Stroke Guidelines for Acute Stroke

Clinical Presentation of Stroke

CINCINNATI PREHOSPITAL STROKE SCALE

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

Interpretation: If any 1 of these 3 signs is abnormal, the probability of a stroke is 72%

"Five Sudden, Severe Symptoms" of stroke include:

- **Sudden** numbness or weakness of the face, arm, or leg
- **Sudden** confusion, difficulty talking or understanding
- **Sudden** vision disturbance
- **Sudden,** severe difficulty walking, dizziness, loss of coordination or balance
- **Sudden,** severe headache

Initial Evaluation

□ Last Known Well (the time at which the patient was last known to be without the signs and symptoms of the current stroke or at his or her prior baseline. i.e. if awakened with stroke, last known well is considered the time patient went to sleep the night before, etc.)
□ Non-Contrast CT of Head
□ Vital Signs
□ National Institute of Health Stroke Scale (NIHSS) – see appendix A
□ Patient Weight
□ Finger Stick Glucose
□ Labs: CBC & platelet count, PT, PTT, INR, Serum electrolytes, BUN, Creatinine, Troponin

Next Steps

- Have a transfer plan for higher level of stroke care
- Consider treatment plan for stroke patients arriving with a Last Known Well of ≤ 24 hours
- LKW ≤ 4.5 hour, treat with Alteplase (tPA) if eligible and transfer if appropriate
- In patients, treated or untreated with Alteplase, who have persistent significant neurologic deficits and are less than 24 hours following stroke onset, consider immediate transfer to higher level of stroke care
- Hemorrhagic Strokes, prepare for immediate transfer for Neurosurgery services.

******** ALTEPLASE TREATMENT SEE BACK*****

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) **<u>despite treatment</u>**
**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

***BP treatment (systolic >185mmHg or diastolic >110 mm Hg)**

- Labetalol 10 to 20 mg IV over 1 to 2 minutes; may be followed by continuous IV infusion 2-8, mg/min;
- Nicardipine infusion, 5 mg/hour, titrate up by 2.5 mg/hour at 5 to 15 minute intervals, maximum dose 15mg/hour; when desired blood pressure attained, reduce by 3 mg/hour

NOTE: Once BP under control treat with Alteplase (t-PA) and continue to monitor BP

<u>Citations</u>
-Demaerschalk, B. M., MD, Msc, FRCPC, FHAHA, et al (2016). Scientific Rationale for the Inclusion and Exclusion Criteria for Intravenous Alteplase in Acute Ischemic Stroke. *Stroke*. doi:10.1161/.STR.0000000000000086
-Powers, W.J., Rabinsteinm A.A., Ackerson, T., Jr., Adeoye,O.M, Becker, K., Biller, J.., . . . Tirschwell, D.L. . (2018). 2018 Guidelines for the Early Management of Patients With Acute Ischemic Stroke: A Guideline for Healthcare Professionals From the American Heart Association/American Stroke Association. *Stroke*. doi:10.1161/STR.000000000000158

4.2018