

ANTIFUNGAL THERAPEUTIC DRUG MONITORING RECOMMENDATIONS

	Itraconazole	Voriconazole	Posaconazole	Isavuconazole
Dose Formulations	Solution: 10 mg/mL Capsule: 65 mg (increased bioavailability)	Tablet: 50, 200 mg IV: 200 mg vial	Susp: 40 mg/mL DR Tab: 100 mg IV: 300 mg vial	Capsule: 186 mg IV: 372 mg vial
Prophylaxis (Adult)	200 mg PO q12-24h	200 mg q12h	300 mg q24h	372 mg q24h
Treatment (Adult) Loading Dose ↓ Maintenance Dose	200 mg q8h x 3 days ↓ 200 mg q12h	6 mg/kg q12h x 2 doses ↓ 4 mg/kg q12h - Use AdjBW in obese	300 mg q12h x 2 doses ↓ 300 mg q24h	372 mg q8h x 6 doses ↓ 372 mg q24h
Goal Levels Minimum (efficacy)	<u>Levels are Itraconazole + Hydroxyitraconazole</u> Prophylaxis: 0.5 mg/L Treatment: 1 mg/L	1 mg/L (2 mg/L in CNS or deeper infections)	Prophylaxis: 0.7 mg/L Treatment: 1 mg/L	>1,000 ng/mL
Maximum (toxicity)	10 mg/L (consider decrease if > 5 mg/L)	4-6 mg/L	None (consider decrease if > 2.5 mg/L)	Unknown
Tube for Collection	Plain red, green, or lavender top (ARUP)	Plain red, green, or lavender top (ARUP)	Plain red, green, or lavender top (ARUP)	Plain red or lavender top (Viracor)
Time of Sampling	Trough after first week of therapy (long half-life so timing may not matter)	Trough after at least 5 days of therapy	Trough at end of first week and after 7 days after dose change (long half-life so timing may not matter)	Trough preferred, but random level fine drawn after 5 days of therapy
Dose Adjustments	Increase by 100mg if subtherapeutic, but ensure optimal absorption (Capsule – no PPI/H2RA; solution – empty stomach)	Does NOT display linear kinetics, increase slowly (50-100 mg) and make sure on empty stomach	DR tab – increase or decrease by 100 mg Avoid oral suspension if possible as difficult to attain therapeutic levels	No data but if level low, can increase by capsule size (186 mg)
Adverse Effects	GI disturbances, neurological issues, hepatitis, QTc prolongation	Visual disturbances, liver dysfunction, skin rxns, neurotoxicity, QTc prolongation	Nausea, vomiting, hepatotoxicity, QTc prolongation	Headache, nausea, hepatotoxicity, vomiting, diarrhea

Flucytosine	
Dose Formulations	Capsule: 250, 500 mg
Prophylaxis (Adult)	Not indicated
Treatment (Adult)	25 mg/kg/dose q6h (Adjust for renal dysfxn) - Use IBW in obese
Goal Levels	50-100 mg/L (target 50-75 mg/L)
Tube for Collection	Plain red top (ARUP)
Time of Sampling	Peak drawn 2 hours after dose taken after at least 3 days of therapy
Dose Adjustments	Likely linear kinetics so dose adjustments are proportional to goal level
Adverse Effects	Neutropenia, rash, GI disturbances, hepatitis

NOTE: Pediatric dosing should be customized based on age, weight, and dosage form. Contact Pediatric pharmacist.

