

VANCOMYCIN EMPIRIC DOSING GUIDELINES (Vancouver Acute)

TABLE 1 INITIAL DOSE PER INTERVAL

TOTAL BODY WEIGHT	LOADING DOSE (Maximum 2000 mg/dose)		MAINTENANCE DOSE*
	Target pre-level 5-15 mg/L (20 mg/kg)	Target pre-level 15-20 mg/L (25 mg/kg)	
kg			(15mg/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	2000 mg	1250 mg
91-100	2000 mg	2000 mg	1500 mg

TABLE 2 INITIAL DOSING INTERVAL (hours)*

Serum Creatinine (µmol/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	**	**	**	**	**

* The maintenance dose and interval on Tables 1 and 2 are intended to achieve a pre-vancomycin target level of 5-15 mg/L. To achieve a higher pre-vancomycin serum level of 15-20 mg/L, the dosing interval should be empirically shortened (e.g. Q12H to Q8H). Alternatively, the maintenance dose can be increased to 20 mg/kg.

** Patients with significant renal impairment should receive a loading dose followed by 3 and 24 hours post dose serum levels to determine subsequent dosing. Contact a regional clinical pharmacist for assistance with interpretation of pre steady-state serum levels.

KEY

1. Establish patient age, weight and serum creatinine concentration.
2. Using Table 1, identify initial loading dose and maintenance dose per interval according to patient weight.
3. Using Table 2, identify initial dosing interval according to patient age and serum creatinine. If more aggressive therapy desired, interval should be shortened.
4. Doses over 1250 mg should be infused over 90 minutes.

THERAPEUTIC DRUG MONITORING

Vancomycin serum levels should be ordered in the following situations:

- 1) Pre-vancomycin level on 3rd or 4th dose (within 48 hours) if a higher level of 15-20 mg/L is desired; repeat weekly to ensure pre-level is within therapeutic range
- 2) Pre-vancomycin level after 7 days of therapy if aiming for levels < 15 mg/L and therapy is to continue for 14 days **AND**
 - patient is at risk for accumulation (e.g. Q8H interval) **OR**
 - patient is receiving other nephrotoxic agents
- 3) Pre-vancomycin level if renal function is changing or uncertain
- 4) Pre-vancomycin level if patient is not responding to therapy
- 5) Pre-vancomycin level if patient is obese (>90% IBW), pregnant, pediatric or hypermetabolic (e.g. burn patient, cystic fibrosis)
- 6) 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-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).

SUGGESTED TARGET VANCOMYCIN LEVELS

Vancomycin Pre-Level 5-15 mg/L (goal ~ 10 mg/L)	Vancomycin Pre-Level 15-20 mg/L
<ul style="list-style-type: none"> ▪ Skin and soft tissue infection <u>not</u> due to MRSA ▪ Uncomplicated catheter-associated bacteremia due to coagulase-negative <i>Staphylococcus</i>* ▪ Urinary tract infection (catheter-associated; rule out bacteremia) 	<ul style="list-style-type: none"> ▪ CNS infection ▪ Deep-seated or sequestered infection (e.g. abscess) ▪ Endocarditis ▪ Osteomyelitis ▪ MRSA bacteremia, pneumonia or skin and soft tissue infection ▪ MSSA bacteremia (penicillin allergic pt)
<p>* uncomplicated refers to lack of septic thrombosis, tunnel infection, or port abscess for tunnelled or implantable catheters</p>	

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