Febrile Neutropenia Pathway
Hematology & Oncology Patients
Evidence Based Outcome Center

Criteria for High Risk Febrile Neutropenia Episode
• Age < 1 year
• Diagnosis of Trisomy 21
• Cancer associated co-morbidities
• AML
• Infant ALL
• ALL at diagnosis/relapse < 28 days or not yet in remission
• ALL not yet in remission
• Intensive B-NHL/relapse Leukemia protocol

Medical Conditions
• Evidence of Focal Infection
• Hypotension, shock, hemorrhage, dehydration, or organ failure
• Changes in respiratory status (i.e. hypoxia, distress, compromise, pneumonitis)
• New onset abdominal pain, mucusitus (requiring IV narcotics, unable to tolerate PO), or perirectal/other soft tissue abscess
• Altered mental status, neurological changes, or irritability/meningism

Other
• Readmission after discharge as “Low Risk” patient

High Risk of Invasive Fungal Disease
• AML
• High Risk ALL
• High Dose Steroids
• Relapsed ALL/AML
• Allogenic HSCT

Inclusion Criteria (Clinic, Emergency Department, or Hospitalized patients)
• Fever defined as oral or axillary temperature > 101°F (38.3°C) once OR two temperatures > 100.4°F (38.0°C) in a 1 hour period
• Neutropenia defined as ANC < 500/mm3 or expected decline to < 500/mm3 in the next 48 hours
• Actively receiving treatment or within 6 months of completing treatment for the cancer diagnosis

Always admit patient and begin intravenous antibiotics for minimum 36-48 hours, initiate Cefepime
Consider additional or alternative antibiotic if known history of resistant pathogen or allergy
(Refer to Addendum 1 for additional antibiotic guidance)
• Obtain blood culture from all lumens of central venous catheter (CVC)
• Consider peripheral blood culture when obtaining culture from CVC

Febrile Neutropenia Antibiotic Management Guidelines
• Meets Criteria for Early Discharge?
  Criteria:
  • Well appearing
  • Afebrile ≥ 24 hours
  • Blood culture negative ≥ 36-48 hours

Evidence of Bone Marrow Recovery:
• ANC > 500/mm3
• At least 2 consecutive increasing ANC values AND last ANC > 100/mm3

Outpatient Oral Antibiotic Therapy
• First Line Antibiotic: Ciprofloxacin
• To be taken until evidence of bone marrow recovery

Discontinue anti-infectives and/or De-escalate for focal infection

Discharge
(Refer to Addendum 2 for Outpatient Follow-up Instructions)

Evidence of Bone Marrow Recovery:
No
Discontinue anti-infectives and/or De-escalate for focal infection

Evidence of Bone Marrow Recovery:
No
No

Early Discharge Criteria for Low Risk Patients
• Caregivers demonstrate understanding of outpatient follow-up instructions
• Antibiotic prescription is filled and delivered prior to discharge or easily accessible by caregivers immediately after discharge
• Lives within 1 hour and no social concerns

Evidence of Focal Infection
Yes
Sepsis Pathway

Fever Resolves in < 96 hours?
Yes
No

Fever Resolves in < 96 hours?
Yes
No

Evidence of Bone Marrow Recovery:
Yes
No

Evidence of Bone Marrow Recovery:
No

High Risk of Invasive Fungal Disease
No

Sepsis Pathway

Meets Criteria for High Risk?
Yes
No

Meets Criteria for Early Discharge?

Meets Criteria for Early Discharge?

Clinically unstable or new findings:
Assess current Antibiotics
Febrile Neutropenia Antibiotic Management Guidelines

Antifungals not routinely recommended

ADD Liposomal amphotericin B Or micafungin

Manage Off Pathway
Consider ID Consult

EXCLUSION CRITERIA
• Aplastic Anemia (due to no expected bone marrow recovery)
• Bone Marrow Failure Syndrome (acquired/congenital)
• Lack of oncology diagnosis (i.e. viral supression)

For questions concerning this pathway, Click Here
Last Updated August 3rd, 2019
Febrile Neutropenia Antibiotic Management Guidelines
Hematology & Oncology Patients

High Risk Febrile Neutropenia Episode
OR
Low Risk Febrile Neutropenia Episode Not Meeting Criteria for Early Discharge

Is the Patient Hemodynamically Stable?

NO

Cephalosporin Allergy?

NO

Continue Cefepime*

YES

Anaphylactic Penicillin Allergy?

NO

Piperacillin/ Tazobactam

YES

Is the Patient Hemodynamically Stable?

NO

ADD Vancomycin And ADD Tobramycin

YES

ADD Meropenem
And Vancomycin

Is abdominal pain, mucositis, perirectal abscess, colitis, and/or typhlitis present?

ADD Vancomycin
(if not already receiving)

ADD Tobramycin
(if not already receiving)

Culture Positive for Gram Positive?

NO

ADD Vancomycin
(if not already receiving)

YES

Blood Culture Positive?

NO

Febrile Neutropenia Pathway

YES

De-escalate Therapy Based on Susceptibilities
And
Complete Appropriate Duration of Therapy Based on Site/Source of Infection

ADD Metronidazole
*Not needed if on piperacillin/tazobactam*

If clinically stable, empiric therapy should not be changed based on persistent fever alone 🌈

For questions concerning this pathway, Click Here
Last Updated August 1st, 2019

* if patient has penicillin allergy cefepime can be used*