Sickle Cell Pain, ED

Last Updated: 09/08/25

INCLUSION CRITERIA

- Patients with sickle cell disease ≥1 year old and 10kg who present with musculoskeletal pain secondary to suspected vaso-occlusive crisis

EXCLUSION CRITERIA

- Trauma
- Focal neurologic findings
- Altered mental status
- Respiratory distress
- Hemodynamic instability
- Toxic appearance

MEASURES

- ED LOS
- % of patients given intranasal fentanyl
- Time from arrival to opioid administration

IMAGING[1]

- CXR if cough, shortness of breath, tachypnea, retractions, wheezing, chest pain, pulse ox less than baseline, or abnormal lung examination

DISCHARGE CRITERIA[2]

- Adequate pain relief
- Tolerating PO
- Baseline oxygenation on room air
- Blood counts at or near baseline
- Absence of other complications

PAIN REASSESSMENTS

- Reassess and document pain scores q20 min after giving IV opioid

Initial Assessment
- Enter CC: sickle cell with pain and document pain score
- Notify ED provider for pain medication order
- If febrile or reported fever at home, also implement SCD Fever Pathway

⚠ Do not administer ibuprofen

Intranasal Medication
Give intranasal fentanyl as a **bridge** to IV analgesia within **30 mins** of arrival

Diagnostic Evaluation
- CBC, Reticulocyte count, CMP and HCG
- Draw and hold type and screen if volume sufficient
- Obtain 2 view CXR if concern for acute chest[1]
- Consider abdominal x-ray or ultrasound if patient presents with abdominal pain or direct hyperbilirubinemia

⚠ Do not delay medication administration. Send serum HCG if patient unable to urinate for POCT HCG

Intravenous Medications
- IV opioid (Refer to historical ED visit(s) and/or patient/parent report to guide opioid choice/dose)
- IV ketorolac *(if no ibuprofen within 6 hours and Cr normal within 3 months)*
- D5 0.45NSS @ maintenance

⚠ Avoid excessive IV fluids or boluses which may precipitate acute chest syndrome

⚠ If patient sleeping use FLACC score for pain reassessment

Reassess in 20min

Pain continues?

No
- Call Hematology
- Refer to EMR to determine appropriate oral opioid and administer one dose

Reassess in 60min

Discharge If Meets Criteria[2]
- Utilize ED Sickle Cell with Pain Disposition Order Set
- Ensure access to home opioids
- RX 3 days of home oral analgesic regimen
- Instruct to take home NSAID regimen ATC 24 hours then PRN
- F/u with Hematology

Yes
- Administer IV opioid, 100% initial dose immediately

Reassess in 20min

Pain continues?

No → Call Hematology

Yes
- Administer IV opioid, 100% initial dose immediately

Reassess in 20min

Pain continues?

No → Call Hematology

Yes

If pain continues after **3rd dose** of IV opioid, call Hematology for admission. Ensure PRN dose ordered while awaiting transfer to floor

Medication	Dose	Route	Max Dose
Morphine	0.1 mg/kg	IV	6 mg
Hydromorphone	0.015 mg/kg	IV	1.5 mg
Ketorolac	0.5 mg/kg	IV	30 mg
Fentanyl	2 mcg/kg	Intranasal	100 mcg

Abbreviations			
Abbreviation	**Terminology**	**Abbreviation**	**Terminology**
ATC	Around the Clock	**LOS**	Length of stay
CBC	Complete Blood Count	**mg**	Milligrams
CC	Chief complaint	**Mins**	Minutes
CMP	Complete Metabolic Panel	**NSAID**	Infectious Disease
Cr	Creatinine	**PO**	By Mouth
CXR	Chest x-ray	**POCT**	Point of Care Test
ED	Emergency Department	**PRN**	As needed
EMR	Electronic Medical Record	**Q**	Every
FLACC	Face, Legs, Activity, Cry and Consolability Scale	**RX**	Prescription
F/u	Follow-up	**SCD**	Sickle Cell Disease
HCG	Human Chorionic Gonadotropin	**LOS**	Length of stay
IV/IO	Intravenous Intraosseous	**CXR**	Chest x-ray
kg	Kilograms	**CC**	Chief complaint

Disclaimer: The clinical pathways are based upon publicly available medical evidence and/or a consensus of medical practitioners at Nemours Children's Health ("Nemours") and are current at the time of publication. These clinical pathways are intended to be a guide for practitioners and may need to be adapted for each specific patient based on the practitioner's professional judgment, consideration of any unique circumstances, the needs of each patient and their family, and/or the availability of various resources at the health care institution where the patient is located.

VERSION MANAGEMENT

- Version 1.0 (10/1/2024): Go Live.
- Version 1.1 (9/8/2025): Adjusted medication table and removed IV medications process step.

Questions about this pathway should be directed to **clinicalpathways@nemours.org**.

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