

PEDIATRIC STROKE ALGORITHM

Inclusion/Exclusion Criteria

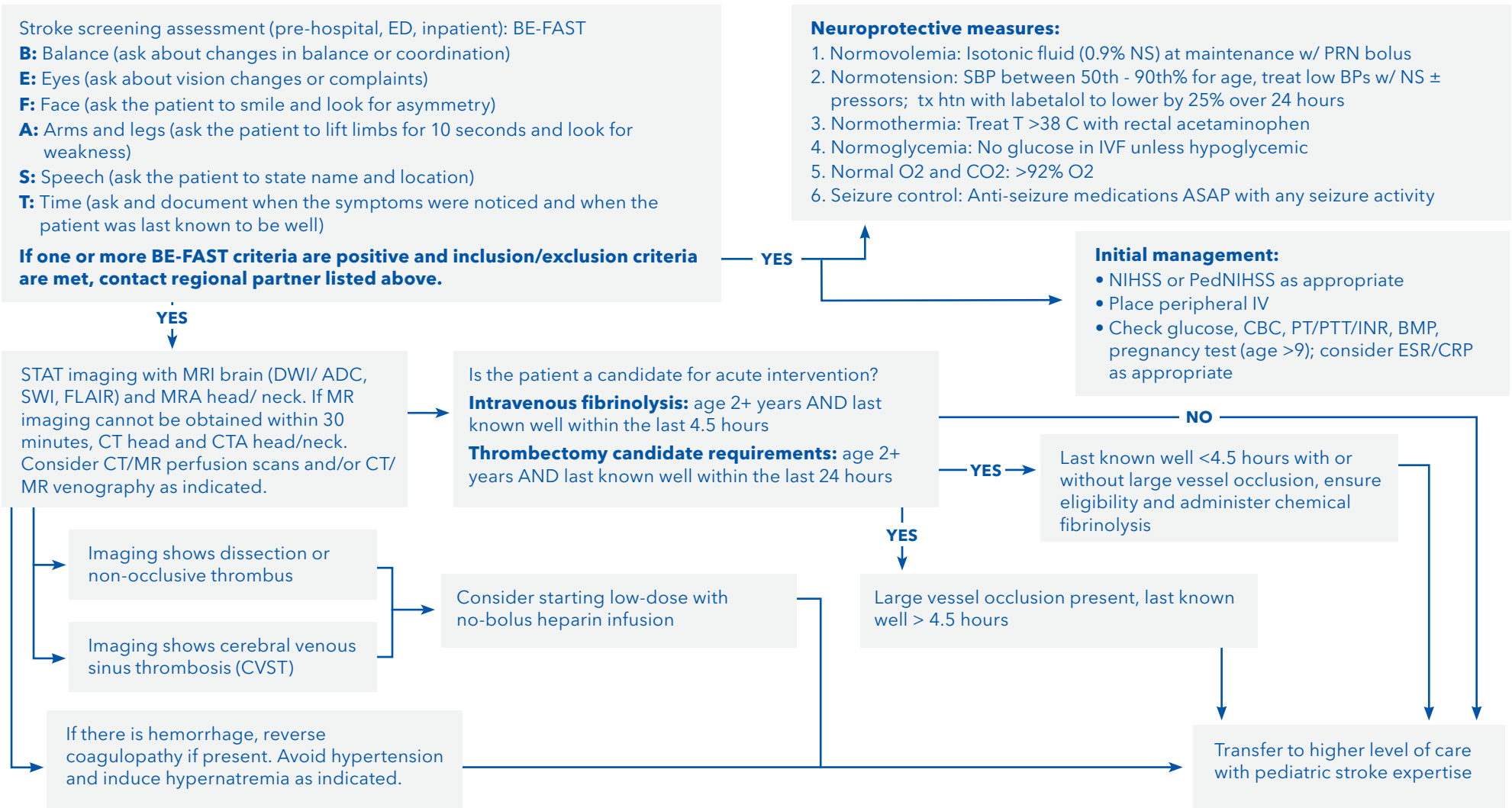
Inclusion: Age 30 days to <18 years AND focal neurological deficit with onset <24 hours

Exclusion: History of seizures with postictal weakness

Pediatric Stroke Alert Coverage

Western KY: University of Louisville/Norton Children's Hospital
(JFK Dispatch 1-888-729-9111)

Eastern KY: University of Kentucky/Kentucky Children's Hospital
(UK•MDs 859-257-5522)



The Pediatric Stroke Algorithm was developed by consensus opinion by a multidisciplinary pediatric stroke work group. These guidelines do not indicate an exclusive course of action. The guidelines are not intended as a substitute for the independent clinical judgment of the treating provider, as the guidelines do not account for individual variation among patients.

Pediatric Chemical Fibrinolysis Criteria:

- Age 2+ years
- Last known well within the last 4.5 hours
- NIHSS/PedNIHSS >2 (potentially disabling symptoms)
- Discussion with on-call pediatric stroke expert

Exclusion criteria:

1. Stroke, major head trauma, or intracranial surgery in last 3 months
2. History of intracerebral hemorrhage, aneurysm, or arteriovenous malformation
3. Major surgery in last 10 days
4. GI or GU bleeding in last 21 days
5. History of neoplasm or malignancy
6. Underlying significant bleeding disorder (platelets <100,000, PT >15 or INR >1.4)
7. Diagnosis of primary CNS angiitis or secondary angiitis
8. Therapeutic heparin administration within 4 hours and elevated aPTT
9. Direct oral anticoagulant administration within 48 hours
10. Treatment dose enoxaparin administration within 24 hours
11. Patient/family would decline blood transfusion if needed
12. Presentation consistent with acute MI or pericarditis
13. Arterial puncture at noncompressible site or LP within past 7 days
14. Stroke due to sickle cell, moyamoya, meningitis, MELAS
15. Persistent SBP >15% above 95th percentile for age
16. Hemorrhage on imaging
17. Symptoms suggesting subarachnoid hemorrhage
18. Acute infarct on imaging >1/3 MCA territory
19. Intracranial dissection or intracranial extension of cervical dissection
20. Blood glucose <50 mg/dl or >400 mg/dl

Confirmed IV fibrinolytic candidate

Pharmacy prepares fibrinolytic and delivers to ED

Total dose for alteplase: 0.9 mg/kg IV (max 90 mg)

Alteplase administration: 10% of total dose IV over 5 mins as bolus, then remaining 90% as IV infusion over 1 hour

Total dose for tenecteplase 0.25 mg/kg IV (max 25 mg)

Tenecteplase administration: weight-based dose given as single bolus over 5 sec with no infusion

Nurse/provider double checks dose with pharmacy

If the patient has sickle cell, emergent apheresis/exchange transfusion is indicated; consider transferring to a higher level of care with pediatric stroke expertise

- Maintain cardiorespiratory and BP monitoring (Q15 minute vital signs)
- Systolic BPs should be maintained between 50th% for age/gender and 15% above 95th% for age/gender
- Give labetalol 0.2 mg/kg IV push over 2-3 min, repeat q15 mins prn; consider nicardipine drip, 1 mcg/kg/min, titrate to desired BP
- Monitor for acute neuro changes (headache, seizure, nausea/vomiting, acute hypertension)
- If neuro changes, STAT non-contrast CT head, call regional partner
- If positive for hemorrhage, discuss with regional partner (consider cryoprecipitate 1-2 Units/10 kg body weight [5 ml/kg if patient less than 30 kg]; consider Tranexamic acid (TXA) 15mg/kg IV if cryoprecipitate is delayed)

Systolic Blood Pressure Parameters for Females

Age	50%	95%	> 15% above 95%	> 20% above 95%
1-4 years	90	111	128	133
5 years	94	113	130	136
6-10 years	96	121	139	145
11-18 years	105	131	151	157

Systolic Blood Pressure Parameters for Males

Age	50%	95%	> 15% above 95%	> 20% above 95%
1-4 years	90	112	129	134
5 years	95	113	130	136
6-10 years	96	121	139	145
11-18 years	105	140	161	168