Emergency Department Guideline
Fever in the Bone Marrow Transplant (BMT) Patient

The period of time after transplant during which a patient is considered a “BMT patient” varies by transplant type and indication. Physician should contact the BMT fellow early in the course of treatment to discuss the specific patient situation.

Inclusion criteria:
- Patient with measured or reported fever (≥38.0°C/100.4°F) and history of hematopoietic stem cell transplantation

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
  - NO rectal acetaminophen
- 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:
  - Access indwelling line or obtain IV access 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
  - BMP
  - Type and screen
  - Coagulation studies: INR, PTT, fibrinogen, D-dimer
  - UA/UC from clean catch or bag if indicated; NO catheterization
• In patients who are significantly ill-appearing, add the following:
  o CMP
  o iStat CG8
  o iStat Lactate
• In patients with abdominal pain or vomiting, add the following:
  o CMP
  o Lipase
  o iStat Lactate

Imaging:
• CXR if respiratory symptoms

Medications/interventions:
• Contact BMT fellow promptly to discuss each case, but in general, goal is for all patients to receive first dose of IV antibiotic within 60 minutes of arrival
• Severely ill-appearing or toxic patients and those meeting septic shock criteria:
  o 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
  o IV antibiotics as soon as possible:
    ▪ Vancomycin 10 mg/kg IV AND
    ▪ Tobramycin 2.5 mg/kg IV AND

    ▪ Cefepime 50 mg/kg IV OR
    ▪ Meropenem 20 mg/kg/ IV for penicillin or cephalosporin allergy
• All other patients:
  ▪ Cefepime 50 mg/kg IV OR
  ▪ Meropenem 20 mg/kg/ IV for penicillin or cephalosporin allergy
  ▪ Consider vancomycin in patients with history of previous line infection or strep viridans sepsis
  ▪ In patients with previous line infection, determine prior organism and sensitivities and treat accordingly
• Acetaminophen (Tylenol) prn fever
  o 15 mg/kg PO/IV (no PR medications in these patients)

Consultations:
• Pediatric BMT fellow – call immediately after initial patient assessment.

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

Admission criteria:
- PICU
  - Intubated patient
  - Vital sign instability
  - Sepsis/septic shock requiring significant resuscitation
- Inpatient floor
  - All other patients

Quality measures:
- First dose of IV antibiotics within 60 minutes
- Blood cultures from all ports prior to antibiotics