

Ceftolozane/tazobactam (Zerbaxa®)

IV Only

Use requires formal ID Consult

Activity: Coverage against many MDR gram-negatives such as Enterobacteriaceae and *Pseudomonas aeruginosa*. Potent in vitro activity against most *P. aeruginosa* isolates, including some MDR and carbapenem-resistant strains. Inhibits many Enterobacteriaceae, including some ESBL producers (e.g. CTX-M) and some AmpCs

NOT ACTIVE against serine carbapenemases (e.g. KPCs or MBLs), most anaerobic bacteria, *Staphylococcus spp.*, and *Enterococcus spp.*

Criteria for Use:

- Complicated intra-abdominal infections (cIAI, in combination with metronidazole); complicated urinary tract infections (cUTI), including pyelonephritis; or hospital-acquired bacterial pneumonia and ventilator-associated pneumonia (HABP/ VABP); caused by MDR gram-negative organisms

Unacceptable Uses:

- Empiric use without confirmed susceptibility
- Treatment of cIAI, cUTI, or HABP/ VABP with other available treatment options
- Known serious hypersensitivity to ceftolozane/tazobactam, piperacillin/tazobactam, or other members of the beta-lactam class

Dosing in Adults:

- cIAI or cUTI: 1500 mg IV Q8H
For cIAI must use in combination with metronidazole 500mg IV q8H
- HABP/VABP: 3000 mg IV Q8H
- Renal dose adjustment if usual dose is 1500 mg IV Q8H:
CrCl 30-50 mL/min: 750 mg IV Q8H
CrCl 15-29 mL/min: 375 mg IV Q8
Hemodialysis: 750mg IV ONCE (load), then 150mg IV Q8H after dialysis
- Renal dose adjustment if usual dose is 3000 mg IV Q8H:
CrCl 30-50 mL/min: 1500 mg IV Q8H
CrCl 15-29 mL/min: 750 mg IV Q8H
Hemodialysis: 2250 mg IV ONCE (load), then 450mg IV Q8H after dialysis
- No hepatic dose adjustment anticipated

Monitoring:

- Scr/BUN, CBC with differential at baseline and daily

Considerations for Use:

- Package insert states decreased efficacy seen in patients with a baseline CrCl <50mL/min or patients ≥65 years of age, in the cIAI trial
- May have a role in the treatment of other infections caused by multidrug resistant gram-negatives, however alternate dosing may be recommended depending on site of infection. ID team must be consulted for all potential on and off label use

BUN= blood urea nitrogen; CBC= Complete blood count; cIAI= Complicated intraabdominal infections; CrCl= Creatinine clearance; cUTI= complicated urinary tract infections; ESBL= extended-spectrum beta-lactamases; ID= infectious disease; IV= Intravenous; KPC= *Klebsiella pneumoniae* carbapenemases; MBL= metallo-beta-lactamases; MDR= multi-drug resistant; Q= every; H= hour(s); Scr= Serum creatinine