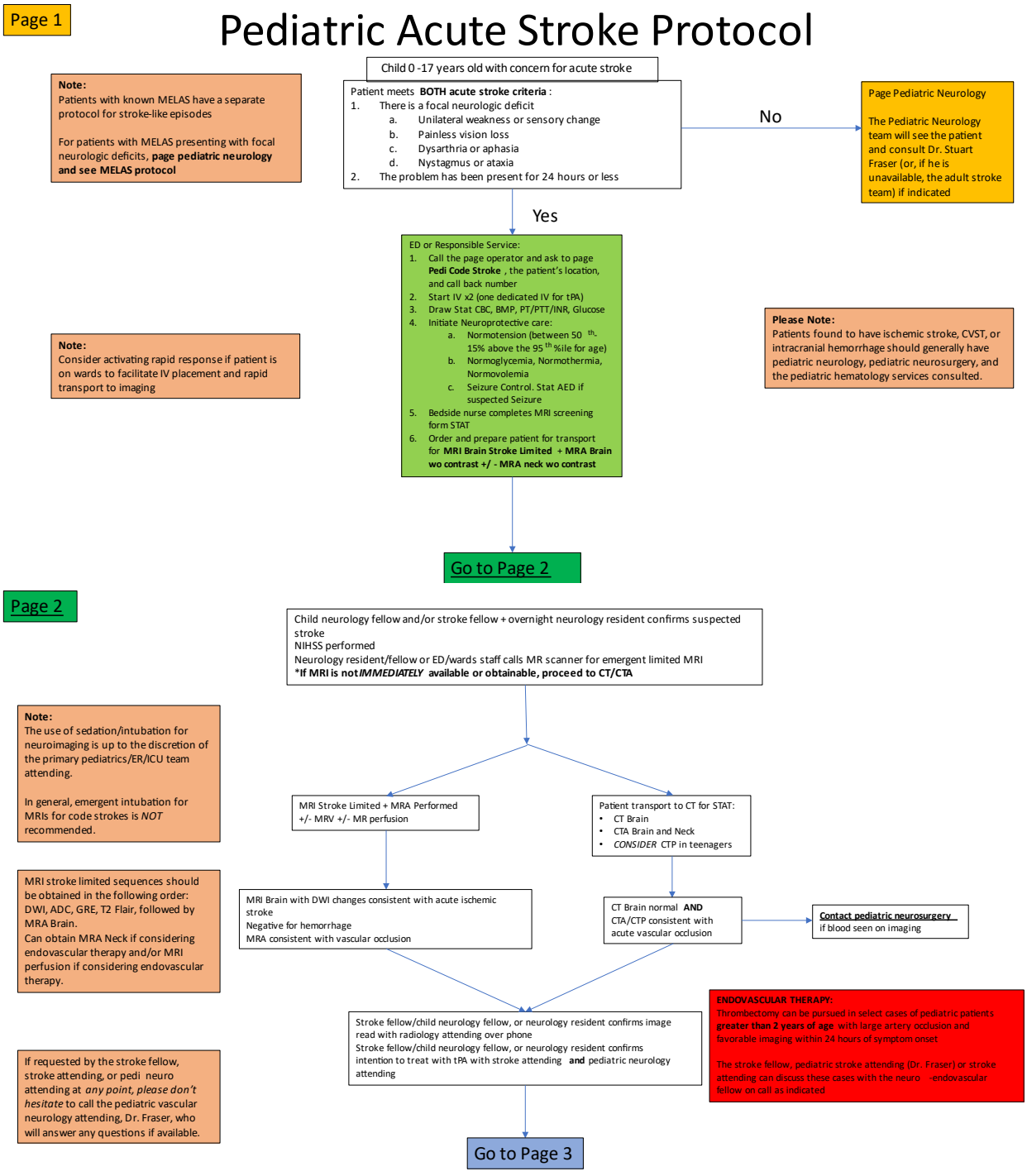
Supplementary Material

Pediatric Acute Stroke Protocol



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tPA CONTRAINDICATIONS:

History:

- >4.5 hours from last seen well
- Stroke, major head trauma, or intracranial surgery in the last 3 months
- History of known AVM or aneurysm
- History of prior ICH
- Major surgery or biopsy within 10 days
- GI or GU bleeding within 21 days
- Patients with known malignancy or within one month of completing treatment
- Patient with underlying major bleeding disorder
  - von Willebrand, mild platelet dysfunction does not exclude
- Previously diagnosed primary angiitis of CNS or secondary arteritis
- Patient would decline blood transfusion if indicated
- Clinical presentation consistent with MI or pericarditis requiring eval by cardiology
- Arterial puncture at noncompressible site or lumbar puncture within the last 7 days. Cardiac cath via a compressible artery within 7 days are NOT excluded

Etiology:

- Stroke due to **bacterial embolism, sickle cell, meningitis, bone, air, or fat embolus, or moyamoya disease**

Exam:

- Persistent SBP >15 th% above the 95th percentile
- Mild deficit (PedNIHSS <6)
- PedNIHSS >25, suggesting large infarct

Imaging:

- CT with hypodensity/sulcal effacement
- Infarct size estimate to be greater than 1/3 rd of MCA territory
- Intracranial arterial dissection

Labs:

- Glucose <50 or >400
- Bleeding diathesis including platelets <100,000, PT >15 seconds, PTT > upper limit of normal range

tPA Treatment Protocol
Children's Memorial Hermann Hospital

tPA Candidate:
<4.5 hours from onset
Age ≥ 2 years
Persistent focal deficit
No contraindications
BOTH Proven vascular occlusion **AND**
either proven infarct on MRI
OR high suspicion of ischemic stroke based on neurologic evaluation

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Dose:
Total dose: 0.9mg/kg IV (max dose= 90mg)
Bolus dose: 10% of total dose, IV over 1 minute. Bolus given by neurology fellow or resident
Infusion Dose: Remaining 90% IV infusion over 1 hour
11AM-11PM: ED pharmacy prepares tPA
Off hours – bedside nurse prepares tPA

MD, nurse, and charge nurse double check dose

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Maintain cardiorespiratory and BP monitoring during infusion
Maintain BP between 50 th %ile and 15% above the 95 th %ile
(see page 5 for BP control protocol)
Dedicated IV required for tPA administration

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Patient must be monitored in PICU setting for **at least** first 24 hours after infusion
Exception:

- Patients aged ≥15 may be monitored in the adult stroke unit or neuro ICU based on discussion with pediatric neurology attending, stroke attending, the patient and the patient's family.

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BP Parameters for tPA infusion
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Systolic BP should be maintained between 50th%ile for age and 15% above the 95 th%ile for age

Treat to lower BP if >15% above 95 th%ile for age

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Labetalol 0.2mg/kg IV push over 2-3 minutes, repeat q15 minutes
Can consider nicardipine drip, 1mcg/kg/min, titrate to desired BP

Systolic Blood Pressure Parameters -Female

Age	50%	95%	>15% above 95%
2-5 years	90	111	128
6-10 years	96	121	139
11-17 years	105	131	151

Systolic Blood Pressure Parameters- Male

Age	50%	95%	>15% above 95%
2-5 years	90	112	129
6-10 years	96	121	139
11-17 years	110	140	161