) repair"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Truncal Valve stenosis (moderate to severe) | *SeqNo:* | 987 |
| *Short Name:* | **PSFTruncValSten** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Truncal valve stenosis (moderate to severe) was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 230|2220
*ParentValues:* = "Truncus arteriosus repair" or "Truncus + Interrupted aortic arch repair (IAA) repair"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Source of pulmonary blood flow: Shunt - systemic artery-to-pulmonary artery | *SeqNo:* | 988 |
| *Short Name:* | **PSFSrcPulFloShuntSys** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Source of pulmonary blood flow: Shunt - systemic artery-to- pulmonary artery was present. | | |
| *Intent / Clarification:* | This should not be selected if a REVERSE Blalock-Taussig shunt is placed to augment perfusion. | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |
| *ParentLongName:* | Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure | | |
| *ParentShortName:* | **PSFPrimProc** | | |
| *ParentHarvestCodes:* | 870\|2160\|2170\|2180 | | |
| *ParentValues:* | = "Norwood procedure", "Hybrid Approach "Stage 1", Application of RPA & LPA bands", "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA)" or "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands" | | |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Source of pulmonary blood flow: Shunt - ventricle-to- pulmonary artery | *SeqNo:* | 989 |
| *Short Name:* | **PSFSrcPulFloShuntVent** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Source of pulmonary blood flow: Shunt - ventricle-to-pulmonary artery was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 870|2160|2170|2180
*ParentValues:* = "Norwood procedure", "Hybrid Approach "Stage 1", Application of RPA & LPA bands", "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA)" or "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Procedure-Specific Factors - Source of pulmonary blood flow: Superior caval vein-to- pulmonary artery
*SeqNo:* 990
*Short Name:* **PSFSrcPulFloSuper**
*Core:* Yes
*Section Name*: Procedure-Specific Factors
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether Source of pulmonary blood flow: Superior caval vein-to-pulmonary artery was present.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 870|2160|2170|2180
*ParentValues:* = "Norwood procedure", "Hybrid Approach "Stage 1", Application of RPA & LPA bands", "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA)" or "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Source of pulmonary blood flow: Banded Central PAs | *SeqNo:* | 991 |
| *Short Name:* | **PSFSrcPulFloBandPA** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate if the source of pulmonary blood flow is from the main pulmonary artery to the distal pulmonary arteries via branch pulmonary arteries that have been surgically narrowed (banded). | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure |
| *ParentShortName:* | **PSFPrimProc** |
| *ParentHarvestCodes:* | 870\|2160\|2170\|2180 |
| *ParentValues:* | = "Norwood procedure", "Hybrid Approach "Stage 1", Application of RPA & LPA bands", "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA)" or "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands" |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Ascending aorta < 2 mm | *SeqNo:* | 992 |
| *Short Name:* | **PSFAscAortaLT2** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Ascending aorta < 2 mm was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 870|2160|2170|2180
*ParentValues:* = "Norwood procedure", "Hybrid Approach "Stage 1", Application of RPA & LPA bands", "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA)" or "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Procedure-Specific Factors - Aortic atresia
*Short Name:* **PSFAortAtresia**
*Section Name*: Procedure-Specific Factors
*DBTableName:* Operations
*Definition:* Indicate whether Aortic atresia was present.

*SeqNo:* 993
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 870|2160|2170|2180
*ParentValues:* = "Norwood procedure", "Hybrid Approach "Stage 1", Application of RPA & LPA bands", "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA)" or "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Aortic stenosis | *SeqNo:* | 994 |
| *Short Name:* | **PSFAortSten** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Aortic stenosis was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 870|2160|2170|2180
*ParentValues:* = "Norwood procedure", "Hybrid Approach "Stage 1", Application of RPA & LPA bands", "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA)" or "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Mitral atresia | *SeqNo:* | 995 |
| *Short Name:* | **PSFMitralAtresia** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Mitral atresia was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**

*ParentHarvestCodes:* 870|2160|2170|2180

*ParentValues:* = "Norwood procedure", "Hybrid Approach "Stage 1", Application of RPA & LPA bands", "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA)" or "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Procedure-Specific Factors - Mitral stenosis

*SeqNo:* 996

*Short Name:* **PSFMitralSten**

*Core:* Yes

*Section Name*: Procedure-Specific Factors

*Harvest:* Yes

*DBTableName:* Operations

*Definition:* Indicate whether Mitral stenosis was present.

*Intent / Clarification:*

*Data Source:* User

*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure

*ParentShortName:* **PSFPrimProc**

*ParentHarvestCodes:* 870|2160|2170|2180

*ParentValues:* = "Norwood procedure", "Hybrid Approach "Stage 1", Application of RPA & LPA bands", "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA)" or "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Procedure-Specific Factors - Sinusoids

*SeqNo:* 997

*Short Name:* **PSFSinusoids**

*Core:* Yes

*Section Name*: Procedure-Specific Factors

*Harvest:* Yes

*DBTableName:* Operations

*Definition:* Indicate whether the presence of sinusoids was present.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 870|2160|2170|2180
*ParentValues:* = "Norwood procedure", "Hybrid Approach "Stage 1", Application of RPA & LPA bands", "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA)" or "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Procedure-Specific Factors - Intact atrial septum
*Short Name:* **PSFIntactAtrSep**
*Section Name*: Procedure-Specific Factors
*DBTableName:* Operations
*Definition:* Indicate whether Intact atrial septum was present.

*SeqNo:* 998
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 870|2160|2170|2180
*ParentValues:* = "Norwood procedure", "Hybrid Approach "Stage 1", Application of RPA & LPA bands", "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA)" or "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|

| | |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Obstructed pulmonary venous return with severely restrictive ASD | *SeqNo:* | 999 |
| *Short Name:* | **PSFObsPulVenRet** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Obstructed pulmonary venous return with severely restrictive ASD was present. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |

| | |
|---|---|
| *ParentLongName:* | Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure |
| *ParentShortName:* | **PSFPrimProc** |
| *ParentHarvestCodes:* | 870\|2160\|2170\|2180 |
| *ParentValues:* | = "Norwood procedure", "Hybrid Approach "Stage 1", Application of RPA & LPA bands", "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA)" or "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands" |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Aberrant right subclavian artery | *SeqNo:* | 1000 |
| *Short Name:* | **PSFAberrantRtSubclav** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Aberrant right subclavian artery was present. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 870|2160|2170|2180
*ParentValues:* = "Norwood procedure", "Hybrid Approach "Stage 1", Application of RPA & LPA bands", "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA)" or "Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Procedure-Specific Factors - TV Repair
*Short Name:* **PSFTVRep**
*SeqNo:* 1001
*Core:* Yes
*Harvest:* Yes
*Section Name*: Procedure-Specific Factors
*DBTableName:* Operations
*Definition:* Indicate whether TV Repair was present.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 465
*ParentValues:* = "Ebstein's repair"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Procedure-Specific Factors - TV Repair - Monocusp
*Short Name:* **PSFTVRepMono**
*SeqNo:* 1002
*Core:* Yes
*Harvest:* Yes
*Section Name*: Procedure-Specific Factors
*DBTableName:* Operations
*Definition:* Indicate whether TV Repair - Monocusp was present.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - TV Repair
*ParentShortName:* **PSFTVRep**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Procedure-Specific Factors - TV Repair - Bileaflet Repair
*Short Name:* **PSFTVRepBileaf**
*Section Name*: Procedure-Specific Factors
*DBTableName:* Operations
*Definition:* Indicate whether TV Repair - Bileaflet Repair was present.

*SeqNo:* 1004
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - TV Repair
*ParentShortName:* **PSFTVRep**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Procedure-Specific Factors - TV Repair - Cone Repair - 360 Degrees Leaflet Approximation

*SeqNo:* 1006

| | | | |
|---|---|---|---|
| *Short Name:* | **PSFTVRepCone** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether TV Repair - Cone Repair - 360 Degrees Leaflet Approximation was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - TV Repair
*ParentShortName:* **PSFTVRep**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Sebening Stitch (Anterior RV Papillary Muscle To Ventricular Septum) | *SeqNo:* | 1008 |
| *Short Name:* | **PSFSebening** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Sebening Stitch (Anterior RV Papillary Muscle To Ventricular Septum) was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 465
*ParentValues:* = "Ebstein's repair"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Annular Reduction | *SeqNo:* | 1009 |
| *Short Name:* | **PSFAnnRed** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Annular Reduction was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 465
*ParentValues:* = "Ebstein's repair"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Annular Reduction - Plication | *SeqNo:* | 1010 |
| *Short Name:* | **PSFAnnRedPlic** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Annular Reduction - Plication was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Annular Reduction
*ParentShortName:* **PSFAnnRed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|

| | |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Annular Reduction - Partial Ring (C-Shaped Anterior And Inferior Annulus) | *SeqNo:* | 1012 |
| *Short Name:* | **PSFAnnRedPartial** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Annular Reduction - Partial Ring (C-Shaped Anterior And Inferior Annulus) was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Annular Reduction
*ParentShortName:* **PSFAnnRed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Annular Reduction - Eccentric Ring (Inferior Annulus) | *SeqNo:* | 1014 |
| *Short Name:* | **PSFAnnRedEccent** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Annular Reduction - Eccentric Ring (Inferior Annulus) was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Annular Reduction
*ParentShortName:* **PSFAnnRed**

*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Procedure-Specific Factors - Atrialized RV Plication
*SeqNo:* 1016
*Short Name:* **PSFAtrialRVPlic**
*Core:* Yes
*Section Name*: Procedure-Specific Factors
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether Atrialized RV Plication was present.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 465
*ParentValues:* = "Ebstein's repair"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Procedure-Specific Factors - Atrialized RV Resection
*SeqNo:* 1018
*Short Name:* **PSFAtrialRVRes**
*Core:* Yes
*Section Name*: Procedure-Specific Factors
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether Atrialized RV Resection was present.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 465
*ParentValues:* = "Ebstein's repair"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Procedure-Specific Factors - ASD/PFO Closure
*Short Name:* **PSFASDPFO**
*Section Name*: Procedure-Specific Factors
*DBTableName:* Operations
*Definition:* Indicate whether ASD/PFO Closure was present.

*SeqNo:* 1020
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 465
*ParentValues:* = "Ebstein's repair"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |
| 3 | Subtotal |

---

*Long Name:* Procedure-Specific Factors - Reduction Atrioplasty
*Short Name:* **PSFRedAtrio**
*Section Name*: Procedure-Specific Factors
*DBTableName:* Operations
*Definition:* Indicate whether Reduction Atrioplasty was present.

*SeqNo:* 1022
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 465
*ParentValues:* = "Ebstein's repair"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Procedure-Specific Factors - Arrhythmia Surgery
*SeqNo:* 1023
*Short Name:* **PSFArrSurg**
*Core:* Yes
*Section Name*: Procedure-Specific Factors
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether Arrhythmia Surgery was present.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 465
*ParentValues:* = "Ebstein's repair"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Procedure-Specific Factors - Arrhythmia Surgery - Cavotricuspid Isthmus Ablation
*SeqNo:* 1024
*Short Name:* **PSFArrSurgCavo**
*Core:* Yes
*Section Name*: Procedure-Specific Factors
*Harvest:* Yes
*DBTableName:* Operations

*Definition:* Indicate whether Arrhythmia Surgery - Cavotricuspid Isthmus Ablation was present.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Arrhythmia Surgery
*ParentShortName:* **PSFArrSurg**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Procedure-Specific Factors - Arrhythmia Surgery - Modified Right Atrial Maze
*SeqNo:* 1026
*Short Name:* **PSFArrSurgModMaze**
*Core:* Yes
*Section Name*: Procedure-Specific Factors
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether Arrhythmia Surgery - Modified Right Atrial Maze was present.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Arrhythmia Surgery
*ParentShortName:* **PSFArrSurg**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Arrhythmia Surgery - Left Atrial Cox Maze | *SeqNo:* | 1028 |
| *Short Name:* | **PSFArrSurgCoxMaze** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Arrhythmia Surgery - Left Atrial Cox Maze was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Arrhythmia Surgery
*ParentShortName:* **PSFArrSurg**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Arrhythmia Surgery - Pulmonary Vein Isolation | *SeqNo:* | 1030 |
| *Short Name:* | **PSFArrSurgPulmIso** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Arrhythmia Surgery - Pulmonary Vein Isolation was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Arrhythmia Surgery
*ParentShortName:* **PSFArrSurg**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|

| | |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Procedure-Specific Factors - Bidirectional Cavopulmonary Anastomosis | *SeqNo:* | 1032 |
| *Short Name:* | **PSFBiCavoAnast** | *Core:* | Yes |
| *Section Name*: | Procedure-Specific Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Bidirectional Cavopulmonary Anastomosis was present. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procedure-Specific Factors - Procedure-Specific Factors - Primary Procedure
*ParentShortName:* **PSFPrimProc**
*ParentHarvestCodes:* 465
*ParentValues:* = "Ebstein's repair"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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## Operative

| | | | |
|---|---|---|---|
| *Long Name:* | Procedure Location | *SeqNo:* | 1054 |
| *Short Name:* | **ProcLoc** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the location where the operation/procedure was performed. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes and Value Definitions:

| Code: | Value: | Definition |
|---|---|---|
| 9 | Cardiac OR | Indicate if the operation/procedure was performed in the following location: Cardiac |

| | | |
|---|---|---|
| | | OR (Cardiac Operating Room). |
| 10 | General OR | Indicate if the operation/procedure was performed in the following location: General OR (General Operating Room). |
| 3 | Hybrid Suite | Indicate if the operation/procedure was performed in the following location: Hybrid Suite. A "Hybrid Suite" is defined as a room that is designed for both surgical procedures and transcatheter interventional procedures. A "Hybrid Procedure" is defined as a procedure that combines surgical and transcatheter interventional approaches. The term "Hybrid approach" is used somewhat differently than the term "Hybrid Procedure." A "Hybrid approach" is defined as any of a group of procedures that fit into the general silo of procedures developed from the combined use of surgical and transcatheter interventional techniques. Therefore, not all procedures classified as "Hybrid approach" are truly "Hybrid Procedures." |
| 2 | Cath lab | Indicate if the operation/procedure was performed in the following location: Cath lab (Cardiac catheterization laboratory). |
| 11 | ICU | Indicate if the operation/procedure was performed in the following location: ICU (Intensive Care Unit). |
| 4 | CVICU | Indicate if the operation/procedure was performed in the following location: CVICU (CardioVascular Intensive Care Unit). |
| 5 | NICU | Indicate if the operation/procedure was performed in the following location: NICU (Neonatal Intensive Care Unit). |
| 6 | PICU | Indicate if the operation/procedure was performed in the following location: PICU (Pediatric Intensive Care Unit). |
| 7 | SICU | Indicate if the operation/procedure was performed in the following location: SICU (Surgical Intensive Care Unit). |
| 12 | Radiology Suite | Indicate if the operation/procedure was performed in the following location: Radiology Suite. |
| 13 | Procedure Room | Indicate if the operation/procedure was performed in the following location: Procedure Room. |
| 8 | Other | Indicate if the operation/procedure was performed in the following location: Other (Any location not contained in this list). |

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| | | | |
|---|---|---|---|
| *Long Name:* | Status | *SeqNo:* | 1055 |
| *Short Name:* | **Status** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the clinical status of the patient prior to entering the operating room. | | |

*Intent / Clarification:*

For transplant patients:

- If the patient is in-house and on ECMO code the case as Emergent.
- If the patient is in-house but not on ECMO, code the case as Urgent.
- If the patient comes from home, and is on a VAD or drips, code as Urgent
- Any other patient from home should be coded as Elective.

For VAD/ECMO decanulation:

- Should not be salvage dispite on-going ECMO support. The exception to salvage is when decanulation is the sole

intervention. In other words, if someone on ECMO goes in for say addition of a BT shunt and gets decannulated in the OR, salvage is reasonable. However, if someone on ECMO was decanulated because they have improved, salvage should not be used. It should be urgent.

*Data Source:* User
*Format:* Integer

Harvest Codes and Value Definitions:

| Code: | Value: | Definition: |
|---|---|---|
| 1 | Elective | The patient's cardiovascular status has been stable in the days or weeks prior to the operation. The procedure could be deferred without increased risk of compromised outcome. |
| 2 | Urgent | Procedure required during same hospitalization in order to minimize chance of further clinical deterioration. |
| 3 | Emergent | Patients requiring emergency operations will have ongoing severe cardiovascular compromise, not responsive to any form of therapy except cardiac surgery. An emergency operation is one in which there should be no delay in providing operative intervention. |
| 4 | Salvage | The patient is undergoing CPR en route to the OR or prior to anesthesia induction or has ongoing ECMO support to maintain life. |

---

*Long Name:* Operation Type
*Short Name:* **OpType**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the type of primary surgical procedure performed.

*SeqNo:* 1056
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:* The operation type for a procedure that was aborted after skin incision or after induction is to be coded as operation type Other. Major structural repairs done on the heart, great vessels, or branches of the great vessels while the patient is receiving mechanical circulatory support should be coded as CPB Cardiovascular. Minor repairs (for example sternal closures, mediastinal explorations, cannula repositioning etc.) completed while the patient is receiving mechanical circulatory support should be coded as operation type ECMO, VAD Operation Done with CPB, or VAD Operation Done Without CPB as appropriate.

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes and Value Definitions:

| Code: | Value: | Definition: |
|---|---|---|
| 1 | CPB Cardiovascular | If the procedure is cardiovascular (includes the heart, great vessels, or any branches of the great vessels), and cardiopulmonary bypass is used, this |

| | | |
|---|---|---|
| | | should be chosen as the case category. Do not choose this case category for operations that are not cardiovascular, even if cardiopulmonary bypass is used (see OpType 9, below). Most lung transplants involve anastomosis to the left atrium (as well as anastomosis to distal main PA or central branch PA). This would be considered a cardiovascular procedure. Transplant, Lung(s) is a STAT Categroy 3 procedure. |
| 2 | No CPB Cardiovascular | If the procedure is cardiovascular, but cardiopulmonary bypass is not used, this must be chosen as the case category. This includes any procedure that includes the heart, great vessels, or any of the branches from the great vessels, where CPB is not used. Examples include but are not limited to: coarctation of the aorta repair, creation of a systemic-to-pulmonary artery shunt, patent ductus arteriosus ligation. A delayed sternal closure is included in this category. |
| 9 | CPB Non-Cardiovascular | Procedures that are done with bypass support that do not involve a concomitant cardiovascular procedure. For example, tracheal surgery, neurosurgical procedures, resuscitation and rewarming of drowning victims. These cases are not included in the numerator or denominator of mortality calculations or reports. Tracheal reconstructions done on CPB, withoug a concomitant cardiovascular procedure are OpType 9 - CPB Non-cardiovascular. This would pertain, for example to a slide tracheoplasty or tracheal patch- plasty done on CPB. But, if the operation also includes a cardiovascular procedure (as in operation for PA sling with both tracheal repair and division/reimplantation of pulmonary artery), then it would be CPB Cardiovascular. |
| 3 | ECMO | If ECMO cannulation or decannulation is the primary procedure performed, this category must be chosen. However, if ECMO is initiated for support at the end of another type procedure (i.e., CPB, No CPB Cardiovascular), that procedure takes precedence and the category code would not be ECMO. |
| 4 | Thoracic | If a procedure is performed on a structure within the chest cavity but does not involve the cardiac chambers or vessels, it would be a Thoracic category case (for example, lobectomy, pectus excavatum/carinatum repair, and anterior spine exposure). There will be thoracic cases that require cardiopulmonary bypass (e.g., some types of tracheal reconstructions). In those cases, the use of cardiopulmonary bypass takes precedence and the case wouldnot be Thoracic, but CPB Non-Cardiovascular. |
| 5 | Interventional Cardiology | If an interventional device (e.g., occluder, stent) is placed in the operating room as the primary procedure performed, this category must be chosen. However, if in the course of another type procedure (i.e., CPB, No CPB Cardiovascular), an interventional device is placed in addition to the other procedure, the other category takes precedence and the case would not be Interventional Cardiology. |
| 6 | VAD Operation Done With CPB | Ventricular Assist Device procedure done with CPB. This includes operations to insert the VAD, or to remove the VAD. |
| 7 | VAD Operation Done Without CPB | Ventricular Assist Device procedure done without CPB.This includes operations to insert the VAD, to remove the VAD, or any procedure performed while on the VAD. |
| 8 | Non-cardiac, Non-thoracic procedure on cardiac patient with | Any non-cardiac or non-thoracic procedure such as a general surgical procedure with anesthesia provided by cardiac anesthesiology because of the patient's underlying cardiac physiology. |

| | | |
|---|---|---|
| | cardiac anesthesia | |
| 777 | Other | All other procedures that do not fall within the above definitions should be coded as category Other. This would include but not be limited to supportive minor procedures (e.g., line placements) |

## ECMO or CPB Examples

Procedures performed while a patient is on ECMO can be coded as Op Type "ECMO" ***if they are done exclusively for the purpose of facilitating ECMO support.***

A patient is admitted to the hospital and requires emergent ECMO cannulation. The next day the patient is taken to the OR for BT Shunt placement done on ECMO. Op Type? **If the BT Shunt is done on ECMO, this should be coded as Op Type CPB because the ECMO circuit is functioning as a CPB circuit in this situation.**

A patient who winds up on ECMO and has a shunt revision while on ECMO support is a ***different type of scenario***, and under those circumstances it is most likely that the procedure "shunt revision" ***should be considered to be of Op Type CPB, with the understanding that ECMO circuit is being used to provide CPB support.***

If the patient was transitioned from ECMO to bypass in the OR and then transitioned back to ECMO at the end of the case you would code the **op type as CPB with the pre-op risk factor of ECMO and the post-op complication of ECMO.**

If the patient was de-cannulated from ECMO prior to the placement of the shunt and the shunt was done with no support you would code the Op Type as **No CPB Cardiovascular**.

Patient arrives in CVICU and needs cannulation on ECMO. The consent and discussion with the family is for ECMO. Patient is cannulated for ECMO in the OR and during the procedure it is noted that the patient has excessive pulmonary blood flow and needs a PAB to help control pulmonary blood flow and the patient is better supported on ECMO. **This situation would be coded as ECMO.**

Patient has bleeding requiring mediastinal exploration while on ECMO. **This situation would be coded as ECMO.**

Patient returns to the OR for an unbalanced AVC repair while on ECMO. The consent and the operative report note that the case was for the repair. Case completed and the patient returns to the CVICU on ECMO. **This situation is coded as a CPB Cardiovascular case since the case is a cardiovascular procedure even if the patient returns to the CVICU on ECMO. This would also be the index procedure for the patient.**

Patient arrives in the CVICU. The patient needs a PAB. The consent and the operative report identify that the patient is going to have a PAB. During the procedure the patient is identified to need ECMO as well. **This is coded as a CV case with or without CPB depending on the operative report, if the PAB was done while on ECMO (cannulation occurred before the PAB) the op type is CPB.**

Patient arrives in CVICU and needs cannulation for ECMO. The consent and discussion with the family is for ECMO. The patient is cannulated for ECMO. **This is coded as ECMO.**

Patient is decannulated from ECMO. Chest is closed. T**his is coded as ECMO.**

## FAQs

February 2019: need clarification on operation types, since there are exceptions to the definitions that aren't specifically stated in the specs. The definitions say: No CPB - "If the procedure is cardiovascular, but cardiopulmonary bypass is not used, this must be chosen as the case category. This includes any procedure that includes the heart, great vessels, or any of the branches from the great vessels, where CPB is not used." Thoracic - "If a procedure is performed on a structure within the chest cavity but does not involve the cardiac chambers or vessels, it would be a Thoracic category case." Since delayed sternal closures, epigastric pacemaker generator revisions and sternal re-wiring are No CPB, then what about the following procedures: sternotomy wound drainage (does it matter how deep

the infection is or if it's during the the same admission as index operation?), sternal resections, pleural drainage and sternal wire removal? **Delayed sternal closures are No CPB Cardiovascular, PM procedures are also No CPB Cardiovascular, and sternal wire removal is Thoracic. Pleural drainage is Thoracic. Wound infection / concern / debridement following a cardiac surgery is No CPB Cardiovascular.**

March 2019: What op type should be used for a Diaphragm Plication? **Thoracic**

March 2019: We had a patient who had a pacemaker box and leads removal at an outside hospital, then came to us POD 18 and had a wound drainage and debridement POD 19. Is that considered No CPB since it was after a cardiac op even though it was a separate admission and institution, or is it considered Thoracic? **This is a thoracic case. The first hospital should code this as complication of the 1st operation.**

March 2019: When a surgeon does carotid cut down in interventional cardiology, how is this coded? IS it other, no CPB Cardiovascular or thoracic? **Code as 'Other'.**

April 2019: Patient went to OR for PA reconstruction of RPA with patch arterioplasty. Not able to establish sufficient flow and consulted with cardiologist who agreed to try stent insertion in the RPA. Patient was closed in OR and immediately moved to Cath Lab. Stent insertion resulted in vessel rupture and bleeding. Surgeon called to cath lab to open chest to determine location of bleed. Patient left OR at 15:09; and surgeon scrubbed back in 19:30. Is this entered as 2 separate operations? **Count as 2 separate cases and include the following complications on the first case: unplanned interventional cardiac catheterization and bleeding requiring reoperation. For those sites who also participate in the anesthesia database, the data manager can separate the anesthesia times based on when the surgeon enters the cath lab for the second case.**

June 2019: We currently have a patient with heterotaxy with associated abnormal abdominal situs that had a BT shunt and pacemaker placed a few months back. The patient now needs a g-tube, but the current pacemaker device is where the g-tube needs to be placed. We repositioned the pacemaker generator to the other side. Since the pacemaker was moved to allow for the g-tube placement, could this be coded as 'other' or does it still need to be coded as 'no CPB cardiovascular'? **Suggest that this revision of the pacemaker site be coded as a No CPB Cardiovascular procedure and the complication recorded as a non-cardiac reoperation.**

June 2019: I have several questions about a very complex patient who went to cath lab for a diagnostic cath. She arrested at the end of the cath and the surgeon prepped her for ECMO, but she had ROSC and did not go on. After extubation, she arrested again and was then placed on ECMO. She was in a junctional rhythm and so the surgeon put in a temporary pacing wire through a subxiphoid incision while on ECMO. Would this be considered a NO CPB op type or CPB op type since it was done on ECMO but is a pacemaker procedure? The patient then had a cardiac cath with another complication requiring urgent surgery to repair a hole. Is the Op type cpb with pre-op factors and post-op complications of ECMO? Then ended up on an L-VAD with ECMO and listed for transplant. She had multiple other explorations/bronchs while on the VAD. Eventually had multi-system organ failure and hemorrhages and expired. Am I correct in that the pacing wire insertion will be the index, an operative mortality, and the only case that will be analyzed? **Suggest that the original procedure is op type ECMO. I personally think that it is misleading to have the placement of a temporary pacing wire to manage junctional rhythm or ligation of a PDA to facilitate ECMO management as non-CPB Cardiovascular procedures. I think all of this patient's procedures should be op type ECMO or VAD.**

July 2019: Why would a mediastinal operation that did not involve the heart, great vessels or any branches from the great vessels be coded as a No CPB Cardiovascular case? Why wouldn't this be coded as Thoracic or Other Op Type? **It would depend on what is being done.** ~~**Pericardial windows are considered 'Op Type – Thoracic'; Pacer procedures are 'Op Type – No CPB Cardiovascular'.**~~ **If the procedure is cardiovascular, but cardiopulmonary bypass is not used, this must be chosen as the case category. This includes any procedure that includes the heart, great vessels, or any of the branches from the great vessels, where CPB is not used. Examples include but are not limited to: coarctation of the aorta repair, creation of a systemic-to-pulmonary artery shunt, patent ductus arteriosus ligation. A delayed sternal closure is included in this category.**

- ***pericardial drainage/pericardial window procedure for cancer = Thoracic Procedure***
- ***pericardial drainage/pericardial window procedure for cardiac disease = No CPB Cardiovascular***

August 2019: Please advise most appropriate OpType for the procedure below:
Procedure: slight tracheoplasty and CPB. "General endotracheal anesthesia was ensured. After a direct laryngoscopy was performed and the endotracheal tube was placed, hemodynamic monitoring lines and transesophageal echocardiogram probes were placed. The patient's chest and abdomen were prepped and draped in standard sterile

fashion. Surgical pause was performed. Midline sternotomy was performed and the sternum was transected using electrical saw. Once the sternum was opened, a subtotal thymectomy was performed. The pericardium was opened. We performed a lot of dissection of the trachea off bypass and the patient seemed to tolerate it. Once sufficient dissection was done, the patient was systemically heparinized and, after appropriate circulating time, distal ascending aorta was cannulated and a 10-French arterial cannula. The right atrium was cannulated using 20-French straight venous cannula. Cardiopulmonary bypass was initiated and mild hypothermia was ensured. Then, at this point, under direct bronchoscopy, we visualized the proximal extent of the tracheal ring and marked our suture lines. The trachea was transected just above the bronchus suis. An anterior tracheal incision was made and the edges were transected on the superior aspect of the trachea. On the inferior aspect of the trachea, there was posterior incision made. Similarly, the edges were trimmed and a running anastomosis was performed between the two suture lines using an everting technique using a 6-0 PDS stitch in a running fashion and was secured down. Then we inspected this under bronchoscopy. After we were happy, the patient was rewarmed. The mediastinum was irrigated using copious amounts of antibiotic irrigation. The suture lines were reinforced with Tisseel. Thorough hemostasis was noted. Then, we weaned the patient off of cardiopulmonary bypass without much difficulty. Protamine was administered and the aortic and venous cannulas were d ecannulated and pursestrings tied down. Thorough hemostasis was achieved. Mediastinal chest tube was placed and secured to the skin. Then, we proceeded to close the sternum using interrupted stainless steel wires. Sternal fascia, deep dermis, and skin were approximated in the usual fashion." **Non – cardiac CBP case**

August 2019: Patient is on VAD, comes in for transplant. Is the OpType CPB Cardiovascular or VAD operation done with CPB? If coded VAD Op w/CPB will it be an analyzed operation? **The transplant will have to be completed on CPB so the case is operation type CPB Cardiovascular.**

August 2019: Scenario: Patient has epicardial pacemaker generator change for generator end of life. All goes well patient is discharged later that same afternoon. Later that evening he/she has a fall and after that is having dizzy spells and odd sensations. Hshe presents to the ER with progressive failure to capture and lead failure. The next morning the surgeon that placed the epicardial pacemaker removes it from the abdominal cavity and caps the wires while the EP cardiologist implants a new intravenous one in the chest.
I coded unplanned cardiac reop and readmission for complications on the initial generator change. I added a new admission but since the surgeon only did the explant would I code as op type other or no cbp cardiac? **No CPB Cardiovascular**

**October 2019:** 4 day old with Ebstein's Anomaly with PA went to cath lab for ductal stent placement. Patient went into complete heart block in the cath lab and surgical team was called to place temporary pacing wires via midline subxiphoid incision. 2 epicardial ventricular pacing wires were placed. Patient transferred back to CICU and plan for intracardiac repair. Is this Op Type No-CPB? **Yes.** Does this become the patients Index procedure even though will go to OR for full surgical repair? **Yes.** Done in the cath lab - does this matter? **No.**

November 2019: Patient had a 'Pulmonary Venous Stenosis Repair' (CPB Cardiovascular) on 8.20.19. Patient is readmitted on 9.17.19 for a 'Sternotomy Wound Drainage' (Code = 1980). Code 1980 is NOT listed in Appendix F: Operation Type Cleanup Process of the STS Report Overview. Should the 'Sternotomy Wound Drainage' be coded as 'No CPB Cardiovascular' since it occurred after the 'Pulmonary Venous Stenosis Repair'? If the 'Sternotomy Wound Drainage' is coded as 'No CPB Cardiovascular' then this would indeed be the index case of the 9.17.19 admission, correct? **Yes, code as No CPB Cardiovascular and it would be the index operation for 9-17-19 admission.**

November 2019: Removal of teratoma: "Mass was dissected free from the innominate vein and the dissection carried medially and it was separated from the pericardium. It was not densely attached to the pericardium. The mass seemed to be adherent to the right parietal pleura and that was taken along with the mass en bloc. It was encapsulated and did not have dense adhesions or connections to any of the mediastinal structures with the possible exception of the thymus". This patient has no past medical/surgical history. Should this be coded as a 'thoracic/and or mediastinal procedure, other' and the operation type coded as 'thoracic'? The fact that the mass was dissected free from the 'innominate vein' and separated from the 'pericardium' makes us question if this should be coded as a 'Mediastinal Procedure' and the operation type 'No CPB Cardiovascular'. **Op type: Thoracic**

January 2020: An August 2016 FAQ says that when a patient is admitted for wound drainage/debridement and the sternum is left open, to code the delayed sternal closure as op type Thoracic since "the procedure was not related to the heart". Should the wound drainage/debridement also be coded as Thoracic then, since it's also "not related to the heart"? **If the wound drainage involves the mediastinum, the operation type is No CPB Cardiovascular. If it is**

**superficial to the sternum, the operation type is Thoracic. In this scenario, the operation type of the wound drainage/debridment is No CPB Cardiovascular.**
February 2020: What is the OpType for a pericardiectomy since it does not include cardiac chambers or vessels? **If completed on bypass, use CPB Cardiovascular and if completed without bypass, code as No CPB Cardiovascular.**
February 2020: What procedure name and operation type should 'Cardiac repositioning of Thoracic Ectopic Cordis' be coded as? **Operation type is CPB Cardiovascular or No CPB Cardiovascular depending on whether CPB was used. The procedure is Cardiac, Other**
October 2020: I have a patient who came in with new onset complete heart block. She got a transvenous pacer wire placed on 4/3. Then she got a permanent pacer placed on 4/10 and was diagnosed with desminopathy. She ended up on ECMO on 4/18 and then got an L-vad on 4/24 and was listed for transplant. She remained in the hospital and was transplanted on 5/23. In this instance, she had a no cpb procedure prior to her transplant so does that become the index and we miss out on the transplant score? If so, do all the complications apply toward the permanent pacer operation or does the transplant trump the pacer and become the index? This is a different scenario then needing the pacer to support the patient through an ECMO run as she got the pacer prior to needing ECMO and is more related to her underlying desminopathy. **Per the current data specs, the transvenous pacer wire is the index operation of this episode of care. The complications will then be attributed to the pacemaker procedure. This is being looked at by the task force and may be reconsidered in the future.**
November 2020: I have a patient who went to the hybrid cath lab with history of AA repair and PA Banding. The CTS surgeon did a sternotomy and removed the PA bands. The cardiologist then ballooned the pulmonary artery and did a device closure of the VSD (or do I choose the hybrid approach options of 2760 and 2770). Should the op type be no cpb cardiovascular? Is the primary procedure PA debanding and do I even code the other procedures since they were not done by the surgeon or do I code the VSD repair, device as the primary because it is a benc hmark even though the surgeon did not do it? Please clarify on hybrid approaches when both services are involved. **The operation type is No CPB cardiovascular and the primary procedure is the PA debanding. Some programs include the cath components of the procedure and if you code with the long list you can include the cath based VSD closure as Cardiovascular catheterization procedure, Therapeutic, Device implantation, Ventricular septal defect (VSD). You can use a hybrid approach modifier code (from the long list) Cardiovascular catheterization procedure-modifier for approach, Hybrid approach (combined surgical & transluminal). You cannot use procedure codes 2760 or 2770 as the surgeon did not complete those parts of the repair.**
**November 2020:** What op type is a stand alone IABP insertion? We have an adult patient who had a CPB op, and the following day he had an IABP placed in the CVICU by our cardiac surgeon. This may have been done in conjunction with an exploratory surgery done by gen surg, but our surgeon performed the IABP insertion. From the op note: "Common femoral artery access in right CFA was pre-established and was re accessed through working 0.035" short J wire. This was exchanged for a 7.5fr sheath using Seldinger technique. An IABP device was placed under measured guidance. The device was infl ated and initiated at 1:1 for the duration of use." **The operation type is Other for IABP insertion.**

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| | | | |
|---|---|---|---|
| *Long Name:* | Near Infrared Spectroscopy (NIRS) Cerebral Metrics Used | *SeqNo:* | 1057 |
| *Short Name:* | **NIRSCerUsed** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether cerebral oximetry was monitored. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Near Infrared Spectroscopy (NIRS) Cerebral Metrics Used - Preoperatively
*SeqNo:* 1058
*Short Name:* **NIRSCerPre**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether cerebral oximetry was monitored during the preoperative period.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Near Infrared Spectroscopy (NIRS) Cerebral Metrics Used
*ParentShortName:* **NIRSCerUsed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Near Infrared Spectroscopy (NIRS) Cerebral Metrics Used - Intraoperatively
*SeqNo:* 1059
*Short Name:* **NIRSCerIntra**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether cerebral oximetry was monitored during the intraoperative period.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Near Infrared Spectroscopy (NIRS) Cerebral Metrics Used
*ParentShortName:* **NIRSCerUsed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Near Infrared Spectroscopy (NIRS) Cerebral Metrics Used - Postoperatively
*SeqNo:* 1060
*Short Name:* **NIRSCerPost**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether cerebral oximetry was monitored during the postoperative period.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Near Infrared Spectroscopy (NIRS) Cerebral Metrics Used
*ParentShortName:* **NIRSCerUsed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Near Infrared Spectroscopy (NIRS) Somatic Metrics Used
*SeqNo:* 1061
*Short Name:* **NIRSSomUsed**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether somatic oximetry was monitored.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Near Infrared Spectroscopy (NIRS) Somatic Metrics Used - Preoperatively
*SeqNo:* 1062
*Short Name:* **NIRSSomPre**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether somatic oximetry was monitored during the preoperative period.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Near Infrared Spectroscopy (NIRS) Somatic Metrics Used
*ParentShortName:* **NIRSSomUsed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Near Infrared Spectroscopy (NIRS) Somatic Metrics Used - Intraoperatively
*SeqNo:* 1063
*Short Name:* **NIRSSomIntra**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether somatic oximetry was monitored during the intraoperative period.

*Intent / Clarification:*

*Data Source:* User

*Format:* Text (categorical values specified by STS)

*ParentLongName:* Near Infrared Spectroscopy (NIRS) Somatic Metrics Used
*ParentShortName:* **NIRSSomUsed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Near Infrared Spectroscopy (NIRS) Somatic Metrics Used - Postoperatively
*SeqNo:* 1064
*Short Name:* **NIRSSomPost**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether somatic oximetry was monitored during the postoperative period.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Near Infrared Spectroscopy (NIRS) Somatic Metrics Used
*ParentShortName:* **NIRSSomUsed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Time Patient Entered the OR
*SeqNo:* 1065
*Short Name:* **OREntryT**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate to the nearest minute (using 24-hour clock) the time the patient entered the OR. If the procedure was performed in a location other than the OR, record the time when the sterile field was set up.

*Intent / Clarification:*

*Data Source:* User
*Format:* Time - hh:mm (24-hour clock)

---

*Long Name:* Skin Incision Start Time
*Short Name:* **SIStartT**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate to the nearest minute (using 24-hour clock) the time the skin incision was made.

*SeqNo:* 1066
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Time - hh:mm (24-hour clock)

---

*Long Name:* Endotracheal Intubation was Performed
*Short Name:* **Intubate**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate whether an endotracheal intubation was performed.

*SeqNo:* 1067
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

June 2019: This is in regards to anesthesia data. When anesthesia data is pulled our understanding is that it is just CPB and No CPB Cardiovascular operations. The question is how are reoperations handled with regards to the anesthesia field? For example, Patient A has Operation 1- and is extubated in the OR. Patient requires reoperation and is/is not extubated. Are these separate anesthesia records, meaning they add to the denominator?
**Yes, these are separate anesthesia cases and the same index cardiac operation. It does hit the dominator.**
August 2020: The patient had an intubation and extubation on same-day surgery. He had to return to surgery a day later for bleeding, and was subsequently re-intubated for that surgery. In the post-op section, for ventilator information, when entering data for the second surgery, is the intubation date and time to be entered as the date and time of the second surgery, or the date and time of the initial/index surgery from the day before? **The date and time the patient was intubated closest to the OR entry date and time should be used. This will be the intubation date and time of the second procedure in this scenario.**

| | | | |
|---|---|---|---|
| *Long Name:* | Intubation Date and Time | *SeqNo:* | 1068 |
| *Short Name:* | **IntubateDT** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the date (mm/dd/yyyy) and time (hh:mm) (24 hour clock) ventilatory support started. Capture the intubation closest to the surgical start time. If the patient was intubated upon admission and remained intubated until the surgical start time, capture this intubations date and time. If the patient was admitted intubated (intubated at another institution) and remained continually intubated until the surgical start time, capture the patient's admission date and time. If the patient was admitted with a tracheostomy in place without ventilatory support, capture the date and time closest to the surgical start time that ventilatory support was initiated. If the patient was admitted with a tracheostomy in place receiving chronic ventilatory support, capture the admission date and time. If the intubation date and time is otherwise unknown, enter the date and time the patient entered the operating room. Do not alter the previously established date and time that ventilatory support was initiated for scenarios including, but not limited to, interruptions in ventilatory support due to accidental extubation/de-cannulation, elective tube change etc. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Date/Time - mm/dd/yyyy hh:mm | | |
| *ParentLongName:* | Endotracheal Intubation was Performed | | |
| *ParentShortName:* | **Intubate** | | |
| *ParentHarvestCodes:* | 1 | | |
| *Parent Value:* | = "Yes" | | |

July 2019: If the patient was intubated prior to surgery do we still enter intubation extubation under post op tab (Ventilator Information)? **Yes, you should capture the intubation that occurs closest to the date and time of the procedure – whether this occurs in the operating room or any time prior to the operation. While this is grouped on the post op tab, the information is still to be included.**

October 2020: Patient has tracheostomy present with night time ventilatory support. On day of surgery, trach is removed/oversewn and patient is orally intubated. Patient is extubated on POD#2 but still receiving ventilatory support. Patient resumes home vent settings on POD#5. Do we capture intubation time at time of oral intubation, or upon admission since patient receives ventilatory support (intermittent) at home. Do we capture extubation time at actual extubation time, or when home vent settings are achieved. **The intubation and extubation times should be the date and time of hospital admission and discharge given the patient's inability to ever separate off mechanical ventilation**

| | | | |
|---|---|---|---|
| *Long Name:* | Initial Extubation Date and Time | *SeqNo:* | 1069 |
| *Short Name:* | **ExtubateDT** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the date (mm/dd/yyyy) and time (hh:mm) (24 hour clock) ventilatory support initially ceased after surgery. Capture the extubation closest to the surgical stop time.If the patient has a tracheostomy and is separated from the mechanical ventilator postoperatively within the hospital admission, capture the date and time of separation from the mechanical ventilator closest to the surgical stop time. If the patient expires while intubated or /cannulated and on the ventilator, capture the date and time of expiration. If patient discharged on chronic ventilatory support, capture the date and time of discharge. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Date/Time - mm/dd/yyyy hh:mm | | |
| *ParentLongName:* | Endotracheal Intubation was Performed | | |
| *ParentShortName:* | **Intubate** | | |
| *ParentHarvestCodes:* | 1 | | |
| *Parent Value:* | = "Yes" | | |

August 2019: We had a patient who was extubated in preparation for his bronchoscopy. He was extubated 2 hours prior to the procedure and was reintubated immediately after it was over, about 2 hours later. Should I consider this extubation time his initial extubation, or no, since he was extubated specifically for this procedure and not because he no longer needed respiratory support? **Yes, Include as initial extubation time. Report final extubation date and time when patient is later extubated. Don't report re-intubation as resp failure.**

| | | | |
|---|---|---|---|
| *Long Name:* | Extubated In The Operating Room Or By Anesthesia Team | *SeqNo:* | 1070 |
| *Short Name:* | **ExtubInOR** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the endotracheal tube was removed in the OR or in the immediate postoperative time period after leaving the OR by the anesthesia team of record. This would include patients transported from the OR to the ICU or recovery areas who were extubated upon arrival in that location prior to care being handed off to another physician or the patient being connected to another ventilator. | | |
| *Intent / Clarification:* | If the patient was extubated in the OR and subsequently reintubated in the OR due to respiratory failure, code this field as yes, extubated in the OR. Also answer Yes, Re-intubated After Initial Postoperative Extubation (Sequence Number 1071) and | | |

include complication Postoperative/Postprocedural respiratory insufficiency requiring reintubation (Complication code 160). Code this field as No, not extubated in the OR if the extubation occurred anywhere outside of the OR including if the extubation occurred immediately following arrival to the ICU.

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Endotracheal Intubation was Performed
*ParentShortName:* **Intubate**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Re-Intubated After Initial Postoperative Extubation
*SeqNo:* 1071
*Short Name:* **ReIntubate**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the patient was re-intubated after the initial postoperative extubation.

*Intent / Clarification:* Code as yes if the patient was reintubated for any reason, elective or otherwise, including reintuation for elective procedures and non-cardiac procedures.

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Endotracheal Intubation was Performed
*ParentShortName:* **Intubate**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Final Extubation Date and Time
*SeqNo:* 1072

| | | | |
|---|---|---|---|
| *Short Name:* | **FinExtubDT** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the date (mm/dd/yyyy) and time (hh:mm) (24 hour clock) ventilatory support last ceased prior to discharge after surgery. Capture the extubation time closest to discharge. If the patient has a tracheostomy and is separated from the mechanical ventilator more than once postoperatively within the hospital admission, capture the date and time of separation from the mechanical ventilator closest to the hospital discharge. If the patient expires while intubated or cannulated and on the ventilator, capture the date and time of expiration. If the patient was discharged on chronic ventilatory support, capture the date and time of discharge. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Date/Time - mm/dd/yyyy hh:mm | | |
| *ParentLongName:* | Re-Intubated After Initial Postoperative Extubation | | |
| *ParentShortName:* | **ReIntubate** | | |
| *ParentHarvestCodes:* | 1 | | |
| *ParentValues:* | = "Yes" | | |

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| | | | |
|---|---|---|---|
| *Long Name:* | Incision Type - Sternotomy | *SeqNo:* | 1073 |
| *Short Name:* | **IncisTyStern** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether a full sternotomy approach was used during this procedure. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

February 2019: Definition states to "Indicate whether a full sternotomy approach was used during this procedure." I am unsure how to complete for a Delayed Sternal Closure when sternum was left open. Mark as "No"? **There is no incision made for this procedure, the answer is No.**

| | | | |
|---|---|---|---|
| *Long Name:* | Incision Type - Partial Sternotomy | *SeqNo:* | 1074 |
| *Short Name:* | **IncisTyPartStern** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether a partial sternotomy approach was used during this procedure. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Partial Sternotomy Location | *SeqNo:* | 1075 |
| *Short Name:* | **PartSternLocat** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the partial sternotomy location. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Incision Type - Partial Sternotomy
*ParentShortName:* **IncisTyPartStern**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Upper |
| 2 | Lower |

| | | | |
|---|---|---|---|
| *Long Name:* | Incision Type - Clamshell Thoracotomy | *SeqNo:* | 1076 |
| *Short Name:* | **IncisTyClam** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |

*Definition:* Indicate whether a clamshell thoracotomy approach was used during this procedure.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Incision Type - Thoracotomy
*Short Name:* **IncisTyThor**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate whether a thoracotomy approach was used during this procedure.

*SeqNo:* 1077
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Thoracotomy Location
*Short Name:* **ThoraLocat**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the location of the thoracotomy.

*SeqNo:* 1078
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Incision Type - Thoracotomy
*ParentShortName:* **IncisTyThor**

*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Left |
| 2 | Right |

September 2020: how do we code bilateral thoracotomy or VATS in the location field? **This will be handled in the next upgrade. For now, have your surgeon select one side.**

---

*Long Name:* Incision Type – Video-Assisted Thoracoscopy (VATS) *SeqNo:* 1079
*Short Name:* **IncisTyVATS** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether a VATS (Video-Assisted Thoracoscopy) approach was used during this procedure.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* VATS Location *SeqNo:* 1080
*Short Name:* **VATSLocat** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the location of the VATS approach.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Incision Type - Video-Assisted Thoracoscopy (VATS)
*ParentShortName:* **IncisTyVATS**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Left |
| 2 | Right |

---

*Long Name:* Time of Skin Closure
*Short Name:* **SIStopT**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate to the nearest minute (using 24-hour clock) the time the skin incision was closed. If patient leaves the operating room with an open incision, collect the time dressings were applied to the incision.

*SeqNo:* 1081
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Time - hh:mm (24-hour clock)

---

*Long Name:* Time Patient Exited the OR
*Short Name:* **ORExitT**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate to the nearest minute (using 24-hour clock) the time the patient exits the operating room. If the procedure was performed in a location other than the OR, record the time when the sterile field was taken down.

*SeqNo:* 1082
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Time - hh:mm (24-hour clock)

---

*Long Name:* Procedure Extended Through Midnight
*Short Name:* **MultiDay**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate whether the procedure continued through midnight from one day to the next.

*SeqNo:* 1083
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User

*Format:* Text (categorical values specified by STS)
*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Surgeon
*Short Name:* **Surgeon**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the name of the primary surgeon performing this surgical procedure. The name, NPI and signature of all surgeons contributing data to the database must be on file with the STS for data files to be accepted.

*SeqNo:* 1084
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|2|9|3|4|6|7|777
*ParentValues:* = "CPB Cardiovascular", "No CPB Cardiovascular", "CPB Non-Cardiovascular", "ECMO", "Thoracic", "VAD Operation Done With CPB", "VAD Operation Done Without CPB." or "Other"

---

*Long Name:* Surgeon National Provider Identifier
*Short Name:* **SurgNPI**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the individual-level National Provider Identifier (NPI) of the surgeon performing the procedure.

*SeqNo:* 1085
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* Lookup
*Format:* Text

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|2|9|3|4|6|7|777

| | |
|---|---|
| *ParentValues:* | = "CPB Cardiovascular", "No CPB Cardiovascular", "CPB Non-Cardiovascular", "ECMO", "Thoracic", "VAD Operation Done With CPB", "VAD Operation Done Without CPB." or "Other" |

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| | | | |
|---|---|---|---|
| *Long Name:* | Taxpayer Identification Number | *SeqNo:* | 1086 |
| *Short Name:* | **TIN** | *Core:* | Yes |
| *Section Name*: | Preoperative Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the group-level Taxpayer Identification Number for the Taxpayer holder of record for the Surgeon's National Provider Identifier that performed the procedure. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text | | |
| *ParentLongName:* | Operation Type | | |
| *ParentShortName:* | **OpType** | | |
| *ParentHarvestCodes:* | 1\|2\|9\|3\|4\|6\|7\|777 | | |
| *ParentValues:* | = "CPB Cardiovascular", "No CPB Cardiovascular", "CPB Non-Cardiovascular", "ECMO", "Thoracic", "VAD Operation Done With CPB", "VAD Operation Done Without CPB." or "Other" | | |

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| | | | |
|---|---|---|---|
| *Long Name:* | Reoperation Within This Admission | *SeqNo:* | 1087 |
| *Short Name:* | **ReOpInAdm** | *Core:* | Yes |
| *Section Name*: | Preoperative Factors | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether this is a second, or third (or more) operation within the same hospital admission. | | |
| *Intent / Clarification:* | Mediastinal explorations or washouts are to be included as Unplanned reoperations regardless of whether the sternum was open or not.<br>If a Glenn is performed after a Norwood, it is always a **planned** operation, regardless of whether or not the patient went home between the Norwood and Glenn.<br>Tracheostomies and gastrostomies are **unplanned** noncardiac operations because they are not planned at the time of the original operation. A rare exception is a planned tracheostomy after a trachel reconstruction.<br>BT shunt for a tet followed by full tet repair is planned reoperation. | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|2|9|3|4|6|7|777
*ParentValues:* = "CPB Cardiovascular", "No CPB Cardiovascular", "CPB Non-Cardiovascular", "ECMO", "Thoracic", "VAD Operation Done With CPB", "VAD Operation Done Without CPB." or "Other"

Harvest Codes and Value Definitions:

| Code: | Value: | Definition: |
|---|---|---|
| 1 | Yes - Planned reoperation | Indicate whether this operation is a second, or third (or more) operation within the same hospital admission that was planned. The following operations will always be coded as "Planned Reoperation": (1) Delayed Sternal Closure, (2) ECMO Decannulation, (3) VAD Decannulation, (4) Removal of Broviac catheter. The following operations will always be coded as "Unplanned Reoperation": (1) Reoperation for bleeding (2) Reoperation for infection (3) Reoperation for hemodynamic instability (4) Reoperation for initiation of ECMO or VAD (5) Reoperation for residual or recurrent lesion. |
| 3 | Yes - Unplanned reoperation | Indicate whether this operation is a second, or third (or more) operation within the same hospital admission that was not planned. The following operations will always be coded as "Planned Reoperation": (1) Delayed Sternal Closure, (2) ECMO Decannulation, (3) VAD Decannulation, (4) Removal of Broviac catheter. The following operations will always be coded as "Unplanned Reoperation": (1) Reoperation for bleeding (2) Reoperation for infection (3) Reoperation for hemodynamic instability (4) Reoperation for initiation of ECMO or VAD (5) Reoperation for residual or recurrent lesion. |
| 2 | No | Indicate whether this operation is NOT a second, or third (or more) operation within the same hospital admission. |

January 2019: A patient was born at our hospital with multiple cardiac anomalies including Coarctation of Aorta and VSD. Patient had Coarc. repair done first and then at a later date within the same admission the patient had the VSD closed. Is the VSD closure considered a planned re-op or unplanned? **It would depend on the initial surgical plan prior to the coarctation of the aorta repair. Some centers initially plan a staged repair.**

July 2019: Reoperation Within This Admission (SeqNo: 1087): Is this reoperation operations including other than heart operation? For example, if the patient had lung surgery, then underwent heart surgery, does it count as yes to reoperation? **If the prior operation was not cardiac (CPB or No CPB Cardiovascular), do not count it as a reoperation. A prior thoracic operation would not be a reoperation during this hospitalization.**

November 2019: If a patient gets a VAD as a bridge to transplant, and then has a transplant, is the transplant considered an unplanned reoperation during this admission or a planned reop? This is a **planned reoperation.**

February 2020: We are wondering if the following scenario should be considered a planned reoperation as the Glenn after Norwood or a full TOF repair after BT shunt (per training manual):DIAGNOSIS: Pulmonary atresia with ventricular septal defect and major aortopulmonary collaterals. 1st (index)PROCEDURE: Central aorta-to-pulmonary artery side-to-end anastomosis (aortopulmonary window/Mee shunt. ReOp PROCEDURE: (pt did not leave hospital)1. Redo sternotomy and takedown of mediastinal adhesions. 2. Unifocalization of MAPCA.3. Rastelli-type repair for pulmonary atresia and ventricular septal defect using a 13 mm RV to PA aortic homograft as a conduit. 4. Extensive pulmonary arterioplasty including the right upper, right lower lobe, left main pulmonary artery and the right main pulmonary artery. 5. Takedown Mee shunt.6. Patent foramen ovale primary closure. **This does follow the same logic as the Glenn following Norwood and TOF repair following shunt. Code this as a planned reoperation.**

**June 2020:** PA Band was placed in a patient with Tricuspid Atresia and VSD. Later in the same admission the patient developed R Pulmonary Vein Stenosis and RVOT Stenosis, which she had not had to start with. How should ReOpInAdm be coded for the subsequent repair of pulmonary vein stenosis and RVOTO? What is the intent of the field ReOpInAdm? Would an operation have to be planned at the time of the index case to be coded as Yes, Planned? **Reop in Admission should be answered as Yes, Unplanned. The field is used to determine if a surgery is planned or unplanned during the patient's episode of care. The complication Unplanned cardiac reoperation should also be coded for the PA band operation**.
September 2020: It is noted that a delayed sternal closure is always a planned reoperation. Is this the same for a patient that ends up with a sternal wound infection, has a mediastinal washout (unplanned), and then a delayed sternal closure? **Yes, the delayed sternal closure is a planned reoperation.**
October 2020: We are trying to figure out when to code a reop for the same admission in a couple of different scenarios: 1. A patient is put on ECMO by General Surgery and then is decannulated by CT surgery, so the decannulation gets entered into STS. The training manual states if the surgery is not cardiac (CPB Cardiovascular or No CPB Cardiovascular - in this case, it would be ECMO), do not count it as a reoperation and do not count in prior operation count. It also states that ECMO decannulation is always a planned reoperation. So, in this case, are we supposed to be No in ReOpInAdm, or Yes, Planned reoperation?? This information is contradicting itself. **Reoperation in Admission, yes planned**
2. Similar to above, a patient comes to the hospital, is put on ECMO by General Surgery and a couple days later, the cannulas have to be adjusted by CT Surgery. This procedure gets put into STS because it is done by the CT surgeon. The procedure ECMO Procedure has been used. Is this a reop within this admission?
November 2020: If a patient rolls out of the OR and arrives to CICU room BUT handoff is not completed because the surgeon notices chest tube frank bleeding, and immediately returns to the OR with the same OR staff...is that considered a re-operation??? **Yes, this is a reoperation as the patient left the OR.**

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| | | | | |
|---|---|---|---|---|
| *Long Name:* | | Number of Prior Cardiothoracic Operations | *SeqNo:* | 1090 |
| *Short Name:* | | **PrvCtOpN** | *Core:* | Yes |
| *Section Name*: | | Preoperative Factors | *Harvest:* | Yes |
| *DBTableName:* | | Operations | | |
| *Definition:* | | Indicate, prior to this admission's surgical procedure, how many cardiothoracic (heart or great vessels) surgical procedures were performed with or without cardiopulmonary bypass (CPB). Also include lung procedures utilizing CPB or tracheal procedures utilizing CPB. See Operation Type for further clarification. | | |
| *Low Value:* | 0 | | | |
| *High Value:* | 200 | | | |
| *Intent / Clarification:* | | | | |
| *Data Source:* | | User | | |
| *Format:* | | Integer | | |
| *ParentLongName:* | | Operation Type | | |
| *ParentShortName:* | | **OpType** | | |
| *ParentHarvestCodes:* | | 1\|2\|9\|3\|4\|6\|7\|777 | | |
| *Parent Value:* | | = "CPB Cardiovascular", "No CPB Cardiovascular", "CPB Non-Cardiovascular", "ECMO", "Thoracic", "VAD Operation Done With CPB", "VAD Operation Done Without CPB." or "Other" | | |

February 2019: This question is about coding ECMO ops in the prior ops and complications fields. I know that ECMO cannulations/decannulations don't need to be counted as prior cardiothoracic ops, and they don't need to be coded as unplanned cardiac reops, but what about mediastinal explorations/procedures performed while a patient is on ECMO and other ops with op type ECMO? Are these not counted either, or are they considered unplanned cardiac reops and counted as prior ops since they were performed to support the patient and not just to initiate or discontinue ECMO support? I guess the distinction I'm looking for is do these rules only apply to cannulations and decannulations, or anything while on ECMO (aside from ops using ECMO for bypass)? **Correct, do not include ECMO procedures in the prior operation count. If a mediastinal exploration occurs while a patient is on ECMO post cardiac surgery, the operation type of the mediastinal exploration is ECMO but should still be counted as an unplanned cardiac reoperation in the complications.**
August 2019: I am requesting clarification of 'Prior Cardiothoracic Operations' specifically the statement 'prior to this admissions' surgical procedure'. Is this asking us to document only prior cardiothoracic operations prior to the current admission? **Yes** Or is it asking for all prior cardiothoracic operations prior to the most recent cardiothoracic surgery? **No. We will look at changing this during the next upgrade.**

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| | | | |
|---|---|---|---|
| *Long Name:* | Number of Prior CPB Cardiothoracic Operations | *SeqNo:* | 1100 |
| *Short Name:* | **PrvCtOpN** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate how many cardiothoracic surgical procedures were performed on this patient, prior to this surgical procedure, utilizing CPB (do not include CPB support or ECMO support). | | |
| *Low Value:* | 0 | | |
| *High Value:* | 50 | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Integer | | |
| *ParentLongName:* | Operation Type | | |
| *ParentShortName:* | **OpType** | | |
| *ParentHarvestCodes:* | 1\|2\|9\|3\|4\|6\|7\|777 | | |
| *Parent Value:* | = "CPB Cardiovascular", "No CPB Cardiovascular", "CPB Non-Cardiovascular", "ECMO", "Thoracic", "VAD Operation Done With CPB", "VAD Operation Done Without CPB." or "Other" | | |

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| | | | |
|---|---|---|---|
| *Long Name:* | Cross Clamp Time - No CPB | *SeqNo:* | 1130 |
| *Short Name:* | **XClampTmNC** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the total number of minutes the aorta is completely cross-clamped during this surgical procedure. Enter zero if no cross-clamp was used. | | |
| *Low Value:* | 0 | | |

*High Value:* 600

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 2
*Parent Value:* = "No CPB Cardiovascular"

---

*Long Name:* CPB Blood Prime
*Short Name:* **CPBPrimed**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate whether the CPB circuit was primed with blood other than the patient's own blood.

*SeqNo:* 1140
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*Parent Value:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* PRBC
*Short Name:* **PRBC**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the number of mls of PRBC used for CPB blood prime.
*Low Value:* 0
*High Value:* 5000

*SeqNo:* 1141
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* CPB Blood Prime
*ParentShortName:* **CPBPrimed**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* FFP *SeqNo:* 1142
*Short Name:* **FFP** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the number of mls of FFP used for CPB blood prime.
*Low Value:* 0
*High Value:* 5000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* CPB Blood Prime
*ParentShortName:* **CPBPrimed**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Whole Blood *SeqNo:* 1143
*Short Name:* **WholeBlood** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the number of mls of whole blood used for CPB blood prime.
*Low Value:* 0
*High Value:* 5000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* CPB Blood Prime
*ParentShortName:* **CPBPrimed**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Cardiopulmonary Bypass Time *SeqNo:* 1150

| | | | |
|---|---|---|---|
| *Short Name:* | **CPBTm** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the total number of minutes that systemic return is diverted into the cardiopulmonary bypass (CPB) circuit and returned to the systemic system. This time period (Cardiopulmonary Bypass Time) includes all periods of cerebral perfusion and sucker bypass. This time period (Cardiopulmonary Bypass Time) excludes any circulatory arrest and modified ultrafiltration periods. If more than one period of CPB is required during the surgical procedure, the sum of all the CPB periods will equal the total number of CPB minutes. Enter zero if cardiopulmonary bypass technique was not used. | | |
| *Low Value:* | 0 | | |
| *High Value:* | 999 | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Integer | | |
| *ParentLongName:* | Operation Type | | |
| *ParentShortName:* | **OpType** | | |
| *ParentHarvestCodes:* | 1\|9\|6 | | |
| *Parent Value:* | = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB" | | |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Cross Clamp Time - CPB | *SeqNo:* | 1160 |
| *Short Name:* | **XClampTm** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the total number of minutes that the coronary circulation is mechanically isolated from systemic circulation, either by an aortic cross clamp or systemic circulatory arrest. This time period (Cross Clamp Time) includes all intervals of intermittent or continuous cardioplegia administration. If more than one cross clamp period is required during this surgical procedure, the sum of the cross clamp periods is equal to the total number of cross clamp minutes. Enter zero if the coronary circulation was never mechanically isolated from systemic circulation, either by an aortic cross clamp or systemic circulatory arrest. For the following two operations: (1) “Transplant, Heart”, and (2) “Transplant, Heart and lung”, the field “Cross Clamp Time” will be defined as the cross clamp time of the donor heart. Therefore, these two operations represent the only operations where the field “Cross Clamp Time” can be greater than the field “Cardiopulmonary Bypass Time”. | | |
| *Low Value:* | 0 | | |
| *High Value:* | 600 | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*Parent Value:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

---

*Long Name:* Circulatory Arrest Time
*Short Name:* **DHCATm**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the total number of minutes of complete cessation of blood flow to the patient. This time period (Circulatory Arrest Time) excludes any periods of cerebral perfusion. If more than one period of circulatory arrest is required during this surgical procedure, the sum of these periods is equal to the total duration of circulatory arrest. Enter zero if circulatory arrest technique was not used.

*SeqNo:* 1170
*Core:* Yes
*Harvest:* Yes

*Low Value:* 0
*High Value:* 200

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*Parent Value:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

---

*Long Name:* Induced Fibrillation
*Short Name:* **InducedFib**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate whether ventricular fibrillation was intentionally induced during this procedure.

*SeqNo:* 1175
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*Parent Value:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Induced Fibrillation Time - Minutes
*Short Name:* **InducedFibTmMin**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the total number of whole minutes of intentionally induced ventricular fibrillation. This time period includes all intervals of intermittent or continuously induced fibrillation. If more than one fibrillation period is required during this surgical procedure, the total number of minutes and seconds is equal to the sum of the individual periods.

*SeqNo:* 1176
*Core:* Yes
*Harvest:* Yes

*Low Value:* 1
*High Value:* 360

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Induced Fibrillation
*ParentShortName:* **InducedFib**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Induced Fibrillation Time - Seconds
*Short Name:* **InducedFibTmSec**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the number of additional seconds of intentionally induced ventricular fibrillation. This time period includes all intervals of intermittent or continuously induced fibrillation. If more than one fibrillation period is required during this surgical

*SeqNo:* 1177
*Core:* Yes
*Harvest:* Yes

procedure, the total number of minutes and seconds is equal to the sum of the individual periods.

*Low Value:* 0
*High Value:* 59

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Induced Fibrillation
*ParentShortName:* **InducedFib**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

August 2020: How many other centers record seconds with induced fibrillation? Our center has only ever recorded minutes and we are wondering how important it is to record seconds. If it is something that the majority of centers are doing, our perfusionists are willing to accommodate, but if it is something that is not really necessary or needed, they will continue with how they have been doing it all along. We are currently entering zero for seconds on all induced fibrillation cases. **It should be recorded in minutes and the data collection form will be cleaned up in the next version. Continue to enter zero for seconds.**

---

*Long Name:* Patient Temperature Monitoring Site - Bladder
*SeqNo:* 1180
*Short Name:* **TempSiteBla**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the bladder monitoring site was utilized during this procedure to determine lowest and highest patient temperature during cardiopulmonary bypass.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*Parent Value:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Lowest Core Temperature - Bladder
*SeqNo:* 1190
*Short Name:* **LowCTmpBla**
*Core:* Yes

*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the lowest temperature (Celsius) achieved during cardiopulmonary bypass as recorded using the bladder monitoring site.
*Low Value:* 1.0
*High Value:* 37.0

*Intent / Clarification:*

*Data Source:* User
*Format:* Real

*ParentLongName:* Patient Temperature Monitoring Site - Bladder
*ParentShortName:* **TempSiteBla**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Patient Temperature Monitoring Site - Esophageal
*SeqNo:* 1200
*Short Name:* **TempSiteEso**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the esophageal monitoring site was utilized during this procedure to determine lowest and highest patient temperature during cardiopulmonary bypass.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*Parent Value:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Lowest Core Temperature - Esophageal
*SeqNo:* 1210
*Short Name:* **LowCTmpEso**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations

*Definition:* Indicate the lowest temperature (Celsius) achieved during cardiopulmonary bypass as recorded using the esophageal monitoring site.
*Low Value:* 1.0
*High Value:* 37.0

*Intent / Clarification:*

*Data Source:* User
*Format:* Real

*ParentLongName:* Patient Temperature Monitoring Site - Esophageal
*ParentShortName:* **TempSiteEso**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Patient Temperature Monitoring Site - Nasopharyngeal
*Short Name:* **TempSiteNas**
*Section Name*: Operative
*DBTableName:* Operations
*SeqNo:* 1220
*Core:* Yes
*Harvest:* Yes

*Definition:* Indicate whether the nasopharyngeal monitoring site was utilized during this procedure to determine lowest and highest patient temperature during cardiopulmonary bypass.
*Low Value:* 1.0
*High Value:* 37.0

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*Parent Value:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Patient Temperature Monitoring Site - Nasopharyngeal
*Short Name:* **LowCTmpNas**
*Section Name*: Operative
*DBTableName:* Operations
*SeqNo:* 1230
*Core:* Yes
*Harvest:* Yes

*Definition:* Indicate the lowest temperature (Celsius) achieved during cardiopulmonary bypass as recorded using the nasopharyngeal monitoring site.

*Low Value:* 1.0
*High Value:* 37.0

*Intent / Clarification:*

*Data Source:* User
*Format:* Real

*ParentLongName:* Patient Temperature Monitoring Site - Nasopharyngeal
*ParentShortName:* **TempSiteNas**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Patient Temperature Monitoring Site - Rectal
*Short Name:* **TempSiteRec**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate whether the rectal monitoring site was utilized during this procedure to determine lowest and highest patient temperature during cardiopulmonary bypass.

*SeqNo:* 1240
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*Parent Value:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Lowest Core Temperature - Rectal
*Short Name:* **LowCTmpRec**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the lowest temperature (Celsius) achieved during cardiopulmonary bypass as recorded using the rectal monitoring site.

*SeqNo:* 1250
*Core:* Yes
*Harvest:* Yes

*Low Value:* 1.0
*High Value:* 37.0

*Intent / Clarification:*

*Data Source:* User
*Format:* Real

*ParentLongName:* Patient Temperature Monitoring Site - Rectal
*ParentShortName:* **TempSiteRec**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Patient Temperature Monitoring Site - Tympanic
*SeqNo:* 1260
*Short Name:* **TempSiteTym**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the tympanic monitoring site was utilized during this procedure to determine lowest and highest patient temperature during cardiopulmonary bypass.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*ParentValues:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Lowest Core Temperature - Tympanic
*SeqNo:* 1270
*Short Name:* **LowCTmpTym**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the lowest temperature (Celsius) achieved during cardiopulmonary bypass as recorded using the tympanic monitoring site.

*Low Value:* 1.0
*High Value:* 37.0

*Intent / Clarification:*

*Data Source:* User
*Format:* Real

*ParentLongName:* Patient Temperature Monitoring Site - Tympanic
*ParentShortName:* **TempSiteTym**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Patient Temperature Monitoring Site - Other
*Short Name:* **TempSiteOth**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate whether any other monitoring site was utilized during this procedure to determine lowest and highest patient temperature during cardiopulmonary bypass.

*SeqNo:* 1280
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*Parent Value:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Lowest Core Temperature - Other
*Short Name:* **LowCTmpOth**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the lowest temperature (Celsius) achieved during cardiopulmonary bypass as recorded using the other monitoring site.

*SeqNo:* 1290
*Core:* Yes
*Harvest:* Yes

*Low Value:* 1.0
*High Value:* 37.0

*Intent / Clarification:*

*Data Source:* User
*Format:* Real

*ParentLongName:* Patient Temperature Monitoring Site - Other
*ParentShortName:* **TempSiteOth**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Cooling Time Prior To Initiation of Hypothermic Circulatory Arrest Or Selective Cerebral Perfusion
*SeqNo:* 1301
*Short Name:* **CoolTimePrior**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the cooling time prior to initiation of hypothermic circulatory arrest or selective cerebral perfusion.
*Low Value:* 0
*High Value:* 180

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*Parent Value:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

February 2019: There is a new field in 3.41 that asks the below question: “Cooling Time Prior to Initiation of Hypothermic Circulatory Arrest or Selective Cerebral Perfusion: ____ Rewarm Time: _____Minutes Cool” Time Definition: Indicate the cooling time prior to initiation of hypothermic circulatory arrest or selective cerebral perfusion. (It does not grey out in my software as in a parent/child field). Rewarm Definition: Indicate the number of minutes from the initiation of rewarming until the target rewarming temperature is achieved. My question is, if the patient requires neither hypothermic circ arrest nor selective cerebral perfusion, should the space remain blank or should we put a zero in the field? And does the rewarm question now relate to hypothermic circ arrest or cerebral perfusion since it is now placed right under the cool time/circ arrest/cerebral perfusion field? Leave it blank or zero if neither used? **Collect Cooling and rewarming time on all cases where CPB is used. Cooling time should include the time of active cooling up to the point of initiation of hypothermic circulatory arrest or selective cerebral perfusion if these modalities were used or to the patient’s lowest desired temperature. Ignore phrase in parentheses from the data collection form.**

August 2019: During one of the surgeries, the cooling time was documented at 305 minutes. The database will not allow for a number greater than 200 and will not let me save the data that I have entered. Is there a reason that there is a limit to document the cooling minutes? **Put in 200. We will change the upper limit in next version.**

November 2019: How do we capture cooling and rewarming times when the patient is cooled and rewarmed more than once during an operation? Should I add them together and enter the total cooling and rewarming times? **Yes, add together for total cooling and total warming times.**

*Long Name:* Rewarming Time
*Short Name:* **RewarmTime**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the number of minutes from the initiation of rewarming until the target rewarming temperature is achieved.

*SeqNo:* 1310
*Core:* Yes
*Harvest:* Yes

*Low Value:* 0
*High Value:* 500

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*Parent Value:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

---

*Long Name:* Cerebral Perfusion Utilized
*Short Name:* **CPerfUtil**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate whether cerebral perfusion was performed.

*SeqNo:* 1320
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*Parent Value:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Cerebral Perfusion Time

*SeqNo:* 1330

| | | | |
|---|---|---|---|
| *Short Name:* | **CPerfTime** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the total number of minutes cerebral perfusion was performed. This would include antegrade or retrograde cerebral perfusion strategies. | | |
| *Low Value:* | 1 | | |
| *High Value:* | 999 | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Integer |
| *ParentLongName:* | Cerebral Perfusion Utilized |
| *ParentShortName:* | **CPerfUtil** |
| *ParentHarvestCodes:* | 1 |
| *Parent Value:* | = "Yes" |

September 2020: When performing total aortic arch replacement, our surgeon starts out with retrograde cerebral perfusion (via the snared SVC cannula), followed by direct antegrade perfusion into each head vessel through separate cannulas. When he completes the distal arch reconstruction, perfusion to the lower body is resumed, and he sequentially connects each of the head vessels to a limb of the arch graft. When should the cerebral perfusion time end? When blood flow to the lower body is restored? When the first head/neck branch is open (usually the left subclavian artery)? After all the head vessels have been connected to the graft and all the individual cannulas removed? **In this scenario, when blood flow is restored to the lower body, selective cerebral perfusion is no longer being used.**

---

| | | | |
|---|---|---|---|
| *Long Name:* | Cerebral Perfusion Cannulation Site - Innominate Artery | *SeqNo:* | 1340 |
| *Short Name:* | **CPerfCanInn** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the innominate artery cannulation site was utilized for cerebral perfusion. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Real |
| *ParentLongName:* | Cerebral Perfusion Utilized |
| *ParentShortName:* | **CPerfUtil** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Yes" |

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Cerebral Perfusion Cannulation Site - Right Subclavian | *SeqNo:* | 1350 |
| *Short Name:* | **CPerfCanRSub** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the right subclavian cannulation site was utilized for cerebral perfusion. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Cerebral Perfusion Utilized
*ParentShortName:* **CPerfUtil**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Cerebral Perfusion Cannulation Site - Right Axillary Artery | *SeqNo:* | 1360 |
| *Short Name:* | **CPerfCanRAx** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the right axillary artery cannulation site was utilized for cerebral perfusion. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Cerebral Perfusion Utilized
*ParentShortName:* **CPerfUtil**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Cerebral Perfusion Cannulation Site - Right Carotid Artery | *SeqNo:* | 1370 |
| *Short Name:* | **CPerfCanRCar** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the right carotid artery cannulation site was utilized for cerebral perfusion. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Cerebral Perfusion Utilized
*ParentShortName:* **CPerfUtil**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Cerebral Perfusion Cannulation Site - Left Carotid Artery | *SeqNo:* | 1380 |
| *Short Name:* | **CPerfCanLCar** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the left carotid artery cannulation site was utilized for cerebral perfusion. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Cerebral Perfusion Utilized
*ParentShortName:* **CPerfUtil**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | *Value:* |
|---|---|

| | |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Cerebral Perfusion Cannulation Site - Superior Vena Cava | *SeqNo:* | 1390 |
| *Short Name:* | **CPerfCanSVC** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the superior vena cava cannulation site was utilized for cerebral perfusion. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Cerebral Perfusion Utilized |
| *ParentShortName:* | **CPerfUtil** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Yes" |

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Cerebral Perfusion Periods | *SeqNo:* | 1400 |
| *Short Name:* | **CPerfPer** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the number of periods of cerebral perfusion. For example, if the cerebral perfusion time is a total of 20 minutes and the patient received 4 separate 5 minute periods of cerebral perfusion, the cerebral perfusion periods would be 4. | | |
| *Low Value:* | 1 | | |
| *High Value:* | 20 | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Integer |
| *ParentLongName:* | Cerebral Perfusion Utilized |
| *ParentShortName:* | **CPerfUtil** |
| *ParentHarvestCodes:* | 1 |

*Parent Value:* = "Yes"

---

*Long Name:* Cerebral Perfusion Flow Rate
*Short Name:* **CPerfFlow**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the cerebral perfusion flow rate in milliliters per kilogram (mL/kg) per minute.
*Low Value:* 1
*High Value:* 999

*SeqNo:* 1410
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Cerebral Perfusion Utilized
*ParentShortName:* **CPerfUtil**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Cerebral Perfusion Temperature
*Short Name:* **CPerfTemp**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the perfusate temperature (Celsius) maintained during cerebral perfusion.
*Low Value:* 1
*High Value:* 37

*SeqNo:* 1420
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Cerebral Perfusion Utilized
*ParentShortName:* **CPerfUtil**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Arterial Blood Gas Management During Cooling
*Short Name:* **ABldGasMgt**
*Section Name*: Operative

*SeqNo:* 1430
*Core:* Yes
*Harvest:* Yes

*DBTableName:* Operations
*Definition:* Indicate the arterial blood gas management strategy utilized during the cooling phase of cardiopulmonary bypass prior to initiation of circulatory arrest or cerebral perfusion.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*ParentValues:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Alpha STAT |
| 2 | pH STAT |
| 3 | pH STAT cooling/Alpha STAT rewarming |
| 4 | Other combination |

---

*Long Name:* Hematocrit Prior to Circulatory Arrest or Cerebral Perfusion
*Short Name:* **HCTPriCircA**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the last hematocrit value prior to initiation of circulatory arrest or cerebral perfusion.
*Low Value:* 5.0
*High Value:* 70.0

*SeqNo:* 1440
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Real

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*Parent Value:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

March 2020: Is it wrong to put in a HCT value for this field even when the patient does not have a true circulatory arrest or cerebral perfusion? **While not incorrect, it does not follow the data specs for the field. There are multiple other HCT fields (1640, 1650, 1660) to collect this value at other time points during the operative procedure. This field specifically asks for the HCT prior to circulatory arrest or cerebral perfusion.**
July 2020: For the HCT fields, is it appropriate to use HGB x 3 instead? Our new blood gas machines do not give HCT and would like to confirm this suggested fix. **Yes, this is a reasonable approach if you don't have the HCT.**

| | | | |
|---|---|---|---|
| *Long Name:* | Cardioplegia Type | *SeqNo:* | 1460 |
| *Short Name:* | **CplegiaType** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the type of cardioplegia used. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Cardioplegia Delivery
*ParentShortName:* **CplegiaDeliv**
*ParentHarvestCodes:* 2|3|4
*ParentValues:* = "Antegrade", "Retrograde" or "Both"
*Harvest Codes:*

| Code: | Value: |
|---|---|
| 1 | Blood |
| 2 | Crystalloid |
| 3 | Both |
| 4 | Other |

March 2019: Our perfusion team was wondering if del Nido mixed 1 part blood to 4 parts crystalloid is blood or both? At one point we were under the impression that if it had any blood then the answer was blood. **This should be coded as blood.**
May 2019: Under Cardioplegia Delivery (Cong_STS_32cardioplegia solution) when del Nido is used by perfusion in our institute it is always mixed with blood. Should the cardioplegia type not be" both" instead of "blood"? The question below is in the STS training manual for 3.41 version. Please qualify. March 2019: Our perfusion team was wondering if del Nido mixed 1 part blood to 4 parts crystalloid is blood or both? At one point we were under the impression that if it had any blood then the answer was blood. This should be coded blood. **If there is *any* blood, it is considered blood. If there is no blood, it is crystalloid. If one dose is blood and one dose is crystalloid, then both is chosen.**

| | | | |
|---|---|---|---|
| *Long Name:* | Cardioplegia Solution | *SeqNo:* | 1470 |
| *Short Name:* | **CplegiaSolution** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the cardioplegia solution used during this procedure. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Cardioplegia Delivery
*ParentShortName:* **CplegiaDeliv**
*ParentHarvestCodes:* 2|3|4
*ParentValues:* = "Antegrade", "Retrograde" or "Both"

*Harvest Codes:*

| Code: | Value: |
|---|---|
| 1 | del Nido |
| 2 | Custodiol/Bretchneider (HTK) |
| 3 | Buckberg |
| 4 | Plegisol/St. Thomas |
| 5 | University of Wisconsin |
| 6 | Celsior |
| 7 | Roe's Solution |
| 8 | Microplegia with potassium |
| 9 | Microplegia with Adenocaine |
| 90 | Other |

---

*Long Name:* Cardioplegia Number Of Doses
*SeqNo:* 1490
*Short Name:* **CplegiaDose**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the number of doses of cardioplegia administered.
*Low Value:* 1
*High Value:* 50

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Cardioplegia Delivery
*ParentShortName:* **CardioplegiaDeliv**
*ParentHarvestCodes:* 2|3|4
*Parent Value:* = "Antegrade", "Retrograde" or "Both"

---

*Long Name:* Hematocrit - First after initiating CPB
*SeqNo:* 1640
*Short Name:* **HCTFirst**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the first hematocrit measured after initiating CPB.
*Low Value:* 5.0
*High Value:* 70.0

*Intent / Clarification:*

*Data Source:* User

*Format:* Real

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*Parent Value:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

---

*Long Name:* Hematocrit - Last Measured During CPB
*Short Name:* **HCTLast**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the last hematocrit measured during CPB.
*Low Value:* 5.0
*High Value:* 70.0

*SeqNo:* 1650
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Real

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*Parent Value:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

---

*Long Name:* Hematocrit - Post-CPB and Post-Protamine
*Short Name:* **HCTPost**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the hematocrit measured post-CPB following protamine administration.
*Low Value:* 5.0
*High Value:* 70.0

*SeqNo:* 1660
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Real

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*Parent Value:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

| | | | |
|---|---|---|---|
| *Long Name:* | Ultrafiltration Performed | *SeqNo:* | 1671 |
| *Short Name:* | **UltrafilPerform** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether ultra-filtration was performed. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*ParentValues:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Ultrafiltration Performed When | *SeqNo:* | 1672 |
| *Short Name:* | **UltraFilPerfWhen** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate when ultra-filtration was performed. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Ultrafiltration Performed
*ParentShortName:* **UltrafilPerform**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | During CPB, |
| 2 | After CPB, MUF |

| | |
|---|---|
| 3 | During and after CPB |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Pulmonary Vascular Resistance Measured Within 6 Months | *SeqNo:* | 1770 |
| *Short Name:* | **PVRMeas** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the Pulmonary Vascular Resistance (PVR) in Woods units was measured by cardiac catheterization within 6 months prior to this operation. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Operation Type |
| *ParentShortName:* | **OpType** |
| *ParentHarvestCodes:* | 1\|2\|9\|3\|4\|6\|7\|777 |
| *ParentValues:* | = "CPB Cardiovascular", "No CPB Cardiovascular", "CPB Non-Cardiovascular", "ECMO", "Thoracic", "VAD Operation Done With CPB", "VAD Operation Done Without CPB." or "Other" |

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

November 2019: Often times, the patients have cardiac caths within 6 months pre-op. The PVR is not calculated. Are we allowed to calculate the PVR based on all the other measurements provided? **Yes, may use cath measurements to calculate the PVR.**

---

| | | | |
|---|---|---|---|
| *Long Name:* | Pulmonary Vascular Resistance | *SeqNo:* | 1780 |
| *Short Name:* | **PVR** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | If the patient's weight is greater than or equal to 40 kilograms, indicate the pulmonary vascular resistance (in Wood units) as measured by cardiac catheterization. | | |
| *Low Value:* | 0.0 | | |
| *High Value:* | 100.0 | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Real |
| *ParentLongName:* | |

*ParentShortName:* **PVRMeas|WeightKg**
*ParentHarvestCodes:* 1|>=40
*Parent Value:* 1|>=40

March 2019: If the patient had a cath within 6 months of the surgical procedure, however PVR was not calculated in Woods units, would the parent question answer to "Did the patient have PVR measured?" be no? **Indicate that it wasn't measured.**

---

*Long Name:* Pulmonary Vascular Resistance Index PVRI
*Short Name:* **PVR**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* If the patient's weight is less than 40 kilograms, indicate the Pulmonary Vascular Resistance Index (in Wood units x m2) as measured by cardiac catheterization.
*Low Value:* 0.0
*High Value:* 100.0

*SeqNo:* 1790
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Real

*ParentLongName:*
*ParentShortName:* **PVRMeas|WeightKg**
*ParentHarvestCodes:* 1|>=40
*Parent Value:* 1|>=40

---

*Long Name:* Anticoagulant Used
*Short Name:* **AnticoagUsed**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate whether an anticoagulant was used during the procedure.

*SeqNo:* 1792
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*Parent Value:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"
*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |
| 3 | Unknown |

May 2019: Anticoagulant used: If the Perfusionist is using heparin in the pump prime and I cannot see that any other heparin is utilized during the case, am I answering yes to the question, anticoagulant used during the procedure? **Any heparin given during the procedure would be coded as a 'yes' for anticoagulant**.

---

*Long Name:* Anticoagulant Used - Unfractionated Heparin
*SeqNo:* 1793
*Short Name:* **AnticoagUnfHep**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether unfractionated heparin was used during the procedure.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anticoagulant Used
*ParentShortName:* **AnticoagUsed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Anticoagulant Used - Argatroban
*SeqNo:* 1794
*Short Name:* **AnticoagArg**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether Argatroban was used during the procedure.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anticoagulant Used
*ParentShortName:* **AnticoagUsed**

*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Anticoagulant Used - Bivaluridin
*SeqNo:* 1795
*Short Name:* **AnticoagBival**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether Bivaluridin was used during the procedure.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anticoagulant Used
*ParentShortName:* **AnticoagUsed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Anticoagulant Used - Other
*SeqNo:* 1796
*Short Name:* **AnticoagOth**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether another anticoagulant was used during the procedure.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anticoagulant Used
*ParentShortName:* **AnticoagUsed**
*ParentHarvestCodes:* 1

*ParentValues:* = "Yes"

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

## Blood and Blood-Related Products

*Long Name:* Blood Type
*Short Name:* **BloodType**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the patient's blood type.

*SeqNo:* 1850
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*ParentValues:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | A |
| 2 | B |
| 3 | O |
| 4 | AB |
| 5 | Unknown |

---

*Long Name:* Rhesus Factor
*Short Name:* **Rh**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the patient's Rh factor.

*SeqNo:* 1860
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*ParentValues:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Positive |
| 2 | Negative |
| 3 | Unknown |

---

*Long Name:* Autologous Transfusion
*SeqNo:* 2461
*Short Name:* **AutologousTrans**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the patient was transfused with any autologous blood products that had been collected prior to surgery (e.g. self-donated).

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|9|6
*ParentValues:* = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB"

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

May 2019: I have a questions regarding phlebotomized blood. On our older patients that we are going to do bloodless surgery, we phlebotomize blood if the HCT is high enough once we go on bypass and give it back if needed after coming off bypass. Do we say "Yes" to Autologous blood? The training manual definition of Autologous blood is donated "prior to surgery". Is there a place to document how much was given back? I have looked at the training manual and can't find any reference to phlebotomized blood. **Yes, this is autologous blood and there is not a field for collecting the amount given back to the patient.**

---

*Long Name:* Cell Saver/Cell Salvage in mL
*SeqNo:* 2463
*Short Name:* **CellSavSalML**
*Core:* Yes

| | | | |
|---|---|---|---|
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the volume in mL of cell saver / cell salvage used for blood conservation during the procedure. | | |
| *Low Value:* | 0 | | |
| *High Value:* | 10000 | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Integer |

| | |
|---|---|
| *ParentLongName:* | Operation Type |
| *ParentShortName:* | **OpType** |
| *ParentHarvestCodes:* | 1\|9\|6 |
| *Parent Value:* | = "CPB Cardiovascular", "CPB Non-Cardiovascular" or "VAD Operation Done With CPB" |

March 2019: Version 3.41 is now requesting the volume of Cell Saver blood infused. Is this the volume infused only in the operating room, or does it also include the volume infused after admission to the ICU? **Include OR and ICU volumes.**

August 2019: Under this section regarding Cell Saver/Salvage Reinfused, is the salvage reinfused considered the blood that was removed from the patient during bypass and returned to them before the surgery ended? **Yes. This the volume of the patient's own blood that is reinfused prior to anesthesia end. Typically it has been processed in a Cell Saver but sometimes not.**

---

| | | | |
|---|---|---|---|
| *Long Name:* | Transfusion of Non-Autologous Blood Products During or After Procedure | *SeqNo:* | 2825 |
| *Short Name:* | **TransfusBldProdAny** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the patient received non-autologous (self-donated) blood products during or after this procedure. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |
| 3 | Patient / family refused |

May 2019: Are we still collecting blood for multiple surgeries like we did in version 3.3, where all blood goes on the index op and the rest of the operations are marked as no? Forgive me if this has been mentioned, but I couldn't find it in the specs or FAQs. **Recommendation is that all blood units go to the index case but realize that some organizations are not doing it this way. Just be consistent.**
June 2019: Does the volume included in this section include what is given as part of the CPB blood prime? **Yes, this includes blood in the prime.**

---

| | | | |
|---|---|---|---|
| *Long Name:* | Transfusion of Non-Autologous Blood Products Initiated Before Leaving OR | *SeqNo:* | 2830 |
| *Short Name:* | **TransfusBldProdBefore** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the patient received non-autologous (self-donated) blood products during or after this procedure. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |
| *ParentLongName:* | Transfusion of Non-Autologous Blood Products During or After Procedure | | |
| *ParentShortName:* | **TransfusBldProdAny** | | |
| *ParentHarvestCodes:* | 1 | | |
| *Parent Value:* | = "Yes" | | |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Blood Products Transfused - Packed Red Blood Cells (PRBC) in mL - Initiated Before Leaving OR | *SeqNo:* | 2832 |
| *Short Name:* | **BldProdPRBCMLBef** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the number of mL of Packed Red Blood Cells (PRBC) the patient received during the procedure (including CPB PRIME). | | |
| *Low Value:* | 0 | | |
| *High Value:* | 10000 | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Integer | | |

| | |
|---|---|
| *ParentLongName:* | Transfusion of Non-Autologous Blood Products Initiated Before Leaving OR |
| *ParentShortName:* | **TransfusBldProdBefore** |
| *ParentHarvestCodes:* | 1 |
| *Parent Value:* | = "Yes" |

August 2019: I recently submitted a question regarding the need to include the ml of blood products in the ECMO prime. Your response was "yes, include the prime volumes in the total ml". My ECMO specialists inform me that depending on the patient's weight, they prime with "X" units of PRBCs and "X" units of FFP. They do record the circuit volume but multiple mls of the prime volume are not exposed to the patient as they sit in a reservoir. So, the actual volume seen by the patient would be an estimated ratio of PRCs and FFP depending on the patient's weight and the circuit volume. But sometimes they may give some of this blood from the reservoir and document it as "prime blood" (how much of this was PRBCs and how much FFP?). Is there an equation you suggest we use to figure out these specifics? To add to the confusion, sometimes Platelets are included in the prime. **I would use the following: PRBC 1 unit = 325 cc; FFP 1 unit = 250 cc. These are just estimates and can vary by +/- 20%. I would not get too caught up in the exact amounts as this is beyond the scope of what we are typically looking at.**

---

| | | | |
|---|---|---|---|
| *Long Name:* | Blood Products Transfused - Fresh Frozen Plasma (FFP) in mL - Initialted Before Leaving OR | *SeqNo:* | 2833 |
| *Short Name:* | **BldProdFFPMLBef** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the number of mL of Fresh Frozen Plasma (FFP) the patient received during the procedure (including CPB PRIME). | | |
| *Low Value:* | 0 | | |
| *High Value:* | 10000 | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Integer | | |
| *ParentLongName:* | Transfusion of Non-Autologous Blood Products Initiated Before Leaving OR | | |
| *ParentShortName:* | **TransfusBldProdBefore** | | |
| *ParentHarvestCodes:* | 1 | | |
| *Parent Value:* | = "Yes" | | |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Blood Products Transfused - Fresh Plasma in mL - Initiated Before Leaving OR | *SeqNo:* | 2834 |
| *Short Name:* | **BldProdFreshPMLBef** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the number of mL of Fresh Plasma (<72 Hours Post-collection, never frozen) the patient received during the procedure (including CPB PRIME). | | |

*Low Value:* 0
*High Value:* 10000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Transfusion of Non-Autologous Blood Products Initiated Before Leaving OR
*ParentShortName:* **TransfusBldProdBefore**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Blood Products Transfused - Platelets in mL - Initiated Before Leaving OR
*SeqNo:* 2836
*Short Name:* **BldProdPlatMLBef**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the number of mL of Individual Platelets, including concentrated, the patient received during the procedure (including CPB PRIME).
*Low Value:* 0
*High Value:* 10000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Transfusion of Non-Autologous Blood Products Initiated Before Leaving OR
*ParentShortName:* **TransfusBldProdBefore**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Blood Products Transfused - Cryoprecipitate in mL - Initiated Before Leaving OR
*SeqNo:* 2837
*Short Name:* **BldProdCryoMLBef**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the number of mL of Cryoprecipitate the patient received during the procedure (including CPB PRIME).
*Low Value:* 0
*High Value:* 10000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Transfusion of Non-Autologous Blood Products Initiated Before Leaving OR
*ParentShortName:* **TransfusBldProdBefore**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Blood Products Transfused - Fresh Whole Blood in mL - Initiated Before Leaving OR
*SeqNo:* 2838
*Short Name:* **BldProdFreshWBMLBef**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the number of mL of Fresh Whole Blood (< 72 Hours post-collection) the patient received during the procedure (including CPB PRIME).
*Low Value:* 0
*High Value:* 10000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Transfusion of Non-Autologous Blood Products Initiated Before Leaving OR
*ParentShortName:* **TransfusBldProdBefore**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Blood Products Transfused - Whole Blood in mL - Initiated Before Leaving OR
*SeqNo:* 2839
*Short Name:* **BldProdWBMLBef**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the number of mL of Whole Blood (> 72 hours post-collection) the patient received during the procedure (including CPB PRIME).
*Low Value:* 0
*High Value:* 10000

*Intent / Clarification:*

*Data Source:* User

*Format:* Integer

*ParentLongName:* Transfusion of Non-Autologous Blood Products Initiated Before Leaving OR
*ParentShortName:* **TransfusBldProdBefore**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Transfusion of Blood Products Within 24 Hours Post-Procedure
*SeqNo:* 2840
*Short Name:* **TransfusBldProdLT24**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the patient received blood products within 24 hours post-procedure.

*Intent / Clarification:* This would be blood transfused AFTER anesthesia end time for this procedure up to 24 hours after arrival in the ICU.

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Transfusion of Non-Autologous Blood Products Initiated Before Leaving OR
*ParentShortName:* **TransfusBldProdBefore**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"
*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Blood Products Transfused - Packed Red Blood Cells (PRBC) in mL - Transfused Within 24 Hours Post-Procedure
*SeqNo:* 2841
*Short Name:* **BldProdPRBCMLLT24**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the number of mL of Packed Red Blood Cells (PRBC) the patient received within 24 hours post-procedure.
*Low Value:* 0
*High Value:* 10000

*Intent / Clarification:* This would be blood transfused AFTER anesthesia end time for this procedure up to 24 hours after arrival in the ICU.

*Data Source:* User
*Format:* Integer

*ParentLongName:* Transfusion of Blood Products Within 24 Hours Post-Procedure
*ParentShortName:* **TransfusBldProdLT24**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Blood Products Transfused - Fresh Frozen Plasma (FFP) in mL - Transfused Within 24 Hours Post-Procedure
*SeqNo:* 2842
*Short Name:* **BldProdFFPMLLT24**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the number of mL of Fresh Frozen Plasma (FFP) the patient received within 24 hours post-procedure.
*Low Value:* 0
*High Value:* 10000

*Intent / Clarification:* This would be blood transfused AFTER anesthesia end time for this procedure up to 24 hours after arrival in the ICU.

*Data Source:* User
*Format:* Integer

*ParentLongName:* Transfusion of Blood Products Within 24 Hours Post-Procedure
*ParentShortName:* **TransfusBldProdLT24**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Blood Products Transfused - Fresh Plasma in mL - Transfused Within 24 Hours Post- Procedure
*SeqNo:* 2843
*Short Name:* **BldProdFreshPMLLT24**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the number of mL of Fresh Plasma (<72 Hours Post-collection, never frozen) the patient received within 24 hours post-procedure.

*Low Value:* 0
*High Value:* 10000

*Intent / Clarification:* This would be blood transfused AFTER anesthesia end time for this procedure up to 24 hours after arrival in the ICU.

*Data Source:* User
*Format:* Integer

*ParentLongName:* Transfusion of Blood Products Within 24 Hours Post-Procedure
*ParentShortName:* **TransfusBldProdLT24**
*ParentHarvestCodes:* 1

*Parent Value:* = "Yes"

*Long Name:* Blood Products Transfused - Platelets in mL - Transfused Within 24 Hours Post- Procedure
*SeqNo:* 2845
*Short Name:* **BldProdPlatMLLT24**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the number of mL of Individual Platelets, including concentrated, the patient received within 24 hours post-procedure.
*Low Value:* 0
*High Value:* 10000

*Intent / Clarification:* This would be blood transfused AFTER anesthesia end time for this procedure up to 24 hours after arrival in the ICU.

*Data Source:* User
*Format:* Integer

*ParentLongName:* Transfusion of Blood Products Within 24 Hours Post-Procedure
*ParentShortName:* **TransfusBldProdLT24**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Blood Products Transfused - Cryoprecipitate in mL - Transfused Within 24 Hours Post-Procedure
*SeqNo:* 2846
*Short Name:* **BldProdCryoMLLT24**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the number of mL of Cryoprecipitate the patient received within 24 hours post-procedure.
*Low Value:* 0
*High Value:* 10000

*Intent / Clarification:* This would be blood transfused AFTER anesthesia end time for this procedure up to 24 hours after arrival in the ICU.

*Data Source:* User
*Format:* Integer

*ParentLongName:* Transfusion of Blood Products Within 24 Hours Post-Procedure
*ParentShortName:* **TransfusBldProdLT24**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

| | | | |
|---|---|---|---|
| *Long Name:* | Blood Products Transfused - Fresh Whole Blood in mL - Transfused Within 24 Hours Post-Procedure | *SeqNo:* | 2847 |
| *Short Name:* | **BldProdFreshWBMLLT24** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the number of mL of Fresh Whole Blood (< 72 Hours post-collection) the patient received within 24 hours post-procedure. | | |
| *Low Value:* | 0 | | |
| *High Value:* | 10000 | | |
| *Intent / Clarification:* | This would be blood transfused AFTER anesthesia end time for this procedure up to 24 hours after arrival in the ICU. | | |
| *Data Source:* | User | | |
| *Format:* | Integer | | |
| *ParentLongName:* | Transfusion of Blood Products Within 24 Hours Post-Procedure | | |
| *ParentShortName:* | **TransfusBldProdLT24** | | |
| *ParentHarvestCodes:* | 1 | | |
| *Parent Value:* | = "Yes" | | |

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| | | | |
|---|---|---|---|
| *Long Name:* | Blood Products Transfused - Whole Blood in mL - Transfused Within 24 Hours Post- Procedure | *SeqNo:* | 2848 |
| *Short Name:* | **BldProdWBMLLT24** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the number of mL of Whole Blood (> 72 hours post-collection) the patient received within 24 hours post-procedure. | | |
| *Low Value:* | 0 | | |
| *High Value:* | 10000 | | |
| *Intent / Clarification:* | This would be blood transfused AFTER anesthesia end time for this procedure up to 24 hours after arrival in the ICU. | | |
| *Data Source:* | User | | |
| *Format:* | Integer | | |
| *ParentLongName:* | Transfusion of Blood Products Within 24 Hours Post-Procedure | | |
| *ParentShortName:* | **TransfusBldProdLT24** | | |
| *ParentHarvestCodes:* | 1 | | |
| *Parent Value:* | = "Yes" | | |

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| | | | |
|---|---|---|---|
| *Long Name:* | Transfusion of Blood Products After 24 Hours Post-Procedure | *SeqNo:* | 2849 |
| *Short Name:* | **TransfusBldProdGT24** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |

*Definition:* Indicate whether the patient received blood products after 24 hours post-procedure.

*Intent / Clarification:* Intent is to capture blood transfusion for this procedure occurring more than 24 hours after arrival into the ICU.

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Transfusion of Non-Autologous Blood Products Initiated Before Leaving OR
*ParentShortName:* **TransfusBldProdBefore**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"
*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Blood Products Transfused - Packed Red Blood Cells (PRBC) in mL - Transfused After 24 Hours Post-Procedure
*SeqNo:* 2850
*Short Name:* **BldProdPRBCMLGT24**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the number of mL of Packed Red Blood Cells (PRBC) the patient received after 24 hours post-procedure.
*Low Value:* 0
*High Value:* 10000

*Intent / Clarification:* Intent is to capture blood transfusion for this procedure occurring more than 24 hours after arrival into the ICU.

*Data Source:* User
*Format:* Integer

*ParentLongName:* Transfusion of Blood Products After 24 Hours Post-Procedure
*ParentShortName:* **TransfusBldProdGT24**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Blood Products Transfused - Fresh Frozen Plasma (FFP) in mL - Transfused After 24 Hours Post-Procedure
*SeqNo:* 2851
*Short Name:* **BldProdFFPMLGT24**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the number of mL of Fresh Frozen Plasma (FFP) the patient received after 24 hours post-procedure.

*Low Value:* 0
*High Value:* 10000

*Intent / Clarification:* Intent is to capture blood transfusion for this procedure occurring more than 24 hours after arrival into the ICU.

*Data Source:* User
*Format:* Integer

*ParentLongName:* Transfusion of Blood Products After 24 Hours Post-Procedure
*ParentShortName:* **TransfusBldProdGT24**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Blood Products Transfused - Fresh Plasma in mL- Transfused After 24 Hours Post- Procedure
*SeqNo:* 2852

*Short Name:* **BldProdFreshPMLGT24**
*Core:* Yes

*Section Name*: Operative
*Harvest:* Yes

*DBTableName:* Operations
*Definition:* Indicate the number of mL of Fresh Plasma (<72 Hours Post-collection, never frozen) the patient received after 24 hours post-procedure.
*Low Value:* 0
*High Value:* 10000

*Intent / Clarification:* Intent is to capture blood transfusion for this procedure occurring more than 24 hours after arrival into the ICU.

*Data Source:* User
*Format:* Integer

*ParentLongName:* Transfusion of Blood Products After 24 Hours Post-Procedure
*ParentShortName:* **TransfusBldProdGT24**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

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*Long Name:* Blood Products Transfused - Platelets in mL - Transfused After 24 Hours Post- Procedure
*SeqNo:* 2854

*Short Name:* **BldProdFreshPMLGT24**
*Core:* Yes

*Section Name*: Operative
*Harvest:* Yes

*DBTableName:* Operations
*Definition:* Indicate the number of mL of Individual Platelets, including concentrated, the patient received after 24 hours post-procedure.
*Low Value:* 0
*High Value:* 10000

| | |
|---|---|
| *Intent / Clarification:* | To capture blood transfusion for this procedure occurring more than 24 hours after arrival into the ICU. |
| *Data Source:* | User |
| *Format:* | Integer |
| *ParentLongName:* | Transfusion of Blood Products After 24 Hours Post-Procedure |
| *ParentShortName:* | **TransfusBldProdGT24** |
| *ParentHarvestCodes:* | 1 |
| *Parent Value:* | = "Yes" |

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| | | | |
|---|---|---|---|
| *Long Name:* | Blood Products Transfused - Cryoprecipitate in mL - Transfused After 24 Hours Post-Procedure | *SeqNo:* | 2855 |
| *Short Name:* | **BldProdCryoMLGT24** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the number of mL of Cryoprecipitate the patient received after 24 hours post- procedure. | | |
| *Low Value:* | 0 | | |
| *High Value:* | 10000 | | |
| *Intent / Clarification:* | To capture blood transfusion for this procedure occurring more than 24 hours after arrival into the ICU. | | |
| *Data Source:* | User | | |
| *Format:* | Integer | | |
| *ParentLongName:* | Transfusion of Blood Products After 24 Hours Post-Procedure | | |
| *ParentShortName:* | **TransfusBldProdGT24** | | |
| *ParentHarvestCodes:* | 1 | | |
| *Parent Value:* | = "Yes" | | |

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| | | | |
|---|---|---|---|
| *Long Name:* | Blood Products Transfused - Fresh Whole Blood in mL - Transfused After 24 Hours Post-Procedure | *SeqNo:* | 2856 |
| *Short Name:* | **BldProdFreshWBMLGT24** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the number of mL of Fresh Whole Blood (< 72 Hours post-collection) the patient received after 24 hours post-procedure. | | |
| *Low Value:* | 0 | | |
| *High Value:* | 10000 | | |
| *Intent / Clarification:* | To capture blood transfusion for this procedure occurring more than 24 hours after arrival into the ICU. | | |

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Integer |
| *ParentLongName:* | Transfusion of Blood Products After 24 Hours Post-Procedure |
| *ParentShortName:* | **TransfusBldProdGT24** |
| *ParentHarvestCodes:* | 1 |
| *Parent Value:* | = "Yes" |

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| | | | |
|---|---|---|---|
| *Long Name:* | Blood Products Transfused - Whole Blood in mL - Transfused After 24 Hours Post- Procedure | *SeqNo:* | 2857 |
| *Short Name:* | **BldProdWBMLGT24** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the number of mL of Whole Blood (> 72 hours post-collection) the patient received after 24 hours post-procedure. | | |
| *Low Value:* | 0 | | |
| *High Value:* | 10000 | | |
| *Intent / Clarification:* | To capture blood transfusion for this procedure occurring more than 24 hours after arrival into the ICU. | | |
| *Data Source:* | User | | |
| *Format:* | Integer | | |
| *ParentLongName:* | Transfusion of Blood Products After 24 Hours Post-Procedure | | |
| *ParentShortName:* | **TransfusBldProdGT24** | | |
| *ParentHarvestCodes:* | 1 | | |
| *Parent Value:* | = "Yes" | | |

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| | | | |
|---|---|---|---|
| *Long Name:* | Directed Donor Units | *SeqNo:* | 2858 |
| *Short Name:* | **DirDonorUnits** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the patient received any directed donor transfusions during this procedure. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |
| *ParentLongName:* | Transfusion of Non-Autologous Blood Products Initiated Before Leaving OR | | |
| *ParentShortName:* | **TransfusBldProdBefore** | | |
| *ParentHarvestCodes:* | 1 | | |
| *ParentValues:* | = "Yes" | | |

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Antifibrinolytic Used Intraoperatively | *SeqNo:* | 2859 |
| *Short Name:* | **AntifibUsage** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether antifibrinolytics were used intraoperatively. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Epsilon Amino-Caproic Acid (Amicar,EACA) Used | *SeqNo:* | 2860 |
| *Short Name:* | **AntifibEpUse** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether EACA was used. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Antifibrinolytic Used Intraoperatively
*ParentShortName:* **AntifibUsage**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Epsilon Amino-Caproic Acid (Amicar,EACA) Load mg | *SeqNo:* | 2861 |
| *Short Name:* | **AntifibEpLoadMG** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |

*Definition:* Indicate the loading dose in mg of epsilon aminocaproic acid (Amicar) given during this procedure. Enter zero if no loading dose given.
*Low Value:* 0
*High Value:* 30000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Epsilon Amino-Caproic Acid (Amicar,EACA) Used
*ParentShortName:* **AntifibEpUse**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

July 2019: Please clarify what Amicar dosages should be included in the loading dose. Does this only include Amicar given by the anesthesiologist? Is it only the first dose? Should/Can it include the perfusion dose if the pump is NOT primed with Amicar but is given later? **Amicar load is any bolus dose given by anesthesia (and not to the pump)**

---

*Long Name:* Epsilon Amino-Caproic Acid (Amicar,EACA) Pump Prime mg
*Short Name:* **AntifibEpPrimeMG**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the pump priming dose in mg of epsilon aminocaproic acid (Amicar) given during this procedure. Enter zero if no pump priming dose given.
*Low Value:* 0
*High Value:* 30000

*SeqNo:* 2862
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Epsilon Amino-Caproic Acid (Amicar,EACA) Used
*ParentShortName:* **AntifibEpUse**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* EACA Dosed As mg per ml of Pump Prime
*Short Name:* **AntifibEpPrimeDose**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate whether the Epsilon Amino-Caproic Acid was dosed as mg per ml of Pump Prime.

*SeqNo:* 2863
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Epsilon Amino-Caproic Acid (Amicar,EACA) Pump Prime mg
*ParentShortName:* **AntifibEpPrimeMG**
*ParentHarvestCodes:* >0
*ParentValues:* >0

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |
| 9 | Unknown |

*Long Name:* Epsilon Amino-Caproic Acid (Amicar,EACA) Infusion Rate mg/kg/hr
*SeqNo:* 2864
*Short Name:* **AntifibEpInfRate**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the infusion rate in mg/kg/hour of epsilon aminocaproic acid (Amicar) given during this procedure. Enter zero if no infusion initiated.
*Low Value:* 0
*High Value:* 200

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Epsilon Amino-Caproic Acid (Amicar,EACA) Used
*ParentShortName:* **AntifibEpUse**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Tranexamic Acid Used
*SeqNo:* 2865
*Short Name:* **AntifibTranexUse**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether tranexamic acid was used during this procedure.
*Low Value:* 0
*High Value:* 200

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Antifibrinolytic Used Intraoperatively
*ParentShortName:* **AntifibUsage**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Tranexamic Acid Load mg
*Short Name:* **AntifibTranexLoadMG**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the loading dose in mg of tranexamic acid given during this procedure. Enter zero if no loading dose given.
*Low Value:* 0
*High Value:* 15000

*SeqNo:* 2866
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Tranexamic Acid Used
*ParentShortName:* **AntifibTranexUse**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

*Long Name:* Tranexamic Acid Pump Prime mg
*Short Name:* **AntifibTranexPrimeMG**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the pump priming dose in mg of tranexamic acid given during this procedure. Enter zero if no pump priming dose given.
*Low Value:* 0
*High Value:* 15000

*SeqNo:* 2867
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Tranexamic Acid Used
*ParentShortName:* **AntifibTranexUse**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Tranexamic Dosed As mg per ml of Pump Prime
*SeqNo:* 2868
*Short Name:* **AntifibTranexPrimeDose**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the Tranexamic was dosed as mg per ml of Pump Prime.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Tranexamic Acid Pump Prime mg
*ParentShortName:* **AntifibTranexPrimeMG**
*ParentHarvestCodes:* >0
*ParentValues:* >0

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |
| 9 | Unknown |

---

*Long Name:* Tranexamic Acid Infusion Rate mg/kg/hr
*SeqNo:* 2869
*Short Name:* **AntifibTranexInfRate**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the infusion rate in mg/kg/hour of tranexamic acid given during this procedure. Enter zero if no infusion initiated.
*Low Value:* 0
*High Value:* 25.0

*Intent / Clarification:*

*Data Source:* User
*Format:* Real

*ParentLongName:* Tranexamic Acid Used
*ParentShortName:* **AntifibTranexUse**
*ParentHarvestCodes:* 1

*Parent Value:* = "Yes"

---

*Long Name:* Trasylol (Aprotinin) Used
*Short Name:* **AntifibTrasylUse**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate whether trasylol (aprotinin) was given to the patient during this procedure.

*SeqNo:* 2870
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Antifibrinolytic Used Intraoperatively
*ParentShortName:* **AntifibUsage**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Trasylol (Aprotinin) Load cc
*Short Name:* **AntifibTrasylLoadCC**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the loading dose of trasylol (aprotinin) in cc used during this procedure. Enter zero if no loading dose was used.
*Low Value:* 0
*High Value:* 400

*SeqNo:* 2871
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Trasylol (Aprotinin) Used
*ParentShortName:* **AntifibTrasylUse**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

| | | | |
|---|---|---|---|
| *Long Name:* | Trasylol (Aprotinin) Pump Prime cc | *SeqNo:* | 2872 |
| *Short Name:* | **AntifibTrasylPrimeCC** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the pump priming dose of trasylol (aprotinin) in cc used during this procedure. Enter zero if no pump priming dose was used. | | |
| *Low Value:* | 0 | | |
| *High Value:* | 400 | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Integer |
| *ParentLongName:* | Trasylol (Aprotinin) Used |
| *ParentShortName:* | **AntifibTrasylUse** |
| *ParentHarvestCodes:* | 1 |
| *Parent Value:* | = "Yes" |

| | | | |
|---|---|---|---|
| *Long Name:* | Trasylol (Aprotinin) Infusion Rate cc/kg/hr | *SeqNo:* | 2873 |
| *Short Name:* | **AntifibTrasylInfRate** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the infusion rate of trasylol (aprotinin) in cc/kg/hour used during this procedure. Enter zero if no infusion initiated. | | |
| *Low Value:* | 0.0 | | |
| *High Value:* | 10.0 | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Real |
| *ParentLongName:* | Trasylol (Aprotinin) Used |
| *ParentShortName:* | **AntifibTrasylUse** |
| *ParentHarvestCodes:* | 1 |
| *Parent Value:* | = "Yes" |

| | | | |
|---|---|---|---|
| *Long Name:* | Procoagulent Used Intraoperatively | *SeqNo:* | 2874 |
| *Short Name:* | **ProcoagUsage** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether procoagulents were used intraoperatively. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Factor VIIa (Novoseven) Usage
*SeqNo:* 2875
*Short Name:* **ProcoagFactorVIIa**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether Factor VIIa (Novoseven) was administered intraoperatively.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procoagulent Used Intraoperatively
*ParentShortName:* **ProcoagUsage**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Factor VIIa (Novoseven) mcg - Dose 1
*SeqNo:* 2876
*Short Name:* **ProcoagFactorVIIa1MCG**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the first dose in micrograms of Factor VIIa given during this procedure.
*Low Value:* 1
*High Value:* 20000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Factor VIIa (Novoseven) Usage

*ParentShortName:* **ProcoagFactorVIIa**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Factor VIIa (Novoseven) mcg - Dose 2 *SeqNo:* 2877
*Short Name:* **ProcoagFactorVIIa2MCG** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the second dose in micrograms of Factor VIIa given during this procedure. Enter zero if no second dose given.
*Low Value:* 0
*High Value:* 20000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Factor VIIa (Novoseven) Usage
*ParentShortName:* **ProcoagFactorVIIa**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Factor VIIa (Novoseven) mcg - Dose 3 *SeqNo:* 2878
*Short Name:* **ProcoagFactorVIIa3MCG** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the third dose in micrograms of Factor VIIa given during this procedure. Enter zero if no third dose given.
*Low Value:* 0
*High Value:* 20000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Factor VIIa (Novoseven) mcg - Dose 2
*ParentShortName:* **ProcoagFactorVIIa2MCG**
*ParentHarvestCodes:* >0
*Parent Value:* >0

---

*Long Name:* Prothrombin Complex Concentrate - 4 (PCC-4, KCentra) Usage *SeqNo:* 2879

| | | | |
|---|---|---|---|
| *Short Name:* | **ProCmplxCon4** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Prothrombin Complex Concentrate - 4 (PCC-4, KCentra) was administered intraoperatively. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Procoagulent Used Intraoperatively |
| *ParentShortName:* | **ProcoagUsage** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Yes" |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Prothrombin Complex Concentrate - 4 (PCC-4, KCentra) units - Dose 1 | *SeqNo:* | 2880 |
| *Short Name:* | **ProCmplxCon4Ds1UN** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the first dose in units of Prothrombin Complex Concentrate - 4 (PCC-4, KCentra). | | |
| *Low Value:* | 1 | | |
| *High Value:* | 10000 | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Integer |
| *ParentLongName:* | Prothrombin Complex Concentrate - 4 (PCC-4, KCentra) Usage |
| *ParentShortName:* | **ProCmplxCon4** |
| *ParentHarvestCodes:* | 1 |
| *Parent Value:* | = "Yes" |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Prothrombin Complex Concentrate - 4 (PCC-4, KCentra) units - Dose 2 | *SeqNo:* | 2881 |
| *Short Name:* | **ProCmplxCon4Ds2UN** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the second dose in units of Prothrombin Complex Concentrate - 4 (PCC-4, KCentra). Enter zero if no second dose given. | | |

*Low Value:* 0
*High Value:* 10000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Prothrombin Complex Concentrate - 4 (PCC-4, KCentra) Usage
*ParentShortName:* **ProCmplxCon4**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Prothrombin Complex Concentrate - 4 (PCC-4, KCentra) units - Dose 3 *SeqNo:* 2882
*Short Name:* **ProCmplxCon4Ds3UN** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the third dose in units of Prothrombin Complex Concentrate - 4 (PCC-4, KCentra). Enter zero if no third dose given.
*Low Value:* 0
*High Value:* 10000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Prothrombin Complex Concentrate - 4 (PCC-4, KCentra) units - Dose 2
*ParentShortName:* **ProCmplxCon4Ds2UN**
*ParentHarvestCodes:* >0
*Parent Value:* >0

---

*Long Name:* Prothrombin Complex Concentrate - 4 With Factor VIIa (FEIBA) Usage *SeqNo:* 2883
*Short Name:* **ProCmplxCon4W7a** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether Prothrombin Complex Concentrate - 4 With Factor VIIa (FEIBA) was administered intraoperatively.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procoagulent Used Intraoperatively
*ParentShortName:* **ProcoagUsage**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Prothrombin Complex Concentrate - 4 With Factor VIIa (FEIBA) units - Dose 1 *SeqNo:* 2884
*Short Name:* **ProCmplxCon4W7a1UN** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the first dose in units of Prothrombin Complex Concentrate - 4 With Factor VIIa (FEIBA).
*Low Value:* 1
*High Value:* 20000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Prothrombin Complex Concentrate - 4 With Factor VIIa (FEIBA) Usage
*ParentShortName:* **ProCmplxCon4W7a**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Prothrombin Complex Concentrate - 4 With Factor VIIa (FEIBA) units - Dose 2 *SeqNo:* 2885
*Short Name:* **ProCmplxCon4W7a2UN** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the second dose in units of Prothrombin Complex Concentrate - 4 With Factor VIIa (FEIBA). Enter zero if no second dose given.
*Low Value:* 0
*High Value:* 20000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Prothrombin Complex Concentrate - 4 With Factor VIIa (FEIBA) Usage
*ParentShortName:* **ProCmplxCon4W7a**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Prothrombin Complex Concentrate - 4 With Factor VIIa (FEIBA) units - Dose 3 *SeqNo:* 2886
*Short Name:* **ProCmplxCon4W7a3UN** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the third dose in units of Prothrombin Complex Concentrate - 4 With Factor VIIa (FEIBA). Enter zero if no third dose given.
*Low Value:* 0
*High Value:* 20000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Prothrombin Complex Concentrate - 4 With Factor VIIa (FEIBA) units - Dose 2
*ParentShortName:* **ProCmplxCon4W7a2UN**
*ParentHarvestCodes:* >0
*Parent Value:* >0

---

*Long Name:* Prothrombin Complex Concentrate - 3 (PCC-3, ProfilNine-SD) Usage *SeqNo:* 2887
*Short Name:* **ProCmplxCon3** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether Prothrombin Complex Concentrate - 3 (PCC-3, ProfilNine-SD) was administered intraoperatively.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procoagulent Used Intraoperatively
*ParentShortName:* **ProcoagUsage**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | | |
|---|---|---|---|---|
| *Long Name:* | | Prothrombin Complex Concentrate - 3 (PCC-3, ProfilNine-SD) units - Dose 1 | *SeqNo:* | 2888 |
| *Short Name:* | | **ProCmplxCon3Ds1UN** | *Core:* | Yes |
| *Section Name*: | | Operative | *Harvest:* | Yes |
| *DBTableName:* | | Operations | | |
| *Definition:* | | Indicate the first dose in units of Prothrombin Complex Concentrate - 3 (PCC-3, ProfilNine-SD). | | |
| *Low Value:* | 1 | | | |
| *High Value:* | 2000 | | | |
| *Intent / Clarification:* | | | | |
| *Data Source:* | | User | | |
| *Format:* | | Integer | | |
| *ParentLongName:* | | Prothrombin Complex Concentrate - 3 (PCC-3, ProfilNine-SD) Usage | | |
| *ParentShortName:* | | **ProCmplxCon3** | | |
| *ParentHarvestCodes:* | | 1 | | |
| *Parent Value:* | | = "Yes" | | |

---

| | | | | |
|---|---|---|---|---|
| *Long Name:* | | Prothrombin Complex Concentrate - 3 (PCC-3, ProfilNine-SD) units - Dose 2 | *SeqNo:* | 2889 |
| *Short Name:* | | **ProCmplxCon3Ds2UN** | *Core:* | Yes |
| *Section Name*: | | Operative | *Harvest:* | Yes |
| *DBTableName:* | | Operations | | |
| *Definition:* | | Indicate the second dose in units of Prothrombin Complex Concentrate - 3 (PCC-3, ProfilNine-SD). Enter zero if no second dose given. | | |
| *Low Value:* | 0 | | | |
| *High Value:* | 2000 | | | |
| *Intent / Clarification:* | | | | |
| *Data Source:* | | User | | |
| *Format:* | | Integer | | |
| *ParentLongName:* | | Prothrombin Complex Concentrate - 3 (PCC-3, ProfilNine-SD) Usage | | |
| *ParentShortName:* | | **ProCmplxCon3** | | |

*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Prothrombin Complex Concentrate - 3 (PCC-3, ProfilNine-SD) units - Dose 3 *SeqNo:* 2890
*Short Name:* **ProCmplxCon3Ds3UN** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the third dose in units of Prothrombin Complex Concentrate - 3 (PCC-3, ProfilNine-SD). Enter zero if no third dose given.
*Low Value:* 0
*High Value:* 2000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Prothrombin Complex Concentrate - 3 (PCC-3, ProfilNine-SD) units - Dose 2
*ParentShortName:* **ProCmplxCon3Ds2UN**
*ParentHarvestCodes:* >0
*Parent Value:* >0

---

*Long Name:* Octaplex Prothrombin Concentrate Usage *SeqNo:* 2891
*Short Name:* **Octaplex** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether Octaplex Prothrombin Concentrate was administered intraoperatively.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procoagulent Used Intraoperatively
*ParentShortName:* **ProcoagUsage**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |

| | |
|---|---|
| 2 | No |

---

*Long Name:* Octaplex Prothrombin Concentrate Units - Dose 1 *SeqNo:* 2892
*Short Name:* **OctaplexDs1** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the first dose in international units (IU) of Octaplex Prothrombin Concentrate.
*Low Value:* 1
*High Value:* 6000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Octaplex Prothrombin Concentrate Usage
*ParentShortName:* **Octaplex**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Octaplex Prothrombin Concentrate Units - Dose 2 *SeqNo:* 2893
*Short Name:* **OctaplexDs2** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the second dose in international units (IU) of Octaplex Prothrombin Concentrate.
*Low Value:* 0
*High Value:* 6000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Octaplex Prothrombin Concentrate Usage
*ParentShortName:* **Octaplex**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Octaplex Prothrombin Concentrate Units - Dose 3 *SeqNo:* 2894
*Short Name:* **OctaplexDs3** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes

*DBTableName:* Operations
*Definition:* Indicate the third dose in international units (IU) of Octaplex Prothrombin Concentrate.
*Low Value:* 0
*High Value:* 6000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Octaplex Prothrombin Concentrate Units - Dose 2
*ParentShortName:* **OctaplexDs2**
*ParentHarvestCodes:* >0
*Parent Value:* >0

---

*Long Name:* Fibrinogen Concentrate Usage
*Short Name:* **ProcoagFibrin**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate whether Fibrinogen Concentrate was administered intraoperatively.

*SeqNo:* 2895
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procoagulent Used Intraoperatively
*ParentShortName:* **ProcoagUsage**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"
*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Fibrinogen Concentrate mg - Dose 1
*Short Name:* **ProcoagFibrin1MG**
*Section Name*: Operative
*DBTableName:* Operations
*Definition:* Indicate the first dose in mg of fibrinogen concentrate given during this procedure.
*Low Value:* 1
*High Value:* 10000

*SeqNo:* 2896
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Fibrinogen Concentrate Usage
*ParentShortName:* **ProcoagFibrin**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Fibrinogen Concentrate mg - Dose 2 *SeqNo:* 2897
*Short Name:* **ProcoagFibrin2MG** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the second dose in mg of fibrinogen concentrate given during this procedure. Enter zero if no second dose given.
*Low Value:* 0
*High Value:* 10000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Fibrinogen Concentrate Usage
*ParentShortName:* **ProcoagFibrin**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Fibrinogen Concentrate mg - Dose 3 *SeqNo:* 2898
*Short Name:* **ProcoagFibrin3MG** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the third dose in mg of fibrinogen concentrate given during this procedure. Enter zero if no third dose given.
*Low Value:* 0
*High Value:* 10000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Fibrinogen Concentrate mg - Dose 2
*ParentShortName:* **ProcoagFibrin2MG**
*ParentHarvestCodes:* >0

*Parent Value:* >0

---

*Long Name:* Antithrombin 3 (AT3) Concentrate Usage
*SeqNo:* 2899
*Short Name:* **ProcoagAntithrom**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether Antithrombin 3 (AT3) Concentrate was administered intraoperatively.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procoagulent Used Intraoperatively
*ParentShortName:* **ProcoagUsage**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Antithrombin 3 Concentrate units - Dose 1
*SeqNo:* 2900
*Short Name:* **ProcoagAntithrom1**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the first dose in units of antithrombin 3 concentrate given during this procedure.
*Low Value:* 1
*High Value:* 5000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Antithrombin 3 (AT3) Concentrate Usage
*ParentShortName:* **ProcoagAntithrom**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

| | | | |
|---|---|---|---|
| *Long Name:* | Antithrombin 3 Concentrate units - Dose 2 | *SeqNo:* | 2901 |
| *Short Name:* | **ProcoagAntithrom2** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the second dose in units of antithrombin 3 concentrate given during this procedure. Enter zero if no second dose given. | | |
| *Low Value:* | 0 | | |
| *High Value:* | 5000 | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Integer | | |
| *ParentLongName:* | Antithrombin 3 (AT3) Concentrate Usage | | |
| *ParentShortName:* | **ProcoagAntithrom** | | |
| *ParentHarvestCodes:* | 1 | | |
| *Parent Value:* | = "Yes" | | |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Antithrombin 3 Concentrate units - Dose 3 | *SeqNo:* | 2902 |
| *Short Name:* | **ProcoagAntithrom3** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the third dose in units of antithrombin 3 concentrate given during this procedure. Enter zero if no third dose given. | | |
| *Low Value:* | 0 | | |
| *High Value:* | 5000 | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Integer | | |
| *ParentLongName:* | Antithrombin 3 Concentrate units - Dose 2 | | |
| *ParentShortName:* | **ProcoagAntithrom2** | | |
| *ParentHarvestCodes:* | >0 | | |
| *Parent Value:* | >0 | | |

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| | | | |
|---|---|---|---|
| *Long Name:* | Desmopressin (DDAVP) Usage | *SeqNo:* | 2903 |
| *Short Name:* | **ProcoagDesmo** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether Desmopressin (DDAVP) was administered intraoperatively. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procoagulent Used Intraoperatively
*ParentShortName:* **ProcoagUsage**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Desmopressin (DDAVP) mcg - Dose 1 *SeqNo:* 2904
*Short Name:* **ProcoagDesmo1MCG** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the first dose in micrograms of desmopressin (DDAVP) given during this procedure.
*Low Value:* 1
*High Value:* 1000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Desmopressin (DDAVP) Usage
*ParentShortName:* **ProcoagDesmo**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Desmopressin (DDAVP) mcg - Dose 2 *SeqNo:* 2905
*Short Name:* **ProcoagDesmo2MCG** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the second dose in micrograms of desmopressin (DDAVP) given during this procedure. Enter zero if no second dose given.
*Low Value:* 0
*High Value:* 1000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Desmopressin (DDAVP) Usage
*ParentShortName:* **ProcoagDesmo**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Desmopressin (DDAVP) mcg - Dose 3 *SeqNo:* 2906
*Short Name:* **ProcoagDesmo3MCG** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the third dose in micrograms of desmopressin (DDAVP) given during this procedure. Enter zero if no third dose given.
*Low Value:* 0
*High Value:* 1000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Desmopressin (DDAVP) mcg - Dose 2
*ParentShortName:* **ProcoagDesmo2MCG**
*ParentHarvestCodes:* >0
*Parent Value:* >0

---

*Long Name:* Humate P Usage *SeqNo:* 2907
*Short Name:* **ProcoagHumateP** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether Humate P was used during this procedure.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Procoagulent Used Intraoperatively
*ParentShortName:* **ProcoagUsage**
*ParentHarvestCodes:* 1

*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Humate P Units - Dose 1 *SeqNo:* 2908
*Short Name:* **ProcoagHumateP1UN** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the number of units in the first dosage of Humate P.
*Low Value:* 1
*High Value:* 10000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Humate P Usage
*ParentShortName:* **ProcoagHumateP**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Humate P Units - Dose 2 *SeqNo:* 2909
*Short Name:* **ProcoagHumateP2UN** *Core:* Yes
*Section Name*: Operative *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the number of units in the second dosage of Humate P. Enter zero if no second dose given.
*Low Value:* 0
*High Value:* 10000

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Humate P Usage
*ParentShortName:* **ProcoagHumateP**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

| | | | |
|---|---|---|---|
| *Long Name:* | Humate P Units - Dose 3 | *SeqNo:* | 2910 |
| *Short Name:* | **ProcoagHumateP3UN** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the number of units in the third dosage of Humate P. Enter zero if no third dose given. | | |
| *Low Value:* | 0 | | |
| *High Value:* | 10000 | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Integer |
| *ParentLongName:* | Humate P Units - Dose 2 |
| *ParentShortName:* | **ProcoagHumateP2UN** |
| *ParentHarvestCodes:* | >0 |
| *Parent Value:* | >0 |

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| | | | |
|---|---|---|---|
| *Long Name:* | Point Of Care Coagulation Testing Utilized Intraoperatively | *SeqNo:* | 2911 |
| *Short Name:* | **POCCoagTstUtil** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether point of care coagulation testing was utilized intraoperatively. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |

*Harvest Codes:*

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Point Of Care Coagulation Testing - Thromboelastography (TEG) | *SeqNo:* | 2912 |
| *Short Name:* | **POCCoagTstTEG** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether point of care coagulation testing included Thromboelastography (TEG). | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Point Of Care Coagulation Testing Utilized Intraoperatively
*ParentShortName:* **POCCoagTstUtil**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Point Of Care Coagulation Testing - ROTEM
*SeqNo:* 2913
*Short Name:* **POCCoagTstROTEM**
*Core:* Yes
*Section Name*: Operative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether point of care coagulation testing included ROTEM.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Point Of Care Coagulation Testing Utilized Intraoperatively
*ParentShortName:* **POCCoagTstUtil**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Point Of Care Coagulation Testing - Sonoclot
*SeqNo:* 2914

| | | | |
|---|---|---|---|
| *Short Name:* | **POCCoagTstSon** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether point of care coagulation testing included Sonoclot. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Point Of Care Coagulation Testing Utilized Intraoperatively |
| *ParentShortName:* | **POCCoagTstUtil** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Yes" |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Point Of Care Coagulation Testing - Heparin Concentration (Hepcon, HMS) | *SeqNo:* | 2915 |
| *Short Name:* | **POCCoagTstHep** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether point of care coagulation testing included Heparin Concentration (Hepcon, HMS). | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Point Of Care Coagulation Testing Utilized Intraoperatively |
| *ParentShortName:* | **POCCoagTstUtil** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Yes" |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Point Of Care Coagulation Testing - INR/PT/aPTT (iStat or equivalent) | *SeqNo:* | 2916 |
| *Short Name:* | **POCCoagTstINR** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether point of care coagulation testing included INR/PT/aPTT (iStat or equivalent). | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Point Of Care Coagulation Testing Utilized Intraoperatively |
| *ParentShortName:* | **POCCoagTstUtil** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Yes" |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Point Of Care Coagulation Testing - ACT | *SeqNo:* | 2917 |
| *Short Name:* | **POCCoagTstACT** | *Core:* | Yes |
| *Section Name*: | Operative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether point of care coagulation testing was used intraoperatively. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Point Of Care Coagulation Testing Utilized Intraoperatively |
| *ParentShortName:* | **POCCoagTstUtil** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Yes" |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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## CABG Procedures

*Long Name:* CAB
*SeqNo:* 2927
*Short Name:* **OpCAB**
*Core:* Yes
*Section Name*: CABG Procedures
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether coronary artery bypass grafting was done.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|2
*ParentValues:* = "CPB Cardiovascular" or "No CPB Cardiovascular"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Dist Anast - Art #
*SeqNo:* 2928
*Short Name:* **DistArt**
*Core:* Yes
*Section Name*: CABG Procedures
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the total number of distal anastomoses with arterial conduits, whether IMA, radial artery, etc.
*Low Value:* 0
*High Value:* 9

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* CAB

*ParentShortName:* **OpCAB 1**
*ParentHarvestCodes:*
*Parent Value:* = "Yes"

---

*Long Name:* Dist Anast - Vein #
*Short Name:* **DistVein**
*Section Name*: CABG Procedures
*DBTableName:* Operations
*Definition:* Indicate the total number of distal anastomoses with venous conduits.

*SeqNo:* 2929
*Core:* Yes
*Harvest:* Yes

*Low Value:* 0
*High Value:* 9

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* CAB
*ParentShortName:* **OpCAB 1**
*ParentHarvestCodes:*
*Parent Value:* = "Yes"

---

*Long Name:* IMA Artery Used
*Short Name:* **IMAArtUs**
*Section Name*: CABG Procedures
*DBTableName:* Operations
*Definition:* Indicate which, if any, Internal Mammary Artery(ies) (IMA) were used for grafts.

*SeqNo:* 2930
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* CAB
*ParentShortName:* **OpCAB 1**
*ParentHarvestCodes:*
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Left IMA |

| | |
|---|---|
| 2 | Right IMA |
| 3 | Both IMAs |
| 4 | No IMA |

## Valve Procedures

| | | | |
|---|---|---|---|
| *Long Name:* | Valve | *SeqNo:* | 2940 |
| *Short Name:* | **OpValve** | *Core:* | Yes |
| *Section Name*: | Valve Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether a surgical procedure was done on the Aortic, Mitral, Tricuspid, Pulmonic, common AV valve or truncal valve. | | |
| *Intent / Clarification:* | Answer 'yes' if any type of intervention was done on a valve, regardless of whether it was a major part of the operation. | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |
| *ParentLongName:* | Operation Type | | |
| *ParentShortName:* | **OpType** | | |
| *ParentHarvestCodes:* | 1\|2 | | |
| *ParentValues:* | = "CPB Cardiovascular" or "No CPB Cardiovascular" | | |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Valve Device Explanted And/Or Implanted | *SeqNo:* | 3140 |
| *Short Name:* | **ValExImp** | *Core:* | Yes |
| *Section Name*: | Valve Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether a valve device of any type was explanted and/or implanted during this procedure. | | |
| *Intent / Clarification:* | Answer 'yes' for explantation for valve devices only, not native valves. | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |
| *ParentLongName:* | Valve | | |

*ParentShortName:* **OpValve**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | No |
| 2 | Yes, Explanted |
| 3 | Yes, Implanted |
| 4 | Yes, Explanted and Implanted |

---

*Long Name:* Valve Explant Type #1 *SeqNo:* 3150
*Short Name:* **ValExType1** *Core:* Yes
*Section Name*: Valve Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the type of the first valve or device explanted.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Valve Device Explanted And/Or Implanted
*ParentShortName:* **ValExImp**
*ParentHarvestCodes:* 2|4
*ParentValues:* = "Yes, Explanted" or "Yes, Explanted and Implanted"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Mechanical |
| 2 | Bioprosthetic |
| 3 | Homograft/Allograft |
| 4 | Autograft |
| 5 | Annuloplasty band/ring |
| 6 | Mitral clip |
| 7 | Surgeon fashioned |
| 8 | Transcatheter device |
| 9 | Other |

December 2020: For patients undergoing a Ross procedure, should we count the patient's own pulmonary valve as an explant? I know it is not being explanted completely, but it is being explanted from the pulmonic position. **Not necessary as it is inherent in the repair to explant the native valve. The explants are really to collect the explantation of artificial valves.**

---

| | | | |
|---|---|---|---|
| *Long Name:* | Valve Explant Unique Device Identifier (UDI) - 1 | *SeqNo:* | 3151 |
| *Short Name:* | **ValExpUDI1** | *Core:* | Yes |
| *Section Name*: | Valve Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the Unique Device Identifier (UDI) of the first explanted valve device if available, otherwise leave blank. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text |
| *ParentLongName:* | Valve Explant Type #1 |
| *ParentShortName:* | **ValExType1** |
| *ParentHarvestCodes:* | 1\|2\|5\|6\|8\|9 |
| *ParentValues:* | = "Mechanical", "Bioprosthetic", "Annuloplasty band/ring", "Mitral clip", "Transcatheter device" or "Other" |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Valve Explant Model #1 | *SeqNo:* | 3152 |
| *Short Name:* | **ValExMod1** | *Core:* | Yes |
| *Section Name*: | Valve Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the type of the first valve or device explanted. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Valve Explant Type #1 |
| *ParentShortName:* | **ValExType1** |
| *ParentHarvestCodes:* | 1\|2\|5\|6\|8\|9 |
| *ParentValues:* | = "Mechanical", "Bioprosthetic", "Annuloplasty band/ring", "Mitral clip", "Transcatheter device" or "Other" |

Harvest Codes:

| | |
|---|---|
| 201 | 500DM## - Medtronic Open Pivot Standard Mitral Heart Valve |
| 202 | 500FA## - Medtronic Open Pivot Standard Aortic Heart Valve |
| 203 | 501DA## - Medtronic Open Pivot AP Series Aortic Heart Valve |
| 204 | 501DM## - Medtronic Open Pivot AP Series Mitral Heart Valve |
| 205 | 502AG## - Medtronic Open Pivot Aortic Valved Graft (AVG) |
| 206 | 503DA## - Medtronic Open Pivot APex Series Heart Valve |
| 207 | 505DA## - Medtronic Open Pivot AP360 Series Aortic Heart Valve |
| 208 | A010 - CryoLife Ascending Thoracic Aorta |

209 A020 - CryoLife Descending Thoracic Aorta
210 A030 - CryoLife Pulmonary Artery
211 AV00 - CryoLife Aortic Valve and Conduit
212 AV10 - CryoLife Aortic Valve without Conduit
214 PV00 - CryoLife Pulmonary Valve & Conduit
215 PV10 - CryoLife Pulmonary Valve without Conduit
216 R010 - CryoLife Aortoiliac Grafts
217 R020 - CryoLife Femoral Popliteal Artery
218 SGPV00 - CryoLife SG Pulmonary Valve & Conduit
219 SGPV10 - CryoLife SG Pulmonary Valve without Conduit
220 V010 - CryoLife Saphenous Vein
221 V060 - CryoLife Femoral Vein
224 2500## - Edwards Prima Aortic Stentless Bioprosthesis
225 2500P## - Edwards Prima Plus Stentless Aortic Bioprosthesis
226 2625## - Carpentier-Edwards Porcine Aortic Bioprosthesis
227 2650## - Carpentier-Edwards S.A.V. Aortic Porcine Bioprosthesis
228 2700## - Carpentier-Edwards Perimount Pericardial Aortic Bioprosthesis
229 2700TFX## - Carpentier- Edwards Perimount Theon Pericardial Aortic Bioprosthesis with ThermaFix Process
230 2800## - Carpentier-Edwards Perimount RSR Pericardial Aortic Bioprosthesis
231 2800TFX## - Carpentier- Edwards Perimount Theon RSR Pericardial Aortic Bioprosthesis with ThermaFix Process
232 3000## - Carpentier-Edwards Perimount Magna Pericardial Aortic Bioprosthesis
233 3000TFX## - Carpentier- Edwards Perimount Magna Pericardial Aortic Bioprosthesis with ThermaFix Process
234 3160## - Edwards- Duromedics Bileaflet Prostheses
235 3300TFX## - Carpentier- Edwards Perimount Magna Ease Pericardial Aortic Bioprosthesis with ThermaFix Process
236 3600## - Edwards Mira Mechanical Valve
237 3600f## - Edwards Mira Mechanical Valve
238 3600u## - Edwards Mira Mechanical Valve
239 4100## - Carpentier- McCarthy-Adams IMR ETlogix Mitral Annuloplasty Ring
240 4200## - Edwards GeoForm Mitral Annuloplasty Ring
241 4300## - Carpentier-Edwards Bioprosthetic Valved Conduit
242 4400## - Carpentier-Edwards Classic Mitral Annuloplasty Ring
243 4425## - Carpentier-Edwards Classic Mitral Annuloplasty Ring with Duraflo Treatment
244 4450## - Carpentier-Edwards Physio Mitral Annuloplasty Ring
245 4475## - Carpentier-Edwards Physio Annuloplasty Ring with Duraflo Treatment
246 4500## - Carpentier-Edwards Classic Tricuspid Annuloplasty Ring
247 4525## - Carpentier-Edwards Classic Tricuspid Annuloplasty Ring with Duraflo Treatment
248 4600## - Crosgrove-Edwards Mitral/Tricuspid Annuloplasty Ring
249 4625## - Crosgrove-Edwards Annuloplasty System with Duraflo Treatment

250 4900## - Edwards MC3 Tricuspid Annuloplasty System
251 5100## - Edwards DETlogix Mitral Annuloplasty Ring
252 5100M## - Edwards Myxomatous Annuloplasty Ring
253 5200## - Carpentier-Edwards Physio II Mitral Annuloplasty Ring
254 6625## - Carpentier-Edwards Porcine Mitral Bioprosthesis
255 6625-ESR-LP## - Carpentier- Edwards Duraflex Low Pressure Porcine Mitral Bioprosthesis with Extended Suture Ring
256 6625LP## - Carpentier-Edwards Duraflex Low Pressure Porcine Mitral Bioprosthesis
257 6900P## - Carpentier-Edwards Perimount Plus Mitral Pericardial Bioprosthesis
258 6900PTFX## - Carpentier-Edwards Perimount Theon Mitral Pericardial Bioprosthesis with ThermaFix Process
259 7000TFX## - Carpentier-Edwards Perimount Magna Mitral Pericardial Bioprosthesis
260 7200TFX## - Carpentier-Edwards Perimount Magna Mitral Ease Pericardial Bioprosthesis
261 7300TFX## - Carpentier-Edwards Perimount Magna Mitral Ease Pericardial Bioprosthesis with ThermaFix Process
262 9000## - Cribier-Edwards Aortic Bioprosthesis
263 9000PHV## - Cribier-Edwards Aortic Bioprosthesis
264 9000TFX## - Edwards Sapien Transcatheter Heart Valve
265 9120## - Edwards-Duromedics Bileaflet Prostheses
266 9600## - Edwards Mira Mechanical Valve
267 AAL - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Large
268 AAM - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Medium
269 AAS - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Small
270 DLHPA - LifeNet CardioGraft Decellularized Hemi-Pulmonary Artery with Matracell - Left
271 DRHPA - LifeNet CardioGraft Decellularized Hemi- Pulmonary Artery with Matracell - Right
272 HVAL - LifeNet CardioGraft Aortic Heart Valve - Large
273 HVAM - LifeNet CardioGraft Aortic Heart Valve - Medium
274 HVAS - LifeNet CardioGraft Aortic Heart Valve - Small
275 HVPL - LifeNet CardioGraft Pulmonary Heart Valve - Large
276 HVPM - LifeNet CardioGraft Pulmonary Heart Valve - Medium
277 HVPS - LifeNet CardioGraft Pulmonary Heart Valve - Small
278 LHPA - LifeNet CardioGraft Hemi-Pulmonary Artery - Left
279 PAL - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Large
280 PAM - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Medium
281 PAS - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Small
282 RHPA - LifeNet CardioGraft Hemi-Pulmonary Artery - Right
283 TAL - LifeNet CardioGraft Thoracic Aorta Non-valved - Large
284 TAM - LifeNet CardioGraft Thoracic Aorta Non-valved - Medium
286 174A - ## - Medtronic Hancock Apical Left Ventricle Connector
287 200## - Medtronic Contegra Unsupported Pulmonary Valve Conduit
288 200S## - Medtronic Contegra Supported Pulmonary Valve Conduit
289 305C2## - Medtronic Mosaic Standard Cinch - Aortic

290 305U2## - Medtronic Mosaic Ultra Cinch - Aortic
291 310## - Medtronic Mosaic Mitral
292 610B## - Medtronic Duran Band
293 610R## - Medtronic Duran Ring
294 620B## - Medtronic Duran AnCore Band
295 620BG## - Medtronic Duran AnCore Band With Chordal Guide
296 620R## - Medtronic Duran AnCore Ring
297 620RG## - Medtronic Duran Ancore Ring With Chordal Guide
298 638B## - Medtronic CG Future Band
299 638R## - Medtronic CG Future Composite Ring
300 670 - Medtronic Simplici-T Annuloplasty System
301 680R## - Medtronic Profile 3D Ring
302 995CS## - Medtronic Freestyle, Complete Subcoronary - CS
303 995MS## - Medtronic Freestyle, Modified Subcoronary - MS
304 FR995-## - Medtronic Freestyle, Full Root - FR
307 HC105-## - Medtronic Hancock Low-porosity Valved Conduit
308 HC150-## - Medtronic Hancock Modified Orifice Pulmonic Valved Conduit
309 T505C2## - Medtronic Hancock II Aortic Cinch
310 T505U2## - Medtronic Hancock II Ultra Cinch
311 T510C## - Medtronic Hancock II Mitral
312 ONXA## - On-X Aortic Valve with standard sewing ring
313 ONXAC## - On-X Aortic Valve with Conform-X Sewing Ring
314 ONXACE## - On-X Aortic Valve with Conform-X Sewing Ring, extended
315 ONXAE## - On-X Aortic Valve with standard sewing ring, extended
316 ONXM## - On-X Mitral Valve with standard sewing ring
317 ONXMC## - On-X Mitral Valve with Conform-X Sewing Ring
327 LXA## - Sorin Group Mitroflow Aortic Pericardial Heart Valve
328 A5-0## - Sorin Group: Carbomedics Standard Aortic Valve
329 AF-8## - Sorin Group: Carbomedics AnnuloFlex Annuloplasty System
330 AP-0## - Sorin Group: Carbomedics Carbo-Seal Ascending Aortic Prosthesis
331 AR-7## - Sorin Group: Carbomedics AnnuloFlo Annuloplasty System
332 CP-0## - Sorin Group: Carbomedics Carbo-Seal Valsalva Ascending Aortic Prosthesis
333 F7-0## - Sorin Group: Carbomedics OptiForm Mitral Valve
334 M7-0## - Sorin Group: Carbomedics Standard Mitral Valve
335 R5-0## - Sorin Group: Carbomedics Reduced Series Aortic Valve
336 S5-0## - Sorin Group: Carbomedics Top Hat Supra- Annular Aortic Valve
337 ##A-101 - St. Jude Medical Mechanical Aortic Heart Valve
338 ##AEC-102 - St. Jude Medical Mechanical Heart Valve
339 ##AECJ-502 - St. Jude Medical Masters Series Aortic Mechanical Valve, Expanded Cuff
340 ##AECS-602 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
341 ##AEHPJ-505 - St. Jude Medical Masters HP Mechanical Valve, Expanded Cuff
342 ##AEHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating

343 ##AET-104 - St. Jude Medical Mechanical Heart Valve
344 ##AETJ-504 - St. Jude Medical Masters Series Mechanical Heart Valve
345 ##AFHPJ-505 - St. Jude Medical Masters HP Aortic Mechanical Valve, Flex Cuff
346 ##AG-701 - St. Jude Medical Regent Valve with Silzone Coating
347 ##AGF-706 - St. Jude Medical Regent Valve with Silzone Coating
348 ##AGFN-756 - St. Jude Medical Regent Aortic Mechanical Valve, Flex Cuff
349 ##AGN-751 - St. Jude Medical Regent Aortic Mechanical Valve, Standard Cuff
350 ##AHP-105 - St. Jude Medical Mechanical Heart Valve Hemodynamic Plus (HP) Series
351 ##AHPJ-505 - St. Jude Medical Masters HP Aortic Mechanical Heart Valve, Standard Cuff
352 ##AHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
353 ##AJ-501 - St. Jude Medical Masters Series Aortic Mechanical Valve, Standard Cuff
354 ##AS-601 - St. Jude Medical Masters Mechanical Heart Valve with Silzone Coating
355 ##AT-103 - St. Jude Medical Mechanical Heart Valve
356 ##ATJ-503 - St. Jude Medical Masters Series Aortic Mechanical Valve, PTFE Cuff
357 ##CAVG-404 - St. Jude Medical Coated Aortic Valved Graft Prosthesis
358 ##CAVGJ-514 - St. Jude Medical Masters Series Aortic Valved Graft
359 ##CAVGJ-514-00 - St. Jude Medical Masters Aortic Valved Graft, Hemashield Technology
360 ##M-101 - St. Jude Medical Mechanical Mitral Heart Valve
361 ##MEC-102 - St. Jude Medical Mechanical Heart Valve
362 ##MECJ-502 - St. Jude Medical Masters Series Mitral Mechanical Valve, Expanded Cuff
363 ##MECS-602 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
364 ##MEHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
365 ##MET-104 - St. Jude Medical Mechanical Heart Valve
366 ##METJ-504 - St. Jude Medical Masters Series Mitral Mechanical Valve, Expanded PTFE Cuff
367 ##MHP-105 - St. Jude Medical Mechanical Heart Valve Hemodynamic Plus (HP) Series
368 ##MHPJ-505 - St. Jude Medical Masters HP Mitral Mechanical Heart Valve, Standard Cuff
369 ##MHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
370 ##MJ-501 - St. Jude Medical Masters Series Mitral Mechanical Valve, Standard Cuff
371 ##MS-601 - St. Jude Medical Masters Mechanical Heart Valve with Silzone Coating
372 ##MT-103 - St. Jude Medical Mechanical Heart Valve
373 ##MTJ-503 - St. Jude Medical Masters Series Mitral Mechanical Valve, PTFE Cuff
374 ##VAVGJ-515 - St. Jude Medical Masters HP Aortic Valved Graft
375 AFR-## - St. Jude Medical Attune Flexible Adjustable Annuloplasty Ring
376 B10-##A - St. Jude Medical Biocor Aortic Valve
377 B10-##A-00 - St. Jude Medical Biocor Aortic Valve
378 B10-##M - St. Jude Medical Biocor Mitral Valve
379 B10-##M-00 - St. Jude Medical Biocor Mitral Valve
380 B100-##A-00 - St. Jude Medical Biocor Stented Aortic Tissue Valve
381 B100-##M-00 - St. Jude Medical Biocor Stented Mitral Tissue Valve
382 B10SP-## - St. Jude Medical Biocor Supra Stented Porcine Heart Valve
383 B20-0##A - St. Jude Medical Biocor Porcine Stentless Bioprosthetic Heart Valve
384 B30-##A - St. Jude Medical Biocor Valve

385 B30-##M - St. Jude Medical Biocor Valve
386 BSP100-## - St. Jude Medical Biocor Supra Aortic Stented Tissue Valve
387 E100-##A-00 - St. Jude Medical Epic Aortic Stented Tissue Valve
388 E100-##M-00 - St. Jude Medical Epic Mitral Stented Tissue Valve
389 EL-##A - St. Jude Medical Epic Aortic Valve
390 EL-##M - St. Jude Medical Epic Mitral Valve
391 ELS-##A - St. Jude Medical Epic Tissue Aortic Valve with Silzone Coating
392 ELS-##M - St. Jude Medical Epic Tissue Mitral Valve with Silzone Coating
393 ESP100-##-00 - St. Jude Medical Epic Supra Aortic Stented Tissue Valve
394 ESP100-##A-00 - St. Jude Medical Epic Stented Aortic Tissue Valve
395 ROOT-## - St. Jude Medical Toronto Root with BiLinx AC
396 RSAR-## - St. Jude Medical SJM Rigid Saddle Ring
397 SARP-## - St. Jude Medical SJM STguin Semi-Rigid Annuloplasty Ring
398 SARS-M## - St. Jude Medical STguin Annuloplasty Ring with Silzone Coating
399 SPA-101-## - St. Jude Medical Toronto SPV Valve
400 SPA-201-## - St. Jude Medical Toronto SPV II Bioprosthetic Heart Valve
401 TAB-## - St. Jude Medical Tailor Flexible Annuloplasty Band
402 TAR-## - St. Jude Medical Tailor Annuloplasty Ring with Silzone Coating
403 TARP-## - St. Jude Medical Tailor Flexible Annuloplasty Ring
404 PB10-## - Medtronic Melody Transcatheter Pulmonary Valve
405 700FF## - Medtronic Simulus FLX-O Ring
406 700FC## - Medtronic Simulus FLX-C Band
407 735AF## - Medtronic Simulus Adjustable Ring
408 800SR## - Medtronic Simulus Semi-rigid Ring
409 900SFC## - Medtronic TriAd Tricuspid Annuloplasty Ring
410 1000-## - Medtronic 3f Aortic Bioprosthesis
411 6200## - Carpentier-Edwards Physio Tricuspid Annuloplasty Ring
412 9300TFX## - Edwards Sapien Transcatheter Heart Valve
413 305## - Medtronic Mosaic Ultra Porcine Heart Valve
415 TF-##A - St. Jude Medical Trifecta Aortic Stented Tissue Valve
416 505DM## - Medtronic Open Pivot AP360 Series Mitral Heart Valve
417 800SC## - Medtronic Simulus Semi-rigid Mitral Annuloplasty Ring
418 6000-## - Medtronic 3f Enable Aortic Bioprosthesis
419 PH00 - Cryolife Pulmonary Hemi-Artery
420 SGPH00 - Cryolife SG Pulmonary Hemi-Artery
421 690R## - Medtronic Contour 3D Annuloplasty ring
422 735AC## - Medtronic Simulus Adjustable Band
423 9600TFX## - Edwards Sapien Transcatheter Heart Valve
425 H607 - Medtronic post Annuloplasty band (Split, Mayo)
428 ICV08## - Sorin Group Sovering Annuloplasty
429 ICV09## - Sorin Group MEMO 3D Semi-rigid Annuloplasty Ring
432 A1-0## - Sorin Group: Carbomedics Orbis Universal Aortic Valve

433 M2-0## - Sorin Group: Carbomedics Orbis Universal Mitral Valve
434 PF ## - Sorin Group PF ## - Sorin Group Stentless
435 PS ## - Sorin Group Pericarbon More Mitral
436 ART ## SOP - Sorin Group Soprano Armonia
437 ART ## SG - Sorin Group Freedom Solo
438 ART ## LFA- Sorin Group Bicarbon Fitline Aortic
439 MTR ## LFM- Sorin Group Bicarbon Fitline Mitral
440 ART ## LOV- Sorin Group Bicarbon Overline Aortic
441 ART ## LSA- Sorin Group Bicarbon Slimline Aortic
442 8300A## - Edwards Intuity Valve System (outside US)
443 8300AB## - Edwards Intuity Elite Valve System (outside US)
444 8300ACD## - Edwards Intuity Elite Valve System
445 9355NF## - Edwards Sapien XT Transcatheter Valve with NovaFlex System
446 9355ASP## - Edwards Sapien XT Transcatheter Valve with Ascendra System
447 S3TF1## - Edwards Sapien 3 Transcatheter Valve with Commander System
448 S3TA1## - Edwards Sapien 3 Transcatheter Valve with Certitude System
449 CRS-P3-640 – Medtronic CoreValve
450 CRS-P3-943 – Medtronic CoreValve
451 MCS-P3 – Medtronic CoreValve
452 MCS-P4 – Medtronic CoreValve Evolut
453 ONXAN## - On-X Aortic Heart Valve with Anatomic Sewing Ring
454 ONXANE## - On-X Valve with Anatomic Sewing ring and Extended Holder
455 ONXAAP## - On-X Ascending Aortic Prosthesis
456 ICV12## - Sorin Solo Smart Aortic Valve
457 ICV13## - Sorin Group MEMO 3D Rechord Annuloplasty Ring
458 DLA## - Sorin Group Mitroflow Aortic Pericardial Heart Valve with PRT
459 MVC0##- Sorin Group Mitroflow Valsalva Conduit
460 1260 ### - Starr-Edwards Silastic Ball Aortic Heart Valve Prosthesis
461 6120 ### - Starr Edwards Silastic Ball Mitral Heart Valve Prosthesis
462 73##1088 - Vascutek Gelweave Plexus Graft
463 7300##ADP - Vascutek Terumo Gelweave Vascular 45Prosthesis
464 7320## - Vascutek Gelweave Trifucate Arch Graft
465 7350##ST - Vascutek Gelweave Pre-curved Graft
466 8300AB### - Edwards Intuity Elite Valve
467 8300KITB### - Edwards Intuity Elite Valve System
468 9600CM## - Edward Sapien
469 ART##SMT - Sorin Solo Smart
470 CNA19 - Sorin Crown PRT Tissue Valve
471 CNA21 - Sorin Crown PRT Tissue Valve
472 CNA23 - Sorin Crown PRT Tissue Valve
473 CNA25 - Sorin Crown PRT Tissue Valve
474 CNA27 - Sorin Crown PRT Tissue Valve

| | |
|---|---|
| 475 | DPPGK - LifeNet CardioGRAFT Thick Pulmonary Patch (decellularized) |
| 476 | DPPGN – LifeNet CardioGRAFT Thin Pulmonary Patch (decellularized) |
| 477 | EVOLUTR-##-US - Medtronic CoreValve Evolut R |
| 478 | H749LTV##0 - Boston Scientific Lotus Transcatheter Valve |
| 479 | ICV1208 - Sorin Perceval Tissue Valves |
| 480 | ICV1209 - Sorin Perceval Tissue Valves |
| 481 | ICV1210 - Sorin Perceval Tissue Valves |
| 482 | ICV1211 - Sorin Perceval Tissue Valves |
| 483 | ICV1248 - Solo Smart Aortic Tissue Valves |
| 484 | ICV1264 - Solo Smart Aortic Tissue Valves |
| 485 | ICV1265 - Solo Smart Aortic Tissue Valves |
| 486 | ICV1331 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 487 | ICV1332 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 488 | ICV1333 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 489 | ICV1334 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 490 | ICV1335 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 491 | ICV1336 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 492 | ICV1337 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 493 | IVC1247 - Solo Smart Aortic Tissue Valves |
| 494 | LMCP - LifeNet CardioGRAFT Left Mono Cusp Patch |
| 495 | MCP - LifeNet CardioGRAFT Mono Cusp Patch |
| 496 | PPGK - LifeNet CardioGRAFT Thick Pulmonary Patch |
| 497 | PPGN - LifeNet CardioGRAFT Thin Pulmonary Patch |
| 498 | PRT-## - Portico Transcatheter Aortic Valve |
| 499 | RMCP - LifeNet CardioGRAFT Right Mono Cusp Patch |
| 500 | TAS - LifeNet CardioGraft Thoracic Aorta - Small 16mm and less |
| 501 | TFGT-##A - St. Jude Medical Trifecta with Glide Technology (GT) Aortic Stented Tissue Valve |
| 502 | Z65LOTUSKIT## - Lotus Valve Kit |
| 503 | 11500AXX - Edwards Inspiris Resilia Aortic Valve |
| 777 | Other US FDA-Approved Device |
| 778 | Other Non-US FDA- Approved Device |

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| | | | | |
|---|---|---|---|---|
| *Long Name:* | | Valve Explant Device Size #1 | *SeqNo:* | 3153 |
| *Short Name:* | | **ValExDevSz1** | *Core:* | Yes |
| *Section Name*: | | Valve Procedures | *Harvest:* | Yes |
| *DBTableName:* | | Operations | | |
| *Definition:* | | Indicate the size of the first valve or device explanted. | | |
| *Low Value:* | 15 | | | |
| *High Value:* | 33 | | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Valve Explant Type #1
*ParentShortName:* **ValExType1**
*ParentHarvestCodes:* 1|2|5|6|9
*Parent Value:* = "Mechanical", "Bioprosthetic", "Annuloplasty band/ring", "Mitral clip" or "Other"

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*Long Name:* Second Valve Explanted or Device Removed
*Short Name:* **ValEx2**
*Section Name*: Valve Procedures
*DBTableName:* Operations
*Definition:* Indicate whether a second valve or device was explanted.

*SeqNo:* 3160
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Valve Device Explanted And/Or Implanted
*ParentShortName:* **ValExImp**
*ParentHarvestCodes:* 2|4
*ParentValues:* = "Yes, Explanted" or "Yes, Explanted and Implanted"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Valve Explant Type #2
*Short Name:* **ValExType2**
*Section Name*: Valve Procedures

*SeqNo:* 3170
*Core:* Yes
*Harvest:* Yes

*DBTableName:* Operations
*Definition:* Indicate the type of the second valve or device explanted.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Second Valve Explanted or Device Removed
*ParentShortName:* **ValEx2**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Mechanical |
| 2 | Bioprosthetic |
| 3 | Homograft/Allograft |
| 4 | Autograft |
| 5 | Annuloplasty band/ring |
| 6 | Mitral clip |
| 7 | Surgeon fashioned |
| 8 | Transcatheter device |
| 9 | Other |

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*Long Name:* Valve Explant Unique Device Identifier (UDI) - 2
*Short Name:* **ValExpUDI2**
*Section Name*: Valve Procedures
*DBTableName:* Operations
*Definition:* Indicate the Unique Device Identifier (UDI) of the second explanted valve device if available, otherwise leave blank.

*SeqNo:* 3171
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Valve Explant Type #2
*ParentShortName:* **ValExType2**
*ParentHarvestCodes:* 1|2|5|6|8|9
*ParentValues:* = "Mechanical", "Bioprosthetic", "Annuloplasty band/ring", "Mitral clip", "Transcatheter device" or "Other"

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*Long Name:* Valve Explant Model #2
*Short Name:* **ValExMod2**

*SeqNo:* 3172
*Core:* Yes

*Section Name*: Valve Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the type of the second valve or device explanted.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Valve Explant Type #2
*ParentShortName:* **ValExType2**
*ParentHarvestCodes:* 1|2|5|6|8|9
*ParentValues:* = "Mechanical", "Bioprosthetic", "Annuloplasty band/ring", "Mitral clip", "Transcatheter device" or "Other"

Harvest Codes:

| | |
|---|---|
| 201 | 500DM## - Medtronic Open Pivot Standard Mitral Heart Valve |
| 202 | 500FA## - Medtronic Open Pivot Standard Aortic Heart Valve |
| 203 | 501DA## - Medtronic Open Pivot AP Series Aortic Heart Valve |
| 204 | 501DM## - Medtronic Open Pivot AP Series Mitral Heart Valve |
| 205 | 502AG## - Medtronic Open Pivot Aortic Valved Graft (AVG) |
| 206 | 503DA## - Medtronic Open Pivot APex Series Heart Valve |
| 207 | 505DA## - Medtronic Open Pivot AP360 Series Aortic Heart Valve |
| 208 | A010 - CryoLife Ascending Thoracic Aorta |
| 209 | A020 - CryoLife Descending Thoracic Aorta |
| 210 | A030 - CryoLife Pulmonary Artery |
| 211 | AV00 - CryoLife Aortic Valve and Conduit |
| 212 | AV10 - CryoLife Aortic Valve without Conduit |
| 214 | PV00 - CryoLife Pulmonary Valve & Conduit |
| 215 | PV10 - CryoLife Pulmonary Valve without Conduit |
| 216 | R010 - CryoLife Aortoiliac Grafts |
| 217 | R020 - CryoLife Femoral Popliteal Artery |
| 218 | SGPV00 - CryoLife SG Pulmonary Valve & Conduit |
| 219 | SGPV10 - CryoLife SG Pulmonary Valve without Conduit |
| 220 | V010 - CryoLife Saphenous Vein |
| 221 | V060 - CryoLife Femoral Vein |
| 224 | 2500## - Edwards Prima Aortic Stentless Bioprosthesis |
| 225 | 2500P## - Edwards Prima Plus Stentless Aortic Bioprosthesis |
| 226 | 2625## - Carpentier-Edwards Porcine Aortic Bioprosthesis |
| 227 | 2650## - Carpentier-Edwards S.A.V. Aortic Porcine Bioprosthesis |
| 228 | 2700## - Carpentier-Edwards Perimount Pericardial Aortic Bioprosthesis |

229 2700TFX## - Carpentier- Edwards Perimount Theon Pericardial Aortic Bioprosthesis with ThermaFix Process

230 2800## - Carpentier-Edwards Perimount RSR Pericardial Aortic Bioprosthesis

231 2800TFX## - Carpentier- Edwards Perimount Theon RSR Pericardial Aortic Bioprosthesis with ThermaFix Process

232 3000## - Carpentier-Edwards Perimount Magna Pericardial Aortic Bioprosthesis

233 3000TFX## - Carpentier- Edwards Perimount Magna Pericardial Aortic Bioprosthesis with ThermaFix Process

234 3160## - Edwards- Duromedics Bileaflet Prostheses

235 3300TFX## - Carpentier- Edwards Perimount Magna Ease Pericardial Aortic Bioprosthesis with ThermaFix Process

236 3600## - Edwards Mira Mechanical Valve

237 3600f## - Edwards Mira Mechanical Valve

238 3600u## - Edwards Mira Mechanical Valve

239 4100## - Carpentier- McCarthy-Adams IMR ETlogix Mitral Annuloplasty Ring

240 4200## - Edwards GeoForm Mitral Annuloplasty Ring

241 4300## - Carpentier-Edwards Bioprosthetic Valved Conduit

242 4400## - Carpentier-Edwards Classic Mitral Annuloplasty Ring

243 4425## - Carpentier-Edwards Classic Mitral Annuloplasty Ring with Duraflo Treatment

244 4450## - Carpentier-Edwards Physio Mitral Annuloplasty Ring

245 4475## - Carpentier-Edwards Physio Annuloplasty Ring with Duraflo Treatment

246 4500## - Carpentier-Edwards Classic Tricuspid Annuloplasty Ring

247 4525## - Carpentier-Edwards Classic Tricuspid Annuloplasty Ring with Duraflo Treatment

248 4600## - Crosgrove-Edwards Mitral/Tricuspid Annuloplasty Ring

249 4625## - Crosgrove-Edwards Annuloplasty System with Duraflo Treatment

250 4900## - Edwards MC3 Tricuspid Annuloplasty System

251 5100## - Edwards DETlogix Mitral Annuloplasty Ring

252 5100M## - Edwards Myxomatous Annuloplasty Ring

253 5200## - Carpentier-Edwards Physio II Mitral Annuloplasty Ring

254 6625## - Carpentier-Edwards Porcine Mitral Bioprosthesis

255 6625-ESR-LP## - Carpentier- Edwards Duraflex Low Pressure Porcine Mitral Bioprosthesis with Extended Suture Ring

256 6625LP## - Carpentier-Edwards Duraflex Low Pressure Porcine Mitral Bioprosthesis

257 6900P## - Carpentier-Edwards Perimount Plus Mitral Pericardial Bioprosthesis

258 6900PTFX## - Carpentier-Edwards Perimount Theon Mitral Pericardial Bioprosthesis with ThermaFix Process

259 7000TFX## - Carpentier-Edwards Perimount Magna Mitral Pericardial Bioprosthesis

260 7200TFX## - Carpentier-Edwards Perimount Magna Mitral Ease Pericardial Bioprosthesis

261 7300TFX## - Carpentier-Edwards Perimount Magna Mitral Ease Pericardial Bioprosthesis with ThermaFix Process

262 9000## - Cribier-Edwards Aortic Bioprosthesis

263 9000PHV## - Cribier-Edwards Aortic Bioprosthesis
264 9000TFX## - Edwards Sapien Transcatheter Heart Valve
265 9120## - Edwards-Duromedics Bileaflet Prostheses
266 9600## - Edwards Mira Mechanical Valve
267 AAL - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Large
268 AAM - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Medium
269 AAS - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Small
270 DLHPA - LifeNet CardioGraft Decellularized Hemi-Pulmonary Artery with Matracell - Left
271 DRHPA - LifeNet CardioGraft Decellularized Hemi- Pulmonary Artery with Matracell - Right
272 HVAL - LifeNet CardioGraft Aortic Heart Valve - Large
273 HVAM - LifeNet CardioGraft Aortic Heart Valve - Medium
274 HVAS - LifeNet CardioGraft Aortic Heart Valve - Small
275 HVPL - LifeNet CardioGraft Pulmonary Heart Valve - Large
276 HVPM - LifeNet CardioGraft Pulmonary Heart Valve - Medium
277 HVPS - LifeNet CardioGraft Pulmonary Heart Valve - Small
278 LHPA - LifeNet CardioGraft Hemi-Pulmonary Artery - Left
279 PAL - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Large
280 PAM - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Medium
281 PAS - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Small
282 RHPA - LifeNet CardioGraft Hemi-Pulmonary Artery - Right
283 TAL - LifeNet CardioGraft Thoracic Aorta Non-valved - Large
284 TAM - LifeNet CardioGraft Thoracic Aorta Non-valved - Medium
286 174A - ## - Medtronic Hancock Apical Left Ventricle Connector
287 200## - Medtronic Contegra Unsupported Pulmonary Valve Conduit
288 200S## - Medtronic Contegra Supported Pulmonary Valve Conduit
289 305C2## - Medtronic Mosaic Standard Cinch - Aortic
290 305U2## - Medtronic Mosaic Ultra Cinch - Aortic
291 310## - Medtronic Mosaic Mitral
292 610B## - Medtronic Duran Band
293 610R## - Medtronic Duran Ring
294 620B## - Medtronic Duran AnCore Band
295 620BG## - Medtronic Duran AnCore Band With Chordal Guide
296 620R## - Medtronic Duran AnCore Ring
297 620RG## - Medtronic Duran Ancore Ring With Chordal Guide
298 638B## - Medtronic CG Future Band
299 638R## - Medtronic CG Future Composite Ring
300 670 - Medtronic Simplici-T Annuloplasty System
301 680R## - Medtronic Profile 3D Ring
302 995CS## - Medtronic Freestyle, Complete Subcoronary - CS

303 995MS## - Medtronic Freestyle, Modified Subcoronary - MS
304 FR995-## - Medtronic Freestyle, Full Root - FR
307 HC105-## - Medtronic Hancock Low-porosity Valved Conduit
308 HC150-## - Medtronic Hancock Modified Orifice Pulmonic Valved Conduit
309 T505C2## - Medtronic Hancock II Aortic Cinch
310 T505U2## - Medtronic Hancock II Ultra Cinch
311 T510C## - Medtronic Hancock II Mitral
312 ONXA## - On-X Aortic Valve with standard sewing ring
313 ONXAC## - On-X Aortic Valve with Conform-X Sewing Ring
314 ONXACE## - On-X Aortic Valve with Conform-X Sewing Ring, extended
315 ONXAE## - On-X Aortic Valve with standard sewing ring, extended
316 ONXM## - On-X Mitral Valve with standard sewing ring
317 ONXMC## - On-X Mitral Valve with Conform-X Sewing Ring
327 LXA## - Sorin Group Mitroflow Aortic Pericardial Heart Valve
328 A5-0## - Sorin Group: Carbomedics Standard Aortic Valve
329 AF-8## - Sorin Group: Carbomedics AnnuloFlex Annuloplasty System
330 AP-0## - Sorin Group: Carbomedics Carbo-Seal Ascending Aortic Prosthesis
331 AR-7## - Sorin Group: Carbomedics AnnuloFlo Annuloplasty System
332 CP-0## - Sorin Group: Carbomedics Carbo-Seal Valsalva Ascending Aortic Prosthesis
333 F7-0## - Sorin Group: Carbomedics OptiForm Mitral Valve
334 M7-0## - Sorin Group: Carbomedics Standard Mitral Valve
335 R5-0## - Sorin Group: Carbomedics Reduced Series Aortic Valve
336 S5-0## - Sorin Group: Carbomedics Top Hat Supra- Annular Aortic Valve
337 ##A-101 - St. Jude Medical Mechanical Aortic Heart Valve
338 ##AEC-102 - St. Jude Medical Mechanical Heart Valve
339 ##AECJ-502 - St. Jude Medical Masters Series Aortic Mechanical Valve, Expanded Cuff
340 ##AECS-602 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
341 ##AEHPJ-505 - St. Jude Medical Masters HP Mechanical Valve, Expanded Cuff
342 ##AEHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
343 ##AET-104 - St. Jude Medical Mechanical Heart Valve
344 ##AETJ-504 - St. Jude Medical Masters Series Mechanical Heart Valve
345 ##AFHPJ-505 - St. Jude Medical Masters HP Aortic Mechanical Valve, Flex Cuff
346 ##AG-701 - St. Jude Medical Regent Valve with Silzone Coating
347 ##AGF-706 - St. Jude Medical Regent Valve with Silzone Coating
348 ##AGFN-756 - St. Jude Medical Regent Aortic Mechanical Valve, Flex Cuff
349 ##AGN-751 - St. Jude Medical Regent Aortic Mechanical Valve, Standard Cuff
350 ##AHP-105 - St. Jude Medical Mechanical Heart Valve Hemodynamic Plus (HP) Series
351 ##AHPJ-505 - St. Jude Medical Masters HP Aortic Mechanical Heart Valve, Standard Cuff
352 ##AHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating

353 ##AJ-501 - St. Jude Medical Masters Series Aortic Mechanical Valve, Standard Cuff
354 ##AS-601 - St. Jude Medical Masters Mechanical Heart Valve with Silzone Coating
355 ##AT-103 - St. Jude Medical Mechanical Heart Valve
356 ##ATJ-503 - St. Jude Medical Masters Series Aortic Mechanical Valve, PTFE Cuff
357 ##CAVG-404 - St. Jude Medical Coated Aortic Valved Graft Prosthesis
358 ##CAVGJ-514 - St. Jude Medical Masters Series Aortic Valved Graft
359 ##CAVGJ-514-00 - St. Jude Medical Masters Aortic Valved Graft, Hemashield Technology
360 ##M-101 - St. Jude Medical Mechanical Mitral Heart Valve
361 ##MEC-102 - St. Jude Medical Mechanical Heart Valve
362 ##MECJ-502 - St. Jude Medical Masters Series Mitral Mechanical Valve, Expanded Cuff
363 ##MECS-602 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
364 ##MEHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
365 ##MET-104 - St. Jude Medical Mechanical Heart Valve
366 ##METJ-504 - St. Jude Medical Masters Series Mitral Mechanical Valve, Expanded PTFE Cuff
367 ##MHP-105 - St. Jude Medical Mechanical Heart Valve Hemodynamic Plus (HP) Series
368 ##MHPJ-505 - St. Jude Medical Masters HP Mitral Mechanical Heart Valve, Standard Cuff
369 ##MHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
370 ##MJ-501 - St. Jude Medical Masters Series Mitral Mechanical Valve, Standard Cuff
371 ##MS-601 - St. Jude Medical Masters Mechanical Heart Valve with Silzone Coating
372 ##MT-103 - St. Jude Medical Mechanical Heart Valve
373 ##MTJ-503 - St. Jude Medical Masters Series Mitral Mechanical Valve, PTFE Cuff
374 ##VAVGJ-515 - St. Jude Medical Masters HP Aortic Valved Graft
375 AFR-## - St. Jude Medical Attune Flexible Adjustable Annuloplasty Ring
376 B10-##A - St. Jude Medical Biocor Aortic Valve
377 B10-##A-00 - St. Jude Medical Biocor Aortic Valve
378 B10-##M - St. Jude Medical Biocor Mitral Valve
379 B10-##M-00 - St. Jude Medical Biocor Mitral Valve
380 B100-##A-00 - St. Jude Medical Biocor Stented Aortic Tissue Valve
381 B100-##M-00 - St. Jude Medical Biocor Stented Mitral Tissue Valve
382 B10SP-## - St. Jude Medical Biocor Supra Stented Porcine Heart Valve
383 B20-0##A - St. Jude Medical Biocor Porcine Stentless Bioprosthetic Heart Valve
384 B30-##A - St. Jude Medical Biocor Valve
385 B30-##M - St. Jude Medical Biocor Valve
386 BSP100-## - St. Jude Medical Biocor Supra Aortic Stented Tissue Valve
387 E100-##A-00 - St. Jude Medical Epic Aortic Stented Tissue Valve
388 E100-##M-00 - St. Jude Medical Epic Mitral Stented Tissue Valve
389 EL-##A - St. Jude Medical Epic Aortic Valve
390 EL-##M - St. Jude Medical Epic Mitral Valve
391 ELS-##A - St. Jude Medical Epic Tissue Aortic Valve with Silzone Coating

392 ELS-##M - St. Jude Medical Epic Tissue Mitral Valve with Silzone Coating
393 ESP100-##-00 - St. Jude Medical Epic Supra Aortic Stented Tissue Valve
394 ESP100-##A-00 - St. Jude Medical Epic Stented Aortic Tissue Valve
395 ROOT-## - St. Jude Medical Toronto Root with BiLinx AC
396 RSAR-## - St. Jude Medical SJM Rigid Saddle Ring
397 SARP-## - St. Jude Medical SJM STguin Semi-Rigid Annuloplasty Ring
398 SARS-M## - St. Jude Medical STguin Annuloplasty Ring with Silzone Coating
399 SPA-101-## - St. Jude Medical Toronto SPV Valve
400 SPA-201-## - St. Jude Medical Toronto SPV II Bioprosthetic Heart Valve
401 TAB-## - St. Jude Medical Tailor Flexible Annuloplasty Band
402 TAR-## - St. Jude Medical Tailor Annuloplasty Ring with Silzone Coating
403 TARP-## - St. Jude Medical Tailor Flexible Annuloplasty Ring
404 PB10-## - Medtronic Melody Transcatheter Pulmonary Valve
405 700FF## - Medtronic Simulus FLX-O Ring
406 700FC## - Medtronic Simulus FLX-C Band
407 735AF## - Medtronic Simulus Adjustable Ring
408 800SR## - Medtronic Simulus Semi-rigid Ring
409 900SFC## - Medtronic TriAd Tricuspid Annuloplasty Ring
410 1000-## - Medtronic 3f Aortic Bioprosthesis
411 6200## - Carpentier-Edwards Physio Tricuspid Annuloplasty Ring
412 9300TFX## - Edwards Sapien Transcatheter Heart Valve
413 305## - Medtronic Mosaic Ultra Porcine Heart Valve
415 TF-##A - St. Jude Medical Trifecta Aortic Stented Tissue Valve
416 505DM## - Medtronic Open Pivot AP360 Series Mitral Heart Valve
417 800SC## - Medtronic Simulus Semi-rigid Mitral Annuloplasty Ring
418 6000-## - Medtronic 3f Enable Aortic Bioprosthesis
419 PH00 - Cryolife Pulmonary Hemi-Artery
420 SGPH00 - Cryolife SG Pulmonary Hemi-Artery
421 690R## - Medtronic Contour 3D Annuloplasty ring
422 735AC## - Medtronic Simulus Adjustable Band
423 9600TFX## - Edwards Sapien Transcatheter Heart Valve
425 H607 - Medtronic post Annuloplasty band (Split, Mayo)
428 ICV08## - Sorin Group Sovering Annuloplasty
429 ICV09## - Sorin Group MEMO 3D Semi-rigid Annuloplasty Ring
432 A1-0## - Sorin Group: Carbomedics Orbis Universal Aortic Valve
433 M2-0## - Sorin Group: Carbomedics Orbis Universal Mitral Valve
434 PF ## - Sorin Group PF ## - Sorin Group Stentless
435 PS ## - Sorin Group Pericarbon More Mitral
436 ART ## SOP - Sorin Group Soprano Armonia

437 ART ## SG - Sorin Group Freedom Solo
438 ART ## LFA- Sorin Group Bicarbon Fitline Aortic
439 MTR ## LFM- Sorin Group Bicarbon Fitline Mitral
440 ART ## LOV- Sorin Group Bicarbon Overline Aortic
441 ART ## LSA- Sorin Group Bicarbon Slimline Aortic
442 8300A## - Edwards Intuity Valve System (outside US)
443 8300AB## - Edwards Intuity Elite Valve System (outside US)
444 8300ACD## - Edwards Intuity Elite Valve System
445 9355NF## - Edwards Sapien XT Transcatheter Valve with NovaFlex System
446 9355ASP## - Edwards Sapien XT Transcatheter Valve with Ascendra System
447 S3TF1## - Edwards Sapien 3 Transcatheter Valve with Commander System
448 S3TA1## - Edwards Sapien 3 Transcatheter Valve with Certitude System
449 CRS-P3-640 – Medtronic CoreValve
450 CRS-P3-943 – Medtronic CoreValve
451 MCS-P3 – Medtronic CoreValve
452 MCS-P4 – Medtronic CoreValve Evolut
453 ONXAN## - On-X Aortic Heart Valve with Anatomic Sewing Ring
454 ONXANE## - On-X Valve with Anatomic Sewing ring and Extended Holder
455 ONXAAP## - On-X Ascending Aortic Prosthesis
456 ICV12## - Sorin Solo Smart Aortic Valve
457 ICV13## - Sorin Group MEMO 3D Rechord Annuloplasty Ring
458 DLA## - Sorin Group Mitroflow Aortic Pericardial Heart Valve with PRT
459 MVC0##- Sorin Group Mitroflow Valsalva Conduit
460 1260 ### - Starr-Edwards Silastic Ball Aortic Heart Valve Prosthesis
461 6120 ### - Starr Edwards Silastic Ball Mitral Heart Valve Prosthesis
462 73##1088 - Vascutek Gelweave Plexus Graft
463 7300##ADP - Vascutek Terumo Gelweave Vascular 45Prosthesis
464 7320## - Vascutek Gelweave Trifucate Arch Graft
465 7350##ST - Vascutek Gelweave Pre-curved Graft
466 8300AB### - Edwards Intuity Elite Valve
467 8300KITB### - Edwards Intuity Elite Valve System
468 9600CM## - Edward Sapien
469 ART##SMT - Sorin Solo Smart
470 CNA19 - Sorin Crown PRT Tissue Valve
471 CNA21 - Sorin Crown PRT Tissue Valve
472 CNA23 - Sorin Crown PRT Tissue Valve
473 CNA25 - Sorin Crown PRT Tissue Valve
474 CNA27 - Sorin Crown PRT Tissue Valve
475 DPPGK - LifeNet CardioGRAFT Thick Pulmonary Patch (decellularized)

| | |
|---|---|
| 476 | DPPGN – LifeNet CardioGRAFT Thin Pulmonary Patch (decellularized) |
| 477 | EVOLUTR-##-US - Medtronic CoreValve Evolut R |
| 478 | H749LTV##0 - Boston Scientific Lotus Transcatheter Valve |
| 479 | ICV1208 - Sorin Perceval Tissue Valves |
| 480 | ICV1209 - Sorin Perceval Tissue Valves |
| 481 | ICV1210 - Sorin Perceval Tissue Valves |
| 482 | ICV1211 - Sorin Perceval Tissue Valves |
| 483 | ICV1248 - Solo Smart Aortic Tissue Valves |
| 484 | ICV1264 - Solo Smart Aortic Tissue Valves |
| 485 | ICV1265 - Solo Smart Aortic Tissue Valves |
| 486 | ICV1331 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 487 | ICV1332 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 488 | ICV1333 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 489 | ICV1334 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 490 | ICV1335 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 491 | ICV1336 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 492 | ICV1337 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 493 | IVC1247 - Solo Smart Aortic Tissue Valves |
| 494 | LMCP - LifeNet CardioGRAFT Left Mono Cusp Patch |
| 495 | MCP - LifeNet CardioGRAFT Mono Cusp Patch |
| 496 | PPGK - LifeNet CardioGRAFT Thick Pulmonary Patch |
| 497 | PPGN - LifeNet CardioGRAFT Thin Pulmonary Patch |
| 498 | PRT-## - Portico Transcatheter Aortic Valve |
| 499 | RMCP - LifeNet CardioGRAFT Right Mono Cusp Patch |
| 500 | TAS - LifeNet CardioGraft Thoracic Aorta - Small 16mm and less |
| 501 | TFGT-##A - St. Jude Medical Trifecta with Glide Technology (GT) Aortic Stented Tissue Valve |
| 502 | Z65LOTUSKIT## - Lotus Valve Kit |
| 503 | 11500AXX - Edwards Inspiris Resilia Aortic Valve |
| 777 | Other US FDA-Approved Device |
| 778 | Other Non-US FDA- Approved Device |

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| | | | | | |
|---|---|---|---|---|---|
| *Long Name:* | | Valve Explant Device Size #2 | *SeqNo:* | 3173 |
| *Short Name:* | | **ValExDevSz2** | *Core:* | Yes |
| *Section Name*: | | Valve Procedures | *Harvest:* | Yes |
| *DBTableName:* | | Operations | | |
| *Definition:* | | Indicate the size of the second valve or device explanted. | | |
| *Low Value:* | 15 | | | |
| *High Value:* | 33 | | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Valve Explant Type #2
*ParentShortName:* **ValExType2**
*ParentHarvestCodes:* 1|2|5|6|9
*Parent Value:* = "Mechanical", "Bioprosthetic", "Annuloplasty band/ring", "Mitral clip" or "Other"

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*Long Name:* Third Valve Explanted or Device Removed
*Short Name:* **ValEx3**
*Section Name*: Valve Procedures
*DBTableName:* Operations
*Definition:* Indicate whether a third valve or device was explanted.

*SeqNo:* 3180
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Second Valve Explanted or Device Removed
*ParentShortName:* **ValEx2**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Valve Explant Type #3
*Short Name:* **ValExType3**
*Section Name*: Valve Procedures
*DBTableName:* Operations
*Definition:* Indicate the type of the third valve or device explanted.

*SeqNo:* 3190
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User

*Format:* Text (categorical values specified by STS)

*ParentLongName:* Third Valve Explanted or Device Removed
*ParentShortName:* **ValEx3**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"
Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Mechanical |
| 2 | Bioprosthetic |
| 3 | Homograft/Allograft |
| 4 | Autograft |
| 5 | Annuloplasty band/ring |
| 6 | Mitral clip |
| 7 | Surgeon fashioned |
| 8 | Transcatheter device |
| 9 | Other |

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*Long Name:* Valve Explant Unique Device Identifier (UDI) - 3 *SeqNo:* 3191
*Short Name:* **ValExpUDI3** *Core:* Yes
*Section Name*: Valve Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the Unique Device Identifier (UDI) of the third explanted valve device if available, otherwise leave blank.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text

*ParentLongName:* Valve Explant Type #3
*ParentShortName:* **ValExType3**
*ParentHarvestCodes:* 1|2|5|6|8|9
*Parent Value:* = "Mechanical", "Bioprosthetic", "Annuloplasty band/ring", "Mitral clip" or "Other"

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*Long Name:* Valve Explant Model #3 *SeqNo:* 3192
*Short Name:* **ValExMod3** *Core:* Yes
*Section Name*: Valve Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the type of the third valve or device explanted.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Valve Explant Type #3
*ParentShortName:* **ValExType3**
*ParentHarvestCodes:* 1|2|5|6|8|9
*Parent Value:* = "Mechanical", "Bioprosthetic", "Annuloplasty band/ring", "Mitral clip" or "Other"

Harvest Codes:

| | |
|---|---|
| 201 | 500DM## - Medtronic Open Pivot Standard Mitral Heart Valve |
| 202 | 500FA## - Medtronic Open Pivot Standard Aortic Heart Valve |
| 203 | 501DA## - Medtronic Open Pivot AP Series Aortic Heart Valve |
| 204 | 501DM## - Medtronic Open Pivot AP Series Mitral Heart Valve |
| 205 | 502AG## - Medtronic Open Pivot Aortic Valved Graft (AVG) |
| 206 | 503DA## - Medtronic Open Pivot APex Series Heart Valve |
| 207 | 505DA## - Medtronic Open Pivot AP360 Series Aortic Heart Valve |
| 208 | A010 - CryoLife Ascending Thoracic Aorta |
| 209 | A020 - CryoLife Descending Thoracic Aorta |
| 210 | A030 - CryoLife Pulmonary Artery |
| 211 | AV00 - CryoLife Aortic Valve and Conduit |
| 212 | AV10 - CryoLife Aortic Valve without Conduit |
| 214 | PV00 - CryoLife Pulmonary Valve & Conduit |
| 215 | PV10 - CryoLife Pulmonary Valve without Conduit |
| 216 | R010 - CryoLife Aortoiliac Grafts |
| 217 | R020 - CryoLife Femoral Popliteal Artery |
| 218 | SGPV00 - CryoLife SG Pulmonary Valve & Conduit |
| 219 | SGPV10 - CryoLife SG Pulmonary Valve without Conduit |
| 220 | V010 - CryoLife Saphenous Vein |
| 221 | V060 - CryoLife Femoral Vein |
| 224 | 2500## - Edwards Prima Aortic Stentless Bioprosthesis |
| 225 | 2500P## - Edwards Prima Plus Stentless Aortic Bioprosthesis |
| 226 | 2625## - Carpentier-Edwards Porcine Aortic Bioprosthesis |
| 227 | 2650## - Carpentier-Edwards S.A.V. Aortic Porcine Bioprosthesis |
| 228 | 2700## - Carpentier-Edwards Perimount Pericardial Aortic Bioprosthesis |
| 229 | 2700TFX## - Carpentier- Edwards Perimount Theon Pericardial Aortic Bioprosthesis with ThermaFix Process |
| 230 | 2800## - Carpentier-Edwards Perimount RSR Pericardial Aortic Bioprosthesis |
| 231 | 2800TFX## - Carpentier- Edwards Perimount Theon RSR Pericardial Aortic Bioprosthesis with ThermaFix Process |
| 232 | 3000## - Carpentier-Edwards Perimount Magna Pericardial Aortic Bioprosthesis |
| 233 | 3000TFX## - Carpentier- Edwards Perimount Magna Pericardial Aortic Bioprosthesis with ThermaFix Process |
| 234 | 3160## - Edwards- Duromedics Bileaflet Prostheses |

235 3300TFX## - Carpentier- Edwards Perimount Magna Ease Pericardial Aortic Bioprosthesis with ThermaFix Process
236 3600## - Edwards Mira Mechanical Valve
237 3600f## - Edwards Mira Mechanical Valve
238 3600u## - Edwards Mira Mechanical Valve
239 4100## - Carpentier- McCarthy-Adams IMR ETlogix Mitral Annuloplasty Ring
240 4200## - Edwards GeoForm Mitral Annuloplasty Ring
241 4300## - Carpentier-Edwards Bioprosthetic Valved Conduit
242 4400## - Carpentier-Edwards Classic Mitral Annuloplasty Ring
243 4425## - Carpentier-Edwards Classic Mitral Annuloplasty Ring with Duraflo Treatment
244 4450## - Carpentier-Edwards Physio Mitral Annuloplasty Ring
245 4475## - Carpentier-Edwards Physio Annuloplasty Ring with Duraflo Treatment
246 4500## - Carpentier-Edwards Classic Tricuspid Annuloplasty Ring
247 4525## - Carpentier-Edwards Classic Tricuspid Annuloplasty Ring with Duraflo Treatment
248 4600## - Crosgrove-Edwards Mitral/Tricuspid Annuloplasty Ring
249 4625## - Crosgrove-Edwards Annuloplasty System with Duraflo Treatment
250 4900## - Edwards MC3 Tricuspid Annuloplasty System
251 5100## - Edwards DETlogix Mitral Annuloplasty Ring
252 5100M## - Edwards Myxomatous Annuloplasty Ring
253 5200## - Carpentier-Edwards Physio II Mitral Annuloplasty Ring
254 6625## - Carpentier-Edwards Porcine Mitral Bioprosthesis
255 6625-ESR-LP## - Carpentier- Edwards Duraflex Low Pressure Porcine Mitral Bioprosthesis with Extended Suture Ring
256 6625LP## - Carpentier-Edwards Duraflex Low Pressure Porcine Mitral Bioprosthesis
257 6900P## - Carpentier-Edwards Perimount Plus Mitral Pericardial Bioprosthesis
258 6900PTFX## - Carpentier-Edwards Perimount Theon Mitral Pericardial Bioprosthesis with ThermaFix Process
259 7000TFX## - Carpentier-Edwards Perimount Magna Mitral Pericardial Bioprosthesis
260 7200TFX## - Carpentier-Edwards Perimount Magna Mitral Ease Pericardial Bioprosthesis
261 7300TFX## - Carpentier-Edwards Perimount Magna Mitral Ease Pericardial Bioprosthesis with ThermaFix Process
262 9000## - Cribier-Edwards Aortic Bioprosthesis
263 9000PHV## - Cribier-Edwards Aortic Bioprosthesis
264 9000TFX## - Edwards Sapien Transcatheter Heart Valve
265 9120## - Edwards-Duromedics Bileaflet Prostheses
266 9600## - Edwards Mira Mechanical Valve
267 AAL - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Large
268 AAM - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Medium
269 AAS - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Small
270 DLHPA - LifeNet CardioGraft Decellularized Hemi-Pulmonary Artery with Matracell - Left
271 DRHPA - LifeNet CardioGraft Decellularized Hemi- Pulmonary Artery with Matracell - Right
272 HVAL - LifeNet CardioGraft Aortic Heart Valve - Large

273 HVAM - LifeNet CardioGraft Aortic Heart Valve - Medium
274 HVAS - LifeNet CardioGraft Aortic Heart Valve - Small
275 HVPL - LifeNet CardioGraft Pulmonary Heart Valve - Large
276 HVPM - LifeNet CardioGraft Pulmonary Heart Valve - Medium
277 HVPS - LifeNet CardioGraft Pulmonary Heart Valve - Small
278 LHPA - LifeNet CardioGraft Hemi-Pulmonary Artery - Left
279 PAL - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Large
280 PAM - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Medium
281 PAS - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Small
282 RHPA - LifeNet CardioGraft Hemi-Pulmonary Artery - Right
283 TAL - LifeNet CardioGraft Thoracic Aorta Non-valved - Large
284 TAM - LifeNet CardioGraft Thoracic Aorta Non-valved - Medium
286 174A - ## - Medtronic Hancock Apical Left Ventricle Connector
287 200## - Medtronic Contegra Unsupported Pulmonary Valve Conduit
288 200S## - Medtronic Contegra Supported Pulmonary Valve Conduit
289 305C2## - Medtronic Mosaic Standard Cinch - Aortic
290 305U2## - Medtronic Mosaic Ultra Cinch - Aortic
291 310## - Medtronic Mosaic Mitral
292 610B## - Medtronic Duran Band
293 610R## - Medtronic Duran Ring
294 620B## - Medtronic Duran AnCore Band
295 620BG## - Medtronic Duran AnCore Band With Chordal Guide
296 620R## - Medtronic Duran AnCore Ring
297 620RG## - Medtronic Duran Ancore Ring With Chordal Guide
298 638B## - Medtronic CG Future Band
299 638R## - Medtronic CG Future Composite Ring
300 670 - Medtronic Simplici-T Annuloplasty System
301 680R## - Medtronic Profile 3D Ring
302 995CS## - Medtronic Freestyle, Complete Subcoronary - CS
303 995MS## - Medtronic Freestyle, Modified Subcoronary - MS
304 FR995-## - Medtronic Freestyle, Full Root - FR
307 HC105-## - Medtronic Hancock Low-porosity Valved Conduit
308 HC150-## - Medtronic Hancock Modified Orifice Pulmonic Valved Conduit
309 T505C2## - Medtronic Hancock II Aortic Cinch
310 T505U2## - Medtronic Hancock II Ultra Cinch
311 T510C## - Medtronic Hancock II Mitral
312 ONXA## - On-X Aortic Valve with standard sewing ring
313 ONXAC## - On-X Aortic Valve with Conform-X Sewing Ring
314 ONXACE## - On-X Aortic Valve with Conform-X Sewing Ring, extended
315 ONXAE## - On-X Aortic Valve with standard sewing ring, extended
316 ONXM## - On-X Mitral Valve with standard sewing ring
317 ONXMC## - On-X Mitral Valve with Conform-X Sewing Ring

LXA## - Sorin Group Mitroflow Aortic Pericardial Heart Valve
A5-0## - Sorin Group: Carbomedics Standard Aortic Valve
AF-8## - Sorin Group: Carbomedics AnnuloFlex Annuloplasty System
AP-0## - Sorin Group: Carbomedics Carbo-Seal Ascending Aortic Prosthesis
AR-7## - Sorin Group: Carbomedics AnnuloFlo Annuloplasty System
CP-0## - Sorin Group: Carbomedics Carbo-Seal Valsalva Ascending Aortic Prosthesis
F7-0## - Sorin Group: Carbomedics OptiForm Mitral Valve
M7-0## - Sorin Group: Carbomedics Standard Mitral Valve
R5-0## - Sorin Group: Carbomedics Reduced Series Aortic Valve
S5-0## - Sorin Group: Carbomedics Top Hat Supra- Annular Aortic Valve
##A-101 - St. Jude Medical Mechanical Aortic Heart Valve
##AEC-102 - St. Jude Medical Mechanical Heart Valve
##AECJ-502 - St. Jude Medical Masters Series Aortic Mechanical Valve, Expanded Cuff
##AECS-602 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
##AEHPJ-505 - St. Jude Medical Masters HP Mechanical Valve, Expanded Cuff
##AEHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
##AET-104 - St. Jude Medical Mechanical Heart Valve
##AETJ-504 - St. Jude Medical Masters Series Mechanical Heart Valve
##AFHPJ-505 - St. Jude Medical Masters HP Aortic Mechanical Valve, Flex Cuff
##AG-701 - St. Jude Medical Regent Valve with Silzone Coating
##AGF-706 - St. Jude Medical Regent Valve with Silzone Coating
##AGFN-756 - St. Jude Medical Regent Aortic Mechanical Valve, Flex Cuff
##AGN-751 - St. Jude Medical Regent Aortic Mechanical Valve, Standard Cuff
##AHP-105 - St. Jude Medical Mechanical Heart Valve Hemodynamic Plus (HP) Series
##AHPJ-505 - St. Jude Medical Masters HP Aortic Mechanical Heart Valve, Standard Cuff
##AHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
##AJ-501 - St. Jude Medical Masters Series Aortic Mechanical Valve, Standard Cuff
##AS-601 - St. Jude Medical Masters Mechanical Heart Valve with Silzone Coating
##AT-103 - St. Jude Medical Mechanical Heart Valve
##ATJ-503 - St. Jude Medical Masters Series Aortic Mechanical Valve, PTFE Cuff
##CAVG-404 - St. Jude Medical Coated Aortic Valved Graft Prosthesis
##CAVGJ-514 - St. Jude Medical Masters Series Aortic Valved Graft
##CAVGJ-514-00 - St. Jude Medical Masters Aortic Valved Graft, Hemashield Technology
##M-101 - St. Jude Medical Mechanical Mitral Heart Valve
##MEC-102 - St. Jude Medical Mechanical Heart Valve
##MECJ-502 - St. Jude Medical Masters Series Mitral Mechanical Valve, Expanded Cuff
##MECS-602 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
##MEHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
##MET-104 - St. Jude Medical Mechanical Heart Valve
##METJ-504 - St. Jude Medical Masters Series Mitral Mechanical Valve, Expanded PTFE Cuff
##MHP-105 - St. Jude Medical Mechanical Heart Valve Hemodynamic Plus (HP) Series
##MHPJ-505 - St. Jude Medical Masters HP Mitral Mechanical Heart Valve, Standard Cuff

369 ##MHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
370 ##MJ-501 - St. Jude Medical Masters Series Mitral Mechanical Valve, Standard Cuff
371 ##MS-601 - St. Jude Medical Masters Mechanical Heart Valve with Silzone Coating
372 ##MT-103 - St. Jude Medical Mechanical Heart Valve
373 ##MTJ-503 - St. Jude Medical Masters Series Mitral Mechanical Valve, PTFE Cuff
374 ##VAVGJ-515 - St. Jude Medical Masters HP Aortic Valved Graft
375 AFR-## - St. Jude Medical Attune Flexible Adjustable Annuloplasty Ring
376 B10-##A - St. Jude Medical Biocor Aortic Valve
377 B10-##A-00 - St. Jude Medical Biocor Aortic Valve
378 B10-##M - St. Jude Medical Biocor Mitral Valve
379 B10-##M-00 - St. Jude Medical Biocor Mitral Valve
380 B100-##A-00 - St. Jude Medical Biocor Stented Aortic Tissue Valve
381 B100-##M-00 - St. Jude Medical Biocor Stented Mitral Tissue Valve
382 B10SP-## - St. Jude Medical Biocor Supra Stented Porcine Heart Valve
383 B20-0##A - St. Jude Medical Biocor Porcine Stentless Bioprosthetic Heart Valve
384 B30-##A - St. Jude Medical Biocor Valve
385 B30-##M - St. Jude Medical Biocor Valve
386 BSP100-## - St. Jude Medical Biocor Supra Aortic Stented Tissue Valve
387 E100-##A-00 - St. Jude Medical Epic Aortic Stented Tissue Valve
388 E100-##M-00 - St. Jude Medical Epic Mitral Stented Tissue Valve
389 EL-##A - St. Jude Medical Epic Aortic Valve
390 EL-##M - St. Jude Medical Epic Mitral Valve
391 ELS-##A - St. Jude Medical Epic Tissue Aortic Valve with Silzone Coating
392 ELS-##M - St. Jude Medical Epic Tissue Mitral Valve with Silzone Coating
393 ESP100-##-00 - St. Jude Medical Epic Supra Aortic Stented Tissue Valve
394 ESP100-##A-00 - St. Jude Medical Epic Stented Aortic Tissue Valve
395 ROOT-## - St. Jude Medical Toronto Root with BiLinx AC
396 RSAR-## - St. Jude Medical SJM Rigid Saddle Ring
397 SARP-## - St. Jude Medical SJM STguin Semi-Rigid Annuloplasty Ring
398 SARS-M## - St. Jude Medical STguin Annuloplasty Ring with Silzone Coating
399 SPA-101-## - St. Jude Medical Toronto SPV Valve
400 SPA-201-## - St. Jude Medical Toronto SPV II Bioprosthetic Heart Valve
401 TAB-## - St. Jude Medical Tailor Flexible Annuloplasty Band
402 TAR-## - St. Jude Medical Tailor Annuloplasty Ring with Silzone Coating
403 TARP-## - St. Jude Medical Tailor Flexible Annuloplasty Ring
404 PB10-## - Medtronic Melody Transcatheter Pulmonary Valve
405 700FF## - Medtronic Simulus FLX-O Ring
406 700FC## - Medtronic Simulus FLX-C Band
407 735AF## - Medtronic Simulus Adjustable Ring
408 800SR## - Medtronic Simulus Semi-rigid Ring
409 900SFC## - Medtronic TriAd Tricuspid Annuloplasty Ring
410 1000-## - Medtronic 3f Aortic Bioprosthesis

411 6200## - Carpentier-Edwards Physio Tricuspid Annuloplasty Ring
412 9300TFX## - Edwards Sapien Transcatheter Heart Valve
413 305## - Medtronic Mosaic Ultra Porcine Heart Valve
415 TF-##A - St. Jude Medical Trifecta Aortic Stented Tissue Valve
416 505DM## - Medtronic Open Pivot AP360 Series Mitral Heart Valve
417 800SC## - Medtronic Simulus Semi-rigid Mitral Annuloplasty Ring
418 6000-## - Medtronic 3f Enable Aortic Bioprosthesis
419 PH00 - Cryolife Pulmonary Hemi-Artery
420 SGPH00 - Cryolife SG Pulmonary Hemi-Artery
421 690R## - Medtronic Contour 3D Annuloplasty ring
422 735AC## - Medtronic Simulus Adjustable Band
423 9600TFX## - Edwards Sapien Transcatheter Heart Valve
425 H607 - Medtronic post Annuloplasty band (Split, Mayo)
428 ICV08## - Sorin Group Sovering Annuloplasty
429 ICV09## - Sorin Group MEMO 3D Semi-rigid Annuloplasty Ring
432 A1-0## - Sorin Group: Carbomedics Orbis Universal Aortic Valve
433 M2-0## - Sorin Group: Carbomedics Orbis Universal Mitral Valve
434 PF ## - Sorin Group PF ## - Sorin Group Stentless
435 PS ## - Sorin Group Pericarbon More Mitral
436 ART ## SOP - Sorin Group Soprano Armonia
437 ART ## SG - Sorin Group Freedom Solo
438 ART ## LFA- Sorin Group Bicarbon Fitline Aortic
439 MTR ## LFM- Sorin Group Bicarbon Fitline Mitral
440 ART ## LOV- Sorin Group Bicarbon Overline Aortic
441 ART ## LSA- Sorin Group Bicarbon Slimline Aortic
442 8300A## - Edwards Intuity Valve System (outside US)
443 8300AB## - Edwards Intuity Elite Valve System (outside US)
444 8300ACD## - Edwards Intuity Elite Valve System
445 9355NF## - Edwards Sapien XT Transcatheter Valve with NovaFlex System
446 9355ASP## - Edwards Sapien XT Transcatheter Valve with Ascendra System
447 S3TF1## - Edwards Sapien 3 Transcatheter Valve with Commander System
448 S3TA1## - Edwards Sapien 3 Transcatheter Valve with Certitude System
449 CRS-P3-640 – Medtronic CoreValve
450 CRS-P3-943 – Medtronic CoreValve
451 MCS-P3 – Medtronic CoreValve
452 MCS-P4 – Medtronic CoreValve Evolut
453 ONXAN## - On-X Aortic Heart Valve with Anatomic Sewing Ring
454 ONXANE## - On-X Valve with Anatomic Sewing ring and Extended Holder
455 ONXAAP## - On-X Ascending Aortic Prosthesis
456 ICV12## - Sorin Solo Smart Aortic Valve
457 ICV13## - Sorin Group MEMO 3D Rechord Annuloplasty Ring
458 DLA## - Sorin Group Mitroflow Aortic Pericardial Heart Valve with PRT

459 MVC0##- Sorin Group Mitroflow Valsalva Conduit
460 1260 ### - Starr-Edwards Silastic Ball Aortic Heart Valve Prosthesis
461 6120 ### - Starr Edwards Silastic Ball Mitral Heart Valve Prosthesis
462 73##1088 - Vascutek Gelweave Plexus Graft
463 7300##ADP - Vascutek Terumo Gelweave Vascular 45Prosthesis
464 7320## - Vascutek Gelweave Trifucate Arch Graft
465 7350##ST - Vascutek Gelweave Pre-curved Graft
466 8300AB### - Edwards Intuity Elite Valve
467 8300KITB### - Edwards Intuity Elite Valve System
468 9600CM## - Edward Sapien
469 ART##SMT - Sorin Solo Smart
470 CNA19 - Sorin Crown PRT Tissue Valve
471 CNA21 - Sorin Crown PRT Tissue Valve
472 CNA23 - Sorin Crown PRT Tissue Valve
473 CNA25 - Sorin Crown PRT Tissue Valve
474 CNA27 - Sorin Crown PRT Tissue Valve
475 DPPGK - LifeNet CardioGRAFT Thick Pulmonary Patch (decellularized)
476 DPPGN – LifeNet CardioGRAFT Thin Pulmonary Patch (decellularized)
477 EVOLUTR-##-US - Medtronic CoreValve Evolut R
478 H749LTV##0 - Boston Scientific Lotus Transcatheter Valve
479 ICV1208 - Sorin Perceval Tissue Valves
480 ICV1209 - Sorin Perceval Tissue Valves
481 ICV1210 - Sorin Perceval Tissue Valves
482 ICV1211 - Sorin Perceval Tissue Valves
483 ICV1248 - Solo Smart Aortic Tissue Valves
484 ICV1264 - Solo Smart Aortic Tissue Valves
485 ICV1265 - Solo Smart Aortic Tissue Valves
486 ICV1331 - Sorin MEMO 3D RECHORD Annuloplasty Ring
487 ICV1332 - Sorin MEMO 3D RECHORD Annuloplasty Ring
488 ICV1333 - Sorin MEMO 3D RECHORD Annuloplasty Ring
489 ICV1334 - Sorin MEMO 3D RECHORD Annuloplasty Ring
490 ICV1335 - Sorin MEMO 3D RECHORD Annuloplasty Ring
491 ICV1336 - Sorin MEMO 3D RECHORD Annuloplasty Ring
492 ICV1337 - Sorin MEMO 3D RECHORD Annuloplasty Ring
493 IVC1247 - Solo Smart Aortic Tissue Valves
494 LMCP - LifeNet CardioGRAFT Left Mono Cusp Patch
495 MCP - LifeNet CardioGRAFT Mono Cusp Patch
496 PPGK - LifeNet CardioGRAFT Thick Pulmonary Patch
497 PPGN - LifeNet CardioGRAFT Thin Pulmonary Patch
498 PRT-## - Portico Transcatheter Aortic Valve
499 RMCP - LifeNet CardioGRAFT Right Mono Cusp Patch

| | |
|---|---|
| 500 | TAS - LifeNet CardioGraft Thoracic Aorta - Small 16mm and less |
| 501 | TFGT-##A - St. Jude Medical Trifecta with Glide Technology (GT) Aortic Stented Tissue Valve |
| 502 | Z65LOTUSKIT## - Lotus Valve Kit |
| 503 | 11500AXX - Edwards Inspiris Resilia Aortic Valve |
| 777 | Other US FDA-Approved Device |
| 778 | Other Non-US FDA- Approved Device |

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*Long Name:* Valve Explant Device Size #3 *SeqNo:* 3193
*Short Name:* **ValExDevSz3** *Core:* Yes
*Section Name*: Valve Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the size of the third valve or device explanted.
*Low Value:* 15
*High Value:* 33

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Valve Explant Type #3
*ParentShortName:* **ValExType3**
*ParentHarvestCodes:* 1|2|5|6|9
*Parent Value:* = "Mechanical", "Bioprosthetic", "Annuloplasty band/ring", "Mitral clip" or "Other"

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*Long Name:* Fourth Valve Explanted or Device Removed *SeqNo:* 3200
*Short Name:* **ValEx4** *Core:* Yes
*Section Name*: Valve Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether a fourth valve or device was explanted.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Third Valve Explanted or Device Removed
*ParentShortName:* **ValEx3**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Valve Explant Type #4 *SeqNo:* 3210
*Short Name:* **ValExType4** *Core:* Yes
*Section Name*: Valve Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the type of the fourth valve or device explanted.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Fourth Valve Explanted or Device Removed
*ParentShortName:* **ValEx4**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Mechanical |
| 2 | Bioprosthetic |
| 3 | Homograft/Allograft |
| 4 | Autograft |
| 5 | Annuloplasty band/ring |
| 6 | Mitral clip |
| 7 | Surgeon fashioned |
| 8 | Transcatheter device |
| 9 | Other |

---

*Long Name:* Valve Explant Unique Device Identifier (UDI) - 4 *SeqNo:* 3211
*Short Name:* **ValExpUDI4** *Core:* Yes
*Section Name*: Valve Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the Unique Device Identifier (UDI) of the fourth explanted valve device if available, otherwise leave blank.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text

*ParentLongName:* Valve Explant Type #4
*ParentShortName:* **ValExType4**
*ParentHarvestCodes:* 1|2|5|6|8|9
*ParentValues:* = "Mechanical", "Bioprosthetic", "Annuloplasty band/ring", "Mitral clip", "Transcatheter device" or "Other"

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*Long Name:* Valve Explant Model #4 *SeqNo:* 3212
*Short Name:* **ValexMod4** *Core:* Yes
*Section Name*: Valve Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the type of the fourth valve or device explanted.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Valve Explant Type #4
*ParentShortName:* **ValExType4**
*ParentHarvestCodes:* 1|2|5|6|8|9
*ParentValues:* = "Mechanical", "Bioprosthetic", "Annuloplasty band/ring", "Mitral clip", "Transcatheter device" or "Other"

Harvest Codes:

| | |
|---|---|
| 201 | 500DM## - Medtronic Open Pivot Standard Mitral Heart Valve |
| 202 | 500FA## - Medtronic Open Pivot Standard Aortic Heart Valve |
| 203 | 501DA## - Medtronic Open Pivot AP Series Aortic Heart Valve |
| 204 | 501DM## - Medtronic Open Pivot AP Series Mitral Heart Valve |
| 205 | 502AG## - Medtronic Open Pivot Aortic Valved Graft (AVG) |
| 206 | 503DA## - Medtronic Open Pivot APex Series Heart Valve |
| 207 | 505DA## - Medtronic Open Pivot AP360 Series Aortic Heart Valve |
| 208 | A010 - CryoLife Ascending Thoracic Aorta |
| 209 | A020 - CryoLife Descending Thoracic Aorta |
| 210 | A030 - CryoLife Pulmonary Artery |
| 211 | AV00 - CryoLife Aortic Valve and Conduit |
| 212 | AV10 - CryoLife Aortic Valve without Conduit |
| 214 | PV00 - CryoLife Pulmonary Valve & Conduit |
| 215 | PV10 - CryoLife Pulmonary Valve without Conduit |
| 216 | R010 - CryoLife Aortoiliac Grafts |
| 217 | R020 - CryoLife Femoral Popliteal Artery |

218 SGPV00 - CryoLife SG Pulmonary Valve & Conduit
219 SGPV10 - CryoLife SG Pulmonary Valve without Conduit
220 V010 - CryoLife Saphenous Vein
221 V060 - CryoLife Femoral Vein
224 2500## - Edwards Prima Aortic Stentless Bioprosthesis
225 2500P## - Edwards Prima Plus Stentless Aortic Bioprosthesis
226 2625## - Carpentier-Edwards Porcine Aortic Bioprosthesis
227 2650## - Carpentier-Edwards S.A.V. Aortic Porcine Bioprosthesis
228 2700## - Carpentier-Edwards Perimount Pericardial Aortic Bioprosthesis
229 2700TFX## - Carpentier- Edwards Perimount Theon Pericardial Aortic Bioprosthesis with ThermaFix Process
230 2800## - Carpentier-Edwards Perimount RSR Pericardial Aortic Bioprosthesis
231 2800TFX## - Carpentier- Edwards Perimount Theon RSR Pericardial Aortic Bioprosthesis with ThermaFix Process
232 3000## - Carpentier-Edwards Perimount Magna Pericardial Aortic Bioprosthesis
233 3000TFX## - Carpentier- Edwards Perimount Magna Pericardial Aortic Bioprosthesis with ThermaFix Process
234 3160## - Edwards- Duromedics Bileaflet Prostheses
235 3300TFX## - Carpentier- Edwards Perimount Magna Ease Pericardial Aortic Bioprosthesis with ThermaFix Process
236 3600## - Edwards Mira Mechanical Valve
237 3600f## - Edwards Mira Mechanical Valve
238 3600u## - Edwards Mira Mechanical Valve
239 4100## - Carpentier- McCarthy-Adams IMR ETlogix Mitral Annuloplasty Ring
240 4200## - Edwards GeoForm Mitral Annuloplasty Ring
241 4300## - Carpentier-Edwards Bioprosthetic Valved Conduit
242 4400## - Carpentier-Edwards Classic Mitral Annuloplasty Ring
243 4425## - Carpentier-Edwards Classic Mitral Annuloplasty Ring with Duraflo Treatment
244 4450## - Carpentier-Edwards Physio Mitral Annuloplasty Ring
245 4475## - Carpentier-Edwards Physio Annuloplasty Ring with Duraflo Treatment
246 4500## - Carpentier-Edwards Classic Tricuspid Annuloplasty Ring
247 4525## - Carpentier-Edwards Classic Tricuspid Annuloplasty Ring with Duraflo Treatment
248 4600## - Crosgrove-Edwards Mitral/Tricuspid Annuloplasty Ring
249 4625## - Crosgrove-Edwards Annuloplasty System with Duraflo Treatment
250 4900## - Edwards MC3 Tricuspid Annuloplasty System
251 5100## - Edwards DETlogix Mitral Annuloplasty Ring
252 5100M## - Edwards Myxomatous Annuloplasty Ring
253 5200## - Carpentier-Edwards Physio II Mitral Annuloplasty Ring
254 6625## - Carpentier-Edwards Porcine Mitral Bioprosthesis
255 6625-ESR-LP## - Carpentier- Edwards Duraflex Low Pressure Porcine Mitral Bioprosthesis with Extended Suture Ring
256 6625LP## - Carpentier-Edwards Duraflex Low Pressure Porcine Mitral Bioprosthesis

257 6900P## - Carpentier-Edwards Perimount Plus Mitral Pericardial Bioprosthesis
258 6900PTFX## - Carpentier-Edwards Perimount Theon Mitral Pericardial Bioprosthesis with ThermaFix Process
259 7000TFX## - Carpentier-Edwards Perimount Magna Mitral Pericardial Bioprosthesis
260 7200TFX## - Carpentier-Edwards Perimount Magna Mitral Ease Pericardial Bioprosthesis
261 7300TFX## - Carpentier-Edwards Perimount Magna Mitral Ease Pericardial Bioprosthesis with ThermaFix Process
262 9000## - Cribier-Edwards Aortic Bioprosthesis
263 9000PHV## - Cribier-Edwards Aortic Bioprosthesis
264 9000TFX## - Edwards Sapien Transcatheter Heart Valve
265 9120## - Edwards-Duromedics Bileaflet Prostheses
266 9600## - Edwards Mira Mechanical Valve
267 AAL - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Large
268 AAM - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Medium
269 AAS - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Small
270 DLHPA - LifeNet CardioGraft Decellularized Hemi-Pulmonary Artery with Matracell - Left
271 DRHPA - LifeNet CardioGraft Decellularized Hemi- Pulmonary Artery with Matracell - Right
272 HVAL - LifeNet CardioGraft Aortic Heart Valve - Large
273 HVAM - LifeNet CardioGraft Aortic Heart Valve - Medium
274 HVAS - LifeNet CardioGraft Aortic Heart Valve - Small
275 HVPL - LifeNet CardioGraft Pulmonary Heart Valve - Large
276 HVPM - LifeNet CardioGraft Pulmonary Heart Valve - Medium
277 HVPS - LifeNet CardioGraft Pulmonary Heart Valve - Small
278 LHPA - LifeNet CardioGraft Hemi-Pulmonary Artery - Left
279 PAL - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Large
280 PAM - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Medium
281 PAS - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Small
282 RHPA - LifeNet CardioGraft Hemi-Pulmonary Artery - Right
283 TAL - LifeNet CardioGraft Thoracic Aorta Non-valved - Large
284 TAM - LifeNet CardioGraft Thoracic Aorta Non-valved - Medium
286 174A - ## - Medtronic Hancock Apical Left Ventricle Connector
287 200## - Medtronic Contegra Unsupported Pulmonary Valve Conduit
288 200S## - Medtronic Contegra Supported Pulmonary Valve Conduit
289 305C2## - Medtronic Mosaic Standard Cinch - Aortic
290 305U2## - Medtronic Mosaic Ultra Cinch - Aortic
291 310## - Medtronic Mosaic Mitral
292 610B## - Medtronic Duran Band
293 610R## - Medtronic Duran Ring
294 620B## - Medtronic Duran AnCore Band
295 620BG## - Medtronic Duran AnCore Band With Chordal Guide
296 620R## - Medtronic Duran AnCore Ring
297 620RG## - Medtronic Duran Ancore Ring With Chordal Guide

298 638B## - Medtronic CG Future Band
299 638R## - Medtronic CG Future Composite Ring
300 670 - Medtronic Simplici-T Annuloplasty System
301 680R## - Medtronic Profile 3D Ring
302 995CS## - Medtronic Freestyle, Complete Subcoronary - CS
303 995MS## - Medtronic Freestyle, Modified Subcoronary - MS
304 FR995-## - Medtronic Freestyle, Full Root - FR
307 HC105-## - Medtronic Hancock Low-porosity Valved Conduit
308 HC150-## - Medtronic Hancock Modified Orifice Pulmonic Valved Conduit
309 T505C2## - Medtronic Hancock II Aortic Cinch
310 T505U2## - Medtronic Hancock II Ultra Cinch
311 T510C## - Medtronic Hancock II Mitral
312 ONXA## - On-X Aortic Valve with standard sewing ring
313 ONXAC## - On-X Aortic Valve with Conform-X Sewing Ring
314 ONXACE## - On-X Aortic Valve with Conform-X Sewing Ring, extended
315 ONXAE## - On-X Aortic Valve with standard sewing ring, extended
316 ONXM## - On-X Mitral Valve with standard sewing ring
317 ONXMC## - On-X Mitral Valve with Conform-X Sewing Ring
327 LXA## - Sorin Group Mitroflow Aortic Pericardial Heart Valve
328 A5-0## - Sorin Group: Carbomedics Standard Aortic Valve
329 AF-8## - Sorin Group: Carbomedics AnnuloFlex Annuloplasty System
330 AP-0## - Sorin Group: Carbomedics Carbo-Seal Ascending Aortic Prosthesis
331 AR-7## - Sorin Group: Carbomedics AnnuloFlo Annuloplasty System
332 CP-0## - Sorin Group: Carbomedics Carbo-Seal Valsalva Ascending Aortic Prosthesis
333 F7-0## - Sorin Group: Carbomedics OptiForm Mitral Valve
334 M7-0## - Sorin Group: Carbomedics Standard Mitral Valve
335 R5-0## - Sorin Group: Carbomedics Reduced Series Aortic Valve
336 S5-0## - Sorin Group: Carbomedics Top Hat Supra- Annular Aortic Valve
337 ##A-101 - St. Jude Medical Mechanical Aortic Heart Valve
338 ##AEC-102 - St. Jude Medical Mechanical Heart Valve
339 ##AECJ-502 - St. Jude Medical Masters Series Aortic Mechanical Valve, Expanded Cuff
340 ##AECS-602 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
341 ##AEHPJ-505 - St. Jude Medical Masters HP Mechanical Valve, Expanded Cuff
342 ##AEHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
343 ##AET-104 - St. Jude Medical Mechanical Heart Valve
344 ##AETJ-504 - St. Jude Medical Masters Series Mechanical Heart Valve
345 ##AFHPJ-505 - St. Jude Medical Masters HP Aortic Mechanical Valve, Flex Cuff
346 ##AG-701 - St. Jude Medical Regent Valve with Silzone Coating
347 ##AGF-706 - St. Jude Medical Regent Valve with Silzone Coating
348 ##AGFN-756 - St. Jude Medical Regent Aortic Mechanical Valve, Flex Cuff
349 ##AGN-751 - St. Jude Medical Regent Aortic Mechanical Valve, Standard Cuff
350 ##AHP-105 - St. Jude Medical Mechanical Heart Valve Hemodynamic Plus (HP) Series

##AHPJ-505 - St. Jude Medical Masters HP Aortic Mechanical Heart Valve, Standard Cuff
##AHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
##AJ-501 - St. Jude Medical Masters Series Aortic Mechanical Valve, Standard Cuff
##AS-601 - St. Jude Medical Masters Mechanical Heart Valve with Silzone Coating
##AT-103 - St. Jude Medical Mechanical Heart Valve
##ATJ-503 - St. Jude Medical Masters Series Aortic Mechanical Valve, PTFE Cuff
##CAVG-404 - St. Jude Medical Coated Aortic Valved Graft Prosthesis
##CAVGJ-514 - St. Jude Medical Masters Series Aortic Valved Graft
##CAVGJ-514-00 - St. Jude Medical Masters Aortic Valved Graft, Hemashield Technology
##M-101 - St. Jude Medical Mechanical Mitral Heart Valve
##MEC-102 - St. Jude Medical Mechanical Heart Valve
##MECJ-502 - St. Jude Medical Masters Series Mitral Mechanical Valve, Expanded Cuff
##MECS-602 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
##MEHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
##MET-104 - St. Jude Medical Mechanical Heart Valve
##METJ-504 - St. Jude Medical Masters Series Mitral Mechanical Valve, Expanded PTFE Cuff
##MHP-105 - St. Jude Medical Mechanical Heart Valve Hemodynamic Plus (HP) Series
##MHPJ-505 - St. Jude Medical Masters HP Mitral Mechanical Heart Valve, Standard Cuff
##MHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
##MJ-501 - St. Jude Medical Masters Series Mitral Mechanical Valve, Standard Cuff
##MS-601 - St. Jude Medical Masters Mechanical Heart Valve with Silzone Coating
##MT-103 - St. Jude Medical Mechanical Heart Valve
##MTJ-503 - St. Jude Medical Masters Series Mitral Mechanical Valve, PTFE Cuff
##VAVGJ-515 - St. Jude Medical Masters HP Aortic Valved Graft
AFR-## - St. Jude Medical Attune Flexible Adjustable Annuloplasty Ring
B10-##A - St. Jude Medical Biocor Aortic Valve
B10-##A-00 - St. Jude Medical Biocor Aortic Valve
B10-##M - St. Jude Medical Biocor Mitral Valve
B10-##M-00 - St. Jude Medical Biocor Mitral Valve
B100-##A-00 - St. Jude Medical Biocor Stented Aortic Tissue Valve
B100-##M-00 - St. Jude Medical Biocor Stented Mitral Tissue Valve
B10SP-## - St. Jude Medical Biocor Supra Stented Porcine Heart Valve
B20-0##A - St. Jude Medical Biocor Porcine Stentless Bioprosthetic Heart Valve
B30-##A - St. Jude Medical Biocor Valve
B30-##M - St. Jude Medical Biocor Valve
BSP100-## - St. Jude Medical Biocor Supra Aortic Stented Tissue Valve
E100-##A-00 - St. Jude Medical Epic Aortic Stented Tissue Valve
E100-##M-00 - St. Jude Medical Epic Mitral Stented Tissue Valve
EL-##A - St. Jude Medical Epic Aortic Valve
EL-##M - St. Jude Medical Epic Mitral Valve
ELS-##A - St. Jude Medical Epic Tissue Aortic Valve with Silzone Coating
ELS-##M - St. Jude Medical Epic Tissue Mitral Valve with Silzone Coating

393 ESP100-##-00 - St. Jude Medical Epic Supra Aortic Stented Tissue Valve
394 ESP100-##A-00 - St. Jude Medical Epic Stented Aortic Tissue Valve
395 ROOT-## - St. Jude Medical Toronto Root with BiLinx AC
396 RSAR-## - St. Jude Medical SJM Rigid Saddle Ring
397 SARP-## - St. Jude Medical SJM STguin Semi-Rigid Annuloplasty Ring
398 SARS-M## - St. Jude Medical STguin Annuloplasty Ring with Silzone Coating
399 SPA-101-## - St. Jude Medical Toronto SPV Valve
400 SPA-201-## - St. Jude Medical Toronto SPV II Bioprosthetic Heart Valve
401 TAB-## - St. Jude Medical Tailor Flexible Annuloplasty Band
402 TAR-## - St. Jude Medical Tailor Annuloplasty Ring with Silzone Coating
403 TARP-## - St. Jude Medical Tailor Flexible Annuloplasty Ring
404 PB10-## - Medtronic Melody Transcatheter Pulmonary Valve
405 700FF## - Medtronic Simulus FLX-O Ring
406 700FC## - Medtronic Simulus FLX-C Band
407 735AF## - Medtronic Simulus Adjustable Ring
408 800SR## - Medtronic Simulus Semi-rigid Ring
409 900SFC## - Medtronic TriAd Tricuspid Annuloplasty Ring
410 1000-## - Medtronic 3f Aortic Bioprosthesis
411 6200## - Carpentier-Edwards Physio Tricuspid Annuloplasty Ring
412 9300TFX## - Edwards Sapien Transcatheter Heart Valve
413 305## - Medtronic Mosaic Ultra Porcine Heart Valve
415 TF-##A - St. Jude Medical Trifecta Aortic Stented Tissue Valve
416 505DM## - Medtronic Open Pivot AP360 Series Mitral Heart Valve
417 800SC## - Medtronic Simulus Semi-rigid Mitral Annuloplasty Ring
418 6000-## - Medtronic 3f Enable Aortic Bioprosthesis
419 PH00 - Cryolife Pulmonary Hemi-Artery
420 SGPH00 - Cryolife SG Pulmonary Hemi-Artery
421 690R## - Medtronic Contour 3D Annuloplasty ring
422 735AC## - Medtronic Simulus Adjustable Band
423 9600TFX## - Edwards Sapien Transcatheter Heart Valve
425 H607 - Medtronic post Annuloplasty band (Split, Mayo)
428 ICV08## - Sorin Group Sovering Annuloplasty
429 ICV09## - Sorin Group MEMO 3D Semi-rigid Annuloplasty Ring
432 A1-0## - Sorin Group: Carbomedics Orbis Universal Aortic Valve
433 M2-0## - Sorin Group: Carbomedics Orbis Universal Mitral Valve
434 PF ## - Sorin Group PF ## - Sorin Group Stentless
435 PS ## - Sorin Group Pericarbon More Mitral
436 ART ## SOP - Sorin Group Soprano Armonia
437 ART ## SG - Sorin Group Freedom Solo
438 ART ## LFA- Sorin Group Bicarbon Fitline Aortic
439 MTR ## LFM- Sorin Group Bicarbon Fitline Mitral
440 ART ## LOV- Sorin Group Bicarbon Overline Aortic

441 ART ## LSA- Sorin Group Bicarbon Slimline Aortic
442 8300A## - Edwards Intuity Valve System (outside US)
443 8300AB## - Edwards Intuity Elite Valve System (outside US)
444 8300ACD## - Edwards Intuity Elite Valve System
445 9355NF## - Edwards Sapien XT Transcatheter Valve with NovaFlex System
446 9355ASP## - Edwards Sapien XT Transcatheter Valve with Ascendra System
447 S3TF1## - Edwards Sapien 3 Transcatheter Valve with Commander System
448 S3TA1## - Edwards Sapien 3 Transcatheter Valve with Certitude System
449 CRS-P3-640 – Medtronic CoreValve
450 CRS-P3-943 – Medtronic CoreValve
451 MCS-P3 – Medtronic CoreValve
452 MCS-P4 – Medtronic CoreValve Evolut
453 ONXAN## - On-X Aortic Heart Valve with Anatomic Sewing Ring
454 ONXANE## - On-X Valve with Anatomic Sewing ring and Extended Holder
455 ONXAAP## - On-X Ascending Aortic Prosthesis
456 ICV12## - Sorin Solo Smart Aortic Valve
457 ICV13## - Sorin Group MEMO 3D Rechord Annuloplasty Ring
458 DLA## - Sorin Group Mitroflow Aortic Pericardial Heart Valve with PRT
459 MVC0##- Sorin Group Mitroflow Valsalva Conduit
460 1260 ### - Starr-Edwards Silastic Ball Aortic Heart Valve Prosthesis
461 6120 ### - Starr Edwards Silastic Ball Mitral Heart Valve Prosthesis
462 73##1088 - Vascutek Gelweave Plexus Graft
463 7300##ADP - Vascutek Terumo Gelweave Vascular 45Prosthesis
464 7320## - Vascutek Gelweave Trifucate Arch Graft
465 7350##ST - Vascutek Gelweave Pre-curved Graft
466 8300AB### - Edwards Intuity Elite Valve
467 8300KITB### - Edwards Intuity Elite Valve System
468 9600CM## - Edward Sapien
469 ART##SMT - Sorin Solo Smart
470 CNA19 - Sorin Crown PRT Tissue Valve
471 CNA21 - Sorin Crown PRT Tissue Valve
472 CNA23 - Sorin Crown PRT Tissue Valve
473 CNA25 - Sorin Crown PRT Tissue Valve
474 CNA27 - Sorin Crown PRT Tissue Valve
475 DPPGK - LifeNet CardioGRAFT Thick Pulmonary Patch (decellularized)
476 DPPGN – LifeNet CardioGRAFT Thin Pulmonary Patch (decellularized)
477 EVOLUTR-##-US - Medtronic CoreValve Evolut R
478 H749LTV##0 - Boston Scientific Lotus Transcatheter Valve
479 ICV1208 - Sorin Perceval Tissue Valves
480 ICV1209 - Sorin Perceval Tissue Valves
481 ICV1210 - Sorin Perceval Tissue Valves

| | |
|---|---|
| 482 | ICV1211 - Sorin Perceval Tissue Valves |
| 483 | ICV1248 - Solo Smart Aortic Tissue Valves |
| 484 | ICV1264 - Solo Smart Aortic Tissue Valves |
| 485 | ICV1265 - Solo Smart Aortic Tissue Valves |
| 486 | ICV1331 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 487 | ICV1332 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 488 | ICV1333 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 489 | ICV1334 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 490 | ICV1335 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 491 | ICV1336 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 492 | ICV1337 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 493 | IVC1247 - Solo Smart Aortic Tissue Valves |
| 494 | LMCP - LifeNet CardioGRAFT Left Mono Cusp Patch |
| 495 | MCP - LifeNet CardioGRAFT Mono Cusp Patch |
| 496 | PPGK - LifeNet CardioGRAFT Thick Pulmonary Patch |
| 497 | PPGN - LifeNet CardioGRAFT Thin Pulmonary Patch |
| 498 | PRT-## - Portico Transcatheter Aortic Valve |
| 499 | RMCP - LifeNet CardioGRAFT Right Mono Cusp Patch |
| 500 | TAS - LifeNet CardioGraft Thoracic Aorta - Small 16mm and less |
| 501 | TFGT-##A - St. Jude Medical Trifecta with Glide Technology (GT) Aortic Stented Tissue Valve |
| 502 | Z65LOTUSKIT## - Lotus Valve Kit |
| 503 | 11500AXX - Edwards Inspiris Resilia Aortic Valve |
| 777 | Other US FDA-Approved Device |
| 778 | Other Non-US FDA- Approved Device |

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| | | | |
|---|---|---|---|
| *Long Name:* | Valve Explant Device Size #4 | *SeqNo:* | 3213 |
| *Short Name:* | **ValExDevSz4** | *Core:* | Yes |
| *Section Name*: | Valve Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the size of the fourth valve or device explanted. | | |
| *Low Value:* | 15 | | |
| *High Value:* | 33 | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Integer |

| | |
|---|---|
| *ParentLongName:* | Valve Explant Type #4 |
| *ParentShortName:* | **ValExType4** |
| *ParentHarvestCodes:* | 1\|2\|5\|6\|9 |
| *Parent Value:* | = "Mechanical", "Bioprosthetic", "Annuloplasty band/ring", "Mitral clip" or "Other" |

| | | | |
|---|---|---|---|
| *Long Name:* | Valve Implant Type #1 | *SeqNo:* | 3220 |
| *Short Name:* | **ValImpLoc1** | *Core:* | Yes |
| *Section Name*: | Valve Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the type of the first valve or device implanted. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Valve Device Explanted And/Or Implanted |
| *ParentShortName:* | **ValExImp** |
| *ParentHarvestCodes:* | 3\|4 |
| *ParentValues:* | = "Yes, Implanted" or "Yes, Explanted and Implanted" |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Aortic |
| 2 | Mitral |
| 3 | Tricuspid |
| 4 | Pulmonic |
| 5 | Common AV |
| 6 | Truncal |

| | | | |
|---|---|---|---|
| *Long Name:* | Valve Implant Type #1 | *SeqNo:* | 3230 |
| *Short Name:* | **ValImpType1** | *Core:* | Yes |
| *Section Name*: | Valve Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the type of the first valve or device implanted. | | |

| | |
|---|---|
| *Intent / Clarification:* | If a commercially supplied device is used at all, regardless of surgeon alterations, select commercially supplied device. |
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Valve Device Explanted And/Or Implanted |
| *ParentShortName:* | **ValExImp** |
| *ParentHarvestCodes:* | 3\|4 |
| *ParentValues:* | = "Yes, Implanted" or "Yes, Explanted and Implanted" |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Surgeon fashioned |
| 2 | Autograft |
| 3 | Commercially supplied device |
| 4 | Transcatheter device |

April 2019: I have a patient who received a Gore-tex graft. I could not find this in the list of implants made available on STS. Seq 3230 states if a commercially supplied device is used at all, regardless of surgeon alterations, select commercially supplied device. I did find the Gore-tex under surgeon fashioned choice. Which valve implant type is the correct choice? Surgeon fashioned or commercially supplied device? **Was the valve made by the surgeon or was there a commercial valve supplied that the surgeon made alterations to? If the surgeon used the Gore-tex graft to create a valve, select surgeon fashioned choice and select Gore-tex. If this was a commercially supplied device, select commercially supplied device and if the valve is not listed, select Other US FDA approved device or Other Non-US FDA approved device.**

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| | | | |
|---|---|---|---|
| *Long Name:* | Valve Implant Surgeon Fashioned Material #1 | *SeqNo:* | 3240 |
| *Short Name:* | **ValImpSFMat1** | *Core:* | Yes |
| *Section Name*: | Valve Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the material used to fashion the first valve or device. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Valve Implant Type #1 |
| *ParentShortName:* | **ValImpType1** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Surgeon fashioned" |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | PTFE (Gore-Tex) |
| 2 | Pericardium |
| 9 | Other |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Valve Implant Commercial Device Model Number #1 | *SeqNo:* | 3250 |
| *Short Name:* | **ValImpComMod1** | *Core:* | Yes |
| *Section Name*: | Valve Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the name of the prosthesis implanted. The names provided include the manufacturer's model number with "xx" substituting for the | | |

device size. Note that the model number is different from the serial number.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Valve Implant Type #1
*ParentShortName:* **ValImpType1**
*ParentHarvestCodes:* 3|4
*ParentValues:* = "Commercially supplied device" or "Transcatheter device"

Harvest Codes:

201 500DM## - Medtronic Open Pivot Standard Mitral Heart Valve
202 500FA## - Medtronic Open Pivot Standard Aortic Heart Valve
203 501DA## - Medtronic Open Pivot AP Series Aortic Heart Valve
204 501DM## - Medtronic Open Pivot AP Series Mitral Heart Valve
205 502AG## - Medtronic Open Pivot Aortic Valved Graft (AVG)
206 503DA## - Medtronic Open Pivot APex Series Heart Valve
207 505DA## - Medtronic Open Pivot AP360 Series Aortic Heart Valve
208 A010 - CryoLife Ascending Thoracic Aorta
209 A020 - CryoLife Descending Thoracic Aorta
210 A030 - CryoLife Pulmonary Artery
211 AV00 - CryoLife Aortic Valve and Conduit
212 AV10 - CryoLife Aortic Valve without Conduit
214 PV00 - CryoLife Pulmonary Valve & Conduit
215 PV10 - CryoLife Pulmonary Valve without Conduit
216 R010 - CryoLife Aortoiliac Grafts
217 R020 - CryoLife Femoral Popliteal Artery
218 SGPV00 - CryoLife SG Pulmonary Valve & Conduit
219 SGPV10 - CryoLife SG Pulmonary Valve without Conduit
220 V010 - CryoLife Saphenous Vein
221 V060 - CryoLife Femoral Vein
224 2500## - Edwards Prima Aortic Stentless Bioprosthesis
225 2500P## - Edwards Prima Plus Stentless Aortic Bioprosthesis
226 2625## - Carpentier-Edwards Porcine Aortic Bioprosthesis
227 2650## - Carpentier-Edwards S.A.V. Aortic Porcine Bioprosthesis
228 2700## - Carpentier-Edwards Perimount Pericardial Aortic Bioprosthesis
229 2700TFX## - Carpentier- Edwards Perimount Theon Pericardial Aortic Bioprosthesis with ThermaFix Process
230 2800## - Carpentier-Edwards Perimount RSR Pericardial Aortic Bioprosthesis
231 2800TFX## - Carpentier- Edwards Perimount Theon RSR Pericardial Aortic Bioprosthesis with

| | |
|---|---|
| | ThermaFix Process |
| 232 | 3000## - Carpentier-Edwards Perimount Magna Pericardial Aortic Bioprosthesis |
| 233 | 3000TFX## - Carpentier- Edwards Perimount Magna Pericardial Aortic Bioprosthesis with ThermaFix Process |
| 234 | 3160## - Edwards- Duromedics Bileaflet Prostheses |
| 235 | 3300TFX## - Carpentier- Edwards Perimount Magna Ease Pericardial Aortic Bioprosthesis with ThermaFix Process |
| 236 | 3600## - Edwards Mira Mechanical Valve |
| 237 | 3600f## - Edwards Mira Mechanical Valve |
| 238 | 3600u## - Edwards Mira Mechanical Valve |
| 239 | 4100## - Carpentier- McCarthy-Adams IMR ETlogix Mitral Annuloplasty Ring |
| 240 | 4200## - Edwards GeoForm Mitral Annuloplasty Ring |
| 241 | 4300## - Carpentier-Edwards Bioprosthetic Valved Conduit |
| 242 | 4400## - Carpentier-Edwards Classic Mitral Annuloplasty Ring |
| 243 | 4425## - Carpentier-Edwards Classic Mitral Annuloplasty Ring with Duraflo Treatment |
| 244 | 4450## - Carpentier-Edwards Physio Mitral Annuloplasty Ring |
| 245 | 4475## - Carpentier-Edwards Physio Annuloplasty Ring with Duraflo Treatment |
| 246 | 4500## - Carpentier-Edwards Classic Tricuspid Annuloplasty Ring |
| 247 | 4525## - Carpentier-Edwards Classic Tricuspid Annuloplasty Ring with Duraflo Treatment |
| 248 | 4600## - Crosgrove-Edwards Mitral/Tricuspid Annuloplasty Ring |
| 249 | 4625## - Crosgrove-Edwards Annuloplasty System with Duraflo Treatment |
| 250 | 4900## - Edwards MC3 Tricuspid Annuloplasty System |
| 251 | 5100## - Edwards DETlogix Mitral Annuloplasty Ring |
| 252 | 5100M## - Edwards Myxomatous Annuloplasty Ring |
| 253 | 5200## - Carpentier-Edwards Physio II Mitral Annuloplasty Ring |
| 254 | 6625## - Carpentier-Edwards Porcine Mitral Bioprosthesis |
| 255 | 6625-ESR-LP## - Carpentier- Edwards Duraflex Low Pressure Porcine Mitral Bioprosthesis with Extended Suture Ring |
| 256 | 6625LP## - Carpentier-Edwards Duraflex Low Pressure Porcine Mitral Bioprosthesis |
| 257 | 6900P## - Carpentier-Edwards Perimount Plus Mitral Pericardial Bioprosthesis |
| 258 | 6900PTFX## - Carpentier-Edwards Perimount Theon Mitral Pericardial Bioprosthesis with ThermaFix Process |
| 259 | 7000TFX## - Carpentier-Edwards Perimount Magna Mitral Pericardial Bioprosthesis |
| 260 | 7200TFX## - Carpentier-Edwards Perimount Magna Mitral Ease Pericardial Bioprosthesis |
| 261 | 7300TFX## - Carpentier-Edwards Perimount Magna Mitral Ease Pericardial Bioprosthesis with ThermaFix Process |
| 262 | 9000## - Cribier-Edwards Aortic Bioprosthesis |
| 263 | 9000PHV## - Cribier-Edwards Aortic Bioprosthesis |
| 264 | 9000TFX## - Edwards Sapien Transcatheter Heart Valve |
| 265 | 9120## - Edwards-Duromedics Bileaflet Prostheses |
| 266 | 9600## - Edwards Mira Mechanical Valve |

267 AAL - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Large
268 AAM - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Medium
269 AAS - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Small
270 DLHPA - LifeNet CardioGraft Decellularized Hemi-Pulmonary Artery with Matracell - Left
271 DRHPA - LifeNet CardioGraft Decellularized Hemi- Pulmonary Artery with Matracell - Right
272 HVAL - LifeNet CardioGraft Aortic Heart Valve - Large
273 HVAM - LifeNet CardioGraft Aortic Heart Valve - Medium
274 HVAS - LifeNet CardioGraft Aortic Heart Valve - Small
275 HVPL - LifeNet CardioGraft Pulmonary Heart Valve - Large
276 HVPM - LifeNet CardioGraft Pulmonary Heart Valve - Medium
277 HVPS - LifeNet CardioGraft Pulmonary Heart Valve - Small
278 LHPA - LifeNet CardioGraft Hemi-Pulmonary Artery - Left
279 PAL - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Large
280 PAM - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Medium
281 PAS - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Small
282 RHPA - LifeNet CardioGraft Hemi-Pulmonary Artery - Right
283 TAL - LifeNet CardioGraft Thoracic Aorta Non-valved - Large
284 TAM - LifeNet CardioGraft Thoracic Aorta Non-valved - Medium
286 174A - ## - Medtronic Hancock Apical Left Ventricle Connector
287 200## - Medtronic Contegra Unsupported Pulmonary Valve Conduit
288 200S## - Medtronic Contegra Supported Pulmonary Valve Conduit
289 305C2## - Medtronic Mosaic Standard Cinch - Aortic
290 305U2## - Medtronic Mosaic Ultra Cinch - Aortic
291 310## - Medtronic Mosaic Mitral
292 610B## - Medtronic Duran Band
293 610R## - Medtronic Duran Ring
294 620B## - Medtronic Duran AnCore Band
295 620BG## - Medtronic Duran AnCore Band With Chordal Guide
296 620R## - Medtronic Duran AnCore Ring
297 620RG## - Medtronic Duran Ancore Ring With Chordal Guide
298 638B## - Medtronic CG Future Band
299 638R## - Medtronic CG Future Composite Ring
300 670 - Medtronic Simplici-T Annuloplasty System
301 680R## - Medtronic Profile 3D Ring
302 995CS## - Medtronic Freestyle, Complete Subcoronary - CS
303 995MS## - Medtronic Freestyle, Modified Subcoronary - MS
304 FR995-## - Medtronic Freestyle, Full Root - FR
307 HC105-## - Medtronic Hancock Low-porosity Valved Conduit
308 HC150-## - Medtronic Hancock Modified Orifice Pulmonic Valved Conduit

309 T505C2## - Medtronic Hancock II Aortic Cinch
310 T505U2## - Medtronic Hancock II Ultra Cinch
311 T510C## - Medtronic Hancock II Mitral
312 ONXA## - On-X Aortic Valve with standard sewing ring
313 ONXAC## - On-X Aortic Valve with Conform-X Sewing Ring
314 ONXACE## - On-X Aortic Valve with Conform-X Sewing Ring, extended
315 ONXAE## - On-X Aortic Valve with standard sewing ring, extended
316 ONXM## - On-X Mitral Valve with standard sewing ring
317 ONXMC## - On-X Mitral Valve with Conform-X Sewing Ring
327 LXA## - Sorin Group Mitroflow Aortic Pericardial Heart Valve
328 A5-0## - Sorin Group: Carbomedics Standard Aortic Valve
329 AF-8## - Sorin Group: Carbomedics AnnuloFlex Annuloplasty System
330 AP-0## - Sorin Group: Carbomedics Carbo-Seal Ascending Aortic Prosthesis
331 AR-7## - Sorin Group: Carbomedics AnnuloFlo Annuloplasty System
332 CP-0## - Sorin Group: Carbomedics Carbo-Seal Valsalva Ascending Aortic Prosthesis
333 F7-0## - Sorin Group: Carbomedics OptiForm Mitral Valve
334 M7-0## - Sorin Group: Carbomedics Standard Mitral Valve
335 R5-0## - Sorin Group: Carbomedics Reduced Series Aortic Valve
336 S5-0## - Sorin Group: Carbomedics Top Hat Supra- Annular Aortic Valve
337 ##A-101 - St. Jude Medical Mechanical Aortic Heart Valve
338 ##AEC-102 - St. Jude Medical Mechanical Heart Valve
339 ##AECJ-502 - St. Jude Medical Masters Series Aortic Mechanical Valve, Expanded Cuff
340 ##AECS-602 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
341 ##AEHPJ-505 - St. Jude Medical Masters HP Mechanical Valve, Expanded Cuff
342 ##AEHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
343 ##AET-104 - St. Jude Medical Mechanical Heart Valve
344 ##AETJ-504 - St. Jude Medical Masters Series Mechanical Heart Valve
345 ##AFHPJ-505 - St. Jude Medical Masters HP Aortic Mechanical Valve, Flex Cuff
346 ##AG-701 - St. Jude Medical Regent Valve with Silzone Coating
347 ##AGF-706 - St. Jude Medical Regent Valve with Silzone Coating
348 ##AGFN-756 - St. Jude Medical Regent Aortic Mechanical Valve, Flex Cuff
349 ##AGN-751 - St. Jude Medical Regent Aortic Mechanical Valve, Standard Cuff
350 ##AHP-105 - St. Jude Medical Mechanical Heart Valve Hemodynamic Plus (HP) Series
351 ##AHPJ-505 - St. Jude Medical Masters HP Aortic Mechanical Heart Valve, Standard Cuff
352 ##AHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
353 ##AJ-501 - St. Jude Medical Masters Series Aortic Mechanical Valve, Standard Cuff
354 ##AS-601 - St. Jude Medical Masters Mechanical Heart Valve with Silzone Coating
355 ##AT-103 - St. Jude Medical Mechanical Heart Valve
356 ##ATJ-503 - St. Jude Medical Masters Series Aortic Mechanical Valve, PTFE Cuff

357 ##CAVG-404 - St. Jude Medical Coated Aortic Valved Graft Prosthesis
358 ##CAVGJ-514 - St. Jude Medical Masters Series Aortic Valved Graft
359 ##CAVGJ-514-00 - St. Jude Medical Masters Aortic Valved Graft, Hemashield Technology
360 ##M-101 - St. Jude Medical Mechanical Mitral Heart Valve
361 ##MEC-102 - St. Jude Medical Mechanical Heart Valve
362 ##MECJ-502 - St. Jude Medical Masters Series Mitral Mechanical Valve, Expanded Cuff
363 ##MECS-602 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
364 ##MEHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
365 ##MET-104 - St. Jude Medical Mechanical Heart Valve
366 ##METJ-504 - St. Jude Medical Masters Series Mitral Mechanical Valve, Expanded PTFE Cuff
367 ##MHP-105 - St. Jude Medical Mechanical Heart Valve Hemodynamic Plus (HP) Series
368 ##MHPJ-505 - St. Jude Medical Masters HP Mitral Mechanical Heart Valve, Standard Cuff
369 ##MHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
370 ##MJ-501 - St. Jude Medical Masters Series Mitral Mechanical Valve, Standard Cuff
371 ##MS-601 - St. Jude Medical Masters Mechanical Heart Valve with Silzone Coating
372 ##MT-103 - St. Jude Medical Mechanical Heart Valve
373 ##MTJ-503 - St. Jude Medical Masters Series Mitral Mechanical Valve, PTFE Cuff
374 ##VAVGJ-515 - St. Jude Medical Masters HP Aortic Valved Graft
375 AFR-## - St. Jude Medical Attune Flexible Adjustable Annuloplasty Ring
376 B10-##A - St. Jude Medical Biocor Aortic Valve
377 B10-##A-00 - St. Jude Medical Biocor Aortic Valve
378 B10-##M - St. Jude Medical Biocor Mitral Valve
379 B10-##M-00 - St. Jude Medical Biocor Mitral Valve
380 B100-##A-00 - St. Jude Medical Biocor Stented Aortic Tissue Valve
381 B100-##M-00 - St. Jude Medical Biocor Stented Mitral Tissue Valve
382 B10SP-## - St. Jude Medical Biocor Supra Stented Porcine Heart Valve
383 B20-0##A - St. Jude Medical Biocor Porcine Stentless Bioprosthetic Heart Valve
384 B30-##A - St. Jude Medical Biocor Valve
385 B30-##M - St. Jude Medical Biocor Valve
386 BSP100-## - St. Jude Medical Biocor Supra Aortic Stented Tissue Valve
387 E100-##A-00 - St. Jude Medical Epic Aortic Stented Tissue Valve
388 E100-##M-00 - St. Jude Medical Epic Mitral Stented Tissue Valve
389 EL-##A - St. Jude Medical Epic Aortic Valve
390 EL-##M - St. Jude Medical Epic Mitral Valve
391 ELS-##A - St. Jude Medical Epic Tissue Aortic Valve with Silzone Coating
392 ELS-##M - St. Jude Medical Epic Tissue Mitral Valve with Silzone Coating
393 ESP100-##-00 - St. Jude Medical Epic Supra Aortic Stented Tissue Valve
394 ESP100-##A-00 - St. Jude Medical Epic Stented Aortic Tissue Valve
395 ROOT-## - St. Jude Medical Toronto Root with BiLinx AC

396 RSAR-## - St. Jude Medical SJM Rigid Saddle Ring
397 SARP-## - St. Jude Medical SJM STguin Semi-Rigid Annuloplasty Ring
398 SARS-M## - St. Jude Medical STguin Annuloplasty Ring with Silzone Coating
399 SPA-101-## - St. Jude Medical Toronto SPV Valve
400 SPA-201-## - St. Jude Medical Toronto SPV II Bioprosthetic Heart Valve
401 TAB-## - St. Jude Medical Tailor Flexible Annuloplasty Band
402 TAR-## - St. Jude Medical Tailor Annuloplasty Ring with Silzone Coating
403 TARP-## - St. Jude Medical Tailor Flexible Annuloplasty Ring
404 PB10-## - Medtronic Melody Transcatheter Pulmonary Valve
405 700FF## - Medtronic Simulus FLX-O Ring
406 700FC## - Medtronic Simulus FLX-C Band
407 735AF## - Medtronic Simulus Adjustable Ring
408 800SR## - Medtronic Simulus Semi-rigid Ring
409 900SFC## - Medtronic TriAd Tricuspid Annuloplasty Ring
410 1000-## - Medtronic 3f Aortic Bioprosthesis
411 6200## - Carpentier-Edwards Physio Tricuspid Annuloplasty Ring
412 9300TFX## - Edwards Sapien Transcatheter Heart Valve
413 305## - Medtronic Mosaic Ultra Porcine Heart Valve
415 TF-##A - St. Jude Medical Trifecta Aortic Stented Tissue Valve
416 505DM## - Medtronic Open Pivot AP360 Series Mitral Heart Valve
417 800SC## - Medtronic Simulus Semi-rigid Mitral Annuloplasty Ring
418 6000-## - Medtronic 3f Enable Aortic Bioprosthesis
419 PH00 - Cryolife Pulmonary Hemi-Artery
420 SGPH00 - Cryolife SG Pulmonary Hemi-Artery
421 690R## - Medtronic Contour 3D Annuloplasty ring
422 735AC## - Medtronic Simulus Adjustable Band
423 9600TFX## - Edwards Sapien Transcatheter Heart Valve
425 H607 - Medtronic post Annuloplasty band (Split, Mayo)
428 ICV08## - Sorin Group Sovering Annuloplasty
429 ICV09## - Sorin Group MEMO 3D Semi-rigid Annuloplasty Ring
432 A1-0## - Sorin Group: Carbomedics Orbis Universal Aortic Valve
433 M2-0## - Sorin Group: Carbomedics Orbis Universal Mitral Valve
434 PF ## - Sorin Group PF ## - Sorin Group Stentless
435 PS ## - Sorin Group Pericarbon More Mitral
436 ART ## SOP - Sorin Group Soprano Armonia
437 ART ## SG - Sorin Group Freedom Solo
438 ART ## LFA- Sorin Group Bicarbon Fitline Aortic
439 MTR ## LFM- Sorin Group Bicarbon Fitline Mitral
440 ART ## LOV- Sorin Group Bicarbon Overline Aortic

441 ART ## LSA- Sorin Group Bicarbon Slimline Aortic
442 8300A## - Edwards Intuity Valve System (outside US)
443 8300AB## - Edwards Intuity Elite Valve System (outside US)
444 8300ACD## - Edwards Intuity Elite Valve System
445 9355NF## - Edwards Sapien XT Transcatheter Valve with NovaFlex System
446 9355ASP## - Edwards Sapien XT Transcatheter Valve with Ascendra System
447 S3TF1## - Edwards Sapien 3 Transcatheter Valve with Commander System
448 S3TA1## - Edwards Sapien 3 Transcatheter Valve with Certitude System
449 CRS-P3-640 – Medtronic CoreValve
450 CRS-P3-943 – Medtronic CoreValve
451 MCS-P3 – Medtronic CoreValve
452 MCS-P4 – Medtronic CoreValve Evolut
453 ONXAN## - On-X Aortic Heart Valve with Anatomic Sewing Ring
454 ONXANE## - On-X Valve with Anatomic Sewing ring and Extended Holder
455 ONXAAP## - On-X Ascending Aortic Prosthesis
456 ICV12## - Sorin Solo Smart Aortic Valve
457 ICV13## - Sorin Group MEMO 3D Rechord Annuloplasty Ring
458 DLA## - Sorin Group Mitroflow Aortic Pericardial Heart Valve with PRT
459 MVC0##- Sorin Group Mitroflow Valsalva Conduit
460 1260 ### - Starr-Edwards Silastic Ball Aortic Heart Valve Prosthesis
461 6120 ### - Starr Edwards Silastic Ball Mitral Heart Valve Prosthesis
462 73##1088 - Vascutek Gelweave Plexus Graft
463 7300##ADP - Vascutek Terumo Gelweave Vascular 45Prosthesis
464 7320## - Vascutek Gelweave Trifucate Arch Graft
465 7350##ST - Vascutek Gelweave Pre-curved Graft
466 8300AB### - Edwards Intuity Elite Valve
467 8300KITB### - Edwards Intuity Elite Valve System
468 9600CM## - Edward Sapien
469 ART##SMT - Sorin Solo Smart
470 CNA19 - Sorin Crown PRT Tissue Valve
471 CNA21 - Sorin Crown PRT Tissue Valve
472 CNA23 - Sorin Crown PRT Tissue Valve
473 CNA25 - Sorin Crown PRT Tissue Valve
474 CNA27 - Sorin Crown PRT Tissue Valve
475 DPPGK - LifeNet CardioGRAFT Thick Pulmonary Patch (decellularized)
476 DPPGN – LifeNet CardioGRAFT Thin Pulmonary Patch (decellularized)
477 EVOLUTR-##-US - Medtronic CoreValve Evolut R
478 H749LTV##0 - Boston Scientific Lotus Transcatheter Valve
479 ICV1208 - Sorin Perceval Tissue Valves

| | |
|---|---|
| 480 | ICV1209 - Sorin Perceval Tissue Valves |
| 481 | ICV1210 - Sorin Perceval Tissue Valves |
| 482 | ICV1211 - Sorin Perceval Tissue Valves |
| 483 | ICV1248 - Solo Smart Aortic Tissue Valves |
| 484 | ICV1264 - Solo Smart Aortic Tissue Valves |
| 485 | ICV1265 - Solo Smart Aortic Tissue Valves |
| 486 | ICV1331 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 487 | ICV1332 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 488 | ICV1333 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 489 | ICV1334 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 490 | ICV1335 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 491 | ICV1336 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 492 | ICV1337 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 493 | IVC1247 - Solo Smart Aortic Tissue Valves |
| 494 | LMCP - LifeNet CardioGRAFT Left Mono Cusp Patch |
| 495 | MCP - LifeNet CardioGRAFT Mono Cusp Patch |
| 496 | PPGK - LifeNet CardioGRAFT Thick Pulmonary Patch |
| 497 | PPGN - LifeNet CardioGRAFT Thin Pulmonary Patch |
| 498 | PRT-## - Portico Transcatheter Aortic Valve |
| 499 | RMCP - LifeNet CardioGRAFT Right Mono Cusp Patch |
| 500 | TAS - LifeNet CardioGraft Thoracic Aorta - Small 16mm and less |
| 501 | TFGT-##A - St. Jude Medical Trifecta with Glide Technology (GT) Aortic Stented Tissue Valve |
| 502 | Z65LOTUSKIT## - Lotus Valve Kit |
| 503 | 11500AXX - Edwards Inspiris Resilia Aortic Valve |
| 777 | Other US FDA-Approved Device |
| 778 | Other Non-US FDA- Approved Device |

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| | | | |
|---|---|---|---|
| *Long Name:* | Valve Implant Unique Device Identifier (UDI) - 1 | *SeqNo:* | 3261 |
| *Short Name:* | **ValImpUDI1** | *Core:* | Yes |
| *Section Name*: | Valve Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the Unique Device Identifier (UDI) of the first implanted valve device if available, otherwise leave blank. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text

*ParentLongName:* Valve Implant Type #1

*ParentShortName:* **ValImpType1**
*ParentHarvestCodes:* 3|4
*ParentValues:* = "Commercially supplied device" or "Transcatheter device"

August 2019: My question is regarding the UDI number under the valve implant section of STS. Some items only have a serial or LOT number. Is the LOT or serial number considered the UDI number? **No** It does mention to leave blank but the definition does not clarify if the serial or LOT number is part of the UDI. **Use the serial number.**

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*Long Name:* Valve Implant Commercial Device Size #1 *SeqNo:* 3262
*Short Name:* **ValImpComSz1** *Core:* Yes
*Section Name*: Valve Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the size of the second implanted valve or device.
*Low Value:* 15
*High Value:* 33

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Valve Implant Type #1
*ParentShortName:* **ValImpType1**
*ParentHarvestCodes:* 3
*Parent Value:* = "Commercially supplied device"

October 2019: In version 3.41, the lowest value allowed for valve size is 15mm. Our implant record shows that we have placed 12mm Contegra valves. How can we enter this data? **This will be updated in the next version upgrade. For now, leave this field blank.**

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*Long Name:* Second Valve Implant *SeqNo:* 3270
*Short Name:* **ValImp2** *Core:* Yes
*Section Name*: Valve Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether a second valve or device was implanted.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Valve Device Explanted And/Or Implanted
*ParentShortName:* **ValExImp**
*ParentHarvestCodes:* 3|4
*ParentValues:* = "Yes, Implanted" or "Yes, Explanted and Implanted"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Valve Implant Type #2 | *SeqNo:* | 3280 |
| *Short Name:* | **ValImpLoc2** | *Core:* | Yes |
| *Section Name*: | Valve Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the location of the second valve or device implanted. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Second Valve Implant
*ParentShortName:* **ValImp2**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Aortic |
| 2 | Mitral |
| 3 | Tricuspid |
| 4 | Pulmonic |
| 5 | Common AV |
| 6 | Truncal |

July 2019: My patient required a Dacron patch for their Ventricular Septal Defect. I am looking at the options under location and am not sure which option to select. **Patches are not included in the valve implant section.**

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| | | | |
|---|---|---|---|
| *Long Name:* | Valve Implant Type #2 | *SeqNo:* | 3290 |
| *Short Name:* | **ValImpType2** | *Core:* | Yes |
| *Section Name*: | Valve Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the type of the second valve or device implanted. | | |

*Intent / Clarification:* If a commercially supplied device is used at all, regardless of surgeon alterations, select commercially supplied device.

*Data Source:* User

*Format:* Text (categorical values specified by STS)

*ParentLongName:* Second Valve Implant
*ParentShortName:* **ValImp2**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Surgeon fashioned |
| 2 | Autograft |
| 3 | Commercially supplied device |
| 4 | Transcatheter device |

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*Long Name:* Valve Implant Surgeon Fashioned Material #2 *SeqNo:* 3300
*Short Name:* **ValImpSFMat2** *Core:* Yes
*Section Name*: Valve Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the material used to fashion the second valve or device.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Valve Implant Type #2
*ParentShortName:* **ValImpType2**
*ParentHarvestCodes:* 1
*ParentValues:* = "Surgeon fashioned"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | PTFE (Gore-Tex) |
| 2 | Pericardium |
| 9 | Other |

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*Long Name:* Valve Implant Commercial Device Model Number #2 *SeqNo:* 3310
*Short Name:* **ValImpComMod2** *Core:* Yes
*Section Name*: Valve Procedures *Harvest:* Yes
*DBTableName:* Operations

*Definition:* Indicate the name of the prosthesis implanted. The names provided include the manufacturer's model number with "xx" substituting for the device size.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Valve Implant Type #2
*ParentShortName:* **ValImpType2**
*ParentHarvestCodes:* 3|4
*ParentValues:* = "Commercially supplied device" or "Transcatheter device"

Harvest Codes:

| | |
|---|---|
| 201 | 500DM## - Medtronic Open Pivot Standard Mitral Heart Valve |
| 202 | 500FA## - Medtronic Open Pivot Standard Aortic Heart Valve |
| 203 | 501DA## - Medtronic Open Pivot AP Series Aortic Heart Valve |
| 204 | 501DM## - Medtronic Open Pivot AP Series Mitral Heart Valve |
| 205 | 502AG## - Medtronic Open Pivot Aortic Valved Graft (AVG) |
| 206 | 503DA## - Medtronic Open Pivot APex Series Heart Valve |
| 207 | 505DA## - Medtronic Open Pivot AP360 Series Aortic Heart Valve |
| 208 | A010 - CryoLife Ascending Thoracic Aorta |
| 209 | A020 - CryoLife Descending Thoracic Aorta |
| 210 | A030 - CryoLife Pulmonary Artery |
| 211 | AV00 - CryoLife Aortic Valve and Conduit |
| 212 | AV10 - CryoLife Aortic Valve without Conduit |
| 214 | PV00 - CryoLife Pulmonary Valve & Conduit |
| 215 | PV10 - CryoLife Pulmonary Valve without Conduit |
| 216 | R010 - CryoLife Aortoiliac Grafts |
| 217 | R020 - CryoLife Femoral Popliteal Artery |
| 218 | SGPV00 - CryoLife SG Pulmonary Valve & Conduit |
| 219 | SGPV10 - CryoLife SG Pulmonary Valve without Conduit |
| 220 | V010 - CryoLife Saphenous Vein |
| 221 | V060 - CryoLife Femoral Vein |
| 224 | 2500## - Edwards Prima Aortic Stentless Bioprosthesis |
| 225 | 2500P## - Edwards Prima Plus Stentless Aortic Bioprosthesis |
| 226 | 2625## - Carpentier-Edwards Porcine Aortic Bioprosthesis |
| 227 | 2650## - Carpentier-Edwards S.A.V. Aortic Porcine Bioprosthesis |
| 228 | 2700## - Carpentier-Edwards Perimount Pericardial Aortic Bioprosthesis |
| 229 | 2700TFX## - Carpentier- Edwards Perimount Theon Pericardial Aortic Bioprosthesis with ThermaFix Process |
| 230 | 2800## - Carpentier-Edwards Perimount RSR Pericardial Aortic Bioprosthesis |
| 231 | 2800TFX## - Carpentier- Edwards Perimount Theon RSR Pericardial Aortic Bioprosthesis with ThermaFix Process |

232 3000## - Carpentier-Edwards Perimount Magna Pericardial Aortic Bioprosthesis
233 3000TFX## - Carpentier- Edwards Perimount Magna Pericardial Aortic Bioprosthesis with ThermaFix Process
234 3160## - Edwards- Duromedics Bileaflet Prostheses
235 3300TFX## - Carpentier- Edwards Perimount Magna Ease Pericardial Aortic Bioprosthesis with ThermaFix Process
236 3600## - Edwards Mira Mechanical Valve
237 3600f## - Edwards Mira Mechanical Valve
238 3600u## - Edwards Mira Mechanical Valve
239 4100## - Carpentier- McCarthy-Adams IMR ETlogix Mitral Annuloplasty Ring
240 4200## - Edwards GeoForm Mitral Annuloplasty Ring
241 4300## - Carpentier-Edwards Bioprosthetic Valved Conduit
242 4400## - Carpentier-Edwards Classic Mitral Annuloplasty Ring
243 4425## - Carpentier-Edwards Classic Mitral Annuloplasty Ring with Duraflo Treatment
244 4450## - Carpentier-Edwards Physio Mitral Annuloplasty Ring
245 4475## - Carpentier-Edwards Physio Annuloplasty Ring with Duraflo Treatment
246 4500## - Carpentier-Edwards Classic Tricuspid Annuloplasty Ring
247 4525## - Carpentier-Edwards Classic Tricuspid Annuloplasty Ring with Duraflo Treatment
248 4600## - Crosgrove-Edwards Mitral/Tricuspid Annuloplasty Ring
249 4625## - Crosgrove-Edwards Annuloplasty System with Duraflo Treatment
250 4900## - Edwards MC3 Tricuspid Annuloplasty System
251 5100## - Edwards DETlogix Mitral Annuloplasty Ring
252 5100M## - Edwards Myxomatous Annuloplasty Ring
253 5200## - Carpentier-Edwards Physio II Mitral Annuloplasty Ring
254 6625## - Carpentier-Edwards Porcine Mitral Bioprosthesis
255 6625-ESR-LP## - Carpentier- Edwards Duraflex Low Pressure Porcine Mitral Bioprosthesis with Extended Suture Ring
256 6625LP## - Carpentier-Edwards Duraflex Low Pressure Porcine Mitral Bioprosthesis
257 6900P## - Carpentier-Edwards Perimount Plus Mitral Pericardial Bioprosthesis
258 6900PTFX## - Carpentier-Edwards Perimount Theon Mitral Pericardial Bioprosthesis with ThermaFix Process
259 7000TFX## - Carpentier-Edwards Perimount Magna Mitral Pericardial Bioprosthesis
260 7200TFX## - Carpentier-Edwards Perimount Magna Mitral Ease Pericardial Bioprosthesis
261 7300TFX## - Carpentier-Edwards Perimount Magna Mitral Ease Pericardial Bioprosthesis with ThermaFix Process
262 9000## - Cribier-Edwards Aortic Bioprosthesis
263 9000PHV## - Cribier-Edwards Aortic Bioprosthesis
264 9000TFX## - Edwards Sapien Transcatheter Heart Valve
265 9120## - Edwards-Duromedics Bileaflet Prostheses
266 9600## - Edwards Mira Mechanical Valve
267 AAL - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Large
268 AAM - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Medium
269 AAS - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Small

270 DLHPA - LifeNet CardioGraft Decellularized Hemi-Pulmonary Artery with Matracell - Left
271 DRHPA - LifeNet CardioGraft Decellularized Hemi- Pulmonary Artery with Matracell - Right
272 HVAL - LifeNet CardioGraft Aortic Heart Valve - Large
273 HVAM - LifeNet CardioGraft Aortic Heart Valve - Medium
274 HVAS - LifeNet CardioGraft Aortic Heart Valve - Small
275 HVPL - LifeNet CardioGraft Pulmonary Heart Valve - Large
276 HVPM - LifeNet CardioGraft Pulmonary Heart Valve - Medium
277 HVPS - LifeNet CardioGraft Pulmonary Heart Valve - Small
278 LHPA - LifeNet CardioGraft Hemi-Pulmonary Artery - Left
279 PAL - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Large
280 PAM - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Medium
281 PAS - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Small
282 RHPA - LifeNet CardioGraft Hemi-Pulmonary Artery - Right
283 TAL - LifeNet CardioGraft Thoracic Aorta Non-valved - Large
284 TAM - LifeNet CardioGraft Thoracic Aorta Non-valved - Medium
286 174A - ## - Medtronic Hancock Apical Left Ventricle Connector
287 200## - Medtronic Contegra Unsupported Pulmonary Valve Conduit
288 200S## - Medtronic Contegra Supported Pulmonary Valve Conduit
289 305C2## - Medtronic Mosaic Standard Cinch - Aortic
290 305U2## - Medtronic Mosaic Ultra Cinch - Aortic
291 310## - Medtronic Mosaic Mitral
292 610B## - Medtronic Duran Band
293 610R## - Medtronic Duran Ring
294 620B## - Medtronic Duran AnCore Band
295 620BG## - Medtronic Duran AnCore Band With Chordal Guide
296 620R## - Medtronic Duran AnCore Ring
297 620RG## - Medtronic Duran Ancore Ring With Chordal Guide
298 638B## - Medtronic CG Future Band
299 638R## - Medtronic CG Future Composite Ring
300 670 - Medtronic Simplici-T Annuloplasty System
301 680R## - Medtronic Profile 3D Ring
302 995CS## - Medtronic Freestyle, Complete Subcoronary - CS
303 995MS## - Medtronic Freestyle, Modified Subcoronary - MS
304 FR995-## - Medtronic Freestyle, Full Root - FR
307 HC105-## - Medtronic Hancock Low-porosity Valved Conduit
308 HC150-## - Medtronic Hancock Modified Orifice Pulmonic Valved Conduit
309 T505C2## - Medtronic Hancock II Aortic Cinch
310 T505U2## - Medtronic Hancock II Ultra Cinch
311 T510C## - Medtronic Hancock II Mitral
312 ONXA## - On-X Aortic Valve with standard sewing ring
313 ONXAC## - On-X Aortic Valve with Conform-X Sewing Ring
314 ONXACE## - On-X Aortic Valve with Conform-X Sewing Ring, extended

315 ONXAE## - On-X Aortic Valve with standard sewing ring, extended
316 ONXM## - On-X Mitral Valve with standard sewing ring
317 ONXMC## - On-X Mitral Valve with Conform-X Sewing Ring
327 LXA## - Sorin Group Mitroflow Aortic Pericardial Heart Valve
328 A5-0## - Sorin Group: Carbomedics Standard Aortic Valve
329 AF-8## - Sorin Group: Carbomedics AnnuloFlex Annuloplasty System
330 AP-0## - Sorin Group: Carbomedics Carbo-Seal Ascending Aortic Prosthesis
331 AR-7## - Sorin Group: Carbomedics AnnuloFlo Annuloplasty System
332 CP-0## - Sorin Group: Carbomedics Carbo-Seal Valsalva Ascending Aortic Prosthesis
333 F7-0## - Sorin Group: Carbomedics OptiForm Mitral Valve
334 M7-0## - Sorin Group: Carbomedics Standard Mitral Valve
335 R5-0## - Sorin Group: Carbomedics Reduced Series Aortic Valve
336 S5-0## - Sorin Group: Carbomedics Top Hat Supra- Annular Aortic Valve
337 ##A-101 - St. Jude Medical Mechanical Aortic Heart Valve
338 ##AEC-102 - St. Jude Medical Mechanical Heart Valve
339 ##AECJ-502 - St. Jude Medical Masters Series Aortic Mechanical Valve, Expanded Cuff
340 ##AECS-602 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
341 ##AEHPJ-505 - St. Jude Medical Masters HP Mechanical Valve, Expanded Cuff
342 ##AEHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
343 ##AET-104 - St. Jude Medical Mechanical Heart Valve
344 ##AETJ-504 - St. Jude Medical Masters Series Mechanical Heart Valve
345 ##AFHPJ-505 - St. Jude Medical Masters HP Aortic Mechanical Valve, Flex Cuff
346 ##AG-701 - St. Jude Medical Regent Valve with Silzone Coating
347 ##AGF-706 - St. Jude Medical Regent Valve with Silzone Coating
348 ##AGFN-756 - St. Jude Medical Regent Aortic Mechanical Valve, Flex Cuff
349 ##AGN-751 - St. Jude Medical Regent Aortic Mechanical Valve, Standard Cuff
350 ##AHP-105 - St. Jude Medical Mechanical Heart Valve Hemodynamic Plus (HP) Series
351 ##AHPJ-505 - St. Jude Medical Masters HP Aortic Mechanical Heart Valve, Standard Cuff
352 ##AHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
353 ##AJ-501 - St. Jude Medical Masters Series Aortic Mechanical Valve, Standard Cuff
354 ##AS-601 - St. Jude Medical Masters Mechanical Heart Valve with Silzone Coating
355 ##AT-103 - St. Jude Medical Mechanical Heart Valve
356 ##ATJ-503 - St. Jude Medical Masters Series Aortic Mechanical Valve, PTFE Cuff
357 ##CAVG-404 - St. Jude Medical Coated Aortic Valved Graft Prosthesis
358 ##CAVGJ-514 - St. Jude Medical Masters Series Aortic Valved Graft
359 ##CAVGJ-514-00 - St. Jude Medical Masters Aortic Valved Graft, Hemashield Technology
360 ##M-101 - St. Jude Medical Mechanical Mitral Heart Valve
361 ##MEC-102 - St. Jude Medical Mechanical Heart Valve
362 ##MECJ-502 - St. Jude Medical Masters Series Mitral Mechanical Valve, Expanded Cuff
363 ##MECS-602 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
364 ##MEHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
365 ##MET-104 - St. Jude Medical Mechanical Heart Valve

366 ##METJ-504 - St. Jude Medical Masters Series Mitral Mechanical Valve, Expanded PTFE Cuff
367 ##MHP-105 - St. Jude Medical Mechanical Heart Valve Hemodynamic Plus (HP) Series
368 ##MHPJ-505 - St. Jude Medical Masters HP Mitral Mechanical Heart Valve, Standard Cuff
369 ##MHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
370 ##MJ-501 - St. Jude Medical Masters Series Mitral Mechanical Valve, Standard Cuff
371 ##MS-601 - St. Jude Medical Masters Mechanical Heart Valve with Silzone Coating
372 ##MT-103 - St. Jude Medical Mechanical Heart Valve
373 ##MTJ-503 - St. Jude Medical Masters Series Mitral Mechanical Valve, PTFE Cuff
374 ##VAVGJ-515 - St. Jude Medical Masters HP Aortic Valved Graft
375 AFR-## - St. Jude Medical Attune Flexible Adjustable Annuloplasty Ring
376 B10-##A - St. Jude Medical Biocor Aortic Valve
377 B10-##A-00 - St. Jude Medical Biocor Aortic Valve
378 B10-##M - St. Jude Medical Biocor Mitral Valve
379 B10-##M-00 - St. Jude Medical Biocor Mitral Valve
380 B100-##A-00 - St. Jude Medical Biocor Stented Aortic Tissue Valve
381 B100-##M-00 - St. Jude Medical Biocor Stented Mitral Tissue Valve
382 B10SP-## - St. Jude Medical Biocor Supra Stented Porcine Heart Valve
383 B20-0##A - St. Jude Medical Biocor Porcine Stentless Bioprosthetic Heart Valve
384 B30-##A - St. Jude Medical Biocor Valve
385 B30-##M - St. Jude Medical Biocor Valve
386 BSP100-## - St. Jude Medical Biocor Supra Aortic Stented Tissue Valve
387 E100-##A-00 - St. Jude Medical Epic Aortic Stented Tissue Valve
388 E100-##M-00 - St. Jude Medical Epic Mitral Stented Tissue Valve
389 EL-##A - St. Jude Medical Epic Aortic Valve
390 EL-##M - St. Jude Medical Epic Mitral Valve
391 ELS-##A - St. Jude Medical Epic Tissue Aortic Valve with Silzone Coating
392 ELS-##M - St. Jude Medical Epic Tissue Mitral Valve with Silzone Coating
393 ESP100-##-00 - St. Jude Medical Epic Supra Aortic Stented Tissue Valve
394 ESP100-##A-00 - St. Jude Medical Epic Stented Aortic Tissue Valve
395 ROOT-## - St. Jude Medical Toronto Root with BiLinx AC
396 RSAR-## - St. Jude Medical SJM Rigid Saddle Ring
397 SARP-## - St. Jude Medical SJM STguin Semi-Rigid Annuloplasty Ring
398 SARS-M## - St. Jude Medical STguin Annuloplasty Ring with Silzone Coating
399 SPA-101-## - St. Jude Medical Toronto SPV Valve
400 SPA-201-## - St. Jude Medical Toronto SPV II Bioprosthetic Heart Valve
401 TAB-## - St. Jude Medical Tailor Flexible Annuloplasty Band
402 TAR-## - St. Jude Medical Tailor Annuloplasty Ring with Silzone Coating
403 TARP-## - St. Jude Medical Tailor Flexible Annuloplasty Ring
404 PB10-## - Medtronic Melody Transcatheter Pulmonary Valve
405 700FF## - Medtronic Simulus FLX-O Ring
406 700FC## - Medtronic Simulus FLX-C Band
407 735AF## - Medtronic Simulus Adjustable Ring

408 800SR## - Medtronic Simulus Semi-rigid Ring
409 900SFC## - Medtronic TriAd Tricuspid Annuloplasty Ring
410 1000-## - Medtronic 3f Aortic Bioprosthesis
411 6200## - Carpentier-Edwards Physio Tricuspid Annuloplasty Ring
412 9300TFX## - Edwards Sapien Transcatheter Heart Valve
413 305## - Medtronic Mosaic Ultra Porcine Heart Valve
415 TF-##A - St. Jude Medical Trifecta Aortic Stented Tissue Valve
416 505DM## - Medtronic Open Pivot AP360 Series Mitral Heart Valve
417 800SC## - Medtronic Simulus Semi-rigid Mitral Annuloplasty Ring
418 6000-## - Medtronic 3f Enable Aortic Bioprosthesis
419 PH00 - Cryolife Pulmonary Hemi-Artery
420 SGPH00 - Cryolife SG Pulmonary Hemi-Artery
421 690R## - Medtronic Contour 3D Annuloplasty ring
422 735AC## - Medtronic Simulus Adjustable Band
423 9600TFX## - Edwards Sapien Transcatheter Heart Valve
425 H607 - Medtronic post Annuloplasty band (Split, Mayo)
428 ICV08## - Sorin Group Sovering Annuloplasty
429 ICV09## - Sorin Group MEMO 3D Semi-rigid Annuloplasty Ring
432 A1-0## - Sorin Group: Carbomedics Orbis Universal Aortic Valve
433 M2-0## - Sorin Group: Carbomedics Orbis Universal Mitral Valve
434 PF ## - Sorin Group PF ## - Sorin Group Stentless
435 PS ## - Sorin Group Pericarbon More Mitral
436 ART ## SOP - Sorin Group Soprano Armonia
437 ART ## SG - Sorin Group Freedom Solo
438 ART ## LFA- Sorin Group Bicarbon Fitline Aortic
439 MTR ## LFM- Sorin Group Bicarbon Fitline Mitral
440 ART ## LOV- Sorin Group Bicarbon Overline Aortic
441 ART ## LSA- Sorin Group Bicarbon Slimline Aortic
442 8300A## - Edwards Intuity Valve System (outside US)
443 8300AB## - Edwards Intuity Elite Valve System (outside US)
444 8300ACD## - Edwards Intuity Elite Valve System
445 9355NF## - Edwards Sapien XT Transcatheter Valve with NovaFlex System
446 9355ASP## - Edwards Sapien XT Transcatheter Valve with Ascendra System
447 S3TF1## - Edwards Sapien 3 Transcatheter Valve with Commander System
448 S3TA1## - Edwards Sapien 3 Transcatheter Valve with Certitude System
449 CRS-P3-640 – Medtronic CoreValve
450 CRS-P3-943 – Medtronic CoreValve
451 MCS-P3 – Medtronic CoreValve
452 MCS-P4 – Medtronic CoreValve Evolut
453 ONXAN## - On-X Aortic Heart Valve with Anatomic Sewing Ring
454 ONXANE## - On-X Valve with Anatomic Sewing ring and Extended Holder
455 ONXAAP## - On-X Ascending Aortic Prosthesis

456 ICV12## - Sorin Solo Smart Aortic Valve
457 ICV13## - Sorin Group MEMO 3D Rechord Annuloplasty Ring
458 DLA## - Sorin Group Mitroflow Aortic Pericardial Heart Valve with PRT
459 MVC0##- Sorin Group Mitroflow Valsalva Conduit
460 1260 ### - Starr-Edwards Silastic Ball Aortic Heart Valve Prosthesis
461 6120 ### - Starr Edwards Silastic Ball Mitral Heart Valve Prosthesis
462 73##1088 - Vascutek Gelweave Plexus Graft
463 7300##ADP - Vascutek Terumo Gelweave Vascular 45Prosthesis
464 7320## - Vascutek Gelweave Trifucate Arch Graft
465 7350##ST - Vascutek Gelweave Pre-curved Graft
466 8300AB### - Edwards Intuity Elite Valve
467 8300KITB### - Edwards Intuity Elite Valve System
468 9600CM## - Edward Sapien
469 ART##SMT - Sorin Solo Smart
470 CNA19 - Sorin Crown PRT Tissue Valve
471 CNA21 - Sorin Crown PRT Tissue Valve
472 CNA23 - Sorin Crown PRT Tissue Valve
473 CNA25 - Sorin Crown PRT Tissue Valve
474 CNA27 - Sorin Crown PRT Tissue Valve
475 DPPGK - LifeNet CardioGRAFT Thick Pulmonary Patch (decellularized)
476 DPPGN – LifeNet CardioGRAFT Thin Pulmonary Patch (decellularized)
477 EVOLUTR-##-US - Medtronic CoreValve Evolut R
478 H749LTV##0 - Boston Scientific Lotus Transcatheter Valve
479 ICV1208 - Sorin Perceval Tissue Valves
480 ICV1209 - Sorin Perceval Tissue Valves
481 ICV1210 - Sorin Perceval Tissue Valves
482 ICV1211 - Sorin Perceval Tissue Valves
483 ICV1248 - Solo Smart Aortic Tissue Valves
484 ICV1264 - Solo Smart Aortic Tissue Valves
485 ICV1265 - Solo Smart Aortic Tissue Valves
486 ICV1331 - Sorin MEMO 3D RECHORD Annuloplasty Ring
487 ICV1332 - Sorin MEMO 3D RECHORD Annuloplasty Ring
488 ICV1333 - Sorin MEMO 3D RECHORD Annuloplasty Ring
489 ICV1334 - Sorin MEMO 3D RECHORD Annuloplasty Ring
490 ICV1335 - Sorin MEMO 3D RECHORD Annuloplasty Ring
491 ICV1336 - Sorin MEMO 3D RECHORD Annuloplasty Ring
492 ICV1337 - Sorin MEMO 3D RECHORD Annuloplasty Ring
493 IVC1247 - Solo Smart Aortic Tissue Valves
494 LMCP - LifeNet CardioGRAFT Left Mono Cusp Patch
495 MCP - LifeNet CardioGRAFT Mono Cusp Patch
496 PPGK - LifeNet CardioGRAFT Thick Pulmonary Patch

| | |
|---|---|
| 497 | PPGN - LifeNet CardioGRAFT Thin Pulmonary Patch |
| 498 | PRT-## - Portico Transcatheter Aortic Valve |
| 499 | RMCP - LifeNet CardioGRAFT Right Mono Cusp Patch |
| 500 | TAS - LifeNet CardioGraft Thoracic Aorta - Small 16mm and less |
| 501 | TFGT-##A - St. Jude Medical Trifecta with Glide Technology (GT) Aortic Stented Tissue Valve |
| 502 | Z65LOTUSKIT## - Lotus Valve Kit |
| 503 | 11500AXX - Edwards Inspiris Resilia Aortic Valve |
| 777 | Other US FDA-Approved Device |
| 778 | Other Non-US FDA- Approved Device |

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*Long Name:* Valve Implant Unique Device Identifier (UDI) - 2 *SeqNo:* 3321
*Short Name:* **ValImpUDI2** *Core:* Yes
*Section Name*: Valve Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the Unique Device Identifier (UDI) of the second implanted valve device if available, otherwise leave blank.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text

*ParentLongName:* Valve Implant #2
*ParentShortName:* **ValImpType2**
*ParentHarvestCodes:* 3|4
*ParentValues:* = "Commercially supplied device" or "Transcatheter device"

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*Long Name:* Valve Implant Commercial Device Size #2 *SeqNo:* 3322
*Short Name:* **ValImpComSz2** *Core:* Yes
*Section Name*: Valve Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the size of the second implanted valve or device.
*Low Value:* 15
*High Value:* 33

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Valve Implant Type #2
*ParentShortName:* **ValImpType2**

*ParentHarvestCodes:* 3
*Parent Value:* = "Commercially supplied device"

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*Long Name:* Third Valve Implant
*Short Name:* **ValImp3**
*Section Name*: Valve Procedures
*DBTableName:* Operations
*Definition:* Indicate whether a third valve or device was implanted.

*SeqNo:* 3330
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Second Valve Implant
*ParentShortName:* **ValImp2**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Valve Implant Location #3
*Short Name:* **ValImpLoc3**
*Section Name*: Valve Procedures
*DBTableName:* Operations
*Definition:* Indicate the location of the third valve or device implanted.

*SeqNo:* 3340
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Third Valve Implant
*ParentShortName:* **ValImp3**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Aortic |
| 2 | Mitral |

| | |
|---|---|
| 3 | Tricuspid |
| 4 | Pulmonic |
| 5 | Common AV |
| 6 | Truncal |

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*Long Name:* Valve Implant Type #3 *SeqNo:* 3350
*Short Name:* **ValImpType3** *Core:* Yes
*Section Name*: Valve Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the type of the third valve or device implanted.

*Intent / Clarification:* If a commercially supplied device is used at all, regardless of surgeon alterations, select commercially supplied device.

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Third Valve Implant
*ParentShortName:* **ValImp3**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Surgeon fashioned |
| 2 | Autograft |
| 3 | Commercially supplied device |
| 4 | Transcatheter device |

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*Long Name:* Valve Implant Surgeon Fashioned Material #3 *SeqNo:* 3360
*Short Name:* **ValImpSFMat3** *Core:* Yes
*Section Name*: Valve Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the material used to fashion the third valve or device.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Valve Implant Type #3

*ParentShortName:* **ValImpType3**
*ParentHarvestCodes:* 1
*ParentValues:* = "Surgeon fashioned"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | PTFE (Gore-Tex) |
| 2 | Pericardium |
| 9 | Other |

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*Long Name:* Valve Implant Commercial Device Model Number #3
*Short Name:* **ValImpComMod3**
*Section Name*: Valve Procedures
*DBTableName:* Operations
*Definition:* Indicate the name of the prosthesis implanted. The names provided include the manufacturer's model number with "xx" substituting for the device size.

*SeqNo:* 3370
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Valve Implant Type #3
*ParentShortName:* **ValImp3**
*ParentHarvestCodes:* 3|4
*ParentValues:* = "Commercially supplied device" or "Transcatheter device"

Harvest Codes:

| | |
|---|---|
| 201 | 500DM## - Medtronic Open Pivot Standard Mitral Heart Valve |
| 202 | 500FA## - Medtronic Open Pivot Standard Aortic Heart Valve |
| 203 | 501DA## - Medtronic Open Pivot AP Series Aortic Heart Valve |
| 204 | 501DM## - Medtronic Open Pivot AP Series Mitral Heart Valve |
| 205 | 502AG## - Medtronic Open Pivot Aortic Valved Graft (AVG) |
| 206 | 503DA## - Medtronic Open Pivot APex Series Heart Valve |
| 207 | 505DA## - Medtronic Open Pivot AP360 Series Aortic Heart Valve |
| 208 | A010 - CryoLife Ascending Thoracic Aorta |
| 209 | A020 - CryoLife Descending Thoracic Aorta |
| 210 | A030 - CryoLife Pulmonary Artery |
| 211 | AV00 - CryoLife Aortic Valve and Conduit |
| 212 | AV10 - CryoLife Aortic Valve without Conduit |
| 214 | PV00 - CryoLife Pulmonary Valve & Conduit |
| 215 | PV10 - CryoLife Pulmonary Valve without Conduit |

216 R010 - CryoLife Aortoiliac Grafts
217 R020 - CryoLife Femoral Popliteal Artery
218 SGPV00 - CryoLife SG Pulmonary Valve & Conduit
219 SGPV10 - CryoLife SG Pulmonary Valve without Conduit
220 V010 - CryoLife Saphenous Vein
221 V060 - CryoLife Femoral Vein
224 2500## - Edwards Prima Aortic Stentless Bioprosthesis
225 2500P## - Edwards Prima Plus Stentless Aortic Bioprosthesis
226 2625## - Carpentier-Edwards Porcine Aortic Bioprosthesis
227 2650## - Carpentier-Edwards S.A.V. Aortic Porcine Bioprosthesis
228 2700## - Carpentier-Edwards Perimount Pericardial Aortic Bioprosthesis
229 2700TFX## - Carpentier- Edwards Perimount Theon Pericardial Aortic Bioprosthesis with ThermaFix Process
230 2800## - Carpentier-Edwards Perimount RSR Pericardial Aortic Bioprosthesis
231 2800TFX## - Carpentier- Edwards Perimount Theon RSR Pericardial Aortic Bioprosthesis with ThermaFix Process
232 3000## - Carpentier-Edwards Perimount Magna Pericardial Aortic Bioprosthesis
233 3000TFX## - Carpentier- Edwards Perimount Magna Pericardial Aortic Bioprosthesis with ThermaFix Process
234 3160## - Edwards- Duromedics Bileaflet Prostheses
235 3300TFX## - Carpentier- Edwards Perimount Magna Ease Pericardial Aortic Bioprosthesis with ThermaFix Process
236 3600## - Edwards Mira Mechanical Valve
237 3600f## - Edwards Mira Mechanical Valve
238 3600u## - Edwards Mira Mechanical Valve
239 4100## - Carpentier- McCarthy-Adams IMR ETlogix Mitral Annuloplasty Ring
240 4200## - Edwards GeoForm Mitral Annuloplasty Ring
241 4300## - Carpentier-Edwards Bioprosthetic Valved Conduit
242 4400## - Carpentier-Edwards Classic Mitral Annuloplasty Ring
243 4425## - Carpentier-Edwards Classic Mitral Annuloplasty Ring with Duraflo Treatment
244 4450## - Carpentier-Edwards Physio Mitral Annuloplasty Ring
245 4475## - Carpentier-Edwards Physio Annuloplasty Ring with Duraflo Treatment
246 4500## - Carpentier-Edwards Classic Tricuspid Annuloplasty Ring
247 4525## - Carpentier-Edwards Classic Tricuspid Annuloplasty Ring with Duraflo Treatment
248 4600## - Crosgrove-Edwards Mitral/Tricuspid Annuloplasty Ring
249 4625## - Crosgrove-Edwards Annuloplasty System with Duraflo Treatment
250 4900## - Edwards MC3 Tricuspid Annuloplasty System
251 5100## - Edwards DETlogix Mitral Annuloplasty Ring
252 5100M## - Edwards Myxomatous Annuloplasty Ring
253 5200## - Carpentier-Edwards Physio II Mitral Annuloplasty Ring
254 6625## - Carpentier-Edwards Porcine Mitral Bioprosthesis
255 6625-ESR-LP## - Carpentier- Edwards Duraflex Low Pressure Porcine Mitral Bioprosthesis with

| | |
|---|---|
| | Extended Suture Ring |
| 256 | 6625LP## - Carpentier-Edwards Duraflex Low Pressure Porcine Mitral Bioprosthesis |
| 257 | 6900P## - Carpentier-Edwards Perimount Plus Mitral Pericardial Bioprosthesis |
| 258 | 6900PTFX## - Carpentier-Edwards Perimount Theon Mitral Pericardial Bioprosthesis with ThermaFix Process |
| 259 | 7000TFX## - Carpentier-Edwards Perimount Magna Mitral Pericardial Bioprosthesis |
| 260 | 7200TFX## - Carpentier-Edwards Perimount Magna Mitral Ease Pericardial Bioprosthesis |
| 261 | 7300TFX## - Carpentier-Edwards Perimount Magna Mitral Ease Pericardial Bioprosthesis with ThermaFix Process |
| 262 | 9000## - Cribier-Edwards Aortic Bioprosthesis |
| 263 | 9000PHV## - Cribier-Edwards Aortic Bioprosthesis |
| 264 | 9000TFX## - Edwards Sapien Transcatheter Heart Valve |
| 265 | 9120## - Edwards-Duromedics Bileaflet Prostheses |
| 266 | 9600## - Edwards Mira Mechanical Valve |
| 267 | AAL - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Large |
| 268 | AAM - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Medium |
| 269 | AAS - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Small |
| 270 | DLHPA - LifeNet CardioGraft Decellularized Hemi-Pulmonary Artery with Matracell - Left |
| 271 | DRHPA - LifeNet CardioGraft Decellularized Hemi- Pulmonary Artery with Matracell - Right |
| 272 | HVAL - LifeNet CardioGraft Aortic Heart Valve - Large |
| 273 | HVAM - LifeNet CardioGraft Aortic Heart Valve - Medium |
| 274 | HVAS - LifeNet CardioGraft Aortic Heart Valve - Small |
| 275 | HVPL - LifeNet CardioGraft Pulmonary Heart Valve - Large |
| 276 | HVPM - LifeNet CardioGraft Pulmonary Heart Valve - Medium |
| 277 | HVPS - LifeNet CardioGraft Pulmonary Heart Valve - Small |
| 278 | LHPA - LifeNet CardioGraft Hemi-Pulmonary Artery - Left |
| 279 | PAL - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Large |
| 280 | PAM - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Medium |
| 281 | PAS - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Small |
| 282 | RHPA - LifeNet CardioGraft Hemi-Pulmonary Artery - Right |
| 283 | TAL - LifeNet CardioGraft Thoracic Aorta Non-valved - Large |
| 284 | TAM - LifeNet CardioGraft Thoracic Aorta Non-valved - Medium |
| 286 | 174A - ## - Medtronic Hancock Apical Left Ventricle Connector |
| 287 | 200## - Medtronic Contegra Unsupported Pulmonary Valve Conduit |
| 288 | 200S## - Medtronic Contegra Supported Pulmonary Valve Conduit |
| 289 | 305C2## - Medtronic Mosaic Standard Cinch - Aortic |
| 290 | 305U2## - Medtronic Mosaic Ultra Cinch - Aortic |
| 291 | 310## - Medtronic Mosaic Mitral |
| 292 | 610B## - Medtronic Duran Band |
| 293 | 610R## - Medtronic Duran Ring |
| 294 | 620B## - Medtronic Duran AnCore Band |
| 295 | 620BG## - Medtronic Duran AnCore Band With Chordal Guide |

296 620R## - Medtronic Duran AnCore Ring
297 620RG## - Medtronic Duran Ancore Ring With Chordal Guide
298 638B## - Medtronic CG Future Band
299 638R## - Medtronic CG Future Composite Ring
300 670 - Medtronic Simplici-T Annuloplasty System
301 680R## - Medtronic Profile 3D Ring
302 995CS## - Medtronic Freestyle, Complete Subcoronary - CS
303 995MS## - Medtronic Freestyle, Modified Subcoronary - MS
304 FR995-## - Medtronic Freestyle, Full Root - FR
307 HC105-## - Medtronic Hancock Low-porosity Valved Conduit
308 HC150-## - Medtronic Hancock Modified Orifice Pulmonic Valved Conduit
309 T505C2## - Medtronic Hancock II Aortic Cinch
310 T505U2## - Medtronic Hancock II Ultra Cinch
311 T510C## - Medtronic Hancock II Mitral
312 ONXA## - On-X Aortic Valve with standard sewing ring
313 ONXAC## - On-X Aortic Valve with Conform-X Sewing Ring
314 ONXACE## - On-X Aortic Valve with Conform-X Sewing Ring, extended
315 ONXAE## - On-X Aortic Valve with standard sewing ring, extended
316 ONXM## - On-X Mitral Valve with standard sewing ring
317 ONXMC## - On-X Mitral Valve with Conform-X Sewing Ring
327 LXA## - Sorin Group Mitroflow Aortic Pericardial Heart Valve
328 A5-0## - Sorin Group: Carbomedics Standard Aortic Valve
329 AF-8## - Sorin Group: Carbomedics AnnuloFlex Annuloplasty System
330 AP-0## - Sorin Group: Carbomedics Carbo-Seal Ascending Aortic Prosthesis
331 AR-7## - Sorin Group: Carbomedics AnnuloFlo Annuloplasty System
332 CP-0## - Sorin Group: Carbomedics Carbo-Seal Valsalva Ascending Aortic Prosthesis
333 F7-0## - Sorin Group: Carbomedics OptiForm Mitral Valve
334 M7-0## - Sorin Group: Carbomedics Standard Mitral Valve
335 R5-0## - Sorin Group: Carbomedics Reduced Series Aortic Valve
336 S5-0## - Sorin Group: Carbomedics Top Hat Supra- Annular Aortic Valve
337 ##A-101 - St. Jude Medical Mechanical Aortic Heart Valve
338 ##AEC-102 - St. Jude Medical Mechanical Heart Valve
339 ##AECJ-502 - St. Jude Medical Masters Series Aortic Mechanical Valve, Expanded Cuff
340 ##AECS-602 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
341 ##AEHPJ-505 - St. Jude Medical Masters HP Mechanical Valve, Expanded Cuff
342 ##AEHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
343 ##AET-104 - St. Jude Medical Mechanical Heart Valve
344 ##AETJ-504 - St. Jude Medical Masters Series Mechanical Heart Valve
345 ##AFHPJ-505 - St. Jude Medical Masters HP Aortic Mechanical Valve, Flex Cuff
346 ##AG-701 - St. Jude Medical Regent Valve with Silzone Coating
347 ##AGF-706 - St. Jude Medical Regent Valve with Silzone Coating
348 ##AGFN-756 - St. Jude Medical Regent Aortic Mechanical Valve, Flex Cuff

##AGN-751 - St. Jude Medical Regent Aortic Mechanical Valve, Standard Cuff
##AHP-105 - St. Jude Medical Mechanical Heart Valve Hemodynamic Plus (HP) Series
##AHPJ-505 - St. Jude Medical Masters HP Aortic Mechanical Heart Valve, Standard Cuff
##AHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
##AJ-501 - St. Jude Medical Masters Series Aortic Mechanical Valve, Standard Cuff
##AS-601 - St. Jude Medical Masters Mechanical Heart Valve with Silzone Coating
##AT-103 - St. Jude Medical Mechanical Heart Valve
##ATJ-503 - St. Jude Medical Masters Series Aortic Mechanical Valve, PTFE Cuff
##CAVG-404 - St. Jude Medical Coated Aortic Valved Graft Prosthesis
##CAVGJ-514 - St. Jude Medical Masters Series Aortic Valved Graft
##CAVGJ-514-00 - St. Jude Medical Masters Aortic Valved Graft, Hemashield Technology
##M-101 - St. Jude Medical Mechanical Mitral Heart Valve
##MEC-102 - St. Jude Medical Mechanical Heart Valve
##MECJ-502 - St. Jude Medical Masters Series Mitral Mechanical Valve, Expanded Cuff
##MECS-602 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
##MEHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
##MET-104 - St. Jude Medical Mechanical Heart Valve
##METJ-504 - St. Jude Medical Masters Series Mitral Mechanical Valve, Expanded PTFE Cuff
##MHP-105 - St. Jude Medical Mechanical Heart Valve Hemodynamic Plus (HP) Series
##MHPJ-505 - St. Jude Medical Masters HP Mitral Mechanical Heart Valve, Standard Cuff
##MHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
##MJ-501 - St. Jude Medical Masters Series Mitral Mechanical Valve, Standard Cuff
##MS-601 - St. Jude Medical Masters Mechanical Heart Valve with Silzone Coating
##MT-103 - St. Jude Medical Mechanical Heart Valve
##MTJ-503 - St. Jude Medical Masters Series Mitral Mechanical Valve, PTFE Cuff
##VAVGJ-515 - St. Jude Medical Masters HP Aortic Valved Graft
AFR-## - St. Jude Medical Attune Flexible Adjustable Annuloplasty Ring
B10-##A - St. Jude Medical Biocor Aortic Valve
B10-##A-00 - St. Jude Medical Biocor Aortic Valve
B10-##M - St. Jude Medical Biocor Mitral Valve
B10-##M-00 - St. Jude Medical Biocor Mitral Valve
B100-##A-00 - St. Jude Medical Biocor Stented Aortic Tissue Valve
B100-##M-00 - St. Jude Medical Biocor Stented Mitral Tissue Valve
B10SP-## - St. Jude Medical Biocor Supra Stented Porcine Heart Valve
B20-0##A - St. Jude Medical Biocor Porcine Stentless Bioprosthetic Heart Valve
B30-##A - St. Jude Medical Biocor Valve
B30-##M - St. Jude Medical Biocor Valve
BSP100-## - St. Jude Medical Biocor Supra Aortic Stented Tissue Valve
E100-##A-00 - St. Jude Medical Epic Aortic Stented Tissue Valve
E100-##M-00 - St. Jude Medical Epic Mitral Stented Tissue Valve
EL-##A - St. Jude Medical Epic Aortic Valve
EL-##M - St. Jude Medical Epic Mitral Valve

391 ELS-##A - St. Jude Medical Epic Tissue Aortic Valve with Silzone Coating
392 ELS-##M - St. Jude Medical Epic Tissue Mitral Valve with Silzone Coating
393 ESP100-##-00 - St. Jude Medical Epic Supra Aortic Stented Tissue Valve
394 ESP100-##A-00 - St. Jude Medical Epic Stented Aortic Tissue Valve
395 ROOT-## - St. Jude Medical Toronto Root with BiLinx AC
396 RSAR-## - St. Jude Medical SJM Rigid Saddle Ring
397 SARP-## - St. Jude Medical SJM STguin Semi-Rigid Annuloplasty Ring
398 SARS-M## - St. Jude Medical STguin Annuloplasty Ring with Silzone Coating
399 SPA-101-## - St. Jude Medical Toronto SPV Valve
400 SPA-201-## - St. Jude Medical Toronto SPV II Bioprosthetic Heart Valve
401 TAB-## - St. Jude Medical Tailor Flexible Annuloplasty Band
402 TAR-## - St. Jude Medical Tailor Annuloplasty Ring with Silzone Coating
403 TARP-## - St. Jude Medical Tailor Flexible Annuloplasty Ring
404 PB10-## - Medtronic Melody Transcatheter Pulmonary Valve
405 700FF## - Medtronic Simulus FLX-O Ring
406 700FC## - Medtronic Simulus FLX-C Band
407 735AF## - Medtronic Simulus Adjustable Ring
408 800SR## - Medtronic Simulus Semi-rigid Ring
409 900SFC## - Medtronic TriAd Tricuspid Annuloplasty Ring
410 1000-## - Medtronic 3f Aortic Bioprosthesis
411 6200## - Carpentier-Edwards Physio Tricuspid Annuloplasty Ring
412 9300TFX## - Edwards Sapien Transcatheter Heart Valve
413 305## - Medtronic Mosaic Ultra Porcine Heart Valve
415 TF-##A - St. Jude Medical Trifecta Aortic Stented Tissue Valve
416 505DM## - Medtronic Open Pivot AP360 Series Mitral Heart Valve
417 800SC## - Medtronic Simulus Semi-rigid Mitral Annuloplasty Ring
418 6000-## - Medtronic 3f Enable Aortic Bioprosthesis
419 PH00 - Cryolife Pulmonary Hemi-Artery
420 SGPH00 - Cryolife SG Pulmonary Hemi-Artery
421 690R## - Medtronic Contour 3D Annuloplasty ring
422 735AC## - Medtronic Simulus Adjustable Band
423 9600TFX## - Edwards Sapien Transcatheter Heart Valve
425 H607 - Medtronic post Annuloplasty band (Split, Mayo)
428 ICV08## - Sorin Group Sovering Annuloplasty
429 ICV09## - Sorin Group MEMO 3D Semi-rigid Annuloplasty Ring
432 A1-0## - Sorin Group: Carbomedics Orbis Universal Aortic Valve
433 M2-0## - Sorin Group: Carbomedics Orbis Universal Mitral Valve
434 PF ## - Sorin Group PF ## - Sorin Group Stentless
435 PS ## - Sorin Group Pericarbon More Mitral
436 ART ## SOP - Sorin Group Soprano Armonia
437 ART ## SG - Sorin Group Freedom Solo
438 ART ## LFA- Sorin Group Bicarbon Fitline Aortic

439 MTR ## LFM- Sorin Group Bicarbon Fitline Mitral
440 ART ## LOV- Sorin Group Bicarbon Overline Aortic
441 ART ## LSA- Sorin Group Bicarbon Slimline Aortic
442 8300A## - Edwards Intuity Valve System (outside US)
443 8300AB## - Edwards Intuity Elite Valve System (outside US)
444 8300ACD## - Edwards Intuity Elite Valve System
445 9355NF## - Edwards Sapien XT Transcatheter Valve with NovaFlex System
446 9355ASP## - Edwards Sapien XT Transcatheter Valve with Ascendra System
447 S3TF1## - Edwards Sapien 3 Transcatheter Valve with Commander System
448 S3TA1## - Edwards Sapien 3 Transcatheter Valve with Certitude System
449 CRS-P3-640 – Medtronic CoreValve
450 CRS-P3-943 – Medtronic CoreValve
451 MCS-P3 – Medtronic CoreValve
452 MCS-P4 – Medtronic CoreValve Evolut
453 ONXAN## - On-X Aortic Heart Valve with Anatomic Sewing Ring
454 ONXANE## - On-X Valve with Anatomic Sewing ring and Extended Holder
455 ONXAAP## - On-X Ascending Aortic Prosthesis
456 ICV12## - Sorin Solo Smart Aortic Valve
457 ICV13## - Sorin Group MEMO 3D Rechord Annuloplasty Ring
458 DLA## - Sorin Group Mitroflow Aortic Pericardial Heart Valve with PRT
459 MVC0##- Sorin Group Mitroflow Valsalva Conduit
460 1260 ### - Starr-Edwards Silastic Ball Aortic Heart Valve Prosthesis
461 6120 ### - Starr Edwards Silastic Ball Mitral Heart Valve Prosthesis
462 73##1088 - Vascutek Gelweave Plexus Graft
463 7300##ADP - Vascutek Terumo Gelweave Vascular 45Prosthesis
464 7320## - Vascutek Gelweave Trifucate Arch Graft
465 7350##ST - Vascutek Gelweave Pre-curved Graft
466 8300AB### - Edwards Intuity Elite Valve
467 8300KITB### - Edwards Intuity Elite Valve System
468 9600CM## - Edward Sapien
469 ART##SMT - Sorin Solo Smart
470 CNA19 - Sorin Crown PRT Tissue Valve
471 CNA21 - Sorin Crown PRT Tissue Valve
472 CNA23 - Sorin Crown PRT Tissue Valve
473 CNA25 - Sorin Crown PRT Tissue Valve
474 CNA27 - Sorin Crown PRT Tissue Valve
475 DPPGK - LifeNet CardioGRAFT Thick Pulmonary Patch (decellularized)
476 DPPGN – LifeNet CardioGRAFT Thin Pulmonary Patch (decellularized)
477 EVOLUTR-##-US - Medtronic CoreValve Evolut R
478 H749LTV##0 - Boston Scientific Lotus Transcatheter Valve
479 ICV1208 - Sorin Perceval Tissue Valves

| | |
|---|---|
| 480 | ICV1209 - Sorin Perceval Tissue Valves |
| 481 | ICV1210 - Sorin Perceval Tissue Valves |
| 482 | ICV1211 - Sorin Perceval Tissue Valves |
| 483 | ICV1248 - Solo Smart Aortic Tissue Valves |
| 484 | ICV1264 - Solo Smart Aortic Tissue Valves |
| 485 | ICV1265 - Solo Smart Aortic Tissue Valves |
| 486 | ICV1331 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 487 | ICV1332 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 488 | ICV1333 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 489 | ICV1334 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 490 | ICV1335 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 491 | ICV1336 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 492 | ICV1337 - Sorin MEMO 3D RECHORD Annuloplasty Ring |
| 493 | IVC1247 - Solo Smart Aortic Tissue Valves |
| 494 | LMCP - LifeNet CardioGRAFT Left Mono Cusp Patch |
| 495 | MCP - LifeNet CardioGRAFT Mono Cusp Patch |
| 496 | PPGK - LifeNet CardioGRAFT Thick Pulmonary Patch |
| 497 | PPGN - LifeNet CardioGRAFT Thin Pulmonary Patch |
| 498 | PRT-## - Portico Transcatheter Aortic Valve |
| 499 | RMCP - LifeNet CardioGRAFT Right Mono Cusp Patch |
| 500 | TAS - LifeNet CardioGraft Thoracic Aorta - Small 16mm and less |
| 501 | TFGT-##A - St. Jude Medical Trifecta with Glide Technology (GT) Aortic Stented Tissue Valve |
| 502 | Z65LOTUSKIT## - Lotus Valve Kit |
| 503 | 11500AXX - Edwards Inspiris Resilia Aortic Valve |
| 777 | Other US FDA-Approved Device |
| 778 | Other Non-US FDA- Approved Device |

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| | | | |
|---|---|---|---|
| *Long Name:* | Valve Implant Unique Device Identifier (UDI) - 3 | *SeqNo:* | 3381 |
| *Short Name:* | **ValImpUDI3** | *Core:* | Yes |
| *Section Name*: | Valve Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the Unique Device Identifier (UDI) of the third implanted valve device if available, otherwise leave blank. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text

*ParentLongName:* Valve Implant Type #3
*ParentShortName:* **ValImpType3**
*ParentHarvestCodes:* 3|4

*ParentValues:* = "Commercially supplied device" or "Transcatheter device"

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*Long Name:* Valve Implant Commercial Device Size #3
*Short Name:* **ValImpComSz3**
*Section Name*: Valve Procedures
*DBTableName:* Operations
*Definition:* Indicate the size of the third implanted valve or device.
*Low Value:* 15
*High Value:* 33

*SeqNo:* 3382
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Valve Implant Type #3
*ParentShortName:* **ValImpType3**
*ParentHarvestCodes:* 3
*Parent Value:* = "Commercially supplied device"

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*Long Name:* Fourth Valve Implant
*Short Name:* **ValImp4**
*Section Name*: Valve Procedures
*DBTableName:* Operations
*Definition:* Indicate whether a fourth valve or device was implanted.

*SeqNo:* 3390
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Third Valve Implant
*ParentShortName:* **ValImp3**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Valve Implant Location #4 | *SeqNo:* | 3400 |
| *Short Name:* | **ValImpLoc4** | *Core:* | Yes |
| *Section Name*: | Valve Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the location of the fourth valve or device implanted. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Fourth Valve Implant
*ParentShortName:* **ValImp4**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Aortic |
| 2 | Mitral |
| 3 | Tricuspid |
| 4 | Pulmonic |
| 5 | Common AV |
| 6 | Truncal |

| | | | |
|---|---|---|---|
| *Long Name:* | Valve Implant Type #4 | *SeqNo:* | 3410 |
| *Short Name:* | **ValImpType4** | *Core:* | Yes |
| *Section Name*: | Valve Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the type of the fourth valve or device implanted. | | |

*Intent / Clarification:* If a commercially supplied device is used at all, regardless of surgeon alterations, select commercially supplied device.

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Fourth Valve Implant
*ParentShortName:* **ValImp4**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|

| | |
|---|---|
| 1 | Surgeon fashioned |
| 2 | Autograft |
| 3 | Commercially supplied device |
| 4 | Transcatheter device |

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*Long Name:* Valve Implant Surgeon Fashioned Material #4 *SeqNo:* 3420
*Short Name:* **ValImpSFMat4** *Core:* Yes
*Section Name*: Valve Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the material used to fashion the fourth valve or device.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Valve Implant Type #4
*ParentShortName:* **ValImpType4**
*ParentHarvestCodes:* 1
*ParentValues:* = "Surgeon fashioned"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | PTFE (Gore-Tex) |
| 2 | Pericardium |
| 9 | Other |

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*Long Name:* Valve Implant Commercial Device Model Number #4 *SeqNo:* 3430
*Short Name:* **ValImpComMod4** *Core:* Yes
*Section Name*: Valve Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the name of the prosthesis implanted. The names provided include the manufacturer's model number with "xx" substituting for the device size.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Valve Implant Type #4
*ParentShortName:* **ValImpType4**
*ParentHarvestCodes:* 3|4
*ParentValues:* = "Commercially supplied device" or "Transcatheter device"

Harvest Codes:

201 500DM## - Medtronic Open Pivot Standard Mitral Heart Valve
202 500FA## - Medtronic Open Pivot Standard Aortic Heart Valve
203 501DA## - Medtronic Open Pivot AP Series Aortic Heart Valve
204 501DM## - Medtronic Open Pivot AP Series Mitral Heart Valve
205 502AG## - Medtronic Open Pivot Aortic Valved Graft (AVG)
206 503DA## - Medtronic Open Pivot APex Series Heart Valve
207 505DA## - Medtronic Open Pivot AP360 Series Aortic Heart Valve
208 A010 - CryoLife Ascending Thoracic Aorta
209 A020 - CryoLife Descending Thoracic Aorta
210 A030 - CryoLife Pulmonary Artery
211 AV00 - CryoLife Aortic Valve and Conduit
212 AV10 - CryoLife Aortic Valve without Conduit
214 PV00 - CryoLife Pulmonary Valve & Conduit
215 PV10 - CryoLife Pulmonary Valve without Conduit
216 R010 - CryoLife Aortoiliac Grafts
217 R020 - CryoLife Femoral Popliteal Artery
218 SGPV00 - CryoLife SG Pulmonary Valve & Conduit
219 SGPV10 - CryoLife SG Pulmonary Valve without Conduit
220 V010 - CryoLife Saphenous Vein
221 V060 - CryoLife Femoral Vein
224 2500## - Edwards Prima Aortic Stentless Bioprosthesis
225 2500P## - Edwards Prima Plus Stentless Aortic Bioprosthesis
226 2625## - Carpentier-Edwards Porcine Aortic Bioprosthesis
227 2650## - Carpentier-Edwards S.A.V. Aortic Porcine Bioprosthesis
228 2700## - Carpentier-Edwards Perimount Pericardial Aortic Bioprosthesis
229 2700TFX## - Carpentier- Edwards Perimount Theon Pericardial Aortic Bioprosthesis with ThermaFix Process
230 2800## - Carpentier-Edwards Perimount RSR Pericardial Aortic Bioprosthesis
231 2800TFX## - Carpentier- Edwards Perimount Theon RSR Pericardial Aortic Bioprosthesis with ThermaFix Process
232 3000## - Carpentier-Edwards Perimount Magna Pericardial Aortic Bioprosthesis
233 3000TFX## - Carpentier- Edwards Perimount Magna Pericardial Aortic Bioprosthesis with ThermaFix Process
234 3160## - Edwards- Duromedics Bileaflet Prostheses
235 3300TFX## - Carpentier- Edwards Perimount Magna Ease Pericardial Aortic Bioprosthesis with ThermaFix Process
236 3600## - Edwards Mira Mechanical Valve
237 3600f## - Edwards Mira Mechanical Valve
238 3600u## - Edwards Mira Mechanical Valve
239 4100## - Carpentier- McCarthy-Adams IMR ETlogix Mitral Annuloplasty Ring
240 4200## - Edwards GeoForm Mitral Annuloplasty Ring
241 4300## - Carpentier-Edwards Bioprosthetic Valved Conduit

4400## - Carpentier-Edwards Classic Mitral Annuloplasty Ring
4425## - Carpentier-Edwards Classic Mitral Annuloplasty Ring with Duraflo Treatment
4450## - Carpentier-Edwards Physio Mitral Annuloplasty Ring
4475## - Carpentier-Edwards Physio Annuloplasty Ring with Duraflo Treatment
4500## - Carpentier-Edwards Classic Tricuspid Annuloplasty Ring
4525## - Carpentier-Edwards Classic Tricuspid Annuloplasty Ring with Duraflo Treatment
4600## - Crosgrove-Edwards Mitral/Tricuspid Annuloplasty Ring
4625## - Crosgrove-Edwards Annuloplasty System with Duraflo Treatment
4900## - Edwards MC3 Tricuspid Annuloplasty System
5100## - Edwards DETlogix Mitral Annuloplasty Ring
5100M## - Edwards Myxomatous Annuloplasty Ring
5200## - Carpentier-Edwards Physio II Mitral Annuloplasty Ring
6625## - Carpentier-Edwards Porcine Mitral Bioprosthesis
6625-ESR-LP## - Carpentier- Edwards Duraflex Low Pressure Porcine Mitral Bioprosthesis with Extended Suture Ring
6625LP## - Carpentier-Edwards Duraflex Low Pressure Porcine Mitral Bioprosthesis
6900P## - Carpentier-Edwards Perimount Plus Mitral Pericardial Bioprosthesis
6900PTFX## - Carpentier-Edwards Perimount Theon Mitral Pericardial Bioprosthesis with ThermaFix Process
7000TFX## - Carpentier-Edwards Perimount Magna Mitral Pericardial Bioprosthesis
7200TFX## - Carpentier-Edwards Perimount Magna Mitral Ease Pericardial Bioprosthesis
7300TFX## - Carpentier-Edwards Perimount Magna Mitral Ease Pericardial Bioprosthesis with ThermaFix Process
9000## - Cribier-Edwards Aortic Bioprosthesis
9000PHV## - Cribier-Edwards Aortic Bioprosthesis
9000TFX## - Edwards Sapien Transcatheter Heart Valve
9120## - Edwards-Duromedics Bileaflet Prostheses
9600## - Edwards Mira Mechanical Valve
AAL - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Large
AAM - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Medium
AAS - LifeNet CardioGraft Ascending Aorta (Non-Valved) - Small
DLHPA - LifeNet CardioGraft Decellularized Hemi-Pulmonary Artery with Matracell - Left
DRHPA - LifeNet CardioGraft Decellularized Hemi- Pulmonary Artery with Matracell - Right
HVAL - LifeNet CardioGraft Aortic Heart Valve - Large
HVAM - LifeNet CardioGraft Aortic Heart Valve - Medium
HVAS - LifeNet CardioGraft Aortic Heart Valve - Small
HVPL - LifeNet CardioGraft Pulmonary Heart Valve - Large
HVPM - LifeNet CardioGraft Pulmonary Heart Valve - Medium
HVPS - LifeNet CardioGraft Pulmonary Heart Valve - Small
LHPA - LifeNet CardioGraft Hemi-Pulmonary Artery - Left
PAL - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Large
PAM - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Medium

281 PAS - LifeNet CardioGraft Pulmonary Artery (Non-Valved) - Small
282 RHPA - LifeNet CardioGraft Hemi-Pulmonary Artery - Right
283 TAL - LifeNet CardioGraft Thoracic Aorta Non-valved - Large
284 TAM - LifeNet CardioGraft Thoracic Aorta Non-valved - Medium
286 174A - ## - Medtronic Hancock Apical Left Ventricle Connector
287 200## - Medtronic Contegra Unsupported Pulmonary Valve Conduit
288 200S## - Medtronic Contegra Supported Pulmonary Valve Conduit
289 305C2## - Medtronic Mosaic Standard Cinch - Aortic
290 305U2## - Medtronic Mosaic Ultra Cinch - Aortic
291 310## - Medtronic Mosaic Mitral
292 610B## - Medtronic Duran Band
293 610R## - Medtronic Duran Ring
294 620B## - Medtronic Duran AnCore Band
295 620BG## - Medtronic Duran AnCore Band With Chordal Guide
296 620R## - Medtronic Duran AnCore Ring
297 620RG## - Medtronic Duran Ancore Ring With Chordal Guide
298 638B## - Medtronic CG Future Band
299 638R## - Medtronic CG Future Composite Ring
300 670 - Medtronic Simplici-T Annuloplasty System
301 680R## - Medtronic Profile 3D Ring
302 995CS## - Medtronic Freestyle, Complete Subcoronary - CS
303 995MS## - Medtronic Freestyle, Modified Subcoronary - MS
304 FR995-## - Medtronic Freestyle, Full Root - FR
307 HC105-## - Medtronic Hancock Low-porosity Valved Conduit
308 HC150-## - Medtronic Hancock Modified Orifice Pulmonic Valved Conduit
309 T505C2## - Medtronic Hancock II Aortic Cinch
310 T505U2## - Medtronic Hancock II Ultra Cinch
311 T510C## - Medtronic Hancock II Mitral
312 ONXA## - On-X Aortic Valve with standard sewing ring
313 ONXAC## - On-X Aortic Valve with Conform-X Sewing Ring
314 ONXACE## - On-X Aortic Valve with Conform-X Sewing Ring, extended
315 ONXAE## - On-X Aortic Valve with standard sewing ring, extended
316 ONXM## - On-X Mitral Valve with standard sewing ring
317 ONXMC## - On-X Mitral Valve with Conform-X Sewing Ring
327 LXA## - Sorin Group Mitroflow Aortic Pericardial Heart Valve
328 A5-0## - Sorin Group: Carbomedics Standard Aortic Valve
329 AF-8## - Sorin Group: Carbomedics AnnuloFlex Annuloplasty System
330 AP-0## - Sorin Group: Carbomedics Carbo-Seal Ascending Aortic Prosthesis
331 AR-7## - Sorin Group: Carbomedics AnnuloFlo Annuloplasty System
332 CP-0## - Sorin Group: Carbomedics Carbo-Seal Valsalva Ascending Aortic Prosthesis
333 F7-0## - Sorin Group: Carbomedics OptiForm Mitral Valve
334 M7-0## - Sorin Group: Carbomedics Standard Mitral Valve

335 R5-0## - Sorin Group: Carbomedics Reduced Series Aortic Valve
336 S5-0## - Sorin Group: Carbomedics Top Hat Supra- Annular Aortic Valve
337 ##A-101 - St. Jude Medical Mechanical Aortic Heart Valve
338 ##AEC-102 - St. Jude Medical Mechanical Heart Valve
339 ##AECJ-502 - St. Jude Medical Masters Series Aortic Mechanical Valve, Expanded Cuff
340 ##AECS-602 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
341 ##AEHPJ-505 - St. Jude Medical Masters HP Mechanical Valve, Expanded Cuff
342 ##AEHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
343 ##AET-104 - St. Jude Medical Mechanical Heart Valve
344 ##AETJ-504 - St. Jude Medical Masters Series Mechanical Heart Valve
345 ##AFHPJ-505 - St. Jude Medical Masters HP Aortic Mechanical Valve, Flex Cuff
346 ##AG-701 - St. Jude Medical Regent Valve with Silzone Coating
347 ##AGF-706 - St. Jude Medical Regent Valve with Silzone Coating
348 ##AGFN-756 - St. Jude Medical Regent Aortic Mechanical Valve, Flex Cuff
349 ##AGN-751 - St. Jude Medical Regent Aortic Mechanical Valve, Standard Cuff
350 ##AHP-105 - St. Jude Medical Mechanical Heart Valve Hemodynamic Plus (HP) Series
351 ##AHPJ-505 - St. Jude Medical Masters HP Aortic Mechanical Heart Valve, Standard Cuff
352 ##AHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
353 ##AJ-501 - St. Jude Medical Masters Series Aortic Mechanical Valve, Standard Cuff
354 ##AS-601 - St. Jude Medical Masters Mechanical Heart Valve with Silzone Coating
355 ##AT-103 - St. Jude Medical Mechanical Heart Valve
356 ##ATJ-503 - St. Jude Medical Masters Series Aortic Mechanical Valve, PTFE Cuff
357 ##CAVG-404 - St. Jude Medical Coated Aortic Valved Graft Prosthesis
358 ##CAVGJ-514 - St. Jude Medical Masters Series Aortic Valved Graft
359 ##CAVGJ-514-00 - St. Jude Medical Masters Aortic Valved Graft, Hemashield Technology
360 ##M-101 - St. Jude Medical Mechanical Mitral Heart Valve
361 ##MEC-102 - St. Jude Medical Mechanical Heart Valve
362 ##MECJ-502 - St. Jude Medical Masters Series Mitral Mechanical Valve, Expanded Cuff
363 ##MECS-602 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
364 ##MEHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
365 ##MET-104 - St. Jude Medical Mechanical Heart Valve
366 ##METJ-504 - St. Jude Medical Masters Series Mitral Mechanical Valve, Expanded PTFE Cuff
367 ##MHP-105 - St. Jude Medical Mechanical Heart Valve Hemodynamic Plus (HP) Series
368 ##MHPJ-505 - St. Jude Medical Masters HP Mitral Mechanical Heart Valve, Standard Cuff
369 ##MHPS-605 - St. Jude Medical Masters Series Mechanical Heart Valve with Silzone Coating
370 ##MJ-501 - St. Jude Medical Masters Series Mitral Mechanical Valve, Standard Cuff
371 ##MS-601 - St. Jude Medical Masters Mechanical Heart Valve with Silzone Coating
372 ##MT-103 - St. Jude Medical Mechanical Heart Valve
373 ##MTJ-503 - St. Jude Medical Masters Series Mitral Mechanical Valve, PTFE Cuff
374 ##VAVGJ-515 - St. Jude Medical Masters HP Aortic Valved Graft
375 AFR-## - St. Jude Medical Attune Flexible Adjustable Annuloplasty Ring
376 B10-##A - St. Jude Medical Biocor Aortic Valve

377 B10-##A-00 - St. Jude Medical Biocor Aortic Valve
378 B10-##M - St. Jude Medical Biocor Mitral Valve
379 B10-##M-00 - St. Jude Medical Biocor Mitral Valve
380 B100-##A-00 - St. Jude Medical Biocor Stented Aortic Tissue Valve
381 B100-##M-00 - St. Jude Medical Biocor Stented Mitral Tissue Valve
382 B10SP-## - St. Jude Medical Biocor Supra Stented Porcine Heart Valve
383 B20-0##A - St. Jude Medical Biocor Porcine Stentless Bioprosthetic Heart Valve
384 B30-##A - St. Jude Medical Biocor Valve
385 B30-##M - St. Jude Medical Biocor Valve
386 BSP100-## - St. Jude Medical Biocor Supra Aortic Stented Tissue Valve
387 E100-##A-00 - St. Jude Medical Epic Aortic Stented Tissue Valve
388 E100-##M-00 - St. Jude Medical Epic Mitral Stented Tissue Valve
389 EL-##A - St. Jude Medical Epic Aortic Valve
390 EL-##M - St. Jude Medical Epic Mitral Valve
391 ELS-##A - St. Jude Medical Epic Tissue Aortic Valve with Silzone Coating
392 ELS-##M - St. Jude Medical Epic Tissue Mitral Valve with Silzone Coating
393 ESP100-##-00 - St. Jude Medical Epic Supra Aortic Stented Tissue Valve
394 ESP100-##A-00 - St. Jude Medical Epic Stented Aortic Tissue Valve
395 ROOT-## - St. Jude Medical Toronto Root with BiLinx AC
396 RSAR-## - St. Jude Medical SJM Rigid Saddle Ring
397 SARP-## - St. Jude Medical SJM STguin Semi-Rigid Annuloplasty Ring
398 SARS-M## - St. Jude Medical STguin Annuloplasty Ring with Silzone Coating
399 SPA-101-## - St. Jude Medical Toronto SPV Valve
400 SPA-201-## - St. Jude Medical Toronto SPV II Bioprosthetic Heart Valve
401 TAB-## - St. Jude Medical Tailor Flexible Annuloplasty Band
402 TAR-## - St. Jude Medical Tailor Annuloplasty Ring with Silzone Coating
403 TARP-## - St. Jude Medical Tailor Flexible Annuloplasty Ring
404 PB10-## - Medtronic Melody Transcatheter Pulmonary Valve
405 700FF## - Medtronic Simulus FLX-O Ring
406 700FC## - Medtronic Simulus FLX-C Band
407 735AF## - Medtronic Simulus Adjustable Ring
408 800SR## - Medtronic Simulus Semi-rigid Ring
409 900SFC## - Medtronic TriAd Tricuspid Annuloplasty Ring
410 1000-## - Medtronic 3f Aortic Bioprosthesis
411 6200## - Carpentier-Edwards Physio Tricuspid Annuloplasty Ring
412 9300TFX## - Edwards Sapien Transcatheter Heart Valve
413 305## - Medtronic Mosaic Ultra Porcine Heart Valve
415 TF-##A - St. Jude Medical Trifecta Aortic Stented Tissue Valve
416 505DM## - Medtronic Open Pivot AP360 Series Mitral Heart Valve
417 800SC## - Medtronic Simulus Semi-rigid Mitral Annuloplasty Ring
418 6000-## - Medtronic 3f Enable Aortic Bioprosthesis
419 PH00 - Cryolife Pulmonary Hemi-Artery

420 SGPH00 - Cryolife SG Pulmonary Hemi-Artery
421 690R## - Medtronic Contour 3D Annuloplasty ring
422 735AC## - Medtronic Simulus Adjustable Band
423 9600TFX## - Edwards Sapien Transcatheter Heart Valve
425 H607 - Medtronic post Annuloplasty band (Split, Mayo)
428 ICV08## - Sorin Group Sovering Annuloplasty
429 ICV09## - Sorin Group MEMO 3D Semi-rigid Annuloplasty Ring
432 A1-0## - Sorin Group: Carbomedics Orbis Universal Aortic Valve
433 M2-0## - Sorin Group: Carbomedics Orbis Universal Mitral Valve
434 PF ## - Sorin Group PF ## - Sorin Group Stentless
435 PS ## - Sorin Group Pericarbon More Mitral
436 ART ## SOP - Sorin Group Soprano Armonia
437 ART ## SG - Sorin Group Freedom Solo
438 ART ## LFA- Sorin Group Bicarbon Fitline Aortic
439 MTR ## LFM- Sorin Group Bicarbon Fitline Mitral
440 ART ## LOV- Sorin Group Bicarbon Overline Aortic
441 ART ## LSA- Sorin Group Bicarbon Slimline Aortic
442 8300A## - Edwards Intuity Valve System (outside US)
443 8300AB## - Edwards Intuity Elite Valve System (outside US)
444 8300ACD## - Edwards Intuity Elite Valve System
445 9355NF## - Edwards Sapien XT Transcatheter Valve with NovaFlex System
446 9355ASP## - Edwards Sapien XT Transcatheter Valve with Ascendra System
447 S3TF1## - Edwards Sapien 3 Transcatheter Valve with Commander System
448 S3TA1## - Edwards Sapien 3 Transcatheter Valve with Certitude System
449 CRS-P3-640 – Medtronic CoreValve
450 CRS-P3-943 – Medtronic CoreValve
451 MCS-P3 – Medtronic CoreValve
452 MCS-P4 – Medtronic CoreValve Evolut
453 ONXAN## - On-X Aortic Heart Valve with Anatomic Sewing Ring
454 ONXANE## - On-X Valve with Anatomic Sewing ring and Extended Holder
455 ONXAAP## - On-X Ascending Aortic Prosthesis
456 ICV12## - Sorin Solo Smart Aortic Valve
457 ICV13## - Sorin Group MEMO 3D Rechord Annuloplasty Ring
458 DLA## - Sorin Group Mitroflow Aortic Pericardial Heart Valve with PRT
459 MVC0##- Sorin Group Mitroflow Valsalva Conduit
460 1260 ### - Starr-Edwards Silastic Ball Aortic Heart Valve Prosthesis
461 6120 ### - Starr Edwards Silastic Ball Mitral Heart Valve Prosthesis
462 73##1088 - Vascutek Gelweave Plexus Graft
463 7300##ADP - Vascutek Terumo Gelweave Vascular 45Prosthesis
464 7320## - Vascutek Gelweave Trifucate Arch Graft
465 7350##ST - Vascutek Gelweave Pre-curved Graft
466 8300AB### - Edwards Intuity Elite Valve

467 8300KITB### - Edwards Intuity Elite Valve System
468 9600CM## - Edward Sapien
469 ART##SMT - Sorin Solo Smart
470 CNA19 - Sorin Crown PRT Tissue Valve
471 CNA21 - Sorin Crown PRT Tissue Valve
472 CNA23 - Sorin Crown PRT Tissue Valve
473 CNA25 - Sorin Crown PRT Tissue Valve
474 CNA27 - Sorin Crown PRT Tissue Valve
475 DPPGK - LifeNet CardioGRAFT Thick Pulmonary Patch (decellularized)
476 DPPGN – LifeNet CardioGRAFT Thin Pulmonary Patch (decellularized)
477 EVOLUTR-##-US - Medtronic CoreValve Evolut R
478 H749LTV##0 - Boston Scientific Lotus Transcatheter Valve
479 ICV1208 - Sorin Perceval Tissue Valves
480 ICV1209 - Sorin Perceval Tissue Valves
481 ICV1210 - Sorin Perceval Tissue Valves
482 ICV1211 - Sorin Perceval Tissue Valves
483 ICV1248 - Solo Smart Aortic Tissue Valves
484 ICV1264 - Solo Smart Aortic Tissue Valves
485 ICV1265 - Solo Smart Aortic Tissue Valves
486 ICV1331 - Sorin MEMO 3D RECHORD Annuloplasty Ring
487 ICV1332 - Sorin MEMO 3D RECHORD Annuloplasty Ring
488 ICV1333 - Sorin MEMO 3D RECHORD Annuloplasty Ring
489 ICV1334 - Sorin MEMO 3D RECHORD Annuloplasty Ring
490 ICV1335 - Sorin MEMO 3D RECHORD Annuloplasty Ring
491 ICV1336 - Sorin MEMO 3D RECHORD Annuloplasty Ring
492 ICV1337 - Sorin MEMO 3D RECHORD Annuloplasty Ring
493 IVC1247 - Solo Smart Aortic Tissue Valves
494 LMCP - LifeNet CardioGRAFT Left Mono Cusp Patch
495 MCP - LifeNet CardioGRAFT Mono Cusp Patch
496 PPGK - LifeNet CardioGRAFT Thick Pulmonary Patch
497 PPGN - LifeNet CardioGRAFT Thin Pulmonary Patch
498 PRT-## - Portico Transcatheter Aortic Valve
499 RMCP - LifeNet CardioGRAFT Right Mono Cusp Patch
500 TAS - LifeNet CardioGraft Thoracic Aorta - Small 16mm and less
501 TFGT-##A - St. Jude Medical Trifecta with Glide Technology (GT) Aortic Stented Tissue Valve
502 Z65LOTUSKIT## - Lotus Valve Kit
503 11500AXX - Edwards Inspiris Resilia Aortic Valve
777 Other US FDA-Approved Device
778 Other Non-US FDA- Approved Device

| | | | |
|---|---|---|---|
| *Long Name:* | Valve Implant Unique Device Identifier (UDI) - 4 | *SeqNo:* | 3441 |
| *Short Name:* | **ValImpUDI4** | *Core:* | Yes |
| *Section Name*: | Valve Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the Unique Device Identifier (UDI) of the fourth implanted valve device if available, otherwise leave blank. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text |
| *ParentLongName:* | Valve Implant Type #4 |
| *ParentShortName:* | **ValImpType4** |
| *ParentHarvestCodes:* | 3\|4 |
| *Parent Value:* | = "Commercially supplied device" or "Transcatheter device" |

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| | | | |
|---|---|---|---|
| *Long Name:* | Valve Implant Commercial Device Size #4 | *SeqNo:* | 3442 |
| *Short Name:* | **ValImpComSz4** | *Core:* | Yes |
| *Section Name*: | Valve Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the size of the fourth implanted valve or device. | | |
| *Low Value:* | 15 | | |
| *High Value:* | 33 | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Integer |
| *ParentLongName:* | Valve Implant Type #4 |
| *ParentShortName:* | **ValImpType4** |
| *ParentHarvestCodes:* | 3 |
| *Parent Value:* | = "Commercially supplied device" |

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## VAD Procedures

| | | | |
|---|---|---|---|
| *Long Name:* | VAD Explanted And/Or Implanted | *SeqNo:* | 3460 |
| *Short Name:* | **VADExImp** | *Core:* | Yes |
| *Section Name*: | VAD Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |

*Definition:* Indicate whether a ventricular assist device (VAD) was explanted and/or implanted during this procedure.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|2|9|3|4|6|7|777
*ParentValues:* = "CPB Cardiovascular", "No CPB Cardiovascular", "CPB Non-Cardiovascular", "ECMO", "Thoracic", "VAD Operation Done With CPB", "VAD Operation Done Without CPB." or "Other"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | No |
| 2 | Yes, explanted |
| 3 | Yes, implanted |
| 4 | Yes, explanted and implanted |

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*Long Name:* VAD-Indication for VAD
*Short Name:* **VADInd**
*Section Name*: VAD Procedures
*DBTableName:* Operations
*Definition:* Indicate the reason the patient is receiving the ventricular assist device (VAD).

*SeqNo:* 3500
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* VAD Explanted And/Or Implanted
*ParentShortName:* **VADExImp**
*ParentHarvestCodes:* 3|4
*ParentValues:* = "Yes, implanted" or "Yes, explanted and implanted"

Harvest Codes: and Value Definitions:

| Code: | Value: | Definition: |
|---|---|---|
| 1 | Bridge to Transplantation | Includes those patients who are supported with a VAD until a heart transplant is possible. |
| 2 | Bridge to Recovery | Includes those patients who are expected to have ventricular recovery. (i.e. Myocarditis patients, postcardiotomy syndromes, viral cardiomyopathies, AMI w/ revascularization, and post-transplant reperfusion injury) |

| | | |
|---|---|---|
| 3 | Destination | Includes those patients where a heart transplant is not an option. The VAD is placed for permanent life sustaining support. |
| 4 | Postcardiotomy Ventricular failure (separation from CPB) | Includes those postcardiotomy patients who receive a VAD because of failure to separate from the heart- lung machine. Postcardiotomy refers to those patients with the inability to wean from cardiopulmonary bypass secondary to left, right, or biventricular failure. |
| 5 | Device Malfunction | Includes those patients who are currently VAD supported and are experiencing device failure. |
| 6 | End of Life | Mechanical device pump has reached functional life expectancy and requires replacement. |

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| | | | |
|---|---|---|---|
| *Long Name:* | VAD-First Implant Type | *SeqNo:* | 3550 |
| *Short Name:* | **VImpTy** | *Core:* | Yes |
| *Section Name*: | VAD Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the initial type of VAD implanted. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | VAD Explanted And/Or Implanted |
| *ParentShortName:* | **VADExImp** |
| *ParentHarvestCodes:* | 3\|4 |
| *ParentValues:* | = "Yes, implanted" or "Yes, explanted and implanted" |

Harvest Codes and Value Definitions:

| Code: | Value: |
|---|---|
| 1 | RVAD - Right Ventricular Assist Device |
| 2 | LVAD - Left Ventricular Assist Device |
| 4 | TAH - Total Artificial Heart |

December 2020: Bilateral Berlin Hearts were placed in a TAH configuration. Should this be coded as VImpTy = TAH and list only one UDI and product, or should I code as LVAD and then code VADImp2=Yes, and code the second UDI and product. **Include as 2 separate VAD operations, code as LVAD and then code the 2nd implant. Will look at including BiVad in the upgrade.**

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| | | | |
|---|---|---|---|
| *Long Name:* | VAD Implant Unique Device Identifier (UDI) | *SeqNo:* | 3565 |
| *Short Name:* | **VADImpUDI** | *Core:* | Yes |
| *Section Name*: | VAD Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |

*Definition:* Indicate the Unique Device Identifier (UDI) of the implanted VAD if available, otherwise leave blank.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text

*ParentLongName:* VAD Explanted And/Or Implanted
*ParentShortName:* **VADExImp**
*ParentHarvestCodes:* 3|4
*ParentValues:* = "Yes, implanted" or "Yes, explanted and implanted"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* VAD-First Product Type
*Short Name:* **VProdTy**
*Section Name*: VAD Procedures
*DBTableName:* Operations
*Definition:* Indicate the specific product implanted. Implant defined as physical placement of the VAD.

*SeqNo:* 3569
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* VAD Explanted And/Or Implanted
*ParentShortName:* **VADExImp**
*ParentHarvestCodes:* 3|4
*ParentValues:* = "Yes, implanted" or "Yes, explanted and implanted"

Harvest Codes:

| Code: | Value: |
|---|---|
| 101 | Abiomed AB 5000 |
| 102 | Abiomed Abiocor TAH |
| 103 | Abiomed BVS 5000 |
| 104 | BerlinHeart EXCOR |
| 105 | BerlinHeart INCOR |
| 106 | CircuLite Synergy Endovascular Micro-Pump System |
| 107 | CircuLite Synergy MictoPump (Surgical |

| | |
|---|---|
| | System) |
| 108 | HeartWare HVAD |
| 109 | Impella (catheter based) |
| 110 | Jarvik 2000 |
| 111 | Levitronix CentriMag |
| 112 | Levitronix PediMag |
| 113 | LifeBridge |
| 114 | Maquet ROTAFLOW Centrifugal Pump system |
| 115 | Medtronic Biomedicus (Biopump) |
| 116 | Micromed Heart Assist 5 (DeBakey) |
| 117 | pCAS |
| 118 | PediaFlow |
| 119 | PediPump |
| 120 | PennState PVAD |
| 121 | Sorin Revolution |
| 122 | Syncardia CardioWest TAH |
| 123 | Tandem Heart (catheter based) |
| 124 | Terumo Duraheart |
| 125 | Thoratec Centrimag |
| 126 | Thoratec Heart Mate II |
| 127 | Thoratec Heart Mate IP |
| 128 | Thoratec Heart Mate VE |
| 129 | Thoratec Heart Mate XVE |
| 130 | Thoratec IVAD |
| 131 | Thoratec PediMag/ PediVas |
| 132 | Thoratec PVAD |
| 133 | WorldHeart NovaCor |
| 134 | WorldHeart Pediaflow |
| 135 | WorldHeart MiFlow |
| 136 | Maquet CardioHelp model #70104-7999 |
| 137 | Thoratec Heartmate lll MLP-002487 |
| 138 | THORATEC HEARTMATE III IMPLANT KIT (VAD) 106524 |
| 999 | Other |

| | | | |
|---|---|---|---|
| *Long Name:* | First Occurrence Involved Implantation of Two VAD Devices | *SeqNo:* | 3571 |
| *Short Name:* | **VADImp2** | *Core:* | Yes |
| *Section Name*: | VAD Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the first occurrence involved the implantation of two VAD devices. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | VAD-First Implant Type |
| *ParentShortName:* | **VImpTy** |
| *ParentHarvestCodes:* | 1\|2 |
| *ParentValues:* | = "RVAD - Right Ventricular Assist Device" or "LVAD - Left Ventricular Assist Device" |

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Second VAD Implant Unique Device Identifier (UDI) | *SeqNo:* | 3573 |
| *Short Name:* | **VADImpUDI2** | *Core:* | Yes |
| *Section Name*: | VAD Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the UDI of the second VAD device. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text |
| *ParentLongName:* | First Occurrence Involved Implantation of Two VAD Devices |
| *ParentShortName:* | **VADImp2** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Yes” |

| | | | |
|---|---|---|---|
| *Long Name:* | VAD-Second Product Type | *SeqNo:* | 3574 |
| *Short Name:* | **VProdTy2** | *Core:* | Yes |
| *Section Name*: | VAD Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the second VAD type. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |

| | |
|---|---|
| *ParentLongName:* | First Occurrence Involved Implantation of Two VAD Devices |
| *ParentShortName:* | **VADImp2** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Yes" |

Harvest Codes:

| Code: | Value: |
|---|---|
| 101 | Abiomed AB 5000 |
| 102 | Abiomed Abiocor TAH |
| 103 | Abiomed BVS 5000 |
| 104 | BerlinHeart EXCOR |
| 105 | BerlinHeart INCOR |
| 106 | CircuLite Synergy Endovascular Micro-Pump System |
| 107 | CircuLite Synergy MictoPump (Surgical System) |
| 108 | HeartWare HVAD |
| 109 | Impella (catheter based) |
| 110 | Jarvik 2000 |
| 111 | Levitronix CentriMag |
| 112 | Levitronix PediMag |
| 113 | LifeBridge |
| 114 | Maquet ROTAFLOW Centrifugal Pump system |
| 115 | Medtronic Biomedicus (Biopump) |
| 116 | Micromed Heart Assist 5 (DeBakey) |
| 117 | pCAS |
| 118 | PediaFlow |
| 119 | PediPump |
| 120 | PennState PVAD |
| 121 | Sorin Revolution |
| 122 | Syncardia CardioWest TAH |

| | |
|---|---|
| 123 | Tandem Heart (catheter based) |
| 124 | Terumo Duraheart |
| 125 | Thoratec Centrimag |
| 126 | Thoratec Heart Mate II |
| 127 | Thoratec Heart Mate IP |
| 128 | Thoratec Heart Mate VE |
| 129 | Thoratec Heart Mate XVE |
| 130 | Thoratec IVAD |
| 131 | Thoratec PediMag/ PediVas |
| 132 | Thoratec PVAD |
| 133 | WorldHeart NovaCor |
| 134 | WorldHeart Pediaflow |
| 135 | WorldHeart MiFlow |
| 136 | Maquet CardioHelp model #70104-7999 |
| 137 | Thoratec Heartmate lll MLP-002487 |
| 138 | THORATEC HEARTMATE III IMPLANT KIT (VAD) 106524 |
| 999 | Other |

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*Long Name:* VAD-Explant Reason
*Short Name:* **VExpRsn**
*Section Name*: VAD Procedures
*DBTableName:* Operations
*Definition:* Indicate the reason the VAD was explanted.

*SeqNo:* 3610
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Patient Remains Hospitalized During this Episode of Care
*ParentShortName:* **VADExImp**
*ParentHarvestCodes:* 2|4
*ParentValues:* = "Yes, explanted" or "Yes, explanted and implanted"

Harvest Codes and Value Definitions:

| Code: | Value: | Definition: |
|---|---|---|
| 1 | Cardiac Transplant | The VAD was explanted for Cardiac Transplant. |
| 2 | Recovery | The VAD was removed after cardiac recovery. |

| | | |
|---|---|---|
| 3 | Device Transfer | The VAD was explanted in order to implant another assist device. |
| 4 | Device-Related Infection | An infection within the pump pocket, driveline, VAD Endocarditis, or other infection requiring explanation of the VAD. The body of the VAD has an active infection requiring removal to eliminate the infection. "Device-related infections" are defined as positive culture in the presence of leukocytosis, and /or fever requiring medical or surgical intervention. |
| 5 | Device Malfunction | The VAD pump itself is not functioning properly causing hemodynamic compromise, and/or requiring immediate intervention or VAD replacement. |
| 6 | End of Life | Mechanical device pump has reached functional life expectancy and requires replacement. |

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| | | | |
|---|---|---|---|
| *Long Name:* | VAD Explant Unique Device Identifier (UDI) | *SeqNo:* | 3611 |
| *Short Name:* | **VADExpUDI** | *Core:* | *Yes* |
| *Section Name*: | VAD Procedures | *Harvest:* | *Yes* |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the Unique Device Identifier (UDI) of the explanted VAD if available, otherwise leave blank. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text |
| *ParentLongName:* | VAD Explanted And/Or Implanted |
| *ParentShortName:* | **VADExImp** |
| *ParentHarvestCodes:* | 2\|4 |
| *ParentValues:* | = "Yes, explanted" or "Yes, explanted and implanted" |

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| | | | |
|---|---|---|---|
| *Long Name:* | VAD-Primary VAD Comp-Intracranial Bleed | *SeqNo:* | 3850 |
| *Short Name:* | **PVCmpBld** | *Core:* | Yes |
| *Section Name*: | VAD Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate if the patient had an intracranial bleed, confirmed by CT scan or other diagnostic studies. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |

*ParentLongName:* VAD Explanted And/Or Implanted
*ParentShortName:* **VADExImp**
*ParentHarvestCodes:* 2|3|4
*ParentValues:* = "Yes, explanted", "Yes, implanted" or "Yes, explanted and implanted"

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* VAD-Primary VAD Comp-Embolic Stroke
*Short Name:* **PVCmpESt**
*Section Name*: VAD Procedures
*DBTableName:* Operations
*Definition:* Indicate if the patient had embolic stroke caused by a blood clot, air embolus, or tissue, confirmed by CT scan or other diagnostic studies.

*SeqNo:* 3860
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* VAD Explanted And/Or Implanted
*ParentShortName:* **VADExImp**
*ParentHarvestCodes:* 2|3|4
*ParentValues:* = "Yes, explanted", "Yes, implanted" or "Yes, explanted and implanted"

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* VAD-Primary VAD Comp-Driveline and/or cannula infection
*Short Name:* **PVCmpDCI**
*Section Name*: VAD Procedures
*DBTableName:* Operations
*Definition:* Indicate if the patient had a driveline and/or cannula infection. Driveline and/or cannula infection is defined as the presence of erythema, drainage, or purulence at the VAD connection site whether entering or exiting the body in association with leukocytosis and in the presence of positive culture.

*SeqNo:* 3870
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* VAD Explanted And/Or Implanted
*ParentShortName:* **VADExImp**
*ParentHarvestCodes:* 2|3|4
*ParentValues:* = "Yes, explanted", "Yes, implanted" or "Yes, explanted and implanted"

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* VAD-Primary VAD Comp-Pump Pocket Infection
*Short Name:* **PVCmpPPI**
*Section Name*: VAD Procedures
*DBTableName:* Operations
*Definition:* Indicate if the patient had a pump pocket infection. A pump pocket infection is defined as a persistent drainage in the physical location of the pump, located preperitoneally or intra-abdominally with positive cultures from the pocket site.

*SeqNo:* 3880
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* VAD Explanted And/Or Implanted
*ParentShortName:* **VADExImp**
*ParentHarvestCodes:* 2|3|4
*ParentValues:* = "Yes, explanted", "Yes, implanted" or "Yes, explanted and implanted"

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* VAD-Primary VAD Comp-VAD Endocarditis
*Short Name:* **PVCmpEnd**

*SeqNo:* 3890
*Core:* Yes

*Section Name*: VAD Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate if the patient had VAD endocarditis. VAD endocarditis is defined as an infection of the blood contacting surface of the VAD device itself. This may include:
- internal surfaces;
- graft material;
- inflow/outflow valves of the VAD

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* VAD Explanted And/Or Implanted
*ParentShortName:* **VADExImp**
*ParentHarvestCodes:* 2|3|4
*ParentValues:* = "Yes, explanted", "Yes, implanted" or "Yes, explanted and implanted"

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* VAD-Primary VAD Comp-Device Malfunction *SeqNo:* 3900
*Short Name:* **PVCmpMal** *Core:* Yes
*Section Name*: VAD Procedures *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate if the pump itself is not functioning properly causing hemodynamic compromise, and/or requiring immediate intervention or VAD replacement.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* VAD Explanted And/Or Implanted
*ParentShortName:* **VADExImp**
*ParentHarvestCodes:* 2|3|4
*ParentValues:* = "Yes, explanted", "Yes, implanted" or "Yes, explanted and implanted"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |

| | |
|---|---|
| 2 | No |

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|---|---|---|---|
| *Long Name:* | VAD-Primary VAD Comp-Bowel Obstruction | *SeqNo:* | 3910 |
| *Short Name:* | **PVCmpBO** | *Core:* | Yes |
| *Section Name*: | VAD Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate if the patient was diagnosed with a bowel obstruction post VAD insertion by documentation in the medical record. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | VAD Explanted And/Or Implanted |
| *ParentShortName:* | **VADExImp** |
| *ParentHarvestCodes:* | 2\|3\|4 |
| *ParentValues:* | = "Yes, explanted", "Yes, implanted" or "Yes, explanted and implanted" |

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | VAD-Primary VAD Comp-Hemolysis | *SeqNo:* | 3920 |
| *Short Name:* | **PVCmpHemo** | *Core:* | Yes |
| *Section Name*: | VAD Procedures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate if the patient was diagnosed with hemolysis post VAD insertion by documentation in the medical record. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | VAD Explanted And/Or Implanted |
| *ParentShortName:* | **VADExImp** |
| *ParentHarvestCodes:* | 2\|3\|4 |
| *ParentValues:* | = "Yes, explanted", "Yes, implanted" or "Yes, explanted and implanted" |

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Complications Table Unique Record Identifier | *SeqNo:* | 4180 |
| *Short Name:* | **CompUniqueID** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Complications | | |
| *Definition:* | Unique identifier for the record in the Complications table. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | Automatic | | |
| *Format:* | Text | | |

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| | | | |
|---|---|---|---|
| *Long Name:* | Complications Link to Operations Table | *SeqNo:* | 4190 |
| *Short Name:* | **OperationID** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Complications | | |
| *Definition:* | An arbitrary, unique value generated by the software that permanently identifies each operation record in the participant's database. This field is the foreign key that links the Complications record with the associated record in the Operations table. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | Automatic | | |
| *Format:* | Text | | |

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# Complications

| | | | |
|---|---|---|---|
| *Long Name:* | Complication | *SeqNo:* | 4200 |
| *Short Name:* | **Complication** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Complications | | |
| *Definition:* | Assign complication to the operation that is most closely associated with the complication. A complication is an event or occurrence that is associated with a disease or a healthcare intervention, is a departure from the desired course of events, and may cause, or be associated with, suboptimal outcome. A complication does not necessarily represent a breech in the standard of care that constitutes medical negligence or medical | | |

malpractice. An operative or procedural complication is any complication, regardless of cause, occurring (1) within 30 days after surgery or intervention in or out of the hospital, or (2) after 30 days during the same hospitalization subsequent to the operation or intervention. Operative and procedural complications include both intraoperative/intraprocedural complications and postoperative/postprocedural complications in this time interval. An adverse event is a complication that is associated with a healthcare intervention and is associated with suboptimal outcome. Adverse events represent a subset of complications. Not all medical errors result in an adverse event; the administration of an incorrect dose of a medication is a medical error, but it does not always result in an adverse event. Similarly, not all adverse events are the result of medical error. A child may develop pneumonia after an atrial septal defect repair despite intra- and peri-operative management that is free of error. Complications of the underlying disease state, which are not related to a medical intervention, are not adverse events. For example, a patient who presents for medical care with metastatic lung cancer has already developed a complication (Metastatic spread) of the primary lung cancer without any healthcare intervention. Furthermore, complications not associated with suboptimal outcome or harm are not adverse events and are known as no harm events. The patient who receives an incorrect dose of a medication without harm has experienced a no harm event, but not an adverse event.

*Intent / Clarification:* Complications will overlap. List all complications e.g., for tracheostomy code both tracheostomy and unplanned noncardiac reoperation. Better to over report than underreport as this will help us learn and improve.
The purpose for collecting all complications is to find associations that we commonly see with specific procedures to determine if there are alternate ways of performing these procedures to avoid these complications.

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes and Value Definitions:

| Code: | Value: | Definition: |
|---|---|---|
| 15 | No complications | No complications occurred. A complication is an event or occurrence that is associated with a disease or a healthcare intervention, is a departure from the desired course of events, and may cause, or be associated with, suboptimal outcome. A complication does not necessarily represent a breach in the standard of care that constitutes medical negligence or medical malpractice. |

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|---|---|---|
| 16 | No complications during the intraoperative and postoperative time periods (No complications prior to discharge and no complications within < or = 30 days of surgery) | No intraoperative/intraprocedural or postoperative/postprocedural complication occurred prior to hospital discharge or within < or = 30 days of surgery or intervention. A complication is an event or occurrence that is associated with a disease or a healthcare intervention, is a departure from the desired course of events, and may cause, or be associated with, suboptimal outcome. A complication does not necessarily represent a breach in the standard of care that constitutes medical negligence or medical malpractice. |
| 350 | Intraoperative death or intraprocedural death | Patient died in the operating room or procedure room (such as catheterization laboratory or hybrid suite) during the operation or procedure that is being analyzed. |
| 360 | Unplanned readmission to the hospital within 30 days of surgery or intervention | Any unplanned readmission to the hospital within 30 days of surgery or intervention. Code this if readmitted from home or transferred in from another acute care hospital or chronic care facility to which the patient had been transferred to during this episode of care. |
| 370 | Multi-System Organ Failure (MSOF) = Multi-Organ Dysfunction Syndrome (MODS) | Multi-System Organ Failure (MSOF) is a condition where more than one organ system has failed (for example, respiratory failure requiring mechanical ventilation combined with renal failure requiring dialysis). Please code the individual organ system failures as well. If MSOF is associated with sepsis as well, please also code: "Sepsis, Multi-system Organ Failure". Multi-System Organ Failure (MSOF) is synonymous with Multi-Organ Dysfunction Syndrome (MODS). Only code this complication if the patient has failure of two or more than two organs. Do not code MSOF if only failing organs are the heart and lungs. |
| 30 | Unexpected cardiac arrest, Timing = Cardiac arrest (MI) during or following procedure (Perioperative/Periprocedural = Intraoperative/Intraprocedural and/or Postoperative/Postprocedural) | A cardiac arrest is the cessation of effective cardiac mechanical function. This complication should be selected if the cardiac arrest developed after OR Entry Date and Time. Do not select this complication for patients under hospice care or DNR. Please code appropriate arrhythmia codes (codes 72, and/or 73 and/or 75 depending on if antiarrhythmic medication, defibrillation or temporary pacing was used during cardiac arrest.**Sept 2020 - Anytime the arrhythmias occur between the arterial/venous cannula insertion and removal, do not code the treatment of arrhythmias.)** |

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|---|---|---|
| 80 | Cardiac dysfunction resulting in low cardiac output | Low cardiac output state characterized by some of the following: tachycardia, oliguria, decreased skin perfusion, need for increased inotropic support (10% above baseline at admission), metabolic acidosis, widened Arterial - Venous oxygen saturation, need to open the chest. If the cardiac dysfunction is of a severity that results in inotrope dependence, mechanical circulatory support, or listing for cardiac transplantation, please also code as "Cardiac failure (severe cardiac dysfunction)." A patient will be considered to have "inotrope dependence" if they cannot be weaned from inotropic support (10% above baseline at admission) after any period of 48 consecutive hours that occurs after the time of OR Exit Date and Time, and either (1) within 30 days after surgery in or out of the hospital, and (2) after 30 days during the same hospitalization subsequent to the operation. If patient meets criteria for severe cardiac dysfunction, only code "severe." |
| 384 | Cardiac failure (severe cardiac dysfunction) | Low cardiac output state characterized by some of the following: tachycardia, oliguria, decreased skin perfusion, need for increased inotropic support (10% above baseline at admission), metabolic acidosis, widened Arterial - Venous oxygen saturation, need to open the chest, or need for mechanical support. Code if LCOS results in need for Mechanical Circulatory support. This complication should be selected if the cardiac dysfunction is of a severity that results in inotrope dependence, mechanical circulatory support, or listing for cardiac transplantation. A patient will be considered to have "inotrope dependence" if they cannot be weaned from inotropic support (10% above baseline at admission) after any period of 48 consecutive hours that occurs after the time of OR Exit Date and Time and either (1) within 30 days after surgery in or out of the hospital, and (2) after 30 days during the same hospitalization subsequent to the operation. If patient meets criteria for severe cardiac dysfunction, only code "severe". |
| 280 | Endocarditis-postprocedural infective endocarditis | Infective endocarditis in the setting of a heart which has been altered by surgery or intervention. Duke Criteria for the Diagnosis of Infective Endocarditis (IE): The definitive diagnosis of infective endocarditis requires one of the following four situations: 1) Histologic and/or microbiologic evidence of infection at surgery or autopsy such as positive valve culture or histology; 2) Two major criteria; 3) One major criterion and three minor criteria; 4) Five minor criteria. The two major criteria are: 1) Blood cultures positive for IE 2) Evidence of endocardial involvement. Blood cultures positive for IE requires:<br>1) Typical microorganism consistent with IE isolated from 2 separate blood cultures, as noted in number two below (viridans streptococci, Streptococcus bovis, Staphylococcus aureus, or HACEK group [HACEK, Haemophilus species {H. aprophilus and H. paraaphrophilus}, Actinobacillus actinoinycetemcomitans, Cardiobacterium hominis, Eikenella |

| | | |
|---|---|---|
| | | corrodens, and Kingella kingae.]) or (Community-acquired enterococci in the absence of a primary focus); 2) Microorganisms consistent with IE isolated from persistently positive blood cultures defined as: (At least 2 positive cultures of blood samples obtained > 12 hours apart) or (All of 3 or a majority of 4 or more separate cultures of blood, the first and the last sample obtained > 1 hr apart); 3) Single blood culture positive for Coxiella burnetii or an antiphase I IgG antibody titer of >1 :800. Evidence of endocardial involvement requires 1) Positive results of echocardiography for IE defined as: (Oscillating intracardiac mass on the valve or supporting structures in the path of regurgitant jets or on implanted material in the absence of an alternative anatomic explanation) or (Abscess) or (New partial dehiscence of a valvular prosthesis) or 2) New valvular regurgitation (worsening or changing or preexisting murmur not sufficient). The six minor criteria are: 1) Predisposing heart disease or injection drug use (IVDA); 2) Temperature of > 38C; 3) Vascular phenomenon (major arterial emboli, septic pulmonary infarcts, mycotic aneurysm, intracranial or conjunctival hemorrhage, Janeway's lesions); 4) Immunologic phenomenon (glomerulonephritis, Osler's nodes, Roth's spots, rheumatoid factor); 5) Microbiologic evidence (a positive blood culture that does not meet a major criterion as noted above) or serologic evidence of active infection with an organism consistent with IE;<br>6) Echocardiographic findings that are consistent with IE but do not meet a major criterion as noted above.<br>References: 1) Dhawan VK Infectious Endocarditis in Elderly Patients. Clin. Infect. Dis. 2002;34:806-812.<br>2) Durack DT, Lukes AS, Bright DK. New criteria for diagnosis of infective endocarditis: utilization of specific echocardiographic findings. Duke Endocarditis Service. Am. J. Med. 1994;96:200-209.<br>3) Li IS, Sexton DJ, Mick N, et al. Proposed modifications to the Duke criteria for the diagnosis of infective endocarditis. Clin. Infect. Dis. 2000;30:633- 638. 4) htm, accessed July 5, 2006. |
| 110 | Pericardial effusion, Requiring drainage | Abnormal accumulation of fluid in the pericardial space, Requiring drainage, By any technique. |
| 390 | Pulmonary hypertension | Clinically significant elevation of pulmonary arterial pressure, requiring intervention such as nitric oxide, or other therapies. Typically the mean pulmonary arterial pressure is greater than 25mmHg in the presence of a normal pulmonary arterial occlusion pressure (wedge pressure). A “clinically significant” event or condition is an event or condition that necessitates a change in treatment. This does not include NO given for hypoxemia. |
| 140 | Pulmonary hypertensive crisis (PA pressure > systemic pressure) | An acute state of inadequate systemic perfusion associated with pulmonary hypertension, when the pulmonary arterial pressure is greater than the systemic arterial pressure. This should be coded based on direct measurement in OR, based |

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|---|---|---|
| | | on measurement from a PA line, or based on postoperative cardiac catheterization. |
| 130 | Pulmonary vein obstruction | Clinically significant stenosis or obstruction of pulmonary veins. Typically diagnosed by echocardiography or cardiac catheterization, this may present with or without symptoms. A “clinically significant” event or condition is an event or condition that necessitates a change in treatment. Can also be based on CT or MRI findings. |
| 120 | Systemic vein obstruction | Clinically significant stenosis or obstruction of any major systemic vein (e.g., superior vena cava, inferior vena cava, femoral veins, internal jugular veins, etc.). A “clinically significant” event or condition is an event or condition that necessitates a change in treatment. Based on Cath, ECHO, CT or MRI findings. |
| 240 | Bleeding, Requiring reoperation | Postoperative/postprocedural bleeding requiring reoperation. This includes any reexploration for bleeding whether chest is open or closed, also code if explored for bleeding following ECMO or VAD. |
| 102 | Sternum left open, Planned | Sternum was left open postoperatively with preoperative plans to leave the sternum open postoperatively (i.e., planned). The goal is for delayed sternotomy closure. |
| 104 | Sternum left open, Unplanned | Sternum was left open postoperatively without preoperative plans to leave the sternum open postoperatively (i.e., unplanned). The goal is for delayed sternotomy closure. |
| 22 | Unplanned cardiac reoperation during the postoperative or postprocedural time period, exclusive of reoperation for bleeding | Any additional unplanned cardiac operation occurring (1) within 30 days after surgery or intervention in or out of the hospital, or (2) after 30 days during the same hospitalization subsequent to the operation or intervention. A cardiac operation is defined as any operation that is of the operation type of "CPB" or "No CPB Cardiovascular". The following operations will always be coded as "Planned Reoperation": (1) Delayed Sternal Closure, (2) ECMO Decannulation, (3) VAD Decannulation, (4) Removal of Broviac catheter. The following operations will always be coded as "Unplanned Reoperation": (1) Mediastinal exploration for infection, (2) Mediastinal exploration for hemodynamic instability, (3) Emergent mediastinal exploration for initiation of ECMO or VAD, (4) Reoperation for residual or recurrent lesion. Mediastinal exploration for bleeding is always coded separately as "Bleeding, Requiring reoperation". This includes band tightening, shunt revisions (BTS, Sano, other systemic to PA shunts) e.g., shunt clipping, upsizing shunt, milking of shunt, conversion from RV-PA conduit to BTS or vice cersa, etc. |

| | | |
|---|---|---|
| 24 | Unplanned interventional cardiovascular catheterization procedure during the postoperative or postprocedural time period | Any unplanned interventional cardiovascular catheterization procedure occurring (1) within 30 days after surgery or intervention in or out of the hospital, or (2) after 30 days during the same hospitalization subsequent to the operation or intervention. Includes interventional EP cath; e.g., arrhythmia ablation. |
| 26 | Unplanned non-cardiac operation during the postoperative or postprocedural time period | Any additional unplanned non-cardiac operation occurring (1) within 30 days after surgery or intervention in or out of the hospital, or (2) after 30 days during the same hospitalization subsequent to the operation or intervention. Examples: Gtube, Jtube, Tracheostomy, Diaphragm plication, Vocal cord medicalization, Nissen fundoplication, thoracic duct ligation, rigid bronchoscopy for clearing clots, exlap etc. Flexible bronchoscopy for clearance of secretion should not count as unplanned non cardiac operation. |
| 40 | Postoperative/Postprocedural mechanical circulatory support (IABP, VAD, ECMO, or CPS) | Utilization of postoperative/postprocedural mechanical support, of any type (IABP, VAD, ECMO, or CPS), for resuscitation/CPR or support, during the postoperative/postprocedural time period. Code this complication if it occurs (1) within 30 days after surgery or intervention regardless of the date of hospital discharge, or (2) after 30 days during the same hospitalization subsequent to the operation or intervention. |
| 72 | Arrhythmia requiring drug therapy | Arrhythmia (ROOT Definition) + An arrhythmia requiring drug therapy. Does not include electrolyte replacement, please also code if antiarrhythmic used during cardiac arrest. Do not code this complication for the use of drugs to treat arrhythmias that occur in the process of separating or preparing to separate from cardiopulmonary bypass but resolve prior to leaving the operating theatre.<br>Sept 2020 - Anytime the arrhythmias occur between the arterial/venous cannula insertion and removal, do not code the treatment of arrhythmias. |
| 73 | Arrhythmia requiring electrical cardioversion or defibrillation | Arrhythmia (ROOT Definition) + An arrhythmia requiring electrical cardioversion or defibrillation. Please code if defibrillation performed during cardiac arrest. Do not code this complication for the use of cardioversion or defibrillation in the process of separating or preparing to separate from cardiopulmonary bypass.<br>Sept 2020 - Anytime the arrhythmias occur between the arterial/venous cannula insertion and removal, do not code the treatment of arrhythmias.<br>**Nov 2020: Rapid atrial pacing/overdrive pacing for a rapid rhythm should be included as arrhythmia requiring defibrillation/cardioversion not temporary pacemaker.** |
| 74 | Arrhythmia necessitating pacemaker, Permanent pacemaker | Implantation and utilization of a permanent pacemaker for treatment of any arrhythmia including heart block (atrioventricular [AV] heart block). |

| | | |
|---|---|---|
| 75 | Arrhythmia necessitating pacemaker, Temporary pacemaker | Implantation and utilization of a temporary pacemaker for treatment of any arrhythmia including heart block (atrioventricular [AV] heart block). Please also code if temporary pacemaker used during cardiac arrest. Do not code this complication if the need for temporary pacing is no longer present by the time the patient leaves the operating theatre.<br><br>Sept 2020 - Anytime the arrhythmias occur between the arterial/venous cannula insertion and removal, do not code the treatment of arrhythmias.<br><br>**Nov 2020: Rapid atrial pacing/overdrive pacing for a rapid rhythm should be included as arrhythmia requiring defibrillation/cardioversion not temporary pacemaker.** |
| 210 | Chylothorax | Presence of lymphatic fluid in the pleural space, commonly secondary to leakage from the thoracic duct or one of its main tributaries. Thoracocentesis is the gold standard for diagnosis and generally reveals a predominance of lymphocytes and/or a triglyceride level greater than 110 mg/dL. In addition to biochemical confirmation should also require placement of a new chest tube, or high outputs >10 ml/kg/day for > 48 hours necessitating one or more of the following: chest tube to stay longer than 7 days, change in enteral diet to fat free diet for longer than 7 days, NPO and PN/IL for longer than 7 days, medications such as octreotide, Albumin or IVIG transfusions at any time, surgery for chyle leak. |
| 200 | Pleural effusion, Requiring drainage | Abnormal accumulation of fluid in the pleural space, Requiring drainage, By any technique. If the pleural effusion is known to be a chylothorax, please also code "Chylothorax". Interventions include chest tube insertion, needle aspiration or other invasive procedure. May include hemothorax. |
| 180 | Pneumonia | Pneumonia ROOT Definition = Pneumonia is defined as a “respiratory disease characterized by inflammation of the lung parenchyma (including alveolar spaces and interstitial tissue), most commonly caused by infection”. Pneumonia is diagnosed by appropriate clinical findings (such as fever, leukopenia or leukocytosis, and new onset of purulent sputum) and one or more of the following: positive cultures (of sputum or pulmonary secretions) and / or pulmonary infiltrate on chest x-ray. An endotracheal tube culture may or may not be positive. Patients commonly demonstrate an evolving area of focal lung consolidation accompanied by fever (>38.5). Pneumonia (pneumonitis) may affect an entire lobe (lobar pneumonia), a segment of a lobe (segmental or lobular pneumonia), alveoli contiguous to bronchi (bronchopneumonia), or interstitial tissue (interstitial pneumonia). These distinctions are generally based on x-ray observations. |
| 190 | Pneumothorax, Requiring drainage or evacuation | A collection of gas in the pleural space resulting in collapse of some or all of the lung on the affected side, requiring intervention. Interventions include chest tube insertion, needle aspiration or other invasive procedure. Do not capture |

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| | | a small pneumothorax followed with serial chest X-rays. |
| 150 | Postoperative/Postprocedural respiratory insufficiency requiring mechanical ventilatory support > 7 days | Respiratory insufficiency requiring mechanical ventilatory support from surgery or procedure to greater than 7 consecutive days postoperatively/postproceduraly. In other words, the inability of the patient to exchange oxygen and carbon dioxide in sufficient quantities to avoid unacceptable hypercarbia, hypoxemia, or both, without mechanical ventilatory support for greater than 7 consecutive days during the postoperative or postprocedural period. The patient therefore does utilize mechanical ventilatory support for greater than 7 consecutive days during the postoperative or postprocedural period. |
| 160 | Postoperative/Postprocedural respiratory insufficiency requiring reintubation | Reintubation required after initial extubation. In other words, the need to reinstitute postoperative or postprocedural mechanical ventilation after a planned extubation and prior to discharge, or after a planned extubation and after discharge but within 30 days of surgery. The intent of this field is to capture Postoperative/Postprocedural respiratory insufficiency requiring reintubation. It is not intended to capture situations where a patient may undergo elective intubations for other additional operations or procedures (including percutaneous endoscopic gastrostomy [PEG], tube insertions, catheter placement, cardiac catheterizations, etc.). However, these elective intubations and extubations are included and counted when determining “Final Extubation Date and Time”. |
| 170 | Respiratory failure, Requiring tracheostomy | Failure to wean from mechanical ventilation necessitating the creation of a surgical airway. |

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| 230 | Renal failure - acute renal failure, Acute renal failure requiring dialysis at the time of hospital discharge | Renal failure - acute renal failure (ROOT Definition)+ With new postoperative/postprocedural requirement for dialysis, including peritoneal dialysis and/or hemodialysis. Code this complication if the patient requires dialysis at the time of hospital discharge or death in the hospital. (This complication should be chosen only if the dialysis was associated with acute renal failure.) {"Renal failure - acute renal failure" ROOT Definition = Acute renal failure is defined as new onset oliguria with sustained urine output < 0.5 cc/kg/hr for 24 hours and/or a rise in creatinine > 1.5 times upper limits of normal for age (or twice the most recent preoperative/preprocedural values if these are available), with eventual need for dialysis (including peritoneal dialysis and/or hemodialysis) or hemofiltration. Acute renal failure that will be counted as an operative or procedural complication must occur prior to hospital discharge or after hospital discharge but within 30 days of the procedure. (An operative or procedural complication is any complication, regardless of cause, occurring (1) within 30 days after surgery or intervention in or out of the hospital, or (2) after 30 days during the same hospitalization subsequent to the operation or intervention. Operative and procedural complications include both intraoperative/intraprocedural complications and postoperative/postprocedural complications in this time interval.) The complication is to be coded even if the patient required dialysis, but the treatment was not instituted due to patient or family refusal.} Do not include if a PD catheter is routinely placed postop and left open to drainage. Code if PD catheter was used for peritoneal dialysis. |
| 223 | Renal failure - acute renal failure, Acute renal failure requiring temporary dialysis with the need for dialysis not present at hospital discharge | Renal failure - acute renal failure (ROOT Definition)+ With new postoperative/postprocedural requirement for temporary dialysis, including peritoneal dialysis and/or hemodialysis. Code this complication if the patient does not require dialysis at the time of hospital discharge or death in the hospital. (This complication should be chosen only if the dialysis was associated with acute renal failure.) {"Renal failure - acute renal failure" ROOT Definition = Acute renal failure is defined as new onset oliguria with sustained urine output < 0.5 cc/kg/hr for 24 hours and/or a rise in creatinine > 1.5 times upper limits of normal for age (or twice the most recent preoperative/preprocedural values if these are available), with eventual need for dialysis (including peritoneal dialysis and/or hemodialysis) or hemofiltration. Acute renal failure that will be counted as an operative or procedural complication must occur prior to hospital discharge or after hospital discharge but within 30 days of the procedure. (An operative or procedural complication is any complication, regardless of cause, occurring (1) within 30 days after surgery or intervention in or out of the hospital, or (2) after 30 days during the same hospitalization |

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| | | subsequent to the operation or intervention. Operative and procedural complications include both intraoperative/intraprocedural complications and postoperative/postprocedural complications in this time interval.) The complication is to be coded even if the patient required dialysis, but the treatment was not instituted due to patient or family refusal.} |
| 224 | Renal failure - acute renal failure, Acute renal failure requiring temporary hemofiltration with the need for dialysis not present at hospital discharge. | Renal failure - acute renal failure (ROOT Definition)+ With new postoperative/postprocedural requirement for temporary hemofiltration. Code this complication if the patient does not require dialysis at the time of hospital discharge or death in the hospital. (This complication should be chosen only if the hemofiltration was associated with acute renal failure.)<br>{"Renal failure - acute renal failure" ROOT Definition = Acute renal failure is defined as new onset oliguria with sustained urine output < 0.5 cc/kg/hr for 24 hours and/or a rise in creatinine > 1.5 times upper limits of normal for age (or twice the most recent preoperative/preprocedural values if these are available), with eventual need for dialysis (including peritoneal dialysis and/or hemodialysis) or hemofiltration. Acute renal failure that will be counted as an operative or procedural complication must occur prior to hospital discharge or after hospital discharge but within 30 days of the procedure. (An operative or procedural complication is any complication, regardless of cause, occurring (1) within 30 days after surgery or intervention in or out of the hospital, or (2) after 30 days during the same hospitalization subsequent to the operation or intervention. Operative and procedural complications include both intraoperative/intraprocedural complications and postoperative/postprocedural complications in this time interval.) The complication is to be coded even if the patient required dialysis, but the treatment was not instituted due to patient or family refusal.} |
| 290 | Sepsis | Sepsis ROOT Definition = Sepsis is defined as evidence of serious infection accompanied by a deleterious systemic response. In the time period of the first 48 postoperative or postprocedural hours, the diagnosis of sepsis requires the presence of a Systemic Inflammatory Response Syndrome (SIRS) resulting from a proven infection (such as bacteremia, fungemia or urinary tract infection). In the time period after the first 48 postoperative or postprocedural hours, sepsis may be diagnosed by the presence of a SIRS resulting from suspected or proven infection. During the first 48 hours, a SIRS may result from the stress associated with surgery and/or cardiopulmonary bypass. Thus, the clinical criteria for sepsis during this time period should be more stringent. A systemic inflammatory response syndrome (SIRS) is present when at least two of the following criteria are present: hypo- or hyperthermia (>38.5 or <36.0), tachycardia or bradycardia, tachypnea, leukocytosis or leukopenia, and thrombocytopenia. PC4 definition of: Temperature instability and abnormal WBC (leukopenia or |

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| | | leukocytosis) and hemodynamic instability requiring at least one of the following: (1) volume > 40 cc/kg; (2) new or increased inotropic support; or (3) new or increased mechanical ventilation support. |
| 320 | Neurological deficit, Neurological deficit persisting at discharge | Newly recognized and/or newly acquired deficit of neurologic function leading to inpatient referral, therapy, or intervention not otherwise practiced for a similar unaffected inpatient, With a persisting neurologic deficit present at hospital discharge. In other words, new (onset intraoperatively or postoperatively - or intraprocedurally or postprocedurally) neurological deficit persisting and present at discharge from hospital. |
| 325 | Neurological deficit, Transient neurological deficit not present at discharge | Newly recognized and/or newly acquired deficit of neurologic function leading to inpatient referral, therapy, or intervention not otherwise practiced for a similar unaffected inpatient, With no persisting neurologic deficit present at hospital discharge. In other words, new (onset intraoperatively or postoperatively - or intraprocedurally or postprocedurally) neurological deficit completely resolving prior to discharge from hospital. |
| 300 | Paralyzed diaphragm (possible phrenic nerve injury) | Presence of elevated hemi-diaphragm(s) on chest radiograph in conjunction with evidence of weak, immobile, or paradoxical movement assessed by ultrasound or fluoroscopy. Also code if diaphragm plication is performed to treat diaphragm paralysis. |
| 400 | Peripheral nerve injury, Neurological deficit persisting at discharge | Peripheral nerve injury (ROOT Definition) + With a persisting neurologic deficit present at hospital discharge. {"Peripheral nerve injury" ROOT Definition = Newly acquired or newly recognized deficit of unilateral or bilateral peripheral nerve function indicated by physical exam findings, imaging studies, or both.} |
| 331 | Seizure | Seizure ROOT Definition = A seizure is defined as the clinical and/or electroencephalographic recognition of epileptiform activityregardless of whether there is a history of seizure or not. |
| 410 | Spinal cord injury, Neurological deficit persisting at discharge | Spinal cord injury (ROOT Definition) + With a persisting neurologic deficit present at hospital discharge. {"Spinal cord injury" ROOT Definition = Newly acquired or newly recognized deficit of spinal cord function indicated by physical exam findings, imaging studies, or both.} |
| 420 | Stroke | Stroke ROOT Definition = A stroke is any confirmed neurological deficit of abrupt onset caused by a disturbance in blood flow to the brain, when the neurologic deficit does not resolve within 24 hours. |
| 440 | Subdural bleed | |
| 450 | Intraventricular Hemorrhage (IVH) > grade 2 | |
| 470 | Thrombus, Intracardiac | Code only if newly diagnosed at this hospitalization. Thrombus, Intracardiac is defined as a mass of platelets, fibrin, other blood elements (and potentially additional matter) located in any of the 4 chambers of the heart. |
| 480 | Thrombus, Central vein | Code only if newly diagnosed at this hospitalization. Thrombus, Central Vein is defined as a mass of platelets, fibrin, other blood elements (and potentially additional matter) located in any of the major veins of the body within the space shared with the thoracic and abdominal organs |
| 510 | Thrombosis/thromboembolism, Pulmonary artery | Code only if newly diagnosed at this hospitalization. Thrombosis/thromboembolism of the pulmonary artery is defined as a mass of platelets, fibrin, other blood elements |

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| | | (and potentially additional matter) located at least partially within the main pulmonary trunk, right or left pulmonary artery, or their respective branches. The thrombus may have developed in this location (in situ) or may have embolized from another point of origin and lodged within the pulmonary arteries. |
| 490 | Thrombus, Peripheral deep vein | Code only if newly diagnosed at this hospitalization. Thrombus, Peripheral Deep Vein is defined as a mass of platelets, fibrin, other blood elements (and potentially additional matter) located in any of the major deep veins of the extremities (e.g. popliteal, femoral, cephalic, brachial, axillary, etc.) or the extra-thoracic portion of the internal jugular vein. |
| 500 | Thrombus, Systemic to pulmonary shunt | Code only if newly diagnosed at this hospitalization. Thrombus systemic to pulmonary artery shunt is defines as a mass of platelets, fibrin, other blood elements (and potentially additional matter) occupying the lumen of as systemic-to-pulmonary artery shunt – may obstructive, occlusive, or neither. |
| 530 | Thrombosis, Systemic artery, in situ (central) | Code only if newly diagnosed at this hospitalization. Thrombus, systemic artery in situ (central) defined as a mass of platelets, fibrin, other blood elements (and potentially additional matter) located in any of the major arteries of the body within the space shared with the thoracic and abdominal organs. |
| 540 | Thrombosis, Systemic artery, in situ (peripheral) | Code only if newly diagnosed at this hospitalization. Thrombosis, systemic artery peripheral is defined as a mass of platelets, fibrin, other blood elements (and potentially additional matter) located in any of the deep arteries of the extremities (e.g. popliteal, femoral, brachial, axillary, etc.) or the extra-thoracic portion of the common, external and internal carotid artery or vertebral artery. |
| 550 | Thrombosis, Systemic artery, embolic | Code only if newly diagnosed at this hospitalization. Thrombosis, systemic artery, embolic: occurs when a piece of a blood clot, foreign object, or other bodily substance has broken off from elsewhere (such as the heart) and becomes stuck in a systemic artery and may obstructs the flow of blood distally causing ischemia or infarct (e.g., embolic stroke, splenic infarct, bowel infarction, ischemia of extremities). |
| 310 | Vocal cord dysfunction (possible recurrent laryngeal nerve injury) | Presence of poor or no vocal cord movement assessed by endoscopy. Patient may or may not have stridor, hoarse voice or poor cry, in conjunction with endoscopic findings. Also code if vocal cord dysfunction requires vocal cord medialization procedure. |
| 250 | Wound dehiscence (sterile) | Wound dehiscence (sterile) ROOT Definition = Wound dehiscence (sterile) is defined as separation of the layers of a surgical wound. This separation can either be superficial or deep and can include the sternum in the case of a median sternotomy incision. When the sterile separation includes the skin and sternum, in the case of a median sternotomy incision, use this code (“Wound dehiscence (sterile)”). The code “Sternal instability (sterile)” should be used to record the complication when the superficial and deep layers of the incision remain intact but non-union of the sternal edges is present. Causes of wound dehiscence can include tissue ischemia, nutritional deficiencies, use of corticosteroids, vitamin C deficiency, and others. Wound dehiscence due to wound infection should be recorded as a wound infection. |

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| 255 | Wound dehiscence (sterile), Median sternotomy | Wound dehiscence (sterile) (ROOT Definition) + Location = Median sternotomy |
| 520 | Sternal instability (sterile) | Sternal instability is defined as nonphysiologic or abnormal motion of the sternum after either bone fracture or disruption of the wires reuniting the surgically divided sternum. Code this complication in the presences of sternal instability with movement of the edges of sternum on palpation. Code this if sternal instability requires further wound manipulation or surgical intervention. |
| 261 | Wound infection | Wound infection ROOT Definition = Erythema, possible induration and possible fluctuance of a surgical wound (surgical site) with possible drainage and possible tissue separation. Though wound cultures may be positive, this is not an absolute requirement for establishing this clinical diagnosis. |
| 262 | Wound infection-Deep wound infection | Wound infection-Deep wound infection ROOT Definition = A deep wound infection involves the deep soft tissues (e.g., fascial and muscle layers) of the incision AND the patient has at least ONE of the following numbered features: 1) Purulent drainage from the deep portion of the incision (but not from the organ / space component of the surgical site and no evidence of sternal osteomyelitis), 2) The deep incision spontaneously dehisces or is deliberately opened by a surgeon when the patient has ONE of the following lettered signs or symptoms (unless the incision is culture negative): A) fever, B) localized pain, or C) tenderness, 3) An abscess or other evidence of infection involving the deep incision is found on direct examination, during reoperation, or by histopathologic or radiologic examination, or 4) A diagnosis of a deep wound infection by a surgeon or by an attending physician. |
| 270 | Wound infection-Mediastinitis | The diagnosis of mediastinitis must meet one of the following criteria: Criterion 1: Patient has organisms cultured from mediastinal tissue or fluid that is obtained during a surgical operation or by needle aspiration. Criterion 2: Patient has evidence of mediastinitis by histopathologic examination or visual evidence of mediastinitis seen during a surgical operation. Criterion 3: Patient has at least ONE of the following numbered signs or symptoms with no other recognized cause: 1) fever, 2) chest pain, or 3) sternal instability AND at least one of the following numbered features: 1) purulent mediastinal drainage, 2) organisms cultured from mediastinal blood, drainage or tissue, or 3) widening of the cardio-mediastinal silhouette. Criterion 4: Patient ≤ 1 year of age has at least one of the following numbered signs or symptoms with no other recognized cause: 1) fever, 2) hypothermia, 3) apnea, 4) bradycardia, or 5) sternal instability AND at least one of the following numbered features: 1) purulent mediastinal discharge, 2) organisms cultured from mediastinal blood, drainage or tissue, or 3) widening of the cardio-mediastinal silhouette. Infections of the sternum (sternal osteomyelitis) should be classified as mediastinitis. Sternal instability that is not associated with a wound infection or mediastinitis is documented as "Sternal instability". |
| 263 | Wound infection-Superficial wound infection | Wound infection-Superficial wound infection ROOT Definition = A superficial wound infection must meet the following numbered criteria: 1) The infection involves only the skin and the subcutaneous tissue of the incision and 2) The patient has at least ONE of the following lettered |

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| | | features: A) purulent drainage from the superficial portion of the incision, B) organisms isolated from an aseptically obtained culture of fluid or tissue from the superficial portion of the incision, C) at least ONE of the following numbered signs or symptoms: [1] pain or tenderness, [2] localized swelling, redness, or heat, and [3] the superficial portion of the incision is deliberately opened by a surgeon, unless the incision is culture negative, or D) a diagnosis of superficial wound infection by the surgeon or by the attending physician. |
| 430 | Anesthesia-related complication | Anesthesia-related complication independent of surgical procedure (e.g., cardiac arrest during induction or failed intubation). |
| 460 | Complication of cardiovascular catheterization procedure | Complication of cardiovascular catheterization procedure definition: Cardiovascular catheterization (diagnostic or interventional) related complications independent of but following the index surgical procedure but related to the catheterization procedure. The appropriate complications (from the STS-CHSD complication list) should also be coded e.g. unplanned interventional cardiac catheterization; or iliac thrombosis should be captured using the appropriate code. |
| 902 | Compartment Syndrome | Compartment syndrome definition: a condition resulting from increased pressure within a confined body space, especially of the leg or forearm, but may also include the abdomen and other body spaces. This results in compromised tissue perfusion and ultimate dysfunction of neural and muscular and organ structures contained within that compartment. Compartment pressure measurement is employed in the assessment of potential compartment syndrome, an absolute pressure measurement of 30 mm Hg in the compartment should be the “critical pressure” for recommending therapy. If any sequelae please capture appropriate STS-CHSD complication e.g., foot drop- code as peripheral neurologic deficit persistent at discharge; foot amputation capture unplanned non cardiac operation. |
| 900 | Other complication | Any complication not otherwise specified in this list. An operative or procedural complication is any complication, regardless of cause, occurring (1) within 30 days after surgery or intervention in or out of the hospital, or (2) after 30 days during the same hospitalization subsequent to the operation or intervention. Operative and procedural complications include both intraoperative/intraprocedural complications and postoperative/postprocedural complications in this time interval. Please select this choice if a known complication occurred <u>after</u> the Operative time period. |
| 901 | Other operative/procedural complication | Any complication not otherwise specified in this list that occurs prior to discharge, or after discharge but within 30 days of surgery or intervention. (An operative or procedural complication is any complication, regardless of cause, occurring (1) within 30 days after surgery or intervention in or out of the hospital, or (2) after 30 days during the same hospitalization subsequent to the operation or intervention. Operative and procedural complications include both intraoperative/intraprocedural complications and postoperative/postprocedural complications in this time interval.) Please select this choice if the complications occurred <u>during</u> the Operative time period. |

March 2019: For postop complication #150: What constitutes mechanical ventilatory support? Our site captures this postop complication for CPAP, BPAP and the presence of an ET tube. Is there anything else that should be included? **Invasive mechanical ventilator support requires the presence of an ET tube or trach. If an ET tube or trach is not present then there is no complication of invasive mechanical ventilatory support.**

March 2019: This is a follow-up to a December 2017 question about when to code arrhythmia complications. My example was a patient with a pacemaker requiring temporary pacing and your answer was "Need more information, if this is a permanent pacemaker and required some intervention with a temporary pacer/wires, yes". This patient had a MAZE and permanent pacemaker implantation, and required pacing from his pacing system post-op. Do I need to code his arrhythmia requiring temporary pacing, or no, since that's the whole reason he got a pacemaker implanted? Also, he was on a beta blocker for his arrhythmia prior to admission, was switched to another BB post-op and then resumed original BB. Do I need to code an arrhythmia requiring drug therapy? Another example is a patient with congenital heart block who went to the OR for an ASD repair and pacing wire implantation. He was temporarily paced prior to his pacemaker being implanted. Does this get coded as a complication of arrhythmia requiring temporary pacemaker, even though he was already in the OR planning to have pacing wires implanted? **Any arrhythmia being treated, outside of what the permanent pacemaker is treating, should be captured.**

March 2019: The medical record states "Removal of PICC line was attempted by VAT however the PICC broke off in the process with retained line in the patient. She was then taken by pediatric surgery to the OR and underwent removal of PICC via venotomy and venorrhaphy. Is this procedure considered a major complication "26 - unplanned non-cardiac operation"? Or would it be better to put it under "900 - other complication"? **Unplanned non-cardiac operation**

March 2019: I have a patient who was discharged POD 13, readmitted POD 22 then had a permanent pacemaker implanted on POD 24. I know I code unplanned readmission, arrhythmia requiring ppm, and unplanned cardiac re-op, but do the complications that occur after the pacemaker procedure but within 30 days of the original surgery get logged onto the original index case or the index case of the new admission? This patient developed sepsis and a wound infection POD 25 from original surgery, POD 3 from reoperation that required an I&D on POD 26 from original surgery, POD 4 from reoperation. His deep wound infection subsequently developed into mediastinitis, but more than 30 days out from original surgery. Do I code the sepsis and wound infection on the original index op or the index op from the readmission? **The complications that occur after the permanent pacemaker get coded to the original surgery since they occurred within 30 days of the original surgery. The mediastinitis gets coded to the second index operation since it occurred more than 30 days after the first surgery.**

April 2019: This question is similar to a question asked in May 2016 on page 152 in the December 2018 v3.3 Training Manual. I have a patient that has had several complications s/p VAD placement. This was the first operation of the episode of care and coded as Op Type = "VAD Operation Done with CPB". The patient has since had a heart transplant. My understanding is that the transplant will be considered the index operation of the episode of care as it is the first operation with an Op Type of "CPB Cardiovascular" and as such all complications will be attributed to this operation. The specs say to assign the complication to the operation that is most closely associated with. However, if we do this, will the VAD complications then be attributed to the transplant? What is the best way to capture the complications related to the VAD procedure? **The transplant is considered the index operation of the episode of care. Upon analysis, all complications are assigned to the index operation, even if they occur on a case prior to the index operation. To prevent this from happening in the analysis, the decision was made to not collect complications on the non-index operations that occur prior to the index operation. These complications can be included as preoperative factors where applicable (i.e. stroke or seizure).**

April 2019: I know from prior FAQs that STS expects an unplanned g tube placement is counted as "unplanned non-cardiac reoperation during post op period" - my question - for neonates - is in the spectrum of whether we can call a g tube planned or not when it is very clearly anticipated based on clinician "common sense". i.e. in the case of a trisomy 18, cleft palate patient with poor feeding at 42-44 weeks gestational age - our neonatologists have said every provider expects them to have a g tube, though we may not state that exact surgical plan prior to heart surgery. Is it adequate to have documentation of high g tube *likelihood* - though not a clear schedule and definite g tube surgical plan, to omit this as an UNplanned reop? **For the purposes of the database, if the GT is placed following cardiac surgery and was not included in the surgical plan, it is considered an unplanned non-cardiac reoperation.**

April 2019: When a patient returns to the OR for a mediastinal exploration and clots, hematomas, or "bleeders" are removed / cauterized, is this considered a reoperation for bleeding? Should the diagnosis be postoperative bleeding,

mediastinal bleeding and the procedure be mediastinal exploration, post-operative hemorrhage (even if the bleeding is minimal but did result in a return to OR to "washout" the mediastinum)? Thank you for the clarification. **Yes, these represent reoperations for bleeding. The diagnoses and procedures listed are correct.**

May 2019: Does a Pericardiocentisis performed in the Cath lab count as an 'unplanned interventional cath'? **No, a pericardiocentesis is not a vessel intervention/cath based intervention. Unplanned interventional cath procedures are for interventional (transcatheter into a blood vessel) procedures. This represents a pericardial effusion requiring drainage (that happened to occur in the cath lab). This should be captured as the appropriate complication (e.g. pericardial effusion).**

May 2019: For consistencies sake, how should we be capturing 'other complication'? In the previous version, I would have used this once for any or multiple "other" complications. With the new version, now asking for a descriptor, should we enter this once for each "other" complication? **In this database version, select 'Other complication' once and then list all of the other complications separated by a semicolon.**

May 2019: Patient scenario: Major events overnight: Arrived intubated and sedated with mild HTN on Nipride and Milrinone. Lactates <2.0. NSR. Developed labile BP and required volume and began EPI gtt (0.01). Run Non sustained VT noted, no further episodes. Developed expected LCOS 0500, Responded to Volume and increase EPI gtt (0.02). PRVC mode with good lung compliance. Am ABG 7.42/34/147/22/-2. Lactates Peaked 2.7 and are now 2.3. CXR - reviewed. Chest tube output tapering off. Hematocrit noted 34. UO after lasix bolus and now maintained on lasix gtt- improving. NPO. MIVF 2 x maintenance for preload. 3/27 @ 1707 - the patient returned from OR to CI on Milrinone 0.7 3/28 @ 0134 - Epi 0.01 added, increased to 0.02 @ 0139. 3/29 @ 1030 - Epi was discontinued. 3/30 @ 0700 - Milrinone was discontinued. Should Cardiac Dysfunction/LCOS be coded as a complication? (and why?) (This scenario has been presented too many well respected centers, and still I don't feel comfortable either way. The various centers had different answers to how they would handle this case. The LCOS/inotropic dependence definition needs clarification.) **Yes, this would be coded as Cardiac Dysfunction resulting in low cardiac output as it fits the definition (increased inotropes and volume).**

May 2019: I cannot find any of the old FAQ's. I think that at one time I read one that said.....Even if the pacemaker placement was the index operation, if a patient was coming in for a permanent pacemaker placement, we would use arrhythmia necessitating pacemaker, permanent pacemaker as a complication. We would not put unplanned cardiac re-operation or unplanned interventional. **Do not code the complication Arrhythmia necessitating pacemaker, permanent pacemaker as a complication of the index operation of Pacemaker, implantation.**

May 2019: Would a thrombus in the Internal Jugular be considered a 'Systemic vein obstruction' or a 'Peripheral deep vein thrombus'? According to the FAQ document for v3.3, it is listed as both and I wanted to clarify this. **The definitions can overlap, in this scenario the thrombus in the internal jugular vein does represent a peripheral deep vein thrombus and if it is causing obstruction, it would also represent Systemic vein obstruction.**

June 2019: If a patient has an unplanned postoperative HYBRID procedure in which CH surgery opens the chest and places direct access and then cardiology performs an intervention, should both unplanned cardiac surgery and unplanned interventional cardiology procedure be selected? **Assume that HYBRID does not refer to a Stage 1 hybrid for HLHS. If the surgeon opened the chest for the cardiologists to have access, then I suggest coding for the interventional cath as the postop complication.**

June 2019: Are bronchoscopies done in CVICU after surgery to evaluate the airway considered an unplanned noncardiac reoperation? They are not planned prior to the index operation but are scheduled, if necessary while in the hospital. **We have not coded this type of a *diagnostic* bronchoscopy as an unplanned non-cardiac reoperation. This is a procedure, not an operation.**

June 2019: For the Complication "Unplanned cardiac reoperation during the postoperative or postprocedural time period, exclusive of reoperation for bleeding" the definition says that the op type must be CPB or No CPB. It later says: "Emergent mediastinal exploration for initiation of ECMO or VAD" should be counted. So does there have to be a mediastinal exploration prior to the ECMO for this to count as a complication? If they are just put on ECMO, op type is ECMO and this would not count? **The Core Group suggests that the complication prompting the re-exploration be coded, eg. "cardiac dysfunction resulting in low cardiac output" Comp code 80, or cardiac failure Comp code 384. Then coding complication 40 (Post operative mechanical circulatory support) as an additional complication. The only thing that "counts" is the index operation, not whether you code the ECMO requirement as an ECMO or a non-CPB cardiovascular procedure.**

**Also, if the mediastinum is explored and the patient s cannulated for ECMO or VAD, then code: 40= Postoperative/Postprocedural mechanical circulatory support (IABP, VAD, ECMO, or CPS) and also the complication prompting the re-exploration.**

July 2019: Looking to clarify the definition for Renal Failure for dialysis as a complication. We have a patient who has a preop. Creat of 0.5 which is already higher than the "upper limit of normal" for age. Post op creatinine increased to 0.7 which is beyond 1.5x ULN. Does the "1.5x ULN and/or 2x baseline" mean that we can rule this OUT as not meeting criteria? **Did the patient receive dialysis for renal failure? If the patient went on dialysis, then code the complication of renal failure for dialysis. If the patient didn't need dialysis then other parts of the definition do not apply.**

July 2019: Does an intraparenchymal bleed count for a subdural bleed? **No, an intraparenchymal bleed is not a subdural bleed. It potentially could be classified as a stroke if the patient meets that criteria.**

August 2019: I would like some clarification on the recently updated specs for arrhythmia complications. Arrhythmia requiring drug therapy says not to code "arrhythmias that occur in the process of separating or preparing to separate from cardiopulmonary bypass but resolve prior to leaving the operating theatre." Is the main distinction here that we are to exclude only those that occur in the brief span of separating from bypass, and all other intraoperative arrhythmias requiring drug therapy are coded? Same question for arrhythmia requiring electrical cardioversion or defibrillation. Arrhythmia necessitating temporary pacemaker says not to code "if the need for temporary pacing is no longer present by the time the patient leaves the operating theatre". Why is the timing of which arrhythmias to exclude different between the different complications, and what is the purpose of adding these distinctions now? Is this how these complications should be coded in version 3.3? **Once the patient is off bypass, and an arrhythmia occurs, then those arrhythmias count as a complication. If defibrillation or medications are given once the patient is off bypass it is a complication. The exception to this is any arrhythmias that occur on temporary pacemaker. No, this definition did not exist in v3.3. It is new with 3.41**

August 2019: Looking for clarification and possible elaboration on the Stroke complication (#420) definition. Would STS expect centers to capture hypoxic ischemic encephalopathy as stroke? We have occasionally encountered situations where HIE is present, at times with neuro deficits. This would also apply to capturing it as a pre-op risk factor if it occurred prior to surgery. **This doesn't fit the current definition for stroke and should not be coded as such. It can be coded as 'other complication', and we have noted this for a future definition. If neuro deficits occur, they should be coded as the appropriate complication and preop factor.**

August 2019: When a patient is readmitted and reintubated for respiratory failure within 30 days of the original surgery, you code a complication of reintubation even though it's a separate admission, right? **Yes, code the complication if it occurs within 30 days of the operation.**

August 2019: Regarding the new clarifications to the arrhythmia complications, do the same rules apply to planned and unplanned reops in the same admission? If a patient is in the OR for a reop and requires temporary pacing, is it still excluded from needing coding if it's only used in the OR? **Yes, the same definitions apply to subsequent operations.**

August 2019: The current definition of a cardiac arrest states: A cardiac arrest is the cessation of effective cardiac mechanical function. This complication should be selected if the cardiac arrest developed after OR Entry Date and Time. Should we code the complication "cardiac arrest" if open cardiac massage is done while separating from CPB? **Do not code as a cardiac arrest if the patient is still on bypass. Include cardiac arrests that occur after the bypass cannulas come out.**

August 2019: A patient had a CPB case (TET repair). Later developed a pericardial effusion and was taken to the OR for a pericardial window. Is this coded as a postop complication of unplanned cardiac reoperation and is the pericardial window coded as a no CPB case? **If the patient has a pericardial window then the pt had an unplanned cardiac reoperation complication and a pericardial effusion complication. The op type is No CPB CV.**

September 2019: If a patient has a Diaphragm plication post operatively, is that a cardiac, or non-cardiac reop in terms of complications? **A diaphragm plication should be coded as an unplanned non-cardiac reoperation.**

October 2019: For complication #72 "arrhythmia requiring drug therapy", should I code this when a patient is given a sedative to treat his/her arrhythmia, or only when anti-arrhythmics are given? The definition says to "also code if antiarrhythmic used during cardiac arrest", so that makes me think you're specifically asking for anti-arrhythmic medication only. **If the patient received the sedative (or any other medication) to treat the arrhythmia, this complication should be coded.**

November 2019: It was mentioned at the AQO Conference that we should capture overdrive atrial

pacing for JET as "arrhythmia requ. temporary pacemaker". Could this be added to the training manual? Would the same apply for rapid atrial pacing for SVT? I ask because some of our physicians say that these should be considered a cardioversion of sorts. Updated Nov 2020 - ~~**Code (75) Arrhythmia necessitating pacemaker,Temporary pacemaker for overdrive atrial pacing (as needed for JET, SVT, and/or any other arrhythmia).**~~

**Will more than likely also be coding (72) Arrhythmia requiring drug therapy if meds were used to treat arrhythmia**.

December 2019: Pt has pericardial effusion post op. Surgeon inserts Blake drain at bedside and writes an op note. Op type 'thoracic'? Complication of pericardial effusion requiring drainage. Do I also code unplanned cardiac procedure as complication? **If the patient has a pericardial window then the pt had an unplanned cardiac reoperation complication and a pericardial effusion complication. The op type is No CPB CV.**

**If the procedure is cardiovascular, but cardiopulmonary bypass is not used, this must be chosen as the case category. This includes any procedure that includes the heart, great vessels, or any of the branches from the great vessels, where CPB is not used. Examples include but are not limited to: coarctation of the aorta repair, creation of a systemic-to-pulmonary artery shunt, patent ductus arteriosus ligation. A delayed sternal closure is included in this category.**

- ***pericardial drainage/pericardial window procedure for cancer = Thoracic Procedure***
- ***pericardial drainage/pericardial window procedure for cardiac disease = No CPB Cardiovascular***

December 2019: Patient had infection debridement and repeat valve replacements and was discharged home POD12. He was readmitted POD13 with an intracranial hemorrhage requiring left craniotomy, clot evacuation and EVD placement (POD13), respiratory failure requiring intubation (POD13) and right hemiparesis. Since Complications should be counted within 30 days post-op or the operative admission, the above complications were captured. After POD30, do we stop capturing complications on him? If so, when do we catch that the neuro deficit as either persistent at discharge or not present at discharge? **It is correct to stop capturing complications at 30 days for this episode of care. The neuro deficit would be captured as persisting at discharge because it falls within the 30 day window.**

December 2019: We are monitoring programmatic infection and have noticed that the definition between NHSH and STS for superficial wound infection is the same. The hospital and the outcomes team are coding it differently because a difference in opinion of the AND statement in section C. Specifically "C) at least ONE of the following numbered signs or symptoms: [1] pain or tenderness, [2] localized swelling, redness, or heat, ***and*** [3] the superficial portion of the incision is deliberately opened by a surgeon, unless the incision is culture negative". In the "C)" section if the wound meets ONE of the [1],[2] or [3] sections it should be coded as superficial wound infection or does it have to meet [1], OR [2], OR/AND [3]. If the wound meets criteria because of localized swelling but the surgeon did not deliberately open the incision do we still code it as infection or it HAVE to meet [3]. **No, only needs to meet (C) 1, 2, OR 3 or any combination of those to meet criteria**.

January 2020: If a patient has a permanent pacemaker placed in the cath lab post operatively, is unplanned cath coded as a complication or only arrhythmia necessitating permanent pacemaker? **The unplanned cardiac cath is only coded if there was a cath lab intervention (i.e. stent placement, angioplasty). In this scenario, only code arrhythmia necessitating permanent pacemaker. The procedure location does not determine the operation type or complication coding.**

January 2020: Patient has Complete Canal repair on 11.12.19. Discharge ECHO on 11.25.19 shows moderate to severe LAVV regurgitation. The surgical team plans to readmit the patient for surgery on 12.3.19. We coded 'unplanned cardiac reoperation', but would we also capture a complication of 'unplanned readmission', since the patient was readmitted w/in 30 days of the surgery on 11.12.19? **Yes, both complications should be captured; unplanned readmission within 30 days of the operation and unplanned cardiac reoperation.**

January 2020: In patient's medical record it is documented, on 11.12.19 that patient has a preoperative history of sinus node dysfunction with junctional bradycardia. She has surgery on 11.21.19 for Mitral valve replacement. She is readmitted on 12.4.19 for a permanent pacemaker. We captured unplanned readmission, unplanned cardiac reoperation, and permanent pacemaker placement. Should we have not captured the permanent pacemaker placement and unplanned cardiac reoperation, as the patient was diagnosed with sinus node dysfunction with junctional bradycardia preoperatively? **All of the above complications should be captured since the pacemaker placement was not included in the initial surgical plan.**

January 2020: Patient undergoes index cardiac operation and during intubation, anesthesia determines the patient has a difficult airway. Subsequently, ENT takes the patient back to the OR after recovery from the cardiac operation

and performs a slide tracheoplasty due to tracheal rings. The cardiac surgeon places the patient on bypass and provides the surgical field. The cardiac surgeon also performs a pericardial drainage procedure before turning the patient over to ENT. Do I code an unplanned Non-cardiac reoperation or Unplanned Cardiac reoperation or both given the two different surgical services operating at the same time. Also, is the operation type CPB Non-Cardiovascular or CPB Cardiovascular given the CPB was provided for the ENT (Non cardiac) procedure. **Code both reoperations, Unplanned non-cardiac reoperation and Unplanned cardiac reoperation. The operation type is CPB Non-Cardiovascular**

January 2020: I'd like some clarification on wound infections. One of the criteria for coding a superficial wound infection says "[the patient has] organisms isolated from an aseptically obtained culture of fluid or tissue from the superficial portion of the incision". One of the criteria for coding mediastinitis says "Patient has organisms cultured from mediastinal tissue or fluid that is obtained during a surgical operation or by needle aspiration." The definition for deep wound infection does not mention anything about organisms cultured from the wound. If I have a patient who had a clot removed during a mediastinal exploration that was found positive for organisms, but the patient never had any symptoms of a wound infection, what do I code? **The patient does not meet criteria for a wound infection, the positive culture may be a contaminant. In the absence of any other signs or symptoms of infection, it is not a wound infection.** We used to culture every kid with an open sternum. We feel like if those cultures came back positive for bugs like serratia, which would not be a contaminant, then they should be coded with a wound infection regardless of symptomology. Can you please clarify? **In the absence of any other signs or symptoms of infection, it is not a wound infection.**

February 2020: If a patient develops a wound infection should we document code '261 - Wound Infection' in addition to one of the more granular choices: 262 - Wound Infection- Deep; 270 - Wound Infection - Mediastinitis; 263 - Wound Infection Superficial? Just want to clarify when we should be using code '261 - Wound Infection'.**Code as precisely as possible, i.e the more granular term. If a more specific term cannot be determined, then utilize the 261-Wound Infection.**

March 2020: Trying to figure out if these complication need to be captured when a patient dies on ecmo support. Specifically trying to figure out if neurological deficit, cardiac failure or cardiac dysfunction needs to be coded especially if the cardiac failure and dysfunction were the reasons that they went on ecmo support. **All post-operative events should be included/coded. What operation they are coded under is dependent on whether the patient underwent a prior index operation or ECMO alone**

April 2020: Data Managers have been told to capture pulmonary hypertension as a complication even if the condition existed preoperatively. **Correct. Data Managers are encouraged to capture all postoperative events in the 'complications' section. Include anything that was present pre-op unless the definition states new onset.**

May 2020: We have a question on the January 2020 FAQ: If a patient has a permanent pacemaker placed in the cath lab post operatively, is unplanned cath coded as a complication or only arrhythmia necessitating permanent pacemaker? The unplanned cardiac cath is only coded if there was a cath lab intervention (i.e. stent placement, angioplasty). In this scenario, only code arrhythmia necessitating permanent pacemaker. The procedure location does not determine the operation type or complication coding. We have been capturing the epicardial pacemaker placement as an unplanned interventional cath procedure in addition to the need for a permanent pacemaker placement. In our thinking a pacemaker placement by the IC team is an intervention. Do we need to go back and change all these? **Code the Arrhythmia, Requiring a permanent pacemaker regardless of location of the pacemaker placement, i.e. cath lab, OR, ICU. Interventional cath procedures are caths where vessels/structure are intervened upon and include electrophysiology procedures excluding pacemaker placements**.

May 2020: Patient has cardiac surgery then has a laparotomy 4 days later. The laparotomy incision dehisces. Would the laparotomy incision be coded in the database as a complication of 'wound dehiscence'? There is some debate as to whether or not this should be captured based on the definition of a complication: 'An operative or procedural complication is any complication, regardless of cause' **Do not include the dehiscing of the laparotomy incision as a complication, but do capture unplanned non-cardiac reoperation.**

July 2020: Pt has +blood culture (stenotrophomonas), tachycardia, tachypnea, fever 39.0C and thrombocytopenia. Treated with 6 weeks antibiotics. Complication for sepsis states the PC4 def requires 2 of the following treatment; volume, new or increased inotrope or mechanical support, which didn't happen here. Progress note states this as

stenotrophomonas sepsis. Should this be coded as sepsis or other-bacteremia? **Yes this should be coded as sepsis in the complications.**

August 2020: If a patient died during a mediastinal exploration done on ECMO that was an unplanned reop, would I use complication code #350 "Intraoperative death or intraprocedural death", or is that only for deaths that occur during the index operation? **This should only be captured on the index operation.**

August 2020: A patient had a PA Banding at our facility in 2018 and was then transferred to another acute care center for further surgery. They are now recently discharged and I am discharging them from the database. Just making sure that I am to capture all complications that occurred at the second center after discharge from our center. **Yes, collect and include as much information as possible.**

September 2020: During endotracheal tube repositioning patient, in NSR, develops sinus bradycardia with HR down to the 30s and is treated with atropine and epi spritzer. Should we code complication 'arrhythmia requiring drug therapy'? **Yes, include all arrhythmias that occur regardless of the cause.**

September 2020: How do I capture this event? Patient had mitral valve replacement and maze procedure on 7/1/20.

His echo showed wall motion abnormality post-op, therefore right and left cath was done.Circumflex: Artery is a medium caliber vessel. First marginal is patent. Circumflex artery has an abrupt cut off after the first marginal. This appears to be related to a surgical suture for the mitral valve. Conclusion: Circumflex artery is occluded with the distal continuation of the circumflex is supplied 2 marginal branches no longer visible and not seem to be filling by any collaterals. **There is no way to capture this. The complication is defined by what happened to the patient – the diagnosis itself is not a complication. Code any sequelae of this event, i.e. unplanned interventional cardiac cath, unplanned cardiac reoperation**.

September 2020: I wanted to clarify 'biochemical confirmation' for the complication Chylothorax. Does this specifically mean that you must have lab confirmation on pleural fluid that reveals a predominance of lymphocytes and/or a triglyceride level greater than 110 mg/dL? We may have a post-op patient that has obvious chyle from their chest tube and we would not necessarily send lab testing. However, we would treat with diet change and/or medications. **The definition will be updated in the training manual and the complication should be coded if any of the listed findings from the definition are present.**

September 2020: If a patient receives CPR due to poor cardiac output (hypotension, bradycardia), but the patient didn't cease having cardiac activity, is that still considered a cardiac arrest? Or should that be entered as a different complication? **Yes, this meets the definition of cardiac arrest.**

October 2020: Patient left the OR after the first CPB surgery with Temporary Pacemaker. Returned to the OR on post-op day 19 for Permanent Pacemaker. Should I include both temporary and permanent pacemakers under the complications of the first surgery? **Yes, include all applicable complications.**

October 2020: In reference to complication: 150 Postoperative/Postprocedural respiratory insufficiency requiring mechanical ventilatory support > 7 days. My first question is for clarification that the 7 consecutive days starts from the date of surgery? If a patient is intubated and extubated in less that 7 days from the date of surgery, and then is reintubated at some point later and stays intubated > 7 days from that point, is that also considered vent support > 7 days even though it is 7 days past the date of surgery? Specific example: surgery on 7/16, extubated 7/19; reintubated 7/21, extubated 8/5; reintubated 8/6. **The complication of postop mechanical ventilatory support should be coded for periods of mechanical ventilation intubation greater than 7 consecutive days postop. This includes any 7 consecutive days after the index operation anytime during the hospitalization, not just the time frame immediately following the surgery.**

October 2020: We have a patient with the diagnosis of Severe Ebstein's Anomaly of the Triscuspid Valve, ASD and PDA. The patient underwent surgery at 28 days of life for placement of a Right BT Shunt (3.5mm) and PDA Ligation complicated by thrombosis of the BT shunt requiring patch repair of the innominate/subclavian artery and revision of the BT shunt. Surgeon's note "We were reluctant to commit her to a single ventricle pathway in view of the antegrade pulmonary flow decided that at just over 3 weeks

of age we should augment her pulmonary blood flow with a BT s hunt allowing us to close the ductus arteriosus. We felt that if she was not able to be extubated following this then we would need to proceed with a Starnes procedure". Twelve days later the patient underwent a cardiac catheterization due to failed extubation,suspected restricted atrial septum and suspected BT shunt stenosis, for hemodynamic evaluation, evaluation of BT shunt stenosis and balloon atrial septostomy. The catheterization was complicated by Atrial flutter after balloon atrial septostomy, needing amiodarone and multiple doses of cardioversion. Two days later the patient returned to the OR for a Starnes procedure. Our question is should this be coded as unplanned return to surgery and unplanned cathetherization intervention? Our physicians feel that the post op catheterization intervention and return to surgery for the Starnes procedure was "planned" as noted in surgeons note at the first BT Shunt surgery (above). Second question is about documentation of the pot ential to return in regards to the STS definitions. If that is stated or documented in higher risk patients( maybe all of them) does that prevent deeming as a return to Cath or surgery? **In this scenario, the patient experienced both an unplanned cardiac reoperation and an unplanned interventional cardiac catheterization. The surgeon note is speaking to their plan if the first surgery didn't work – not the plan regardless.**

October 2020: I have a patient that had an RVOT procedure and Pulmonic valve replacement last month. In the postop note the Resident documented surgery complicated by injury to the aorta, pt given 5FFP, 2RBC's, 5 plts, Factor 7 and cell saver. I have coded this an #901 "Other operative/procedural complication". Would this be correct? **There is no other way to capture this in the database, use Other operative/procedural complication**.

November 2020: A patient dies during their hospital encounter after the index operation. The patient had a stroke, brain hemorrhage during the admission. The patient dies prior to discharge. Do the centers code 320-Neurological deficit persisting at discharge and 420 Stroke? **Code stoke and code the neurological deficit if the patient was still experiencing the neurological deficit.**

November 2020: Patient has the following documented in the medical record: "patient had JET yesterday afternoon that required: Precedex, CaCl, and milrinone". The clinical team stated that these are not antiarrhythmics, and the medications were given to augment cardiac output. Should this be coded using the complication 'arrhythmia requiring drug therapy'? **Yes, code the complication of arrhythmia requiring drug therapy as these as medications were used to treat the arrhythmia (with the exception of the CaCl).**

November 2020: Would a patient who had a brain injury and died prior to discharge be considered to have complication 320: "neurologic deficit persistent at discharge"? The definition states only that the neurologic deficit should be "persisting and present at hospital discharge". In contrast, the definition for complication 230: "renal failure persistent at discharge" states that it should be coded "if the patient requires dialysis at the time of hospital discharge or death in the hospital". This implied to us that 320 can only be coded if the pa tient is discharged but not if the patient died in the hospital prior to discharge. Is this correct? **If the patient dies with a known neurologic deficit, code the complication neurologic deficit persistent at discharge. This definition will be reviewed in the upgrade.**

November 2020: How do I code the complication for a splicing procedure that is done at the bedside of a patient that is on a VAD? He would develop a clot, we would clamp him off for a short amount of time, and the surgeons would splice out the clot and reconnect. Do I say "Unplanned cardiac reoperation during the postoperative or postprocedural time period, exclusive of reoperation for bleeding" or "Other complication: Thrombus in VAD circuit"? **Do not code the unplanned cardiac reoperation as the operation type is VAD. Other complication can be included with the free text.**

November 2020: Can you please clarify coding for the following scenario. A patient has a seizure postoperatively and is discharged on anti-seizure medication with a scheduled follow up with neurology.

Should both "seizure" and "neuro deficit persisting at discharge" be coded for postoperative events? No, seizure medications alone do not constitute a neurological deficit. **Code the seizure and only a neurologic deficit if there is a deficit present.**

November 2020: Should we consider entering disseminated intravascular coagulation (DIC) as an "other complication", or consider that part of MultiSystem Organ Failure? **Do not include isolated DIC under multi-system organ failure and can be included as an Other complication. DIC may be a component of MSOD.**

November 2020: Scenario: A patient is admitted and has an AVC, complete repair. Postoperatively, there are several wound procedures related to mediastinitis. The last wound procedure occurs on POD 42. The patient is discharged from the index procedure on POD 55 and then readmitted POD 67 (but within 30 days of the last non-index case for wound debridement). Should this get listed as a postoperative readmission event/complication, or just on the field readmitted within 30 days of discharge (sequence 4270)? **If the last non-index case was not a cardiovascular operation (CPB or No CPB Cardiovascular), then do not include the complication a post op readmission. Do include the readmission with 30 days of discharge.**

November 2020: Clarification from AQO: If a patient has several procedures prior to their index procedure that is associated with a STAT score, should complications be listed on the initial procedures that do not have a STAT score associated with them, or should no complications be selected? **Complications that occur prior to the index operation should be included as preoperative factors where applicable. Complications should not be coded until after the index operation. Clarification – procedures associated with a STAT score would be your index operation with operation types CPB cardiovascular or No CPB cardiovascular.**

November 2020: Should rapid atrial pacing utilized to treat an arrhythmia be coded as complication (73) arrhythmia requiring defibrillation/cardioversion or (75) arrhythmia requiring temporary pacemaker**? Rapid atrial pacing/overdrive pacing for a rapid rhythm should be included as arrhythmia requiring defibrillation/cardioversion not temporary pacemaker.**

November 2020: Regarding complication 75-Arrhythmia necessitating pacemaker, temporary pacemaker: The definition states "Implantation and utilization of a temporary pacemaker for treatment of any arrhythmia including heart block (atrioventricular [AV] heart block). Please also code if temporary pacemaker used during cardiac arrest." If a patient is A-paced s/p aortic arch repair and ECMO decannulation for the purpose of pressure support but is in sinus rhythm, should this complication be coded since there is no arrhythmia? **Code the temporary use of pacemakers to support arrhythmias and to augment cardiac output.**

December 2020: Please advise me on how to proceed as I have been coding unplanned surgery for a return to the OR unless the Op note in the prior surgery states "chest left open for delayed closing".
"What documentation is required so that planned open sternum is not reported as a STS complication- it is not a complication- it is part of the surgical plan.
A suggestion. I discuss this option with every parent in every case. If I include this as a written line of every consent, will that do?" **Complications are really included as post-operative events and the database is attempting to keep track of this measure. There is no punitive impact for these events. Code this based on the surgical plan which may differ from the surgical consent. Please code if the sternum is left open, planned or unplanned. The subsequent delayed sternal closure is always a planned cardiac reoperation, regardless of whether the sternum was left open planned or unplanned.**

January 2021: If a patient has a diagnostic cardiac cath after a procedure, is that coded as an unplanned interventional cardiovascular catheterization? E.g., a patient with HLHS/IAS who has low sats post Norwood, goes to cath lab and the shunt is patent and normal branch PAs/ no intervention. Patient started

on pulmonary vasodilators. Is that an unplanned reintervention? **No, this would not be unplanned interventional cath.**

January 2021: A patient has a known diagnosis of A fib (treated with medication), after surgery she has A fib that is treated with temporary pacing is this a complication? If she hadn't already had the diagnosis I wouldn't question it. **Yes, capture it if it occurred.**

February 2021: We have a patient who came to us from an OSH on ECMO d/t ventricular arrhythmias and arrest. We decannulated, treated arrhythmias and the patient also had a subcutaneous ICD placed by one of our cath lab doctors in the cath lab. Would this be an unplanned cath intervention as a complication? No vascular access or touching the heart. **Remember that if your facility only completed an ECMO procedure, you do not have an index operation and thus, do not have an operation that would be analyzed. If the ICD placement was unplanned, select this for your local data use if desired.**

February 2021: Patient had PA banding, PDA ligation, and G-tube placement all done within one operation. How do I capture the G-tube placement? It was planned prior to the decision to do the PA banding, so I don't think it would be an unplanned operation, and I can't capture in Preop Factors because patient didn't have it prior to going to OR**. Do not capture in the preop factors as it was not in place when the patient entered the OR. It is not an unplanned reoperation. You can answer the patient discharged with a GT in the discharge information.**

March 2021: If a single patient has two separate episodes of care in one analysis year, each with an index case, and has the same complication each episode of care (for example, superficial wound infection) do the complications each get counted in the overall percentage of superficial wound infections for that year (separate episodes of care) or are they only counted once (since it is a single patient)? **Each episode of care is treated as a separate event, so if the same complication occurred in a different episode of care, code the complication that occurred. Patients may experience the same complication in a different episode of care.**

March 2021: There was a formal presurgical plan for tracheostomy, prior to the patient's index cardiac surgery. Would we code the following complications: code 170 – Respiratory failure, Requiring tracheostomy and code 26 – Unplanned non-cardiac reoperation during the postoperative or postprocedural time period? **If there as a documented formal plan for tracheostomy prior to the cardiac surgery, code the respiratory failure requiring tracheostomy, but do not code the unplanned non-cardiac reoperation.**

March 2021: At our site, the surgeon discusses a 50% rate of needing a G-Tube post-operatively during the informed consent on all neonatal cases. Does this discussion imply that a post-op G-Tube insertion is planned, therefore not qualifying as an unplanned non-cardiac reoperation in the post-op period? **No, as the plan is not specific to an individual patient, please code the unplanned non-cardiac reoperation.**

March 2021: Please provide some clarification regarding unplanned cardiac reoperations vs. bleeding requiring reoperation. Does the bleeding need to be active bleeding to code the bleeding requiring reoperation, as in suture lines revised or cautery employed? In the following scenarios, which complication code should be utilized: (1) patient returns to the OR for a pericardial effusion noted to be old blood with no active bleeding noted; (2) hemopericardium; (3) removal of clots from the mediastinum; (4) oozing within the mediastinum. **The bleeding does not have to be active bleeding, but if there is blood in the chest that requires a reoperation or evacuation constitutes bleeding requiring reoperation.**

March 2021: "Dr. X was consulted by PCCU team due to non-capture and increased ventricular pacing in the first few post op hours. The pacer was interrogated and an extension of the VIP algorhythm was performed to minimize ventricular pacing with no further issues. He recommended her pacer be interrogated prior to discharge and this was done on 2/2, he adjusted the lower atrial output".

Does this also fall under arrhythmia requiring defibrillation/cardioversion, or does it fall under arrhythmia requiring temporary pacing? **Currently, the best way to capture this is an arrhythmia requiring defibrillation/cardioversion. This will be reviewed for the next upgrade.**

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| | | | |
|---|---|---|---|
| *Long Name:* | Other Complication – Specify | *SeqNo:* | 4201 |
| *Short Name:* | **CompOthSpecify** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Complications | | |
| *Definition:* | Indicate any other complications. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text | | |
| *ParentLongName:* | Complication | | |
| *ParentShortName:* | **Complication** | | |
| *ParentHarvestCodes:* | 900 | | |
| *Parent Value:* | = "Other complication" | | |

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| | | | |
|---|---|---|---|
| *Long Name:* | Other Operative/procedural Complication - Specify | *SeqNo:* | 4202 |
| *Short Name:* | **CompOthOpSpecify** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Complications | | |
| *Definition:* | Indicate other operative/procedural complications. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text | | |
| *ParentLongName:* | Complication | | |
| *ParentShortName:* | **Complication** | | |
| *ParentHarvestCodes:* | 901 | | |
| *Parent Value:* | = "Other operative/procedural complication" | | |

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## Discharge / Readmission

| | | | |
|---|---|---|---|
| *Long Name:* | Patient Remains Hospitalized During this Episode of Care | *SeqNo:* | 4210 |

| | | | |
|---|---|---|---|
| *Short Name:* | **EpisodeCarePatInHosp** | *Core:* | Yes |
| *Section Name*: | Anesthesia Administrative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the patient remains in the acute care setting for this admission / episode of care. | | |
| *Intent / Clarification:* | At time of harvest, this indicates that the patient remains in the acute care setting.<br>This field was added to assist the data manager in identifying which patients remain in the hospital at the time of harvest. | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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| | | | |
|---|---|---|---|
| *Long Name:* | Date of Hospital Discharge | *SeqNo:* | 4220 |
| *Short Name:* | **HospDischDt** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the date that the patient is discharged from the hospital where the surgery took place. In rare instances, the "Date of Hospital Discharge" differs from the "Date of Database Discharge". In situations where the patient is discharged to another acute care facility or to a chronic care facility, the "Date of Hospital Discharge" is the date the patient is transferred from the hospital where the surgery took place to another facility. This field is intended to capture the total length of stay in your hospital regardless of the medical service managing the patient. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Date - mm/dd/yyyy | | |
| *ParentLongName: :* | Patient Remains Hospitalized During this Episode of Care | | |
| *ParentShortName:* | **EpisodeCarePatInHosp** | | |
| *ParentHarvestCodes:* | 2 | | |
| *ParentValues:* | = "No" | | |

August 2019: Our chief surgeon believes that there is (or should be) some means to petition for a patient to have a functional discharge from the STS entry even though they are still in house, in cases when their surgery is fully recovered from - they are several months out from repair, but remain hospitalized due to unrelated reasons i.e. extreme prematurity, sequela from a syndrome, or oncologic therapy. Can you clarify if there is any precedent for this? **There is not. This is an issue we will take to surgeon leadership to consider.**

| | | | |
|---|---|---|---|
| *Long Name:* | Mortality Status At Hospital Discharge | *SeqNo:* | 4230 |
| *Short Name:* | **MtHospDisStat** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the patient was Alive or Dead at date and time of "Date of Hospital Discharge" for this operation. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Patient Remains Hospitalized During this Episode of Care
*ParentShortName:* **EpisodeCarePatInHosp**
*ParentHarvestCodes:* 2
*ParentValues:* = "No"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Alive |
| 2 | Dead |

| | | | |
|---|---|---|---|
| *Long Name:* | Discharge Location | *SeqNo:* | 4240 |
| *Short Name:* | **DisLoctn** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the location to where the patient was discharged at the Date of Hospital Discharge. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Mortality Status At Hospital Discharge
*ParentShortName:* **MtHospDisStat**
*ParentHarvestCodes:* 1
*ParentValues:* = "Alive"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Home |
| 2 | Other acute care center |
| 3 | Other chronic care center |

| | | | |
|---|---|---|---|
| *Long Name:* | VAD-Discharge Status | *SeqNo:* | 4245 |
| *Short Name:* | **VADDiscS** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the patient had a VAD in place at discharge from the hospital. | | |
| *Intent / Clarification:* | If the patient had a VAD inserted indicate whether the VAD was in place at the time of discharge. | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |
| *ParentLongName:* | Patient Remains Hospitalized During this Episode of Care | | |
| *ParentShortName:* | **EpisodeCarePatInHosp** | | |
| *ParentHarvestCodes:* | 2 | | |
| *ParentValues:* | = "No" | | |

Harvest Codes:

| Code: | Value: |
|---|---|
| 5 | No VAD used during this admission |
| 1 | Discharged with a VAD |
| 4 | VAD removed prior to discharge |
| 3 | Expired in Hospital |

| | | | |
|---|---|---|---|
| *Long Name:* | Discharged with Nasoenteric Tube | *SeqNo:* | 4246 |
| *Short Name:* | **NasoTubeDisc** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the patient was discharged from the hospital with a nasoentereric tube. | | |
| *Intent / Clarification:* | Code if any nasoenteric tube is present at hospital discharge, regardless of how it is being used. | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |
| *ParentLongName:* | Patient Remains Hospitalized During this Episode of Care | | |
| *ParentShortName:* | **EpisodeCarePatInHosp** | | |
| *ParentHarvestCodes:* | 2 | | |

*ParentValues:* = "No"

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

May 2020: How should the fields "Discharged with Nasoenteric Tube" (SeqNo: 4246) and "Discharged with Transabdominal Gastrostomy or Jejunostomy Tube" (SeqNo: 4247) be completed for patients whose Hospital Discharge Status is "Dead"? Should we answer Yes if either was in place/utilized at time of death? **If the patient has any of these tubes at the time of death (discharge), code as yes.**

---

| | | | |
|---|---|---|---|
| *Long Name:* | Discharged with Transabdominal Gastrostomy or Jejunostomy Tube | *SeqNo:* | 4247 |
| *Short Name:* | **TransGasDisc** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the patient was discharged from the hospital with a transabdominal gastrostomy or jejunostomy tube. | | |
| *Intent / Clarification:* | Code if any gastrostomy or jejunostomy tube is present at hospital discharge, regardless of how it is being used. | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |
| *ParentLongName:* | Patient Remains Hospitalized During this Episode of Care | | |
| *ParentShortName:* | **EpisodeCarePatInHosp** | | |
| *ParentHarvestCodes:* | 2 | | |
| *ParentValues:* | = "No" | | |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Date of Database Discharge | *SeqNo:* | 4250 |
| *Short Name:* | **DBDischDt** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the “Date of Database Discharge”. The “Date of Database Discharge” is defined as a date that is determined by three rules (presented below as Rule A, Rule B, and Rule C), which specify how to complete the field “Date of Database Discharge”. [Rule A]: If a patient was admitted from their home, they must be either dead or discharged to home prior to completing the field “Date of Database Discharge”. Their “Date | | |

of Database Discharge" is the date they are discharged to home or their date of mortality. If a patient was admitted from their home, the field "Date of Database Discharge" cannot be completed if the patient is transferred to another acute care facility or chronic care facility until they are either dead or discharged to home. However, if this patient survives in a chronic care facility for 6 postoperative months (i.e., 183 postoperative days in the chronic care facility), the patient can then be assigned a "Date of Database Discharge" that is the date when the patient is in the chronic care facility for 183 days. (Some institutions may not have a mechanism that allows transfer to a chronic care facility and instead utilizes their own institution as the chronic care facility. If an institution does not utilize a chronic care facility and instead keeps these chronic patients in-house, this institution can apply to this Rule [Rule A] whenever one of their patients survives for 6 postoperative months (i.e., 183 postoperative days) on "chronic care status" within their institution.) [Rule B]: If a patient was admitted from (i.e., transferred from) a chronic care facility where they chronically reside, they must be either dead or discharged either to home or to a chronic care facility prior to completing the field "Date of Database Discharge". Their "Date of Database Discharge" is the date they are discharged either to home or to a chronic care facility, or their date of mortality. [Rule C]: If a patient was admitted from (i.e., transferred from) another acute care facility, Rule A as previously stated applies if they lived at home prior to their admission to the transferring acute care facility. If a patient was transferred from another acute care facility, Rule B as previously stated applies if they lived in a chronic care facility prior to their admission to the transferring acute care facility. These three rules are consistent with previously published rules defining Operative Mortality [1] and Operative Morbidity [2] in the following published manuscripts [1, 2]. [1]. Jacobs JP, Mavroudis C, Jacobs ML, Maruszewski B, Tchervenkov CI, Lacour-Gayet FG, Clarke DR, Yeh T, Walters HL 3rd, Kurosawa H, Stellin G, Ebels T, Elliott MJ. What is Operative Mortality? Defining Death in a Surgical Registry Database: A Report from the STS Congenital Database Task Force and the Joint EACTS-STS Congenital Database Committee. The Annals of Thoracic Surgery, 81(5):1937-41, May 2006. [2]. Jacobs JP, Jacobs ML, Mavroudis C, Maruszewski B, Tchervenkov CI, Lacour-Gayet FG, Clarke DR, Yeh T, Walters HL 3rd, Kurosawa H, Stellin G, Ebels T, Elliott MJ, Vener DF, Barach P, Benavidez OJ, Bacha EA.. What is Operative Morbidity? Defining Complications in a Surgical Registry Database: A Report from the STS Congenital Database Task Force and the Joint EACTS-STS Congenital Database Committee. The Annals of Thoracic Surgery; 84:1416-1421, October 2007.

*Intent / Clarification:* Acute care, acute rehabilitation, or step down units are not considered places where a patient would receive chronic care or be on chronic care status. To be considered a chronic care unit, the unit should serve chronic care to all patients housed

within the unit, not a few of the patients. The reason the patient is sent to chronic care (social or medical) is not considered when determining the Database discharge date. The patient must remain on chronic care status for 183 days, discharge to home, or expire before the database discharge date can be completed. In the event a patient discharges from the hospital to a chronic care facility, is subsequently readmitted to an acute care facility, and then returns to the chronic care facility, the 183 day timeframe restarts when the patient returns to the chronic care facility.

*Data Source:* User
*Format:* Date - mm/dd/yyyy

*ParentLongName:* Patient Remains Hospitalized During this Episode of Care
*ParentShortName:* **EpisodeCarePatInHosp**
*ParentHarvestCodes:* 2
*ParentValues:* = "No"

August 2019: I have 2 complex patients who have been discharged to a chronic care facility. They both had index procedures one in back in 2017 and one in 2018. They have had multiple readmissions to our facility from the rehab center for other non-cardiac issues. Does the 183 days have to be consecutive or does it just have to be survived 183 days from hospital discharge date? In other words, does the 183 days start over after each hospital discharge back to the chronic care facility? One of these patients had a Norwood in 2017 and since she has yet to be analyzed because she doesn't have a database discharge date, it makes the numbers for US News and World Report challenging to report out. Do we count her or not since she does not show up on the tables? In the meantime, we are missing out on a STAT score and she just had her cath for her next procedure which we will also miss out on since she is yet to be discharged from the chronic care facility. **The patient must survive 183 consecutive days on chronic care status. If the patient returns for acute/ICU care, the clock starts over.**

March 2021: I have a patient that was discharged from our hospital to a chronic care facility. She was readmitted two days later. What is her database discharge date? **If after the second admission the patient discharges to home, the database discharge date is the hospital discharge date. If the patient went back to the chronic care facility, the date the patient survives in the chronic care facility for 183 days starting from the new transfer date is the database discharge date or the date of the patient's death if before 183 days.**

---

*Long Name:* Mortality Status At Database Discharge
*Short Name:* **MtDBDisStat**
*Section Name*: Discharge/Readmission
*DBTableName:* Operations
*Definition:* Indicate whether the patient was Alive or Dead at the date and time of "Date of Database Discharge" for this operation.

*SeqNo:* 4260
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User

*Format:* Text (categorical values specified by STS)

*ParentLongName:* Patient Remains Hospitalized During this Episode of Care
*ParentShortName:* **EpisodeCarePatInHosp**
*ParentHarvestCodes:* 2
*ParentValues:* = "No"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Alive |
| 2 | Dead |
| 3 | Unknown |

August 2019: I have a patient who is donating organs and there case was entered into STS. This is the first one I have come across and I am not sure how to proceed with data entry. This patient was in PICU and then became a One Legacy patient to prepare for procurement of organs. Since it is stated on the Operative tab that this is organ procurement, fields that normally are filled in will be left blank. Will that cause a problem with submitting data for harvest? Also, under the Hospitalization tab, is it correct in documenting the discharge date when the organs were procured and the patient passed away? **Organ procurement cases are not analyzed, so there is no issue with submitting. It is advised to use the date/time of hospital discharge (rather than brain death) to ensure there isn't a logic error in the DQR mismatching surgical date/time with discharge date/time.**

---

*Long Name:* Readmission Within 30 Days
*Short Name:* **Readmit30**
*Section Name*: Discharge/Readmission
*DBTableName:* Operations
*Definition:* Indicate whether the patient was readmitted within thirty days of discharge.

*SeqNo:* 4270
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:* Indicate whether the patient was readmitted to any acute care facility within thirty days of discharge. Do not include patients who were 'readmitted' on observation status and remained on observation status for the entirety of their 'readmission'.

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Mortality Status At Hospital Discharge
*ParentShortName:* **MtHospDisStat**
*ParentHarvestCodes:* 1
*ParentValues:* = "Alive"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

November 2019: If a patient has a planned re-admission (chemo in this case), does that still count as a re-admission? Yes. Code in **Readmission after 30 days: Not related to index operation.**
October 2020: The clarification for this field says it includes readmission to any acute care facility with 30 days. If the patient is transferred/discharged to an "Acute Care Center" in DisLoctn (Seq4240), should the readmission within 30 days field be marked as "Yes", and the date of discharge from our facility be entered for the field ReadmitDt (Seq4280)? **This is a transfer to another acute care center, so do not fill out the readmission field for this type of transfer.**

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| | | | |
|---|---|---|---|
| *Long Name:* | Readmission Date | *SeqNo:* | 4280 |
| *Short Name:* | **ReadmitDt** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the date on which the patient was readmitted. | | |
| *Intent / Clarification:* | Indicate the date the patient was readmitted to any acute care facility within 30 days of discharge. | | |
| *Data Source:* | User | | |
| *Format:* | Date - mm/dd/yyyy | | |
| *ParentLongName:* | Readmission Within 30 Days | | |
| *ParentShortName:* | **Readmit30** | | |
| *ParentHarvestCodes:* | 1 | | |
| *ParentValues:* | = "Yes" | | |

January 2019: Patient originally discharged on 10/4/18. Reported to local ED for desaturations on 10/13/18. Transferred and direct admit to our facility at that time. Kept overnight, as inpatient, then discharged the following morning. 10/22 patient admitted for incisional infection, DC'd again on 10/25. I can only code one readmission. How should I code this readmission? **You can only code the first readmission closest to the surgery.**
November 2020: Pt had an Aortic Valve Replacement 8/31 and discharged home POD #6. Readmitted POD #21 for a superficial sternal wound infection. I captured the readmission and sternal wound infection in the complications section of the 8/31 Index procedure. On POD #24 he went to the OR for a superficial wound debridement, had no complications and STS 620 Admitted from home after cardiac surgical procedure within the last 30 days was captured in the risk section. Should this second procedure be a separate Index procedure? **Yes, with a new admission following discharge to home, you do have a second index procedure and the events are complications of the previous index operation.**

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| | | | |
|---|---|---|---|
| *Long Name:* | Primary Readmission Reason | *SeqNo:* | 4290 |
| *Short Name:* | **ReadmitRsn** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |

*Definition:* Indicate the primary reason for readmission. Whenever possible, use the most appropriate specific organ system and/or lesion based choice from the list to document the reason for admission. Please only use one of the three choices beginning with the word “Other”’ when no other choice is appropriate. If the readmission is for the patient to undergo a procedure related to the index operation (the first operation of the given hospitalization that has an Operation Type of "CPB" or "No CPB Cardiovascular"), please document the cause of this readmission to be assigned to the specific organ system and/or lesion based choice if possible. If no specific organ system and/or lesion based choice is appropriate and the readmission is for the patient to undergo a procedure related to the index operation, please choose “Other Cardiovascular Complication” if the planned procedure is cardiac, and “Other - Readmission related to this index operation" if the planned procedure is noncardiac.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Readmission Within 30 Days
*ParentShortName:* **Readmit30**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes and Value Definitions:

| Code: | Value: | Definition: |
|---|---|---|
| 26 | Thrombotic Complication | Complication involving development of a blood clot possibly leading to vascular obstruction |
| 27 | Embolic Complication | Complication involving migration of blood clot or other matter possibly leading to vascular obstruction |
| 28 | Hemorrhagic Complication | Complication involving life threatening bleeding |
| 29 | Stenotic Complication | Complication involving narrowing of lumen resulting in flow disruption |
| 2 | Arrhythmia | |
| 3 | Congestive Heart Failure | Physician documentation or report of insufficient cardiac output leading to fluid retention, rales, jugular venous distention, hepatic congestion or pulmonary edema. Low ejection fraction without clinical evidence of heart failure does not qualify as heart failure. |
| | Embolic Complication | |
| 30 | Cardiac Transplant Rejection | Rejection refers to the organ recipient's immune system recognizing a transplanted organ as foreign and mounting a response to it via cellular and/or humoral (antibody-mediated) mechanisms. Routine endomyocardial biopsy remains the criterion standard for monitoring for such rejection. |
| 31 | Myocardial Ischemia | Insufficient oxygen delivery to meet the demand of myocardial tissue may result in pain, wall motion abnormality and EKG changes. Untreated ischemia may progress to infarction. |

| | | |
|---|---|---|
| 14 | Renal Failure | Renal Failure is defined as the oliguria with sustained urine output < 0.5 cc/kg/hr for 24 hours and/or a rise in creatinine >1.5 times upper limits of normal for age. |
| 6 | Pericardial Effusion and/or Tamponade | Abnormal accumulation of fluid in the pericardial space requiring drainage |
| 32 | Pleural Effusion | Abnormal accumulation of fluide in the pleural space. |
| 33 | Neurologic Complication | Newly recognized and/or newly acquired deficit of neurologic function leading to inpatient referral, therapy, or intervention not otherwise practiced for a similar unaffected patient |
| 7 | Respiratory Complication/Airway Complication | Complication related to the respiratory system, includes airway issues |
| 34 | Septic/Infectious Complication | Complication related to infection, includes infection of wound(s), bloodstream infection or other infectious conditions |
| 35 | Cardiovascular Device Complications | Complication related to a device |
| 36 | Residual/Recurrent Cardiovascular Defects | Complication related to residual or recurrent cardiac abnormality |
| 37 | Failure to Thrive | Current weight or rate of weight gain is significantly lower than that of other children of similar age and gender |
| 25 | VAD Complications | Complication related to ventricular assist device |
| 39 | Gastrointestinal Complication | Gastrointestinal complication (Includes readmission for percutaneous endoscopic tube [PEG tube] and readmission for Nissen fundoplication, as well as readmission for nausea, vomiting, GI bleed, GERD or diarrhea) |
| 38 | Other Cardiovascular Complication | Unlisted complication related to the cardiovascular system |
| 998 | Other - Readmission related to this index operation | Example: Shunt thrombosis in a patient who has had a Norwood procedure. |
| 999 | Other - Readmission not related to this index operation | Example: Orthopedic procedure in a patient who has had a Norwood procedure. |

October 2019: If a patient is readmitted within 30 days for a viral infection (Rhinovirus, norovirus, etc.), is the Primary Readmission Reason Septic/Infectious Complication? or Other-Readmission not related to this index operation? **Code the readmission reason as Septic/Infectious Complication. Code the readmission reasons as specific as possible.**

---

| | | | |
|---|---|---|---|
| *Long Name:* | Mortality - 30-Day Status | *SeqNo:* | 4300 |
| *Short Name:* | **Mt30Stat** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the patient was alive or dead on the 30th day post-surgical procedure whether in hospital or not. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Alive |
| 2 | Dead |
| 3 | Unknown |

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| | | | |
|---|---|---|---|
| *Long Name:* | Mortality - 30-Day Status - Method Of Verification | *SeqNo:* | 4310 |
| *Short Name:* | **Mt30StatMeth** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the primary method used to verify the patient's 30-day mortality status. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Evidence of life or death in medical record |
| 2 | Contact with patient or family |
| 3 | Contact with medical provider |
| 4 | Office visit to provider greater than or equal to 365 days post op |
| 5 | SSDMF |
| 9 | Other |

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| | | | |
|---|---|---|---|
| *Long Name:* | Status at 365 days after Surgery | *SeqNo:* | 4311 |
| *Short Name:* | **Mt365Stat** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the mortality status for the patient at 365 days following the index operation for this hospitalization. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

| | |
|---|---|
| *ParentLongName:* | Mortality - 30-Day Status |
| *ParentShortName:* | **Mt30Stat** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Alive" |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Alive |
| 2 | Dead |
| 3 | Unknown |

February 2020: This is supposed to be a required field only for those OR dates using version 3.41. My question is, up to what OR date are we expected to answer this question. For example, with a harvest submission date of March 22, 2020, are we expected to have a 365 day mortality answer for OR dates 1/1/2019 (when version 3.41 started) - 3/21/2019? We would have to be on the phone the day before harvest and make appointments to ensure people answer the phone. **The intent of the 365 day mortality status is 1-year from the date of surgery. Currently this is not included in the missing % calculation precluding a program from being included in the risk model analysis.**

---

| | | | |
|---|---|---|---|
| *Long Name:* | 365 Day Status Method Verification | *SeqNo:* | 4312 |
| *Short Name:* | **Mt365StatMeth** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the source of information for the patient's status at 365 days following the index operation for this hospitalization. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |

| | |
|---|---|
| *ParentLongName:* | Mortality - 30-Day Status |
| *ParentShortName:* | **Mt30Stat** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Alive" |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Evidence of life or death in medical record |
| 2 | Contact with patient or family |
| 3 | Contact with medical provider |

| | |
|---|---|
| 4 | Office visit to provider greater than or equal to 365 days post op |
| 5 | SSDMF |
| 9 | Other |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Mortality - Operative Death | *SeqNo:* | 4330 |
| *Short Name:* | **MtOpD** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Operative Mortality includes: (1) all deaths, regardless of cause, occurring during the hospitalization in which the operation was performed, even if after 30 days (including patients transferred to other acute care facilities or death at < 183 days if transferred to a chronic care facility); and (2) all deaths, regardless of cause, occurring after discharge from the hospital, but before the end of the thirtieth postoperative day. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

January 2019: Patient has a cath lab procedure for an ablation due to ventricular tachycardia. During the procedure the catheter caused a linear tear in the posterior aspect of the right atrium just anterior and medial to the inferior vena cava. This was repaired (off bypass) by the cardiac surgeon. This is the first and only cardiothoracic procedure performed by the surgeon. The patient died the next day. The diagnosis would be 'Complication of cardiovascular catheterization procedure', and the operative type No CPB cardiovascular, correct? Would the procedure be coded as 'cardiac, other'? This will be an operative mortality, correct? This will be included in the STS Harvest report mortality analysis even though it will not have a STAT mortality category, correct? **This is an operative mortality and should be included as the database, however will not be included in the risk adjusted mortality analysis as there is no associated STAT score.**

July 2019: I would like a little clarification about operative mortality. A patient has an index procedure and survives greater than 30 days and then has another procedure after 30 days during the same hospitalization. The patient is discharged to home shortly after. Unfortunately, the patient dies at home a few days after the last operation so the status at 30 days after surgery would be "dead" for the last operation during the admission. Would I check yes for an operative mortality for the last surgery since the patient died within 30 days of the last operation or does this only pertain to the index? Would this then count as an operative mortality for the index procedure? The patient had a mortality status at database discharge as alive. **If the last procedure is operation type CPB Cardiovascular or No CPB Cardiovascular, this will count as an operative mortality for the index procedure. This information is in Report Overview in the Operative Mortality section:**

**Determination of episode of care-based Operative Mortality is based on:**

1) **Status (alive/dead) at Date of Database Discharge, and**

**2) Status (alive/dead) at 30 days after the last cardiovascular surgical operation of the episode of care.**

August 2019: Patient has a VAD Implantation and a Primary PFO closure on Jan 1. The patient has no additional cardiothoracic procedures during this admission. Patient dies 4 days later while still in the hospital. This should be coded as an indexed surgery, and the Primary PFO closure would be the primary procedure of the indexed surgery, correct? This would be an operative mortality assigned to this indexed case, correct? **Yes and yes**

October 2019: We have a patient that had a STS code 1450 Pacemaker implantation, Permanent as the first surgery of her admission. This was the only procedure performed during that surgery, and she was 0 days old at the time of the surgery. She had a subsequent tricuspid valvuloplasty (CPB Cardiovascular) during that same admission followed by a BT Shunt (CPB Cardiovascular). She died in the hospital just a few days after her BT Shunt surgery. Am I correct that she will not be analyzed as a mortality in the STS Harvest report since she was <30 days old at the time of her primary/index procedure of STS code 1450 Pacemaker implantation, Permanent? **Code as a pacemaker procedure. As the patient is less than 30 days, this patient is excluded from the analysis.**

March 2021: A baby was born at 28 weeks with a birth weight of 1300 grams on 6/25/2020. This baby (during the same hospitalization) had a PDA ligation on 9/9/2020 with a weight of 3.1kg. This baby later died during the same hospitalization. My understanding is a PDA ligation for an infant less than 2500 grams will not count in the operative mortality analysis. This baby was technically over this weight at the time of surgery but born less than 2500 grams during the same hospitalizations. Not sure if this case will be in the analysis for mortality. **The weight at the time of surgery is the weight that is included in the analysis, thus this patient will be included in the mortality analysis and this will be an operative mortality.**

---

| | | | |
|---|---|---|---|
| *Long Name:* | Eligibility For CHSS Study | *SeqNo:* | 4331 |
| *Short Name:* | **CHSSElig** | *Core:* | Yes |
| *Section Name*: | Discharge/Readmission | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |

*Definition:* Indicate patient's eligibility for the Congenital Heart Surgeon Society (CHSS) study.

*Intent / Clarification:* Refer to the CHSS study website for enrollment criteria for each individual study. The study availability and enrollment criteria do periodically change periodically. http://www.chssdc.org/studies

*Data Source:* User
*Format:* Text (categorical values specified by STS)
Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Patient is eligible and enrolled |
| 2 | Patient is eligible, but declined enrollment |
| 3 | Patient is eligible, but not invited to participate |
| 4 | Patient is eligible, but institution is not a CHSS participant |
| 5 | Patient is eligible, but not enrolled for other reason |
| 6 | Patient is not eligible for CHSS study |

| | | | |
|---|---|---|---|
| *Long Name:* | Patient's care discussed at preoperative multidisciplinary planning conference | *SeqNo:* | 4340 |
| *Short Name:* | **CareDiscussed** | *Core:* | Yes |
| *Section Name*: | Patient Process Measures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether this patient's care was discussed at a preoperative multidisciplinary planning conference to plan pediatric and congenital heart surgery cases. A preoperative multidisciplinary planning conference involves attendance by multiple members of the healthcare team, with recommended participation including but not limited to: cardiology, cardiac surgery, anesthesia, and critical care. | | |
| *Intent / Clarification:* | This is collected once for the episode of care, on the index operation. This categorization includes all reoperations (cardiac and non-cardiac) as well as interventional catheterization procedures. The codes included in these 6 major complications are:<br>a.New postoperative renal failure requiring dialysis (230, 223, 224)<br>b.New postoperative neurological deficit persisting at discharge (320, 400, 410)<br>c.Arrhythmia necessitating permanent pacemaker insertion (74)<br>d.Paralyzed diaphragm (300)<br>e.Need for postoperative mechanical circulatory support (40)<br>f.Unplanned reoperation and/or interventional cardiovascular catheterization procedure (22, 24, 26, 240) | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |
| *ParentLongName:* | Operation Type | | |
| *ParentShortName:* | **OpType** | | |
| *ParentHarvestCodes:* | 1\|2\|9 | | |
| *ParentValues:* | = "CPB Cardiovascular", "No CPB Cardiovascular" or "CPB Non-Cardiovascular" | | |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

# Patient Process Measures

| | | | |
|---|---|---|---|
| *Long Name:* | Reason why patient's care was not discussed | *SeqNo:* | 4350 |
| *Short Name:* | **CareDiscussedRsn** | *Core:* | Yes |
| *Section Name*: | Patient Process Measures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the reason why the patient's case was not discussed at a preoperative multidisciplinary planning conference. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Patient's care discussed at preoperative multidisciplinary planning conference |
| *ParentShortName:* | **CareDiscussed** |
| *ParentHarvestCodes:* | 2 |
| *ParentValues:* | = "No" |

Harvest Codes and Value Definitions:

| Code: | Value: | Definition: |
|---|---|---|
| 1 | Urgent / emergent / salvage case | This case was an urgent / emergent /salvage case and the patient went to surgery prior to the next scheduled conference. |
| 2 | Patient admitted between conferences | This patient who was admitted after the previous conference and went to surgery prior to the next scheduled conference. |
| 3 | Program does not routinely discuss all cases | This case was not discussed at conference because program does not routinely discuss all cases at a pre-operative multidisciplinary planning conference. |
| 4 | Program does not have regular conferences | Program does not have a regularly scheduled pre-operative multidisciplinary planning conference to plan pediatric and congenital heart surgery cases. |
| 5 | Other | Reason not listed |

| | | | |
|---|---|---|---|
| *Long Name:* | Transesophageal Echocardiography (TEE) available for case | *SeqNo:* | 4370 |
| *Short Name:* | **TEEAvail** | *Core:* | Yes |
| *Section Name*: | Patient Process Measures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether intraoperative transesophageal echocardiography (TEE) was available for this case (or epicardial echocardiography if TEE contraindicated or not informative). Availability is defined as the presence and availability of equipment and staff to perform the study. Reporting of compliance will be as the fraction of all Cardiac Operations with availability (as opposed to use) of TEE and/or epicardial echocardiography. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |
| *ParentLongName:* | Operation Type | | |
| *ParentShortName:* | **OpType** | | |
| *ParentHarvestCodes:* | 1\|2\|9 | | |
| *ParentValues:* | = "CPB Cardiovascular", "No CPB Cardiovascular" or "CPB Non-Cardiovascular" | | |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Intraoperative transesophageal echocardiography (TEE) performance | *SeqNo:* | 4380 |
| *Short Name:* | **TEEEpicEchoPerf** | *Core:* | Yes |
| *Section Name*: | Patient Process Measures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether TEE / epicardial echocardiography was performed for this case. If available, TEE may not be performed due to surgeon preference, size of patient, not indicated, etc. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |
| *ParentLongName:* | Transesophageal Echocardiography (TEE) available for case | | |
| *ParentShortName:* | **TEEAvail** | | |
| *ParentHarvestCodes:* | 1 | | |

*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Preoperative antibiotic prophylaxis given
*Short Name:* **PreopAntiProph**
*Section Name*: Patient Process Measures
*DBTableName:* Operations
*Definition:* Indicate whether a preoperative antibiotic prophylaxis was given to this patient. Measure is satisfied for each Cardiac Operation, when there is documentation that the patient has received prophylactic antibiotic(s) within the hour immediately preceding surgical incision (two hours if receiving vancomycin). To satisfy this measure, the field named "Skin Incision Start Time" must be completed.

*SeqNo:* 4400
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|2|9
*ParentValues:* = "CPB Cardiovascular", "No CPB Cardiovascular" or "CPB Non-Cardiovascular"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |
| 3 | Patient on ongoing antibiotic |

---

*Long Name:* Preoperative antibiotic prophylaxis - Cephalosporin
*Short Name:* **PreopAntiProphCeph**
*Section Name*: Patient Process Measures
*DBTableName:* Operations
*Definition:* Indicate whether the preoperative antibiotic prophylaxis included Cephalosporin.

*SeqNo:* 4410
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Preoperative antibiotic prophylaxis given
*ParentShortName:* **PreopAntiProph**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Preoperative antibiotic prophylaxis - Penicillin or related medication
*SeqNo:* 4420
*Short Name:* **PreopAntiProphPen**
*Core:* Yes
*Section Name*: Patient Process Measures
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the preoperative antibiotic prophylaxis included penicillin or related medications (i.e., Oxacillin, Nafcillin, Ampicillin, etc.)

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Preoperative antibiotic prophylaxis given
*ParentShortName:* **PreopAntiProph**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Preoperative antibiotic prophylaxis - Aminoglycoside
*SeqNo:* 4430
*Short Name:* **PreopAntiProphAmino**
*Core:* Yes
*Section Name*: Patient Process Measures
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the preoperative antibiotic prophylaxis included Aminoglycoside.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Preoperative antibiotic prophylaxis given
*ParentShortName:* **PreopAntiProph**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Preoperative antibiotic prophylaxis - Vancomycin
*Short Name:* **PreopAntiProphVan**
*Section Name*: Patient Process Measures
*DBTableName:* Operations
*Definition:* Indicate whether the preoperative antibiotic prophylaxis included Vancomycin.

*SeqNo:* 4440
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Preoperative antibiotic prophylaxis given
*ParentShortName:* **PreopAntiProph**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Preoperative antibiotic prophylaxis - Other
*Short Name:* **PreopAntiProphOth**
*Section Name*: Patient Process Measures
*DBTableName:* Operations

*SeqNo:* 4450
*Core:* Yes
*Harvest:* Yes

*Definition:* Indicate whether the preoperative antibiotic prophylaxis included any other class of antibiotic.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Preoperative antibiotic prophylaxis given
*ParentShortName:* **PreopAntiProph**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Preoperative antibiotic prophylaxis - Time started
*Short Name:* **PreopAntiProphTime**
*Section Name*: Patient Process Measures
*DBTableName:* Operations
*Definition:* Indicate the time when the antibiotic infusion started.

*SeqNo:* 4470
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Time - hh:mm (24-hour clock)

*ParentLongName:* Preoperative antibiotic prophylaxis given
*ParentShortName:* **PreopAntiProph**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

---

*Long Name:* Conventional preprocedure time-out
*Short Name:* **ConvTimeOut**
*Section Name*: Patient Process Measures
*DBTableName:* Operations
*Definition:* Indicate whether a conventional preprocedural "time-out", which includes identification of patient, operative site, procedure, and history of any allergies, was performed.

*SeqNo:* 4480
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by user)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|2|9
*ParentValues:* = "CPB Cardiovascular", "No CPB Cardiovascular" or "CPB Non-Cardiovascular"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Surgeon shares essential elements of operative plan
*Short Name:* **PostProcBrief**
*Section Name*: Patient Process Measures
*DBTableName:* Operations
*Definition:* Indicate whether a preprocedural briefing was performed wherein the surgeon shares with all members of the operating room team the essential elements of the operative plan; including diagnosis, planned procedure, outline of essentials of anesthesia and bypass strategies, antibiotic prophylaxis, availability of blood products, anticipated or planned implants or device applications, and anticipated challenges.

*SeqNo:* 4490
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by user)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|2|9
*ParentValues:* = "CPB Cardiovascular", "No CPB Cardiovascular" or "CPB Non-Cardiovascular"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Postprocedure debriefing | *SeqNo:* | 4500 |
| *Short Name:* | **PostProcDebrief** | *Core:* | Yes |
| *Section Name*: | Patient Process Measures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether a postprocedural debriefing was performed wherein the surgeon succinctly reviews with all members of the operating room team the essential elements of the operative plan, identifying both the successful components and the opportunities for improvement. This debriefing should take place prior to the patient leaving the operating room or its equivalent, and may be followed by a more in-depth dialogue involving team members at a later time. (The actual debriefing in the operating room is intentionally and importantly brief, in recognition of the fact that periods of transition may be times of instability or vulnerability for the patient.) | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by user) | | |
| *ParentLongName:* | Operation Type | | |
| *ParentShortName:* | **OpType** | | |
| *ParentHarvestCodes:* | 1\|2\|9 | | |
| *ParentValues:* | = "CPB Cardiovascular", "No CPB Cardiovascular" or "CPB Non-Cardiovascular" | | |

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Hand-off protocol at the time of transfer to the Intensive Care Unit | *SeqNo:* | 4510 |
| *Short Name:* | **HandoffProtocol** | *Core:* | Yes |
| *Section Name*: | Patient Process Measures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether a briefing and execution of a hand-off protocol (checklist) was performed at the time of transfer (arrival) to the Intensive Care Unit at the end of the operation, involving ALL of the following: the anesthesiologist, surgeon, physician staff of the Intensive Care Unit (including critical care and cardiology) and nursing. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |

*Format:* Text (categorical values specified by user)

*ParentLongName:* Operation Type
*ParentShortName:* **OpType**
*ParentHarvestCodes:* 1|2|9
*ParentValues:* = "CPB Cardiovascular", "No CPB Cardiovascular" or "CPB Non-Cardiovascular"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes - All required team members present |
| 2 | Yes - Not all required team members present |
| 3 | No |

---

*Long Name:* Hand-off protocol - Anesthesiologist
*Short Name:* **HandoffAnesth**
*Section Name*: Patient Process Measures
*DBTableName:* Operations
*Definition:* Indicate whether the anesthesiologist or designee attended the hand-off protocol at the time of transfer to the Intensive Care Unit at the end of the operation.

*SeqNo:* 4520
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by user)

*ParentLongName:* Hand-off protocol at the time of transfer to the Intensive Care Unit
*ParentShortName:* **HandoffProtocol**
*ParentHarvestCodes:* 2
*ParentValues:* = "Yes – Not all required team members present"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Attended hand-off protocol |
| 2 | Did not attend hand-off protocol |

---

*Long Name:* Hand-off protocol - Surgeon
*Short Name:* **HandoffSurg**
*Section Name*: Patient Process Measures
*DBTableName:* Operations

*SeqNo:* 4530
*Core:* Yes
*Harvest:* Yes

*Definition:* Indicate whether the surgeon or designee attended the hand-off protocol at the time of transfer to the Intensive Care Unit at the end of the operation.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by user)

*ParentLongName:* Hand-off protocol at the time of transfer to the Intensive Care Unit
*ParentShortName:* **HandoffProtocol**
*ParentHarvestCodes:* 2
*ParentValues:* = "Yes – Not all required team members present"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Attended hand-off protocol |
| 2 | Did not attend hand-off protocol |

---

*Long Name:* Hand-off protocol - Physician staff of the Intensive Care Unit
*Short Name:* **HandoffPhysStaff**
*Section Name*: Patient Process Measures
*DBTableName:* Operations
*Definition:* Indicate whether the physician staff of the Intensive Care Unit or designee attended the hand-off protocol at the time of transfer to the Intensive Care Unit at the end of the operation.

*SeqNo:* 4540
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by user)

*ParentLongName:* Hand-off protocol at the time of transfer to the Intensive Care Unit
*ParentShortName:* **HandoffProtocol**
*ParentHarvestCodes:* 2
*ParentValues:* = "Yes – Not all required team members present"

*Harvest Codes:*

| Code: | Value: |
|---|---|
| 1 | Attended hand-off protocol |
| 2 | Did not attend hand-off protocol |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Hand-off protocol - Nursing | *SeqNo:* | 4550 |
| *Short Name:* | **HandoffNursing** | *Core:* | Yes |
| *Section Name*: | Patient Process Measures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether a nurse or designee attended the hand-off protocol at the time of transfer to the Intensive Care Unit at the end of the operation. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by user) |
| *ParentLongName:* | Hand-off protocol at the time of transfer to the Intensive Care Unit |
| *ParentShortName:* | **HandoffProtocol** |
| *ParentHarvestCodes:* | 2 |
| *ParentValues:* | = "Yes – Not all required team members present" |

*Harvest Codes:*

| Code: | Value: |
|---|---|
| 1 | Attended hand-off protocol |
| 2 | Did not attend hand-off protocol |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Patient died or had major postoperative complication(s) | *SeqNo:* | 4560 |
| *Short Name:* | **PostOpComp** | *Core:* | Yes |
| *Section Name*: | Patient Process Measures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the patient died before hospital discharge and/or had any of these major postoperative complication(s):<br><br>a. New postoperative renal failure requiring dialysis (230, 223, 224)<br>b. New postoperative neurological deficit persisting at discharge (320, 400, 410)<br>c. Arrhythmia necessitating permanent pacemaker insertion (74)<br>d. Paralyzed diaphragm (300)<br>e. Need for postoperative mechanical circulatory support (40)<br>f. Unplanned reoperation and/or interventional cardiovascular catheterization procedure (22, 24, 26, 240)<br><br>The detailed definitions for the six postoperative complications are the definitions used in the current version of the STS Congenital Heart Surgery Database. These detailed definitions for these six postoperative complications may be found in the following manuscript: | | |

Jacobs JP et al. Quality measures for congenital and pediatric cardiac surgery. World Journal for Pediatric and Congenital Heart Surgery 2012;3:32-47

*Intent / Clarification:* This is collected once for the episode of care, on the index operation. This categorization includes all reoperations (cardiac and non-cardiac) as well as interventional catheterization procedures.

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Patient management and outcomes reviewed
*Short Name:* **PostOpReview**
*Section Name*: Patient Process Measures
*DBTableName:* Operations
*Definition:* Indicate whether the patient's management and outcomes were reviewed as a part of a regularly scheduled Quality Assurance and Quality Improvement Cardiac Care Conference (i.e., Morbidity and Mortality conference).

*SeqNo:* 4570
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by user)

*ParentLongName:* Patient died or had major postoperative complication(s)
*ParentShortName:* **PostOpComp**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: | Definition: |
|---|---|---|
| 1 | Reviewed at conference | This patient's management and outcome were reviewed as a part of a regularly scheduled Quality Assurance and Quality Improvement Cardiac Care Conference (i.e., Morbidity and Mortality Conference). |
| 2 | Scheduled to be reviewed at next conference | This patient is on the schedule to be discussed at an upcoming Quality Assurance and Quality |

| | | |
|---|---|---|
| | | Improvement Cardiac Care Conference (i.e., Morbidity and Mortality Conference). (Please log back in to the Quality Module and change this answer to "Reviewed at conference" after the patient has been discussed in Quality Assurance and Quality Improvement Cardiac Care Conference). |
| 3 | Not reviewed and not scheduled to be reviewed | This patient's management and outcome were NOT reviewed as a part of a regularly scheduled Quality Assurance and Quality Improvement Cardiac Care Conference (i.e., Morbidity and Mortality Conference) and is not currently on the schedule to be discussed at an upcoming Quality Assurance and Quality Improvement Cardiac Care Conference. |
| 4 | Program does not have regularly scheduled conferences | Program does not have a regularly scheduled Quality Assurance and Quality Improvement Cardiac Care Conference (i.e., Morbidity and Mortality Conference). |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Patient management and outcomes reviewed – date | *SeqNo:* | 4580 |
| *Short Name:* | **PostOpReviewDate** | *Core:* | Yes |
| *Section Name*: | Patient Process Measures | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the date this patient's management and outcome was reviewed as a part of a regularly scheduled Quality Assurance and Quality Improvement Cardiac Care Conference (i.e., Morbidity and Mortality conference). | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Date - mm/dd/yyyy | | |
| *ParentLongName:* | Patient management and outcomes reviewed | | |
| *ParentShortName:* | **PostOpReview** | | |
| *ParentHarvestCodes:* | 1 | | |
| *ParentValues:* | = "Reviewed at conference" | | |

---

# Anesthesia

## Anesthesia Administrative

| | | | |
|---|---|---|---|
| *Long Name:* | Anesthesiology Data Collected | *SeqNo:* | 4581 |
| *Short Name:* | **Anesthesia** | *Core:* | Yes |
| *Section Name*: | Anesthesia Administrative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether anesthesia data is being collected. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Anesthesiologist Present | *SeqNo:* | 4585 |
| *Short Name:* | **AnesPresent** | *Core:* | Yes |
| *Section Name*: | Anesthesia Administrative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether an anesthesiologist was present for the procedure. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by user)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = “Yes”

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Primary Anesthesiologist Attending Name | *SeqNo:* | 4590 |
| *Short Name:* | **PrimAnesName** | *Core:* | Yes |
| *Section Name*: | Anesthesia Administrative | *Harvest:* | Yes |

*DBTableName:* Operations
*Definition:* Indicate the name of the primary anesthesiologist (attending physician present at induction of anesthesia). The name, NPI and signature of all anesthesiologists contributing data to the database must be on file with the STS for data files to be accepted.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by user)

*ParentLongName:* Anesthesiologist Present
*ParentShortName:* **AnesPresent**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |

---

*Long Name:* Primary Anesthesiologist National Provider Identifier
*Short Name:* **PrimAnesNPI**
*Section Name*: Anesthesia Administrative
*DBTableName:* Operations
*Definition:* Indicate the individual-level National Provider Identifier (NPI) of the anesthesiologist performing the procedure.

*SeqNo:* 4600
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* Lookup
*Format:* Text

*ParentLongName:* Anesthesiologist Present
*ParentShortName:* **AnesPresent**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

---

*Long Name:* Secondary Anesthesiologist Attending
*Short Name:* **SecAnes**
*Section Name*: Anesthesia Administrative
*DBTableName:* Operations

*SeqNo:* 4610
*Core:* Yes
*Harvest:* Yes

*Definition:* Indicate whether a relieving anesthesiologist and/or second anesthesiology attending was present during this procedure.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiologist Present
*ParentShortName:* **AnesPresent**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Fellow or Resident Present
*Short Name:* **FelRes**
*Section Name*: Anesthesia Administrative
*DBTableName:* Operations
*Definition:* Indicate whether a Fellow or Resident was present during this procedure.

*SeqNo:* 4630
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Mid-Level Provider (CRNA, AA) Present
*Short Name:* **CRNA**
*Section Name*: Anesthesia Administrative
*DBTableName:* Operations

*SeqNo:* 4640
*Core:* Yes
*Harvest:* Yes

*Definition:* Indicate whether a Certified Registered Nurse Anesthetist (CRNA) or Anesthesia Assistant (AA) participated in the patient care during all or part of this procedure.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Preoperative Medications Table Unique Record Identifier
*Short Name:* **PMUniqueID**
*Section Name*: Anesthesia Preoperative
*DBTableName:* PreopMeds
*Definition:* Unique identifier for the record in the Preoperative Medications table.

*SeqNo:* 4670
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* Automatic
*Format:* Text

*ParentLongName: :* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

---

*Long Name:* Preoperative Medication Link to Operations Table
*Short Name:* **OperationID**
*Section Name*: Anesthesia Preoperative
*DBTableName:* PreopMeds
*Definition:* An arbitrary, unique value generated by the software that permanently identifies each operation record in the participant's database. This field is the foreign key that links the Preoperative Medications record with the associated record in the Operations table.

*SeqNo:* 4680
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | Automatic |
| *Format:* | Text |
| *ParentLongName: :* | Anesthesiology Data Collected |
| *ParentShortName:* | **Anesthesia** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Yes" |

## Anesthesia Pre-operative

| | | | |
|---|---|---|---|
| *Long Name:* | Preoperative Medication Category | *SeqNo:* | 4700 |
| *Short Name:* | **PreopMedCat** | *Core:* | Yes |
| *Section Name*: | Anesthesia Preoperative | *Harvest:* | Yes |
| *DBTableName:* | PreopMeds | | |
| *Definition:* | Indicate the categories of preoperative medication(s) given to the patient within 24 hours (unless noted otherwise) prior to the period of anesthetic care. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Anesthesiology Data Collected |
| *ParentShortName:* | **Anesthesia** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = “Yes” |

Harvest Codes:

| Code: | Value: |
|---|---|
| 5 | None |
| 10 | Amiodarone |
| 20 | Angiotensin Converting Enzyme (ACE) Inhibitors |
| 760 | Angiotensin Receptor Blockers (ARB) |
| 700 | Anti-arrhythmics Not Otherwise Listed |
| 770 | Anticoagulents Not Otherwise Listed |
| 30 | Anti-reflux Medications (H2 antagonists, PPI, propulsives) |
| 40 | Anti-seizure Medications |
| 50 | Aspirin (within 5 days) |
| 60 | Benzodiazepines |
| 70 | Beta blockers |
| 80 | Birth Control (Oral, Intramuscular) |
| 200 | Bronchodilators, Inhaled |
| 90 | Calcium Channel Blockers |
| 100 | Calcium Chloride Infusion |
| 750 | Clonidine |
| 110 | Coumadin |

| | |
|---|---|
| 740 | Dexmedetomidine |
| 120 | Digoxin |
| 130 | Direct Thrombin Inhibitors (e.g., argatroban) |
| 140 | Diuretics |
| 150 | Dobutamine |
| 160 | Dopamine |
| 170 | Endothelin Antagonist (e.g., Bosentan) |
| 180 | Epinephrine |
| 190 | Heparin |
| 220 | Heparin, Low Molecular Weight |
| 710 | Inotropes Not Otherwise Listed |
| 210 | Insulin |
| 230 | Milrinone |
| 240 | Narcotics |
| 250 | Nitric Oxide |
| 260 | Nitroglycerin |
| 270 | Nitroprusside |
| 280 | Norepinephrine |
| 290 | PDE-5 Inhibitors (e.g., Sildenafil) |
| 300 | Platelet Inhibitors other than Aspirin (e.g., Plavix) (within 5 days) |
| 310 | Prostacyclin (e.g., Flolan, Remodulin) |
| 320 | Prostaglandin |
| 330 | Psychiatric Medications (including ADHD and antidepressants) |
| 340 | Statins |
| 350 | Steroids (oral/intravenous) |
| 360 | Thyroid Hormone |
| 370 | Transplant Rejection Inhibition Meds (other than steroids) |
| 720 | Vasoconstrictors Not Otherwise Listed |
| 730 | Vasodilators Not Otherwise Listed |
| 380 | Vasopressin |
| 900 | Other |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Preoperative Sedation | *SeqNo:* | 4710 |
| *Short Name:* | **PreopSed** | *Core:* | Yes |
| *Section Name*: | Anesthesia Preoperative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the patient received preoperative sedation. | | |
| *Intent / Clarification:* | Preop sedation refers to medication given by the anesthesiologists prior to induction of anesthesia, regardless of location | | |
| *Data Source:* | User | | |
| *Format:* | Text (categorical values specified by STS) | | |
| *ParentLongName:* | Anesthesiology Data Collected | | |
| *ParentShortName:* | **Anesthesia** | | |

*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

May 2019: The definition states indicate whether the patient received preoperative sedation. My question is is this section asking if the patient received any medication on the unit prior to entering the OR? **Preop sedation refers to medication given by the anesthesiologists prior to induction of anesthesia, regardless of location.**

---

*Long Name:* Preoperative Sedation Route
*Short Name:* **PreopSedRte**
*Section Name*: Anesthesia Preoperative
*DBTableName:* Operations
*Definition:* Indicate the route used for preoperative sedation.

*SeqNo:* 4720
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Preoperative Sedation
*ParentShortName:* **PreopSed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes and Value Definitions:

| Code: | Value: | Definition: |
|---|---|---|
| 1 | IM | |
| 2 | IV | |
| 3 | Nasal | |
| 4 | PO/GT | Indicate if preoperative sedation given either by mouth or via G-Tube. |
| 5 | Rectal | |

---

*Long Name:* Preoperative Sedation Drug - Atropine
*Short Name:* **PreopSedDrugAtro**
*Section Name*: Anesthesia Preoperative
*DBTableName:* Operations
*Definition:* Indicate whether the patient received Atropine for preoperative sedation.

*SeqNo:* 4730
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Preoperative Sedation
*ParentShortName:* **PreopSed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Preoperative Sedation Drug - Demerol
*SeqNo:* 4740
*Short Name:* **PreopSedDrugDem**
*Core:* Yes
*Section Name*: Anesthesia Preoperative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the patient received Demerol for preoperative sedation.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Preoperative Sedation
*ParentShortName:* **PreopSed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Preoperative Sedation Drug - Dexmedetomidine
*SeqNo:* 4741
*Short Name:* **PreopSedDrugDex**
*Core:* Yes
*Section Name*: Anesthesia Preoperative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the patient received Dexmedetomidine for preoperative sedation.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Preoperative Sedation
*ParentShortName:* **PreopSed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Preoperative Sedation Drug - Diazepam
*SeqNo:* 4750
*Short Name:* **PreopSedDrugDiaz**
*Core:* Yes
*Section Name*: Anesthesia Preoperative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the patient received Diazepam for preoperative sedation.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Preoperative Sedation
*ParentShortName:* **PreopSed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Preoperative Sedation Drug - Fentanyl
*SeqNo:* 4751
*Short Name:* **PreopSedDrugFent**
*Core:* Yes
*Section Name*: Anesthesia Preoperative
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the patient received Fentanyl for preoperative sedation.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Preoperative Sedation
*ParentShortName:* **PreopSed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Preoperative Sedation Drug – Glycopyrrolate
*Short Name:* **PreopSedDrugGlyco**
*Section Name*: Anesthesia Preoperative
*DBTableName:* Operations
*Definition:* Indicate whether the patient received Glycopyrrolate for preoperative sedation.

*SeqNo:* 4760
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Preoperative Sedation
*ParentShortName:* **PreopSed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Preoperative Sedation Drug – Ketamine
*Short Name:* **PreopSedDrugKet**
*Section Name*: Anesthesia Preoperative
*DBTableName:* Operations
*Definition:* Indicate whether the patient received Ketamine for preoperative sedation.

*SeqNo:* 4770
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Preoperative Sedation
*ParentShortName:* **PreopSed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Preoperative Sedation Drug - Lorazepam
*Short Name:* **PreopSedDrugLoraz**
*Section Name*: Anesthesia Preoperative
*DBTableName:* Operations
*Definition:* Indicate whether the patient received Lorazepam for preoperative sedation.

*SeqNo:* 4780
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Preoperative Sedation
*ParentShortName:* **PreopSed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Preoperative Sedation Drug - Midazolam
*Short Name:* **PreopSedDrugMidaz**
*Section Name*: Anesthesia Preoperative
*DBTableName:* Operations
*Definition:* Indicate whether the patient received Midazolam for preoperative sedation.

*SeqNo:* 4790
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Preoperative Sedation
*ParentShortName:* **PreopSed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Preoperative Sedation Drug - Morphine
*Short Name:* **PreopSedDrugMorph**
*Section Name*: Anesthesia Preoperative
*DBTableName:* Operations
*Definition:* Indicate whether the patient received Morphine for preoperative sedation.

*SeqNo:* 4800
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Preoperative Sedation
*ParentShortName:* **PreopSed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Preoperative Sedation Drug - Pentobarbital
*Short Name:* **PreopSedDrugPent**
*Section Name*: Anesthesia Preoperative
*DBTableName:* Operations
*Definition:* Indicate whether the patient received Pentobarbital for preoperative sedation.

*SeqNo:* 4810
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User

*Format:* Text (categorical values specified by STS)

*ParentLongName:* Preoperative Sedation
*ParentShortName:* **PreopSed**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Preoperative Baseline Oxygen Saturation
*Short Name:* **PreopO2Sat**
*Section Name*: Anesthesia Monitoring
*DBTableName:* Operations
*Definition:* Indicate the preoperative resting pulse oximeter saturation (%) recorded either in the clinic or immediately prior to the procedure.
*Low Value:* 1.0
*High Value:* 100.0

*SeqNo:* 4820
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Real

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

*Long Name:* Preoperative Oxygen Supplementation
*Short Name:* **PreopOxygen**
*Section Name*: Anesthesia Preoperative
*DBTableName:* Operations
*Definition:* Indicate whether the patient received preoperative oxygen supplementation.

*SeqNo:* 4830
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Transport to Procedure Location Date and Time | *SeqNo:* | 4840 |
| *Short Name:* | **PLocTransDT** | *Core:* | Yes |
| *Section Name*: | Anesthesia Preoperative | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the date (mm/dd/yyyy) and time (hh:mm 24-hour clock) of day when the patient was transferred to the procedure location or when anesthesia started. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Date/Time - mm/dd/yyyy hh:mm |
| *ParentLongName:* | Anesthesiology Data Collected |
| *ParentShortName:* | **Anesthesia** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = “Yes” |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

## Anesthesia Monitoring

| | | | |
|---|---|---|---|
| *Long Name:* | Arterial Line | *SeqNo:* | 4850 |
| *Short Name:* | **ArtLine** | *Core:* | Yes |
| *Section Name*: | Anesthesia Monitoring | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether an arterial line was used during this procedure. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Anesthesiology Data Collected |
| *ParentShortName:* | **Anesthesia** |
| *ParentHarvestCodes:* | 1 |

*ParentValues:* = “Yes”

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

*Long Name:* Arterial Line Type - Radial
*Short Name:* **ArtLineTypeRad**
*Section Name*: Anesthesia Monitoring
*DBTableName:* Operations
*Definition:* Indicate whether a radial arterial line type during this procedure.

*SeqNo:* 4860
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Arterial Line
*ParentShortName:* **ArtLine**
*ParentHarvestCodes:* 1
*ParentValues:* = “Yes”

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Arterial Line Type - Brachial
*Short Name:* **ArtLineTypeBrach**
*Section Name*: Anesthesia Monitoring
*DBTableName:* Operations
*Definition:* Indicate whether a brachial arterial line type was used during this procedure.

*SeqNo:* 4870
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Arterial Line
*ParentShortName:* **ArtLine**
*ParentHarvestCodes:* 1
*ParentValues:* = “Yes”

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Arterial Line Type - Axillary | *SeqNo:* | 4880 |
| *Short Name:* | **ArtLineTypeAx** | *Core:* | Yes |
| *Section Name*: | Anesthesia Monitoring | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether an axillary arterial line type was used during this procedure. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Arterial Line |
| *ParentShortName:* | **ArtLine** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = “Yes” |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| | Arterial Line Type - Femoral | *SeqNo:* | 4890 |
| *Long Name:* | | | |
| *Short Name:* | **ArtLineTypeFem** | *Core:* | Yes |
| *Section Name*: | Anesthesia Monitoring | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether a femoral arterial line type was used during this procedure. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Arterial Line |
| *ParentShortName:* | **ArtLine** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = “Yes” |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Arterial Line Type - Ulnar | *SeqNo:* | 4900 |
| *Short Name:* | **ArtLineTypeUlnar** | *Core:* | Yes |
| *Section Name*: | Anesthesia Monitoring | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether an ulnar arterial line type was used during this procedure. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Arterial Line
*ParentShortName:* **ArtLine**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Arterial Line Type - Dorsalis Pedis | *SeqNo:* | 4910 |
| *Short Name:* | **ArtLineTypeDors** | *Core:* | Yes |
| *Section Name*: | Anesthesia Monitoring | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether a dorsalis pedis arterial line type was used during this procedure. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Arterial Line
*ParentShortName:* **ArtLine**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Arterial Line Type – Posterior Tibial | *SeqNo:* | 4920 |
| *Short Name:* | **ArtLineTypePost** | *Core:* | Yes |
| *Section Name*: | Anesthesia Monitoring | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether a posterior tibial arterial line type was used during this procedure. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Arterial Line
*ParentShortName:* **ArtLine**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Arterial Line Type - Umbilical | *SeqNo:* | 4930 |
| *Short Name:* | **ArtLineTypeCent** | *Core:* | Yes |
| *Section Name*: | Anesthesia Monitoring | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether an umbilical arterial line type was used during this procedure. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Arterial Line
*ParentShortName:* **ArtLine**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Arterial Line In-Situ Pre-Procedure | *SeqNo:* | 4931 |

*Short Name:* **ArtLinePreProc** *Core:* Yes
*Section Name*: Anesthesia Monitoring *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the arterial line was in-situ pre-procedure.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Arterial Line
*ParentShortName:* **ArtLine**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

*Long Name:* Cutdown *SeqNo:* 4940
*Short Name:* **Cutdown** *Core:* Yes
*Section Name*: Anesthesia Monitoring *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether a cutdown was used during this procedure.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

*Long Name:* Cutdown Type - Radial *SeqNo:* 4950
*Short Name:* **CutdownRad** *Core:* Yes
*Section Name*: Anesthesia Monitoring *Harvest:* Yes
*DBTableName:* Operations

*Definition:* Indicate whether a radial cutdown was used.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Cutdown
*ParentShortName:* **Cutdown**
*ParentHarvestCodes:* n1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

*Long Name:* Cutdown Type - Femoral
*Short Name:* **CutdownFem**
*Section Name*: Anesthesia Monitoring
*DBTableName:* Operations
*Definition:* Indicate whether a femoral cutdown was used.

*SeqNo:* 4960
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Cutdown
*ParentShortName:* **Cutdown**
*ParentHarvestCodes:* n1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Cutdown Type - Ulnar
*Short Name:* **CutdownUln**
*Section Name*: Anesthesia Monitoring
*DBTableName:* Operations
*Definition:* Indicate whether an ulnar cutdown was used.

*SeqNo:* 4970
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Cutdown
*ParentShortName:* **Cutdown**
*ParentHarvestCodes:* n1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Cutdown Type - Other
*Short Name:* **CutdownOth**
*Section Name*: Anesthesia Monitoring
*DBTableName:* Operations
*Definition:* Indicate whether any other type of cutdown was used.

*SeqNo:* 4980
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Cutdown
*ParentShortName:* **Cutdown**
*ParentHarvestCodes:* n1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

*Long Name:* Percutaneous Central Pressure
*Short Name:* **PercCentPress**
*Section Name*: Anesthesia Monitoring
*DBTableName:* Operations
*Definition:* Indicate whether the percutaneous central pressure was used during this procedure.

*SeqNo:* 4990
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected

*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

*Long Name:* Percutaneous Central Pressure Location – Right Internal Jugular
*SeqNo:* 5000
*Short Name:* **PCPLocRJug**
*Core:* Yes
*Section Name*: Anesthesia Monitoring
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the percutaneous central pressure was used in the right internal jugular.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Percutaneous Central Pressure
*ParentShortName:* **PercCentPress**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

*Long Name:* Percutaneous Central Pressure Location – Left Internal Jugular
*SeqNo:* 5010
*Short Name:* **PCPLocLJug**
*Core:* Yes
*Section Name*: Anesthesia Monitoring
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the percutaneous central pressure was used in the left internal jugular.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Percutaneous Central Pressure
*ParentShortName:* **PercCentPress**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Percutaneous Central Pressure Location – Right Subclavian | *SeqNo:* | 5020 |
| *Short Name:* | **PCPLobRSub** | *Core:* | Yes |
| *Section Name*: | Anesthesia Monitoring | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the percutaneous central pressure was used in the right subclavian. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Percutaneous Central Pressure |
| *ParentShortName:* | **PercCentPress** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = “Yes” |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Percutaneous Central Pressure Location – Left Subclavian | *SeqNo:* | 5030 |
| *Short Name:* | **PCPLobLSub** | *Core:* | Yes |
| *Section Name*: | Anesthesia Monitoring | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the percutaneous central pressure was used in the left subclavian. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Percutaneous Central Pressure |
| *ParentShortName:* | **PercCentPress** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = “Yes” |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |

2 No

---

| | | | |
|---|---|---|---|
| *Long Name:* | Percutaneous Central Pressure Location – Right Femoral Vein | *SeqNo:* | 5040 |
| *Short Name:* | **PCPLocRFem** | *Core:* | Yes |
| *Section Name*: | Anesthesia Monitoring | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the percutaneous central pressure was used in the right femoral vein. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Percutaneous Central Pressure
*ParentShortName:* **PercCentPress**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Percutaneous Central Pressure Location – Left Femoral Vein | *SeqNo:* | 5050 |
| *Short Name:* | **PCPLocLFem** | *Core:* | Yes |
| *Section Name*: | Anesthesia Monitoring | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the percutaneous central pressure was used in the left femoral vein. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Percutaneous Central Pressure
*ParentShortName:* **PercCentPress**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Percutaneous Central Pressure Location - PICC | *SeqNo:* | 5051 |
| *Short Name:* | **PCPLocPICC** | *Core:* | Yes |
| *Section Name*: | Anesthesia Monitoring | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the percutaneous central pressure was used in the PICC. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Percutaneous Central Pressure
*ParentShortName:* **PercCentPress**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Percutaneous Central Pressure Location - Other | *SeqNo:* | 5060 |
| *Short Name:* | **PCPLocOth** | *Core:* | Yes |
| *Section Name*: | Anesthesia Monitoring | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the percutaneous central pressure was used in any other location. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Percutaneous Central Pressure
*ParentShortName:* **PercCentPress**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | CVP, PICC, LA or RA Line(s) In-Situ Pre-Procedure | *SeqNo:* | 5062 |
| *Short Name:* | **CVPPICCPreProc** | *Core:* | Yes |
| *Section Name*: | Anesthesia Monitoring | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether a CVP, PICC, LA or RA line(s) were in place prior to entering the OR. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Percutaneous Central Pressure
*ParentShortName:* **PercCentPress**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* CVP Placed By Anesthesia
*Short Name:* **CVPPlaced**
*Section Name*: Anesthesia Monitoring
*DBTableName:* Operations
*Definition:* Indicate whether a CVP was placed by anesthesia during this procedure.

*SeqNo:* 5070
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Surgeon Placed Lines INSTEAD of Anesthesia Placed Central Lines
*Short Name:* **SurgMonLines**
*Section Name*: Anesthesia Monitoring
*DBTableName:* Operations
*Definition:* Indicate whether the surgeon placed one or more central monitoring / medication lines directly in the Right, Left or Common Atria during the procedure INSTEAD of pre-incision

*SeqNo:* 5071
*Core:* Yes
*Harvest:* Yes

placement of a central line by anesthesia or the use of existence percutaneous CVL or PICC. This does not include monitoring lines placed during the procedure in addition to the anesthesia or in-situ catheters.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Swan-Ganz Catheter
*Short Name:* **SGCath**
*Section Name*: Anesthesia Monitoring
*DBTableName:* Operations
*Definition:* Indicate whether a Swan-Ganz catheter was inserted or utilized by anesthesia during this procedure.

*SeqNo:* 5080
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

*Long Name:* Oximetric Central Line
*Short Name:* **ScVO2**
*Section Name*: Anesthesia Monitoring
*DBTableName:* Operations
*Definition:* Indicate whether an oximetric central line was inserted or utilized by anesthesia during this procedure.

*SeqNo:* 5090
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Ultrasound Guidance Used For Line Placement
*Short Name:* **UltraGuide**
*Section Name*: Anesthesia Monitoring
*DBTableName:* Operations
*Definition:* Indicate whether real-time ultrasound imaging was used for line placement (i.e., Sonosite or equivalent).

*SeqNo:* 5100
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | None |
| 2 | Yes – arterial line only |
| 3 | Yes – central venous line only |
| 4 | Yes – arterial and central venous lines |

---

*Long Name:* Neurologic Monitoring
*Short Name:* **NeuroMonitor**
*Section Name*: Anesthesia Monitoring
*DBTableName:* Operations
*Definition:* Indicate whether the patient received neurologic monitoring during this procedure.

*SeqNo:* 5110
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Neurologic Monitoring – Bispectral Index
*Short Name:* **NeuroMonBIS**
*Section Name*: Anesthesia Monitoring
*DBTableName:* Operations
*Definition:* Indicate whether the neurologic monitoring performed during this procedure included Bispectral Index (BIS).

*SeqNo:* 5130
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Neurologic Monitoring
*ParentShortName:* **NeuroMonitor**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Neurologic Monitoring – Transcranial Doppler
*Short Name:* **NeuroMonTCD**
*Section Name*: Anesthesia Monitoring
*DBTableName:* Operations
*Definition:* Indicate whether the neurologic monitoring performed during this procedure included Transcranial Doppler (TCD).

*SeqNo:* 5140
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User

*Format:* Text (categorical values specified by STS)

*ParentLongName:* Neurologic Monitoring
*ParentShortName:* **NeuroMonitor**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Neurologic Monitoring – NIRS (Cerebral)
*Short Name:* **NeuroMonNIRS**
*Section Name*: Anesthesia Monitoring
*DBTableName:* Operations
*Definition:* Indicate whether the neurologic (cerebral) monitoring performed during the procedure included Near Infrared Spectroscopy (NIRS).

*SeqNo:* 5141
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Neurologic Monitoring
*ParentShortName:* **NeuroMonitor**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

*Long Name:* Neurologic Monitoring - Other
*Short Name:* **NeuroMonOth**
*Section Name*: Anesthesia Monitoring
*DBTableName:* Operations
*Definition:* Indicate whether the neurologic monitoring performed during this procedure included some other method.

*SeqNo:* 5150
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Neurologic Monitoring
*ParentShortName:* **NeuroMonitor**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Lowest Recorded Intraoperative Temperature
*SeqNo:* 5160
*Short Name:* **LowIntraopTemp**
*Core:* Yes
*Section Name*: Anesthesia Monitoring
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the patient's lowest temperature (in degrees Centigrade) recorded during the intraoperative period.

*Low Value:* 0.1
*High Value:* 40.9

*Intent / Clarification:*

*Data Source:* User
*Format:* Real

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

*Long Name:* Lowest Intraoperative Temperature Monitoring Site
*SeqNo:* 5170
*Short Name:* **IntraopTempSite**
*Core:* Yes
*Section Name*: Anesthesia Monitoring
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the site where the patient's lowest temperature was being recorded intraoperatively.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Nasal |
| 2 | Esophageal |
| 3 | Bladder |
| 4 | Rectal |
| 5 | Axillary |
| 6 | Skin |
| 7 | Tympanic |
| 9 | Other |

---

*Long Name:* Transesophageal Echocardiography
*SeqNo:* 5180
*Short Name:* **TEE**
*Core:* Yes
*Section Name*: Anesthesia Monitoring
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether a transesophageal echocardiography probe was placed or attempted during this procedure.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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## Anesthesia Anesthetic Techique

*Long Name:* Induction Date and Time
*SeqNo:* 5190
*Short Name:* **InductionDT**
*Core:* Yes
*Section Name*: Anesthesia Anesthetic Technique
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the date (mm/dd/yyyy) and time (hh:mm 24-hour clock) of day when the patient was first induced.

*Intent / Clarification:*

*Data Source:* User
*Format:* Date/Time - mm/dd/yyyy hh:mm

*ParentLongName: :* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

---

*Long Name:* Induction Type - Inhalation
*Short Name:* **IndTypeInh**
*Section Name*: Anesthesia Anesthetic Technique
*DBTableName:* Operations
*Definition:* Indicate whether an inhalation drug was used as an induction agent.

*SeqNo:* 5200
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = “Yes”

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Induction Agent – Inhalation - Sevoflurane
*Short Name:* **IndAgentInhalSevo**
*Section Name*: Anesthesia Anesthetic Technique
*DBTableName:* Operations
*Definition:* Indicate whether sevoflurane was used for induction of anesthesia.

*SeqNo:* 5220
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Induction Type – Inhalation
*ParentShortName:* **IndTypeInh**
*ParentHarvestCodes:* 1
*ParentValues:* = “Yes”

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Induction Agent – Inhalation - Isoflurane | *SeqNo:* | 5230 |
| *Short Name:* | **IndAgentInhalIso** | *Core:* | Yes |
| *Section Name*: | Anesthesia Anesthetic Technique | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether isoflurane was used for induction of anesthesia. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Induction Type – Inhalation |
| *ParentShortName:* | **IndTypeInh** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = “Yes” |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Induction Agent – Intravenous | *SeqNo:* | 5240 |
| *Short Name:* | **IndTypeIV** | *Core:* | Yes |
| *Section Name*: | Anesthesia Anesthetic Technique | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether an intravenous drug was used as an induction agent. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Anesthesiology Data Collected |
| *ParentShortName:* | **Anethesia** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = “Yes” |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |

| | |
|---|---|
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Induction Agent – Intravenous – Sodium Thiopental | *SeqNo:* | 5260 |
| *Short Name:* | **IndAgentIVSodT** | *Core:* | Yes |
| *Section Name*: | Anesthesia Anesthetic Technique | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether sodium thiopental was used for induction of anesthesia. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Induction Type – Intravenous |
| *ParentShortName:* | **IndTypeIV** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = “Yes” |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Induction Agent – Intravenous – Ketamine | *SeqNo:* | 5270 |
| *Short Name:* | **IndAgentIVKet** | *Core:* | Yes |
| *Section Name*: | Anesthesia Anesthetic Technique | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether ketamine was used for induction of anesthesia. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Induction Type – Intravenous |
| *ParentShortName:* | **IndTypeIV** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = “Yes” |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Induction Agent – Intravenous – Etomidate | *SeqNo:* | 5280 |
| *Short Name:* | **IndAgentIVEtom** | *Core:* | Yes |
| *Section Name*: | Anesthesia Anesthetic Technique | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether etomidate was used for induction of anesthesia. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Induction Type – Intravenous
*ParentShortName:* **IndTypeIV**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Induction Agent – Intravenous – Propfol | *SeqNo:* | 5290 |
| *Short Name:* | **IndAgentIVProp** | *Core:* | Yes |
| *Section Name*: | Anesthesia Anesthetic Technique | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether propofol was used for induction of anesthesia. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Induction Type – Intravenous
*ParentShortName:* **IndTypeIV**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Induction Agent – Intravenous – Fentanyl | *SeqNo:* | 5300 |
| *Short Name:* | **IndAgentIVFent** | *Core:* | Yes |
| *Section Name*: | Anesthesia Anesthetic Technique | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether fentanyl was used for induction of anesthesia. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Induction Type – Intravenous
*ParentShortName:* **IndTypeIV**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Induction Agent – Intravenous – Midazolam
*Short Name:* **IndAgentIVMid**
*Section Name*: Anesthesia Anesthetic Technique
*DBTableName:* Operations
*Definition:* Indicate whether midazolam was used for induction of anesthesia.

*SeqNo:* 5310
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Induction Type – Intravenous
*ParentShortName:* **IndTypeIV**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Induction Agent – Intravenous – Dexmedetomidine
*Short Name:* **IndAgentIVDex**
*Section Name*: Anesthesia Anesthetic Technique
*DBTableName:* Operations
*Definition:* Indicate whether dexmedetomidine was used for induction of anesthesia.

*SeqNo:* 5320
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Induction Type – Intravenous
*ParentShortName:* **IndTypeIV**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Induction Agent – Intravenous - Sufentanil
*Short Name:* **IndAgentIVSuf**
*Section Name*: Anesthesia Anesthetic Technique
*DBTableName:* Operations
*Definition:* Indicate whether intramuscular sufentanil was used for induction of anesthesia.

*SeqNo:* 5330
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Induction Type – Intravenous
*ParentShortName:* **IndTypeIV**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Induction Agent – Intravenous - Remifentanil
*Short Name:* **IndAgentIVRem**
*Section Name*: Anesthesia Anesthetic Technique
*DBTableName:* Operations
*Definition:* Indicate whether remifentanil drug was used for induction of anesthesia.

*SeqNo:* 5340
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User

*Format:* Text (categorical values specified by STS)

*ParentLongName:* Induction Type – Intravenous
*ParentShortName:* **IndTypeIV**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

*Long Name:* Induction Type – Intramuscular *SeqNo:* 5350
*Short Name:* **IndTypeIM** *Core:* Yes
*Section Name*: Anesthesia Anesthetic Technique *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether an intramuscular drug was used for induction.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Induction Agent – Intramuscular - Ketamine *SeqNo:* 5370
*Short Name:* **IndAgentIMKet** *Core:* Yes
*Section Name*: Anesthesia Anesthetic Technique *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether intramuscular ketamine was used for induction of anesthesia.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Induction Type - Intramuscular

*ParentShortName:* **IndTypeIM**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Induction Agent – Intramuscular - Midazolam
*Short Name:* **IndAgentIMMid**
*Section Name*: Anesthesia Anesthetic Technique
*DBTableName:* Operations
*Definition:* Indicate whether intramuscular midazolam was used for induction of anesthesia.

*SeqNo:* 5380
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Induction Type - Intramuscular
*ParentShortName:* **IndTypeIM**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Regional Anesthetic
*Short Name:* **RegionalAnes**
*Section Name*: Anesthesia Anesthetic Technique
*DBTableName:* Operations
*Definition:* Indicate whether a regional anesthetic was used during this operation.

*SeqNo:* 5400
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1

*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Regional Anesthetic Site
*SeqNo:* 5410
*Short Name:* **RegAnesSite**
*Core:* Yes
*Section Name*: Anesthesia Anesthetic Technique
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the technique used for the regional anesthetic.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName: :* Regional Anesthetic
*ParentShortName:* **RegionalAnes**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Thoracic Epidural Catheter |
| 2 | Lumbar Epidural Catheter |
| 3 | Caudal Epidural Catheter |
| 4 | Lumbar Epidural – Single shot |
| 5 | Caudal Epidural – Single shot |
| 6 | Lumbar Intrathecal – Single shot |
| 7 | Paravertebral Block – Single shot |
| 8 | Paravertebral Block – Catheter |
| 9 | Other |

---

*Long Name:* Regional Anesthetic Drug – Bupivicaine
*SeqNo:* 5420
*Short Name:* **RegAnesDrugBup**
*Core:* Yes
*Section Name*: Anesthesia Anesthetic Technique
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the regional anesthetic drug Bupivicaine was used during this procedure.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Regional Anesthetic
*ParentShortName:* **RegionalAnes**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

*Long Name:* Regional Anesthetic Drug – Bupivicaine/Fentanyl
*Short Name:* **RegAnesDrugBupFen**
*Section Name*: Anesthesia Anesthetic Technique
*DBTableName:* Operations
*Definition:* Indicate whether the regional anesthetic drug Bupivicaine/Fentanyl was used during this procedure.

*SeqNo:* 5430
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Regional Anesthetic
*ParentShortName:* **RegionalAnes**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Regional Anesthetic Drug – Clonidine
*Short Name:* **RegAnesDrugClon**
*Section Name*: Anesthesia Anesthetic Technique
*DBTableName:* Operations
*Definition:* Indicate whether the regional anesthetic drug Fentanyl was used during this procedure.

*SeqNo:* 5440
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Regional Anesthetic

*ParentShortName:* **RegionalAnes**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Regional Anesthetic Drug – Fentanyl
*SeqNo:* 5450
*Short Name:* **RegAnesDrugFen**
*Core:* Yes
*Section Name*: Anesthesia Anesthetic Technique
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the regional anesthetic drug Fentanyl was used during this procedure.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Regional Anesthetic
*ParentShortName:* **RegionalAnes**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

*Long Name:* Regional Anesthetic Drug – Hydromorphone
*SeqNo:* 5460
*Short Name:* **RegAnesDrugHydro**
*Core:* Yes
*Section Name*: Anesthesia Anesthetic Technique
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the regional anesthetic drug Hydromorphone was used during this procedure.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Regional Anesthetic
*ParentShortName:* **RegionalAnes**
*ParentHarvestCodes:* 1

*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Regional Anesthetic Drug – Lidocaine
*Short Name:* **RegAnesDrugLido**
*Section Name*: Anesthesia Anesthetic Technique
*DBTableName:* Operations
*Definition:* Indicate whether the regional anesthetic drug Lidocaine was used during this procedure.

*SeqNo:* 5470
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Regional Anesthetic
*ParentShortName:* **RegionalAnes**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Regional Anesthetic Drug – Morphine
*Short Name:* **RegAnesDrugMorph**
*Section Name*: Anesthesia Anesthetic Technique
*DBTableName:* Operations
*Definition:* Indicate whether the regional anesthetic drug Morphine was used during this procedure.

*SeqNo:* 5480
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Regional Anesthetic
*ParentShortName:* **RegionalAnes**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Regional Anesthetic Drug – Ropivicaine | *SeqNo:* | 5490 |
| *Short Name:* | **RegAnesDrugRop** | *Core:* | Yes |
| *Section Name*: | Anesthesia Anesthetic Technique | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the regional anesthetic drug Ropivicaine was used during this procedure. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Regional Anesthetic |
| *ParentShortName:* | **RegionalAnes** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = “Yes” |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Regional Anesthetic Drug – Ropivicaine/Fentanyl | *SeqNo:* | 5500 |
| *Short Name:* | **RegAnesDrugRopFen** | *Core:* | Yes |
| *Section Name*: | Anesthesia Anesthetic Technique | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the regional anesthetic drug Ropivicaine/Fentanyl was used during this procedure. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Regional Anesthetic |
| *ParentShortName:* | **RegionalAnes** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = “Yes” |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Regional Anesthetic Drug – Tetracaine | *SeqNo:* | 5510 |
| *Short Name:* | **RegAnesDrugTetra** | *Core:* | Yes |
| *Section Name*: | Anesthesia Anesthetic Technique | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the regional anesthetic drug Tetracaine was used during this procedure. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Regional Anesthetic |
| *ParentShortName:* | **RegionalAnes** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Yes" |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Regional Anesthetic Drug – Other | *SeqNo:* | 5520 |
| *Short Name:* | **RegAnesDrugOth** | *Core:* | Yes |
| *Section Name*: | Anesthesia Anesthetic Technique | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether any other regional anesthetic drug was used during this procedure. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Regional Anesthetic |
| *ParentShortName:* | **RegionalAnes** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Yes" |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Intercostal Nerve Infiltration By Surgeon or Anesthesia | *SeqNo:* | 5530 |
| *Short Name:* | **IntNerveInf** | *Core:* | Yes |
| *Section Name*: | Anesthesia Anesthetic Technique | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether intercostal nerve infiltration was performed by the surgeon or anesthesiologist. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Regional Field Block by Surgeon or Anesthesia | *SeqNo:* | 5540 |
| *Short Name:* | **RegFieldBlock** | *Core:* | Yes |
| *Section Name*: | Anesthesia Anesthetic Technique | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether a regional field block was performed by the surgeon or anesthesiologist. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

## Anesthesia Airway

| | | | |
|---|---|---|---|
| *Long Name:* | Airway In-situ (ETT or Tracheostomy) | *SeqNo:* | 5550 |
| *Short Name:* | **AirwayInsitu** | *Core:* | Yes |
| *Section Name*: | Anesthesia Airway | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether an Endotracheal Tube (ETT) or tracheostomy was in place prior to arrival in the procedure area. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Anesthesiology Data Collected |
| *ParentShortName:* | **Anesthesia** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Yes" |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | ETT or Tracheostomy Replaced For Procedure | *SeqNo:* | 5551 |
| *Short Name:* | **AirwayReplaced** | *Core:* | Yes |
| *Section Name*: | Anesthesia Airway | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the Endotracheal Tube or tracheostomy was electively replaced prior to the procedure. For example, oral to nasal ETT, tracheostomy to ETT, uncuffed to cuffed ETT. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Airway In-situ (ETT or Tracheostomy) |
| *ParentShortName:* | **AirwayInsitu** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Yes" |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Airway Type | *SeqNo:* | 5560 |

| | | | |
|---|---|---|---|
| *Short Name:* | **AirwayType** | *Core:* | Yes |
| *Section Name*: | Anesthesia Airway | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the type of airway support that was used during this procedure. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* Anesthesia
*ParentValue:* 1
*ParentHarvestCodes:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | No airway support |
| 7 | Simple face mask |
| 2 | Bag-mask |
| 3 | Nasal cannulae |
| 4 | Laryngeal Mask Airway (LMA) |
| 5 | Endotracheal intubation |
| 6 | Tracheostomy |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Airway Size – Laryngeal Size Mask Airway | *SeqNo:* | 5570 |
| *Short Name:* | **AirwaySizeLMA** | *Core:* | Yes |
| *Section Name*: | Anesthesia Airway | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the size of the laryngeal mask airway used during this operation. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Airway Type
*ParentShortName:* **AirwayType**
*ParentHarvestCodes:* 4
*ParentValues:* = “Laryngeal Mask Airway (LMA)”

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 10 | 1.0 |
| 15 | 1.5 |
| 20 | 2.0 |

| | |
|---|---|
| 25 | 2.5 |
| 30 | 3.0 |
| 40 | 4.0 |
| 50 | 5.0 |

---

*Long Name:* Airway Size - Endotracheal Intubation
*SeqNo:* 5580
*Short Name:* **AirwaySizeIntub**
*Core:* Yes
*Section Name*: Anesthesia Airway
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the size of the endotracheal intubation airway used during this procedure. Measurement should be the inner diameter (ID) size measured in millimeters (mm).

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Airway Type
*ParentShortName:* **AirwayType**
*ParentHarvestCodes:* 5
*ParentValues:* = "Endotracheal intubation"

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 25 | 2.5 |
| 30 | 3.0 |
| 35 | 3.5 |
| 40 | 4.0 |
| 45 | 4.5 |
| 50 | 5.0 |
| 55 | 5.5 |
| 60 | 6.0 |
| 65 | 6.5 |
| 70 | 7.0 |
| 75 | 7.5 |
| 80 | 8.0 |
| 95 | Other |
| 96 | Airway size not listed (DLETT, Tracheotomy) |

---

*Long Name:* Cuffed
*SeqNo:* 5590
*Short Name:* **AirwaySitelCuffed**
*Core:* Yes
*Section Name*: Anesthesia Airway
*Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the endotracheal tube was cuffed.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Airway Type
*ParentShortName:* **AirwayType**
*ParentHarvestCodes:* 5
*ParentValues:* = "Endotracheal intubation"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

*Long Name:* Airway Site
*Short Name:* **AirwaySite**
*Section Name*: Anesthesia Airway
*DBTableName:* Operations
*Definition:* Indicate the endotracheal intubation site.

*SeqNo:* 5600
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Airway Type
*ParentShortName:* **AirwayType**
*ParentHarvestCodes:* 5|6
*ParentValues:* = "Endotracheal intubation" or "Tracheostomy"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Oral |
| 2 | Nasal |
| 3 | Tracheostomy |

---

*Long Name:* Endobronchial Isolation (DLETT, Bronchial Blocker)
*Short Name:* **EndobronchIso**
*Section Name*: Anesthesia Airway
*DBTableName:* Operations
*Definition:* Indicate whether endobronchial isolation was employed using a double lumen ETT or bronchial blocker.

*SeqNo:* 5610
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Endobronchial Isolation Method
*Short Name:* **EndobronchIsoMeth**
*Section Name*: Anesthesia Airway
*DBTableName:* Operations
*Definition:* Indicate the method used to isolate lung.

*SeqNo:* 5611
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Endobronchial Isolation (DLETT, Bronchial Blocker)
*ParentShortName:* **EndobroncIso**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Double Lumen ETT |
| 2 | Arndt Bronchial Blocker |
| 3 | Fogarty Catheter |
| 4 | Intentional Mainstem ETT |
| 5 | Univent ETT |
| 6 | Other |

*Long Name:* ICU-Type Ventilator Used Intraop
*Short Name:* **ICUTypeVent**
*Section Name*: Anesthesia Airway
*DBTableName:* Operations
*Definition:* Indicate whether an ICU-type ventilator was used during the procedure.

*SeqNo:* 5620
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

*Long Name:* Anesthesia Ready / End of Induction
*Short Name:* **EndOfInductDT**
*Section Name*: Anesthesia Airway
*DBTableName:* Operations
*Definition:* Indicate the date and time at which anesthesia preparations for surgery, such as placement of desired airway and vascular access, have been completed.

*SeqNo:* 5621
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Date/Time - mm/dd/yyyy hh:mm

*ParentLongName: :* Anesthesiology Data Collected
*ParentShortName:* Anesthesia
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

---

*Long Name:* Intraoperative Pharmacology Table Unique Record Identifier
*Short Name:* **IPUniqueID**
*Section Name*: Anesthesia Pharmacology On Arrival To ICU/PACU
*DBTableName:* IntraopPharm
*Definition:* Unique identifier for the record in the Intraoperative Pharmacology table.

*SeqNo:* 6120
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* Automatic
*Format:* Text

*ParentLongName: :* Anesthesiology Data Collected
*ParentShortName:* Anesthesia
*ParentHarvestCodes:* 1

*ParentValues:* = "Yes"

---

*Long Name:* Intraoperative Pharmacology Link to operations Table
*Short Name:* **OperationID**
*Section Name*: Anesthesia Pharmacology On Arrival To ICU/PACU
*DBTableName:* IntraopPharm
*Definition:* An arbitrary, unique value generated by the software that permanently identifies each operation record in the participant's database. This field is the foreign key that links the Intraoperative Pharmacology records with the associated record in the Operations table.

*SeqNo:* 6130
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* Automatic
*Format:* Text

*ParentLongName: :* Anesthesiology Data Collected
*ParentShortName:* Anesthesia
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

## Anesthesia Intra-operative Pharmacology (including CPB)

*Long Name:* IntraOperative Pharmacology (Including CPB)
*Short Name:* **IntraopPharm**
*Section Name*: Anesthesia Pharmacology On Arrival To ICU/PACU
*DBTableName:* IntraopPharm
*Definition:* Indicate the medications that were given during the intraoperative time period.

*SeqNo:* 6140
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName: :* Anesthesiology Data Collected
*ParentShortName:* Anesthesia
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

Harvest Codes:

| Code: | Value: |
|---|---|
| 10 | None |
| 450 | 5-HT3 Agents (e.g., Ondansetron) |
| 520 | Acetaminophen |
| 20 | Adenosine bolus |
| 50 | Amiodarone |
| 440 | Benzodiazepine |
| 420 | Bronchodilators - Inhaled |

| | |
|---|---|
| 70 | Calcium Chloride infusion |
| 75 | Calcium Gluconate infusion |
| 480 | Desflurane |
| 80 | Dexmetetomidine (Precedex) |
| 90 | Dobutamine infusion |
| 100 | Dopamine infusion |
| 110 | Epinephrine (Adrenalin) infusion |
| 120 | Esmolol |
| 510 | Fenoldopam Infusion |
| 140 | Furosemide |
| 370 | Inotrope, Other |
| 150 | Insulin |
| 460 | Isoflurane |
| 170 | Isoproterenol infusion |
| 490 | Ketamine |
| 530 | Ketorolac |
| 540 | Levosimendan |
| 190 | Magnesium Sulfate |
| 210 | Milrinone |
| 430 | Narcotic |
| 230 | Nesiritide Infusion |
| 240 | Nicardipine Infusion |
| 250 | Nitric Oxide Inhalation |
| 260 | Nitroglycerin (Tridil) Infusion |
| 270 | Nitroprusside (Nipride) |
| 180 | Norepinephrine (Levophed) infusion |
| 280 | Phenoxybenzamine bolus |
| 290 | Phentolamine (Regitine) |
| 300 | Phenylephrine infusion |
| 500 | Procainamide |
| 310 | Propofol (Diprivan) infusion |
| 320 | Prostaglandin infusion |
| 470 | Sevoflurane |
| 400 | Sodium Bicarbonate bolus |
| 160 | Steroids IV / CPB (Hydrocortisone/Methylprednisolone/Dexamethasone) |
| 340 | Thyroid Hormone |
| 410 | Tromethamine (THAM) bolus |
| 390 | Vasoconstrictor, Other |
| 380 | Vasodilator, Other |
| 360 | Vasopressin infusion |

April 2019: I would like some clarification as to what to include in the anesthesia intraop pharmacology section. Are we only to include Calcium continuous drips or should we include 1 time doses of Calcium? This would be when it is not given as a code drug or continuous drip. There seems to be several drugs that are given as infusions on the list but don't have infusions behind their name like Milrinone. The data collection form says Dopamine Infusion but then it just says Milrinone. Should we include epi given as code drugs or only when it is an infusion? How long does the drip have to be on to be considered an infusion? Also, in the preop pharmacology section, Calcium Gluconate is not an option. So we should only capture Calcium Chloride, and again, only when it is continuous or when they have received replacement doses? Some more clarification would definitely be appreciated. **Boluses are not included; definition of an infusion is any dosage where it is listed as mg/kg/HR or the equivalent rather than a series of boluses. Calcium Gluconate is not listed as premedication; no particular reason why, just never bothered listing it. Probably**

**could change the wording to Calcium infusion, but that might also be confusing as a lot of TPN mixtures have some calcium in them so technically that might count.**

---

| | | | |
|---|---|---|---|
| *Long Name:* | AT III Measured Preoperatively | *SeqNo:* | 6141 |
| *Short Name:* | **ATMeasPreop** | *Core:* | Yes |
| *Section Name*: | Anesthesia Intraoperative Pharmacology (including CPB) | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether antithrombin III level was measured prior to arrival in the operating room. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

July 2019: What is the time frame for AT III Measured Preoperatively? Within 24 hours of OR entry? 48 hours? Within the same admission? **Within 24 hours provides the most meaningful data.**

| | | | |
|---|---|---|---|
| *Long Name:* | Fibrinogen Checked During CPB | *SeqNo:* | 6142 |
| *Short Name:* | **CPBLabFib** | *Core:* | Yes |
| *Section Name*: | Anesthesia Intraoperative Pharmacology (including CPB) | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether fibrinogen was checked during CPB. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |

2 No

| | | | |
|---|---|---|---|
| *Long Name:* | Fibrinogen Value - mg/dL | *SeqNo:* | 6143 |
| *Short Name:* | **CPBLabFibVal** | *Core:* | Yes |
| *Section Name*: | Anesthesia ICU/PACU Care | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the fibrinogen value in mg/dl. | | |
| *Low Value:* | 1 | | |
| *High Value:* | 500 | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Integer |
| *ParentLongName:* | Fibrinogen Checked During CPB |
| *ParentShortName:* | **CPBLabFib** |
| *ParentHarvestCodes:* | 1 |
| *Parent Value:* | = "Yes" |

| | | | |
|---|---|---|---|
| *Long Name:* | Platelet Count Checked During CPB | *SeqNo:* | 6144 |
| *Short Name:* | **CPBLabPlatelet** | *Core:* | Yes |
| *Section Name*: | Anesthesia Intraoperative Pharmacology (including CPB) | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the platelet count was checked during CPB. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Anesthesiology Data Collected |
| *ParentShortName:* | **Anesthesia** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = "Yes" |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Platelet Count Value | *SeqNo:* | 6145 |
| *Short Name:* | **CPBLabPlateletVal** | *Core:* | Yes |
| *Section Name*: | Anesthesia ICU/PACU Care | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |

*Definition:* Indicate the platelet count value.
*Low Value:* 1
*High Value:* 500

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Platelet Count Checked During CPB
*ParentShortName:* **CPBLabPlatelet**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

*Long Name:* TEG Checked During CPB *SeqNo:* 6146
*Short Name:* **CBPLabTEG** *Core:* Yes
*Section Name*: Anesthesia Intraoperative Pharmacology (including CPB) *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether TEG was checked during CPB.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

September 2019: If Platelet Count was checked more than once during CPB, should we report the first value taken or the last? **The last platelet value is the best to report as it should be the lowest and reflect the true thrombocytopenia induced by bypass.**

---

*Long Name:* TEG-FF Checked During CPB *SeqNo:* 6147
*Short Name:* **CPBLabTEGFF** *Core:* Yes
*Section Name*: Anesthesia Intraoperative Pharmacology (including CPB) *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether TEG-FF was checked during CPB.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* ROTEM Checked During CPB
*Short Name:* **CPBLabROTEM**
*Section Name*: Anesthesia Intraoperative Pharmacology (including CPB)
*DBTableName:* Operations
*Definition:* Indicate whether ROTEM was checked during CPB.

*SeqNo:* 6148
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* FIBTEM Checked During CPB
*Short Name:* **CPBLabFIBTEM**
*Section Name*: Anesthesia Intraoperative Pharmacology (including CPB)
*DBTableName:* Operations
*Definition:* Indicate whether FIBTEM was checked during CPB.

*SeqNo:* 6149
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* SONOCLOT Checked During CPB
*Short Name:* **CPBLabSONO**
*Section Name*: Anesthesia Intraoperative Pharmacology (including CPB)
*DBTableName:* Operations
*Definition:* Indicate whether SONOCLOT was checked during CPB.

*SeqNo:* 6150
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Post CPB - Fibrinogen Checked
*Short Name:* **PostCPBLabFib**
*Section Name*: Anesthesia Intraoperative Pharmacology (including CPB)
*DBTableName:* Operations
*Definition:* Indicate whether fibrinogen was checked in the operating room after CPB was completed.

*SeqNo:* 6151
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**

*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Post CPB - Fibrinogen Value - mg/dL
*Short Name:* **PostCPBLabFibVal**
*Section Name*: Anesthesia ICU/PACU Care
*DBTableName:* Operations
*Definition:* Indicate the fibrinogen value.
*Low Value:* 1
*High Value:* 500

*SeqNo:* 6152
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* Post CPB – Fibrinogen Checked
*ParentShortName:* **PostCPBLabFib**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

September 2019: If Fibrogen and/or platelet labs were done more than once after CPB and before patient left the OR, would you like the first value, last value, highest value, or lowest value? **Use the lowest value**

---

*Long Name:* Post CPB - Platelet Count Checked
*Short Name:* **PostCPBLabPlatelet**
*Section Name*: Anesthesia Intraoperative Pharmacology (including CPB)
*DBTableName:* Operations
*Definition:* Indicate whether platelet count was checked in the operating room after CPB was completed.

*SeqNo:* 6153
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Post CPB - Platelet Count Value | *SeqNo:* | 6154 |
| *Short Name:* | **PostCPBLabPlateletVal** | *Core:* | Yes |
| *Section Name*: | Anesthesia ICU/PACU Care | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the platelet count value. | | |
| *Low Value:* | 1 | | |
| *High Value:* | 500 | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Integer |

| | |
|---|---|
| *ParentLongName:* | Post CPB - Platelet Count Checked |
| *ParentShortName:* | **PostCPBLabPlatelet** |
| *ParentHarvestCodes:* | 1 |
| *Parent Value:* | = “Yes” |

September 2019: If Fibrogen and/or platelet labs were done more than once after CPB and before patient left the OR, would you like the first value, last value, highest value, or lowest value? **Use the lowest value**

| | | | |
|---|---|---|---|
| *Long Name:* | Post CPB – TEG Checked | *SeqNo:* | 6155 |
| *Short Name:* | **PostCPBLabTEG** | *Core:* | Yes |
| *Section Name*: | Anesthesia Intraoperative Pharmacology (including CPB) | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether TEG was checked in the operating room after CPB was completed. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |

| | |
|---|---|
| *ParentShortName:* | Anesthesiology Data Collected |
| *ParentLongName:* | **Anesthesia** |
| *ParentHarvestCodes:* | 1 |
| *ParentValues:* | = “Yes” |

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Post CPB – TEG-FF Checked | *SeqNo:* | 6156 |
| *Short Name:* | **PostCPBLabTEGFF** | *Core:* | Yes |
| *Section Name*: | Anesthesia Intraoperative Pharmacology (including CPB) | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether TEG-FF was checked in the operating room after CPB was completed. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Post CPB - ROTEM Checked | *SeqNo:* | 6157 |
| *Short Name:* | **PostCPBLabROTEM** | *Core:* | Yes |
| *Section Name*: | Anesthesia Intraoperative Pharmacology (including CPB) | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether ROTEM was checked in the operating room after CPB was completed. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

| | | | |
|---|---|---|---|
| *Long Name:* | Post CPB - FIBTEM Checked | *SeqNo:* | 6158 |
| *Short Name:* | **PostCPBLabFIBTEM** | *Core:* | Yes |
| *Section Name*: | Anesthesia Intraoperative Pharmacology (including CPB) | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether FIBTEM was checked in the operating room after CPB was completed. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | Post CPB - SONOCLOT Checked | *SeqNo:* | 6159 |
| *Short Name:* | **PostCPBLabSONO** | *Core:* | Yes |
| *Section Name*: | Anesthesia Intraoperative Pharmacology (including CPB) | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether SONOCLOT was checked in the operating room after CPB was completed. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

| | | | |
|---|---|---|---|
| *Long Name:* | ICU Pharmacology Table Unique Record Identifier | *SeqNo:* | 6165 |

| | | | |
|---|---|---|---|
| *Short Name:* | **ICUPUniqueID** | *Core:* | Yes |
| *Section Name*: | Anesthesia Pharmacology On Arrival To ICU/PACU | *Harvest:* | Yes |
| *DBTableName:* | ICUPharm | | |
| *Definition:* | Unique identifier for the record in the ICU Pharmacology table. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | Automatic | | |
| *Format:* | Text | | |
| *ParentLongName:* | Anesthesiology Data Collected | | |
| *ParentShortName:* | **Anesthesia** | | |
| *ParentHarvestCodes:* | 1 | | |
| *ParentValues:* | = "Yes" | | |

---

| | | | |
|---|---|---|---|
| *Long Name:* | ICU Pharmacology Link to Operations Table | *SeqNo:* | 6166 |
| *Short Name:* | **OperationID** | *Core:* | Yes |
| *Section Name*: | Anesthesia Pharmacology On Arrival To ICU/PACU | *Harvest:* | Yes |
| *DBTableName:* | ICUPharm | | |
| *Definition:* | An arbitrary, unique value generated by the software that permanently identifies each operation record in the participant's database. This field is the foreign key that links the ICU Pharmacology record with the associated record in the Operations table. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | Automatic | | |
| *Format:* | Text | | |
| *ParentLongName:* | Anesthesiology Data Collected | | |
| *ParentShortName:* | **Anesthesia** | | |
| *ParentHarvestCodes:* | 1 | | |
| *ParentValues:* | = "Yes" | | |

---

## Anesthesia Pharmacology on Arrival to ICU/PACU

| | | | |
|---|---|---|---|
| *Long Name:* | ICU/PACU Arrival Pharmacology | *SeqNo:* | 6170 |
| *Short Name:* | **ICUPharm** | *Core:* | Yes |
| *Section Name*: | Anesthesia Pharmacology On Arrival To ICU/PACU | *Harvest:* | Yes |
| *DBTableName:* | ICUPharm | | |
| *Definition:* | Indicate the medications that were given to the patient on arrival to ICU (Intensive Care Unit) / PACU (Post Anesthesia Care Unit). | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |

*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"
Harvest Codes:

| Code: | Value: |
|---|---|
| 5 | None |
| 20 | Aminocaproic Acid (Amicar) infusion |
| 30 | Amiodarone infusion |
| 40 | Aprotinin (Trasylol ) infusion |
| 370 | Benzodiazepine infusion |
| 50 | Calcium Chloride infusion |
| 60 | Calcium Gluconate infusion |
| 70 | Dexmetetomidine (Precedex) infusion |
| 80 | Dobutamine infusion |
| 90 | Dopamine infusion |
| 100 | Epinephrine (Adrenalin) infusion |
| 340 | Esmolol infusion |
| 390 | Fenoldopam infusion |
| 310 | Inotrope, Other |
| 120 | Insulin infusion |
| 130 | Isoproterenol infusion |
| 410 | Ketamine infusion |
| 400 | Levosimendan |
| 350 | Local anesthetic infusion via catheter (On-Q, pleural catheters) |
| 150 | Milrinone infusion |
| 170 | Muscle Relaxant infusion |
| 360 | Narcotic infusion |
| 180 | Nesiritide infusion |
| 190 | Nicardipine infusion |
| 200 | Nitric Oxide inhalation |
| 210 | Nitroglycerin (Tridil) infusion |
| 220 | Nitroprusside (Nipride) infusion |
| 230 | Norepinephrine (Levophed) infusion |
| 240 | Phentolamine (Regitine)Infusion |
| 250 | Phenylephrine infusion |
| 380 | Procainamide bolus/infusion |
| 260 | Propofol (Diprivan) infusion |
| 270 | Prostaglandin infusion |
| 280 | Thyroid Hormone infusion |
| 290 | Tranexamic Acid infusion |
| 330 | Vasoconstrictor, Other |
| 320 | Vasodilator, Other |
| 300 | Vasopressin infusion |

## Anesthesia ICU / PACU Care

*Long Name:* ICU/PACU Arrival Date and Time
*Short Name:* **ICUArrDT**
*Section Name*: Anesthesia ICU/PACU Care
*DBTableName:* Operations

*SeqNo:* 6180
*Core:* Yes
*Harvest:* Yes

*Definition:* Indicate the date (mm/dd/yyyy) and time (hh:mm 24-hour clock) the patient arrived to the ICU / PACU.

*Intent / Clarification:*

*Data Source:* User
*Format:* Date/Time - mm/dd/yyyy hh:mm

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

---

*Long Name:* Initial FiO2 *SeqNo:* 6190
*Short Name:* **InitialFiO2** *Core:* Yes
*Section Name*: Anesthesia ICU/PACU Care *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the initial FiO2 (closest to the patient's arrival).
*Low Value:* 0.17
*High Value:* 1.0

*Intent / Clarification:*

*Data Source:* User
*Format:* Real

*ParentShortName:* Anesthesiology Data Collected
*ParentLongName:* **Anesthesia**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Mechanical Circulatory Support (ECMO/VAD) *SeqNo:* 6200
*Short Name:* **MechCircSup** *Core:* Yes
*Section Name*: Anesthesia ICU/PACU Care *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate whether the patient was on extracorporeal membrane oxygenation (ECMO) or on Ventricular Assist Device (VAD) on arrival.

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected

*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* ICU/PACU Arrival Labs
*Short Name:* **ICUPACULabs**
*Section Name*: Anesthesia ICU/PACU Care
*DBTableName:* Operations
*Definition:* Indicate whether lab tests were drawn upon arrival to PACU or ICU.

*SeqNo:* 6211
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*ParentValues:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

May 2019: The definition states to document labs that are done upon arrival to the ICU. I would like to clarify how many minutes are acceptable to document labs that have been completed? There are many patients that have labs drawn 20 to 30 minutes after arriving on the unit and I know that it can take a few minutes to settle the patient in their room, gather orders and draw labs. Or can we document up to 1 hour after they arrive on the unit? **Up to an hour is fine.**

---

*Long Name:* pH
*Short Name:* **pH**
*Section Name*: Anesthesia ICU/PACU Care
*DBTableName:* Operations
*Definition:* Indicate the pH level from the first ABG obtained.
*Low Value:* 6.00
*High Value:* 8.00

*SeqNo:* 6220
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Real

*ParentLongName:* ICU/PACU Arrival Labs
*ParentShortName:* **ICUPACULabs**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* pCO2 *SeqNo:* 6230
*Short Name:* **pCO2** *Core:* Yes
*Section Name*: Anesthesia ICU/PACU Care *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the pCO2 level from the first ABG obtained.
*Low Value:* 20
*High Value:* 150

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* ICU/PACU Arrival Labs
*ParentShortName:* **ICUPACULabs**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* pO2 *SeqNo:* 6240
*Short Name:* **pO2** *Core:* Yes
*Section Name*: Anesthesia ICU/PACU Care *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the pO2 level from the first ABG obtained.
*Low Value:* 15
*High Value:* 650

*Intent / Clarification:*

*Data Source:* User
*Format:* Integer

*ParentLongName:* ICU/PACU Arrival Labs
*ParentShortName:* **ICUPACULabs**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

| | | | |
|---|---|---|---|
| *Long Name:* | Base Excess | *SeqNo:* | 6250 |
| *Short Name:* | **BaseExcess** | *Core:* | Yes |
| *Section Name*: | Anesthesia ICU/PACU Care | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the Base Excess level from the first ABG obtained. | | |
| *Low Value:* | -30 | | |
| *High Value:* | 30 | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Integer |
| *ParentLongName:* | ICU/PACU Arrival Labs |
| *ParentShortName:* | **ICUPACULabs** |
| *ParentHarvestCodes:* | 1 |
| *Parent Value:* | = “Yes” |

| | | | |
|---|---|---|---|
| *Long Name:* | Lactate | *SeqNo:* | 6260 |
| *Short Name:* | **Lactate** | *Core:* | Yes |
| *Section Name*: | Anesthesia ICU/PACU Care | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the Lactate level from the first ABG obtained. | | |
| *Low Value:* | 0.1 | | |
| *High Value:* | 30.0 | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Real |
| *ParentLongName:* | ICU/PACU Arrival Labs |
| *ParentShortName:* | **ICUPACULabs** |
| *ParentHarvestCodes:* | 1 |
| *Parent Value:* | = “Yes” |

| | | | |
|---|---|---|---|
| *Long Name:* | Hematocrit | *SeqNo:* | 6270 |
| *Short Name:* | **Hematocrit** | *Core:* | Yes |
| *Section Name*: | Anesthesia ICU/PACU Care | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate the hematocrit level from the first ABG obtained. | | |
| *Low Value:* | 5.0 | | |

*High Value:* 70.0

*Intent / Clarification:*

*Data Source:* User
*Format:* Real

*ParentLongName:* ICU/PACU Arrival Labs
*ParentShortName:* **ICUPACULabs**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

*Long Name:* Initial Pulse Oximeter *SeqNo:* 6280
*Short Name:* **InitPulseOx** *Core:* Yes
*Section Name*: Anesthesia ICU/PACU Care *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the first pulse oximeter measurement after arrival to ICU / PACU.
*Low Value:* 50.0
*High Value:* 100.0

*Intent / Clarification:*

*Data Source:* User
*Format:* Real

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

---

*Long Name:* Temperature ICU/PACU Arrival *SeqNo:* 6290
*Short Name:* **TempICUArr** *Core:* Yes
*Section Name*: Anesthesia ICU/PACU Care *Harvest:* Yes
*DBTableName:* Operations
*Definition:* Indicate the patient's temperature in degrees centigrade on arrival to the ICU/PACU.
*Low Value:* 30.0
*High Value:* 43.0

*Intent / Clarification:*

*Data Source:* User
*Format:* Real

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* **Anesthesia**
*ParentHarvestCodes:* 1
*Parent Value:* = "Yes"

*Long Name:* Temperature Measurement Site
*Short Name:* **TempSite**
*Section Name*: Anesthesia ICU/PACU Care
*DBTableName:* Operations
*Definition:* Indicate the location where the patient's temperature was measured.

*SeqNo:* 6300
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Temperature ICU/PACU Arrival
*ParentShortName:* **TempICUArr**
*ParentHarvestCodes:* Is Not Missing
*ParentValues:* Is Not Missing

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Forehead scan |
| 2 | Tympanic membrane |
| 3 | Skin |
| 4 | Rectal |
| 5 | Bladder |
| 6 | Oral |
| 7 | Axillary |
| 9 | Other |

*Long Name:* Temporary Pacemaker on Arrival In ICU/PACU
*Short Name:* **TempPace**
*Section Name*: Anesthesia ICU/PACU Care
*DBTableName:* Operations
*Definition:* Indicate the need for a temporary pacemaker on arrival to the ICU/PACU.

*SeqNo:* 6310
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* Anesthesia

*ParentValue:* 1
*ParentHarvestCodes:* = “Yes”

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Temporary Pacemaker Site
*Short Name:* **TempPaceSite**
*Section Name*: Anesthesia ICU/PACU Care
*DBTableName:* Operations
*Definition:* Indicate the site of the temporary pacemaker.

*SeqNo:* 6320
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Temporary Pacemaker on Arrival In ICU/PACU
*ParentShortName:* **TempPace**
*ParentHarvestCodes:* 1
*ParentValue:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Epicardial |
| 2 | Transvenous |

---

*Long Name:* Type of Temporary Pacing
*Short Name:* **TempPaceType**
*Section Name*: Anesthesia ICU/PACU Care
*DBTableName:* Operations
*Definition:* Indicate the type of temporary pacing.

*SeqNo:* 6330
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Temporary Pacemaker on Arrival In ICU/PACU
*ParentShortName:* **TempPace**
*ParentHarvestCodes:* 1
*ParentValue:* = "Yes"

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Atrial |
| 2 | Atrio-ventricular |
| 3 | Ventricular |
| 9 | Other |

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| | | | |
|---|---|---|---|
| *Long Name:* | Disposition Under Anesthesia | *SeqNo:* | 6340 |
| *Short Name:* | **DispUnderAnes** | *Core:* | Yes |
| *Section Name*: | Anesthesia ICU/PACU Care | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate patient disposition after completion of anesthetic management. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |
| *ParentLongName:* | Anesthesiology Data Collected |
| *ParentShortName:* | Anesthesia |
| *ParentValue:* | 1 |
| *ParentHarvestCodes:* | = “Yes” |

Harvest Codes:

| Code: | *Value:* |
|---|---|
| 1 | Discharge home as planned after PACU/Recovery |
| 2 | Admit to hospital floor as planned |
| 3 | Admit to ICU as planned |
| 4 | Unplanned admission to hospital or ICU |
| 8 | Other location not listed above |
| 9 | Patient expired while under anesthetic management |

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| | | | |
|---|---|---|---|
| *Long Name:* | Peri-Anesthetic Demise (Within 24 Hours of Last Anesthesia End Time) | *SeqNo:* | 6350 |
| *Short Name:* | **PeriAnesDemise** | *Core:* | Yes |
| *Section Name*: | Anesthesia ICU/PACU Care | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | Indicate whether the patient died within 24 hours of end of anesthesia. | | |

*Intent / Clarification:*

| | |
|---|---|
| *Data Source:* | User |
| *Format:* | Text (categorical values specified by STS) |

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* Anesthesia
*ParentValue:* 1
*ParentHarvestCodes:* = "Yes"

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Anesthesia Adverse Events Unique Record Identifier
*Short Name:* **AAEUniqueID**
*Section Name*: Anesthesia Adverse Events
*DBTableName:* AAdvEvents
*Definition:* Unique identifier for the record in the Anesthesia Adverse Events table.

*SeqNo:* 6360
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* Automatic
*Format:* Text

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* Anesthesia
*ParentValue:* 1
*ParentHarvestCodes:* = "Yes"

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*Long Name:* Anesthesia Adverse Events Link to Operation Table
*Short Name:* **OperationID**
*Section Name*: Anesthesia Adverse Events
*DBTableName:* AAdvEvents
*Definition:* An arbitrary, unique value generated by the software that permanently identifies each operation record in the participant's database. This field is the foreign key that links the Anesthesia Adverse Events record with the associated record in the Operations table.

*SeqNo:* 6370
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* Automatic
*Format:* Text

*ParentLongName:* Anesthesiology Data Collected
*ParentShortName:* Anesthesia
*ParentValue:* 1
*ParentHarvestCodes:* = "Yes"

## Anesthesia Adverse Events

| | | | |
|---|---|---|---|
| *Long Name:* | Anesthesia Adverse Event | *SeqNo:* | 6380 |
| *Short Name:* | **AnesAdvEvent** | *Core:* | Yes |
| *Section Name*: | Anesthesia Adverse Events | *Harvest:* | Yes |
| *DBTableName:* | AAdvEvents | | |
| *Definition:* | Indicate the anesthesia-related adverse events that occurred. | | |

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes and Value Definitions:*

| Code: | Value: | Definition: |
|---|---|---|
| 10 | None | No adverse events recognized. |
| 20 | Oral/Nasal Injury-Bleeding | Indicate whether the patient experienced an oral or nasal injury such as lip or gum laceration or injury or epistaxis. |
| 30 | Respiratory Arrest | Indicate whether the patient experienced preoperative, intraop or post-op respiratory arrest requiring UNANTICIPATED airway support such as placement of an LMA or ETT where NOT part of the original anesthetic plan. |
| 40 | Difficult Intubation/Reintubation | Indicate whether the patient experienced an UNANTICIPATED difficult intubation or re-intubation (not for a KNOWN difficult intubation that was planned for). |
| 50 | Stridor / Sub-glottic stenosis | Indicate whether the patient experienced post-extubation stridor or sub-glottic stenosis requiring therapy such as racemic epinephrine, steroids or HeliOx therapy. |
| 60 | Extubation | Indicate whether the patient experienced an extubation in the OR (or procedure location) or during patient transfer that was NOT PART of anesthetic plan. |
| 70 | Endotracheal Tube Migration | Indicate whether the patient's ETT required repositioning after initial intubation and securing (either too deep or too high). I.e. Mainstem Intubation recognized only in ICU after CXR. |
| 80 | Airway Injury | Indicate whether the patient experienced an airway injury RELATED TO VENTILATION such as barotrauma or pneumothorax. |
| 410 | Hemoptysis | Blood or blood-stained sputum expectorated or suctioned from the bronchi, trachea, larynx or lungs. This MIGHT NOT be due to anesthesia (i.e. after balloon dilation of pulmonary arteries). |
| 450 | Laryngospasm requiring medication | An uncontrolled/involuntary spasm of vocal cords REQUIRING MEDICATION to treat (i.e. NOT positive pressure alone). |
| 400 | Bronchospasm | A sudden constriction of the muscles in the walls of |

| | | |
|---|---|---|
| | | the bronchioles presenting with expiratory wheeze, prolonged exhalation or complete silence on auscultation associated with high airway pressures. |
| 470 | Unplanned need to remain intubated post-procedure due to anesthesia factors | Examples might include excessive sedation at end of procedure or muscle weakness due to residual paralysis or muscle weakness due to residual paralysis. |
| 90 | Arrythmia – CVL Placement | Indicate whether the patient experienced an arrhythmia during CVL placement REQUIRING TX OTHER THAN WITHDRAWAL OF WIRE. |
| 100 | Myocardial Injury – CVL Placement | Indicate whether the patient experienced a myocardial perforation or injury during CVL placement. This might only be recognized by finding bloody pericardial fluid or effusion after sternotomy or may cause tamponade physiology. |
| 110 | Vascular Compromise – CVL Placement | Indicate whether the patient experienced a vascular compromise (e.d. ischemic leg, venous obstruction) SECONDARY TO CVL placement. |
| 120 | Pneumothorax – CVL Placement | Indicate whether the patient experienced a pneumontorax during CVL placement. |
| 130 | VASCULAR ACCESS | Indicate whether the anesthesiologist had difficulty with vascular access requiring MORE THAN ONE HOUR OF ATTEMPTED IV/CVL/ARTERIAL access time. |
| 140 | Hematoma requiring relocation of catheter placement | Indicate whether the patient experienced a hematoma requiring cacellation of procedure, an additional surgical exploration or relocation of a catheter due to hematoma at the original attempt site. |
| 150 | Arterial Puncture | Indicate whether the patient experienced an arterial puncture with hematoma formation, hemodynamic consequence or neurolgic injury. |
| 160 | IV/IA Air Embolism | Indicate whether the patient experienced an intravenous or intraarterial AIR EMBOLUS causing hemodynamic, local or systemic injury. |
| 350 | Arterial Line Placement – Extremity Ischemia | Impaired perfusion or ischemia distal to arterial line insertion site or attempted insterion site. |
| 380 | Intravenous Infiltration | Extravasation of fluid, blood or medication into tissue surrounding IV access site. |
| 170 | Bleeding – Regional Anesthesia site | Indicate whether the patient experienced bleeding at the regional anesthetic site or with aspiration or recognized post-operatively such as epidural hematoma. |
| 180 | Intrathecal Puncture – Regional | Indicate if during placement of an epidural injection an intrathecal puncture occurred (wet tap) that was not part of the anesthetic plan. |
| 190 | Local Anesthetic Toxicity – Regional | Indicate whether the patient experienced signs or symptoms of local anesthetic toxicity during administration of regional anesthesia. |
| 200 | Neurologic Injury – Regional | Indicate if a neurologic injury occurred potentially associated with regional anesthetic (i.e. epidural hematoma leading to neurologic symptoms). |
| 210 | Anaphylaxis/Anaphylactoid Reaction | Indicate whether the patient experienced an anaphylaxis/anaphylactoid type reaction temporally associated with the administration of a medication OTHER THAN PROTAMINE. May manifest as bronchospasm or hypotension or cutaneous changes. |
| 220 | Non-Allergic Drug Reaction | Indicate whether the patient experienced a non- |

| | | |
|---|---|---|
| | | allergic response to a medication (i.e. “Red Man” syndrome with vancomycin or hemodynamic changes associated with speed of administration). |
| 230 | Medication Administration | Indicate if a medication was administered that was NOT part of the anesthetic plan at the time of administration. |
| 240 | Medication Dosage | Indicate if a medication that WAS part of the anesthetic plan was given at the WRONG DOSE or WRONG TIME. |
| 250 | Intraoperative Recall | Indicate whether the patient experienced any recall of intra-procedural events. |
| 260 | Malignant Hyperthermia | Indicate whether patient experienced either a SUSPECTED or CONFIRMED MH episode REQUIRING DANTROLENE ADMINISTRATION. |
| 270 | Protamine Reaction | Indicate whether the patient experienced a SIGNIFICANT reaction requiring additional intervention other than slowing the rate of administration. |
| 280 | Cardiac Arrest related to anesthesia care | Indicate whether the patient experienced a cardiac arrest REQUIRING CPR related to anesthesia care. |
| 490 | Cardiac Arrest UNRELATED to anesthesia care | Indicate whether the patient experienced an event requiring CPR that was NOT DIRECTLY RELATED TO ANESTHESIA (i.e. during surgical or cardiac cath manipulations). |
| 510 | Hypercyanotic Episode (“Tet spell”) UNRELATED to surgical manipulation | Indicate whether the patient experienced a hypercyanotic episode (desaturation MORE THAN 20% from baseline) NOT related to surgical or catheter manipulation. |
| 500 | Pulmonary Hypertensive Crisis unrelated to surgical manipulation | A suspected or proven rise in pulmonary artery resistance/pressure that was NOT related to surgical manipulation. |
| 290 | TEE-Related esophageal bleeding/rupture | Indicate whether the patient experienced esophageal bleeding or rupture during TEE placement or manipulation. |
| 300 | TEE-related Esophageal Chemical Burn | Indicate whether the patient experienced esophageal injury due to the TEE probe cleaning solution. |
| 310 | TEE-Related AIRWAY COMPROMISE | Indicate whether the patient experience an airway compromise during TEE placement or manipulation REQUIRING REMOVAL OF TEE. |
| 315 | TEE-Related | Indicate whether the patient experienced hemodynamic. |
| 320 | TEE-Related EXTUBATION | Indicate if the ETT was displaced from the trachea during TEE placement/manipulation/removal |
| 330 | Complications during patient transfer | Indicate if the patient experienced any trauma related to transfers from the bed to procedure table or bed to stretcher or similar transfers. Might include inadvertent removal of lines or patient falls.<br>Inadvertent extubation is coded under EXTUBATION. |
| 340 | Peripheral Nerve Injury due to positioning | Indicate if the patient experience a neurologic deficit (permanent or temporary) due to patient positioning during anesthesia. |
| 370 | Anesthesia Equipment Malfunction/Failure | Mechanical equipment failure or malfunction impacting delivery of anesthesia care (such as delaying surgery for repair or changing planned room) |
| 390 | Integument Injury (skin breakdown or dehiscence) | Integument injury such as skin breakdown, dehiscence of wound, pressure ulcer or alopecia caused by positioning during anesthesia or adhesive tape or |

| | | |
|---|---|---|
| | | monitors (such as NIRS probes) |
| 480 | Ocular Injury (corneal abrasion or injury) | Injury to the eyes during anesthetic management |
| 420 | Post-operative Nausea/Vomiting requiring Medication | Sustained period of Nausea/Vomiting REQUIRING UNPLANNED ADMISSION OR READMISSION OR DELAYED DISCHARGE and intervention |
| 430 | Vomiting or Aspiration on Induction/Emergence | Vomiting, with OR without aspiration, during induction of anesthesia or emergence from anesthesia |
| 440 | Emergence Delirium requiring Medication | A dissociated state of consciousness following general anesthesia with inconsolable crying, irritability or uncooperation REQUIRING MEDICATION ADMINISTRATION OTHER THAN FOR PAIN |
| 900 | Other | Unlisted adverse event related to anesthesia care |

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*Long Name:* Anesthesia Adverse Event – Additional Intervention Required
*Short Name:* **AnesAdEventInt**
*Section Name*: Anesthesia Adverse Events
*DBTableName:* AAdvEvents
*Definition:* Indicate whether additional intervention was required as a result of this adverse event.

*SeqNo:* 6381
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*ParentLongName:* Anesthesia Adverse Event
*ParentShortName:* **AnesAdvEvent**
*ParentHarvestCodes:* <>10 And Is Not Missing
*ParentValue:* Is Not “None” And Is Not Missing
*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

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*Long Name:* Temporary Yes/No Field #1
*Short Name:* **TempYN1**
*Section Name*: STS Temporary Fields
*DBTableName:* Operations
*Definition:* This is a temporary field that should not be used for data collection until expressly instructed to by the STS.

*SeqNo:* 6721
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | Yes |
| 2 | No |

---

*Long Name:* Temporary Yes/No Field #2
*Short Name:* **TempYN2**
*Section Name:* STS Temporary Fields
*DBTableName:* Operations
*Definition:* This is a temporary field that should not be used for data collection until expressly instructed to by the STS.

*SeqNo:* 6722
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

Harvest Codes:

| Code: | Value: |
|---|---|
| 1 | Yes |
| 2 | No |
| 3 | Not Applicable |

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*Long Name:* Temporary Date Field
*Short Name:* **TempDt**
*Section Name*: STS Temporary Fields
*DBTableName:* Operations
*Definition:* **To further understand the impact of Covid-19 on surgical patients, STS will begin collecting the date of positive PCR testing for Covid-19 patients with surgery dates starting May 1, 2020. If there is more than one positive test date, collect the date that is closest to the OR date. Positive antibody testing is not captured in this field. Sites have the option to retroactively collect this field back to January 1 if they choose to do so. To achieve this, the temporary field (TempDt) will be utilized for patients who have a confirmed Covid-19 diagnosis through PCR testing.**

*SeqNo:* 6723
*Core:* Yes
*Harvest:* Yes

*Intent / Clarification:*

*Data Source:* User
*Format:* Date - mm/dd/yyyy

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| | | | |
|---|---|---|---|
| *Long Name:* | Temporary Coded Field | *SeqNo:* | 6724 |
| *Short Name:* | **TempCode** | *Core:* | Yes |
| *Section Name*: | STS Temporary Fields | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |

*Definition:*

**May 2020: This field will be used to collect data on Covid-19. Please complete on apatients entered into the database starting April 1, 2020. Sites have the option to retroactively collect this field back to January 1 if they choose to do so.**
**Did the patient have a laboratory confirmed diagnosis of Covid-19?**

- **No (Harvest code 10)**
- **Yes, prior to hospitalization for this surgery (Harvest Code 11)**
- **Yes, in hospital prior to surgery (Harvest Code 12)**
- **Yes, in hospital after surgery (Harvest Code 13)**
- **Yes, after discharge within 30 days of surgery (Harvest Code 14)**

*Intent / Clarification:*

*Data Source:* User
*Format:* Text (categorical values specified by STS)

*Harvest Codes:*

| Code: | *Value:* |
|---|---|
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |
| 6 | 6 |
| 7 | 7 |
| 8 | 8 |
| 9 | 9 |
| 10 | 10 |
| 11 | 11 |
| 12 | 12 |
| 13 | 13 |
| 14 | 14 |
| 15 | 15 |
| 16 | 16 |
| 17 | 17 |
| 18 | 18 |
| 19 | 19 |
| 20 | 20 |

May 2020: **There are many tests for different types of coronavirus. The STS is only collecting data on the one that causes COVID 19 which is SARS-CoV-2.**

May 2020: **Code No for patients who are not tested and for patients who are tested for Covid-19 and that test is negative**

**May 2020:** Can I abstract a patient who is assumed to be Covid-19+ but was not tested**? No, only code yes for a patient who has been confirmed to have Covid-19 through laboratory testing.**

May 2020: **If the patient was tested within 30 days of surgery but the result comes back after 30 days, still code this as within 30 days.**

May 2020: During a follow up phone call, a patient says that they tested positive for COVID-19. Shall I take their word, or do I need an official result? **Code Yes, after discharge within 30 days of surgery for patients who self-report testing positive for COVID-19 within 30 days of surgery.**

May 2020: For Harvest Code 10, does this only apply to the pre-op status? How do we collect post-op hospitalized patients who test negative? **Harvest Code 10 - NO applies to any of the above timeframe's pre-op, during hospitalization, and post-op. For example, if the patient tested negative or was not tested pre-op, then code as NO. If the patient is then tested and is negative or not tested during the hospitalization, code NO. If the patient is discharged and is found to be COVID 19 positive within 30 days of surgery, remove code 10 and code Yes to Code 13.**

May 2020: For harvest Code 11 - Yes, prior to hospitalization for this surgery. Can you specify the time frame? **There is no timeframe for harvest Code 11. Capture any COVID 19 positive test pre-op and enter the date in SEQ 6723 TempDt**

| | | | |
|---|---|---|---|
| *Long Name:* | Temporary Text Field | *SeqNo:* | 6725 |
| *Short Name:* | **TempText** | *Core:* | Yes |
| *Section Name*: | STS Temporary Fields | *Harvest:* | Yes |
| *DBTableName:* | Operations | | |
| *Definition:* | This is a temporary field that should not be used for data collection until expressly instructed to by the STS. | | |
| *Intent / Clarification:* | | | |
| *Data Source:* | User | | |
| *Format:* | Text | | |