CRITICAL CARE CONTINUOUS VANCOMYCIN INFUSION PROTOCOL (WORCESTERSHIRE ACUTE)

DO NOT TRANSFER PATIENTS TO OTHER WARDS WHILST ON A CONTINUOUS INFUSION.
If a patient is transferred to a ward while still on vancomycin, change to an intermittent dosing regimen based on their dose in the last 24 hours. Wait for 12 hours after stopping the continuous infusion before starting twice daily dosing.

LOADING DOSE

LOADING DOSE (no recent vancomycin)				
Actual Body Weight	**Loading dose**	**Diluent volume of sodium chloride 0.9% ***		**Duration**
		Central	**Peripheral**	
<45 kg	750mg	100ml	250ml	90 mins
45-55 kg	1000mg	250ml	250ml	2 hours
56 – 70 kg	1250mg	250ml	500ml	2.5 hours
71 – 80 kg	1500mg	250ml	500ml	3 hours
81 - 95kg	1750mg	250ml	500ml	3 hours
> 95 kg	2000mg	250ml	500ml	4 hours

*Glucose 5% may be used in patients with sodium restriction.

LOADING DOSE (recently been on vancomycin and have a level)	
Vancomycin level	**Loading dose**
< 10mg/L	Load as table above
10-15mg/L	Give 50% of weight based loading dose (see table above)
15-25mg/L	DO NOT LOAD, start continuous infusion
> 25mg/L	DO NOT START INFUSION until <25mg/L – Recheck level in 6 hours

CONTINUOUS INFUSION

Drug Preparation for continuous infusion:

- Mix 1g of Vancomycin in 250ml diluent or 2g of Vancomycin in 500ml diluent.
- Suitable diluents are sodium chloride 0.9% or glucose 5%
- Start the maintenance IV infusion immediately after loading dose.
- Note that patients who have unusual clinical characteristics, such as weight < 40 kg, weight >120 kg, age >90 years may require dose adjustments and require closer monitoring.
- Expiry time of infusion is 24 hours from preparation.
- Use a separate CVC lumen or peripheral cannula for the vancomycin where possible.

Continuous Infusion Starting Rates		
Creatinine Clearance (ml/min)	**Starting infusion rate (ml/h)**	**Daily Dose (mg)**
>75	21	2000
55-75	16	1500
<55	10	1000
On RRT (CVVH/CVVHDF)	10	1000

Monitoring Vancomycin Levels and Dose Adjustment

- An initial level should be taken 12 – 24 hours after starting initial infusion. Thereafter a level should be taken daily (with the morning set of bloods) until the patients clinical condition and renal function is stable. More frequent monitoring may be required e.g. if the patient is taken off RRT.
- Record the time of the blood sample on the request form and the sample tube.
- Target steady state concentration range: 15 – 25 mg/L.
- If the patient has severe or deep-seated infection, the target range is 20 – 25 mg/L. If the measured concentration is < 20 mg/L, consider increasing the infusion rate*.
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Dose Adjustment Table based on measured vancomycin concentrations

Vancomycin Concentration (mg/L)	**Suggested change to infusion rate**
<15	Increase rate by 5ml/hr
15 - 25	No change. Target concentration (*see above)
26 - 30	Decrease rate by 5ml/hr
>30	Stop for 6 hours, re-measure serum levels. Decrease rate by 5ml/hr when < 25 mg/L