

## Colistin Dosing

### PHARMACOLOGY

- The pharmacologic target for colistin is an average steady-state plasma concentration of 2 mg/L ( $C_{ss,avg}$ ).
- The susceptibility breakpoint for colistin for Enterobacteriaceae, *Pseudomonas aeruginosa*, and *Acinetobacter* is less than or equal to 2 mg/L.
- Colistin doses in the scientific literature may be expressed in different ways. The conversion is as follows:  
1 million International Units of Colistin = 33 mg of Colistin Base Activity (CBA) = 80 mg of colistimethate (CMS).
- **ALL DOSES FOR COLISTIN SHOULD BE EXPRESSED IN COLISTIN BASE ACTIVITY**

### Recommended Calculations:

- Dosing (adjusted) body weight should be used to calculate Creatinine Clearance

| Body weight calculation (kg)   | Creatinine clearance (mL/min)  |
|--|--|
| <b>ABW</b> = actual body weight<br><b>IBW</b> = ideal body weight<br>IBW (male) = 50.0 kg + [2.3 kg x (each inch greater 5 feet)]<br>IBW (female) = 45.5 kg + [2.3 kg x (each inch greater 5 feet)]<br><b>DBW</b> = dosing (adjusted) body weight<br>DBW = 0.4 x (ABW – IBW) + IBW | <b>CrCl (male)</b> = $\frac{(140 - \text{age}^*) \times \text{weight}^* \times 60}{50 \times \text{serum creatinine (umol/L)}}$<br><br><b>CrCl (female)</b> = CrCl (male) x 0.85<br><br>*age (years)<br>weight (kg) = <b>ABW</b> if non-obese<br>= <b>DBW</b> if obese |
| For “non-obese” patients use: <b>ABW</b><br>For “obese” patients use: <b>DBW</b> <ul style="list-style-type: none"> <li>• Consider “obese” if <math>\frac{(ABW - IBW)}{IBW}</math> greater than 0.2</li> </ul>   |  |

### DOSING

| Creatinine Clearance (mL/min) | Dosing (expressed in Colistin Base Activity) |   |
|-------------------------------|--|---|
|                               | Initial Loading Dose                         | Maintenance Doses   |
| ≥90                           | 300 mg IV load, then                         | 180 mg IV Q12H  |
| 80 to <90                     |  | 170 mg IV Q12H  |
| 70 to <80                     |  | 150 mg IV Q12H  |
| 60 to <70                     |  | 138 mg IV Q12H  |
| 50 to <60                     |  | 122 mg IV Q12H  |
| 40 to <50                     |  | 110 mg IV Q12H  |
| 30 to <40                     |  | 98 mg IV Q12H   |
| 20 to <30                     |  | 88 mg IV Q12H   |
| 10 to <20                     |  | 80 mg IV Q12H   |
| 5 to <10                      |  | 72 mg IV Q12H   |
| 0                             |  | 65 mg IV Q12H   |
| IHD                           |  | 65 mg IV Q12H<br><i>Post-dialysis supplemental doses:</i><br>3-hour IHD run: supplement an additional 40 mg at end of dialysis run<br>4-hour IHD run: supplement an additional 50 mg at end of dialysis run |
| CRRT (CVVHDF)                 |  | 220 mg IV Q12H  |
| PD                            | 150-200 mg IV daily                          |   |