EMERGENCY DEPARTMENT
Acute Stroke Protocol
UHS/UTHSCSA

Inclusion criteria < 3 hrs from symptom onset
- Diagnosis of ischemic stroke causing measurable neurological deficit
- Onset of symptoms <3 hours before beginning treatment
  * Aged ≥ 18 years

Exclusion criteria < 3 hrs from symptom onset
- Significant head trauma or prior stroke in previous 3 months
- Symptoms suggest subarachnoid hemorrhage
  * Intracranial hemorrhage
  * Intracranial neoplasm, arteriovenous malformation, or aneurysm
  * Recent intracranial or intra-spinal surgery
  * Elevated blood pressure (systolic > 185 mm Hg or diastolic > 110 mm Hg)
- Active internal bleeding
- Acute bleeding diathesis, including but not limited to
  * Platelet count < 100 000/mm³
  * Heparin within 48 hours, resulting in abnormally elevated aPTT greater than the upper limit of normal
- Current use of anticoagulant with INR > 1.7 or PT > 15 seconds
- Current use of direct thrombin inhibitors or direct factor Xa inhibitors with elevated sensitive laboratory tests (such as aPTT, INR, platelet count, and ECT; TT; or appropriate factor Xa activity assays)
- Blood glucose concentration < 50 mg/dL (2.7 mmol/L)
- CT demonstrates multi-lobar infarction (hypodensity >1/3 cerebral hemisphere)

Relative exclusion criteria < 3 hours symptom onset
- Recent experience suggests that under some circumstances—with careful consideration and weighing of risk to benefit—patients may receive fibrinolytic therapy despite 1 or more relative contraindications. Consider risk to benefit of IV tPA administration carefully if any of these relative contraindications are present:
  * Only minor or rapidly improving stroke symptoms (clearing spontaneously)
  * Pregnancy
  * Seizure at onset with postictal residual neurological impairments
  * Major surgery or serious trauma within previous 14 days
  * Recent gastrointestinal or urinary tract hemorrhage (within previous 21 days)
  * Recent acute myocardial infarction (within previous 3 months)

Inclusion criteria 3 - 4.5 hrs symptoms onset
- Diagnosis of ischemic stroke causing measurable neurological deficit
- Onset of symptoms within 3 to 4.5 hours before beginning treatment

Relative exclusion criteria 3 - 4.5 hours symptom onset
- All relative exclusion criteria < 3 hours symptom onset
- Age > 80 years
- Severe stroke (NIHSS > 25)
- Taking an oral anticoagulant regardless of INR

ED Staff identifies a STROKE ALERT
1. One or more finding on the Cincinnati stroke scale:
   a. Facial Droop – abnormal
   b. Arm Drift – abnormal
   c. Speech – abnormal
   AND
2. < 6 hrs. from onset of symptoms
   AND
3. Blood sugar between 60 and 600 mg/dl

ED staff calls 8-2222 for STROKE ALERT and provides the call back number which is sent to the Stroke Team pagers, Neuro Resident and Stroke Service. Faculty will respond.

Goal: 15 minutes from Stroke Alert to Stroke Team arrival at bedside

ED obtains a STAT non-contrast CT head, CXR, EKG, CRITICAL stroke labs, finger stick glucose, start 2 IV’s, obtains vital signs (treat if necessary), oxygen saturation, neuro checks, place in monitored bed, monitor airway, NIHSS, (performed by Stroke Team) keep NPO, obtain history, last known well time and weight.

If ED CT scanners are unavailable, go to 2nd floor scanner in Rio Tower. If two stroke alerts occur simultaneously, cases will be managed with additional staff as needed for support.

Goal: 45 minutes arrival to result for CT, CXR, EKG and lab

Physician reviews patient condition with patient and/or family and discusses risks and benefits of IV tPA. Discussion and criteria used to determine administration of IV tPA are documented by the provider. Neurology places order for IV tPA in Sunrise. IV tPA is weight-based and may be given by the Physician, PA or RN. Call Pharmacy at 358-2888 for IV tPA support if needed.

Goal: ≤ 60 minutes from arrival to tPA initiation

Consider insertion of NGT, Foley, central line or PICC prior to IV tPA or hold 24 hours post IV tPA infusion. May place ≤ 24 hours if benefits > risks.

Document VS and neuro checks q 15 min for the first 2 hours after tPA initiation, then every 30 minutes x 6 hours then hourly x 16 hours (until 24 hours post IV tPA initiation).

Patient is admitted to monitored Stroke Unit bed with a 1:2 RN/Patient ratio. EKG monitoring
- Maintain SBP < 180 and DBP < 105 mmHg
- No heparin, warfarin, or antiplatelet medication for 24 hours post tPA initiation.
- Monitor for bleeding. Initiate anti-thrombotic therapy 24 hours after tPA if appropriate.
- Patient is to remain NPO until after passes dysphagia screen.


Approved by Stroke Committee: 5/2015; Approved by P&T Committee: 5/2015