Childhood Acute Ischemic Stroke (AIS) Flowsheet

Clinical Presentation

Hemiparesis: acute onset unilateral face, arm or leg weakness. Does not have to be a plegia, relative disuse may be sig.
Lang impairment: acute onset problem with verbal expression and/or dysarthria
Seizure: new onset seizure in a child with a stroke risk factor and/or persistent deficit

Stroke Risk Factors

- h/o heart disease
- h/o sickle cell disease
- h/o vasculopathy
- h/o recent trauma
- h/o connective tissue d/o

Consider Stroke Mimics

- Todd's Paresis
- Hemiplegic Migraine
- Spinal Cord Injury
- ADEM
- Conversion

Exam & History concerning for AIS (onset <24 hrs)

Activate pediatric stroke code (or institutional equivalent)

STAT non-contrast HCT

Perform Peds NIHSS

Symptom onset < 4 hours & Peds NIHSS ≥ 4

Symptom onset ≥ 4 hr & Peds NIHSS ≥ 4

Symptom onset ≥ 24 hours or Peds NIHSS < 4

STAT CTA or FAST brain MRI/MRA (goal < 30 min)

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Admit to PICU
For intensive monitoring, supportive care and expedited diagnostic studies w/ focus on identifying treatable causes for recurrence

Acute AIS and/or arterial thrombus identified.

Large vessel occlusion identified

Consider options for alteplase in the context of institutional capabilities and patient's individual risks and potential benefits

*** alteplase not FDA approved for AIS in patients < 18 yrs**

Consider options for thrombectomy in the context of institutional capabilities and patient's individual risks and potential benefits

*** thrombectomy devices not FDA approved for AIS in patients < 18 yrs**

Known h/o sickle cell?

Yes

Consult hematology and prepare for exchange transfusion

Obtain MRI brain/ MRA head within 24 hours of admission

If high suspicion for AIS, consider aspirin 5 mg/kg x1 (max 81 mg) while AIS work up pursued

Supportive Care

- Place on CR monitor
- Maintain euglycemia
- Avoid hypotension **(goal MAP >50%ile for age)**
- Allow for permissive HTN
- Active temperature management (see protocol)
- **NPO** until emergent diagnostic studies complete
- Aspiration precautions
- Neuro checks Q1 hour x 24 hours then Q4

IF AIS CONFIRMED

- Provide supportive care to minimize secondary injury
- Consult Cardiology, hematology, OT/PT/speech therapy
- If moderate to large infarct or cerebellar infarct, consult neurosurgery regarding ICP monitoring and/or decompression

Diagnostic Studies

- Cardiac ECHO (with bubble study if > 6 months) to look for cardioembolic source/ atrial level communication within 24 hours of AIS identification
- Doppler all 4 extremities

Age	Neonate	1-2 yrs	3-4 yrs	5-6 yrs	7-8 yrs	9-10 yrs	11-12 yrs	13-14 yrs	> 14 yrs
MAP Goal	45 mmHg	56 mmHg	63 mmHg	68 mmHg	71 mmHg	74 mmHg	76 mmHg	78 mmHg	82 mmHg