

TABLE 5 DIALYSIS DOSING

| | Hemodialysis (HD) | Continuous Ambulatory Peritoneal Dialysis (CAPD) |
|--------------------------------|---|---|
| Loading Dose | 25 mg/kg | Intraperitoneal (IP): 30 mg/kg OR Intravenous (IV): 20 mg/kg |
| Maintenance Dose | weight < 70 kg: 500 mg QHD weight ≥ 70 kg: 750 mg QHD | IP: 30 mg/kg every 5-7 days OR IV: 20 mg/kg every 4-7 days |
| When To Draw Level | Pre-second maintenance dose | 3-4 days after first dose |
| Target Vancomycin Level | Pre-HD level: 15-20 mg/L | Trough level: 15-20 mg/L |

THERAPEUTIC DRUG MONITORING

Vancomycin serum levels should be ordered in the following situations:

- Pre-vancomycin level on 3rd or 4th dose (within 48 hours) if:
 - a higher level of 15-20 mg/L is desired **OR**
 - patient is at risk for accumulation (e.g. Q6-8H interval) **OR**
 - patient is receiving other nephrotoxic agents **OR**
 - serum creatinine is above normal, renal function is changing or uncertain **OR**
 - patient is obese (>125% IBW), pregnant, pediatric or hypermetabolic (e.g. burn patient, cystic fibrosis)

Repeat at least weekly to ensure pre-vancomycin level is within desired therapeutic range
- Pre-vancomycin level after 7 days of therapy (for prolonged course) if aiming for levels < 15 mg/L **AND** no other risk factors as per above
- Pre-vancomycin level if patient is not responding to therapy
- Pre- and 3 hour post-vancomycin level (target 20-40 mg/L) if calculation of precise kinetic parameters are necessary (e.g. in a case when a target pre-vancomycin level of 15-20 mg/L cannot be achieved while on prolonged therapy, or in an obese, pregnant or pediatric patient, especially when aggressive dosing is required)

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Pharmacy
VANCOMYCIN EMPIRIC DOSING GUIDELINES
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For more information, please contact Pharmacy
Or visit: www.vhpharmsci.com

KEY

- Establish patient age, weight, and serum creatinine.
- Using Table 1, identify initial loading dose and maintenance dose per interval according to patient weight and target pre-vancomycin level.
- Using Table 2, determine target pre-vancomycin level based on clinical indication.
- Using Tables 3 or 4, identify initial dosing interval according to target pre-vancomycin level, age, and serum creatinine.
- Using Table 5, determine dialysis dosing.

TABLE 1 INITIAL DOSE PER INTERVAL

| TOTAL BODY WEIGHT | LOADING DOSE (suggested maximum 2500 mg/dose) | | MAINTENANCE DOSE (15 mg/kg) |
|-------------------|---|--|-----------------------------|
| | Target pre-level 10-15 mg/L (20 mg/kg) | Target pre-level 15-20 mg/L (25 mg/kg) | |
| kg | | | |
| 40-50 | 1000 mg | 1250 mg | 750 mg |
| 51-60 | 1250 mg | 1500 mg | 1000 mg |
| 61-70 | 1250 mg | 1750 mg | 1000 mg |
| 71-80 | 1500 mg | 2000 mg | 1250 mg |
| 81-90 | 1750 mg | 2250 mg | 1250 mg |
| 91-100 | 2000 mg | 2500 mg | 1500 mg |

**TABLE 2 SUGGESTED TARGET PRE-VANCOMYCIN LEVELS
BASED ON INDICATION**

| Pre-vancomycin Level 10-15 mg/L | Pre-vancomycin Level 15-20 mg/L |
|---|---|
| <ul style="list-style-type: none"> • Skin and soft tissue infection • Urinary tract infection (UTI) (if catheter-associated; rule out bacteremia) | <ul style="list-style-type: none"> • Catheter-associated bacteremia • Central nervous system infection • Deep-seated or sequestered infection (e.g. abscess) • Endocarditis • Osteomyelitis • MRSA bacteremia or pneumonia • MSSA bacteremia (penicillin allergic patient) |

**TABLE 3 FOR SKIN AND SOFT TISSUE INFECTION & UTI
LOW-TARGET 10-15 mg/L INITIAL DOSING INTERVAL (hours)**

| SCr (mcmol/L) | Age Group (years) | | | | | |
|---------------|----------------------------|-------|-------|-------|--------------------|--------------------|
| | 20-29 | 30-39 | 40-49 | 50-59 | 60-69 [^] | 70-79 [^] |
| 40-60 | 8 | 8 | 12 | 12 | 12 | 18 |
| 61-80 | 8 | 12 | 12 | 12 | 18 | 18 |
| 81-100 | 12 | 12 | 12 | 18 | 18 | 18 |
| 101-120 | 12 | 12 | 18 | 18 | 18 | 24 |
| 121-140 | 12 | 18 | 18 | 18 | 24 | |
| 141-160 | 18 | 24 | 24 | 24 | | |
| 161-180 | 24 | 24 | | | | |
| 181-200 | 24 | | | | | |
| Above 200 | | | | | | |
| Dialysis | See TABLE 5 (back of card) | | | | | |

**TABLE 4 FOR ALL OTHER INDICATIONS (COMPLICATED INFECTIONS)
HIGH-TARGET 15-20 mg/L INITIAL DOSING INTERVAL (hours)**

| SCr (mcmol/L) | Age Group (years) | | | | | | |
|---------------|----------------------------|-------|--------|--------|--------------------|--------------------|--------------------|
| | 20-29 | 30-39 | 40-49 | 50-59 | 60-69 [^] | 70-79 [^] | 80-89 [^] |
| 40-60 | 6 | 6-8 | 8 | 8 | 8-12* | 12 | 12 |
| 61-80 | 8 | 8 | 8-12* | 12 | 12 | 12 | 12-18* |
| 81-100 | 12 | 12 | 12 | 12 | 12-18* | 18 | 18 |
| 101-120 | 12 | 12 | 12-18* | 18 | 18 | 18 | 18 |
| 121-140 | 12 | 18 | 18 | 18 | 18 | 18-24* | |
| 141-160 | 18 | 18 | 18 | 18-24* | 24 | | |
| 161-180 | 18-24* | 24 | 24 | 24 | | | |
| Above 180 | | | | | | | |
| Dialysis | See TABLE 5 (back of card) | | | | | | |

[^]In elderly patients with low muscle mass, use clinical judgment as SCr may not reflect renal function accurately.

*If more aggressive therapy is desired, select more frequent dosing interval.

Shaded boxes: These patients have unstable and/or reduced renal function, and the nomogram may not be as predictive.

- For those with an interval stated, patients should receive a loading dose followed by 3 hour and pre-2nd dose serum levels to determine appropriate dosing.
- For those with no dosing interval stated, patients should receive a loading dose followed by 3 hour and 24 hour post-dose serum levels to determine subsequent dosing.
- A clinical pharmacist should be contacted for assistance with dosing and interpretation of levels.