Antifungal Prophylaxis for Adult Stem Cell Transplant Patients

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Prophylaxis Recommendations			
Patient Type	**First Line**	**Alternatives***	**Comments**
Autologous	**Fluconazole** 400 mg PO/IV daily, start on Day +1	**Micafungin** 50mg IV once daily	Continue through engraftment (discontinued prior to discharge)
Allogeneic	**Voriconazole** 200 mg PO/IV Q12H, start on admission for transplant† Target **voriconazole** trough level >1 µg/mL for prophylaxis^ Note: if patient on **posaconazole** pre-transplant, continue **posaconazole** for prophylaxis	**Posaconazole** DR 300 mg PO/IV daily Target **posaconazole** trough level > 0.7 ug/mL for prophylaxis^ OR **Micafungin** 100 mg IV daily	Continue until off immunosuppression‡. Consider additional 30 days, depending on GVHD status

Duration of self-approval: 6 months

*Criteria for alternative uses:
-Posaconazole: intolerance/allergy to voriconazole or inability to obtain adequate voriconazole level.
-Micafungin: unable to receive azole due to QTc prolongation, drug-drug interaction, severe liver injury, or other intolerance.
-If true azole allergy, recommend ID consult.

^Levels to be checked at baseline (~7 days after starting). Levels may be repeated if concern for side effects or treatment failure.

†Patients receiving busulfan will start antifungal prophylaxis after completion of busulfan.
‡Immunosuppression includes calcineurin inhibitor, mTOR inhibitor, anti-thymocyte globulin, TNFα inhibitor, mycophenolate, ruxolitinib, or prednisone ≥ 1 mg/kg/day (≥ 0.8 mg/kg every other day if chronic GVHD).

References: Clin Infect Dis 2008;46:1813-21. Clin Infect Dis 2016;63:e1-60

Acute Leukemia and MDS Antifungal Prophylaxis

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	Recommended Therapy	Comments
Acute Myeloid Leukemia (AML)	**Posaconazole ER*** Loading dose: 300 mg IV/PO every 12 hours x2 doses Maintenance dose: 300 mg IV/PO daily Alternative: Micafungin* 100 mg IV daily	• Initiate 24 hours after last anthracycline dose (i.e., day 4 if receiving induction with 7+3) **OR** following completion of venetoclax ramp-up **OR** on the first day of chemotherapy in patients not receiving an anthracycline-based regimen • Continue until resolution of neutropenia (ANC >500 cells/mm^3)
Acute Lymphoblastic Leukemia (ALL)	**Fluconazole** <90 kg: 400 mg IV/PO daily ≥90 kg: 600 mg IV/PO daily Alternative: Micafungin* 100 mg IV daily	• Initiate on day of diagnosis • Continue until resolution of neutropenia (ANC >500 cells/mm^3) • Chemotherapy drug-drug interactions (i.e., vincristine) prohibit the use of voriconazole or posaconazole
Myelodysplastic Syndrome (MDS)	**Posaconazole ER*** Loading dose: 300 mg IV/PO every 12 hours x2 doses Maintenance dose: 300 mg IV/PO daily Alternative: Micafungin* 100 mg IV daily	• Initiate once patient becomes neutropenic (ANC <1000 cells/mm^3) • Continue until resolution of neutropenia (ANC >500 cells/mm^3)

***Duration of Self approval: 28 days.**

References:

1. NCCN: Prevention and Treatment of Cancer Related Infections. V2.2020.
2. Cornely OA, et al. New Engl J Med 2007;356:348-59.