Vancomycin Continuous Infusion

NEOTNA TAL

FORM

Loading dose:
Pre-made syringes containing 125 mg in 30 ml Glucose 5%
Vials containing 500mg powder for reconstitution
Maintenance Dose:
Pre-made syringes containing 125 mg in 30 ml Glucose 5%
Vials containing 500mg powder for reconstitution

INDICATION

Treatment of late onset infections / where sensitivities indicate.

DOSE RANGE

LOADING DOSE: (omit if switching from intermittent to continuous)

15 mg/kg over 1 hour

- **Write 15mg/kg next to prescribed dose**
- **See page 3 if baby has been on vanc in previous 36hrs**
- **Administration will differ between units**

RHC PRM RAH	1. SELECT VANCOMYCIN PROFILE IN PUMP LIBRARY 2. PROGRAM IN BOTH MAINTENANCE AND LOADING DOSES AT THE SAME TIME 3. PUMP WILL AUTOMATICALLY SWITCH TO MAINTENANCE ONCE LOADING DOSE COMPLETE 4. DO NOT CHANGE THE DOSE / RATE FROM THE PRE-PROGRAMED 15MG/KG UNLESS ADVISED TO DO THIS FOR RENAL ISSUES 5. **CHECK THE RATE IS CORRECT FOR WEIGHT** 3.6 x wt (kg) = ml/hr to run for ONE HOUR
OTHER UNITS	1. PRIME LINE FROM SYRINGE AND PURGE SYRINGE TO LEAVE SUFFICIENT VOLUME FOR LOADING DOSE 2. SET VTBI ON THE INFUSION PUMP 3. USE NEW SYRINGE FOR MAINTENANCE DOSE

MAINTENANCE CONTINUOUS INFUSION

Start the continuous infusion immediately after the loading dose is completed.

Serum Creatinine (µmol/L)	Corrected Gestational Age	Dose over 24 hrs	Infusion Rate (ml/hr)
< 40	≥ 40 weeks	50 mg/kg/day	0.5 x wt
< 40	< 40 weeks	40 mg/kg/day	0.4 x wt
40 - 60	all	30 mg/kg/day	0.3 x wt
> 60	all	20 mg/kg/day	0.2 x wt

PTO FOR RENAL DOSING / ELBW INFANTS

ELBW infants with renal impairment OR SEVERE RENAL IMPAIRMENT IN ANY PATIENT requiring a dose reduction below 20mg/kg/day - consider alternative antibiotic therapy (following discussion with microbiology) or changing to one off 10mg/kg dosing with ongoing monitoring at 12hourly intervals and subsequent doses only given when level falls below 20mg/L. This should be discussed with the clinical pharmacist or a senior clinician.

SEE PAGE 3 FOR INFORMATION ON RESTARTING VANCOMYCIN IN PATIENTS WHO HAVE BEEN ON A VANCOMYCIN CONTINUOUS INFUSION WITHIN THE LAST 36 HOURS.

LOADING DOSE (if no pre-made syringes available):

RECONSTITUTION & DILUTION	Add 10 ml water for injection to a 500mg vial to give a 50 mg/ml solution
METHOD OF ADMINISTRATION	Take 2.5 ml of the reconstituted solution (125 mg) and dilute to 30 ml total volume with Glucose 5%. Give required dose by IV infusion over 1 hour **FOR LOADING DOSES - SEE SITE SPECIFIC INFORMATION ON PAGE 1 ON HOW TO SET THIS UP CORRECTLY FOR SAFE AND ACCURATE ADMINISTRATION.**

MAINTENANCE INFUSION (if no pre-made syringes available)

RECONSTITUTION	Add 10 ml water for injection to a 500mg vial to give a 50 mg/ml solution
DILUTION	Take 2.5 ml of the reconstituted solution (125 mg) and dilute to 30 ml total volume with Glucose 5%.
METHOD OF ADMINISTRATION	By continuous IV infusion as per table above

COMPATIBILITY

Solution compatibility	sodium chloride 0.45%, sodium chloride 0.9%, glucose 5%, glucose 10%, TPN, Lipid
Solution incompatibility	No information
IV Line compatibility	Adrenaline, Amiodarone, Caffeine citrate, Calcium gluconate, Dobutamine, Dopamine, gentamicin, insulin, fluconazole, Labetalol, Magnesium sulphate, Meropenem, Metronidazole, Midazolam, Milrinone, Morphine, Naloxone, Noradrenaline, Potassium Chloride, Rifampicin,Sodium Bicarbonate, Sodium Nitroprusside, Vecuronium **In Glucose 5%:** aciclovir, fentanyl, ranitidine
IV Line incompatibility	albumin, amphotericin, benzylpenicillin, ceftazidime, chloramphenicol, dexamethasone, furosemide, heparin, phenobarbital, phenytoin, piperacillin/tazobactam

THIS LIST IS NOT EXHAUSTIVE PLEASE CONTACT PHARMACY FOR FURTHER INFORMATION ON COMPATIBILITY WITH ANY MEDICINES NOT INCLUDED

RESTARTING VANCOMYCIN IN PATIENTS WHO HAVE BEEN ON A VANCOMYCIN CONTINUOUS INFUSION WITHIN THE LAST 36 HOURS

Serum creatinine	Time since stopping infusion	Recommendation
<40 µmol/L	< 6 h	Restart the infusion at the previous maintenance dose
	6 - 18 h	Give half the loading dose then restart the infusion at previous maintenance dose
	> 18 h	Give the full loading dose then restart the infusion at previous maintenance dose
40 – 59 µmol/L	< 12 h	Restart the infusion at the previous maintenance dose
	12 - 24 h	Give half the loading dose then restart the infusion at previous maintenance dose
	> 24 h	Give the full loading dose then restart the infusion at previous maintenance dose
>60 µmol/L	< 24 h	Restart the infusion at previous maintenance dose. If creatinine has recently increased, check a vancomycin level before restarting the vancomycin infusion.
	24 - 36 h	Give half the loading dose then restart the infusion at previous maintenance dose
	> 36 h	Give the full loading dose then restart the infusion at previous maintenance dose

NB: Advice to start the previous maintenance infusion assumes that the most recent vancomycin level on this dose was within the target range.

MONITORING

TARGET RANGE = 15 – 25 mg/L

- **Take a sample 12 – 24 hours after starting the infusion / after any dose change – with morning bloods where possible.**
- Monitor creatinine concentration daily.

DOSE ADJUSTMENT BASED ON LEVELS

SEEK ADVICE FROM PHARMACY WHEN NECESSARY

Vancomycin Concentration	Suggested dose alteration	
< 10 mg/L	Check for administration issues / repeat level. If no issues and level still <10 then Increase the daily dose by 50 %	Round new dose down to the nearest whole number
10 to <15 mg/L	Increase the daily dose by 25 %	
15 to 25 mg/L	No change **OR** If aiming for 20-25mg/L and level is 15-20mg/L, increase the daily dose by 10%	
>25 to 30 mg/L	Decrease the daily dose by 25%	
>30 mg/L	Stop the infusion for 4-6hours and then re-check level. Restart the infusion at the next lower dose once level is <25mg/L	

ELBW infants with renal impairment OR SEVERE RENAL IMPAIRMENT IN ANY PATIENT requiring a dose reduction below 20mg/kg/day - consider alternative antibiotic therapy (following discussion with microbiology) or changing to one off 10mg/kg dosing with ongoing monitoring at 12hourly intervals and subsequent doses only given when level falls below 20mg/L. This should be discussed with the clinical pharmacist or a senior clinician.

CAUTIONS, CONTRA-INDICATIONS AND SIDE EFFECTS
- See Summary of Product Characteristics and most recent edition of BNF for Children (links below)

FURTHER INFORMATION There is NO NEED TO STOP the infusion FOR THEATRE.

STORAGE Pre-made syringes should be stored in the fridge.

LICENSED STATUS Vials: Licensed
Pre-made syringes: Unlicensed product

LINKS BNF for Children: / Electronic Medicines Compendium

APPLICABLE POLICIES West of Scotland Neonatal Guidelines:

Consult local policy if applicable

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Administer reconstituted solutions immediately.
All vials, ampoules and infusion bags are for single use only unless otherwise stated.
Dose may vary depending on indication, age, renal function, hepatic function, and concomitant medications.
This monograph should be used in conjunction with the package insert, BNF for Children, and Summary of Product Characteristics. For further advice contact your clinical pharmacist or pharmacy department.