Antimicrobial Dosing Guidelines for Adult Patients Based on Renal Function

CrCl (mL/min)	Standard Dose	Maximal Dose	HD
Acyclovir IV			
>50	5 mg/kg Q8H	10 mg/kg Q8H*	
30-50	5 mg/kg Q12H	10 mg/kg Q12H*	D
10-29	5 mg/kg Q24H	10 mg/kg Q24H*	
<10	2.5 mg/kg Q24H	5 mg/kg Q24H*	
Dose using ideal body weight *Use maximum dose for meningitis/encephalitis and varicella in immunocompromised host			
Amoxicillin PO			
> 30	250 mg Q8H	500 mg Q8H	
10-29	250 mg Q12H	500 mg Q12H	MD
<10	500 mg Q24H	500 mg Q24H	
Amoxicillin/Clavulanate PO			
> 30	500 mg Q8-12H*	875 mg Q12H	MD
10-29	500 mg Q12H	875 mg Q12H	
<10	500 mg Q24H	875 mg Q24H	
*Use 500 mg Q8H for osteomyelitis for CrCl ≥ 30 mL/min			
Ampicillin IV			
>50	1 gm Q4-6H	2 gm Q4-6H*	
30-50	1 gm Q8H	2 gm Q6-8H	MD
10-29	1 gm Q12H	2 gm Q8-12H	
<10	1 gm Q24H	2 gm Q24H	
*Use 2 gm Q4H for meningitis			
Ampicillin/Sulbactam IV			
>50	1.5 gm Q6H	3 gm Q6H*	
30-50	1.5 gm Q8H	3 gm Q8H*	MD
10-29	1.5 gm Q12H	3 gm Q12H*	
<10	1.5 gm Q24H	3 gm Q24H*	
*Use 3 gm if penetration is an issue (abscess/diabetic foot /vascular insufficiency/ osteomyelitis/intra-abdominal)			
Aztreonam IV			
>50	1 gm Q8H	2 gm Q6H	
30-50	1 gm Q12H	1 gm Q8H	MD
10-29	1 gm Q24H	1 gm Q12	
<10	500 mg Q24H	1 gm Q24H	
Cefazolin IV			
>50	1 gm Q8H	2 gm Q8H	
30-50	1 gm Q8H	2 gm Q8H	MD
10-29	1 gm Q12H	2 gm Q12H	
<10	1 gm Q24H (2gm Q48H)	2 gm Q24H	

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Cefepime IV >50 30-50 10-29 <10	 1 gm Q12H 1 gm Q24H 1 gm Q24H 0.5-1 gm Q24H	 2 gm Q12H 2 gm Q24H 1 gm Q24H 1 gm Q24H	D
Pseudomonal Coverage or Febrile Neutropenia: >50: 2gm Q8H; 30-50: 2gm Q12H; 10-29: 1gm Q12H; < 10: 1gm Q24H			
Cefpodoxime PO ≥30 <30 HD	 100 – 200 mg Q12H 100 – 200 mg Q24H 100 – 200 mg 3 times per week	 400 mg Q12H 400 mg Q24H 400 mg 3 times per week	MD
Cefuroxime PO ≥20 < 20	 250 mg Q12H 250 mg Q24H	 500 mg Q12H 500 mg Q24H	MD
Ceftriaxone IV >50 <50-5 (Including HD)	 1 gm Q24H No Change	 2 gm Q24H* No Change	SD
*All indications are dosed at 1gm Q24H with the exception of meningitis (2 gm Q12H) and osteomyelitis (2 gm Q24H)			
Cephalexin PO >30 10-29 <10	 250 mg Q6H 250 mg Q8H 250 mg Q12H	 500 mg Q6H 500 mg Q8H 500 mg Q12H	MD
Ciprofloxacin IV >30 10-29 <10	 400 mg Q12H* 400 mg Q24H 400 mg Q24H	 400 mg Q8H* 400 mg Q12H 400 mg Q24H	SD
*Use Q8H dosing only for *Pseudomonas aeruginosa*			
Ciprofloxacin PO >30 10-29 <10	 500 mg Q12H 500 mg Q24H 250 mg Q24H	 750 mg Q8H 750 mg Q12H 500 mg Q24H	SD
Clindamycin IV >50 <50	 600 mg Q8H No Change	 900 mg Q8H No Change	ND
Clindamycin PO >50 <50	 300 – 450 mg Q8H No Change	 450 mg Q6H No Change	ND

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Dicloxacillin PO			ND
>50	250 – 500 mg Q6H	250 – 500 mg Q6H	
<50	No Change	No Change	
Doxycycline PO			
>50	100 mg Q12H	100 mg Q12H	ND
<50	No Change	No Change	
Fluconazole IV/PO*			
>30	200 mg Q24H	400 mg Q24H**	MD
10-29	100 mg Q24H	200 mg Q24H	
<10	100 mg Q48H	200 mg Q48H	
*RECOMMENDATIONS FOR SYSTEMIC INFECTION <u>ONLY</u>, NOT FUNGURIA. Give PO if patient has functioning GI tract **May require dosages up to 800 mg/d depending on *Candida* species/sensitivities			
Ganciclovir IV			
>50	2.5-5*mg/kg Q24H	5 mg/kg Q12H	
30-50	1.25 mg/kg Q24H	2.5 mg/kg Q24H	D
10-29	0.625 mg/kg Q24H	1.25 mg/kg Q24H	
<10	0.625 mg/kg Q48H	1.25 mg/kg Q48H	
*5 mg/kg for CrCl ≥70 mL/min, 2.5 mg/kg for CrCl 50-69 mL/min			
Ganciclovir PO			
>50	1 gm Q8H		
30-50	1-1.5 gm Q24H		D
10-29	500 mg Q24H		
<10	500 mg Q48H		
Imipenem/Cilastatin			
>50	500 mg Q6H	1 gm Q6H*	
30-50	500 mg Q8H	500 mg Q6H*	MD
10-29	500 mg Q12H	500 mg Q8H*	
<10	250 mg Q12H	500 mg Q12H*	
For suspected pseudomonas or ESBL infection use max doses			
Meropenem IV			
> 50	1 gm Q8H	2 gm Q8H	
26 – 50	1 gm Q12H	1 gm Q8H	MD
10 – 25	500 mg Q12H	1 gm Q12H	
<10 or HD*	500 mg Q24H	1 gm Q24H	
*If patient on HD schedule daily dose to be administered immediately <u>after</u> dialysis.			
Metronidazole IV/PO*			
>10	500 mg Q8H	500 mg Q8H	MD
<10	500 mg Q12H	500 mg Q12H	
*No indication for Q6H dosing			

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Moxifloxacin IV/PO			
>50	400 mg Q24H	400 mg Q24H	ND
<50	No Change	No Change	
Nafcillin/Oxacillin			
>50	1 gm Q4H	2 gm Q4H	ND
<50-5 (Including HD)	No Change	No Change	
Nitrofurantoin*			
>50	100 mg Q12H		N/A
<50	Not Recommended		
*Do not use in systemic infections. Drug is ineffective with CrCl < 40mL/min due to inadequate urinary concentrations.			
Oseltamivir PO			
> 60	75 mg Q12H	75 mg Q12H	N/A
>30-60	30 mg Q12H	30 mg Q12H	
>10-30	30 mg Q24H	30 mg Q24H	
Piperacillin/Tazobactam*			
>50	3.375 gm Q6H	3.375 gm Q4H	MD
30-50	3.375 gm Q6H	3.375 gm Q6H	
10-29	3.375 gm Q8H	3.375 gm Q6H	
<10	3.375 gm Q12H	3.375 gm Q8H	
*Use for maximal dose for empiric therapy or treatment of *Pseudomonas aeruginosa*. If polymicrobial infection without *P. aeruginosa* is suspected, consider using ampicillin/sulbactam			
Rifampin PO			
>10	10 mg/kg Q24H	10 mg/kg Q12H	N/A
<10	10 mg/kg Q24H	10 mg/kg Q24H	
Sulfamethoxazole/ Trimethoprim IV	Non-PCP	PCP	
>50	2.5 mg/kg Q12H	5 mg/kg Q6H	MD
30-50	2.5 mg/kg Q12H	5 mg/kg Q6H	
10-29	2.5 mg/kg Q12H	5 mg/kg Q12H	
<10	2.5 mg/kg Q24H	5 mg/kg Q24H*	
Dosing based on trimethoprim (TMP) component. *Avoid if possible, not recommended by manufacturer for CrCl <15 mL/min due to nephrolithiasis.			

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Sulfamethoxazole/ Trimethoprim PO		(Equal to IV Dose)	MD
>50	1-2 DS Q8-12H	5 mg/kg Q6H	
30-50	1-2 DS Q12H	5 mg/kg Q6H	
10-29*	1-2 DS Q12H*	5 mg/kg Q12H*	
<10*	1-2 DS Q24H*	5 mg/kg Q24H*	
Dosing based on trimethoprim (TMP) component. Round to the nearest 160 mg of TMP component. *Not recommended by manufacturer for CrCl <15 mL/min due to nephrolithiasis			
Vancomycin PO **			ND
>50	125 mg Q6H		
<50	No Change		
**For *C. difficile* only in patients with sdevere disease or failed metronidazole therapy *For IV dosing see vancomycin dosing guidelines			

Dosing based on Cockcroft and Gault Equation

D= Dialyzed 50 – 100%; HD= Hemodialysis; MD= Moderately dialyzed 20-49%; N/A= No information available; ND= Not dialyzed 0-5%