Pediatric Stroke Tip Sheet: Initial ED Recommendations for Receiving Facilities

Audience: Emergency Departments receiving children with *suspected* stroke (Primary Stroke Centers, freestanding EDs, Comprehensive Stroke Centers)

Purpose: Provide a practical, early action orientation for the first 30–60 minutes of care when a child presents with *suspected* stroke. This document emphasizes early recognition, stabilization, imaging, consultation, and timely transfer.

Important: Pediatric stroke cannot be definitively diagnosed in the field and is rare. This tip sheet is not a guideline, mandate, or standard of care. Local policies, resources, and clinician judgment apply.

1. When to Suspect Pediatric Stroke

Maintain stroke on the differential when a child has sudden-onset neurologic symptoms, including:

- Focal weakness or numbness (face/arm/leg)
- Speech or language difficulty
- Vision loss or diplopia
- Ataxia and imbalance
- Vertigo in combination with other symptoms
- New seizure with persistent focal deficit
- Altered mental status with lateralizing signs
- Severe headache with neurologic change

Note: Stroke mimics are common (>50%) in children, but many stroke mimics are neurologic emergencies.[1–3] Early stroke activation is appropriate when concern exists.

2. Immediate Actions on Arrival (First 10–15 Minutes)

Focus on medical stabilization and timely transfer:

- Activate the local stroke process or equivalent rapid response
- Support airway, breathing, circulation; provide oxygen as needed
- Check glucose promptly
- Establish IV access (do not delay imaging/transfer)
- Position head of bed ~30° if tolerated
- Document Last Known Well (LKW) clearly (for wake-up events, LKW is last time at baseline)
- Brief neurologic assessment (e.g., BE-FAST; severity screen if used locally)
- Avoid aggressive blood pressure lowering in the acute setting unless medically indicated for another reason.[4]

3. Imaging: What Is Reasonable

Non-contrast head CT is appropriate, widely available, and used to identify intracranial hemorrhage and large, established infarcts.

CTA head/neck is reasonable when ischemic stroke is suspected and can diagnose large artery occlusions in children.

MRI may be preferred at pediatric centers when readily available without delay but **should not delay transfer.**

Vascular imaging should be obtained when feasible without delaying transfer, particularly when large artery occlusion is suspected. Avoid prolonged or sequential imaging that delays consultation or transfer.

4. Early Decision-Making: Stabilize and Move Forward

When there is a strong clinical suspicion of pediatric stroke, many designated stroke centers, non-stroke designated hospitals, and freestanding EDs may not have rapid access to immediate pediatric neurology consultation. In these settings, the priority should be early stabilization and timely transfer to a facility with expertise in pediatric stroke.

- Initiate local stroke processes and complete initial stabilization and imaging
- Begin transfer planning early rather than waiting for a definitive diagnosis
- Consultation with a pediatric neurologist or regional pediatric stroke-capable center is encouraged when readily available, but should not delay transfer
- Immediate specialty phone consultation may not be feasible in all locations. When in doubt, early transfer is appropriate and preferred
- Transfer planning should not wait for MRI confirmation in cases of suspected pediatric stroke

5. Transfer: When to Prioritize Early Transfer

Early transfer should be prioritized when any of the following apply:

- Strong suspicion for stroke with limited local pediatric expertise
- Need for pediatric neurology, neurosurgery, or pediatric ICU monitoring
- Consideration of endovascular evaluation, advanced stroke therapies, or vascular imaging
- Transfer planning should occur in parallel with stabilization and imaging

6. Where to Transfer

There is no formal national or statewide certification system for pediatric stroke centers. Facilities most appropriate to receive children with suspected or confirmed stroke should be determined locally based on available resources, expertise, and established regional plans.

In many countries, particularly near large metropolitan areas, the most appropriate destination will be a tertiary-care children's hospital with capabilities in pediatric neurology, neurosurgery, hematology, and pediatric intensive care.

Some Comprehensive Stroke Centers (CSCs) may be willing to accept older adolescents (e.g., age ≥16 years), but this varies by institution and should be determined at the local or regional level.

In general:

- Transfer to the nearest large children's hospital is often the best course of action for suspected stroke in younger children
- Consider CSC transfer for older adolescents, particularly when a large artery occlusion is suspected, and local agreements support this pathway

7. Advanced Stroke Therapies: Key Principles

Endovascular thrombectomy may benefit carefully selected children and adolescents with large artery occlusion and disabling stroke.[5–8] Evaluation and treatment should occur at centers with appropriate pediatric and neurointerventional expertise. Transfer to comprehensive stroke centers willing and able to treat pediatric patients may be reasonable for older children with confirmed large artery occlusion.

Per 2026 AHA guidelines,[4] intravenous thrombolysis *may be considered* for children and adolescents younger than 18 years with confirmed arterial ischemic stroke, disabling neurologic deficits, and treatment initiation within 4.5 hours of last known well. When considered, thrombolytic therapy should be given by, or in consultation with, clinicians with expertise in managing pediatric stroke.

Decisions regarding advanced therapies should not delay stabilization or transfer to an appropriate receiving facility.

8. Key Reminders

- Pediatric stroke is rare but time-sensitive
- Early recognition can improve outcomes
- Stabilize and transfer. Do not wait for certainty.

Disclaimer

This document reflects expert consensus and educational guidance to support early stabilization and decision-making for children with suspected stroke. It does not establish standards of care, define pediatric stroke centers, or supersede local policies. Practices should be adapted to patient needs, institutional resources, and clinician judgment.

References:

1. Ladner TR, Mahdi J, Gindville MC, et al. Pediatric Acute Stroke Protocol Activation in a Children's Hospital Emergency Department. Stroke 2015;46(8):2328–31.
2. Catenaccio E, Riggs BJ, Sun LR, et al. Performance of a Pediatric Stroke Alert Team Within a Comprehensive Stroke Center. J Child Neurol 2020;35(9):571–7.
3. Phelps K, Silos C, De La Torre S, et al. Establishing a pediatric acute stroke protocol: experience of a new pediatric stroke program and predictors of acute stroke. Front Neurol 2023;14.
4. Prabhakaran S, Gonzalez NR, Zachrison KS, et al. 2026 Guideline for the Early Management of Patients With Acute Ischemic Stroke: A Guideline From the American Heart Association/American Stroke Association. Stroke [Internet] 2026;Available from: https://www.ahajournals.org/doi/10.1161/STR.0000000000000513
5. Sporns PB, Bhatia K, Abruzzo T, et al. Endovascular thrombectomy for childhood stroke (Save ChildS Pro): an international, multicentre, prospective registry study. Lancet Child Adolesc Health 2024;
6. Bhatia KD, Chowdhury S, Andrews I, et al. Association Between Thrombectomy and Functional Outcomes in Pediatric Patients With Acute Ischemic Stroke From Large Vessel Occlusion. JAMA Neurol 2023;80(9):910.
7. Sporns PB, Sträter R, Minnerup J, et al. Feasibility, Safety, and Outcome of Endovascular Recanalization in Childhood Stroke. JAMA Neurol 2020;77(1):25.
8. Bhatia KD, Briest R, Goetti R, et al. Incidence and Natural History of Pediatric Large Vessel Occlusion Stroke: A Population Study. JAMA Neurol 2022;79(5):488–97.