

Therapeutic Drug Monitoring Collection

Specimens for testing the blood concentration (level) of the following therapeutic drugs should be collected at specific times before or after the dose. The list following is a suggested protocol; physician-specific orders and/or Pharmacy staff input are advisable. If a drug is not listed here, in most cases it should be drawn just before the next dose; consult with the physician or Pharmacy staff as necessary for timing of collection(s). The time to reach “steady state” is also listed.

Key:

- **T** =Collect a “trough” specimen (ie, 30 minutes before the next dose)
- **P** =Collect a “peak” specimen (ie, blood concentration is at its highest level)

Drug	Time to Specimen Collection	Steady State
Acetaminophen	Toxicity: First specimen at least 4 hours after ingestion Second specimen 12 hours after ingestion	
N-Acetylprocainamide	See Procainamide	
Acetylsalicylic Acid	See Salicylate	
Alprazolam	T	2 to 5 days
Amikacin Traditional	T P: 30 minutes after IV infusion completed 1 hour after IM dose given	5 to 35 hours
Amikacin Infrequent dosing method 15 mg/kg	Random level for nomogram interpretation, 10 hours after dose infuses	8 hours
Amikin	See Amikacin	
Aminophylline	See Theophylline	
Amitriptyline	T	4 to 10 days
Amoxapine	T	6 to 10 days
Asendin	See Amoxapine	
Aspirin	See Salicylate	
Aventyl	See Nortriptyline	
Carbamazepine	T	2 to 4 weeks
Cholestyl	See Theophylline	
Clonazepam	T	4 to 8 days
Clonopin	See Clonazepam	
Depakene	See Valproic Acid	
Desipramine	T	2 to 12 days
Desyrel	See Trazodone	
Digoxin	At least 6 hours after dose	1 to 2 weeks
Dilantin	See Phenytoin	
Diphenylhydantoin	See Phenytoin	
Disopyramide	T	2 to 4 days

Drug	Time to Specimen Collection	Steady State
Doxepin	T	2 to 10 days
Elavil	See Amitriptyline	
Elixophyllin	See Theophylline	
Enoxaparin	Anti 10a level 4 hours after dose	3 days
Ethosuximide	T	10 to 13 days
Garamycin	See Gentamicin	
Gentamicin Traditional	T P: 30 minutes after IV infusion completed 1 hour after IM dose given	<30 years: 3 to 15 hours >30 years: 8 to 7 hours
Gentamicin Infrequent dosing method 5 mg/kg	Random level for nomogram interpretation, 10 hours after dose infuses	8 hours
Imipramine	T	2 to 6 days
Kanamycin	T P: 30 minutes after IV infusion completed 1 hour after IM dose given	5 to 35 hours
Kantrex	See Kanamycin	
Lanoxin	See Digoxin	
Lidocaine	T	6 to 12 hours
Lithium	T	4 to 7 days
Lovenox	See Enoxaparin	
Ludiomil	See Maprotiline	
Luminal	See Phenobarbital	
Maprotiline	T	6 to 15 days
Methotrexate	As per physicians instructions	
Mysoline	See Primidone	
NAPA	See Procainamide	
Nebcin	See Tobramycin	
Netilmicin	T P: 30 minutes after IV infusion completed 1 hour after IM dose given	<30 years: 5 to 10 hours >30 years: 10 to 75 hours
Netromycin	See Netilmicin	
Norpace	See Desipramine	
Norpramin	See Desipramine	
Nortriptyline	T	4 to 20 days
Pamelor	See Nortriptyline	
Pertofrane	See Desipramine	

Drug	Time to Specimen Collection	Steady State
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Phenobarbital (PHNO)	T	10 to 25 days
Phenytoin (PTN)	T	Usual: 4 to 10 days
Primidone	T	2 to 3 days
Procainamide (and NAPA)	First specimen just before dose. Second specimen 2 hours after dose	15 to 30 hours NAPA = 30 to 50 hours
Pronestyl	See Procainamide	
Propranolol	T	20 to 30 hours
Protriptyline	T	1 to 6 weeks
Quinidine	T	30 to 40 hours
Quibron	See Theophylline	
Salicylate Anti-inflammatory	T	5 to 7 days
Sinequan	See Doxepin	
Sisomicin	T P: 30 minutes after IV infusion completed 1 hour after IM dose given	<30 years: 3 to 15 hours >30 years: 8 to 75 hours
Slo-Phyllin	See Theophylline	
Somophyllin	See Theophylline	
Surmontil	See Trimipramine	
Tedral	See Theophylline	
Tegretol	See Carbamazepine	
Theo-Dur	See Theophylline	
Theolair	See Theophylline	
Theophylline Time-release indicate by: SRM, SAM, CRTM, GYROCAPS, THEO-DUR	P: Regular tablets or liquids-2 hours after dose Time-released tablets, capsules, etc.-4 to 5 hours after dose	2 to 3 days
Theospan	See Theophylline	
Tobramycin Traditional	T P: 30 minutes after IV infusion completed 1 hour after IM dose given	<30 years: 3 to 15 hours >30 years: 8 to 75 hours
Tobramycin Infrequent dosing method 5 mg/kg	Random level for nomogram interpretation, 10 hours after dose infuses	
Tofranil	See Imipramine	
Trazodone	T	
Trimipramine	T	
Tylenol	See Acetaminophen	
Valproate	See Valproic Acid	

Drug	Time to Specimen Collection	Steady State
ValproicAcid	T	
Vancomycin	T P: 2 hours after IV infusion completed	
Vivactil	See Protriptyline	
Xanax	See Alprazolam	
Xylocaine	See Lidocaine	
Zarontin	See Ethosuximide	