



NE Acute Stroke Treatment Guideline

0-15 minutes	<p>Patient Name: _____</p> <p>Date of Birth: _____</p> <p>ED Arrival: Date _____ Time _____</p> <p>Last Known Well: Date _____ Time _____</p> <p><input type="checkbox"/> Activate Stroke Response Team</p> <p><input type="checkbox"/> Prepare for Stat CT</p> <p><input type="checkbox"/> Consider activating transport</p>	<p>Assess the following:</p> <p><input type="checkbox"/> BP _____ mm/hg</p> <p><input type="checkbox"/> Pulse _____ bpm</p> <p><input type="checkbox"/> O2 Saturation _____ %</p> <p><input type="checkbox"/> Bedside Glucose _____ mg/dL (Do not repeat if completed by EMS. Treat if <60)</p> <p><input type="checkbox"/> VS q 15 min with neuro checks</p> <p><input type="checkbox"/> Continuous cardiac monitoring</p> <p><input type="checkbox"/> NIHSS on arrival _____</p>	<p><input type="checkbox"/> O2 to keep SATS >94% (do not administer O2 if patient non-hypoxic)</p> <p><input type="checkbox"/> Keep NPO (including meds and ice chips)</p> <p><input type="checkbox"/> Establish 1-2 large bore IVs</p> <p><input type="checkbox"/> Normal Saline 0.9% TKO</p> <p>*Do not delay CT scan for any of the preceding</p>
15-45 minutes	<p><input type="checkbox"/> CT Scan head w/o contrast (Door to CT scan goal <25 minutes)</p> <p><input type="checkbox"/> Request stat read of CT scan</p> <p><input type="checkbox"/> Stroke Panel: CBC, Platelets, PT-INR, PTT, BMP, Troponin (results not needed prior to administration of thrombolytic therapy)</p> <p><input type="checkbox"/> Serum pregnancy test for females of childbearing age</p> <p><input type="checkbox"/> 12L ECG if time allows (not needed prior to administration of thrombolytic therapy)</p> <p><input type="checkbox"/> Weight _____ kg</p>	<p>CT Scan Results: (Door to CT scan results goal <45 minutes)</p> <p><input type="checkbox"/> No acute findings</p> <p><input type="checkbox"/> New Ischemic Stroke</p> <p><input type="checkbox"/> Hemorrhage</p> <p><input type="checkbox"/> Other _____</p> <p><input type="checkbox"/> Consult with accepting neurologist once CT scan results obtained. Send images if able.</p> <p><input type="checkbox"/> Arrange transport plans if not already done</p>	<p><input type="checkbox"/> If CT is negative for hemorrhage or other acute findings, complete Thrombolytic Alteplase (tPA) Therapy Guidelines checklist to determine IV Alteplase eligibility</p> <p><input type="checkbox"/> If Blood Pressure is >185/110, refer to BP Management section below.</p>
45-60 minutes	<p>IV Alteplase Eligible Ischemic Stroke Patient</p> <p><input type="checkbox"/> IV Alteplase 0.9 mg/kg (max dose 90 mg) Total IV Alteplase. Total Dose _____ mg</p> <p><input type="checkbox"/> 10% total IV Alteplase dose as bolus over one minute. Bolus Dose _____ mg Time of bolus _____</p> <p><input type="checkbox"/> Remainder of IV Alteplase over 60 minutes Rate of infusion _____ ml/hr</p> <p><input type="checkbox"/> Follow IV Alteplase with 50 ml Normal Saline 0.9% at same rate as IV Alteplase infusion</p> <p><input type="checkbox"/> VS and neuro checks q 15 min during infusion, then q 15 min x 2 hr, q 30 min x 6 hr, then hourly until 24 hours after treatment</p> <p><input type="checkbox"/> If BP > 180/105, refer to BP Management section below</p> <p><input type="checkbox"/> Repeat head CT if neuro status declines</p> <p><input type="checkbox"/> If symptom onset <24 hours, screen for large vessel occlusion (see right)</p> <p><input type="checkbox"/> No anticoagulant/antiplatelet for 24 hours</p> <p><input type="checkbox"/> NIHSS post infusion _____</p>	<p>Tenecteplase Eligible Ischemic Stroke Patient</p> <p><input type="checkbox"/> IV Tenecteplase 0.25mg/kg (max dose 25 mg)</p> <p><input type="checkbox"/> IV Push over 5 seconds</p> <p><i>Not compatible with dextrose containing solutions. If dextrose containing infusion, flush the line with normal saline before and after the injection to ensure the tenecteplase is fully administered</i></p> <p><input type="checkbox"/> VS and neuro checks q 15 min during infusion, then q 15 min x 2 hr, q 30 min x 6 hr, then hourly until 24 hours after treatment</p> <p><input type="checkbox"/> If BP > 180/105, refer to BP Management section below</p> <p><input type="checkbox"/> Repeat head CT if neuro status declines</p> <p><input type="checkbox"/> If symptom onset <24 hours, screen for large vessel occlusion (see right)</p> <p><input type="checkbox"/> No anticoagulant/antiplatelet for 24 hours NIHSS post infusion _____</p>	<p>Non-Thrombolysis Eligible Ischemic Stroke Patient</p> <p><input type="checkbox"/> ASA 300 mg PR</p> <p><input type="checkbox"/> If BP >220/120, consult with accepting neurologist regarding possible BP management</p> <p><input type="checkbox"/> If symptom onset <24 hours, screen for one or more of the following criteria indicating a possible large vessel occlusion (LVO):</p> <p><input type="checkbox"/> NIHSS >6 Score _____</p> <p><input type="checkbox"/> RACE ≥5 Score _____</p> <p><input type="checkbox"/> Signs of cortical stroke: confusion, aphasia, neglect, visual field changes, head or gaze deviation</p> <p><input type="checkbox"/> If symptom onset is >24 hours consult neurologist regarding possible treatment options</p>
BP Management	<p>If ischemic stroke patient has a BP >185/110, lower to acceptable range (SBP 140-180) with agents below prior to administration of Alteplase. For hemorrhagic stroke, lower SBP to <140 with agents below.</p> <p><input type="checkbox"/> Labetalol 10-20 mg IV over 1-2 minutes, may repeat x 1 OR</p> <p><input type="checkbox"/> Nicardipine infusion: 5 mg/hr, titrate up by 2.5 mg/hr at 5-15 min intervals, max dose 15 mg/hr OR</p> <p><input type="checkbox"/> Consider other agents (hydralazine, enalapril, clevidipine) when appropriate. AVOID NITRATES.</p> <p>If BP > 180/105 during and within 24 hours after treatment with Alteplase, administer the following:</p> <p><input type="checkbox"/> Labetalol 10 mg IV followed by continuous IV infusion 2-8 mg/min OR</p> <p><input type="checkbox"/> Nicardipine 5 mg/hr IV, titrate up to desired effect by 2.5 mg/hr q 5-15 min, max 15 mg/hr</p>		



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Hemorrhagic Stroke Patient

- ☐ If SBP between 150-220 administer medications as listed in BP management section below to achieve BP <140/90.
- ☐ If SBP >220 mmHg, consult neurologist regarding BP management.
- ☐ If patient is on oral anticoagulant, follow local ED protocol regarding use of reversal agents
- ☐ Elevate HOB 30 degrees

Discuss possible anti-seizure and ICP lowering measures with consulting neurologist

Disposition

- ☐ Transfer patient to Primary Stroke Center or thrombectomy certified center: Primary Stroke Center, Thrombectomy Capable Stroke Center or Comprehensive Stroke Center as soon as EMS team is available
- ☐ If patient meets hemorrhagic or LVO criteria, consult neurologist regarding most appropriate transfer destination.

Report the following to accepting hospital staff:

- ☐ H&P, Last Known Well, Medications, Lab results
- ☐ NIHSS at Discharge _____

Contact name: _____

Cell #: _____



NE Acute Stroke Treatment Guideline

Criteria for IV Alteplase (t-PA) Thrombolytic Treatment

- ☐ Age older than 18 years
- ☐ Clinical presentation and neurological deficit consistent with acute stroke
- ☐ Significant and persistent neurologic deficits
- ☐ Onset of symptoms well established and started less than 4.5 hours prior to Alteplase (t-PA) infusion
- ☐ Head CT shows no hemorrhage, subdural hematoma, or tumor
- ☐ Blood Glucose >50

Alteplase (t-PA) Dosing and Administration

- ☐ Order Drug: Intravenous Alteplase (t-PA) for ischemic stroke
- ☐ Dose: 0.9mg/kg body weight (Maximum 90mg). Dose will be calculated and verified by two providers
 - Drug will arrive in two vials/bags (one bolus, one infusion)
 - 10% of dose given as a bolus over one minute
 - Remainder of dose infused over 60 minutes
 - **After** the Alteplase (t-PA) infusion is complete, **infuse 50ml of 0.9% normal saline** at the same infusion rate as the Alteplase (t-PA) infusion rate in order to infuse the remaining drug in the tubing

IV Alteplase (t-PA) exclusion Criteria for treatment from 0-4.5 hours from symptom onset:

Clinical Presentation Exclusion Criteria

- ☐ Symptoms suggest subarachnoid hemorrhage

Blood Pressure Exclusion Criteria

- ☐ Persistent elevated blood pressure (systolic >185mm Hg or diastolic >110 mm Hg) **despite treatment**

**see treatment options*

History Exclusion Criteria

- ☐ Previous history of intracerebral hemorrhage
- ☐ History of GI hemorrhage in the past 3 weeks
- ☐ Head trauma in preceding 3 months
- ☐ Acute bleeding diathesis (low platelet count <100,000; increased PTT >40 sec; INR >=1.7;
- ☐ Use of Factor Xa inhibitors or Thrombin inhibitors, if a dose has been received within 48 hours.

Head CT (non-contrast) Exclusion Criteria

- ☐ Evidence of non-ischemic intracranial pathology: tumor, abscess or metastases
- ☐ Evidence of intracranial hemorrhage: parenchymal, subarachnoid, subdural, epidural
- ☐ Early signs of large cerebral infarction: edema, hypodensity, mass effect