Febrile Neutropenia Guideline for Complex Malignant Haematology

**Single oral temperature of** 38.3°C or sustained oral temperature of ≥ 38.0°C for > 1 h
**AND:** ANC ≤ 0.5 x 10⁹/L

**SEVERE BETA-LACTAM ALLERGY**

- Clindamycin 600 mg IV q8h
  - **AND:** Tobramycin 7 mg/kg IV q24h
    (order tobramycin peak level and random 8-12h level)

- **If pneumonia suspected:**
  - Meropenem 500 mg IV q6h
    (dose adjustment required in renal dysfunction)
  - **AND:** Azithromycin 500 mg po q24h

- *Consider Infectious Diseases referral for allergy assessment and testing*

**NO ALLERGY**

- Start Piperacillin/tazobactam 4.5 g IV q6h *†
  (dose adjustment required in renal dysfunction)

- *Meropenem (500 mg IV q6h) may be used as an alternative in the setting of a suspected ESBL infection (known colonization with ESBLs) or septic shock*

- † Add azithromycin 500 mg po q24h
  if pneumonia suspected

- **Consider the addition of IV vancomycin* in the following situations:**
  - Hemodynamic instability
  - Suspected catheter-related sepsis or *Staphylococcus aureus* bacteremia pending susceptibility
  - Colonization with MRSA

- **Consider the addition of IV tobramycin* in the following situations:**
  - Hemodynamic instability
  - Suspected *Pseudomonas* sepsis pending susceptibilities to piperacillin-tazobactam

- **Suspected or documented C. difficile infection:**
  - Add vancomycin 125 mg po QID

- *NOTE: Re-assessment within 24-48 hours based on clinical status and culture results*

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Febrile Neutropenia for Hematologic Malignancies

**RE-EVALUATE THERAPY ON DAY 3**

**PERSISTENT FEVER**

**AFEBRILE x 48 HOURS**

Infectious etiology identified?

**NO**

If initial fever thought to be leukemia-related, may consider discontinuing antimicrobial therapy

Otherwise: Consider oral therapy in patients who are clinically well

**Options:**
Cephalexin 500mg po QID
AND: Ciprofloxacin 750mg po BID*

**OR**
Amoxicillin/clavulanate 875/125mg po BID
AND: Ciprofloxacin 750mg po BID*

*dose adjustment required in renal dysfunction

**ANC < 0.5**

Treat for 7-14 days based on clinician discretion

**ANC ≥ 0.5**

If ANC ≥ 0.5 and patient afebrile for 2 days, consider discontinuing antibiotics

**YES**

**ANC < 0.5**

Maintain broad-spectrum coverage while patient remains neutropenic (ANC < 0.5).

Once ANC > 0.5 x 2 consecutive days: Narrow antibiotic selection to target the specific diagnosed infection.

Route and total duration of therapy should be based on site/type of infection and clinical status of patient.

**ANC ≥ 0.5 for 2 consecutive days**

Narrow antibiotic selection to target the specific diagnosed infection.

Route and total duration of therapy should be based on site/type of infection and clinical status of patient.

*sunnybrook.ca/antimicrobialstewardship
Febrile Neutropenia for Hematologic Malignancies

**PERSISTENT FEVER ON DAY 3**

- **Patient is clinically unstable**
  or demonstrating signs of clinical deterioration
  (e.g. evidence of poor perfusion – hypotension, oliguria, impaired consciousness)
  
  Consider broadening antimicrobial therapy
  **Consult Infectious Diseases**

- **Patient is clinically stable**

  An unexplained persistent fever in a patient whose condition is otherwise stable **does not** require an empirical change to the initial antibiotic regimen

  **Continue empiric therapy**

  The need for adjunctive antibiotic therapies should be re-assessed based on culture results

**RE-EVALUATE THERAPY ON DAY 4 – 5**

- **AFEBRILE x 48 HOURS**

  **ANC < 0.5**

  (and no new infections identified)

  Treat for **7-14 days** based on clinician discretion in the absence of a documented infection that may require a longer duration.

  May consider oral step down if patient is clinically well, but maintain broad-spectrum coverage while patient is neutropenic (ANC <0.5).

  **ANC ≥ 0.5**

  **Consult Infectious Diseases**

  Empiric antifungal therapy is rarely required before day 7 of febrile neutropenia

- **PERSISTENT FEVER**

  **If ANC ≥ 0.5 x 2**

  consecutive days and patient is afebrile x 2 days, may discontinue antibiotics in the absence of a documented infection that may require a longer duration.