Vancomycin Dosing and Monitoring Guidelines - *Adult Patients*

1) Determine empiric dose

Loading dose: 20mg/kg (rounded to nearest 250mg, maximum 2 grams)

Recommended for difficult-to-treat infections (endocarditis, osteomyelitis, meningitis, hospital acquired pneumonia caused by S. aureus) or in any scenario in which rapid achievement of therapeutic exposure is desired, including renal replacement therapy or vancomycin by continuous infusion.

Maintenance Dosing

CrCl (mL/min)	Weight (kg)			
	43-60	61-79	80-99	100-120
≤ 10	Draw serum concentration (re-dose when 10-20mcg/mL) On stable HD redose with 7.5-10mg/kg with each HD session On stable CRRT: 10-15mg/kg q24h, with adjustment as below			
11 – 29	750mg q24-48h	1g q24-48h	1.25g q24-48h	1-1.25g q24h
30 – 49	750mg q24h	1g q24h	1g-1.25g q24h	1.5g q24h
50 – 69	750mg q12-24h	750mg-1g q12h	1g-1.25g q12h	1.25g-1.5g q12h
>70	750mg q12h	1.0g q12h	1.25g q12h	1.5g q12h
Consider if: >85mL/min and ≤35 yrs old	500mg-750mg q8h	750mg-1g q8h	1g-1.25g q8h	1.25g q8h

a. *Use total body weight if obese*
b. *For extremes of weight (<50kg, >120kg), seek pharmacist consultation for optimal dose*

2) Serum concentration monitoring to confirm or adjust dose

Monitor vancomycin and adjust according to scenario below. Repeat monitoring weekly if patient is clinically stable, or sooner if renal function or infection status is clinically unstable.

Stable renal function

- Obtain serum concentrations once patient has achieved steady-state (3rd or 4th dose)
- Post-dose concentration ("peak"): drawn >1hour after end of infusion
- Pre-dose concentration ("trough"): 15-30 minutes prior to dose optimal, earlier times remain useful.
- Use two concentrations above to calculate AUC and adjust to AUC_{24} between 400-600mg*hr/L. (pharmacists can assist)
- AUC is the index best associated with safety and efficacy outcomes. Troughs may vary.

Unstable renal function

Check trough or random level periodically for need to adjust dose

Poor renal function

<10mLs/min dose intermittently when concentration falls to 15-20mg/L

Hemodialysis Dose with each HD session, adjust dose to achieve pre-dialysis concentration of 10-20mg/L

Continuous renal replacement **(e.g. CVVH) or peritoneal dialysis:** adjust dose to trough of 15-20mg/L, aware that some patients on established CRRT may need adjusted dosing interval. If CRRT is anticipated to continue for several days, consider continuous infusion and/or AUC study.

Continuous infusion

At steady state (1-2 days), random concentrations 17-25 mg/L correspond to AUC 400-600mg*hr/L