**Alteplase Treatment Guide for Ischemic Stroke**

**Potential Benefits:** Alteplase (tPA) is a medicine that dissolves clots. It has been used for many years in the treatment of acute heart attack and stroke. It is the only medication FDA approved for the treatment of acute stroke, and is utilized for patients with symptom onset within 0-4.5 hours prior to treatment. The use of Alteplase in stroke increases the number of patients who recover with little or no deficit by 30% - 35% when compared to those who do not receive the medication.

**Potential Risks:** There is up to a 6% risk of bleeding in the brain when Alteplase is used, depending on patient characteristics. This bleeding could worsen the stroke symptoms or very rarely cause death.

**Time Window:** The time window from "last known normal" to treatment with Alteplase is 4.5 hours. Any patient fitting the following characteristics would have a 3 hour window from "last known normal" to treatment.

1. NIHSS score greater than 25 (very large stroke)

**Relative Indications for 3 hour window** (considered on case-by-case basis for 4.5 hour window):

1. Age over 80
2. History of previous stroke AND diabetes

**General Guidelines:** (for all Alteplase candidates 0-4.5 hours)

Contraindications:

1. Less than 18 years old (not absolute)
2. Time to last known normal > 4.5 hours
3. CT with evidence of bleeding or frank hypodensity in area corresponding to symptoms
4. Uncontrollable hypertension (SBP>185, DBP>110) despite aggressive treatment
5. Known history of >10 mm brain aneurysm, intra-axial tumor, intracranial hemorrhage
6. INR greater than 1.7 (if on Coumadin & INR <1.7 consider Alteplase)
7. Treatment dose of low molecular weight heparin within 24 hours (prophylactic dose okay)
8. Direct thrombin inhibitor or direct factor Xa inhibitor within 48 hours or unknown last dose.
9. Major head trauma or intracranial/intra-spinal surgery within 3 months (not absolute)
10. Hx strongly suggestive of SAH (not absolute depending on work-up)

Relative Contraindications (treatment should be considered on a case-by-case basis):

1. History of bleeding diathesis or coagulopathy
2. Pregnancy

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1. Seizure at onset of stroke symptoms (consider CTA)
2. Major surgery or trauma within 14 days
3. Previous stroke within 3 months
4. Mild symptoms or rapidly improving (Alteplase should be considered if symptoms are disabling to the patient at time of treatment decision, regardless of NIHSS score.)\*
5. Concurrent MI
6. Intracranial, extra-axial tumor , AVM
7. Glucose less than 50 or greater than 400mg/dl after correction and continued neurologic deficit consistent with acute ischemic stroke
8. Dural puncture or cardiac catheterization within last 7 days