**Guideline for Inpatient Management of Pediatric Oncology and BMT Patients with Fever**

**Pediatric Oncology and BMT patients are at high risk for infection and related complications. Management goals include:**

1. Prompt initiation of broad-spectrum antibiotics (within 1 hour) for neutropenic patients and clinically unstable non-neutropenic patients
2. Identification and appropriate treatment of serious infections
3. Avoidance of antimicrobial resistance, superinfection, and other adverse effects of antimicrobial therapy

*Note: For this guideline “BMT” patient refers to any patient on the BMT service who is undergoing or has undergone any form of hematopoietic stem cell transplantation (e.g., peripheral blood stem cell transplant, umbilical cord blood transplant, bone marrow transplant).*

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**Clinical Assessment:**
Clinitest examine patient with particular attention to oral mucosa, sphen, respiratory and abdominal exams, petechial and central line exit site. Avoid oral cavity, rectal temperature and/or digital rectal examination.

Additional diagnostic evaluation (e.g., U/A, UCs, viral studies, CXR, abd Imaging) should be performed as clinically indicated.

**Supportive Care:**
For clinically unstable patients, implement other supportive care measures (e.g. fluid resuscitation) concurrently with antibiotics, as clinically indicated.

Patients may require acamitocin (Tylenol) at age-appropriate dose for fever reduction after evaluation is initiated for fever. Do not give NSAsID or aspirin due to platelet inhibition effects.

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**Non-Neutropenic Fever:**

**Clinical Presentation:**
Fever with no evidence of infection.

**Diagnosis:**
- No history of infection
- No constitutional symptoms
- Normal vital signs

**Management:**
- Reassess every 4 hours
- Monitor for signs of infection

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**Fever & Neutropenia Risk Stratification**

**High Risk:**
- Any of the following
  - Clinical instability (refer to institutional pathway to list for these patients)
  - Hematologic malignancy in induction, consolidation, or delayed methotrexate
  - Acute myeloid leukemia with isolated or documented disease
  - Neutropenia lasting 5 days

**Low Risk:**
- No high risk criteria
- All of the following
  - Neutropenia lasting < 5 days
  - Appears clinically well

**Patient Management:**
- If patient remains febrile, continue monitoring

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**Modification of Therapy for Fever and Neutropenia**

**Fiscal Infection:**
If fever or infection is identified, broaden the antibiotic regimen if needed to treat the fever site, regardless of clinical stability or status.

**For patients on combination therapy:**
Discontinue double coverage for Gram-negative infection and/or empiric ampicillin at 48 hours if the patient stabilizes and there is no microbiologically documented resistant infection.

**Criteria for discontinuation of therapy (if no documented infection):**

- Negative blood cultures x 48 hours, afebrile x 24 hours, and evidence of bone marrow recovery
  - For Oncology patients, ANC > 200 and rising significantly and ANC > 100
  - For BMT patients, ANC > 100 and rising significantly

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**Reference:**

These guidelines are not advisory treatment pathway. They are intended to replace clinical judgment. Delegation of care may be indicated for patients who require less frequent follow-up. The following changes to the guidelines may be necessary.

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**Non-Neutropenic Fever Management:**

**Observation without antibiotics:**
Standard management approach for clinically stable non-neutropenic patients on the Inpatient Oncology service who have fever and no apparent local infection source (especially when an alternative non-infectious explanation is present), with the following exceptions:

- Age < 6 months
- Recipient of HSCT within past 6 months
- Immunocompromised condition (e.g. aplastic or primary immunodeficiency)

These guidelines are meant for patients who are monitored closely for clinically stable neutropenic patients, give ceftazidime according to ED Pathway for Fever in Oncology and BMT Patients.