

Renal Dosing Protocol Drug List (revised 8/04)

Based on the ICU Renal Dosing Protocol, for ICU patients drugs on this list may be automatically dose-adjusted by the Clinical Pharmacist according to the patient's renal function.

Drug	Estimated CrCl and Recommended Renal Dosing						
	<10 mL/min	10-25 mL/min	25-50 mL/min	>30 mL/min	>50 mL/min	30-60 mL/min	Normal Renal Function
Acyclovir (IV)^A Herpes Simplex Encephalitis	≤ 10 mL/min Consider loading dose then 5 - 7.5 mg/kg Q24 H	10 –15 mg/kg Q24H	10-15 mg/kg Q12H			10-15 mg/kg Q8H	
Acyclovir (PO)^A Herpes Simplex Infection	200 mg BID	≥ 10 mL/min 200mg Q4H 5X per Day					
Acyclovir (PO)^A Herpes Zoster	800 mg BID	800mg TID	> 25 mL/min 800 mg Q4H 5X per Day				
Amoxicillin (PO)^{AB}	250-500mg QDay	10-30 mL/min 250-500 mg BID		> 30 mL/min 250-500 mg TID			
Amoxicillin/Clavulanate (PO)^A	250-500 mg QDay	10-30 mL/min 250-500 mg BID		> 30 mL/min 875 mg BID			
Ampicillin (IV)^B	2g Q12-24H	10-50mL/min 2g Q 6-12H			>50mL/min 2g Q 6H		
Ampicillin/Sulbactam (IV)^B	1.5-3g Q24-48 H	10-50 mL/min 1.5-3g Q 12-24H			> 50 mL/min 1.5-3g Q 6-8 H		
Aztreonam (IV)^P Initial loading dose 1-2g	250-500 mg Q 8 H	10-30 mL/min 500-1000 mg Q 8 H		> 30 mL/min 1g Q 8 H			
Cefazolin (IV)^S	1-2g Q 24-48H	10-50 mL/min 1-2g Q12H			> 50 mL/min 1-2g Q8H (2g only if severe)		
Cefepime (IV)^P Normal Dosing	250-500 mg Q 24 H	11-29 mL/min 500 mg-1g Q 24 H				500mg-2g Q 24 H	>60 mL/min 500mg-2g Q12 H
Cefepime (IV)^P Febrile Neutropenia	1g Q 24 H	11-29 mL/min 2g Q 24H				2g Q 12 H	>60 mL/min 2g Q 8 H
Cefotaxime (IV)^D	1-2 g Q24H	10-50 mL/min 1-2g Q8-12H			> 50 mL/min Moderate-Severe: 1-2g Q 8-12 H Severe: 2g Q 6-8 H Life Threatening: 2g IV Q 4 H (12g Max)		
Cefoxitin (IV)	1 g Q 24-48 H	1-2 g Q 12-24 H		1-2 g Q 8-12 H	1-2 g Q 8H		
Cefpodoxime (PO)^P	< 30 mL/min 100-400 mg QD			> 30 mL/min 100-400 mg BID			
Ceftazidime (IV)^B	1-2g Q 48 H	< 15 mL/min 1g load then 500mg Q 24H	10-50 mL/min 1-2g Q 24-48 H		> 50 mL/min 1-2g Q 8-12 H		
Ceftriaxone (IV)^P	No renal adjustment necessary 1-2g Q24H						
Cefuroxime (IV)^P	750 mg Q 24H	10-20ml/min 750mg Q 12 H	>20ml/min 750 mg-1.5g Q 8 H				
Cephalexin (PO)^A	250mg Q 12 H < 5 mL/min: 250mg Q 24 H		11 - 40 mL/min 500 mg Q 8-12 H		> 40 mL/min 500 mg QID		
Ciprofloxacin (IV)^B	200mg Q 12 H	10-50 mL/min 200-300 mg Q 12 H			> 50 mL/min 400 mg Q 12 H Severe or febrile neutropenia: 400 mg Q 8 H		
Ciprofloxacin (PO)^B If CrCl < 30mL/min do not use 750mg tabs	250mg Q12H	10-50 mL/min 250-500 mg Q 12 H		> 50 mL/min 500-750 mg Q 12 H			

Drug	Estimated CrCl and Recommended Renal Dosing					
	<10 mL/min	10-25 mL/min	25-50 mL/min	>30 mL/min	>50 mL/min	Normal Renal Function
Clarithromycin (PO)^D	< 30 mL/min 125-250 mg Q 12 H or 250-500 mg Q 24 H			≥ 30 mL/min 250-500 mg Q 12 H		
Enoxaparin (SQ)^P Lovenox[®]	< 30 mL/min Prophylaxis: 30 mg Q 24 H Treatment: 1 mg/kg Q 24 H			> 30 mL/min Prophylaxis: 40 mg QDay or 30mg BID Treatment: 1mg/kg Q 12H or 1.5mg/kg QDay		
Ertapenem (IV)^P	< 30 mL/min 500 mg Q 24 H			> 30 mL/min 1g Q 24 H		
Erythromycin Lactobionate (IV)^S Monitor for signs of ototoxicity	125-375mg Q 6 H	≥ 10 mL/min 250-500 mg Q 6 H				
Erythromycin Base (PO)^S Monitor for signs of ototoxicity	125-375mg Q 6 H	≥ 10 mL/min 250-500 mg Q 6 H				
Famotidine (IV/PO)^P Pepcid[®]	< 50 mL/min 20 mg Q 24 H or ½ dose recommended for indication			> 50 mL/min 20 mg Q12 H		
Fluconazole (IV/PO)^A	< 50 mL/min 200-400 mg load, then 50-100 mg QDay			> 50 mL/min 200-400 mg load, then 100-200 mg QDay Severe: 800 mg load, then 400 mg QDay		
Ganciclovir (IV)^{AP} Induction CMV retinitis		1.25 mg/kg Q 24H	25-49 mL/min 2.5 mg/kg Q 24 H		50-69 mL/min 2.5 mg/kg Q 12 H	> 70 mL/min 5 mg/kg Q 12 H
Ganciclovir (IV)^D Maintenance CMV retinitis		0.625 mg/kg Q 24 H	25-49 mL/min 1.25 mg/kg Q 24 H		50-69 mL/min 2.5 mg/kg Q 24 H	> 70 mL/min 5mg/kg Q 24 H
Ganciclovir (PO)^A Maintenance CMV retinitis		500 mg QDay	25-49 mL/min 500 mg BID		50-69 mL/min 500 mg TID	> 70 mL/min 1g TID
Imipenem/Cilastatin (IV)^S Primaxin[®] Should be use with caution, if at all, in renal failure due to an increased risk of seizures. Meropenem is preferred in renal failure.	125-250 mg Q 12 H	10-49 mL/min 250 mg Q 6-12 H			> 50 mL/min 250-500 mg Q 6-8 H	
Ketorolac (IM/IV)^P Toradol[®] Combined use of IV/PO should not exceed 5 days	Contraindicated in patients with advanced renal impairment and patients at risk for renal failure because of volume depletion.				≥ 50 mL/min 15-30 mg Q 6 H	
Levofloxacin (IV/PO)^D	< 20 mL/min 500 mg load, then 250 mg Q 48 H		20-49 mL/min 500 mg load, then 250 mg Q 24 H		> 50 mL/min 500 mg Q24H	
Meropenem (IV)^P	500mg Q 24 H	500mg Q 12 H	26-50 mL/min 1g Q 12 H		> 50 mL/min 1g Q 8 H	
Metoclopramide (IV/PO)^P Reglan[®]	< 40 mL/min 5-10 mg Q 6 H			> 40mL/min 10-20 mg Q 6 H		
Metronidazole (IV)^{BS}	< 10 mL/min 50% of Usual Dose See Note	> 10 mL/min 100% of usual dose Note: Usual dose per reference: 7.5mg/kg (~500mg) Q 6 H Other doses are commonly used in clinical practice				

Drug	Estimated CrCl and Recommended Renal Dosing						
	< 10 mL/min	10-25 mL/min	25-50 mL/min	>30 mL/min	>50 mL/min	30-60 mL/min	Normal Renal Function
Nitrofurantoin (PO)^B	Not recommended with CrCl ≤ 50mL/min				> 50 mL/min 50-100 mg Q 6 H Prophylaxis: 100mg QDay		
Nitrofurantoin ER (PO)^B	Not recommended with CrCl ≤ 50mL/min				> 50 mL/min 100 mg BID		
Penicillin G (IV)^A Normal Dose	1-4 Million units Q 12-18 H	10-50 mL/min 1-4 Million Units Q 8-12 H		> 50 mL/min 1-4 Million Units Q 6-8 H			
Penicillin G (IV)^A Serious Infections	500,000 -2 Million Units Q 4 H	10-50 mL/min 1-4 Million Units Q 4 H		> 50 mL/min 1-4 Million Units Q 4 H			
Penicillin V (PO)^D	< 10 mL/min 250-500 mg Q 8 H	> 10 mL/min 250-500 mg Q 6 H					
Piperacillin (IV)^D	<20 mL/min 3-4g Q 12 H		21-39 mL/min 3-4g Q 8 H		> 40 mL/min 3-4g Q 4-6 H		
Piperacillin/Tazobactam (IV)^S	2.25g Q8H	10-49 mL/min 2.25g Q6H			> 50 mL/min 3.375g Q 6 H		
Rifampin (IV)/(PO)^{BD} Endocarditis requires special dosing	≤ 50 mL/min 300-600mg Q 24 H				> 50 mL/min 600mg Q 24 H		
Trimethoprim/Sulfamethoxazole (TMP/Sulfa)^D Dosing based on TMP -- For PCP Treatment	< 15 mL/min 15-20 mg/kg/dose Q 48 H or 7-10 mg/kg/day divided Q12-24 H	15-30 mL/min 15-20 mg/kg/day divided Q 6-8H X 48 H then, 7-10 mg/kg/day divided Q 12 H		> 30 mL/min 15-20 mg/kg/day divided Q 6-8 H			
Trimethoprim/Sulfamethoxazole (TMP/Sulfa)^D Dosing based on TMP Component --For PCP Prophylaxis	< 15 mL/min 5mg/kg Q 48-72 H	15-30 mL/min 5mg/kg Q 24-48 H for 3-7 doses/week		>30 mL/min 5mg/kg Q 24 H for 3-7doses/week			
Trimethoprim/Sulfamethoxazole (TMP/Sulfa)^D Dosing based on TMP Component	< 15 mL/min 8-12 mg/kg/dose Q 48 H (or 4-6 mg/kg/day divided Q 12-24H)	15-30 mL/min 8-12 mg/kg/day divided Q 12 H x 1-2days then 4-6mg/kg Q 24 H		> 30 mL/min 8-12 mg/kg/day divided Q 12 H X 14 days then 4-6 mg/kg Q 24 H			
Vancomycin (IV) Adult weight > 60kg*	< 30 mL/min 1g *frequency based on trough level			30-60 mL/min 1g Q 24H		≥ 60 mL/min 1g Q 12 H	
Vancomycin (IV) Adult weight < 60kg*	< 30 mL/min 20mg/kg (max 1500mg) *frequency based on trough level			30-60 mL/min 15mg/kg Q 24 H (round to 250mg increments)		≥ 60 mL/min 15mg/kg Q 12 H (round to 250mg increments)	

References

- ^A McEvoy G, ed. *AHFS Drug Information*. Bethesda, MD: American Society of Health-Systems Pharmacists, Inc; 2003.
- ^B Bennett GR, Arnoff TA, Golper et al. *Drug Prescribing in Renal Failure: Dosing Guidelines for Adults*, 4th ed. Philadelphia: American College of Physicians; 1999.
- ^D Gelman CR, Rumack BH, Hutchison TA, eds. *Drugdex[®] System*. Englewood, CO: Micromedex, Inc. Edition Expires 03/2003.
- ^P Physicians' Desk Reference. 51st ed. Montvale, NJ: Medical Economics Company, Inc; 2003.
- ^S Gilbert D, Moellering R, Sande M. *The Sanford Guide to Antimicrobial Therapy*. Hyde Park, VT: Antimicrobial Therapy Inc; 2003.