

PICU Process

Admit Sickle Cell Stroke Patient to PICU for Exchange Transfusion

- Continue IV fluids at 1x maintenance flow rates (**Total fluid intake should NOT exceed maintenance**)
- Provide adequate pain control
- Place pheresis catheter
- Consult Heme/Onc

Pheresis Catheter recommendations:

- AV ports (dual lumen)
- Central line (femoral) [Prefer no IJ]:
 - < 20 kg: 8 Fr or larger, double lumen
 - 20-50 kg: 10 Fr or larger, double lumen
 - > 50 kg: 12 Fr or larger, double lumen
- Peripheral venous: 16-18 Gauge needles in an antecubital vein; Consult VAT if needed.

Abbreviations (laboratory & radiology excluded):

pt. = patient

Prior to exchange:

- Ensure pre-exchange transfusion labs were obtained prior to exchange
- Call lab to confirm receipt of Hgb S (Do not wait for Hgb S level to initiate apheresis)

For diagnosed CVA, and / or clear history / physical indicating CVA:

Perform RBC exchange transfusion to a hemoglobin of 11 to 12 g/dL and HbS level of 10 to 15% of total HgB

Typical Laboratory Findings in Sickle Cell Disease

Upon completion of exchange transfusion:

- Switch IV fluids to NS
- Remove the CVL to reduce the risk of thrombosis
- D/C non-rebreather, supplemental O2 PRN
- Obtain BMP, iCa, Mag, Phos, Hgb S (batch pre and post Hgb S labs)

Medical Team Process

- Encourage ambulation and activity
- Consult Neurology, Rehab Services, Psychology, Speech, PT, OT
- Consult Neurosurgery if patient has evidence of Moya Moya Syndrome and/or concerns with Stenoocclusive disease on initial MRI/MRA -- CTA and plan for surgery

Inform Sickle Cell Team of potential discharge to:

- Organize clinic follow-up
- Next transfusion

Discharge when the patient meets the following criteria:

- Clinically and neurologically stable $\geq 24 - 36$ hours post transfusion(s)
- Afebrile for at least 24 hours
- Fluids and medications are being taken orally
- Validate follow up arrangements have been made with: Sickle cell team, Neurology, Physical Therapy, Rehab Services
- Validate follow up arrangements have been made with Neurosurgery (if patient has evidence of Moya Moya)