INCLUSION CRITERIA

Patient with cancer undergoing therapy, patient with bone marrow failure, or patient undergoing BMT presenting with fever of 38.0 lasting >1 hr OR any one fever ≥ 38.3

OUTPATIENT ONSET

Patient presents to an outpatient location with fever

Labs:
- Blood cultures per Aflac policy
- CBC-Diff
- CMP
- COVID-19 testing
- RVP if respiratory symptoms

Stable or unstable?

Unstable → See Sepsis Pathway
Consider ID consult

Stable

Administer cefepime.
- If allergic, give zosyn
- If history of anaphylaxis, give meropenem

Abdominal pain or concern for typhlitis?

Yes →
All FN patients with significant abd pain should have:
1. Anaerobic coverage
   - Add metronidazole to cefepime, or
   - Zosyn is sufficient for those with cefepime allergy
   - Use meropenem + vancomycin if patient is unstable
2. Obtain abdominal imaging
   - Ultrasound limited (bowel) preferred
   - CT with IV and oral contrast if ultrasound equivocal or concerned for bowel perforation

No

ANC ≥ 500 and clinically well?*

No → Admit to Hem/Onc floor

Yes → Discharge patient[1]

Order:
- Daily CBC Diff
- Daily linen changes
- Daily baths
- Daily mouth care
- CMP twice weekly

Following day during morning rounds, complete the Flow Sheet and Safety Checklist to determine patient's discharge criteria

Does patient have a high risk diagnosis[2]?

No

Yes → Remain admitted through count recovery[3] and afebrile x24 hours.
Hem/onc only: Discontinue antibiotics and resume antibiotic prophylaxis for high risk patients after 7 days if cultures are negative, patient is well appearing & afebrile, even if counts have NOT recovered.

TO BE INCLUDED IN PHASE 2 OF PATHWAY GO-LIVE

1. BMT Disposition

Disposition for BMT patients should be determined by BMT team.

2. High Risk Diagnoses

- Leukemia not in remission
- Infant leukemia (<1 year)
- AML
- Congenital immunodeficiency
- Bone marrow failure syndrome
- Trisomy 21
- BMT

3. Count Recovery (hem/onc only)

Post nadir APC ≥ 100

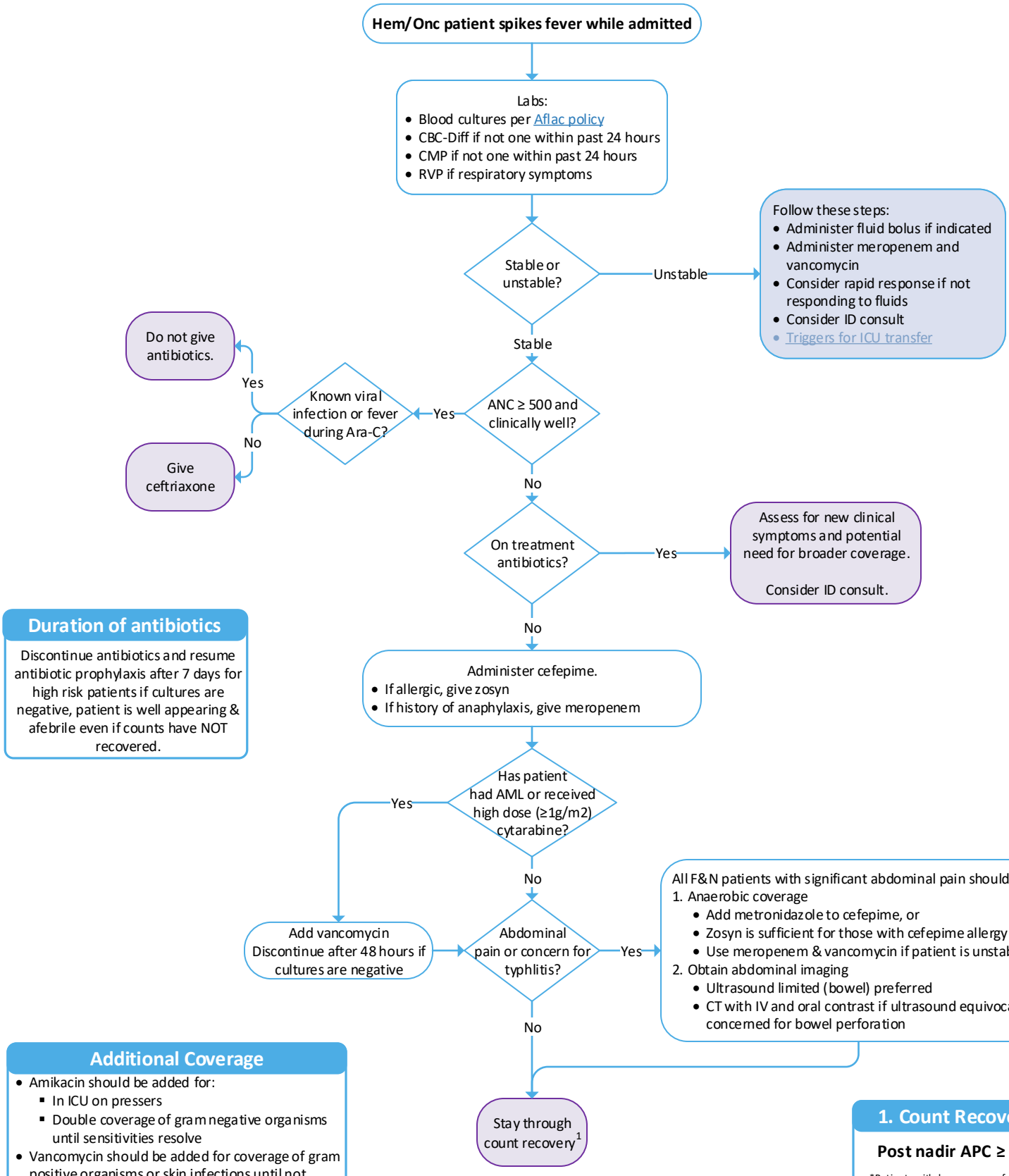
*Patients with bone marrow failure do not require count recovery for discharge

Additional Coverage

- amikacin should be added for:
  - In ICU on pressors
  - Double coverage of gram negative organisms until sensitivities result
- Vancomycin should be added for coverage of gram positive organisms or skin infections until not indicated

Approval: January 28, 2022

INPATIENT ONSET – Hem/Onc Only



Duration of antibiotics

Discontinue antibiotics and resume antibiotic prophylaxis after 7 days for high risk patients if cultures are negative, patient is well appearing & afebrile even if counts have NOT recovered.

Additional Coverage

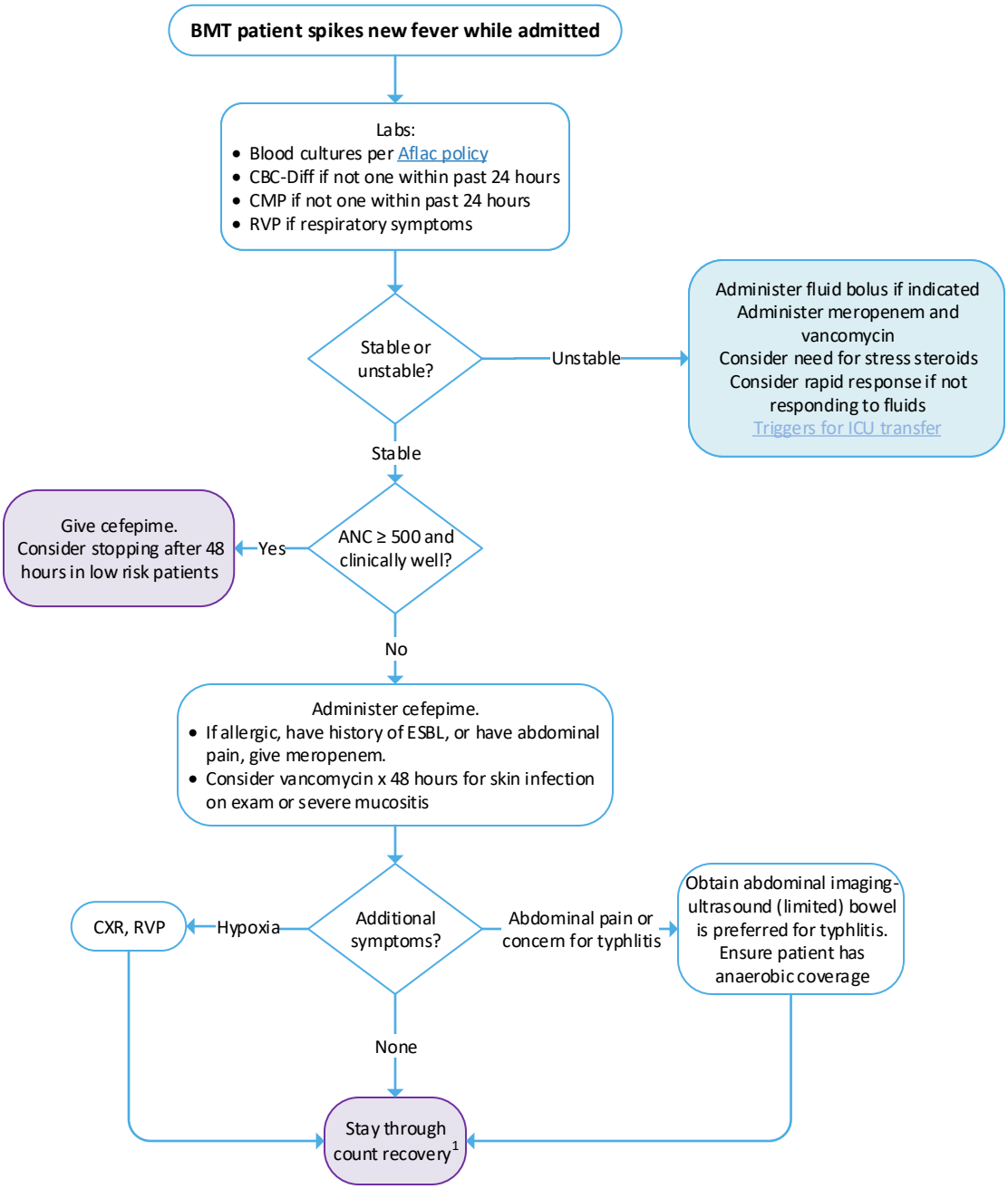
- Amikacin should be added for:
  - In ICU on pressers
  - Double coverage of gram negative organisms until sensitivities resolve
- Vancomycin should be added for coverage of gram positive organisms or skin infections until not indicated

1. Count Recovery

Post nadir APC ≥ 100

*Patients with bone marrow failure do not require count recovery for discharge

INPATIENT ONSET – BMT Only

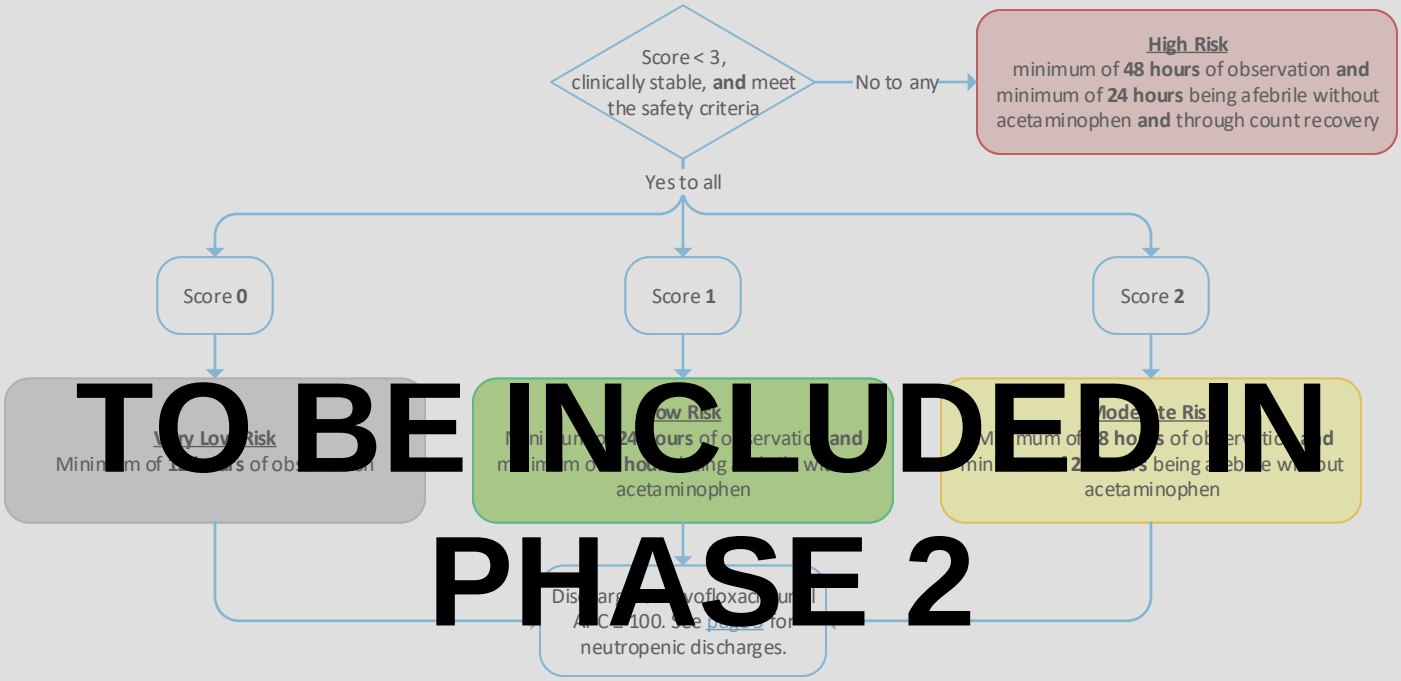


1. Count Recovery

Post nadir ANC ≥500 for 3 days

AUS SCORE- Oncology Outpatient Onset Only

AUS-Rule Variables	Yes	No
Preceeding chemotherapy more intensive than ALL maintenance*	1	0
Admission Total WBC < $0.3x10^9$/L	1	0
Admission platelet count < 50,000 (*Valid even if recently transfused)*	1	0
TOTAL SCORE:		
* Includes: ALL maintenance, LCH maintenance, or weekly vinblastine alone (low grade glioma)		



SAFETY CHECKLIST

Eligibility criteria for discharge home/parent-led care. Must be YES to all to proceed to home care.

Criteria	Eligible	Not Eligible
Not one of the following: Leukemia not in remission, infant leukemia (<1 year), AML, congenital immunodeficiency, bone marrow failure, Down Syndrome	yes	no
No suspected bacterial infection that requires inpatient care*	yes	no
No medical complication requiring inpatient care**	yes	no
No severe sepsis at FN presentation ***	yes	no
In home presence of caregiver 24 hours per day through count recovery	yes	no
Good education of patient and caregiver on reportable symptoms	yes	no
Availability of a reliable communication (i.e. telephone response)	yes	no
Within 1-hour of an emergency room	yes	no
Ability to comply with discharge instructions or take oral medications	yes	no
* Including but not limited to CVAD cellulitis, perianal cellulitis, significant pneumonia, infection with MDR organism ** Including but not limited to pain requiring IV analgesia, need for IVF, oxygen requirement *** Any of the following: altered conciousness, inotrope requirement, fluid bolus >40mL/kg		
If well, abnormal CXR is not a contraindication to oral antibiotics		

PATIENT DISCHARGED ON ANTIBIOTICS WHILE STILL NEUTROPENIC – ONCOLOGY ONLY

Neutropenic Oncology patient discharged

Everyone needs:
- Local labs within 4 days to recheck counts
- Home levofloxacin for 7 days to allow for count recovery

RN calls patient daily for:
- Ask about fever (Tmax in last 24hrs), change in sx (new URI Sx, skin etc), ask about PO tolerance and taking antibiotics without vomiting
- Check blood culture to make sure remains negative
- Antibiotics stopped if APC ≥ 100 AND afebrile x 24 hours AND clinically well (tolerating PO, No Resp distress, baseline activity)

Note: Weekend plan TBD

1. Reevaluation Criteria

Any of the following:
- New fever after afebrile for >24hrs, or 48-72 hours of ongoing fever in a patient discharged febrile
- Positive blood culture
- Observed PO challenge in ED, day hospital or clinic and CBCdiff

2. Count Recovery

Post nadir APC ≥100

Does patient meet reevaluation criteria?

No to all

Yes to any

TO BE INCLUDED IN PHASE 2 OF PATHWAY GO-LIVE

New fever after afebrile for >24hrs, or 48-72 hours of ongoing fever in a patient discharged febrile

Is APC ≥ 100

Yes

Readmit for a minimum of 24 hours of observation on IV abx. Must be afebrile prior to discharge.

No

Re-admit for observation with IV abx, stay through count recovery[2] and afebrile

Positive blood culture

Send to ED for repeat culture before antibiotics and admit for observation/treatment with IV antibiotics

Observed PO challenge in ED, day hospital or clinic and CBCdiff

Pass PO challenge, including PO levofloxacin?

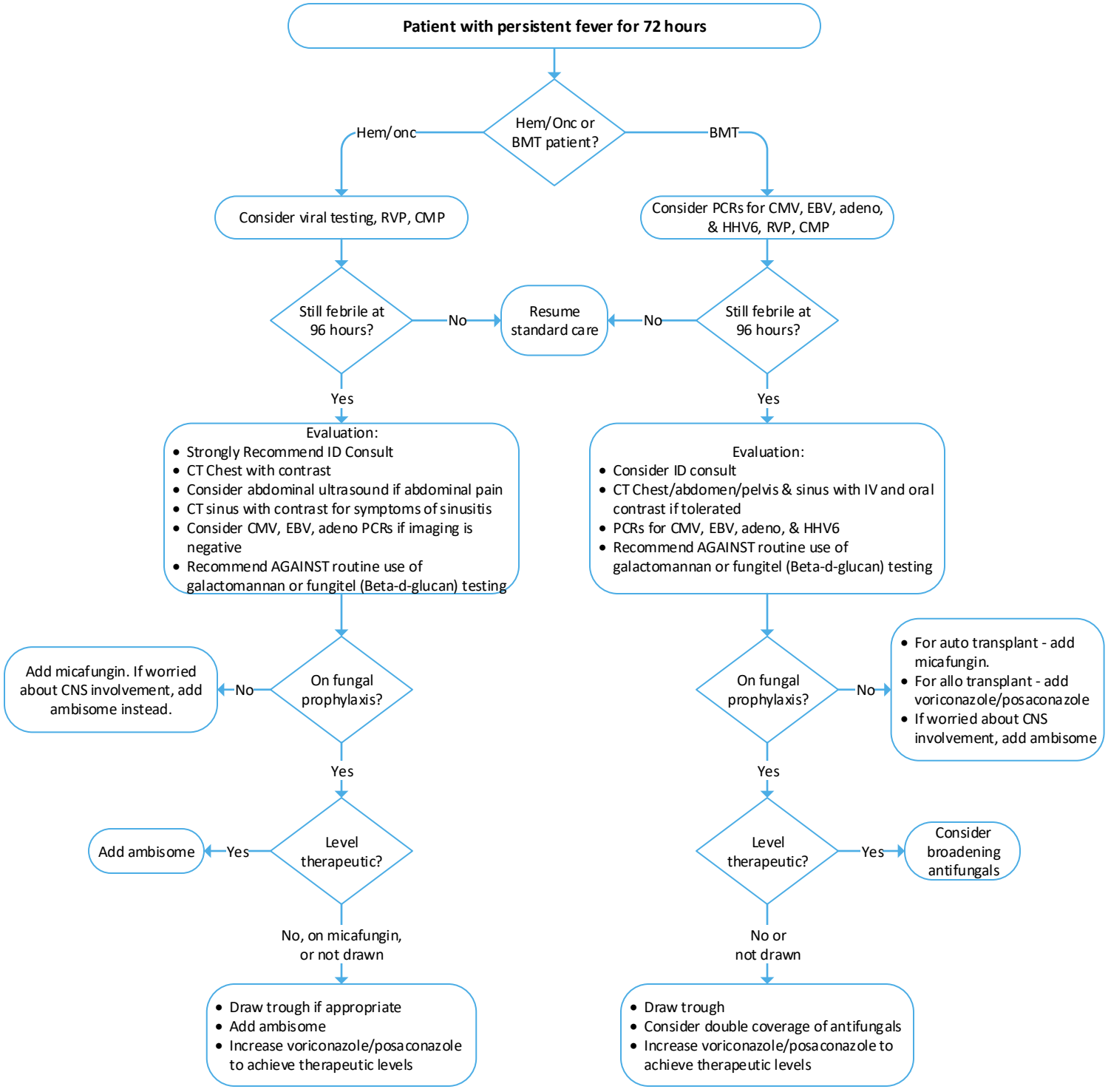
Yes

Consider discharge home. Continue levo if APC < 100

No

Readmit for observation and IV antibiotics through count recovery[2] and afebrile for 24 hours

PROLONGED FEVER



Return of recurrent persistent fever after being afebrile

Consider fungal workup similar to mentioned in this flowsheet for patients with recurrent fever on appropriate antibiotics. Unless concern for focal gram + infection, vancyomycin does not need to be restarted for hem/onc patients.

DRUG DOSING

Drug	Dose	Frequency	Max Dose	Comments
Ambisome - CNS	5 mg/kg IV	every 24 hours	N/A	
Ambisome - non CNS	3 mg/kg IV	every 24 hours	N/A	
amikacin	10 mg/kg/dose IV	every 8 hours	500 mg	
cefepime	50mg/kg IV	every 8 hours	2,000mg	
levofloxacin < 5yo	10 mg/kg/dose IV/PO	twice daily	N/A	
levofloxacin ≥ 5yo	10 mg/kg/dose IV/PO	once daily	750 mg	
meropenem - CNS	40 mg/kg IV	every 8 hours	2,000 mg	
meropenem - non CNS	20 mg/kg IV	every 8 hours	1,000 mg	
metronidazole	10 mg/kg IV/PO	every 8 hours	500 mg	
micafungin	3 mg/kg IV	every 24 hours	150 mg	
piperacillin-tazobactam	100mg/kg IV	every 8 hours	4000 mg	
posaconazole - IV or PO tablets	Loading: 10 mg/kg x 2 doses IV/PO Maintenance: 10 mg/kg IV/PO	Loading: every 12 hours Maintance: every 24 hours	300 mg	Treatment tough: > 1000 ng/mL
posaconazole - PO liquid formulation	10 mg/kg PO	every 8 hours	200 mg	
vancomycin	20 mg/kg IV	every 8 hours	1,000 mg	
voriconazole < 12 yrs or 12 - 14 years and < 50 kg	9 mg/kg IV/PO	every 12 hours	350 mg	Treatment trough: > 2mcg/mL
voriconazole 12 - 14 yrs and > 50 kg or ≥ 15 yrs	Loading: 6 mg/kg x 2 doses IV/PO Maintenance: 4 mg/kg IV/PO	every 12 hours	LD: 400 mg MD: 200 mg	

REFERENCES

COMING SOON

REVISION HISTORY

Rev	Change Description	Date
0	Initial document creation	2/1/2022