

**EVIDENCE-BASED PRACTICE GUIDELINES**

**for patients > 3 months old with  
SICKLE CELL ANEMIA and FEVER**

in the Emergency Department or Hematology-Oncology Clinic



**INCLUSION CRITERIA:**

Sickle Cell Anemia (HbSS, HbSC, HbS-β° thalassemia, HbSE) **AND** Age > 3 months **AND**

- Temperature (taken by any method) ≥ 101.5°F (38.6°C) within the preceding 24 hrs **OR**
- Clinical concern for sepsis, pneumonia or meningitis, +/- fever

**INITIAL APPROACH:**

**1. Expedited Triage process:**

- Clinical assessment
- Vitals including temperature and pulse oximetry

**2. STAT Collection:**

- CBC with manual differential and reticulocyte count
- Blood culture
- Draw/hold tubes for type/cross, biochemistries if possible, without 2<sup>nd</sup> needle stick
- Urinalysis and culture *only if clinically indicated*
- CXR (PA+lateral) *only for active cough, lung findings on examination, chest pain, or decrease in O<sub>2</sub> saturation more than 3% below baseline, or decreased with unknown baseline.*

**3. Place saline lock** at time of blood draw. (IVF fluid only if indicated, e.g. poor oral intake, signs of dehydration.)

**4. Frequent vital signs** including temp and pulse oximetry, as directed by level of illness

**5. Notify Pediatric Hematology attending or NP immediately if changes** in VS or deteriorating consciousness level

**6. Administer antibiotics as soon as possible, preferably within 1 hour of arrival**

- Ceftriaxone 50 mg /kg IV (per weight-based dosing Table 3, page 2)
- *or, if allergic to cephalosporins, consider Levofloxacin (per age and weight-based dosing Table 4, page 2)*
- *or, if allergic to cephalosporins, but without anaphylaxis, consider Ampicillin 100 mg/kg/dose q6 hours (Max 2000mg/day)*

**Table 1. DISPOSITION by RISK CATEGORY**

<b>HIGH RISK</b> (any High Risk features, Table 2)	<b>LOW RISK</b> (all others)
<ul style="list-style-type: none"> <li>• <b>Admit</b> to Pediatric Hematology Oncology</li> <li>• <b>Continue</b> antibiotics until afebrile &gt; 24 hours, with negative cultures and no signs of serious bacterial infection.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Discharge</b> to home</li> <li>• Arrange <b>follow up</b> for re-evaluation in 12 to 24 hours</li> <li>• <b>Re-evaluate clinically.</b> Admit if High Risk features develop.</li> <li>• <b>Second dose</b> of antibiotics (ceftriaxone or levofloxacin per Dosing Table) 12-24 hours after first dose <i>only if fever has continued &gt; 12 hours after first dose of antibiotics.</i></li> </ul>

**Table 2. HIGH RISK CRITERIA -- ANY of the following:**

<ul style="list-style-type: none"> <li>• Age &lt; 24 months</li> <li>• Toxic appearing</li> <li>• T &gt; 103F (39.4C)</li> <li>• Decrease in O<sub>2</sub> saturation more than 3% below baseline or &lt; 91%</li> <li>• Concern regarding ability to follow up within 24 hours (e.g. no phone, uncertain transportation, frequent missed appointments, nonadherence with medical advice)</li> <li>• Interval between onset of fever and initial contact with ED or Peds Hematology &gt; 24 hours</li> <li>• More than two visits for the same febrile illness</li> <li>• Incomplete pneumococcal vaccination series</li> <li>• Known history of serious bacterial infection (e.g. bacteremia, osteomyelitis)</li> <li>• WBC &gt; 30x10<sup>3</sup>/μL</li> <li>• Absolute neutrophil count &lt; 500/μL</li> <li>• platelets &lt; 100K/μL</li> <li>• Hemoglobin &lt; 5gm/dL or 1.5 g/dL below baseline with enlarged spleen.</li> <li>• New lobar infiltrate suggestive of acute chest syndrome</li> </ul>
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## ANTIBIOTIC DOSING TABLES

**Table 3. Ceftriaxone Dosing Table**

Typical dosing is 50-75 mg/kg given IV or IM once daily.

Patient Weight	Recommended Ceftriaxone Dose
< 15kg	50 mg/kg/dose, once daily
15kg to 20kg	1000 mg, once daily
> 20kg to < 30 kg	1500 mg, once daily
≥ 30kg	2000 mg, once daily

**Table 4. Levofloxacin Dosing Table**

Typical dosing is 8-10mg/kg/dose, IV or PO, given once daily for children ≥ 5 years old, twice daily for children < 5 years old.

Patient Age	Weight	Recommended Levofloxacin Dose
< 5 years	< 47 kg	8 mg/kg/dose, twice daily
	≥ 47 kg	375 mg/dose, twice daily
≥ 5 years	< 50 kg	8 mg/kg/dose, once daily
	50 kg to 64 kg	500 mg daily
	≥ 64 kg	750 mg daily

### References:

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*Last updated: June 2019*