Antimicrobial Renal Dosage Adjustment Guidelines for Adults

[milligrams or grams/dosing interval in hours unless otherwise specified]

Doses are for 70 kg adults; smaller or larger patients, or those receiving certain modes of renal replacement therapy may require additional dosage adjustments

Some antimicrobials require dose adjustment in hepatic dysfunction. Please refer to specialized references for dosing considerations.

Antimicrobial doses in chart represent usual initial adult doses for moderate to severe infections due to susceptible organisms. **Specific disease states or individual patients may warrant dosages that differ from the recommendations**. Please contact the pharmacist serving your patient care area for patient-specific recommendations.

	CREATININE CLEARANCE (mL/min)					
Drug & Administration Route	**> 80**	**50-80**	**30-50**	**10-30**	**< 10/ hemodialysis**	**CRRT**
PENICILLINS						
Amoxicillin po	250-500mg/q8h or 875mg/q12h or 1gram/q8h		250-500mg/q8-12h		250-500mg/q24h	
Amoxicillin/ clavulanate po	500mg/q8h or 875mg/q12h			250-500mg/q12h	250-500mg/q24h	
Ampicillin[LOAD] iv	500mg-2gram/q4-6h Endocarditis/meningitis: 2gram IV q4h		500mg-2gram/q8h	500mg-2gram/ q12h	500mg-2gram/ q12-24h	1-2gram/q8h-q12h
Ampicillin / sulbactam [LOAD] iv	1.5-3gram/q6h		1.5-3gram/q6-8h	1.5-3gram/q12h	1.5-3gram/q12h-24h	1.5-3gram/q8h
Ampicillin / sulbactam HIGH DOSE [LOAD] iv extended infusion	4 hour infusion 9grams/q8h Severe infections caused by carbapenem-resistant *Acinetobacter baumannii* (CRAB) OR combination therapy for infections caused by ampicillin/sulbactam non-susceptible CRAB		30 min infusion 3gram/q6h	30 min infusion 3gram/q8h	30 min infusion 3gram/q12h	30 min infusion 3gram/q6h
Ampicillin / sulbactam HIGH DOSE [LOAD] iv intermittent infusion	30 min infusion 3gram/q4h Infections caused by ampicillin/sulbactam susceptible Acinetobacter baumanii OR Endocarditis/endovascular infections OR Osteomyelitis OR renally dose adjusted HIGH DOSE extended infusion ampicillin/sulbactam					
Dicloxacillin po	125-1000mg/q6h	No adjustment in renal dysfunction				
Oxacillin iv	1-2gram/q4h OR continuous infusion 12gram/24hrs		No adjustment in renal dysfunction			
Penicillin G iv intermittent infusion	2-4 mU/q4-6h		2-3 mU/q4-6h		2 mU/q6h	2-4mU/q6h
Penicillin G iv continuous infusion	18-24mU/24hrs	18mU/24hrs	15-18mU/24hrs	Use intermittent dosing above		

Drug & Administration Route	CREATININE CLEARANCE (mL/min) > 80	50-80	30-50	10-30	< 10/ hemodialysis	CRRT
Piperacillin / tazobactam iv LOAD extended infusion	4 hour infusion **(preferred** when available) 3.375gram/q8h (adequate for *P aerginosa*)[a]				<20ml/min: 3.375gram/q12h	3.375gram/q8h [c]
	4.5gram/q8h Cystic Fibrosis[b], BMI>/=40kg/m^2, infection due to gram-neg bacteria MIC≥16					4.5gram q8h [c]
Piperacillin / tazobactam iv LOAD intermittent infusion	30 min infusion 3.375gram/q6h		2.250gram/q6h		2.250gram/q8h	2.250gram/q6h
	4.5gram/q6h Empiric Rx nosocomial infection, monotherapy for *P aeruginosa,* Cystic Fibrosis, BMI>/=40kg/m^2, infection due to gram-neg bacteria MIC>/= 16		3.375gram/q6h	2.250gram/q6h		
CEPHALOSPORINS						
Cefazolin iv	1-2gram/q8h			1-2gram/q12h	1gram/q24h On stable tiw HD: 2gram before 48hr dialytic intervals, 3gram before 72 hr dialytic interval	2gram/q12h
Cephalexin po	250-1gram/q6h	250-500mg/q8h	250-500mg/q8-12h		250-500mg/q12-24h	
Cefdinir po	300mg /q12h			300mg /q24h	300mg after each HD	
Cefotetan iv	1-2gram/q12h			1-2gram/q24h	1-2gram /q48h	
Cefoxitin iv	1-2gram/q6h		1-2gram/q8h	1-2gram/q12h	1-2gram/q24h	
Cefpodoxime po	100-400mg/q12h			100-400mg/ q24h	100-400mg/tiw[6]	
Ceftaroline iv	600mg/q12h Standard dose		400mg/q12h	15-30ml/min: 300mg/q12h	<15ml/min: 200mg/q12h	Sparse data: Consider 300-400mg/q12h depending on effluent flow rate, patient weight, and organism MIC. Every 8 hour dosing may be appropriate if treating deep-seated MRSA infection[s]
	600mg/q8h MRSA bacteremia, systemic infection[p]		400mg/q8h	300mg/q8h	200mg/q8h	
Cefuroxime po	250-500mg/q12h				250-500mg/q12-24h	
Cefuroxime[LOAD] iv	750mg-1.5gram/q8h			750mg/q12h	750mg/q24h	
Cefotaxime LOAD iv	1-2gram/q6-8h	1-2gram /q8h	1-2gram/q8-12h	1-2gram/q12h	1-2gram/q24h	1-2gram/q12h
Ceftazidime LOAD extended infusion iv	4 hour infusion 1gram/q8h Hospital acquired pneumonia, bloodstream infection, urinary tract infection, intra-abd infection, sepsis other source		1gram/q12h	1gram/q24h	500mg/q24h	1gram/q8h
	2gram/q8h Osteomyelitis, CNS infection /meningitis , neutropenic fever, endocarditis, cystic fibrosis exacerbation, Gram neg orgs with MIC≥4 mcg/mL		1gram/q8h	1gram/q12h	1gram/q24h	
Ceftazidime-avibactam iv LOAD	2.5gram/q8h		1.25gram/q8h	16-30mL/min 940mg/q12h	6-15mL/min 940mg/q24h / <6mL/min or HD 940mg/q48h	Sparse data Consider 1.25gram/q8h[d]

Drug & Administration Route	CREATININE CLEARANCE (mL/min) > 80	50-80	30-50	10-30	< 10/ hemodialysis	CRRT
Ceftolozane-tazobactam[LOAD] iv	1.5gram/q8h		750mg/q8h	15-29mL/min 375mg/q8h	<15mL/min or HD 750mg load, then 150mg/q8h	750mg-1.5gram/q8h[e]
	3gram/q8h[f] Hospital acquired pneumonia		1.5gram/q8h	750mg/q8h	2.25gram x1 then 450mg/q8h	
Ceftriaxone iv	1-2gram/q24h		No adjustment in renal dysfunction			
	2gram/q12h CNS infection; Enterococcal endocarditis with ampicillin		No adjustment in renal dysfunction			
Cefepime [LOAD] iv extended infusion	4 hour infusion 1gram/q8h Health-care pneumonia, GNR Bloodstream infection, urinary tract infection, intra-abd infection, sepsis other source		1gram/q12h	1gram/q24h	500mg/q24h On stable tiw HD:2grams after HD	1gram/q8h[g]
	2gram/q8h Osteomyelitis, CNS infection /meningitis , neutropenic fever, endocarditis, cystic fibrosis exacerbation, Gram neg orgs with MIC≥4 mcg/mL		1gram /q8h	1gram/q12h	1gram/q24h On stable tiw HD: 2grams after HD	
Cefiderocol iv	2gram/ q8h (2gram/q6h if CrCl> 120mL/min)		30-59 mL/min 1.5 gram/ q8h	15-29mL/min 1 gram/q8h	<15mL/min or HD 0.75gram/q12h	Effluent flow rate* — Dose 2L/hr or less — 1.5gram/ q12h 2.1 – 3.0L/hr — 2 gram/ q12h 3.1 – 4 L/hr — 1.5gram/ q8h ≥4.1L/hr — 2 gram/ q8h
*Ultrafiltrate flow rate for CVVH, dialysis flow rate for CVVHD, ultrafiltrate flow rate plus dialysis flow rate for CVVHDF.						
CARBAPENEMS						
Meropenem[LOAD] iv extended infusion	3 hour infusion 1gram/q8h		500mg/q8h	500mg/q12h	500mg/q24h	500mg-1gram/q8h[h] Higher dose in acute kidney injury and/or in patients with preserved diuresis
	2gram/q8h Meningitis, cystic fibrosis exacerbation		1gram/q8h	1gram/q12h	500mg/q12h	1gram/q8h[h]
Ertapenem iv	1gram/q24h			500mg/q24h	On stable tiw HD: 500mg - 1gram after each HD[q]	1gram/q24h[i]
Imipenem/ Cilastatin iv	>90mL/min 500mg q6h OR 1gram/q8h Susceptible bacteria	60-90mL/min 500mg/q6h	30-60mL/min 500mg/q8h	15-30mL/min 500mg/q12h	Do not give unless renal replacement is in place 500mg/q12h	500mg/q8h
	1gram/q6h Intermediately susceptible bacteria	750mg/q8h	500mg/q6h			500mg/q6-8h
Meropenem/ Vaborbactam Dose adjustments using GFR	4gram/q8h 2gram meropenem, 2gram vaborbactam/dose		2gram/q8h	15-29mL/min/1.73m^3 2gram/q12h	<15mL/min/1.73m^3 1gram/q12h	2gram/q8h

	CREATININE CLEARANCE (mL/min)					
Drug & Administration Route	**> 80**	**50-80**	**30-50**	**10-30**	**< 10/ hemodialysis**	**CRRT**
Other Beta-Lactams						
Aztreonam [LOAD] iv	1-2gram/q6-8h Use q6h in febrile neutropenia		1-2gram/q8h	1gram/q8h or 2gram/q12h	500mg-1gram/q12h	2gram/q12h
Sulbactam/ Durlobactam iv	>130ml/min 1gram/1gram/q4h	45-129ml/min 1gram/1gram/q6h	30-44ml/min 1gram/1gram/q8h	15-29 ml/min 1gram/1gram/q12h	<15ml/min or HD 1gram/1gram/q24h New starts give q12h x3 doses before adjusting to q24h	Sparce data: Consider 1gram/1gram/q8h
FLUOROQUINOLONES						
Ciprofloxacin po ***low dose***	250mg/q12h Uncomplicated urinary tract infection		250mg/q12h	250mg/q24h		Sparce data: Consider 250 to 750mg/q12h
mid-dose	500mg/q12h Complicated UTI, intraabdominal infection, prostatitis, sinusitis		500mg/q12h	500mg/q24h		
high dose	750mg/q12h Severe /nosocomial pneumonia, bone/joint infection, bacteremia		500mg/q12h	750mg/q24h		
Ciprofloxacin iv **low dose**	200mg/q12h Uncomplicated urinary tract infection		200mg/q12h	200mg/q24h		200mg/q24h
mid-dose	400mg/q12h Complicated UTI, intraabdominal infection, prostatitis, sinusitis		400mg/q24h	200mg/q12h or 400mg/q24h		400mg/q24h
high dose	400mg/q8h Severe /nosocomial pneumonia, bone/joint infection, bacteremia, serious Pseudomonal infections		400mg/q12h	200mg/q12h or 400mg/q24h		400mg/q12h
Levofloxacin iv/po ***low dose***	250mg/q24h Uncomplicated urinary tract infection		20-49mL/min 250mg/q24h		<20mL/min, HD/PD 250mg/q24h	250mg/q24h
mid-dose	500mg/q24h Prostatitis, sinusitis		500mg x 1 then 250mg/q24h		500mg x1 then 250mg/q48h	500mg x 1 then 250mg/q24h
high dose	750mg/q24h Pneumonia, complicated UTI, pyelonephritis, bacteremia		750mg/q48h		750mg x 1, then 500mg/q48h	750mg x 1, then 500mg/q24h
Moxifloxacin po/iv	400mg/q24h		No adjustment in renal dysfunction			

Drug & Administration Route	CREATININE CLEARANCE (mL/min) > 80	50-80	30-50	10-30	< 10/ hemodialysis	CRRT
MISCELLANEOUS ANTIMICROBIALS						
Amikacin	See separate chart					
Azithromycin po/iv	250-500mg/q24h	No adjustment in renal dysfunction				
Clarithromycin po	250-500mg/q12h			125-250mg/q12 or 250-500mg/q24h		
Clindamycin po	150-450mg/q6-8h		No adjustment in renal dysfunction			
Clindamycin iv	600-900mg/q8h					
Colistimethate[j] LOAD Dose expressed in mg colistin base activity Load:300mg, begin maint dose 12 hrs later	>90mL/min 180mg q12h 80 - <90mL/min 170mg q12h 70 - <80mL/min 150mg q12h 60 - <70mL/min 140mg q12h 50 - <60mL/min 125mg q12h		40 - <50mL/min 110mg q12h 30 - <40mL/min 98mg q12h 20 - <30mL/min 88mg q12h 10- <20mL/min 80mg q12h 5 - <10mL/min 75mg q12h		After 3hr HD: 170mg x1 After 4hr HD: 180mg x1 Non-HD days: 130mg x1	220mg q12h
Dapsone po	100mg/q24h				50mg/q24h	
Daptomycin iv Use AdjBW if obese Dose is organism and MIC dependent	4mg/kg/q24h Cystitis			4mg/kg/q48h		6-8mg/kg/q24h[k] Consider ≥8mg/kg q24h if VRE
	6mg/kg/q24h Severe SSTI, blood stream infection, osteomyelitis, prosthetic joint infxn, septic arthritis, endocarditis			6-8mg/kg/q48h On stable tiw HD: 6mg/kg before 48hr dialytic intervals, 9mg/kg before 72 hr dialytic interval		
	≥8mg/kg/q24h Infection due to *E faecium* or any vancomycin-resistant Enterococci, consider alternate agent if Enterococcus MIC≥4mcg/mL			Sparce data for dose adjustments of doses >8mg/kg: Consider ≥8mg/kg/q48h or seek guidance regarding dose adjustment (CAUSE, clinical pharmacist, ID clinician)		
Dalbavancin iv	1500mg x1 SSTI			1125mg x 1 if not on hemodialysis. no adjustment required if on hemodialysis		
	1500mg x1, repeat day 8 Osteomyelitis			1000mg x1, repeat day 8[l]		
Doxycycline po/iv	100mg/q12h				No adjustment in renal dysfunction	
Minocycline po/iv	100mg/q12h				No adjustment in renal dysfunction	
	200mg/q12h Multidrug-resistant gram-negative infections (eg, carbapenem-resistant Acinetobacter sp., S. maltophilia) and nocardiosis,					
Gentamicin	See separate chart					
Linezolid po/iv	600mg/q12h	No adjustment in renal dysfunction				
Metronidazole po/iv	500mg/q8-12h				No adjustment necessary	
	500mg/q6h CNS infections					
Fidaxomicin po	200mg BID x 10 days		No adjustment in renal dysfunction			

Drug & Administration Route	CREATININE CLEARANCE (mL/min)					
	> 80	50-80	30-50	10-30	< 10/ hemodialysis	CRRT
Fosfomycin po	3grams x 1 Uncomplicated cystitis only		No adjustment in renal dysfunction			
Nitrofurantoin po	100mg/q12h Dose depends on formulation, doses based off Macrobid formulation		30-60mL/min no dose adjustment for short term use	Not effective, avoid use		
Pentamidine iv	3-4mg/kg/q24h			3-4mg/kg/q24-36h	3-4mg/kg/q48h	
Tigecycline iv	100mg x 1 then 50mg/q12h			No adjustment in renal dysfunction		
	200mg x 1 then 100mg/q12h Multidrug-resistant gram-negative infections (eg *S. maltophilia, Acinetobacter baumannii*)					
TMP/SMX po/iv Dosed on mg of trimethoprim component If obese, consider dosing on AdjBW	160mg (1 DS tablet)/q12h Urinary tract infection			160mg/q24h	160mg/q48h	
	320mg (2 DS tablets)/q12h Community-acquired MRSA soft tissue infection			160mg/q12h	160mg/q24h	
	8-12mg/kg/day divided q6-8h *S. maltophilia*			4-6mg/kg/day divided q8-12h	2-3mg/kg/day divided q12-24h	8-12mg/kg/day, divided q6-8h
	10-15mg/kg/day divided q6-8h *Nocardia spp.*			7-12mg/kg/day divided q8-12h	5-7mg/kg/day divided q12-24h	
	10mg/kg/day divided q12h Toxoplasma encephalitis			5mg/kg/day divided q12h	2.5mg/kg/q24h	10mg/kg/day, divided q12h
	15mg/kg/day divided q6h *Pneumocystis jiroveci (carini)* Pneumonia			7.5-12mg/kg/day divided q6-8h	4-7.5mg/kg/day divided q8-12h	15mg/kg/day, divided q6-8h
Tobramycin	See separate chart					
Vancomycin	See separate chart					

	CREATININE CLEARANCE (mL/min)					
Drug & Administration Route	**> 80**	**50-80**	**30-50**	**10-30**	**< 10/ hemodialysis**	**CRRT**
ANTIVIRALS						
Acyclovir iv If obese, consider dosing on AdjBW to avoid underdosing[m]	5mg/kg/q8h HSV treatment		5mg/kg/q12h	5mg/kg/q24h	2.5mg/kg/q24h	5mg/kg/q24h
	10mg/kg/q8h HSV encephalitis, VZV treatment		10mg/kg/q12h	10mg/kg/q24h	5mg/kg/q24h	7.5mg/kg/q24h
	100mg/q12h Prophylaxis all indications			100mg/q24h		100mg/q12h
Acyclovir *po*	400mg/q8h HSV treatment			400mg/q12h	400mg/q24h	
	800mg 5x daily VZV treatment			800mg/q8h	800mg BID	
	400mg/q12h Prophylaxis in immunocompromised patients (eg HIV, SOT, chemotherapy)			400mg/q24h		
	400mg/q8h Prophylaxis in stem cell transplant (SCT)		400mg/q12h	400mg/q24h		
	800mg/q12h VZV prophylaxis after SCT or bortezomib			800mg/q24h		
ValACYclovir po	1gram/q12h x 10days Genital HSV – initial episode treatment			1gram/q24h	500mg/q24h	
	1gram/q24h x 5 days, or 500mg/q12h x 3days Genital HSV – recurrent episode treatment			1gram/q48h x 3 doses or 500mg/q24h x 3 days		
	1000mg/q12h x 5-10 days HIV + and Genital HSV – recurrent episode treatment			1000mg/q24h x 5-10 days		
	500mg/q12h Genital HSV suppression – HIV+ or >10 recurrences /year			500mg/q24h		
	1gram/q8h VZV treatment		1gram/q12h	1gram/q24h	500mg/q24h	
Tenofovir disoproxil fumarate po	300mg/q24h		300mg/q48h	300mg/q72-96h	300mg/q7days or after ~ 12hrs hemodialysis	
Tenofovir alafenamide po	25mg/q24h			CrCl<15mL/min and not on HD: Not recommended, assess risk vs benefit	25mg/q24h	
Entecavir po	0.5mg/q24h Standard dose		0.25mg/q24h OR 0.5mg/q48h	0.15mg/q24h OR 0.5mg/q72hrs	0.05mg/q24h OR 0.5mg/q7days	
	1mg/q24h decompensated liver disease OR HBV refractory-to-lamivudine		0.5mg/q24h OR 1mg /q48h	0.3mg/q24h OR 1mg/q72hrs	0.1mg/q24h OR 1mg/q7days	

Drug & Administration Route	CREATININE CLEARANCE (mL/min)					
	> 80	**50-80**	**30-50**	**10-30**	**< 10/ hemodialysis**	**CRRT**
Tenofovir disoproxil fumarate 300mg/ emtricitabine 200mg po	1 tablet/q24h		1 tablet/q48h			
Tenofovir alafenamide 25mg/emtricitabine 200mg po	1 tablet/q24h			CrCl<30mL/min and not on HD: Not recommended, assess risk vs benefit	1 tablet/q24h	
Foscarnet iv	60mg/kg/q8h or 90mg/kg/q12h CMV induction		Adjustment required for CrCl ≤ 100 mL/min: To avoid toxicity, this medication requires careful dose adjustment based on nature of infection, body size, and renal function. Please seek guidance regarding dose adjustment (clinical pharmacist/ manufacturer's labeling)			
	90-120mg/kg q24h CMV maintenance					
Ganciclovir LOAD iv	≥70mL/min 5mg/kg/q12h for 2-3 weeks CMV induction	50-69mL/min 2.5mg/kg/q12h	25-49mL/min 2.5mg/kg/q24h	10-24mL/min 1.25mg/kg/q24h	1.25mg/kg/3x weekly	2.5mg/kg/q12h
	≥70mL/min 5mg/kg/q24h CMV maintenance	50-69mL/min 2.5mg/kg/q24h	25-49mL/min 1.25mg/kg/q24h	10-24mL/min 0.625mg/kg/q24h	0.625mg/kg/3x weekly	2.5mg/kg/q24h
ValGANciclovir po	≥60mL/min 900mg/q12h CMV induction	40-59mL/min 450mg/q12h	25-39mL/min 450mg/q24h	10-24mL/min 450mg/q2days	450mg after every other dialysis	
	≥60mL/min 900mg/q24h CMV maintenance, prevention	40-59mL/min 450mg/q24h	25-39mL/min 450mg/q2days	10-24mL/min 450mg/twice weekly		
Maribavir po	400mg q12h		No adjustment in renal dysfunction			
Lamivudine po	100mg/q24h HBV treatment		50-100mg/q24h			
Remdesivir iv	200mg IV x 1, then 100mg/q24h			No dose adjustment		
Ribavirin po	Dose modification required for GFR≤80mL/min. To avoid toxicity, this medication requires careful dose adjustment based on viral infection being treated (HCV, RSV, others), body size, and renal function. Please seek guidance regarding dose adjustment (CAUSE pager, clinical pharmacist, ID clinician)					
Oseltamivir po	>60mL/min 75mg/q12h Influenza treatment	30-60mL/min 30mg/q12h		30mg/q24h	30mg after every HD	75mg/q24h[n]
	>60mL/min 75mg/q24h Influenza prevention	30-60mL/min 30mg/q24h		30mg/q48h	30mg after alternate HD	75mg/q48h

	CREATININE CLEARANCE (mL/min)					
Drug & Administration Route	**> 80**	**50-80**	**30-50**	**10-30**	**< 10/ hemodialysis**	**CRRT**
ANTIMYCOBACTERIALS						
Ethambutol po Use IBW if obese[o]	15-25mg/kg/q24h (max dose/day = 2000mg)			15-25mg/kg tiw (after dialysis if on hemodialysis)[o]		
Isoniazid po	300mg/q24h	No adjustment in renal dysfunction				
Rifabutin po	300mg/q24h			Reduce dose by 50% if toxicity is suspected		
Rifampin po/iv	600mg/q24h	No adjustment in renal dysfunction				
Pyrazinamide po Use IBW if obese[o]	25-35mg/kg/q24h (max dose/day = 3000mg)			25-35mg/kg tiw (after dialysis if on hemodialysis)[o]		
ANTIFUNGALS §: serum concentration monitoring may be useful for optimizing therapy						
Amphotericin B deoxycholate (Conventional) iv	0.25-1.5mg/kg/q24h, no adjustment in renal dysfunction					
Liposomal Amphotericin B iv	3 or 5mg/kg/q24h, no adjustment in renal dysfunction					
Fluconazole[LOAD] iv/po	Full indicated dose or greater: 400-800mg/q24h Doses of 1200mg/day have been reported 6-12mg/kg q24h (400-800mg/dose) High intensity dose for serious infections			50% of full dose/q24h give after HD in pts on HD		Full indicated dose or greater: 400-800mg/q24h
Flucytosine § po	25mg/kg/q6h	40-50 mL/min 25mg/kg/ q6-8h	20-40mL/min 25mg/kg q12h	10-19 mL/min 25mg/kg /q24h	<10mL/min 25mg/kg/q48h Hemodialysis 25-50mg/kg post HD	25mg/kg/q8h
Isavuconazonium [LD] iv/po	372mg/q8h x 6 doses, then 372mg/q24h, No adjustment in renal dysfunction					
Itraconazole[LOAD]§ po	200mg/q8-24h Dose varies by indication and dosage form used Loading dose may be indicated based on treatment indication			No adjustment in renal dysfunction		
Micafungin iv	100mg/q24h Candidemia, disseminated candidiasis, peritonitis, abscess 150mg/q24h Esophageal or other mucocutaneous candidiasis, endocarditis, invasive aspergillosis, >100kg, BMI >40kg/m^2 50mg/q24h Fungal prophylaxis in immunocompromised patient					No adjustment in renal dysfunction CRRT: 100-150mg/q24h[r]

	CREATININE CLEARANCE (mL/min)					
Drug & Administration Route	**> 80**	**50-80**	**30-50**	**10-30**	**< 10/ hemodialysis**	**CRRT**
Rezafungin[LOAD] iv	400 mg x 1 on day 1, then 200 mg once weekly beginning on day 8 for up to 4 doses Candidemia and invasive candidiasis				No adjustment in renal dysfunction	
Posaconazole[LOAD] § po/iv	300mg/q12h x 2 doses, then 300mg/q24h			No adjustment in renal dysfunction. Use tablets for oral dosing, suspension exhibits variable absorption.		
Voriconazole[LOAD] § po/iv Use IBW if obese	6mg/kg/q12h x 2 doses Loading dose		No adjustment in renal dysfunction			
	4mg/kg/q12h x 1 week Induction dose					
	200mg/q12h Maintenance dose					
Antiretrovirals: See Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents, https://clinicalinfo.hiv.gov/en/guidelines, Appendix B, Table 7. Antiretroviral Dosing Recommendations in Patients with Renal or Hepatic Insufficiency						

ABBREVIATIONS

LOAD: Consider larger initial "loading" dose when renal function is poor. TMP-SMX = trimethoprim-sulfamethoxazole; MRSA: Methicillin resistant Staphylococcus aureus**,** CA-MRSA: Community acquired methicillin resistant *Staphylococcus aureus,* mU = million units, tiw = 3 times weekly; 5x/d =5 times a day, biw = twice weekly,

CRRT= Continuous Renal Replacement Therapy, continuous veno-venous hemofiltration, etc. Many variables are involved in CRRT drug removal. Doses shown are suggested by the literature reporting a limited number of patients being studied in a variety of CRRT settings. Clinical judgement should be exercised when individualizing doses, taking into account severity of infection, residual renal function, acuity /chronicity of kidney injury, etc. [Trotman, et al. Clin Infect Dis;41:1159, Heintz, et al Pharmacotherapy 2009;29:562, Hoff, et al Ann Pharmacother 2019].

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Creatinine Clearance Calculation - Adult Patients (Modified Cockroft & Gault equation, displays in Encompass)

$$\text{CrCl (male)} = \frac{(140 - \text{age}) \times (\text{AdjBW*or TBW*})}{\text{SCr} \times 72}$$

*whichever weight is lower
CrCl (female) = (CrCl male) x (0.85)
SCr= Serum creatinine concentration in mg/dL
Equation may overestimate renal function in patients with decreased muscle mass

Weight-based dosing – Adult Patients (these weights visible in Encompass by "hovering" pointer over Weights box on lefthand column of inpatient screen)

- **TBW** = Total Body Weight in kilograms (kg)
- **IBW** = Ideal Body Weight in kilograms (kg) (an estimate of lean body weight)
  IBW (male) = 50kg +(2.3 x # inches height over 5')
  IBW (female) = 45.5kg+(2.3 x # inches height over 5')
- **AdjBW** = Adjusted Body Weight: for use in dosing selected drugs in *obese* patients, and in CrCL estimate
  AdjBW= ((TBW-IBW)*0.4))+IBW