**Inpatient Empiric Antibiotic Guidelines for Pediatric Sickle Cell Disease (SCD) Patients with Fever, Acute Chest Syndrome, or Suspected Infection**

**Scope/Definitions**

This guideline applies to the following patient populations:

* Patients with Sickle-Cell Disease (HgbSS, Hgb SC) with:
  + New-onset fever
  + New onset respiratory symtpoms concerning for acute chest syndrome\*
  + Suspicion for bacterial infection in general

\*Acute chest syndrome, according to 2014 NIH concensus guidelines, should be considered in any patient with SCD with sudden onset of signs and symptoms of lower respiratory tract disease (e.g. some combination of cough, shortness of breath, retractions, rales, etc.) and a new pulmonary infiltrate on chest radiograph. Fever is often present but does not need to be. Essentially, anything that would be concerning for pneumonia in a non-sickle-cell patient would be concerning for Acute Chest Syndrome.

**Workup**

The following initial labs/imaging are recommended for suspected infection/fever in Sickle-Cell Disease patients in general:

* Blood culture
* Throat Culture (if symptoms compatible)
* UA/micro & Urine Culture (if symptoms compatible)
* Respiratory viral panel (if symptoms compatible)
* Lumbar pucture (if concern for meningitis)
* CBC with differential & reticulocyte count
* Basic metabolic panel
* Total & Direct Bilirubin
* Vancomycin trough (before 4th dose if starting the patient on vancomycin)

Imaging

* All patients with respiratory symptoms and/or concern for acute chest syndrome require a PA and lateral Chest X-ray as well as Acute Chest Syndrome-specific care
* Any patient with bony point tenderness not explained easily by a pain crisis, or with other concern for osteomyelitis, should receive an MRI with and without contrast of the affected area.

Additionally during the admission, all patients should have their vaccinations reviewed—Prevnar13, Pneumovax, Hib vaccine, conjugate meningococcal vaccine, and the newer MenB vaccines should all be given to any patient who is functionally asplenic, per ACIP guidelines and schedule.

**Antibiotic options**

Initial antibiotic choice depends on the presence or absence of respiratory symptoms, as well as any patient allergies:

**Patients with isolated fever**

* Ceftriaxone 75 mg/kg/dose IV/IM q24h (max 2 grams per dose)

(directed against concern for pneumococcus specifically)

**Patients with concern for acute chest syndrome**

* Ceftriaxone 75 mg/kg/dose IV/IM q24h (max 2 grams per dose)
* Azithromycin 10 mg/kg x 1 (max 500 mg) and then 5 mg/kg/dose daily x 4 more days (max 250 mg) starting 24 hours after initial dose

**Patients with concern for septic shock or with a cephalosporin allergy**

* Vancomycin 15 mg/kg/dose IV q6h (max 1 gram per dose)

**Patients with concern for osteomyelitis**

* Ceftriaxone 75 mg/kg/dose IV/IM q24h (max 2 grams per dose)
* Vancomycin 15 mg/kg/dose IV q6h (max 1 gram per dose)