

**SICKKIDS EMERGENCY DEPARTMENT :  
GUIDELINE FOR MANAGEMENT OF HEALTHY CHILDREN WITH FIRST  
EPISODE OF FEBRILE NEUTROPENIA**

**INCLUSION CRITERIA**

- Age  $\geq$  6 months
- First episode of febrile neutropenia
- Absolute neutrophils counts (neutrophils + bands)  $< 0.5 \times 10^9/L$

↓ YES

**RISK FACTORS**

**Any of the following present?**

- Ill appearance
- Immunocompromised <sup>1</sup>
- Mucositis
- Intravascular device
- Neutropenia for 2 weeks or greater
- Previous severe, recurrent and/or unusual infection <sup>2</sup>
- Other comorbidity <sup>3</sup>
- Routine immunizations not up to date
- Consanguinity
- Family history neutropenia, significant infections, myeloid malignancy (MDS/AML)

→ YES

↓ NO

**LABORATORY RESULTS**

**Any of the following present?**

- ANC  $0.2 \times 10^9/L$  or less
- Anemia, unless otherwise explained (thalassemia trait, known or high index of suspicion for iron deficiency etc.)
- High MCV
- Thrombocytopenia (less than  $150 \times 10^9/L$ )
- Lymphopenia

→ YES

↓ NO

**Are there any concerns regarding follow-up?**

- Challenge with communication
- Concern regarding timely follow-up
- Significant financial/social challenges that would impact follow-up plan and recommendations

→ NO

↓ NO

**GUIDELINE  
DOES NOT  
APPLY**

**LOW RISK PATIENT**

- Admission and antibiotics are not routinely indicated
- Ensure blood cultures completed
- Follow-up in 24-48h with primary care physician (if unavailable, arrange scheduled follow-up)
- Provide return to ED precautions and follow-up instructions <sup>4</sup>

<sup>1</sup> Immunocompromised (please note this is not an exhaustive list):

- Oncology
- Transplant
- Primary immunodeficiency
- Immunosuppressant therapy
- Aplastic anemia or other bone marrow failure

<sup>2</sup> Previous severe, recurrent and/or unusual infection (please note this is not an exhaustive list):

- Meningitis
- Sepsis
- Severe pneumonia
- Abscess

<sup>3</sup> Other comorbidity (please note this is not an exhaustive list):

- Chronic medical condition/illness
- Chronic lung disease
- Cardiomyopathy
- Global developmental delay
- Failure to thrive
- Short stature
- Dysmorphism
- Congenital anomalies

<sup>4</sup> Follow-up:

- CBC to be redrawn 1 month later to confirm resolution of neutropenia
  - If abnormal, CBC should be redrawn 2 months later (3 months after ED visit)
  - Outpatient referral to hematology if persistent neutropenia after 3 – 6 months or sooner if abnormalities in other cell lines develop