Antimicrobial Prophylaxis for Allogeneic and Autologous Hematopoietic Stem Cell Transplant Recipients: To be initiated at the time of admission for transplantation

Developed by: Immunocompromised ID consultative, Antimicrobial Stewardship Program, Pharmacy and Bone Marrow Transplant services

Allogeneic stem cell transplantation	
Antibacterial	**Pre-engraftment: Levofloxacin PO 500mg daily*[1-4]** • Begin at Day 0 (or sooner if ANC <500) and continue until ANC >500 on 2 consecutive samples or patient develops neutropenic fever • Adjust dosage for CrCl <50 **Chronic GVHD:** • **Penicillin VK 250mg twice daily[3]** for pneumococcal prophylaxis (not necessary if patient is still receiving levofloxacin) • Ensure patient up to date with pneumococcal vaccine series beginning 6 months post-transplantation[3]
Antifungal	**Low risk patients: Fluconazole 400mg daily[3-5]** • Begin on admission and continue until day 75 or no longer receiving immunosuppression • Adjust dosage for CrCl <50 **High risk patients** (acute GVHD (grade II to IV), chronic extensive GVHD, history of IFI, alemtuzumab receipt, or high dose steroids) or history of mold infection**: Posaconazole DR 300mg daily[6]**: • Begin on admission and continue until no longer receiving immunosuppression May use micafungin 50mg daily if unable to tolerate PO or have intolerable medication interactions
Antiviral	**HSV/VZV: Valtrex 500mg PO q12hrs or Acyclovir 400mg q8hrs** • Begin on admission and continue for 1 year post-transplant or until immunosuppression is discontinued (whichever is longer) • Adjust dosage for CrCl <30 • If unable to tolerate PO: Acyclovir IV 250mg q12hrs • **Valtrex 500mg PO q12hrs** or **Acyclovir 800mg q12hrs** if history of herpes zoster[7] **CMV**: Recipient CMV IgG positive: start Letermovir 480mg daily (Day +5 to day +100) • Recipient CMV IgG negative: Pre-emptive approach with weekly viral load screening
Pneumocystis	**Bactrim DS M/W/F or Bactrim SS daily[3]** • Begin at time of engraftment and continue for 1 year and immunosuppression is discontinued • Alternative if sulfa intolerant (2nd line agents) : Atovaquone 1500mg daily, Dapsone 100mg daily (check for G6PD deficiency prior to initiating Dapsone therapy)
Toxoplasmosis (*if toxo IgG+)*	**Bactrim DS M/W/F or DS daily** • If unable to tolerate Bactrim, must monitor serum toxoplasma PCR q2-4 weeks until day+90
Hep B *(if recipient is S Ag+ or core Ab+)*	**Tenofovir alafenamide 25mg daily or Entecavir 0.5mg daily** • Begin day 0 (or with conditioning chemo) and continue x 12 mos post-transplant • Alternative: may monitor Hep B S Ag and VL every 3 mos post-transplant and start antiviral if VL detectable

Antimicrobial Prophylaxis for Allogeneic and Autologous Hematopoietic Stem Cell Transplant Recipients

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Autologous stem cell transplantation	
Antibacterial	**Levofloxacin PO 500mg daily*[1-4]** • Begin on Day 0 (or sooner if ANC <500) and continue until ANC >500 on 2 consecutive samples or patient develops neutropenic fever • Adjust dosage for CrCl <50
Antifungal	**Fluconazole 200mg daily[3,4]** • Begin Day 0 and continue to Day 30 post-transplant • Adjust dosage for CrCl <30 • If prior history of mold infection, consider Posaconazole DR 300mg daily
Antiviral	**HSV/VZV: Valtrex 500mg PO q12hrs or Acyclovir 400mg q8hrs[3,4]** • Begin on Day 0 and continue until 6-12 months post-transplant • Adjust dosage for CrCl <30 • If unable to tolerate PO: Acyclovir IV 5mg/kg q12hrs (dosed by ideal body weight) • **Valtrex 500mg PO q12hrs or Acyclovir 800mg q12hrs** if history of herpes zoster[7]
Pneumocystis	**Bactrim DS M/W/F or Bactrim SS daily** [3] • Begin at Day 30 (if WBC/platelets recovered) and continue until 6 months post-transplant • Adjust dosage for CrCl <30 • Alternative if sulfa intolerant (2nd line agents): Atovaquone 1500mg daily, Dapsone 100mg daily (check for G6PD deficiency prior to initiating Dapsone therapy)
Hep B *(if recipient S Ag + or core Ab+)*	**Tenofovir alafenamide 25mg daily or Entecavir 0.5mg daily** • Begin day 0 (or with conditioning chemo) and continue x 12 mos post-transplant • Alternative: may monitor Hep B S Ag and VL every 3 mos post-transplant and start antiviral if VL detectable

* If patient unable to tolerate fluoroquinolones, call Transplant ID or antibiotic stewardship for alternatives, such as 3rd generation cephalosporin

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