Tissue Plasminogen Activator (tPA) Treatment Protocol

**tPA Contraindications:**
- > 4.5 hrs from onset
- Age ≥ 2 years
- Persistent focal deficit
- No contraindications
- Proven infarct

**tPA Candidate:**
- < 4.5 hrs from onset,
- Age ≥ 2 years
- Persistent focal deficit
- No contraindications
- Proven infarct

**Pharmacy prepares tPA infusion with stat release to ED or PICU.**
- **Bolus dose:** 0.09 mg/kg IV over 5 min
- **Infusion dose:** 0.81 mg/kg IV over 1 hour
- **Total dose:** 0.9 mg/kg IV
- Nurse/MD double checks dose with pharmacy
- Max tPA dose is 90 mg

**Keep blood pressure (BP) within normal limits for age Blood Pressure (mm Hg)**

<table>
<thead>
<tr>
<th>Age</th>
<th>Blood Pressure (mm Hg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-3 mo</td>
<td>65-85/45-55</td>
</tr>
<tr>
<td>3-6 mo</td>
<td>70-90/55-65</td>
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<tr>
<td>6-12 mo</td>
<td>80-100/55-65</td>
</tr>
<tr>
<td>1-3 yr</td>
<td>90-105/55-70</td>
</tr>
<tr>
<td>3-6 yr</td>
<td>95-110/60-75</td>
</tr>
<tr>
<td>6-12 yr</td>
<td>100-120/60-75</td>
</tr>
<tr>
<td>12+ yr</td>
<td>110-135/65-85</td>
</tr>
</tbody>
</table>

Patients 0 – <2 yr, while not eligible for tPA, should still have BP kept within normal limits for age

- **Labetalol:** 0.2 mg/kg IV push over 2-3 min, repeat q15 minutes prn;
- Consider **Nicardipine drip,** 1 mcg/kg/min, titrate to desired BP
- Use with caution in patients with asthma or underlying cardiac disease

**HISTORY**
- > 4.5 hrs from last seen well
- Patients in whom time of symptom onset is unknown
- Stroke, major head trauma or intracranial surgery in the last 3 months
- History of prior intracranial hemorrhage, known AVM or aneurysm
- Major surgery or parenchymal biopsy within 10 days
- GI or GU bleeding within 21 days
- Patient with neoplasm/malignancy or within one month of completion of treatment for cancer
- Patients with underlying significant bleeding disorder (patients with mild platelet dysfunction, mild Von Willebrand disease or other mild bleeding disorders are not excluded)
- Previously diagnosed primary angiitis of the central nervous system or secondary arteritis

**PATIENT FACTORS**
- Patient who would decline a blood transfusion if indicated
- Clinical presentation consistent with acute myocardial infarction (MI) or post MI pericarditis that requires evaluation by cardiology before treatment
- Arterial puncture at noncompressible site or lumbar puncture within last 7 days. Patients who have had cardiac cath via a compressible artery are NOT excluded

**ETIOLOGY**
- Stroke due to subacute bacterial endocarditis, sickle cell disease, meningitis, embolism (bone marrow, air or fat), or Moyamoya disease

**EXAM**
- Persistent systolic blood pressure > 15% above the 95th percentile for age while sitting or supine
- Mild deficit (PedNIHSS < 6) at start of tPA infusion
- Severe deficit suggesting very large territory stroke pre-tPA
- PedNIHSS > 25, regardless of infarct volume seen on neuroimaging

**IMAGING**
- Symptoms suggestive of subarachnoid hemorrhage even if CT or MRI of head are normal
- CT with hypodensity/sulcal effacement > 33% of MCA territory or Alberta Stroke Program Early CT Scoring (ASPECTS) ≤ 7
- Intracranial cervicocephalic arterial dissection

**LAB DATA**
- Glucose < 50 mg/dL (2.78 mmol/L) or > 400 mg/dL (22 mmol/L)
- Bleeding diastase including Platelets < 100,000, PT > 15 sec (INR >1.4) or elevated PTT > upper limits of the normal range

Disclaimer: Pathways are intended as a guide for practitioners and do not indicate an exclusive course of treatment nor serve as a standard of medical care. These pathways should be adapted by medical providers, when indicated, based on their professional judgement and taking into account individual patient and family circumstances.

Updated 9/20/17