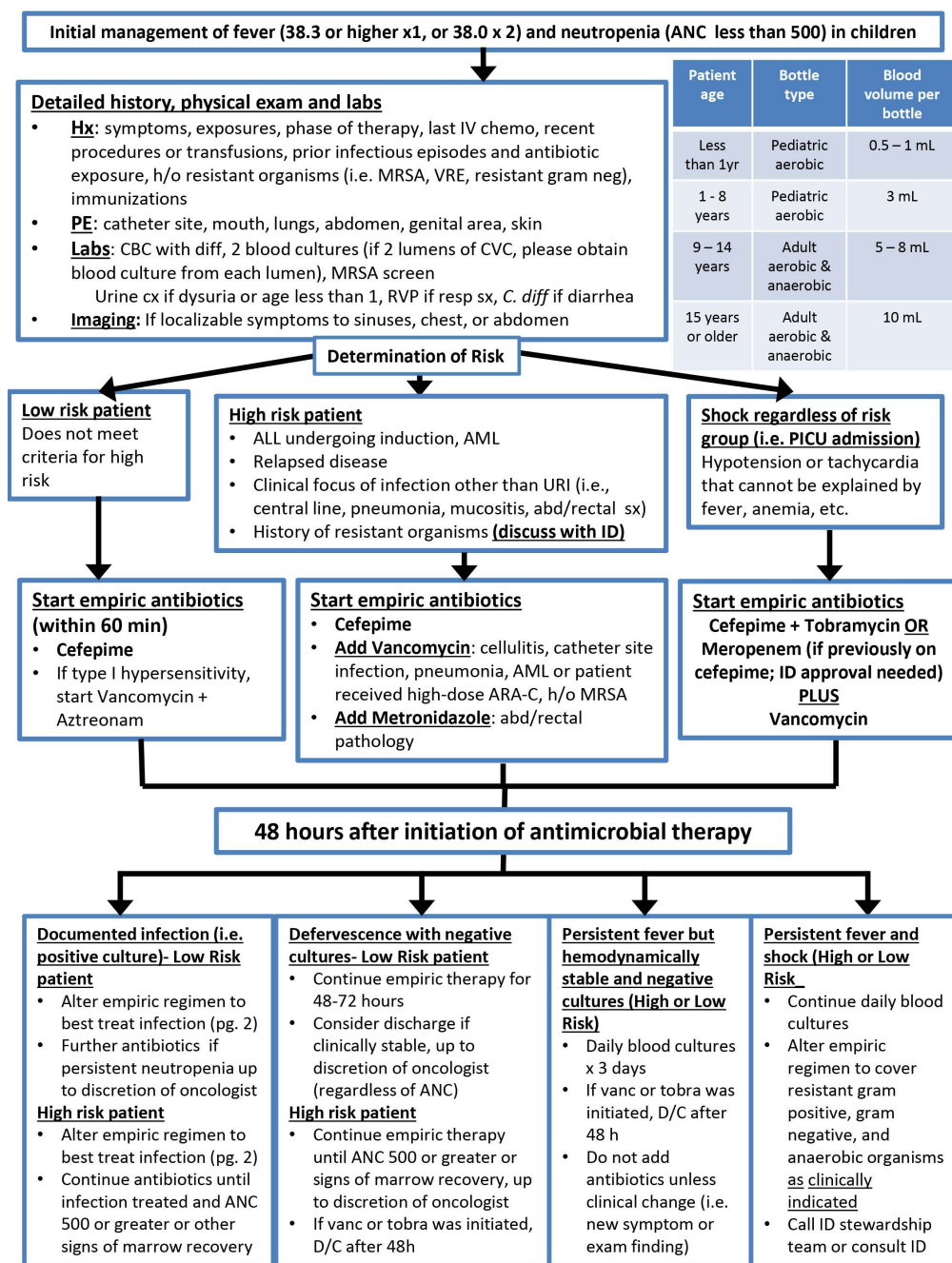


Guidelines for Management of Fever and Neutropenia (ANC <500) in Children with Cancer (Excluding BMT)



Modification of empiric regimen in setting of documented infection

| Documented infection | Modification of empiric regimen |
|--|--|
| Gram positive bacteremia | Add vancomycin until susceptibilities available; Consider ethanol lock x 5 days if compatibility with broviac established (not port). |
| Gram negative bacteremia | Add tobramycin until susceptibilities available; Consider ethanol lock x 5 days if compatibility with broviac established (not port). Consider line removal if Pseudomonas . |
| Pneumonia | Consider addition of vancomycin if MRSA suspected. |
| Neutropenic enterocolitis | Add metronidazole |
| Blood culture positive for fungus, such as Candida | Consult peds ID and add micafungin or liposomal Amphotericin B |

Management of persistent fever (lasting 5-7 days or longer) and neutropenia (ANC less than 500)

Evaluation for occult infection, including fungal disease (if ANC is unlikely to recover by 10 days OR dx of AML, relapsed ALL, or highly suppressive chemotherapy)

- Obtain CT scan of chest, sinuses (age 2 years or greater), and abdomen/pelvis. Consider CT head, especially if any neurologic symptoms.
- Send Aspergillus galactomannan assay
- Start empiric antifungal therapy

Positive CT scan concerning for mold (i.e. pulmonary nodules with halo sign) or positive galactomannan

- Start **Voriconazole** if no contraindications
- Strongly consider early bronchoscopy and/or lung biopsy for definitive dx (send galactomannan from BAL)
- Obtain formal ID consult for antifungal recommendations

Negative CT scan and galactomannan

- Start **Micafungin** as empiric therapy
- Close monitoring with weekly galactomannan

Antimicrobial dosages and monitoring parameters

| Antimicrobial agent | Dose | Monitoring parameters | Therapeutic Drug Monitoring |
|--------------------------|--|--|---|
| Amphotericin B liposomal | 3mg/kg/dose q24h (could increase to 5mg/kg) | <ul style="list-style-type: none"> Renal function Electrolytes (K, Mg) LFTs | N/A |
| Cefepime | 50 mg/kg/dose IV q8h (max 2000 mg/dose) | <ul style="list-style-type: none"> CBC | N/A |
| Meropenem | 20 mg/kg/dose IV q8h (max 1000 mg/dose) | <ul style="list-style-type: none"> CBC DDIs (valproic acid) | N/A |
| Metronidazole | 10 mg/kg/dose q8h (max 500 mg/dose) | | N/A |
| Micafungin | 2-3 mg/kg IV once daily (max 150 mg/dose) | <ul style="list-style-type: none"> Renal function, LFTs | N/A |
| Tobramycin | 2.5 mg/kg/dose Q8H <i>Note: 16 years or older, consider high dose extended interval dosing (call pharmacy for guidance)</i> | <ul style="list-style-type: none"> Renal function | Draw 2 levels for kinetics <ul style="list-style-type: none"> Peak after the 3rd dose (60-90 minutes after end of infusion) Random level 6 hours after 3rd dose Goals (calculated from levels) <ul style="list-style-type: none"> Peak: <u>6-8 mcg/mL</u> Trough: <u>0.5-1 mcg/mL</u> |
| Vancomycin | 15 mg/kg/dose q6h (typical max 4000 mg/day) | <ul style="list-style-type: none"> Renal function | <ul style="list-style-type: none"> Trough prior to 4th dose Goal trough: range is <u>10-20 mcg/mL</u> (discuss with pharmacy) |

| | | | |
|--------------|---|--|--|
| Voriconazole | <p><u>Age less than 2 years:</u> IV: 9 mg/kg q12h PO: 9 mg/kg q12h</p> <p><u>Age 2-11 years:</u> IV: 9 mg/kg q12h x 2 doses, then 8 mg/kg q12h (max 350mg/dose) PO: 9 mg/kg q12h</p> <p><u>Age 12 years or older:</u> IV:</p> <ul style="list-style-type: none"> Less than 50kg: 9 mg/kg q12h x 2 doses, then 4 to 8 mg/kg q12h 50kg or greater: 6 mg/kg q12h x 2 doses, then 3 to 4 mg/kg q12h <p>PO:</p> <ul style="list-style-type: none"> Less than 50kg: 9 mg/kg q12h (max 350mg/dose) 50kg or greater: 200 mg q12h | <ul style="list-style-type: none"> LFTs, renal function, electrolytes DDIs <u>AEs:</u> visual disturbances, photosensitive rash, encephalopathy | <ul style="list-style-type: none"> Trough after 5-7 days Goal: <u>2-5 µg/mL</u> (trough of 1-2 may be ok) <i>Note: Due to unpredictable pharmacokinetics, intermittent therapeutic drug monitoring is warranted (i.e. q1-4 weeks)</i> |
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