



SURGICAL TECHNIQUE GUIDE

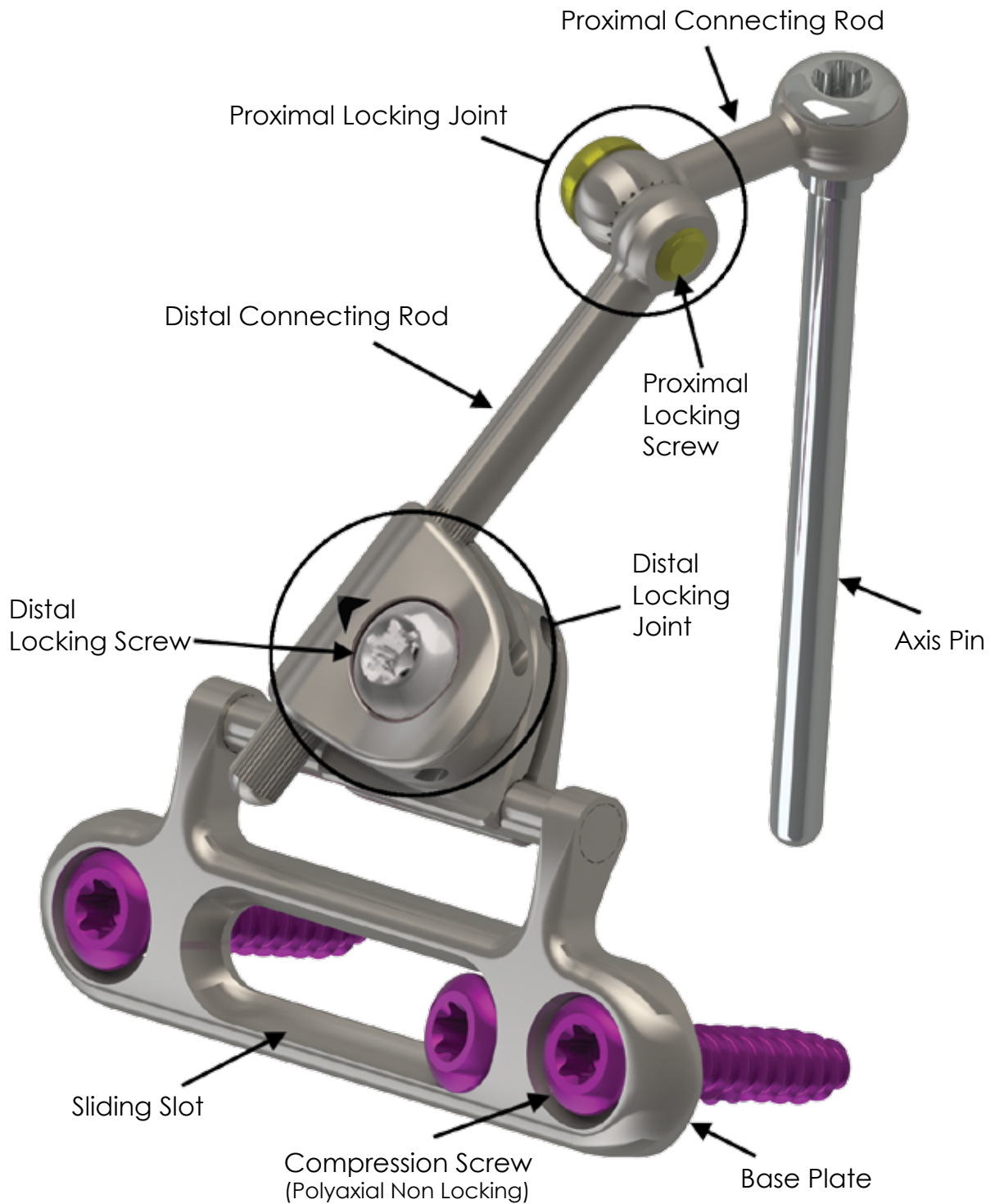
IJS[®]-ELBOW

elbow stabilization system



As described by:
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Miami Hand & Upper
Extremity Institute
Miami, Florida.

The Internal Joint Stabilizer - Elbow is intended to provide temporary stabilization of the elbow joint after trauma or chronic elbow dislocation.



SUPERFICIAL EXPOSURE

1



Make an incision midway between the lateral epicondyle and the olecranon.

Note:

Place the tourniquet proximal on the arm to allow for free elbow motion.

DEEP EXPOSURE

2



Perform a lateral approach to the elbow joint through the surgeon's preferred muscle interval.

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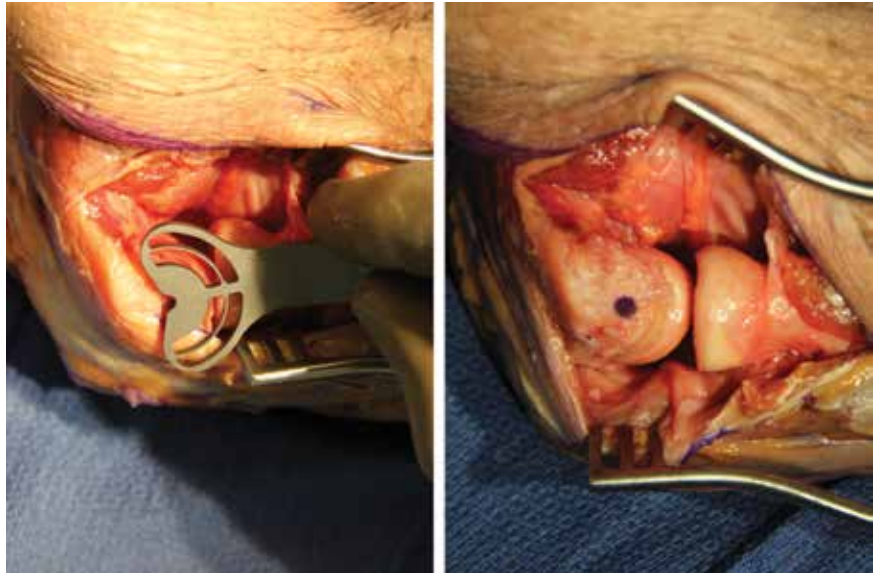
CENTER OF ROTATION

Locate and mark the anatomic center on the lateral capitellum.

Note:

This is identified as the center of a circle that fits the curvature of the capitellum on the lateral view.

Full visualization of the lateral epicondyle to the capitellum is critical to accurately establish the anatomic center of rotation.



Axis Centering Guide

4

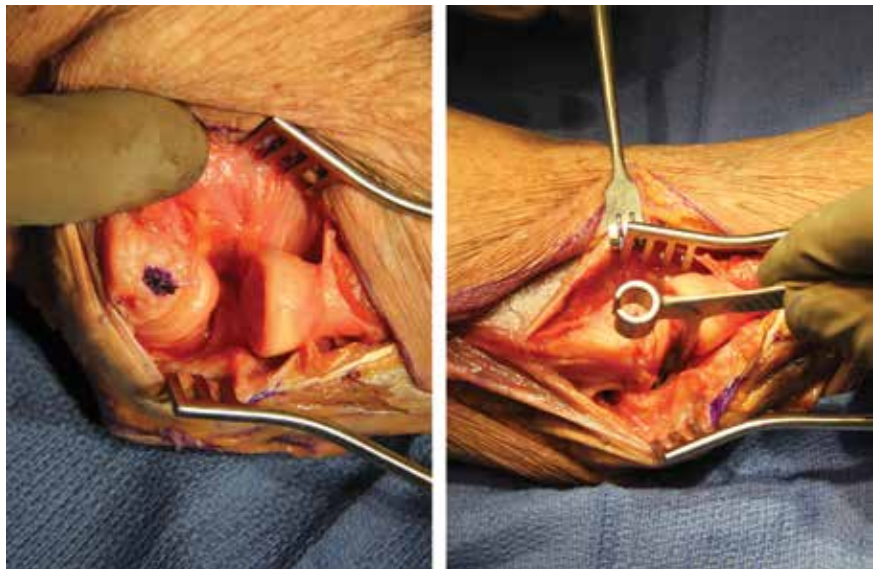
AXIS GUIDE SIZING

Open the joint by applying a varus stress allowing access to insert the largest sized Axis Guide that is appropriate for the patient.

The handle of the Axis Guide should be positioned in-line with the humeral shaft and into the trochlear notch, engaging the medial trochlear expansion.

Note:

There are three sizes of Axis Guides available.



Axis Guide

GUIDE WIRE ATTACHMENT

5



Insert the K-wire Guide into the Axis Guide so that it is close to the lateral epicondyle without making contact, and then rotate it clockwise to lock it in place.

Caution:

Avoid contacting the lateral epicondyle with the K-wire Guide as it will prevent the Axis Guide from properly engaging the medial trochlear expansion, causing the assembly to be improperly positioned.



K-Wire Guide

GUIDE WIRE INSERTION

6



Advance the Guide-Wire (1.5mm K-wire) through the K-wire Guide and into the humerus, stopping short of the medial cortex.

Caution:

DO NOT violate the medial cortex as it may result in ulnar nerve injury.

Note:

The supplied Guide-Wires (1.5mm K-wire) are specifically designed to provide exact depth readings with the system's Depth Gauge.



K-Wire 1.5mm x 127mm

7

AXIS GUIDE REMOVAL

Remove the entire assembly leaving the Guide Wire (1.5mm K-wire) in place.



8

FLUOROSCOPIC CONFIRMATION

Confirm that the Guide Wire (1.5mm K-wire) has been inserted to the correct depth and that the axis of rotation has been properly established using fluoroscopy.



AXIS PIN MEASUREMENT

9



Place the Depth Gauge over the Guide Wire (1.5mm K-wire) to measure the drilling depth for the proper length of Axis Pin.

If between sizes, choose a shorter length.

Note:

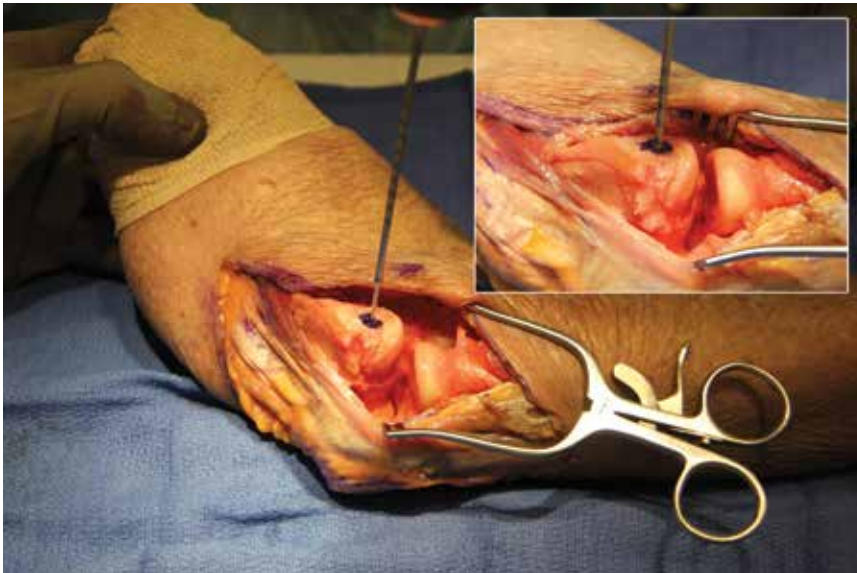
There are nine lengths of Axis Pin available.



Over K-Wire Depth Gauge

AXIS PIN DRILLING

10



Drill over the Guide Wire (1.5mm K-wire) to the measured depth using the 2.7mm cannulated IJS-E Drill.

Remove the Guide Wire (1.5mm K-wire) after drilling.

Note:

The 2.7mm cannulated IJS-E Drill has etched depth marks.



Cannulated Drill, 2.7mm x 70mm

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BASE PLATE POSITIONING

Position the Base Plate on the proximal aspect of the ulna.

Note:

The use of fluoroscopy will help to position the base plate.



12

BASE PLATE DRILLING

Drill for bicortical fixation through the sliding slot on the Base Plate using the 2.5mm drill bit, aiming towards the coronoid process and away from the radial notch.

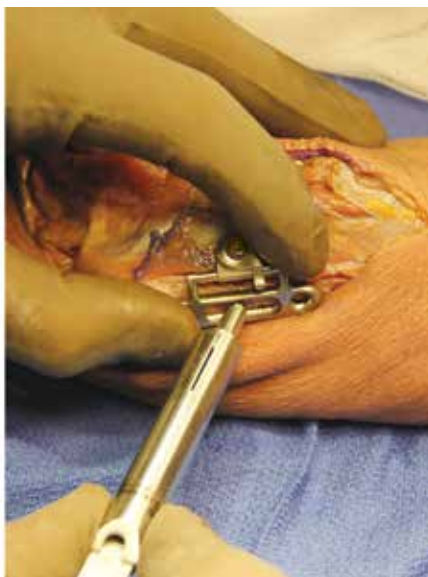
Measure using the Depth Gauge for the appropriate length 3.5mm compression screw (Polyaxial Non Locking).

Caution:

Avoid drilling into the articular surfaces.

Note:

The center-sliding slot of the Base Plate facilitates positioning.



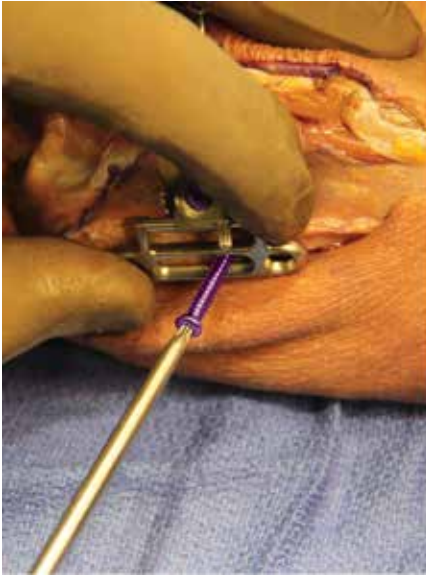
Standard Drill Bit, 2.5mm x 80mm



Depth Gauge, Standard, 50mm

BASE PLATE FIXATION

13



Insert the corresponding 3.5mm compression screw (Polyaxial Non Locking) using the T-10 Driver.

Repeat step 12 and 13 for the remaining two compression screw holes of the Base Plate.

Caution:

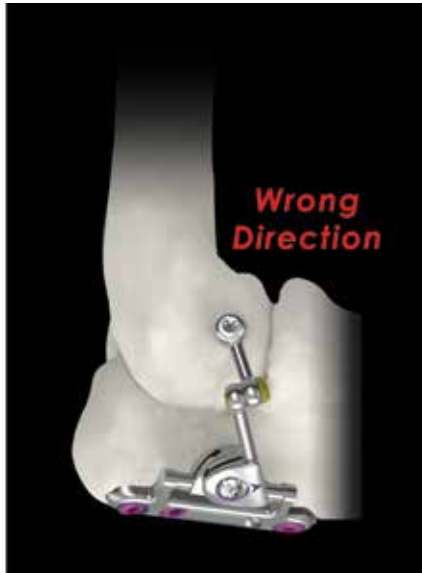
Avoid drilling into the articular surfaces.



T-10 Driver

CONSTRUCT ALIGNMENT

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If the head of the Proximal Locking Screw or the arrow of the Distal Locking Joint are NOT pointing proximally:

- Loosen the Distal Locking Screw and remove the Distal Connecting Rod to flip the Distal Locking Joint 180° so that its arrow is pointing proximal.
- Then reinsert the Distal Connecting Rod back into the Distal Locking Joint with the Proximal Locking Screw also pointing proximal.

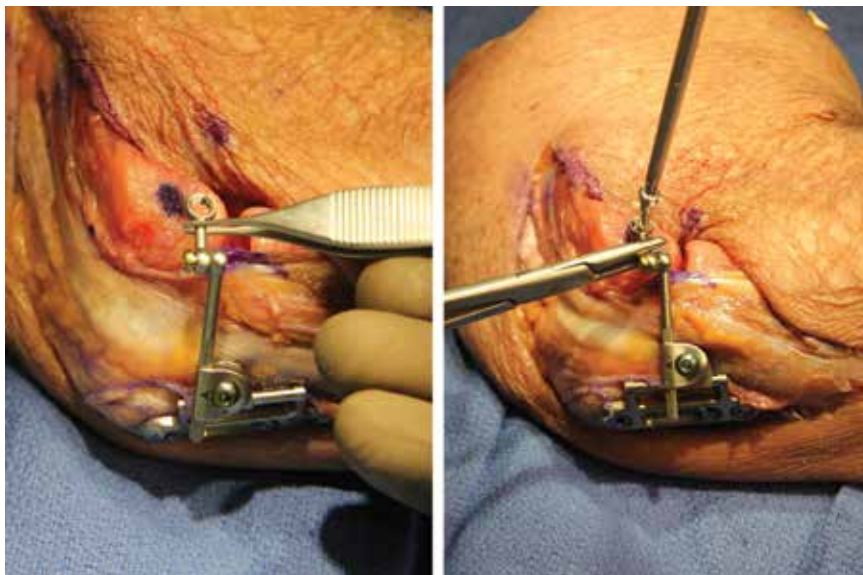
15

INSERTING THE AXIS PIN

Adjust the Distal Connecting Rod to allow the selected Axis Pin to be inserted through the eyelet of the Proximal Connecting Rod and into the humerus.

Note:

A needle holder or the PROTEAN Pliers can be used to hold the Proximal Connecting Rod while inserting the Axis Pin.



Axis Pin

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LOCKING THE AXIS PIN

Use the PROTEAN Pliers to stabilize the Proximal Connecting Rod while fully tightening the Axis Pin using the T-10 Driver.



PROTEAN Pliers

ELBOW REDUCTION

17



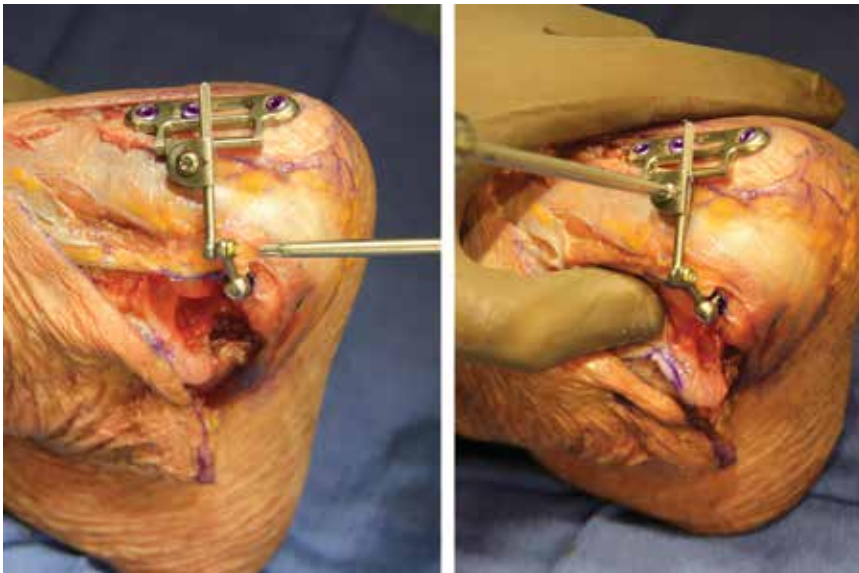
Anatomically reduce the elbow joint.

Note:

Shoulder rotational torque is minimized by placing the patient's hand over their face which also greatly aids in the reduction.

LOCKING THE CONSTRUCT

18



Using the T-10 Driver and the Counter Torque Tool, lock the reduction by first tightening the Proximal Locking Screw and then the Distal Locking Screw.

Warning:

Both the Proximal and Distal Locking Screws must be fully tightened to maintain the reduction.

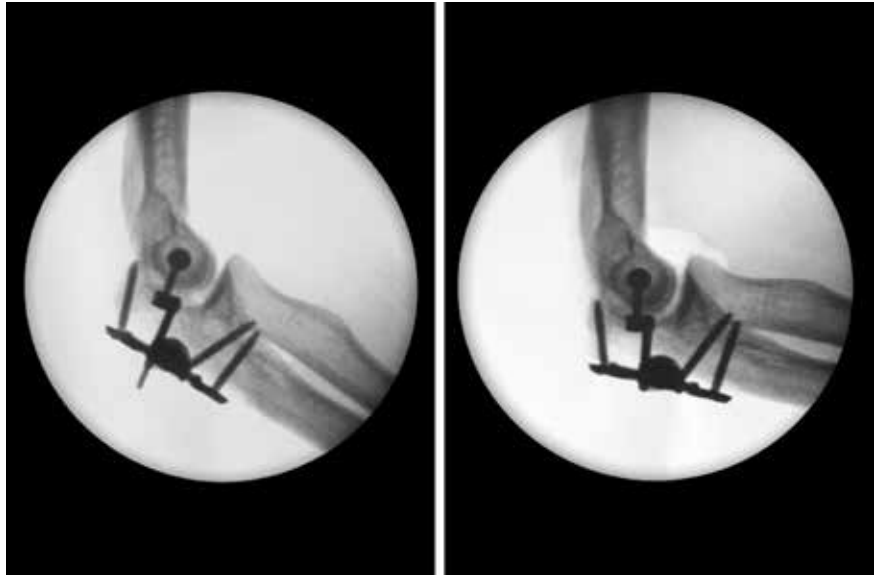


T-10 Driver

19

FINAL FLUOROSCOPIC CONFIRMATION

Confirm that the reduction is maintained through the full ROM using fluoroscopic imaging.



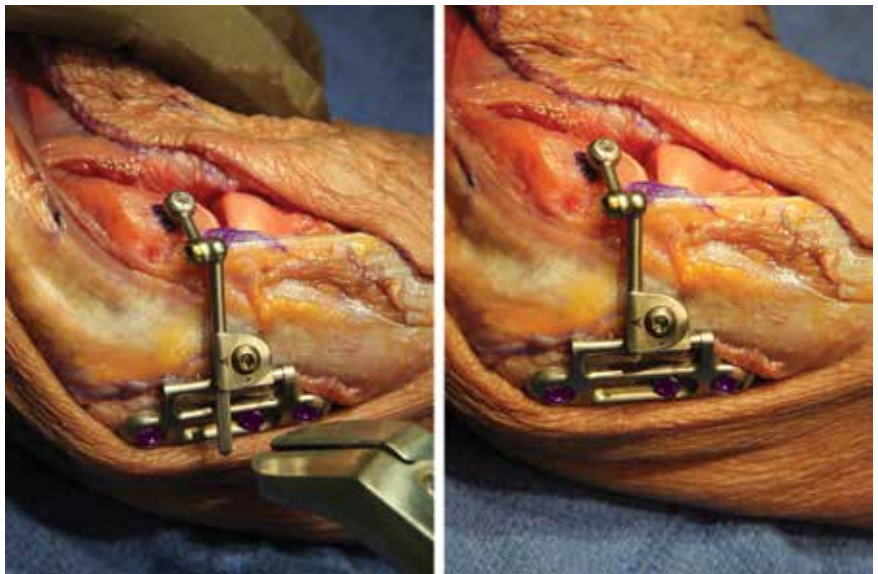
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TRIMMING THE CONNECTING ROD

Using a pin cutter, remove any excess length from the Distal Connecting Rod that exits the Distal Locking Joint.

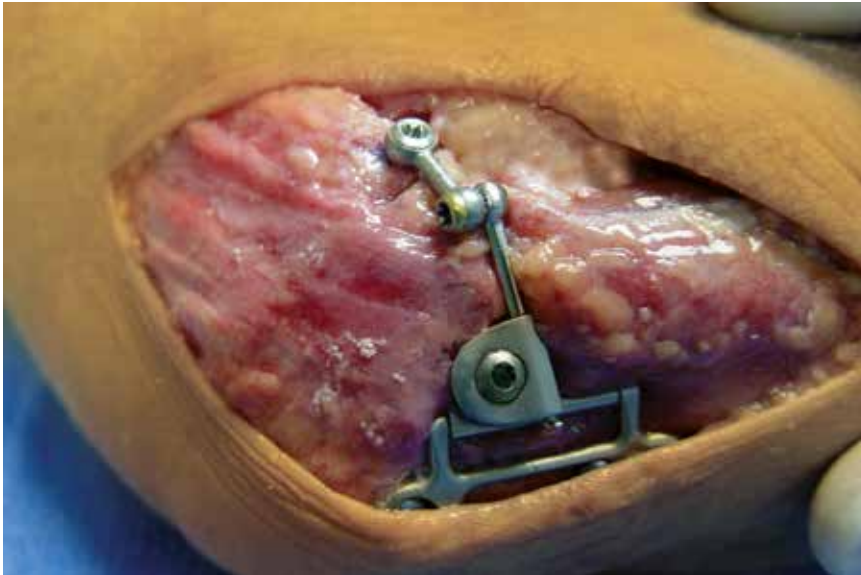
Warning:

The Distal Connecting Rod must be trimmed as short as possible where it exits the Distal Locking Joint to minimize the potential for soft tissue irritation.



DEEP CLOSURE

21



Reattach the origin of the lateral collateral ligament and the origin of the extensor muscle just proximal to the Axis Pin.

WOUND CLOSURE

22



Close the incision in your normal fashion.

IJS-E System Explanting Procedure

1

LOCATING THE AXIS PIN

Palpate the lateral epicondyle to locate and mark the head of the Axis Pin.

Note:

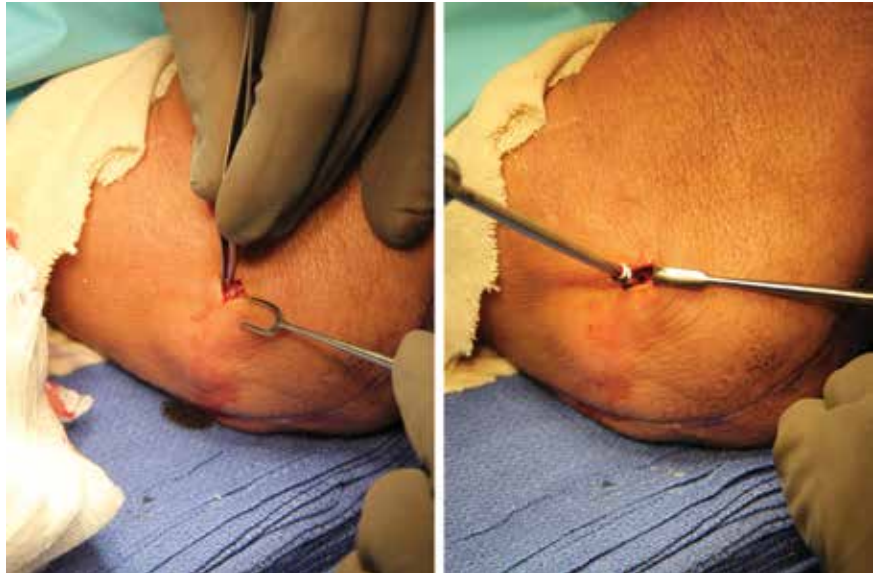
Use of fluoroscopic imaging will aid in locating the position for each of the construct screws.



2

AXIS PIN REMOVAL

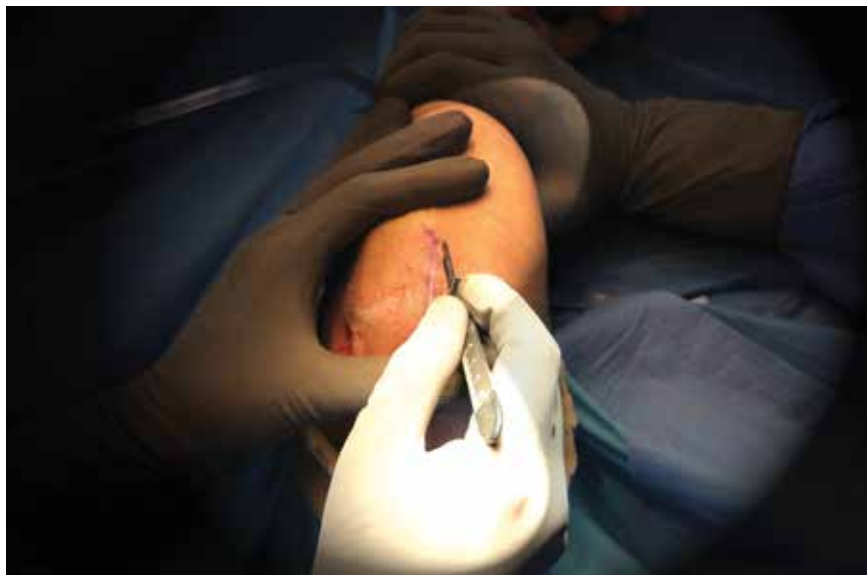
Make a stab incision over the marked area and remove the Axis Pin using the T-10 Driver.



T-10 Driver

LOCATING THE BASE PLATE

3



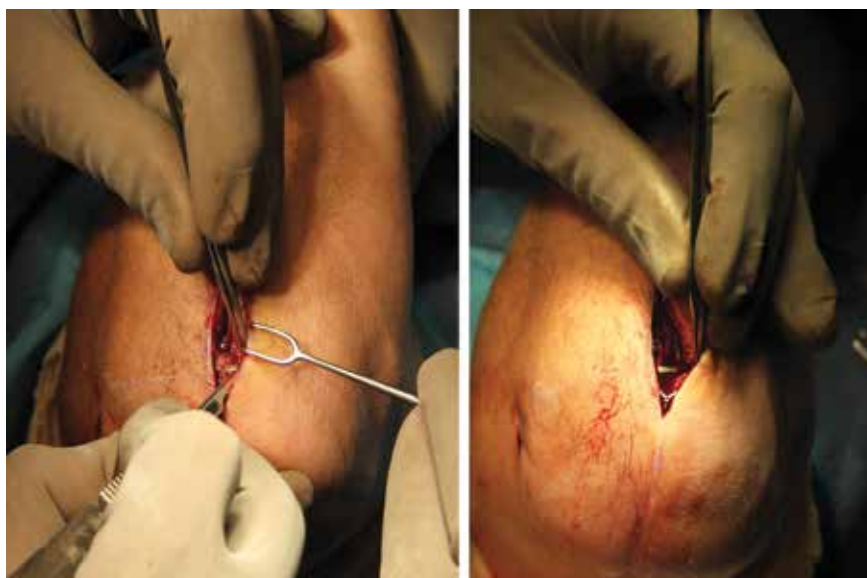
Palpate the posterior surface of the ulna to locate and mark the position of the Base Plate.

Note:

Access can be gained through the previous exposure

EXPOSING THE BASE PLATE

4



Make an incision to expose the Base Plate.

5

COMPRESSION SCREW REMOVAL

Using the T-10 Driver, remove the three 3.5mm compression screws (Polyaxial Non Locking).



6

CONSTRUCT REMOVAL

Remove the Base Plate construct.

Close both incisions and dress the wound in your normal fashion.



IJS-ELBOW System (Instrumentation)



Loc #	Catalog #	Description
1	HNDL-UQC-FXD	Handle, Quick Connect, Fixed
2	DRVR-UQC-T10	Driver, Universal QC, T-10
3	DPGA-MDS-050	Depth Gauge, Med. Standard, 50mm
4	IJS-EDG-OKW	IJS-E Depth Gauge, Over K-wire
5	IJS-CDC-2770	IJS-E Drill, Cannulated Distal Cutting, 2.7mm x 70mm
6	DRLL-SSC-25080	Drill, Solid Side Cutting, 2.5mm x 80mm
7	IJS-EAG-KWG	IJS-E K-wire Guide, 1.5mm
8	IJS-EAG-LAL	IJS-E Axis Guide, Lateral Approach, LG
9	IJS-EAG-LAM	IJS-E Axis Guide, Lateral Approach MD
10	IJS-EAG-LAS	IJS-E Axis Guide, Lateral Approach SM
11	IJS-ELB-ACG	IJS-E Axis Centering Guide

Bottom Tray

PRT-BND-PLR

PROTEAN Bending Pliers

IJS-ELBOW System (Caddy)



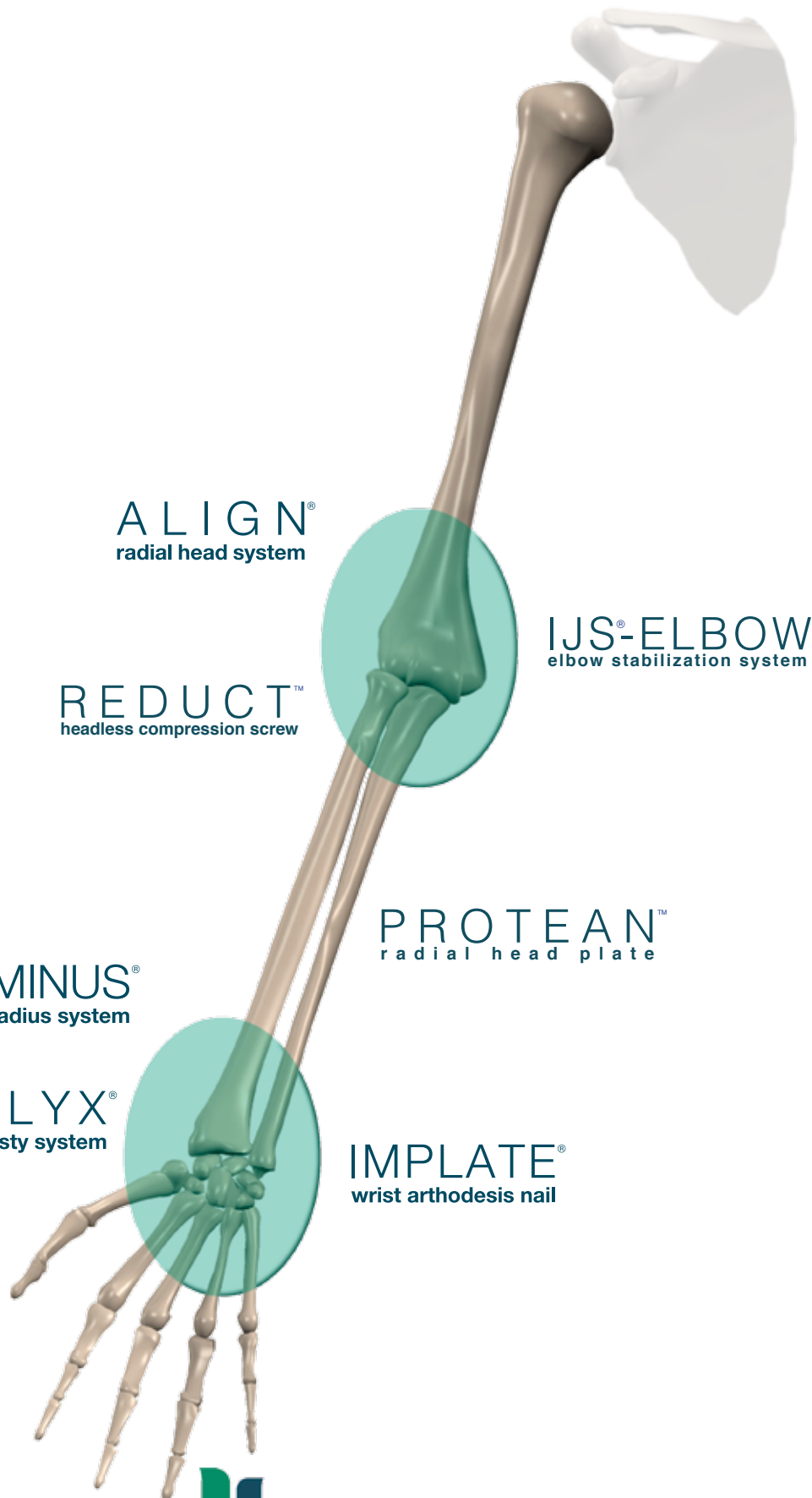
Loc #	Catalog #	Description
12	IJS-ELB-BPA	IJS-E Base Plate Assembly
13	PANL-35160-IJS	Screw, Polyaxial Non Locking, 3.5mm x 16mm, Ti
	PANL-35180-IJS	Screw, Polyaxial Non Locking, 3.5mm x 18mm, Ti
	PANL-35200-IJS	Screw, Polyaxial Non Locking, 3.5mm x 20mm, Ti
	PANL-35220-IJS	Screw, Polyaxial Non Locking, 3.5mm x 22mm, Ti
	PANL-35240-IJS	Screw, Polyaxial Non Locking, 3.5mm x 24mm, Ti
	PANL-35260-IJS	Screw, Polyaxial Non Locking, 3.5mm x 26mm, Ti
	PANL-35280-IJS	Screw, Polyaxial Non Locking, 3.5mm x 28mm, Ti
	PANL-35300-IJS	Screw, Polyaxial Non Locking, 3.5mm x 30mm, Ti
	PANL-35320-IJS	Screw, Polyaxial Non Locking, 3.5mm x 32mm, Ti
	PANL-35340-IJS	Screw, Polyaxial Non Locking, 3.5mm x 34mm, Ti
	PANL-35360-IJS	Screw, Polyaxial Non Locking, 3.5mm x 36mm, Ti
	PANL-35380-IJS	Screw, Polyaxial Non Locking, 3.5mm x 38mm, Ti
	PANL-35400-IJS	Screw, Polyaxial Non Locking, 3.5mm x 40mm, Ti
	PANL-35420-IJS	Screw, Polyaxial Non Locking, 3.5mm x 42mm, Ti
	PANL-35440-IJS	Screw, Polyaxial Non Locking, 3.5mm x 44mm, Ti
14	IJS-EAP-25300	IJS-E Axis Pin, 2.5mm x 30mm
	IJS-EAP-25350	IJS-E Axis Pin, 2.5mm x 35mm
	IJS-EAP-25400	IJS-E Axis Pin, 2.5mm x 40mm
	IJS-EAP-25450	IJS-E Axis Pin, 2.5mm x 45mm
	IJS-EAP-25500	IJS-E Axis Pin, 2.5mm x 50mm
	IJS-EAP-25550	IJS-E Axis Pin, 2.5mm x 55mm
	IJS-EAP-25600	IJS-E Axis Pin, 2.5mm x 60mm
	IJS-EAP-25650	IJS-E Axis Pin, 2.5mm x 65mm
	IJS-EAP-25700	IJS-E Axis Pin, 2.5mm x 70mm
15	KWIR-DES-15127	K-wire, Standard Tip, 1.5mm x 127mm, (Guide Wire)

Directions for Use:

The IJS-E System is designed to address elbow joint instability procedures through a standard open lateral approach and should only be used by surgeons who have experience with the IJS-E System.

Each surgeon must evaluate the appropriateness for the use of the IJS-E System prior to and during these procedures. These guidelines are furnished for information purposes only and are not intended to replace comprehensive training. Prior to use of the IJS-E System, the surgeon should become familiar with all information contained in this technique guide.

NOTES



ALIGN[®]
radial head system

REDUCT[™]
headless compression screw

IJS-ELBOW[®]
elbow stabilization system

GEMINUS[®]
distal radius system

STABLYX[®]
cmc arthroplasty system

PROTEAN[™]
radial head plate

IMPLATE[®]
wrist arthodesis nail

