

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]:
 - < 15 kg: 8 Fr
 - 15-30 kg: 10 Fr
 - 30+ kg: 12 Fr
- Peripheral venous: 18-20 Ga angiocath x2

Prior to exchange:

- Ensure pre-exchange transfusion labs were obtained prior to exchange
- Call lab to confirm receipt of Hgb S

For diagnosed CVA, and / or clear history / physical indicating CVA:
Perform double-volume RBC exchange transfusion (manual or pheresis) to a hemoglobin of 10 to 11 g/dL and HbS level of <30% of total HgB

Exchange Transfusion Calculations:
Total Blood Volume (TBV) = 80 ml/Kg
Volume of RBC Exchange = 2 (TBV x Hematocrit)

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

Medical Team Process

- Encourage ambulation and activity
- Consult Neurology, Rehab Services, Psychology, Speech, PT, OT
- Consult Neurosurgery if patient has evidence of Moya Moya on initial MRI/MRA

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 tranfusion(s)
- Afebrile for at least 24 hours
- Fluids and medications are being taking 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)

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