CH 2.24 Half-Time and Time to Steady State

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Test	Half Life	Time to Steady State*	Other Comments and References
Amikacin	2-3 hours	~1 day	Collect trough and post/peak specimens when at steady state (~1 day: prolonged with impaired renal function); expert opinion. (Baselt 2008)
Amiodarone	35-68 days	26-107 days	(Baselt 2008)
Amitriptyline/Nortriptyline	15-90 hours (Nortrip)	4-19 days	(Baselt 2008)
Carbamazepine	5-26 hours	2-6 days	(Baselt 2008)
Clobazam/Norclobazam	30-80 hours	7-17 days	(Baselt 2008)
Clomipramine/ Desmethylclomipramine	54-77 hours (DMC)	12-16 days	(Truven 2017)
Clonazepam	19-60 hours	4-13 days	(Baselt 2008)
Clozapine	6-17 hours	2-4 days	(Baselt 2008)
Cyclosporine	6-27 hours	2-6 days	(Baselt 2008)
Desipramine	12-54 hours	3-12 days	(Baselt 2008)
Digoxin	30-45 hours	6-10 days	(Baselt 2008)
Doxepin/nordoxepin	28-52 hours (DMD)	6-11 days	(Truven 2017)
Ethosuximide	25-60 hours	6-13 days	(Truven 2017)
Gentamicin	2-4 hours	~1 day	For traditional dosing, collect trough and post/peak specimens when at steady state (~1 day: prolonged with impaired renal function). For 7 mg/Kg dosing, collect after first dose (8h after infusion start). For 5-6 mg/Kg dosing, collect just before second dose: expert opinion. (Truven 2017)
Imipramine/Desipramine	12-54 hours (desipramine)	3-12 days	(Baselt 2008)
Lamotrigine	12-62 hours	3-13 days	(Baselt 2008)
Lithium	17-58 hours	4-12 days	(Baselt 2008)

Test	Half Life	Time to Steady State*	Other Comments and References
Methadone	15-55 hours	4-12 days	(Baselt 2008)
Methotrexate	16-29 hours (high dose)	Not relevant clinically	(Baselt 2008)
Mycophenolate (MPA)	9-17 hours	2-4 days	(Baselt 2008)
Nitrazepam	17-48 hours	4-10 days	(Baselt 2008)
Nortriptyline	15-90 hours	4-19 days	(Baselt 2008)
Pentobarbital	15-48 hours	4-10 days*	Monitoring should NOT be done more frequently than once/24h after cessation of thiopental therapy.
Phenobarbital	2-6 days	10-30 days	(Baselt 2008)
Phenytoin	8-60 hours (dose dependent)	2-13 days	(Baselt 2008)
Phenytoin-free	See phenytoin.	See phenytoin.	
Primidone (includes phenobarbital)	2-6 days (phenobarbital)	10-30 days (phenobarbital)	
Procainamide (and NAPA)	5-9 hours (NAPA)	1-2 days	(Truven 2017)
Salicylate	3-20 hours (dose dependent)	Not relevant clinically	(Baselt 2008)
Sirolimus (rapamycin)	46-86 hours (mean ~66 h)	10-18 days	(Baselt 2008)
Tacrolimus	12-30 hours	3-7 days	(Baselt 2008)
Teriflunomide (leflunomide metabolite)	4-28 days	20-140 days	(Truven 2017)
Theophylline	3-11 hours	1-3 days	(Baselt 2008)
Tobramycin	2-4 hours	~1 day	For traditional dosing, collect trough/peak when at steady state (~1 day: prolonged with impaired renal function). For 7 mg/Kg dosing, collect after first dose (8h after infusion start). For 5-6 mg/Kg dosing, collect just before second dose: expert opinion. (Truven 2017)
Trimipramine/desmethyl-trimipramine	16-39 hours	4-9 days	(Baselt 2008)
Valproate (Valproic Acid)	8-12 hours	2-3 days	(Baselt 2008)
Vancomycin	3-8 hours	1-2 days	(Baselt 2008)

* Based on five half-lives and on normal renal or hepatic function (will be prolonged in patients with impaired function)

REFERENCES

Baselt RC, editor. 2009. Disposition of Toxic Drugs and Chemicals in Man. 8th edition. Foster City, CA: Biomedical Publications.

Truven Health Analytics. 2017. Micromedex Solutions. [Accessed 20170425] <http://www.micromedex.com/>