Delivering safe stroke care at hospitals without acute stroke units during the COVID-19 pandemic

Appendix 5: Angels Initiative resources

You will need to register with the Angels Initiative to access the following resources:

- Slides and training videos for staff working in the ED and on the wards
  www.angels-initiative.com/angels-academy
- Hyperacute video simulations in a hospital
  www.angelsinitiative.com/academy/hyperacute/workshop-guidance
- Post-acute, Fever, Sugar, Swallow (FeSS) checklists and Acute Screening of Swallow in Stroke/TIA (ASSIST) training for dysphagia screening
  www.angels-initiative.com/academy/post-acute/checklist

Suggested protocol for ED nurse

(Adapted from ANGELS Initiative)

Work in parallel with medical staff to save time.

Objective: Confirm diagnosis of stroke and perform initial physical examination to provide the treating physician with the relevant information in less than 10 minutes.

Stroke screening – FAST

	Normal	Abnormal
Facial droop	Both sides of face move equally	One side of face does not move at all
Arm drift	Both arms move equally or not at all	One-arm drifts compared to the other
Speech	Patient uses correct words with no slurring	Slurred or inappropriate words or mute

If the patient has **any** features in the abnormal column, or if you receive ambulance pre-notification of suspected FAST positive patient, **activate the stroke pathway**.

Stroke pathway

- ED doctor to contact networked stroke physician on-call
- Inform radiology to prepare CT scanner for stroke patient
- Inform laboratory of stroke patient incoming
- Immediate transfer to CT scanner
- Establish IV access (preferably two medium-large bore cannulas with saline lock) and start crystalloid infusion

Collect the following information within 5 minutes

- Blood sugar by finger prick (advise doctor if blood glucose <50 mg/dl or >180 mg/dl)
- Point-of-care INR (advise doctor if patient is taking anticoagulant)
- Determine patient weight (use stroke bed to determine weight, alternatively ask family or estimate)
- Time from symptom onset (advise doctor if >4.5 hours)
- Patient's age (advise doctors if patient is <18 or >80 years of age)

Monitor the following parameters

- Start on O_2 (2–4 l/min nasal cannula to keep O_2 saturation >94%)
- Connect to continuous cardiac monitoring
- Temperature

- Heart rate
- Respiratory rate

Draw blood for the following
- Complete blood and platelet count
- Partial thrombin time (PTT)
- Serum electrolytes
- Blood glucose
- CRP or sedimentation rate
- Hepatic and renal chemical analysis

Keep the following points in mind
- Incline head of bed at 30°
- If indicated, insert urinary catheter before starting alteplase (do not delay the initiation of alteplase for this)
- Apply pressure dressing on any failed vein puncture sites
- Avoid NG tubes, if possible, for 24 hours
- Keep nil by mouth until swallow screen has been done; if dysphagia is present, keep nil by mouth

Suggested protocol for ED physician (prior to thrombolysis decision being made)

(Adapted from ANGELS Initiative)

Objective: Confirm diagnosis of stroke and perform initial physical evaluation in less than 10 minutes

- Ascertain time of symptom onset (when was the patient last seen well?)
  - <4 hours ago
  - >4 hours ago
  - Unknown
- Take history
- Assess NIHSS score
- Assess modified Rankin score
- Assess for absolute contraindications for alteplase
- Review laboratory results
- Contact stroke consultant

Modified Rankin score

0 = No symptoms

1 = Able to carry out all usual duties and activities

2 = Unable to carry out all previous activities but able to look after own affairs without assistance

3 = Requires some help but able to walk without assistance

4 = Unable to walk without assistance and unable to attend to own bodily need without assistance

5 = Bedridden, incontinent and requiring constant nursing care and attention

(6 = Dead)