Emergency Department Guideline
Fever in Hematology-Oncology Patient

Inclusion criteria:
- Hematologic malignancy or solid organ tumor patient with measured or reported fever (≥38.0°C/100.4°F)
  - For patients who are off therapy and no longer have indwelling catheters, contact hematology/oncology fellow to discuss case prior to initiating care

Triage considerations:
- NO rectal temperature measurements for these patients
- ESI triage level 2
  - Triage level 1 and immediate placement in resuscitation room if altered mental status, significant VS abnormalities, other clinical concern
- Full set of vitals including blood pressure
- Place LMX on port site if patient/family desires
  - Do NOT wait for LMX in ill-appearing/septic patients
- Acetaminophen if current fever and none given in 4 hours
  - NO ibuprofen for oncology patients
  - NO rectal acetaminophen for oncology patients
- Room immediately if at all possible; avoid waiting room exposure
- **Goal is for all patients to receive IV antibiotics within 60 minutes of arrival**

Laboratory studies:
- In all patients:
  - Obtain IV access or access indwelling line in all patients
  - CBC with diff
  - Blood culture from each port of indwelling line
    - Peripheral cultures NOT routinely indicated in patients with lines
  - Single peripheral blood culture if no line
  - UA/UC from clean catch or bag if indicated; NO catheterization
- In patients who are significantly ill-appearing:
  - CMP
  - Coagulation studies: INR, PTT, fibrinogen, D-dimer
  - Type and screen
  - iStat CG8
  - Lactate

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Fever in Hematology – Oncology Patient
November 2015
Division of Pediatric Emergency Medicine

Procalcitonin

In patients with abdominal pain or vomiting:
  - CMP
  - Lipase

Imaging:
  - CXR if respiratory symptoms

Medications/interventions:
  - **Goal is for all patients to receive first dose of IV antibiotic within 60 minutes of arrival**
  - Severely ill-appearing or toxic patients:
    - Supportive care for sepsis as needed
      - IV NS Bolus 20 ml/kg rapid push x 3 if needed to support circulation
      - Additional circulatory support per sepsis guideline
    - IV antibiotics as soon as possible:
      - **Vancomycin** 15 mg/kg IV AND
        - **Cefepime** 50 mg/kg IV OR
        - **Meropenem** 20 mg/kg IV for penicillin or cephalosporin allergy
  - Well-appearing patients who are already known or strongly suspected to be neutropenic:
    - **Cefepime** 50 mg/kg IV
  - Well-appearing patients who are not known or suspected to be neutropenic:
    - **Ceftriaxone** 50 mg/kg IV
    - If these patients are later found to be neutropenic, **ADD Cefepime** 50 mg/kg IV
  - **Acetaminophen** (Tylenol) prn fever
    - 15 mg/kg PO/IV (no PR medications in these patients)

Consultations:
  - Pediatric hematology/oncology fellow for oncology patients
  - Relevant subspecialty for other immunosuppressed patients

Reassessments:
  - Continuous cardiorespiratory monitoring with pulse ox for ill-appearing patients
  - VS with BP q1h for other patients

Differential diagnosis:
  - Fever and neutropenia
  - Sepsis/septic shock
  - Pneumonia
  - UTI
  - Typhlitis
  - Line infection
  - Viral illness
Discharge or Admission criteria:

- **PICU**
  - Intubated patient
  - Vital sign instability
  - Sepsis/septic shock requiring significant resuscitation

- **Inpatient floor**
  - Most patients with fever and neutropenia
    - Outpatient management may be appropriate for select patients at heme/onc team’s discretion
  - Other immunosuppressed patients, in consultation with the appropriate service
  - Concern for respiratory compromise
  - Poor PO intake

- **Discharge home**
  - ANC >500 (or at discretion of consultant)
  - Well-appearing
  - Tolerating PO intake
  - Reliable family with transportation and access to close (usually 1 day) follow-up
  - Agreement of relevant subspecialty representative

**Quality measures:**

- First dose if IV antibiotics within 60 minutes
- Blood cultures from all ports prior to antibiotics