Children's of Alabama®

IDSA Antimicrobial Stewardship Center of Excellence

PEDIATRIC INFECTIOUS DISEASES

HOME INFUSION (OPAT) and LONG-TERM ANTIMICROBIAL USE LABORATORY MONITORING GUIDELINE

Criteria for Use: This guideline was developed as a resource and reference for monitoring patients on home IV antimicrobials or long-term antimicrobials (>21 days). Laboratory monitoring is associated with lower risk of readmission and early identification of potential, expected and unexpected, adverse medication effects where rapid intervention can occur. Monitoring recommendations vary by antimicrobial. Shorter courses of antimicrobials (< 10 days for OPAT) generally do not require routine laboratory monitoring. **Generally, all ID follow-up patients also need CRP/ESR at same frequency listed for specific drug monitoring**.

Antimicrobial	Typical Dosing	Lab	Frequency	Comments
Penicillin G	200,000-300,000 units/kg/day (Max: 24 million units/day)	CBC w/diff CMP	Weekly	Usually medication is ordered as continuous infusion (18–20 hr)
Nafcillin	150-200 mg/kg/day (Max: 2000 mg/dose, 12 grams/day)	CBC w/diff CMP	Weekly	Usually medication is ordered as continuous infusion (18–20 hr)
Cefazolin	150mg/kg/day q8h (Max: 2000mg/dose)	CBC w/diff	Weekly	*BCBS preferred abx over Nafcillin*
Ceftriaxone	50-100 mg/kg/day q12-24h (max: 2000mg/dose)	CBC w/diff CMP + GGT	Weekly	GGT may be needed if >2 weeks
Ceftazidime / Cefepime	50 mg/kg/dose q8-12h (max: 2000mg/dose)	CBC w/diff	Weekly	
Ceftaroline	8-15 mg/kg/dose q8-12 h (max: 600mg/dose)	CBC w/diff Renal panel	Weekly	*Requires PA for all insurances*
Meropenem Ertapenem	20-40 mg/kg/dose q8-12h (max: 2000mg/dose 15mg/kg/dose q12-24h (Max: 1000mg/day)	CBC w/diff CMP	Weekly	Ertapenem non-formulary; ensure 1 inpatient dose
Piperacillin/ Tazobactam	240-400 mg/kg/day q8h (Max: 4 gram/dose piperacillin)	CBC w/diff CMP	Weekly	Extended infusion doses inpatient can be converted to continuous infusion for OPAT

Vancomycin	Based on inpatient drug levels (Max: 1250mg/dose)	Renal panel CBC w/diff Trough	Weekly	AKI may require twice weekly labs; troughs first 1–2 weeks
Daptomycin	6-14 mg/kg/day q24h (Max: 1000mg/dose)	Renal panel CBC w/diff CPK	Weekly	Baseline CPK required prior to discharge
Gentamicin / Tobramycin	Based on inpatient drug levels (Max: 80mg/dose)	Renal panel Trough	Weekly, may increase if concerning AKI	Duration usually limited to 2 weeks
Micafungin	3-5 mg/kg/day q24h (Max: 150mg/dose)	CMP	Weekly	
Lipo-Amphotericin (Ambisome®)	3-5 mg/kg/day q24h	CMP CBC w/diff	CMP twice weekly; CBC weekly	
Ganciclovir	5 mg/kg/dose q12-24 h	CBC w/diff Renal panel	Weekly	Higher doses may be used per ID transplant
Foscarnet	90-180 mg/kg/day q8-24 h	Renal panel	Twice weekly	Dose dependent on indication
COMMONLY PRESCRIBED ORAL ANTIMICROBIALS				
Clindamycin	10-15 mg/kg/dose q6-8h (Max: 600mg/dose)	CBC w/diff	@ clinic visit	PO only
Azithromycin	5-20mg/kg/day q24h (Max dose: 1200mg/day)	EKG	@ clinic visit	PO only Baseline EKG prior to discharge
Linezolid	10mg/kg/dose q8-12 h (Max: 600mg/dose)	CBC w/diff	Every other week (unless ANC<1000)	PO only
Levofloxacin Ciprofloxacin Moxifloxacin	8-10 mg/kg/dose q12h-24h (Max: 750mg/dose) 10-20mg/kg/dose q12h (Max: 750mg/dose) 4-5 mg/kg/dose q12-24h (Max: 400mg/day)	EKG	@ clinic visit	PO only Baseline EKG prior to discharge Round to closest tablet size, no liquid formulations readily available
-Azole Antifungals • Voriconazole	Dose dependent on inpatient dose, some require levels	CMP + GGT EKG Vori trough	Monthly or at clinic visits	PO only

• Fluconazole • Posaconazole • Itraconazole		Itra trough Posa trough		Baseline EKG prior to discharge Therapeutic level on oral prior to discharge required
Trimethoprim/ Sulfamethoxazole (Bactrim)	8-20mg/kg/day q8-12h (max: 2DS tablet or 320mg/dose)	CBC w/diff Renal panel	Monthly or at clinic visits	

Notes:

• Dosing to be individualized per indication, renal function, and ID recommendations.

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