<table>
<tr><td colspan="5">Zuckerberg San Francisco General Hospital Oncology Anti-infective Prophylaxis Guidelines
These recommendations are based on available literature and should not replace clinical judgment</td></tr>
<tr><td></td><td>Most solid tumors
Anticipated neutropenia < 7 days
Low risk for infection</td><td>Lymphoma, Multiple Myeloma, CLL
Anticipated neutropenia 7-10 days
Intermediate risk for infection</td><td colspan="2">Acute Leukemia
Anticipated neutropenia > 10 days
High risk for infection</td></tr>
<tr><td colspan="5">Overall Recommendations
Neutropenia defined as ANC ≤ 500 cells/mm^3 or ≤ 1000 cells/mm^3 with a predicted decline to ≤ 500 cells/mm^3 over the next 48hr</td></tr>
<tr><td></td><td>Not recommended for most patients

HSV seropositive patients: May consider viral prophylaxis during active therapy and periods of prolonged neutropenia</td><td>During neutropenia, consider prophylaxis:
• Bacterial
• Fungal (with anticipated mucositis)
• PJP
Viral prophylaxis is recommended during active therapy and/or during periods of prolonged neutropenia (or longer depending on risk)</td><td colspan="2">During neutropenia, consider prophylaxis:
• Bacterial
• Fungal
• PJP
Viral prophylaxis is recommended during active therapy and/or during periods of prolonged neutropenia (or longer depending on risk)</td></tr>
<tr><td colspan="5">Preferred regimen recommendations per NCCN (split by disease state or regimen)</td></tr>
<tr><td rowspan="2">Fungal</td><td rowspan="2">Not recommended</td><td rowspan="2">Fluconazole 400 mg PO/IV daily</td><td>ALL</td><td>Fluconazole 400 mg PO/IV daily</td></tr>
<tr><td>MDS
AML</td><td>Posaconazole 300 mg PO q12h x 2 doses, then 300 mg PO daily <u>OR</u> voriconazole 400 mg PO q12h x2, then 200 mg PO q12h
Alternative: isavuconazole, micafungin</td></tr>
<tr><td>Viral</td><td colspan="4">Acyclovir 400 mg PO BID or 250 mg/m^2 IV Q12H</td></tr>
<tr><td>Bacterial</td><td rowspan="2">Not recommended</td><td>Levofloxacin 500 mg PO/IV daily
Alternative: cefdinir 300 mg PO BID</td><td colspan="2">Throughout anti-leukemic therapy and neutropenia:
Levofloxacin 500 mg PO/IV daily
Alternative: cefdinir 300 mg PO BID</td></tr>
<tr><td>PJP</td><td colspan="3">Bactrim (TMP/SMX) 1 DS tablet PO MWF
Alternative: atovaquone 1500 mg PO daily, dapsone 100 mg PO daily

Indications:
• Throughout anti-leukemic therapy (ALL)
• PI3K inhibitors: through active treatment
• Prolonged corticosteroids (≥20 mg daily of prednisone x 4+ weeks) or receiving temozolomide + radiation therapy
• Consider during purine analog therapy and other T-cell depleting agents until CD4 count > 200</td></tr>
<tr><td>Hepatitis B</td><td colspan="4">Entecavir 0.5 mg PO daily <u>OR</u> tenofovir (TDF 300 mg PO daily or TAF PO 25 mg daily) x 6 – 12 months following conclusion of treatment
Alternative: lamivudine 100 mg PO daily
Indicated for: HBsAg+ or HBcAb+</td></tr>
</table>

See page 2 for renal dosing recommendations.

Dosing and Monitoring Guidance

Bacterial Prophylaxis	Recommended Dose		Monitoring
Levofloxacin	CrCl (ml/min)	Dose (IV or PO/FT)	- Check baseline QTc, SCr - Okay to crush tabs or use oral suspension if ordering per FT
	≥ 50	500 mg daily	
	20-49	500 mg x1 then 250 mg daily	
	< 20	500 mg x1 then 250 mg q48h	
	Dialysis	See IDMP	
Cefdinir (ID restricted) *Use if FQ intolerance/allergy or prolonged QTc	CrCl (ml/min)	Dose (PO/FT)	- Check baseline SCr
	≥ 30	300 mg BID	
	< 30	300 mg daily	

Fungal prophylaxis agents	Recommended Dose		Monitoring
Fluconazole	CrCl (ml/min)	Dose (IV or PO/FT)	- Check baseline QTc, SCr, LFTs, drug interactions - No trough monitoring necessary - Use oral suspension if ordering per FT
	> 50	400 mg daily	
	10-50	200 mg daily	
	< 10	100 mg daily	
Posaconazole (ID restricted)	PO/FT	300 mg DR tab q12h x2 doses then 300 mg DR tab q24h	- Check baseline QTc, LFTs, drug interactions - Consider trough monitoring for prolonged therapy - Okay to crush DR tabs for FT, contact ID Pharmacy for dosing
	IV (central line)	300 mg q12h x2 doses then 300 mg q24h	Trough monitoring: ≥ 0.7 mcg/mL (prophylaxis) Check a level within 5-7 days of initiation or dose adjustment (steady-state)
Voriconazole (ID restricted)	PO/FT (≥ 40 kg)	400 mg q12h x 2 doses, then 200 mg q12h *Consider weight-based dosing (below) in obesity	- Check baseline QTc, LFTs, drug interactions, visual disturbances/hallucinations, long-term complications such as increased risk for squamous cell carcinoma and hyperphosphatemia - Consider trough monitoring for prolonged therapy - Use oral suspension if ordering per FT
	IV	6 mg/kg q12h x 2 doses, then 4 mg/kg q12h *Use adjusted BW if TBW > 1.2x IBW **Consider PO if CrCl < 50 ml/min and anticipated prolonged duration of therapy due to accumulation of excipient which may lead to kidney injury	Trough monitoring: 1-5.5 mcg/mL Check a level within 5-7 days of initiation or dose adjustment (steady-state)

<table>
<tr><td>Isavuconazonium sulfate
(ID restricted)

*Not NCCN recommended for prophylaxis, use only if QT prolongation issues</td><td>372 mg IV/PO/FT q8h x 6 doses then 372 mg IV/PO/FT daily</td><td>- Isavuconazole levels are not typically drawn given universal PK/PD parameters. Consider an isavuconazole trough if there are concerns for oral absorption. Contact ID Pharmacy for guidance</td></tr>
<tr><td>Micafungin (ID restricted)

*Alternative if patients are unable to receive PO azoles or if significant drug interactions. Contact ID Pharmacy for dosing recommendation.</td><td>50-100 mg IV daily</td><td>- No trough monitoring necessary</td></tr>
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<table>
<tr><th>Viral</th><th>Recommended Dose</th><th></th></tr>
<tr><td>Acyclovir</td><td>
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<tr><td>CrCl (ml/min)</td><td>Dose (PO/FT)</td></tr>
<tr><td>> 50</td><td>400 mg BID</td></tr>
<tr><td>10-50</td><td>200 mg BID</td></tr>
<tr><td>< 10</td><td>200 mg daily</td></tr>
<tr><td>HD</td><td>200 mg daily</td></tr>
</table>

<table>
<tr><td>CrCl (ml/min)</td><td>Dose (IV) -- multiply dose by BSA</td></tr>
<tr><td>> 50</td><td>250 mg/m^2 q12h</td></tr>
<tr><td>25-50</td><td>125 mg/m^2 q12h</td></tr>
<tr><td>10-24</td><td>125 mg/m^2 q24h</td></tr>
<tr><td>< 10 or iHD</td><td>62.5 mg/m^2 q24h</td></tr>
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</td><td></td></tr>
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<table>
<tr><th>PJP prophylaxis agents</th><th>Recommended Dose</th><th>Monitoring</th></tr>
<tr><td>Bactrim (TMP/SMX)</td><td>
<table>
<tr><td>CrCl (ml/min)</td><td>Dose (PO/FT)</td></tr>
<tr><td>≥ 30</td><td>1 DS tab three times weekly (MWF)</td></tr>
<tr><td>< 30</td><td>1 SS tab three times weekly (MWF)</td></tr>
</table>
</td><td>- Check SCr, electrolytes (K)</td></tr>
<tr><td>Dapsone

*Alternative if unable to receive Bactrim due to sulfonamide antibiotic allergy or hyperkalemia</td><td>100 mg PO/FT daily</td><td>- Do not use if G6PD deficient due to risk of hemolytic anemia</td></tr>
<tr><td>Atovaquone</td><td>1500 mg PO/FT daily</td><td></td></tr>
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<tr><td>*Alternative if unable to receive Bactrim due to sulfonamide antibiotic allergy or hyperkalemia</td><td></td><td></td></tr>
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<table>
<tr><th>Hepatitis B</th><th>Recommended Dose</th><th></th></tr>
<tr><td>Entecavir</td><td><table>
<tr><td>CrCl (ml/min)</td><td>Dose (PO/FT)</td></tr>
<tr><td>≥ 50</td><td>0.5 mg daily</td></tr>
<tr><td>30-50</td><td>0.5 mg q48h</td></tr>
<tr><td>10-29</td><td>0.5 mg q72h</td></tr>
<tr><td>< 10 or iHD</td><td>0.5 mg every 7 days</td></tr>
</table></td><td>- Use oral solution if ordering per FT</td></tr>
<tr><td>Tenofovir disoproxil fumarate (TDF)</td><td><table>
<tr><td>CrCl (ml/min)</td><td>Dose (PO/FT)</td></tr>
<tr><td>≥ 50</td><td>300 mg daily</td></tr>
<tr><td>30-49</td><td>300 mg q48h (or 150 mg daily)</td></tr>
<tr><td>< 30</td><td>300 mg twice weekly</td></tr>
</table></td><td rowspan="2">- Avoid use if CrCl < 15 ml/min</td></tr>
<tr><td>Tenofovir alafenamide (TAF, non-formulary)</td><td>25 mg PO/FT daily</td></tr>
<tr><td>Lamivudine (3TC)

*Note: alternative agent to entecavir and tenofovir due to higher potential for HBV resistance</td><td>100 mg PO/FT daily</td><td>- No renal dose adjustment necessary given generally well tolerated (see section on alternative renal dosing recommendation on Lexicomp)</td></tr>
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<u>Reviewed/Approved by:</u>
Hematology/Oncology: 02/2024
Antimicrobial Subcommittee: 4/2024
Pharmacy & Therapeutics Committee: 4/2024

<u>Infectious Diseases contact information (for questions and approval to use ID restricted or non-formulary antimicrobials):</u>

- ID Pharmacist: "ZSFG ID Pharmacist" on Epic secure chat or pager 443-4379
    - Monday-Friday 8am-4:30pm
- ID Fellow: 443-2847
    - Monday-Friday 4:30-8pm and weekends 8am-8pm

Last reviewed: 6/2024