

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.

| Drug & Administration Route | CREATININE CLEARANCE (mL/min) | | | | | |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| | > 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 |
| Dicloxacillin po | 125-1000mg/q6h | No adjustment in renal dysfunction | | | | |
| Nafcillin iv | 1-2gram/q4h Or continuous infusion 12gram/24hrs | | No adjustment in renal dysfunction | | | |
| Oxacillin iv | 1-2gram/q4h Or continuous infusion 12gram/24hrs | | No adjustment in renal dysfunction | | | |
| Penicillin G intermittent infusion iv | 2-4 mU/q4-6h | | 2-3 mU/q4-6h | | 2 mU/q6h | 2-4mU/q6h |
| Penicillin G continuous infusion iv | 18-24mU/24hrs | 18mU/24hrs | 15-18mU/24hrs | Use intermittent dosing above | | |
| Piperacillin / tazobactam ^{LOAD} iv | 4 hour infusion (preferred when available) 3.375gram/q8h (adequate for <i>P aeruginosa</i>) ^a 4.5gram q8h <small>Cystic Fibrosis(b). OR BMI>=40kg/m² OR infection due to gram-neg bacteria MIC≥16</small> | | | <20ml/min: 3.375gram/q12h (4 hour infusion) | | 3.375gram/q8h (4hr infusion) ^c 4.5gram q8h (4hr infusion) ^c |
| Piperacillin / tazobactam ^{LOAD} iv | 30 min infusion 3.375gram/q6h 4.5gram/q6h <small>Empiric Rx nosocomial infection, OR monotherapy for <i>P aeruginosa</i>, OR Cystic Fibrosis, OR BMI>=40kg/m² OR infection due to gram-neg bacteria MIC>= 16</small> | | 2.250gram/q6h 3.375gram/q6h | 2.250gram/q6h | 2.250gram/q8h | 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 | |

| Drug & Administration Route | CREATININE CLEARANCE (mL/min) | | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|--------------|------------------------------------|----------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| | > 80 | 50-80 | 30-50 | 10-30 | < 10/ hemodialysis | CRRT |
| 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 | | 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 ⁵ |
| MRSA bacteremia, systemic infection ^P | 600mg/q8h | | | | | |
| Cefuroxime po | 250-500mg/q12h | | | | 250-500mg/q12-24h | |
| 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 iv <small>Hospital acquired pneumonia, bloodstream infection, urinary tract infection, intra-abd infection, sepsis other source</small> | 1gram/q8h 4hr infusion | | 1gram/q12h 4hr infusion | 1gram/q24h 30 minute infusion | 500mg/q24h 30 minute infusion | 1gram/q8h 4hr infusion |
| <small>Osteomyelitis, CNS infection / meningitis, neutropenic fever, endocarditis, cystic fibrosis exacerbation, Gram neg orgs with MIC≥4 mcg/mL</small> | 2gram/q8h 4hr infusion | | 1gram/q8h 4hr infusion | 1gram/q12h 30 min infusion | 1gram/q24h 30 minute infusion | 1gram/q8h 4hr infusion |
| Ceftazidime- avibactam ^{LOAD} iv | 2.5gram/q8h | | 1.25gram/q8h | 16-30mL/min 940mg/q12h | 6-5mL/min 940mg/q24 h HD 940mg/q48h | sparse data: consider 1.25gram/q8h ^d |
| 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 |
| Hospital acquired pneumonia | 3gram/q8h ^f | | 1.5gram/q8h | 750mg/q8h | 2.25gram x1 then 450mg/q8h | |
| Ceftriaxone iv | 1-2gram/q24h | | No adjustment in renal dysfunction | | | |
| CNS infection; Enterococcal endocarditis (with ampicillin) | 2gram/q12h | | No adjustment in renal dysfunction | | | |
| Cefepime LOAD iv <small>Health-care pneumonia, GNR Bloodstream infection, urinary tract infection, intra-abd infection, sepsis other source</small> | 4hr infusion: 1gram/q8h | | 1gram/q12h 4hr infusion | 1gram/q24h 30 min infusion | 500mg/q24h On stable tiw HD:2grams after HD 30 min infusion | 1gram/q8h ^g 4hr infusion |
| Cefepime continued below | | | | | | |
| Cefepime LOAD <small>Osteomyelitis, CNS infection / meningitis, neutropenic fever, endocarditis, cystic fibrosis exacerbation, Gram neg orgs with MIC≥4 mcg/mL</small> | 4hr infusion: 2gram/q8h | | 1gram /q8h 4hr infusion | 1gram/q12h 30 min infusion | 1gram/q24h On stable tiw HD: 2grams after HD 30 min infusion | 1gram/q8h ^g 4hr infusion |
| 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.

| Drug & Administration Route | CREATININE CLEARANCE (mL/min) | | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------|--------------------------------------------------------------------|----------------------------------------|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|------------|
| | > 80 | 50-80 | 30-50 | 10-30 | < 10/ hemodialysis | CRRT | |
| CARBAPENEMS | | | | | | | |
| Meropenem ^{LOAD} iv see also next entry | (4 hour infusion) | | | (30 minute infusion) | | (4 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 | |
| Meropenem ^{LOAD} iv meningitis, cystic fibrosis exacerbation | (4 hour infusion) 2gram/q8h | | (4 hour infusion) 1gram/q8h | (30 minute infusion) 1gram/q12h | (30 minute infusion) 500mg/q12h | (4 hour infusion) 1gram/q8h ^h | |
| Ertapenem iv | 1gram/q24h | | | 500mg/q24h | On stable tiw HD: 500mg - 1gram after each HD ^g | 1gram/q24h ⁱ | |
| Imipenem/ Cilastatin iv susceptible bacteria | >90mL/min | 60-90mL/min | 30-60mL/min | 15-30mL/min | Do not give unless renal replacement is in place | | |
| | 500mg q6h OR 1gram/q8h | | 500mg/q6h | 500mg/q8h | 500mg/q12h | 500mg/q12h | 500mg/q8h |
| | intermediately susceptible bacteria | | 1gram/q6h | 750mg/q8h | 500mg/q6h | 500mg/q12h | 500mg/q12h |
| Meropenem/ vaborbactam | 4gram/q8h (2gram meropenem, 2gram vaborbactam/ dose) | | 2gram/q8h | 15-29mL/min 2gram/q12h | <15mL/min 1gram/q12h | No data | |
| MONOBACTAM | | | | | | | |
| 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 | |
| FLUOROQUINOLONES | | | | | | | |
| Ciprofloxacin po <i>low dose</i> (uncomplicated urinary tract infection) <i>mid-dose</i> (complicated UTI, intraabdominal infection, prostatitis, sinusitis) <i>high dose</i> (severe /nosocomial pneumonia, bone/joint infection, bacteremia) | 250mg/q12h | | 250mg/q12h | 250mg/q24h | | | |
| | 500mg/q12h | | 500mg/q12h | 500mg/q24h | | | |
| | 750mg/q12h | | 500mg/q12h | 750mg/q24h | | | |
| Ciprofloxacin iv <i>low dose</i> <i>mid-dose</i> <i>high dose</i> | 200mg/q12h 400mg/q12h 400mg/q8h | 200mg/q12h 400mg/q24h 400mg/q12h | 200mg/q24h 200mg/q12h or 400mg/q24h 200mg/q12h or 400mg/q24h | 200mg/q24h 400mg/q24h 400mg/q12h | | | |
| Levofloxacin iv, po <i>low dose</i> (uncomplicated urinary tract infection) <i>mid-dose</i> (prostatitis, sinusitis) <i>high dose</i> (pneumonia, Complicated UTI, pyelonephritis, bacteremia) | 250mg q24h | | <u>20-49mL/min</u> 250mg q24h | | <u><20mL/min, HD/PD</u> 250mg q24h | 250mg q24h | |
| | 500mg q24h | | 500mg x 1 then 250mg q24h | | 500mg x1 then 250mg q48h | 500mg x 1 then 250mg q24h | |
| | 750mg q24h | | 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 | | | | |
| | iv | 600-900mg/q8h | | | | |
| Colistimethate ⁱ • Dose expressed in mg colistin base activity • Load with initial dose of 300mg, begin maint dose 12 hrs later | >90mL/min | 180mg q12h | 40 - <50mL/min | 110mg q12h | After 3hr HD: 170mg x1 After 4hr HD: 180mg x1 | 220mg q12h |
| | 80 - <90mL/min | 170mg q12h | 30 - <40mL/min | 98mg q12h | | |
| | 70 - <80mL/min | 150mg q12h | 20 - <30mL/min | 88mg q12h | Non-HD days: 130mg x1 | |
| | 60 - <70mL/min | 140mg q12h | 10 - <20mL/min | 80mg q12h | | |
| | 50 - <60mL/min | 125mg q12h | 5 - <10mL/min | 75mg q12h | | |
| Dapsone po | 100mg/q24h | | | | 50mg/q24h | |
| Daptomycin iv use AdjBW if obese | 4mg/kg/q24h Skin/soft tissue, urinary tract infection | | 4mg/kg/q48h | | | 6-8mg/kg/q24h ^k Consider 8mg/kg q24h if VRE |
| | 6-8mg/kg/q24h blood stream infection, osteomyelitis, prosthetic joint infxn, septic arthritis, endocarditis Dose is organism and MIC dependent. Use ≥8mg/kg/dose for bacteremia with <i>E faecium</i> or any vancomycin-resistant enterococci, consider alternate agent if enterococcus MIC≥4mcg/mL | | 6-8mg/kg/q48h On stable tiw HD: 6mg/kg before 48hr dialytic intervals, 9mg/kg before 72 hr dialytic interval | | | |
| Dalbavancin iv | Skin/soft tissue infection: 1500mg x1 Osteomyelitis: 1500mg x1, repeat day 8 | | 1125mg x 1 if not on hemodialysis. no adjustment required if on hemodialysis (ie use 1500mg x1) Osteomyelitis: 1000mg x1, repeat day 8 ^l | | | |
| Doxycycline po/iv Minocycline | 100mg/q12h | | | | No adjustment in renal dysfunction | |
| Gentamicin | See separate chart | | | | | |
| Linezolid po/iv | 600mg/q12h | No adjustment in renal dysfunction | | | | |
| Metronidazole po | 500mg/q6-12h | | | | 250-500mg/ q8-12h | No adjustment necessary |
| | iv | 500mg/q6-q8h | | | | 500mg/q8-12h |
| Fidaxomicin po | 200mg BID x 10 days | | No adjustment in renal dysfunction | | | |
| Fosfomycin po | 3grams by mouth once | | | | | |
| Nitrofurantoin po | 50-100mg/q6h | | Not effective | | | |
| 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 | | | | |
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| Drug & Administration Route | CREATININE CLEARANCE (mL/min) | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-------|-----------------------------|---------------------------------|---------------------------------|---------------------------------|
| | > 80 | 50-80 | 30-50 | 10-30 | < 10/ hemodialysis | CRRT |
| TMP/SMX po/iv (dosed on mg of trimethoprim component) | | | | | | |
| Urinary tract | 160mg (1 DS tablet)/q12h | | | 160mg/q24h | 160mg/q48h | |
| <i>S. maltophilia</i> or <i>Nocardia spp.</i> | 10-15mg/kg/day divided q6-8h | | | 7-12mg/kg/day divided q8-12h | 5-7mg/kg/day divided q12-24h | 8-12mg/kg/day, divided q6-8h |
| <i>Pneumocystis jiroveci (carini)</i> Pneumonia | 15-20mg/kg/day divided q6h | | | 12-15mg/kg/day divided q6-8h | 7-10mg/kg/day divided q8-12h | 15mg/kg/day, divided q6-8h |
| TMP/SMX Community-acquired MRSA soft tissue infection | 320mg (2 DS tablets)/q12h | | | 160mg/q12h | 160mg/q24h | |
| Toxoplasma encephalitis | 10mg/kg/day IV/po divided q12h | | | 7.5mg/kg/day divided q12h | 5mg/kg/q24h | |
| Tobramycin | See separate chart | | | | | |
| Vancomycin | See separate chart | | | | | |
| ANTIVIRALS | | | | | | |
| Acyclovir | | | | | | |
| <i>treatment</i> po HSV VZV Shingles | 400mg TID 800mg 5x daily | | 400mg TID 800mg 5x daily | 400mg BID 800mg TID | 400mg daily 800mg BID | |
| <i>treatment</i> iv If obese, consider dosing on AdjBW to avoid underdosing ^m HSV HSV encephalitis, VZV | 5mg/kg q8h 10mg/kg q8h | | 5mg/kg/q12h 10mg/kg/q12h | 5mg/kg/q24h 10mg/kg/q24h | 2.5mg/kg/q24h 5mg/kg/q24h | 5mg/kg/q24h 7.5mg/kg/q24h |
| Acyclovir <i>prophylaxis</i> po Immunocompromised (HIV, solid organ transplant, chemotherapy) | 400mg BID | | 400mg BID | 400mg daily | | |
| Acyclovir PO Stem Cell transplant | 400mg TID | | 400mg BID | 400mg daily | | |
| VZV prophylaxis after SCT or bortezomib | 800mg BID | | 800mg BID | 800mg daily | | |
| <i>prophylaxis</i> iv all indications | 100mg q12h | | | 100mg q24h | | 100mg q12h |
| ValACYclovir po Genital herpes initial episode | 1gram/q12h x 10days | | | 1gram/q24h | 500mg/q24h | |
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| Drug & Administration Route | CREATININE CLEARANCE (mL/min) | | | | | |
|---------------------------------------------------------|----------------------------------------------------------------------------------|---------------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------|
| | > 80 | 50-80 | 30-50 | 10-30 | < 10/ hemodialysis | CRRT |
| ValACYclovir po <i>Genital herpes</i> recurrent | 1gram/q24h x 5 days, or 500mg/q12h x 3days (If HIV+: 1000mg/q12h x 5-10 days) | | | 1gram q48h x 3 doses or 500mg/q24h x 3 days (If HIV+: 1000mg/q24h x 5-10 days) | | |
| <i>Genital herpes</i> suppressive | If HIV+ or >10 recurrences /year 500mg /q12h | | | 500mg/q48h (if HIV+, or >10 recurrences/year: 500mg /q24h) | | |
| <i>Varicella zoster</i> | 1gram/q8h | | 1gram/q12h | 1gram/q24h | 500mg/q24h | |
| Tenofovir disoproxil fumarate po (for HBV) | 300mg q24h | | 300mg q48h | 300mg q 72-96h | 300mg q7 days or after ~ 12hrs hemodialysis | |
| Tenofovir alafenamide (for HBV) po | 25mg q24h | | | Not recommended for CrCl< 15mL/min and NOT on hemodialysis | 25mg q24h | |
| Entecavir po usual dose | 0.5mg once daily | | 0.25mg/q24h OR 0.5mg/q48h | 0.15mg/q24h OR 0.5mg/q72hrs | 0.05mg/q24h OR 0.5mg/q7days | |
| decompensated liver disease OR refractory-to-lamivudine | 1mg once daily | | 0.5mg/q24h OR 1mg /q48h | 0.3mg/q24h OR 1mg/q72hrs | 0.1mg/q24h OR 1mg/q7days | |
| Tenofovir 300mg/ emtricitabine 200mg po (for HBV) | 1 tablet daily | | 1 tablet q48h | | | |
| Foscarnet iv | 60mg/kg/q8h or 90mg/kg/q12h (induction) 90-120mg/kg q24h (maintenance) | | | 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) | | |
| Ganciclovir iv <i>induction</i> ^{LOAD} | ≥70mL/min | 50-69mL/min | 25-49mL/min | 10-24mL/min | | |
| | 5mg/kg/q12h for 2-3 weeks | 2.5mg/kg/q12h | 2.5mg/kg/q24h | 1.25mg/kg/q24h | 1.25mg/kg/tiw | 2.5mg/kg/q12h |
| <i>maintenance</i> | ≥70mL/min | 50-69mL/min | 25-49mL/min | 10-24mL/min | | |
| | 5mg/kg/q24h | 2.5mg/kg/q24h | 1.25mg/kg/q24h | 0.625mg/kg/q24h | 0.625mg/kg/tiw | 2.5mg/kg/q24h |
| ValGANciclovir po induction | ≥60mL/min | 40-59mL/min | 25-39mL/min | 10-24mL/min | 450mg after every other dialysis | |
| | 900mg/q12h | 450mg/q12h | 450mg/q24h | 450mg/q2days | | |
| maintenance/ prevention | ≥60mL/min | 40-59mL/min | 25-39mL/min | 10-24mL/min | | |
| | 900mg/q24h | 450mg/q24h | 450mg/q2days | 450mg/twice weekly | | |
| Lamivudine po (for HBV) | 100mg/q24h | | 100mg x1 then 50mg/q24h | 15-29mL/min 100mg x1 then 25mg/q24h | 5-14mL/min 35mg x1 then 15mg/q24h | <5mL/min 35mg x1 then 10mg/q24h |
| Remdesivir iv | 200mg IV x 1, then 100mg/q24h | | | No dose adjustment recommendations are available. Not recommended for use below eGFR 30mL/min, weigh risk vs benefit | | |

| Drug & Administration Route | CREATININE CLEARANCE (mL/min) | | | | | |
|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------|
| | > 80 | 50-80 | 30-50 | 10-30 | < 10/ hemodialysis | CRRT |
| 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 treatment po | >60mL/min 75mg BID | 30-60mL/min 30mg/q12h | | 30mg/q24h | 30mg after every HD | 75mg/q24h ^h |
| prevention | >60mL/min 75mg/q24h | 30-60mL/min 30mg/q24h | | 30mg/q48h | 30mg after alternate HD | 75mg/q48h |
| 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% | | |
| 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 iv | 0.25-1.5mg/kg/q24h, no adjustment in renal dysfunction | | | | | |
| Amphotericin B lipid complex iv | 3 or 5mg/kg/q24h, no adjustment in renal dysfunction | | | | | |
| Fluconazole ^{LOAD} po/iv Load ing dose of twice the maintenance dose can be given for most infections | 100-400mg/q24h depending on indication High intensity dose for serious infections: 6-12mg/kg q24h (400-800mg/dose) | | | 100-200mg/q24h (50% of full indicated dose) | Dose q24h: 100% of dose after HD, 50% of full indicated dose on non-HD days | 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 | 10-19mL/min 25mg/kg /q24h 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 § po | 200mg/q8-24h | No adjustment in renal dysfunction | | | | |
| Micafungin iv | Candidemia, disseminated candidiasis, peritonitis, abscess: 100mg/q24h If >100kg or BMI > 40kg m ² ... 150mg/q24h Esophageal or other mucocutaneous candidiasis, or invasive aspergillosis.. 150mg/q24h Fungal prophylaxis in immunocompromised.... 50mg/q24h | | | | No adjustment in renal dysfunction CRRT: 100-150mg/q24h ^r | |
| Posaconazole § po/iv | 300mg/q24h | No adjustment in renal dysfunction. Use tablets for oral dosing, suspension exhibits variable absorption. | | | | |

| Drug & Administration Route | CREATININE CLEARANCE (mL/min) | | | | | CRRT |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------|------------------------------------|-------|--------------------|------|
| | > 80 | 50-80 | 30-50 | 10-30 | < 10/ hemodialysis | |
| Voriconazole § po/iv Use IBW if obese (loading dose) | 6mg/kg/q12h x 2 doses (round doses to nearest 50mg) | | No adjustment in renal dysfunction | | | |
| (induction) | 4mg/kg/q12h x 1 week (round doses to nearest 50mg) | | | | | |
| (maintenance) | 200mg/q12h | | | | | |
| Antiretrovirals: See Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents, https://aidsinfo.nih.gov/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 Cockcroft & Gault equation, displays in WakeOne)

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

*whichever weight is lower

$$\text{CrCl (female)} = (\text{CrCl male}) \times (0.85)$$

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 WakeOne 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