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NEONATAL VANCOMYCIN PRESCRIPTION

Hosp:	Ward:	Patient:	Hosp No:
Cons:			
Height (cm):	Serum Cr:	Address:	Date of birth:
eGFR (see below) = ml/min/1.73m^2			
Indication for vancomycin: Target trough (pre-dose) level (tick box): **10-15 mg/L** □ (usual) **15-20mg/L** □ (MRSA or MSSA Bacteriaemias or deep seated infections)			

Renal function: eGFR ml/min/1.73m^2= k x (height in cm) / serum Cr **(**k = 30 in children <1 year)

If eGFR <50ml/min/1.73m^2 consider reducing dose frequency, discuss with pharmacist

Determine initial dosing schedule based on age and weight:

Dose and frequency calculation	Patient weight (kg)	Dose based on 15mg/kg
□ **24 hourly** – neonate post conceptual age less than 29 weeks □ **12 hourly** – neonate post conceptual age of 29 – 35 weeks □ **8 hourly** – neonate post conceptual age ≥ 35 weeks	……K**g**	……mg Dose rounded to the nearest 0.5mg

Monitoring levels

Pre-dose levels are taken immediately prior to the next dose being given. The dose should then be given without waiting for the level to come back (unless advised otherwise) but the level should be interpreted before any further doses are given after that.

Frequency of dose	Levels to be taken at
24 hourly	2nd Dose
12 hourly	3rd Dose
8 hourly	4th Dose

If levels within range, then continue to monitor renal function and consider twice weekly levels. If levels are out of range, see tables overleaf, contact pharmacy for dosing adjustment advice if needed. The first level taken may not represent steady state and the level may continue to increase. The dose should not usually be adjusted after a single low level unless the patient is clearly not on a big enough dose.
Monitor for otoxicity.

For further advice on adjusting the dose to achieve the target level contact a pharmacist.
THIS CHART SHOULD BE CROSS REFERENCED ON EPMA OR ON THE PRESCRIPTION CHART

Prescription

All doses to be infused over 60 minutes

Date	Current regime (Dose and frequency)	Pre dose level required? (√)	Level	Dose	Time to be given	Infusion duration (in minutes)	Dose authorised by Doctor (signature)	Checked & supplied by pharmacist (date, time, signature)	Administered/ checked by	Date/ time given

Dose changes

If levels are out of range, communicate any changes in dosing or dosage intervals in the following table:

Date & time:	Action to be taken i.e. changes in dose, dosing interval:

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Dose Adjustments

If aiming for level of 10-15mg/mL (usual)		
Level (mg/mL)	Action	When to do next level
<8	Increase the frequency to add an extra dose in each 24 period (e.g. change from 12-hourly to 8-hourly). If already on 6-hourly dosing, increase dose by 10-20% but do not increase frequency.	After 24 hours
8-10	Increase dose by 20%	After 24 hours
10-15	No change needed	In 3-4 days, assuming renal function remains stable
15-18	Reduce dose by 10%	After 24 hours
18-22	Increase the dosing interval to give one fewer dose in each 24-hour period e.g. reduce from 8-hourly to 12-hourly.	After 24 hours
>22	Check renal function and wait for trough to fall into range before giving any further doses. Once level is back in range, recommence dosing with an increased interval (e.g. change from 8-houly to 12-hourly). Re-check level after 24 hours of treatment at new dose.	

If aiming for level of 15-20mg/mL (MRSA or MSSA Bacteriaemias or deep seated infections)		
Level (mg/mL)	Action	When to do next level
<10	Increase the frequency to add an extra dose in each 24 period (e.g. change from 12-hourly to 8-hourly). If already on 6-hourly dosing, increase dose by 20% but do not increase frequency.	After 24 hours
10-15	Increase dose by 10%	After 24 hours
15-20	No change needed	In 3-4 days, assuming renal function remains stable
20-22	Reduce dose by 10%	After 24 hours
>22	**Check renal function** and wait for trough to fall into range before giving any further doses. Once level is back in range, recommence dosing with an increased interval (e.g. change from 8-houly to 12-hourly). Re-check level after 24 hours of treatment at new dose.	

References:

Eiland, L.S., English, T.M. and Eiland, E.H. (2011) *Assessment of Vancomycin Dosing and Subsequent Serum Concentrations in Pediatric Patients.* The Annals of Pharmacotherapy. 45: 582-9.

Frymoyer, A. et al. (2011) *Impact of a hospitalwide increase in empiric pediatric vancomycin dosing on initial trough concentrations.* Pharmacotherapy. 31(9):871-6.

Paediatric Formulary Committee. *BNF for Children* [2015]. London: BMJ Group, Pharmaceutical Press, and RCPCH Publications; [2015]

Nottingham Children's Hospital. (2014) *Guideline*: *Intravenous Vancomycin.* Nottingham University Hospitals NHS Trust: [2015]

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Development of Guidelines:	Kayleigh Lehal, Shahnaz Nasmin, Lisa Taylor
Consultation With:	Consultant Paediatricians (Dr Bowker 2/3/17) Antimicrobial Pharmacist
Version:	2
Changes from previous version:	Separate chart developed for neonates instead of combining with paediatrics Addition of target range for MRSA/MSSA bacteraemia or deep seated infection (15-20mg/L) and space to indicate what the target level is Improved layout for documenting levels and prescribing doses, with inclusion of pharmacist signature for each dose. Advice for dose adjustments added.
Approved By:	Antimicrobial Stewardship Group 24/5/17 Paediatric division Integrated Care Governance and Risk group Clinical Guideline Group
Next review date:	Extended to July 2024
Key Contact:	Paediatric Pharmacists

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