Antibacterial Prophylaxis in Hematopoietic Cell Transplant Recipients[a]

Prophylaxis Type	Population/Indication	Agent/Dose	Duration	Comments
General bacterial prophylaxis	All autologous and allogeneic HCT recipients	Levofloxacin 500mg PO daily	Start with conditioning regimen and continue until: • ANC > 500 x 3 days or ANC > 1000 OR • initiation of broad spectrum antibiotics for febrile neutropenia *(see DUH Febrile Neutropenia in patients with Cancer Protocol)*	Consider alternate therapy if QTc≥ 500 msec. Use caution and monitor EKG when used with other QT-prolonging medications Renal dose adjustment required for CrCl < 50 ml/min Alternative: Cefdinir 300mg BID (renal dose adjustment required for CrCl < 30 ml/min) [preferred] or Cefpodoxime 200mg BID (renal dose adjustment required for CrCl < 30 ml/min)
	Allogeneic HCT recipients with severe GI GvHD (e.g. on high dose steroids or steroid-refractory)	Consider levofloxacin 500mg daily	Until improvement in GI symptoms and IST tapered	
Encapsulated organisms	HCT recipients with chronic GVHD, s/p splenectomy or otherwise functionally asplenic	Penicillin VK 500mg PO BID[b] Alternatives: Cephalexin 500mg BID[c] Azithromycin 250mg daily SMX-TMP SS tab PO daily[d]	Until off all IST for at least one month Consider life-long prophylaxis in asplenic or functionally asplenic patients dependent on clinical history including concomitant risks	Renal dose adjustment: PCN and cephalexin: 250mg BID for CrCl < 10ml/min SMX-TMP: 1 SS tab MWF for CrCl < 30 ml/min

Abbreviations: ANC, absolute neutrophil count; BID, twice daily; CrCl, creatinine clearance; DUH, Duke University Hospital; GI, gastrointestinal; GvHD, graft-versus-host disease; HCT, hematopoietic cell transplant; IST, immunosuppressive therapy; PCN, penicillin; PO, by mouth; SMX-TMP, sulfamethoxazole-trimethoprim; SS, single strength.

a. Consult the Transplant Infectious Diseases service as needed for guidance in modifying prophylaxis and/or empiric therapy for febrile neutropenia in patients with a history of infections with multidrug-resistant organisms (e.g., ESBL- or carbapenemase-producing gram negative organisms).

b. Hold penicillin prophylaxis when patients are concomitantly receiving antibacterial agents with reliable activity against encapsulated organisms (e.g. levofloxacin).

c. For patients with mild non-immunoglobulin (Ig)E-mediated reactions to penicillins or for patients with IgE-mediated reactions to penicillins in whom cephalosporins are deemed to be safe based on allergy consultation.

d. DUH rates of SMX-TMP resistance in *Streptococcus pneumoniae* have increased (5+ year cumulative data demonstrating > 25% resistance); hence, SMX-TMP is NOT a preferred prophylactic antibiotic and should only be used for prophylaxis against encapsulated organisms in patients unable to tolerate other preferred antibiotics.