

**Pediatric Hematology-Oncology Antimicrobial Prophylaxis Guideline**

**Antibacterial prophylaxis**

Antimicrobial	Dosing	Patient population	When this should be used	Drug monitoring	Adverse reactions	Dosage Forms
Levofloxacin	<p>&gt;6months to &lt;5 years: 10mg/kg/dose IV/PO BID</p> <p>≥5 years: 10mg/kg PO daily (maximum 500 mg) IV/PO (equivalent bioavailability)</p> <p>-Take 2 hours before or 6 hours after calcium, aluminum, vitamins and other divalent cations</p> <p>-With liquid formulation, take 1 hour before or 2 hours after meals</p>	<ul style="list-style-type: none"> <li>• AML</li> <li>• Relapsed ALL</li> <li>• ALL in patient with Trisomy 21</li> </ul>	<p>Start when ANC falls below 200, continue until ANC is &gt;200 or patient develops fever (then change to cefepime)</p>	<p>If simultaneously receiving -azoles, 5HT<sub>3</sub> antagonists, Tyrosine Kinase Inhibitors or other QT prolonging agent, should have baseline then weekly EKG</p>	<p>Tendonitis, Clostridium difficile infection, hepatotoxicity, prolonged QT, hypoglycemia, photosensitivity, seizures, peripheral neuropathy</p>	<p>IV, Tablets, Oral suspension</p>

## Pediatric Hematology-Oncology Antimicrobial Prophylaxis Guideline

### Antifungal prophylaxis

Antimicrobial	Dosing	Patient population	When this should be used	Drug monitoring	Adverse reactions	Dosage Forms
Voriconazole	<p>&lt;50kg: 9mg/kg/dose PO q12h</p> <p>≥50 kg: 200-300mg PO q12h</p> <p>-Take 1 hour before or 1 hour after a meal</p> <p>- Adjust based on trough</p>	<ul style="list-style-type: none"> <li>• AML</li> <li>• Relapsed ALL</li> <li>• ALL in patients with Trisomy 21</li> </ul>	<ul style="list-style-type: none"> <li>- <b>AML patients:</b> Start post anthracycline and gemtuzumab if applicable</li> <li>- <b>Relapsed ALL and Trisomy 21 ALL patients:</b> Should be held 48-72 hours before and 24 hours after receiving vincristine and/or other chemotherapy metabolized via CYP3A4</li> <li>- Should be used throughout intensive chemotherapy</li> </ul>	<ul style="list-style-type: none"> <li>- Trough after 4 days (goal: <u>2-5 µg/mL</u>)</li> <li>- If simultaneously receiving levofloxacin, 5HT<sub>3</sub> antagonists, Tyrosine Kinase Inhibitors or other QT prolonging agent, should have weekly EKG</li> <li>- Monitor LFTs, renal function at baseline and periodically</li> </ul>	Hepatotoxicity, prolonged QT, photosensitivity, rash, hallucinations (often visual), hyperglycemia	IV, Tablets, Oral Suspension
Posaconazole	<p><u>Young children:</u> Avoid suspension due to poor absorption</p> <p>If able to swallow delayed release tablets 10mg/kg once daily (rounded to nearest 100mg tablet)</p> <p><u>Adolescents ≥13 years:</u> Tablet (delayed release): 300mg PO q12h on day 1, then once daily</p>	<ul style="list-style-type: none"> <li>• AML</li> <li>• Relapsed ALL</li> <li>• ALL in patients with Trisomy 21</li> </ul>	<ul style="list-style-type: none"> <li>- <b>AML patients:</b> Start post anthracycline and gemtuzumab if applicable</li> <li>- <b>Relapsed ALL and Trisomy 21 ALL patients:</b> Should be held 48-72 hours before and 24 hours after receiving vincristine and/or other chemotherapy metabolized via CYP3A4</li> <li>- Should be used throughout intensive chemotherapy</li> </ul>	<ul style="list-style-type: none"> <li>- Trough after 7 days (goal: <u>1-2 mcg/mL</u>)</li> <li>- If simultaneously receiving levofloxacin, 5HT<sub>3</sub> antagonist, Tyrosine Kinase Inhibitors or other QT prolonging agent, should have baseline then weekly EKG</li> <li>- Monitor LFTs, electrolytes, renal function at baseline and periodically</li> </ul>	Hepatotoxicity, hypertension, prolonged QT, pruritis, thrombocytopenia, hypokalemia, hyperglycemia	Delayed Release Tablets, Oral Suspension (avoid), IV formulation non-formulary (Need ID approval)
Micafungin	1-3mg/kg IV daily (max 50mg)	<ul style="list-style-type: none"> <li>• Relapsed ALL</li> <li>• ALL in patients with Trisomy 21</li> </ul>	Prophylaxis while patients are receiving vincristine	CBC, LFTs, renal function at baseline and periodically	Elevated LFTs, renal dysfunction (rare), infusion reactions	IV only

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**PJP prophylaxis**

Antimicrobial	Dosing	Patient population	When this should be used	Drug monitoring	Adverse reactions	Dosage Form
Trimethoprim –sulfa-methoxazole (TMP-SMX, Bactrim, Septra) *PREFERRED*	5-10 mg/kg/day (TMP component) PO divided BID for 2 days/week (max 320mg TMP/day)	<ul style="list-style-type: none"> <li>All patients undergoing chemotherapy</li> </ul>	Once chemotherapy initiated	-none recommended	Rash, anaphylaxis, cytopenias, renal dysfunction	Tablets, Oral suspension, IV (Avoid due to short stability and large fluid volume)
Pentamidine	(≥2 years): 4mg/kg/dose IV q 4 wks (max 300mg)		If unable to receive TMP-SMX	-Routine monitoring of renal, hepatic function, CBC, electrolytes  -Consider EKG if on other QT prolonging agents	Renal dysfunction, hypotension (if infused rapidly), QT prolongation, hypo- or hyperglycemia	IV Nebulization (Not available at UCDMC)
Dapsone (use with caution if sulfa allergy or G6PD)	2mg/kg PO daily (max 100mg) or 4mg/kg PO qweek		If unable to receive TMP-SMX or Pentamidine	-CBC, reticulocyte count weekly for first month, then monthly.  -Check G6PD prior to initiation.  -Baseline and periodic LFTs.	Anemia, hemolysis, leukopenia, rash, jaundice, hepatitis, nephrotic syndrome	Tablets, Compounded oral suspension
Atovaquone	1-3 months: 30mg/kg PO daily 4mo-2y: 45mg/kg PO daily 2y-12y: 30mg/kg PO daily (max 1500mg) >12y: 1500mg PO daily Administer with food.		If unable to receive TMP-SMX, Dapsone, Pentamidine	Monitor LFTs at baseline and periodically	Rash, headache, hepatotoxicity, GI side effects	Oral suspension

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### Antiviral prophylaxis

Antimicrobial	Dosing	Patient population	When this should be used	Drug monitoring	Adverse reactions	Dosage Forms
Acyclovir	IV: 5-10 mg/kg/dose q8h (administer with IV fluids to avoid renal dysfxn)  PO: 20mg/kg/dose 4 times a day (max 1000mg/day)	<ul style="list-style-type: none"> <li>• Patient with recurrent HSV stomatitis</li> </ul>	During periods of neutropenia	-Renal function, CBC baseline	Renal dysfunction, cytopenias	IV, Tablets, Oral Suspension
Valacyclovir	Children ≥3months: 20mg/kg/dose PO BID (max 1000mg PO BID)	<ul style="list-style-type: none"> <li>• Patient with recurrent HSV stomatitis</li> </ul>	During periods of neutropenia	-Renal function, CBC baseline	Renal dysfunction, cytopenias	Tablets, Compounded oral Suspension