

Pre-Notification Call Check

- Telestroke ASAP tool performed by responding team.
- Cannula status reminder (Mandatory 18g in cubital fossa).
- Ensure RN and medical team prepared to accompany patient.
- ED staff or NSW Ambulance paramedics transfer patient to CT

Clear Room

- Ensure CT table is ready, reschedule other examinations.
- Notify radiologist if required by local policy.

Dual Syringe Loading

- Ensure sufficient volumes of contrast loaded in contrast injector.

CONTRAST:

SALINE:

Imaging Request

- Register patient promptly and launch study on CT scanner
- If time permits check previous imaging, bloods & IV contrast episodes

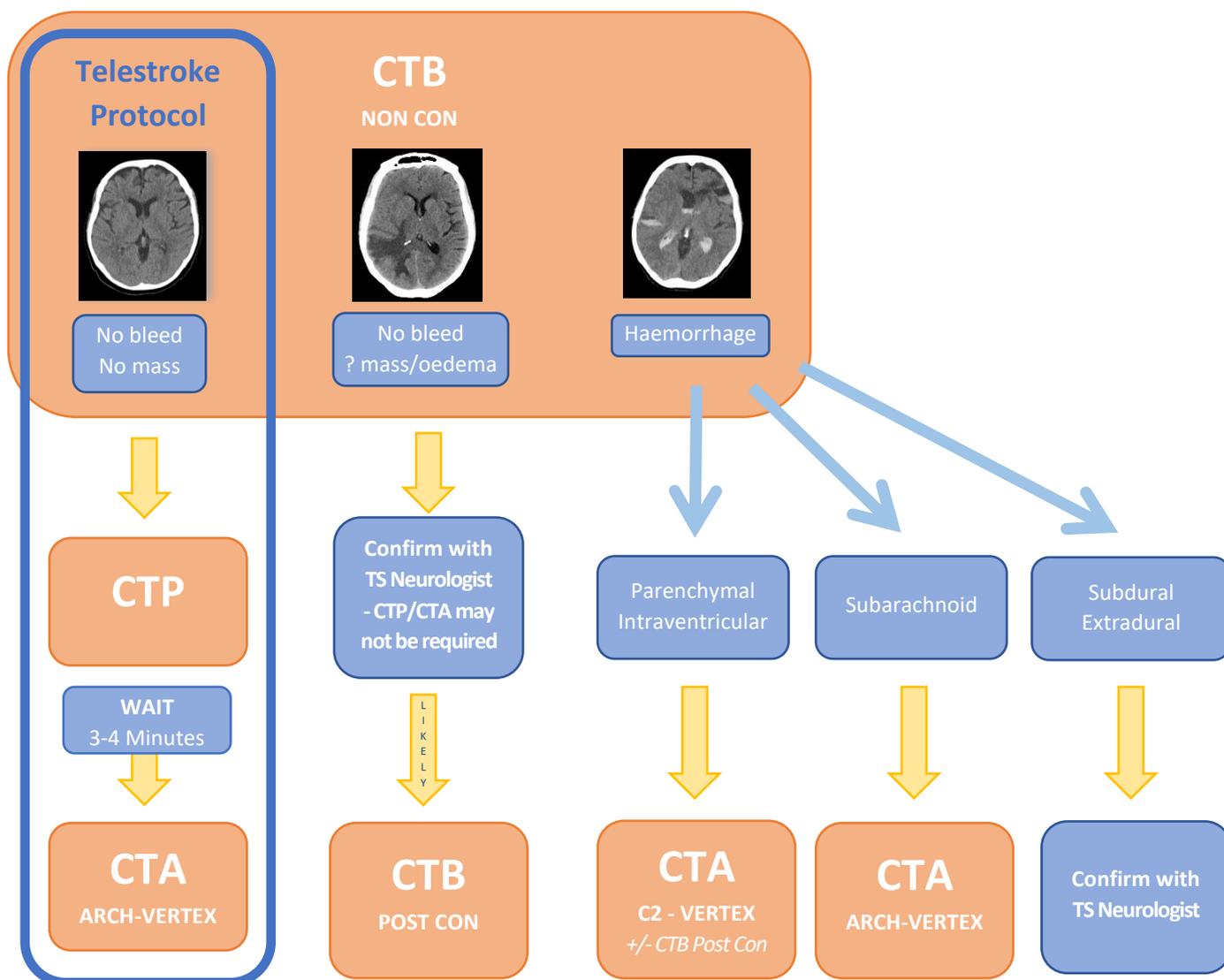
Patient Arrival

- Patient transferred onto table and positioned.
Use head-strap & sponges for head restraint/movement damping during CTP.
- Proceed to scan.

During Scan

- CT Radiographer remains at console and should not to be disrupted from scanning duties.
- Active communication between CT Radiographer and TS Neurologist is encouraged, especially when there are positive findings (i.e. haemorrhage or oedema).

TIME IS BRAIN



NOTES

- o The radiographer performing the study should proceed immediately onto CT Perfusion if they identify no pathology on the non-contrast brain. When findings of unknown significance are identified, the radiographer should discuss with Telestroke neurologist for advice as on some occasions CT perfusion may not be required.
- o Please always use Telestroke protocols which auto-send to Telestroke EIR for neurologist review. There is no issue if images are accidentally sent to TS EIR for patients who are not for NSW TSS.
- o Please include the entire brain on all CTAs. Arch to Vertex coverage is often useful when subarachnoid blood is identified as the patient may be considered for endovascular intervention at a tertiary centre.
- o Please prioritise recons for Telestroke datasets. Allow thin recons to process for the current acquisition before moving onto the next acquisition. This allows network transfers to occur in the background and should reduce congestion of both the recon and transfer queues. Process MPRs for local PACS once entire study is complete.

| Telestroke EIR | NSW RAPID | Local PACS |
|---|----------------|----------------------|
| 5mm Ax NC CTB (Brain 100/40) | Perfusion data | Routine MPRs NC CTB |
| 5mm Ax NC CTB (Stroke 40/40) | | Routine MPRs CTA |
| 1mm Ax NC CTB (Brain 100/40) | | Perfusion data |
| 1mm Ax CTA Arch-Vertex (Vascular 700/250) | | RAPID Perfusion Maps |
| RAPID Perfusion Maps | | |

CT Perfusion

Patient Position

- Head as straight as possible (symmetry is important)
- Ensure head is aligned to isocentre
- Supraorbitomeatal line perpendicular to table 
- Chin tilted slightly down will reduce dose to orbits
- Use immobilisation straps and support sponges to support head
- Coach patient to remain still for entire CTP acquisition

Perfusion Slab Position

Where using a limited brain perfusion protocol, place inferior edge of the acquisition slab across the roof of the orbits or at the level of the pit fossa. This ensures adequate coverage of proximal ACA, MCA & PCA territories. With 8cm of CTP acquisition, incomplete coverage of the posterior fossa is acceptable in favour of superior cerebral tissue inclusion (eloquent cortex – precentral/postcentral gyrus).

IV Cannula + Contrast Administration

- Minimum **18-gauge IVC** placed in the cubital fossa
- Minimum contrast flow-rate **5ml/s** (for larger patients 6ml/s recommended)
- 7-10s contrast bolus with equivalent saline chaser

SAMPLE : 50ml contrast @ 5ml/s (10s) followed by 50ml saline @ 5ml/s (10s)
50ml contrast @ 6ml/s (8.3s) followed by 50ml saline @ 6ml/s (8.3s)

Acquisition Duration & Coverage

- 60 - 70s acquisition duration, ~5s post-injection delay before acquisition
- Interscan delay or cycle time as per scanner protocol (usually 1.5 – 4s)
- 80 - 120mm coverage preferred (dependent on scanner capability)

Telestroke (Rapid) CTP Results

CT Perfusion data will auto-send to NSW Telestroke RAPID server. It is important that the perfusion data be allowed to fully reconstruct and begin sending to Rapid before moving onto CTA Arch-to-Vertex so that the Rapid processing can occur while the CTA is being acquired. This 3-4 minute delay also allows the intracranial vessels to washout the previous contrast injection, reducing venous contamination on the CTA acquisition.

CTP Maps will return (usually 2-3 minutes once received) to Telestroke EIR and copies will be transferred to the local PACS for your site.

