Pre-Notification Call Check

- TELESTROKE ASAP tool performed by Stroke team.
- Cannula status reminder (Mandatory 18g in cubital fossa).
- Ensure RN and medical team prepped to accompany patient.
- ED or NSW Ambulance paramedics transfer to CT on NSWAS stretcher (preferable).

Clear Room

- Ensure CT table is ready, reschedule other examinations.
- Ensure second radiographer is notified for assistance if available.
- Notify radiologist (if in-house).

Dual Syringe Loading

CONTRAST:
SALINE:

- Ensure sufficient volumes of contrast loaded in contrast injector.

Imaging Request

- Register patient ASAP and load patient on CT scanner
- If time permits check previous imaging, bloods & IV contrast episodes

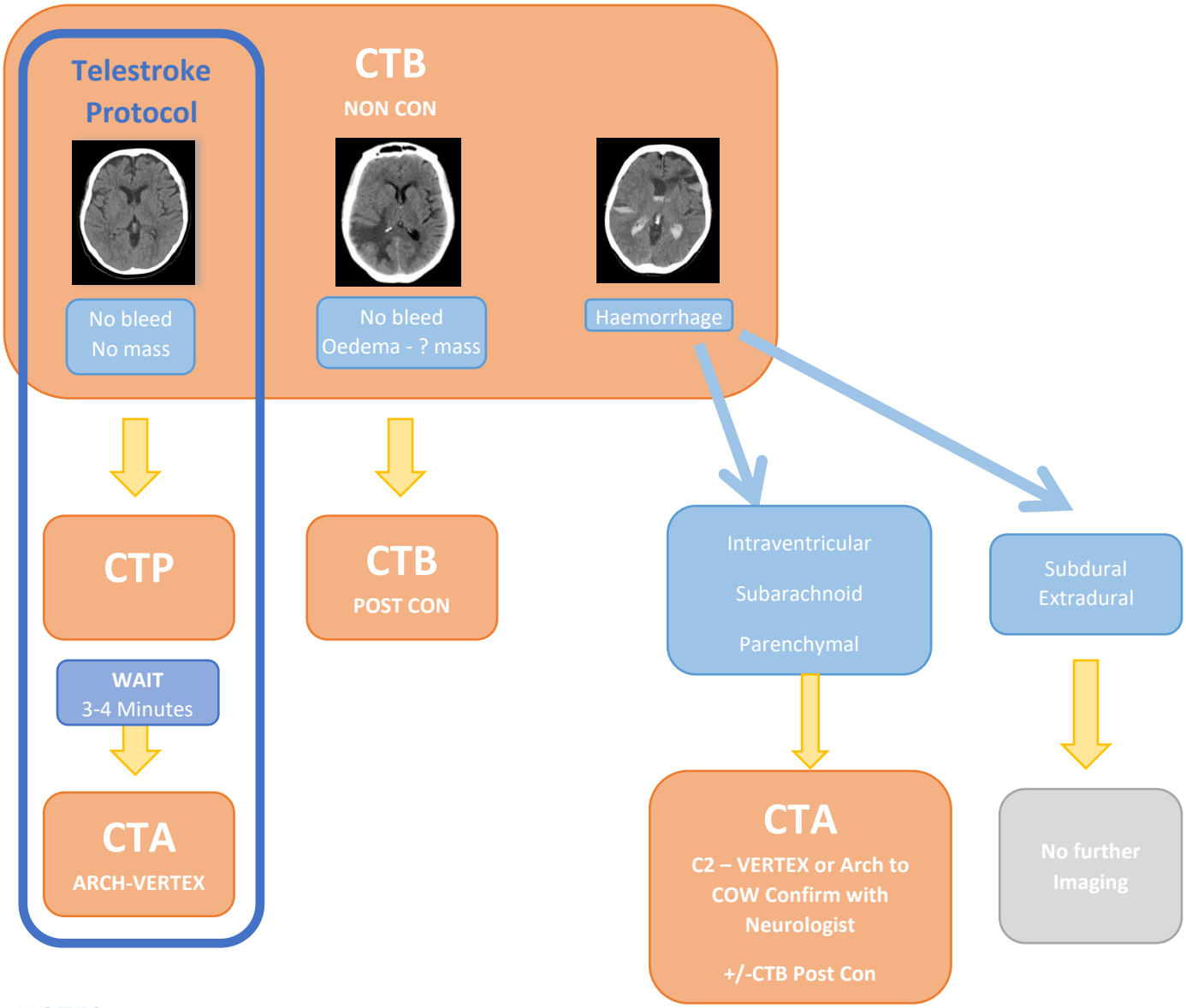
Patient Arrival

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

During Scan

- CT Radiographer remains at console and not to be disrupted from scanning duties.
- Active communication between CT Radiographer and TS Neurologist is encouraged. Please ask if you need advice on how to proceed.
- Whilst in the imaging suite, clinicians and accompanying staff should respect the workspace and understand that clinically focussed imaging discussions are a priority at that time.

TIME IS BRAIN

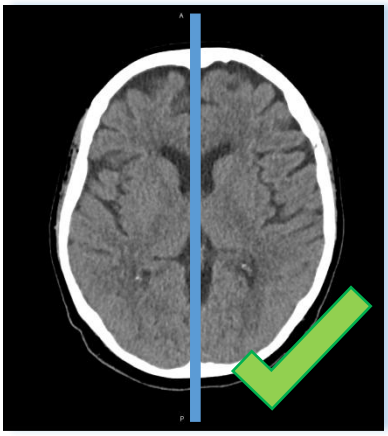


NOTES

- Radiographer can proceed immediately onto the CTP if confident there is no bleed or mass.
  Findings of unknown significance should be discussed with Telestroke neurologist before proceeding.
- Please always use Telestroke protocols which auto-send to Telestroke EIR for neurologist review.
- Please include the whole brain on all CTAs.
- Please prioritise recons for Telestroke datasets. Process MPRs for local PACS once entire study is complete.

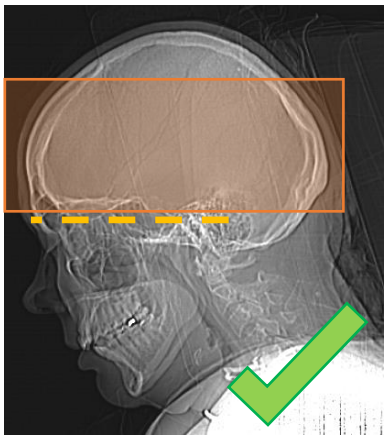
Telestroke EIR	NSW RAPID	Local PACS
5mm Ax NC CTB (Brain 100/40)	Perfusion data	Routine MPRs NC CTB
5mm Ax NC CTB (Stroke 40/40)		Routine MPRs CTA
1mm Ax NC CTB (Brain 100/40)		Perfusion data
1mm Ax CTA Arch-Vertex (Vascular 700/250)		RAPID Perfusion Maps
RAPID Perfusion Maps		

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



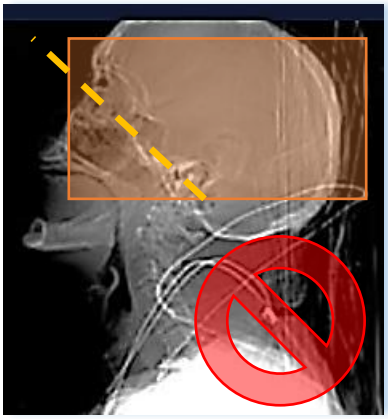
Perfusion Slab Position

Place volume entirely within the cranial vault.
Vertex and base of occipital bone do not need to be included.

IV Cannula + Contrast Administration

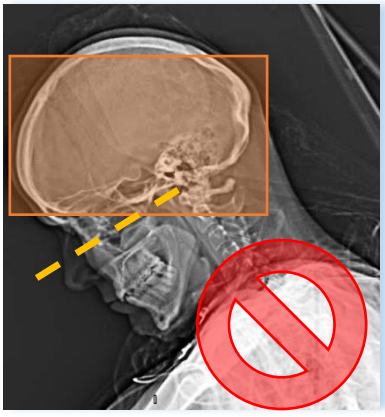
Minimum **18-gauge IVC** placed in the cubital fossa
Minimum contrast flow-rate **5ml/s** (for larger patients 6ml/s recommended)
7-10s contrast bolus with equivalent saline chaser

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 within 2 minutes once RAPID server receives) to the TSS Neurologist on Telestroke EIR and copies will be transferred to the local PACS for your site.


Subarachnoid Haemorrhage

Etiology: aneurysm or AVM rupture


Subdural Haematoma

Etiology: trauma, head strike

Lobar Haemorrhage [Parenchymal (ICH)]

Etiology: hypertension, tumour/mets, CAA, AVM, CVT

Cerebellar Haemorrhage [Parenchymal (ICH)]

Etiology: hypertension, tumour/mets, CAA, AVM, CVT

Cerebral Amyloid Angiopathy [Parenchymal (ICH)]

Etiology: amyloid deposits increase vessel fragility - dementia, Alzheimer's

Thalamic Haemorrhage [Parenchymal (ICH)]

Etiology: hypertension

Extradural (Epidural) Haematoma

Etiology: trauma, head strike

Intraventricular Haemorrhage

Etiology: most often secondary, choroid plexus tumour