

Children's Mercy Kansas City

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Care Process Models

Quality Improvement and Clinical Safety

6-2021

Stroke, Sickle Cell, Emergency Department/Inpatient

Children's Mercy Kansas City

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These guidelines do not establish a standard of care to be followed in every case. It is recognized that each case is different and those individuals involved in providing health care are expected to use their judgment in determining what is in the best interests of the patient based on the circumstances existing at the time. It is impossible to anticipate all possible situations that may exist and to prepare guidelines for each. Accordingly, these guidelines should guide care with the understanding that departures from them may be required at times.

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Child with Sickle Cell Disease (SCD) with Suspected Stroke (ED/Inpatient)

Initiate Sickle Cell Suspected Stroke EDP Powerplan or Inpatient Powerplan

Provide immediate stabilization management:

- Supplemental oxygen to keep saturations > 96%
- Place on monitors obtain vital signs (including BP) every 15 minutes for first hour
- Place at least one antecubital 22G intravenous catheter
- Treat seizures and increased intracranial pressure if indicated
- Provide adequate pain control
- Consult: Hematology / Oncology, Neurology, PICU, Apheresis Team
- Make patient NPO
- Obtain the following labs:
 - Type & crossmatch for sickle-negative PRBCs (Order 1 unit for pts < 30 kg and 1 to 2 units for patients > 30 kg), hold blood as per blood bank for extended phenotype
 - CBCD, reticulocyte count, Hemoglobin S, BMP, Mg, iCa, Phos, PT, INR, aPTT, LFT, Fibrinogen, D Dimer, Urine hCG (female > 10 years) or serum beta hCG, POC Glucose
 - If patient has fever: obtain blood culture then treat with acetaminophen and antibiotics

Do not delay treatment while waiting for imaging, notification of consulting providers, and placing orders to obtain labs or IV access

If patient is known to CM:

- Review Critical Information note and type of Sickle Cell disease (SS and Sβ0 have a higher risk of stroke than SC or Sβ+)

Obtain history of:

- Stroke, TIA, Moya Moya
- Headaches (H/A)
- Nausea or vomiting
- Visual changes
- Weakness
- Loss of coordination
- Numbness and tingling
- Fever
- Syncope
- Seizures
- Recreational or prescribed drug use

Physical exam:

- Baseline mental status with detailed neurologic exam
- Hydration status
- Signs of infection

Acute Sickle Stroke Neuroprotective Care

- Head of bed flat: if tolerated and no signs of increased ICP
- Avoid hypotension: bolus PRN with NS 10-20 ml/kg
- Normovolemia: 1/2NS at maintenance or D5 1/2 NS if glucose < 100
- Saturations > 96%
- Normothermia: Treat T > 38°C with antipyretics, +/- cooling
- Seizure control: ASAP with any suspected seizure activity. Consider cEEG to monitor subclinical seizures (notify Neurology ASAP for antiseizure prophylaxis).

Is sedation needed for neuroimaging **and** is Hgb < 9?

Yes

Discuss transfusion volume with Hematology and initiate

No

Is MRI scan safely possible within 60 minutes?

No

Obtain **non-contrast** head CT STAT

Yes

Does imaging identify hemorrhage, ischemic stroke, or inconclusive findings?

Consult Neurosurgery and plan for PICU admission

Hemorrhage

Inconclusive

Admit to PICU or Hem/service if patient is stable and consult Neurology

Ischemic stroke

Admit to PICU
Prepare for exchange transfusion (to occur in PICU)

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