

Vancomycin

Refer to dosing algorithm below

Levels

Collect predose level before 4th dose of vancomycin. Give the dose. Any adjustments necessary can be made to the 5th dose onwards.

Predose level should be between 10- 15µg/ml. (In severe/complicated infection 15-20 µg/ml).

If continuing vancomycin and renal function is stable, repeat level twice weekly. Daily levels may be required if renal function is unstable.

Note: 1-hour post dose levels are not necessary.

Clearly state dose, time of dose and time of blood sample collection on the request form.

Comments

Must be administered slowly IV at a maximum rate of 10mg/min to avoid reaction such as red man syndrome.

In severe/complicated infections a loading dose of 25 mg/kg can be used to facilitate rapid attainment of target trough serum vancomycin concentration.

Complicated Infections:

1. Bacteraemia
2. Endocarditis
3. Osteomyelitis
4. Meningitis
5. Hospital Acquired Infections caused by Staph aureus

Vancomycin Dosing Algorithm

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Adult VANCOMYCIN Dosing Guideline

1. Select patient appropriately

- Renal & ototoxicity has been associated with use of vancomycin.
- Monitoring of serum levels is a necessity.
- Administer at a rate not greater than 10mg/min.

2. Prescribe dose

Initial Dose: Prescribe initial loading dose of 25mg/kg
Maximum single dose 2g

Maintenance Dose: see table below

CrCl	Dose (Round to <u>nearest 50mg</u>)
≥ 60ml/min	15mg/kg BD
30 – 60 ml/min	15mg/kg OD
15 – 30 ml/min	15mg/kg every 48hrs
< 15 ml/min or dialysis	15mg/kg day 1. Only re-dose at 15mg/kg when trough level in target range. Hold dose until level available

- **Maximum Single Dose 2g**
- If anuric, output < 500mls/day, treat as CrCl < 15ml/min

Actual body weight is used to calculate all doses unless weight > 120% IBW use obese dosing weight.

3. CrCl ≥ 60ml/min: Take FIRST trough level BEFORE 4th dose.

CrCl ≤ 60ml/min: Trough level should be done no later than 48 hours after loading dose.
Trough must be measured PRE-DOSE

Doses are NOT to be held whilst awaiting levels unless renal function deteriorating or specifically advised

4. Ascertain target level. Standard target level is **10-15mg/L** but if patient has a serious infection such as endocarditis, osteomyelitis, bloodstream infection, meningitis or hospital-acquired pneumonia caused by S.aureus, target level is **15-20mg/L**.

5. Check trough level result and adjust dose accordingly

Target level 10-15mg/L			Target Level 15-20mg/L		
Level (mg/L)	Dose alteration	Recheck pre-dose level	Level (mg/L)	Dose alteration	Recheck pre-dose level
<5 [#]	Increase each dose by 500mg	After adjusted dose given and before following morning dose*	<10 [#]	Increase each dose by 500mg	After adjusted dose given and before following morning dose*
5-10	Increase each dose by 250mg	After adjusted dose given and before following morning dose*	10-15	Increase each dose by 250mg	After adjusted dose given and before following morning dose*
10-15	Maintain dosing regimen	Twice weekly, providing renal function is stable*	15-20	Maintain dosing regimen	Twice weekly providing renal function is stable*
15-20	Reduce each dose by 250mg	After adjusted dose given and before following morning dose*	20-25	Reduce each dose by 250mg	After adjusted dose given and before following morning dose*
>20	Omit next dose and decrease each dose by 500mg	After adjusted dose given and before following morning dose*	>25	Omit next dose and decrease each dose by 500mg	After adjusted dose given and before following morning dose*

* Doses are NOT to be held whilst awaiting levels unless renal function is deteriorating or specifically advised
If persistently sub-therapeutic levels, consult pharmacy or microbiology for advice

6. Check serum creatinine regularly

- Ensure patient well hydrated.
- If renal function stable (& level in target range), twice weekly levels are sufficient
- If renal function unstable, check trough level more frequently (e.g. daily or alternate days)