Antimicrobial Prophylaxis for Non-Transplant Hematologic Malignancy

Disease type	Indication	Viral prophylaxis*	Fungal Prophylaxis	Bacterial prophylaxis	PJP prophylaxis
High Risk MDS / AML	• Induction • Salvage induction • Relapsed / refractory disease • Consolidation	Valacyclovir 500mg PO q12hrs OR Acyclovir 400mg q8hr[1,3,5] *Begin on admission (or chemo cycle) and discontinue when ANC >500 or mucositis resolved* *Renally adjust for CrCl <30* *Consider acyclovir 800mg q12h if history of herpes zoster[6]*	Posaconazole DR 300mg q12h on day 1, then 300mg q24h[1,2,3] *If using **venetoclax**, consider micafungin 50mg q24h as alternative ppx to avoid QT prolongation*	Inpatient Levofloxacin 500mg PO q24h for highest risk[2] OR Monitor closely off antibiotics *Begin when ANC <500* Outpatient Consider Levofloxacin 500mg q24h daily if ANC will be <500 for >7 days[2] *If there is concern for QT prolongation (such as in APL), consider 3rd gen cephalosporin (cefdinir or cefpodoxime) as alternative[7]*	No routine prophylaxis *If using purine analogue (such as **azathioprine, cladarabine, fludarabine**), use TMP-SMX 1DS PO MWF (or atovaquone) until CD4 >200[3]*
ALL	• Induction • HyperCVAD • Blinatumomab *with prolonged neutropenia* • Inotuzumab	Valacyclovir 500mg PO q12hrs OR Acyclovir 400mg q8hr[1,3,5] *Begin on admission (or chemo cycle) and discontinue when ANC >500 or mucositis resolved* *Renally adjust for CrCl <30*	Fluconazole 400mg PO daily[3] *If using **vincristine**, consider IV micafungin 50mg q24h as alternative to avoid toxicity*	Consider Levofloxacin 500mg q24h if ANC will be <500 for >7 days, to be continued until ANC >500[2]	TMP-SMX 1 DS MWF or 1SS daily preferred (*or atovaquone 1500mg daily)* throughout anti-leukemic treatment[3]
Myeloma		Valacyclovir 500mg PO q12hrs OR Acyclovir 400mg q8hr[1,3,5] *Begin on admission (or chemo cycle) and discontinue when ANC >500 or mucositis resolved* *Renally adjust for CrCl <30* If using **proteasome inhibitor** (bortezomib, carfilzomib,	No routine prophylaxis *If using **VDET/PACE**, fluconazole 200mg daily while ANC <500*	First 12 weeks of induction: Consider Levofloxacin 500mg PO q24h[8]	No routine prophylaxis *If using **VDET/PACE**, TMP-SMX 1DS tab MWF or atovaquone daily throughout all cycles*

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		ixazomib), monoclonal antibody (**elotuzumab, isatuximab, daratumumab)**, or **VDET/PACE**, use viral ppx throughout all chemo cycles and 3 mos after last dose			
Lymphoma		Valacyclovir 500mg BID PO throughout all chemotherapy cycles[1,2,3,5] *Renally adjust for CrCl <30*	No routine prophylaxis *Alemtuzumab: Posaconazole 300mg q12h on day 1, then 300mg q24h*	No routine prophylaxis *Consider PO levofloxacin 500mg daily if ANC <500 while on HyperCVAD or HIV+ or DA-EPOCH*	No routine prophylaxis *If using **purine analogue** (such as **azathioprine, cladarabine, fludarabine**), use TMP-SMX 1DS PO MWF (or atovaquone) until CD4 >200[3]* ***P13K inhibitors +- rituximab*** *PJP prophylaxis until chemo completed[3]* ***Alemtuzumab:*** *PJP prophylaxis until 6mos after chemo completed and CD4 >200[3]*
Aplastic Anemia		Valacyclovir 500mg BID PO throughout all chemotherapy cycles[1,2,3,5] *Renally adjust for CrCl <30*	No routine prophylaxis *Consider outpatient Posaconazole PO 300mg q24h if ANC <500 at discharge*	No routine prophylaxis *Consider outpatient PO levofloxacin 500mg daily if ANC <500 at discharge*	Consider TMP-SMX 1DS MWF or 1SS daily beginning with therapy until 6 mos after last dose
Hairy Cell leukemia		Valacyclovir 500mg BID PO throughout all chemotherapy cycles[1,2,3,5] *Renally adjust for CrCl <30*	No routine prophylaxis	No routine prophylaxis *Consider levofloxacin PO 500mg daily if ANC <500*	No routine prophylaxis *If using **purine analogue** (such as **azathioprine, cladarabine, fludarabine**), use TMP-SMX 1DS PO MWF (or atovaquone) until CD4 >200[3]*

**Consider prolonged viral prophylaxis if recurrent HSV infections*

References:

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