Febrile Neutropenia Empiric Treatment

2 months and older

(Adapted with Permission by IWK)

Patient: _____

❏ Alert Record Reviewed   ❏ No Allergies Known

❏ Allergies–Adverse Reactions–Cautions: _____

Age _____   Patient's Weight _____ kg   Date of Patient's Weight _____

DIAGNOSIS: _____

Items preceded by a **bullet** (•) are active orders. Items preceded by a **checkbox** ( ) are only actioned if checked (√)

Refer to the APPHON website for the link to the complete guidelines (https://www.apphon–rohppa.com)

• **Phone pediatric oncologist immediately**. Time consulted: _____ hours

FLUIDS AND NUTRITION

• NaCL 0.9% at (1.5 x maintenance, maximum 150 mL/hour) _____ mL/hour IV, reassess daily and step down to maintenance daily fluid intake once patient is afebrile and stable

INVESTIGATIONS

• CBCD, lactate, Na+, K+, creatinine, blood glucose within 30 minutes of arrival

❏ Blood gas if hemodynamically unstable

• Blood from all CVL lumens (peripheral only if no CVL*) for culture and sensitivity within 30 minutes of arrival and prior to starting IV antibiotics (*if blood is drawn from CVL there is no need to draw an additional peripheral culture)

❏ Urinalysis   ❏ Urine culture (no PUC samples – all urine cultures must be midstream or catheter only)

❏ NPA (PCR) for: ❏ Influenza/RSV   ❏ Extended viral panel (ID approval required)
          ❏ COVID19 (if extended viral panel not available

❏ Throat mycoplasma

❏ Other: _____

Repeat daily:

• CBCD, Na+, K+ while receiving daily IV fluids, and daily creatinine if receiving vancomycin or tobramycin

• Blood cultures from all lumens for culture and sensitivity **if** temperature is greater than or equal to 38° C one hour apart or greater than or equal to 38.3° C, or if patient appears unwell.

MONITORING

• BP, HR, RR, O_2 saturation and temperature q1h until stable, then q4h

DIAGNOSTIC IMAGING

If clinically indicated ❏ Chest X–ray ❏ Other: _____

MEDICATIONS

• **All patients to receive antibiotics within 60 minutes of presentation, or less as indicated below**

• **Alternate antibiotics through each lumen once daily**

If NO penicillin allergy AND [For IWK inpatients ONLY; NOT receiving or clearing high dose methotrexate]:

❏ 2 to 6 months of age: piperacillin–tazobactam (80 mg/kg/dose, max:4000 mg/dose) _____ mg IV q6h

❏ 6 months and greater: piperacillin–tazobactam (100 mg/kg/dose, max:4000 mg/dose) _____ mg IV q6h
   (Dosing based on piperacillin component)

If penicillin allergy OR [For IWK inpatients ONLY; receiving or clearing high dose methotrexate]:

❏ cefepime (50 mg/kg/dose, max: 2000 mg/dose) _____ mg IV q8h

If patient presents with abdominal or perianal tenderness or possible typhlitis and is not receiving piperacillin–tazobactam or meropenem ADD:

❏ metrondiazole (10 mg/kg/dose, max: 500 mg/dose) _____ mg IV q8h

For UNSTABLE patient or patient with line associated infection
ADD vancomycin (to be started immediately after blood cultures drawn):

❏ Less than 12 years of age: vancomycin (15 mg/kg/dose, max: 1000 mg/dose) _____ mg q6h

❏ 12 years of age and older: vancomycin 15 mg/kg/dose, max: 1000 mg/dose) _____ mg q8h

• Vancomycin–Pre (trough) level pre 4th or 5th dose

AND (for unstable patient)

❏ Less than or equal to 6 years of age: tobramycin (10.5 mg/kg/dose, max: 400 mg/dose) _____ mg IV q24h

❏ Greater than 6 years of age: tobramycin (8 mg/kg/dose, max: 400 mg/dose) _____ mg IV q24h

• Tobramycin–Post (peak) level 30 minutes after first infusion complete

_____
_____ _____ _____ _____
DATE (yyyy/MON/dd)   Time (24hour/hh:mm)   Prescriber Signature   Printed Surname/Registration #

_____ _____ _____ _____
DATE (yyyy/MON/dd)   Time (24hour/hh:mm)   Verified By (Signature)   Printed Surname

Note: Page 2 Clinician Information Only

"Unofficial document if printed.
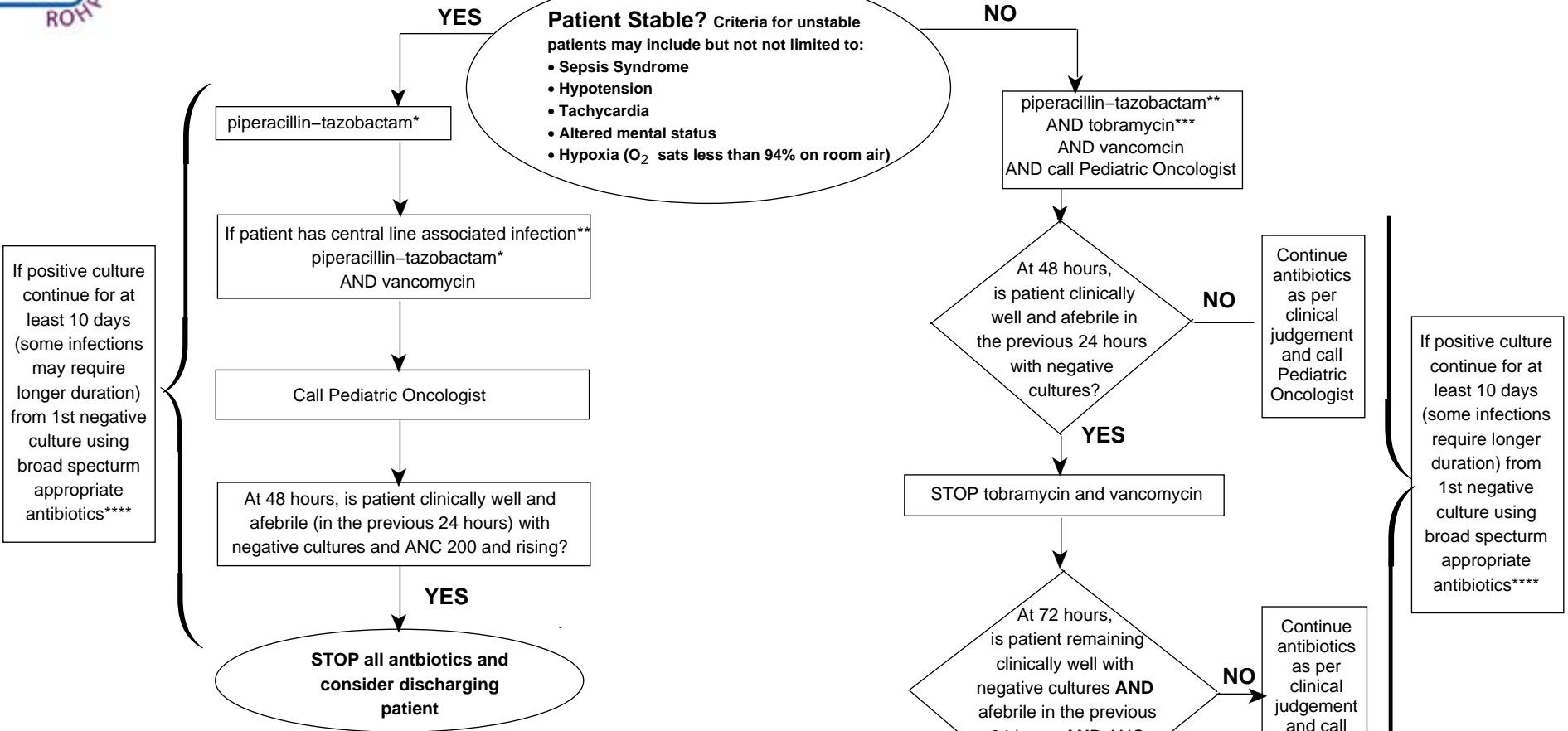To ensure this is the latest version, please see
www.apphon-rohppa.com "

Febrile Neutropenia Orders and Algorithm
for treatment of children less than 2 months of age see APPHON guideline (https://www.apphon-rohppa.com)

Patient Stable? Criteria for unstable patients may include but not not limited to:
- Sepsis Syndrome
- Hypotension
- Tachycardia
- Altered mental status
- Hypoxia (O_2 sats less than 94% on room air)

YES →

piperacillin–tazobactam*

↓

If patient has central line associated infection**
piperacillin–tazobactam*
AND vancomycin

↓

Call Pediatric Oncologist

↓

At 48 hours, is patient clinically well and afebrile (in the previous 24 hours) with negative cultures and ANC 200 and rising?

YES ↓

STOP all antbiotics and consider discharging patient

If positive culture continue for at least 10 days (some infections may require longer duration) from 1st negative culture using broad specturm appropriate antibiotics****

NO →

piperacillin–tazobactam**
AND tobramycin***
AND vancomcin
AND call Pediatric Oncologist

↓

At 48 hours, is patient clinically well and afebrile in the previous 24 hours with negative cultures?

NO → Continue antibiotics as per clinical judgement and call Pediatric Oncologist

YES ↓

STOP tobramycin and vancomycin

↓

At 72 hours, is patient remaining clinically well with negative cultures **AND** afebrile in the previous 24 hours **AND** ANC 200 and rising?

NO → Continue antibiotics as per clinical judgement and call Pediatric Oncologist

YES ↓

Consider stopping antbiotics and discharging patient in consultation with Pediatric Oncologist

If positive culture continue for at least 10 days (some infections require longer duration) from 1st negative culture using broad specturm appropriate antibiotics****

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* If penicillin **ALLERGIC OR** receiving or clearing high–dose methotrexate, use cefepime instead of piperacillin–tazobactam

** Central line associated infection (CLABSI) may present as fever and/or rigors related to recent access to the CVAD, infection at the catheter exit side or as infection along the subcutaneous course of the catheter

*** Any patient with hearing loss (sensorineural hearing loss 30 dBHL or greater at one or more frequencies between 250 Hz to 4000 Hz) **OR** renal impairment (i.e. GFR 60 mL/min/1.73 m^2 or less, serum creatinine 1.5 times upper limit of normal for age) **AVOID** aminoglycoside and contact pediatric hematologist/oncologist or infectious disease specialist. In these cases antibiotics of choice are meropenem (20 to 40 mg/kg/dose IV q8h maximum 6 g/day) AND vancomycin

**** Redraw culture from all lumens to ensure negative before discontinuation of antibiotics