ADVOCATE HEALTH		
Title: Pediatric Code Stroke Policy (NC Baptist Hospital)		**Document Number: 40842**
Document Type: ☒ **Policy** ☐ **Procedure** ☐ **Guideline** ☐ **Other**		**Last Review/Revision Date: 01/06/2025**
Content Applies to Patient Care: (Select all that apply) ☐ **Adults** ☒ **Pediatrics (Under 18)**	**Content Applies to: (Select One)** ☒ **Clinical** ☐ **Administrative**	**Effective Date: 01/06/2025**
Scope: ☐ **Enterprise** ☐ **MW Region** ☐ **SE Region** ☐ **WI** ☐ **IL** ☐ **Greater Charlotte Market** ☐ **Navicent Market** ☐ **Wake Market** ☐ **Floyd Market** ☒ **Entity Only (Entity Name): Brenner Children's at NCBH** ☐ **Department Only (Department Name):**		

I. PURPOSE

The purpose of this policy is to expedite care of the pediatric patient who may be exhibiting any symptoms suspicious for acute stroke. It is not meant to replace the flexible decision-making process that be unique for every patient, but to provide an additional tool to augment the professional judgement of providers caring for the patient.

II. SCOPE

The document applies to faculty and staff of Brenner Children's Hospital at North Carolina Baptist Hospital, an entity within Advocate Health.

Trauma patient with high suspicion of a bleed are excluded from this policy.

III. DEFINITIONS/ABBREVIATIONS

TSLSW: Time Since Last Seen Well prior to stroke symptoms.
OSH: Outside Hospital.

IV. POLICY

A. Pediatric Emergency Department Code Stroke Pathway

1. If a child presents to the ED with symptoms suspicious for acute stroke, the Triage RN should notify the ED provider. The provider quickly assesses the child and calls a Pediatric Code Stroke if stroke symptoms are present **AND** TSLSW less than 24 hours.

    a) If the patient has HbSS, the ED team should notify the Pediatric Hematology/Oncology team STAT.

B. **Outside Hospital (OSH) with Expected Transfer to BCH - Peds Code Stroke**:

1. If the ED attending or the pediatric neurology attending receive a call from an outside hospital or emergency room regarding a child with possible stroke, the Physician Access Line (PAL) should arrange a 3-way call between the OSH provider, the Brenner ED attending and the peds neurology attending to review the symptoms severity, and time since last seen well.

2. If TSLSW is less than 24 hours, emergent transport should be arranged, and the ED attending will call a Code Stroke as soon as the child arrives in the Brenner ED..

    a) If the patient has known HbSS disease, the primary service should concurrently notify Pediatric Hematology/Oncology at the time of the code stroke activation.

C. **In-House Pediatric Code Stroke**:

1. If a child on a pediatric floor, in the PICU, PIMC or an outpatient clinic has any symptoms suspicious for acute stroke, a Pediatric Rapid Response should be called.

2. The Rapid Response team will assess the patient for stroke symptoms and TSLSW.

3. If stroke symptoms are confirmed, the Rapid Response team should initiate a Pediatric Code Stroke. If patient needs stabilization, the Rapid Response team will provide initial medical management and facilitate transfer to higher level of care.

4. The resident on call for Pediatric Neurology will be expected to come to bedside within 10 minutes.

5. The neurology resident will assess the child, perform a pediatric NIH Stroke Scale (PedNIHSS) and then call the pediatric neurology attending on call to confirm need for CTA. They will then place the order for CT/CTA.

    a) Children under the age of two years of age will not likely be candidates for thrombectomy, therefore should be considered for emergent MRI if within the tPA window.

b) CT perfusion should NOT be ordered unless directed by the pediatric neurology, radiology or interventional neuroradiology attending.

c) Place at least a 22-gauge IV if not already done – non-scalp, non-jugular. A 24-gauge IV will not tolerate the auto-injection of contrast.

6. A provider will accompany the child to the CT if the child has cardiorespiratory or neurologic instability.

7. The neuro resident will review the images as soon as they become available, together with the Radiology 1st tier resident. If there is ANY question about the read, the neuro resident should call the neuroradiology fellow on call to review.

8. <u>If there is a large vessel obstruction present</u>,

a) The neuro resident will notify the peds neuro attending and the interventional radiology (IR) attending. Ideally, this would take the form of a three-way call between these three parties.

b) If the neuro and IR attendings agree that the patient is appropriate for thrombectomy, the IR attending notifies the pediatric anesthesiologist and posts the case, and the neurology resident notifies the PICU attending.

c) If the child cannot be taken to IR immediately, he/she will be taken to the ED or PICU or PICU/PIMC (depending on where they originated) with neuroprotective care outlined in the Code Stroke order set.

d) IF TSLSW is < 4.5 hours, the neuro resident will contact parents/caregivers to check for contraindications to tPA. If NO contraindications, then tPA should be ordered and administered while awaiting IR decision. Please see “e” below.

9. <u>If there is NO LVO present</u>, **AND** the time since last seen well is less than 4.5 hours, the neuro resident will call back the peds neuro attending to determine whether to proceed with emergent MRI.

a) If yes, the peds neuro resident will place an order for “Peds Code Stroke MRI” (without MRA) and contact the MRI tech on call.

b) If the child is younger (or developmentally less mature) than 10 years of age, the neuro resident should have a conversation with the ED provider or the patient's primary team to decide whether sedation is likely to be needed. If so, peds anesthesia should be called. At night and on the weekends, this will require a call from the peds neuro attending in both locations.

(1) While waiting for MRI/anesthesia to be ready, neuroprotective measures should be initiated as outlined in the Code Stroke order set.

c) A provider should accompany the patient to MRI if he/she is unstable.

d) The neuro resident will contact parents/caregivers to check for contraindications to tPA, then review the MRI read with the radiology resident responsible.

e) If findings are not clear-cut, the neuro resident should contact the neuroradiology fellow, who should in turn contact the neuroradiology attending on call if there are any questions.

f) If MRI findings are consistent with acute stroke **AND** TLSW is < 4.5 hours **AND** there are **NO** contraindications, the peds neuro attendings and the ED or PICU attending should be notified and the patient taken back to the ED or PICU to initiate tPA.

(1) The neurology resident will need to obtain informed consent for tPA from the caregiver.

(2) If there is a stroke, but tPA is contraindicated, or there is not enough time to initiate tPA in the 4.5-hour time window, the patient should be moved to the PICU or PIMC as clinically appropriate and neuroprotective care should be continued.

g) If MRI findings are consistent with acute stroke and the patient has known HbSS disease, discuss with the Pediatric Hematology/Oncology and PICU teams to coordinate exchange transfusion.

10. If MRI does NOT confirm an acute stroke, the patient should be returned to the clinically appropriate setting and the neurology consult completed with considerations for further work-up as indicated, which may or may not include non-emergent full MRI/MRA.

11. The adult stroke attending should only be contacted if the peds neuro attending has specific questions or requests help with management.

V. PROCEDURE / GUIDELINE

Not Applicable

VI. CROSS REFERENCES

Not Applicable

VII. RESOURCES AND REFERENCES

Children's Hospital Colorado (2021). Pediatric Code Stroke Clinical Pathway, https://www.childrenscolorado.org/49e72a/globalassets/healthcare-professionals/clinical-pathways/stroke-pediatric-arterial-ischemic.pdf

Elbers, J.; Wainright, M.S. Amlie-Lefond, C. (2015). The Pediatric Stroke Code: Early Management of the Child with Stroke. Journal of Pediatrics.167(1) 19-24 e1-4. doi:10.1016/j.jpeds.2015.03.051

Ichord, R., Lavelle, J., Rempell, R., Tsarouhas, N., Jacobstein, C., Abbadess M.K., Baren, J, & Fahringer, L. (2007) Pediatric Code Stroke Clinical Pathway, Children's Hospital of Philadelphia. (rev 2022) https://www.chop.edu/clinical-pathway/stroke-suspected-clinical-pathway

Wharton, J.D., Barry, M.M. Lee, C.A., Massey, K., Ladner, T.R. & Jordan, L.C. (2020) Pediatric Acute Stroke Protocol Implementation and Utilization Over 7 Years. Journal of Pediatrics.220. 214-220. doi: 10.1016/j.jpeds.2020.01.067

VIII. ATTACHMENTS

Attachment 1: Pediatric Code Stroke Pathway

IX. REVISION DATES

1/13, 12/24

Attachment 1: Pediatric Code Stroke Pathway