

## PAEDIATRIC (1 month – 16 years) INTERMITTENT INFUSION VANCOMYCIN: PRESCRIBING, ADMINISTRATION & MONITORING CHART

DETERMINE DOSE <sup>1</sup>			
Age	Dose	Frequency	Route
< 1 month- see separate vancomycin policy for neonates			
1 month to <6 months	12.5mg/kg	8 hourly	Give over at least 60mins using an infusion pump. The rate should be below 10mg/minute. Central administration is preferable but concentrations up to 5mg/ml may be given via a large peripheral vein.
6 months to <1 year	20mg/kg	8 hourly	
1 year to 6 years	25mg/kg	8 hourly	
>6 years to 16 years	20mg/kg	8 hourly	
>16 years- refer to adult vancomycin policy			
In renal impairment- Seek specialist advice if eGFR <50mls/min/1.73m <sup>2</sup>			
Nursing staff: Check HEPMA to ensure vancomycin hasn't been discontinued. Check vancomycin and creatinine levels are being monitored and recorded above			

Patient Name: .....

Date of birth: .....

CHI no.: .....

Affix patient label

**Aiming for levels 10-20mg/L;  
15-20mg/L (severe infection)**

**Calculating eGFR for child over 1 year:**

$$\text{eGFR} = \frac{40 \times \text{height (cm)}}{\text{Serum creatinine (micromol/L)}} \quad (\text{ml/min/1.73m}^2)$$

Children with low muscle mass, those who have had a bone transplant, or peritoneal dialysis, may need a formal GFR checked by nuclear medicine

1	Dose Prescription			Administration Record Sign and record exact time given Refer to MEDUSA for details on preparation				
<b>VANCOMYCIN</b>			Date					
			Month					
Dose (mg)		Route IV infusion	Date started	other time				
				0800				
Prescriber's signature, PRINTED name and STATUS		See Box 2 <input type="checkbox"/> Stopped <input type="checkbox"/>  Date: Initials:	1400					
			1800					
			2000					
			2200					
Additional instructions ***Max infusion rate = 10 mg/minute***			other time					
Creatinine (micromol/L) RECORD DAILY								
Date & time of blood sample taken								
Vancomycin level (mg/L)								
Is a dose change required? YES <input type="checkbox"/> prescribe in prescription box 2 Assess DAILY: the ongoing need for vancomycin; signs of toxicity								

Continue or amend on a separate box if required

2	Dose Prescription			Administration Record Sign and record exact time given Refer to MEDUSA for details on preparation				
<b>VANCOMYCIN</b>			Date					
			Month					
Dose (mg)		Route IV infusion	Date started	other time				
				0800				
Prescriber's signature, PRINTED name and STATUS		See Box 3 <input type="checkbox"/> Stopped <input type="checkbox"/>  Date: Initials:	1400					
			1800					
			2000					
			2200					
Additional instructions ***Max infusion rate = 10 mg/minute***			other time					
Creatinine (micromol/L) RECORD DAILY								
Date & time of blood sample taken								
Vancomycin level (mg/L)								
Is a dose change required? YES <input type="checkbox"/> prescribe in prescription box 3 Assess DAILY: the ongoing need for vancomycin; signs of toxicity								

Continue or amend on a separate box if required

3		Dose Prescription		Administration Record Sign and record exact time given Refer to MEDUSA for details on preparation			
Drug		Date					
VANCOMYCIN		Month					
Dose (mg)	Route	Date started	other time				
	IV infusion		0800				
			1200				
Prescriber's signature, PRINTED name and STATUS		See Box 4 <input type="checkbox"/> Stopped <input type="checkbox"/>	1400				
		Date:	1800				
		Initials:	2000				
			2200				
Additional instructions		other time					
***Max infusion rate = 10mg/minute***							
Creatinine (micromol/L) RECORD DAILY							
Date & time of blood sample taken							
Vancomycin level (mg/L)							
Is a dose change required? YES <input type="checkbox"/> prescribe in a prescription box 4 Assess DAILY: the ongoing need for vancomycin; signs of toxicity							

Continue or amend on a separate box if required

4		Dose Prescription		Administration Record Sign and record exact time given Refer to MEDUSA for details on preparation			
Drug		Date					
VANCOMYCIN		Month					
Dose (mg)	Route	Date started	other time				
	IV infusion		0800				
			1200				
Prescriber's signature, PRINTED name and STATUS		New Chart <input type="checkbox"/> Stopped <input type="checkbox"/>	1400				
		Date:	1800				
		Initials:	2000				
			2200				
Additional instructions		other time					
***Max infusion rate = 10mg/minute***							
Creatinine (micromol/L) RECORD DAILY							
Date & time of blood sample taken							
Vancomycin level (mg/L)							
Is a dose change required? YES <input type="checkbox"/> prescribe in a NEW PRESCRIPTION CHART Assess DAILY: the ongoing need for vancomycin; signs of toxicity							

Continue or amend on a separate box if required

### Monitoring, interpretation and review

- Blood of vancomycin levels should be taken peripherally and not from an existing indwelling venous access device to reduce the risk of falsely elevated results.
- Take 1<sup>st</sup> trough level immediately before the 4<sup>th</sup> dose and administer dose without waiting for level results. Monitor renal function daily. If renal function is impaired e.g. a change in creatinine of more than 15-20%, the trough level should be known before the next dose is administered.
- If levels are within therapeutic range, repeat every 3 days. If levels are subtherapeutic or above therapeutic range, adjust the dose as per table opposite and repeat the trough level and U&Es 24 hours after ANY dose adjustment.
- Approximately time to steady state: 1-2 days.
- Note: vancomycin may increase the risk of aminoglycoside induced ototoxicity-use caution if co-prescribing with other agents that may cause ototoxicity e.g. furosemide, gentamicin.

If in doubt, take another sample before modifying the dosage regimen and/ or contact Pharmacy for advice

Level (mg/L)	Suggested dose change
< 10	Confirm all doses given. If so change dosage interval from 8 hours to every 6 hours. Take further level 24 hours after ANY dosage adjustment
10 – 15	If patient is responding, maintain present dosage regimen For severe infection, change interval from 8 hours to every 6 hours
15 - 20	Maintain current dosage regimen. Repeat level in 3 days
>20	Confirm trough sample taken appropriately Stop, reanalyse every 12 hours until level is <20mg/L and seek advice

### If the measured concentration is unexpectedly HIGH or LOW, consider the following:

- Were dose and sample time recorded accurately? Was the correct dose administered?
- Was sample taken from the line used to administer the drug?
- Was sample taken during drug administration? Has renal function declined or improved?
- Does the patient have oedema or ascities?