**SUSPECTED ACUTE STROKE**

**Risk Factors**
- Sickle cell disease
- Congenital or acquired heart disease
- Head & neck infections
- Systemic conditions such as inflammatory bowel disease & autoimmune disorders
- Head trauma

**Notes**
- Brain imaging should occur ASAP after a stroke.
- Imaging should not be delayed for STAT labs, ECG, additional testing & establishing intravascular access.
- Staff should review Policy PICR74. Transferring/transferring a patient within the hospital & ensure patient is ready for transport to radiology as soon as imaging staff are available to begin exam.
- RN will need to accompany patient to radiology for imaging, especially if any sedation is given.

**Outside admissions/transfers to CHMC for suspected stroke**
- Call physicians priority line
- Call Center to page on-call neurologist

**Imaging Notes**
- MRI of the brain w/o contrast is preferred as first line imaging in suspected acute stroke cases that are < 24 hours old
  - In cooperative patients, the MRI brain stroke protocol will take < 10 minutes & is performed w/o sedation
  - The MRI brain stroke protocol includes Axial DWI, FLAIR, FFE (GRE), & Sagittal T1 Single Shot
  - Contrast enhanced sequences have been omitted to save time & to avoid delays secondary to IV placement which would be needed for contrast
  - If MRI is not available within approximately 1 hour of starting the stroke protocol, if the patient requires sedation, or if patient has contraindications to MRI, clinicians should instead consider CT head w/o contrast
  - Additional imaging of the brain &/or vascular anatomy may at times be necessary & should be considered by clinicians on a case-by-case basis after the initial brain imaging report is received from radiologist, taking into account patient condition & availability of resources

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**Outside admissions/transfers to CHMC for suspected stroke**
- Call physicians priority line
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**Imaging Notes**
- MRI screening questionnaire must be completed in EPIC before patient can be scanned
- IV access not needed prior to MR
- Additional Instructions
  - Establish intravascular access (if not already in place)
  - Patients that can’t be D/C from IV infusions may need extension tubing added prior to imaging
  - Head of bed flat
  - Keep blood pressure within normal limits for age
  - Keep child normothermic & normoglycemic
  - Vital signs & neuro checks every 15 minutes for 3 hours
  - Keep child NPO
  - Ensure nursing documentation of weight in Kg and provider documentation of time patient was last seen normal (if not already documented)
  - Normal saline (don’t give dextrose) if considering fluids
  - Review tissue plasminogen activator (tPA) contraindications & eligibility for endovascular therapy while waiting for imaging results

**Additional Instructions**
- Establish intravascular access (if not already in place)
- Patients that can’t be D/C from IV infusions may need extension tubing added prior to imaging
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**STAT Testing**
- MRI Brain w/o contrast (providers must order “MR Stroke Brain wo” in Epic for rapid MRI imaging)*
- MRI screening questionnaire must be completed in EPIC before patient can be scanned
- IV access not needed prior to MR
- Labs:
  - PT, PTT, INR, ESR, CRP
  - EPOC® panel which includes (blood gases, Hct, Hgb, NA, K, Ionized Ca, Cl, Glu, Lactate, Creat)
- 12-lead ECG
* MRI is priority, do not delay imaging for lab or ECG testing

**External Admissions/Transfers to CHMC for Suspected Stroke**
- Call physicians priority line
- Call to CHMC for suspected stroke

**Transporting/transferring a patient**
- Soon as imaging staff are available to establish intravascular access.
- If MRI is not available within approximately 1 hour of starting the stroke protocol, if the patient requires sedation, or if patient has contraindications to MRI, clinicians should instead consider CT head w/o contrast
- Additional imaging of the brain &/or vascular anatomy may at times be necessary & should be considered by clinicians on a case-by-case basis after the initial brain imaging report is received from radiologist, taking into account patient condition & availability of resources

**Additional Instructions**
- Establish intravascular access (if not already in place)
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**Diagnostic Imaging**
- MRI Brain w/o contrast
- STAT labs, ECG, additional testing & establishing intravascular access
- Staff should review Policy PICR74
- MRI of the brain w/o contrast is preferred as first line imaging in suspected acute stroke cases that are < 24 hours old

**Risk Factors**
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**Outside admissions/transfers to CHMC for suspected stroke**
- Call physicians priority line
- Call Center to page on-call neurologist

**Inclusion Criteria**
- Children ≥ 1 month (corrected age)

**Exclusion Criteria**
- Children < 1 month of age

**Signs & symptoms of acute stroke include:**
- Focal neurologic deficits
- Sudden unexplained change in mental status

**Last seen normal < 24 hours ago?**
- **YES**

**Symptoms completely resolved?**
- **NO**

**Manage off pathway as transient ischemic attack (TIA): Guidelines**
- Admit to Med Surg Status
- Make NPO
- Telemetry
- Neuro checks Q2 hrs X 3 hrs, then Q4 hrs X 24 hrs
- MRI Brain w/o contrast (order “MR Stroke Brain wo” STAT), include “TIA” on the order indication
- MRI screening questionnaire must be completed in EPIC before patient can be scanned
- Consult Neurologist on call
- Order: EKG, CBC, CMP, PT, ESR
- May need MRI head and neck plus ECHO with bubble study depending on neurology recommendations
- Keep normothermic and normo-thermic
- If no bleed give ASA 5mg/kg (max 81mg)
- Monitor for 24 hours

**Radiologist reads scan and calls report to ordering provider and documents in EMR**

**Intracranial hemorrhage?**
- **NO**

**Ischemic stroke?**
- **YES**

**Mange as Ischemic Stroke**
- tPA treatment protocol (if eligible)
- Aspirin 5 mg/kg (max 81 mg) every 24 hours
- Start aspirin 24-48 hours after stroke onset if tPA is given
- Start aspirin immediately if tPA is not given

**Admit to PICU**

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**Disclaimer:** Pathways and/or protocols are intended as a guide for practitioners and do not indicate an exclusive course of treatment nor serve as a standard of medical care. These pathways and/or protocols should be adapted by medical providers, when indicated, based on their professional judgment and taking into account individual patient and family circumstances.

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