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PROPHYLAXIS GUIDELINES FOR THE ADULT HEMATOLOGY PATIENT

	Indication	Antibacterial	Antifungal	PJP prophylaxis	Antiviral	Duration of Prophylaxis
MDS	**Receiving chemotherapy**	No routine prophylaxis	**Fluconazole** 200 mg PO daily	*No routine prophylaxis*	**Acyclovir** 400 mg PO BID	Antifungal: Beginning when ANC ≤500 and continuing throughout neutropenia Antiviral: Throughout all chemotherapy cycles
AML	**APL** Induction	No routine prophylaxis *If differentiating on steroids*: **Levofloxacin** 500 mg PO daily	**Micafungin** 100 mg IV q24h	No routine prophylaxis	**Acyclovir** 400 mg PO BID	Antibacterial/Antifungal: If indicated begin when ANC ≤500 and continuing throughout neutropenia. In consolidation send Rx for patient to start at discharge continue throughout neutropenia PCP: Throughout all chemotherapy cycles. Continued for 6 mo following last dose of purine analogue. Antiviral: Throughout all chemotherapy cycles
	AML Intensive Induction	No routine prophylaxis	**Voriconazole** 200 mg PO BID (trough level after 5-7 days)	*For patients receiving purine analogue*[1]: **TMP-SMX (Bactrim)** DS 3 times weekly	**Acyclovir** 400 mg PO BID	
	HMA + Venetoclax	**Levofloxacin** 500 mg PO daily	**Posaconazole** 300 mg tab PO daily			
	Relapsed/Refractory or ≥70 years Induction	**Levofloxacin** 500 mg PO daily	*For relapsed/refractory patients unlikely to recover ANC:* **Posaconazole** 300 mg tab PO daily			
	Consolidation	**Levofloxacin** 500 mg PO daily	**Fluconazole** 200 mg PO daily			
ALL	**ALL** Induction	**Levofloxacin** 500 mg PO daily	**Micafungin** 50 mg IV q24h	**TMP-SMX (Bactrim)** DS 3 times weekly (hold through methotrexate admission until level <0.1 µM)	**Acyclovir** 400 mg PO BID	
	Beyond Induction	No routine prophylaxis *For patients receiving HyperCVAD:* **Levofloxacin** 500 mg PO daily	*For patients receiving HyperCVAD:* **Fluconazole** 200 mg PO daily			
	Blinatumomab	No routine prophylaxis *If prolonged neutropenia:* **Levofloxacin** 500 mg PO daily	No routine prophylaxis *If prolonged neutropenia:* **Posaconazole** 300 mg tab PO daily			
	Inotuzumab	**Levofloxacin** 500 mg PO daily	**Fluconazole** 200 mg PO daily			
	Hairy Cell Leukemia	**Levofloxacin** 500 mg PO daily	*If no G-CSF support being used* **Fluconazole** 200 mg PO daily	**TMP-SMX (Bactrim)** DS 3 times weekly	**Acyclovir** 400 mg PO BID	Antibacterial/Antifungal: Beginning when ANC ≤500 and continuing throughout neutropenia PCP: Throughout all chemotherapy cycles. Continued for 6 mo following last dose of purine analogue. Antiviral: Throughout all chemotherapy cycles
	Aplastic Anemia	*If neutropenic on discharge:* **Levofloxacin** 500 mg PO daily	*If neutropenic on discharge:* **Voriconazole** 200 mg PO BID[2] (trough level after 5-7 days)	**TMP-SMX (Bactrim)** DS 3 times weekly	**Acyclovir** 400 mg PO BID EBV/CMV monitoring	Antibacterial/Antifungal: Beginning when ANC ≤500 and continuing throughout neutropenia PCP: Beginning with therapy and continuing for at least 6 mo Antiviral: Throughout all therapy

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Myeloma	**High dose steroids**[3]	No routine prophylaxis	No routine prophylaxis	**TMP-SMX (Bactrim)** DS 3 times weekly	**Acyclovir** 400 mg PO BID	Throughout all chemotherapy cycles
	Proteasome inhibitors (e.g., bortezomib, carfilzomib, ixazomib)	No routine prophylaxis	No routine prophylaxis	No routine prophylaxis	**Acyclovir** 400 mg PO BID	Throughout all chemotherapy cycles and continuing for at least 3 months post last dose
	Monoclonal antibodies (e.g., Elotuzumab, isatuximab, daratumumab)	No routine prophylaxis	No routine prophylaxis	No routine prophylaxis	**Acyclovir** 400 mg PO BID	Throughout all chemotherapy cycles and continuing for at least 3 months post last dose
	VDT-PACE or DCEP	Levofloxacin 500mg daily	**Fluconazole** 200 mg PO daily	**TMP-SMX (Bactrim)** DS 3 times weekly	**Acyclovir** 400 mg PO BID	Antifungal/Antibacterial: Send Rx for patient to start at discharge and continue throughout neutropenia PCP/Antiviral: Throughout all chemotherapy cycles
Lymphoma	**BEACOPP**	No routine prophylaxis	No routine prophylaxis	**TMP-SMX (Bactrim)** DS 3 times weekly	**Acyclovir** 400 mg PO BID	Throughout all chemotherapy cycles
	DA-R-EPOCH HIV Negative	No routine prophylaxis	No routine prophylaxis	**TMP-SMX (Bactrim)** DS 3 times weekly	**Acyclovir** 400 mg PO BID	Throughout all chemotherapy cycles
	DA-R-EPOCH HIV Positive[4]	**Levofloxacin** 500 mg PO daily	**Fluconazole** 200 mg PO daily	**TMP-SMX (Bactrim)** DS 3 times weekly	**Acyclovir** 400 mg PO BID	Antifungal/Antibacterial: Send Rx for patient to start at discharge and continue throughout neutropenia. For outpatient EPOCH, start on day 6. PCP/Antiviral: Throughout all chemotherapy cycles
	HyperCVAD CODOX-M/IVAC	**Levofloxacin** 500 mg PO daily	**Fluconazole** 200 mg PO daily	**TMP-SMX (Bactrim)** DS 3 times weekly (hold through methotrexate admission until level <0.1 µM)	**Acyclovir** 400 mg PO BID	Antibacterial: Beginning with Part B of regimen and continued throughout all chemotherapy cycles Antifungal: Send Rx for patient to start at discharge and continue throughout neutropenia PCP/Antiviral: Throughout all chemotherapy cycles
	R-ICE, R-ESHAP, R-DHAP Nordic	No routine prophylaxis	No routine prophylaxis	No routine prophylaxis	**Acyclovir** 400 mg PO BID	Throughout all chemotherapy cycles
	PI3K inhibitor (e.g., idelalisib, copanlisib, duvelisib)	No routine prophylaxis	No routine prophylaxis	**TMP-SMX (Bactrim)** DS 3 times weekly	No routine prophylaxis CMV monitoring	PCP: Through duration of treatment
	Purine analogues (cladribine, fludarabine, nelarabine, pentostatin, bendamustine)	No routine prophylaxis	No routine prophylaxis	**TMP-SMX (Bactrim)** DS 3 times weekly	**Acyclovir** 400 mg PO BID	PCP: Beginning with chemotherapy and continued at least 6 months after treatment and until normalization of ALC (≥1.2 k/uL) Antiviral: Throughout all chemotherapy cycles
	Alemtuzumab	No routine prophylaxis	**Voriconazole** 200 mg PO BID	**TMP-SMX (Bactrim)** DS 3 times weekly	**Acyclovir** 400 mg PO BID EBV/CMV monitoring	Antifungal: Beginning when ANC ≤500 and continuing throughout neutropenia PCP/Antiviral: Beginning with therapy and continued 6 mo after therapy or until normalization of ALC (≥1.2 k/uL)
	Maintenance Anti-CD20 (e.g., rituximab, obinutuzumab)	No routine prophylaxis	No routine prophylaxis	No routine prophylaxis	**Acyclovir** 400 mg BID Hepatitis B screen prior to initiation	Throughout all chemotherapy cycles

No routine prophylaxis is recommended for the following: R-CHOP, MR-CHOP, HD-MTX, GemOx, GELOX, immunomodulatory agents, BTK inhibitors, venetoclax, ruxolitinib, HDAC inhibitors, ABVD, Brentuximab, Tagraxafusp, selinexor, tafasitamab, belantamab mafodotin, other CML/CLL treatment (unless receiving therapy with agents in the chart above)

[1] Purine analogues include fludarabine, clofarabine, and cladribine
[2]Cyclosporine should be decreased by 50% when started concurrently with voriconazole
[3]High dose steroids defined as ≥20 mg prednisone equivalents continuously for ≥4 weeks
[4]An integrase-inhibitor based HAART regimen is recommended.

Managing Voriconazole Adverse Effects / Drug Interactions	
Visual hallucinations	Associated with high levels and often dose dependent. Obtain a level, hold dose until symptoms resolve, empiric 25% dose reduction (Tan K, *Clin Pharmacol*. 2006)
Hepatotoxicity (Direct Bili > 3 or otherwise deemed clinically significant)	Hold azole and switch to **micafungin** 100 mg IV q24h
Drug interactions/additive toxicity[1]	*If preferred antifungal is **voriconazole**:* Substitute with **micafungin** 100 mg IV q24h *If preferred antifungal is **fluconazole**:* Substitute with **micafungin** 50 mg IV q24h
NPO[2]	*If preferred antifungal is **voriconazole/posaconazole**:* Switch to **micafungin** 100 mg IV q24h *If preferred antifungal is **fluconazole**:* Switch to IV **fluconazole** 200 mg IV q24h

[1]Vincristine, tyrosine-kinase inhibitors, clofarabine, doxorubicin, or if mandated by clinical trial protocol (e.g., quizartinib). Micafungin should be utilized only during the period of concomitant administration of interacting chemotherapy; once interaction is no longer relevant, prophylaxis should revert to preferred agent
[2]Patients with feeding tubes in whom the preferred antifungal is voriconazole should continue to receive voriconazole tablets; tablets may be crushed and administered via the tube. In all scenarios, once NPO status is over, prophylaxis should revert to preferred agent.

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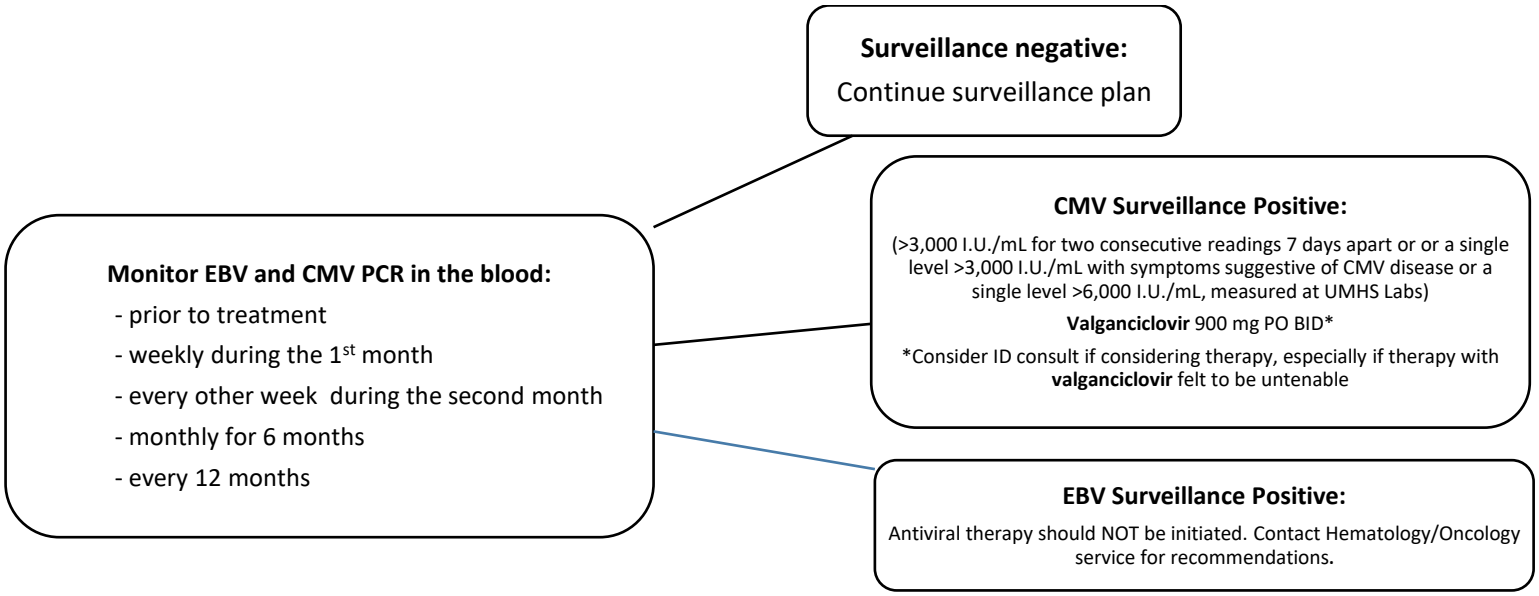
EBV/CMV Monitoring Recommendations for Patients Receiving Alemtuzumab/Anti-Thymocyte Globulin



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The recommendations in this guide are meant to serve as treatment guidelines for use at Michigan Medicine facilities. If you are an individual experiencing a medical emergency, call 911 immediately. These guidelines should not replace a provider's professional medical advice based on clinical judgment, or be used in lieu of an Infectious Diseases consultation when necessary. As a result of ongoing research, practice guidelines may from time to time change. The authors of these guidelines have made all attempts to ensure the accuracy based on current information, however, due to ongoing research, users of these guidelines are strongly encouraged to confirm the information contained within them through an independent source.

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