

INCLUSION CRITERIA

- Patients with sickle cell disease >2 months old who have had a temperature **≥38.3°C within 48h** of presentation or reported tactile temperatures.

EXCLUSION CRITERIA

- Concern for shock

MEASURES

- Time from arrival to antibiotic administration
- Admission rates
- Clinical team time

IMAGING

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

LEVOFLOXACIN RX

- If patient 6mos-4yrs old and treated with levofloxacin, a second dose is required 12 hours after ED dose. Consider dispensing medication from pharmacy for home use. Admit patient if unable to dispense second dose.

SEVERE HEMOLYTIC REACTION SIGNS

- Unresponsiveness
- Acute mental status change
- Incontinence
- Tachycardia
- Hypotension
- Drop in pulse ox
- Pallor
- Delayed cap refill

Initial Assessment

- Enter CC: Sickle Cell Fever
- Alert ED provider immediately for antibiotic orders
- Obtain vital signs (BP, temp, Spo2, HR, RR)
- Administer supplemental oxygen PRN if pulse oximeter <92%

Concern
for shock?

Yes

**Sepsis/
Septic
Shock
Pathway**

No

Diagnostic Evaluation

- If pt has central venous line, obtain access. Otherwise, insert IV
- Send blood culture/CBC with diff/Retic/CMP
 - If central line present, must send blood culture from all lumens
- Consult hematology if difficulty obtaining blood culture rapidly**
- Draw and hold Type and Screen if volume sufficient
- Send Respiratory Pathogen Panel
- Send UA and culture if symptomatic or history of UTI
- Send HCG if applicable
- Obtain 2 view CXR if concern for acute chest¹
- Administer D5 0.45NSS @ maintenance
- Administer 10 ml/kg 0.9 NS bolus ONLY if clinically indicated



Consider sepsis in patients with fever/hypothermia and/or:

- Tachycardia
- Tachypnea
- Fatigue

Use Sepsis/Septic Shock Pathway for further laboratory and antibiotic guidance

**ABX within 60 mins
of arrival**

Antibiotics (ABX)

- Administer ceftriaxone
 - If allergic to ceftriaxone or history of hemolytic reaction, administer levofloxacin² instead of ceftriaxone
- If concern for Acute Chest, add azithromycin with ceftriaxone. (Do not need azithromycin if treating with levofloxacin)



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

**Reassess 1 hour after
Ceftriaxone infusion**

- Re-examine pt and review last vital signs
- Assess for signs of **Severe Hemolytic Reaction³**
- Discuss pt with Hematologist on call

Meets D/C
Criteria²?

Yes

No

Discharge Criteria

- Meets low risk criteria⁴, see page 2

**Admit to
Inpatient**

Medication	Dose	Route	Max Dose
Ceftriaxone	75 mg/kg/dose	IV once	2000 mg/dose
Azithromycin	10 mg/kg/dose	PO/IV once	500 mg/dose
Levofloxacin	6mos-4yrs: 10 mg/kg/dose	PO/IV every 12 hours x 2 doses²	375 mg/ dose
	≥ 5yrs: 10 mg/kg/dose	PO/IV once	750 mg/dose

LOW RISK CRITERIA⁴

Clinical:

- Age greater than or equal to 12 months old with vaccinations up to date
- Temperature less than 104 degrees F (40 degrees C) in ED or at home *regardless of source*
- Well-appearing
- Tolerating oral liquids well
- No concerns for other complications
- No hypoxia (O2 saturation is not more than 3% lower than baseline OR not less than 92% if baseline is not known)
- No known history of bacteremia
- Patient has not had repeated visits to ED for same febrile illness
- No significant delay in presentation to the ED for fever

***Consider admission for patients with an implanted port/central line, and those with history of surgical splenectomy**

Lab/Imaging:

- No drop in hemoglobin (Hgb) from baseline of more than 2 g/dl. Hgb must be a minimum of 5.5 g/dl for discharge unless otherwise specified by hematologist on call
- No drop in Reticulocyte count from baseline. Retic must be a minimum of 1% if Hgb is < 10 g/dl. If retic is below baseline, discuss possible admission and/or timing of post-ED follow up labs with hematologist on-call
- No bandemia $\geq 10\%$
- WBC under 30,000/mm³
- ANC over 500
- Chest radiograph (if done) without infiltrate
- If simple urinary tract infection and fever < 104 F and meets all other low risk criteria, can discharge home with treatment and close follow up
 - o If signs of pyelonephritis (CVA tenderness, vomiting, ill-appearing) with any degree of fever, patient is NOT low risk and requires admission

PMH/Social:

- Compliant with pneumococcal prophylaxis if prescribed
- Assured of likely follow up – has working phone and number, permanent housing (i.e. not in temporary shelter), has transportation, no history of frequent missed appointments, verbal agreement to respond to phone call and return to ED emergently if blood culture results positive
- Hematologist on-call can assist with recognizing patients who do not meet the above criteria with regards to compliance and immunizations
- If patient not followed by Nemours hematology, must additionally speak to on-call hematologist where the patient is followed for disposition decision

Abbreviations

Abbreviation	Terminology	Abbreviation	Terminology	Abbreviation	Terminology
ABX	Antibiotics	FLACC	Face, Legs, Activity, Cry and Consolability Scale	NS	Normal Saline
ANC	Absolute Neutrophil Count	F/u	Follow-up	NSAID	Nonsteroidal Anti-inflammatory Drug
BP	Blood pressure	g	Grams	O2	Oxygen
C	Celsius	HCG	Human Chorionic Gonadotropin	PO	By mouth
CBC	Complete Blood Count	Hgb	Hemoglobin	POCT	Point of Care Test
CC	Chief complaint	HR	Heart rate	PRN	As needed
CMP	Complete Metabolic Panel	IV/IO	Intravenous Intraosseous	Q	Every
Cr	Creatinine	kg	Kilograms	RR	Respiratory rate
CXR	Chest X-ray	LOS	Length of Stay	RX	Prescription
CVA	Costovertebral Angle	kg	Kilograms	SCD	Sickle Cell Disease
dl	deciliter	LOS	Length of stay	Spo2	Peripheral Capillary Oxygen Saturation
ED	Emergency Department	mg	Milligrams	UA	Urinalysis
EMR	Electronic medical record	mins	Minutes	UTI	Urinary tract infection
IV/IO	Intravenous Intraosseous	ml	Milliliters	Yrs	Years
ED	Emergency Department	mm	millimeter		
F	Fahrenheit	Mos	Months		

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.

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

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