NEONATAL

GENTAMICIN

This document should be read in conjunction with this **DISCLAIMER**

Antimicrobial Restriction - Unrestricted

HIGH RISK Medication ⚠

Incorrect dosing with respect to age, weight and renal function may result in significant ototoxicity and nephrotoxicity. Under dosing may result in treatment failure, monitoring of drug levels may be required.

Presentation	Ampoules: 80 mg/2 mL			
Classification	Aminoglycoside antibiotic			
Indication	Treatment of infections caused by susceptible organisms including E. Coli, Pseudomonas, Klebsiella			
Contraindications and Precautions	Dose adjustment may be required in renal impairment			
Dose	**Corrected Gestational Age**	**Postnatal Age**	**Dose**	**Frequency**
	<30 weeks	0-7 days	5mg/kg	48 hourly
		>7 days	5mg/kg	24 hourly
	30-35 weeks	0-7 days	6mg/kg	48 hourly
		>7 days	6mg/kg	24 hourly
	>35 weeks	0-14 days	4½mg/kg	24 hourly
		>14 days	7mg/kg	24 hourly
Monitoring	Monitoring of serum levels, with appropriate dose adjustment, should be undertaken in all patients expected to receive therapy for greater than 72hrs (patients with unstable renal function should be monitored daily).			
Guidelines & Resources	Sepsis: Infection in the Neonate Sepsis: General Management and Treatment			

Compatible Fluids	Sodium chloride 0.9%
Preparation	**IV:** Available from CIVAS (KEMH & PCH). If premade solution is not available, use the following process to prepare a 10mg/mL solution. ***Dilution*** Take 2mL and dilute to 8mL with compatible fluid Final concentration is 10mg/mL **IM:** Use undiluted
Administration	**IV Injection:** Give over 10 minutes **IM Injection:** As per NCCU Policy
Adverse Effect	**Common:** **Serious:** Nephrotoxicity - reduce dose in renal impairment. Increased risk when administered with other nephrotoxic drugs and cephalosporins. Auditory and vestibular deafness.
Comments	IV aminoglycoside antibiotics are inactivated by IV cephalosporins, penicillins and teicoplanin. Do not give simultaneously.
Drug Monitoring	**Sample:** Trough level: 0.4mL blood immediately prior to dose. Peak level: 0.4mL blood 1 hour post dose. **1. First levels to be taken:** 24 hourly dosing regimen: 72 hours after commencing course 48 hourly dosing regimen: 96 hours after commencing course **2. Next levels to be taken** 24 hourly dosing regimen: Next level on day 8 48 hourly dosing regimen: Next level on day 9 **3.** Check levels every four days subsequently **4.** Blood levels are to be repeated at the next dose (pre and post) if the dose is adjusted or if the infant's clinical situation (ie renal failure) is likely to lead to unpredictable levels. For all babies calculate "area under the curve" using the results obtained.

	Area Under The Curve (AUC): Ideal range is 80 – 100mg/L.hour Expected levels: Peak: >10mg/L Trough level at 24 hours post dose: < 2mg/L Trough level at 48 hours post dose: < 1mg/L Consult a senior physician if levels are outside these AUC parameters. To calculate the "Area Under the Curve", a computer programme called "48-NeoGent" has been written. The calculator is available via the intranet. To perform the calculations and generate a report, please follow these instructions; 1. Using the computer mouse, move the cursor over the "48-NeoGent" icon on the main screen. 2. 'Double-click' on this icon. 3. Click once on the option 'enable macros' (if this message appears). 4. Type in the patient's name. Move to the next box by hitting the 'TAB' key on the computer keyboard. 5. Type in the times of drug administration and taking the levels, but bear in mind; (i) You need to put the hour in one box and the minutes in the other. (ii) Use a '24 hour' clock format. For example, if a time is 2pm, type it in as 14 (ie 12 noon + 2 hours) 6. Type in the date (dd/mm/yy format, for example, 23/07/14 for 23rd July 2014). 7. Using the 'mouse, move the cursor and click on the button that says 'click here'. This will print off a report, clear all of the data you have just typed in and switch off the programme. 8. Take the printed report from the printer, bring it to the attention of a medical officer and place it into the patient's file. 9. The report will suggest an appropriate dose adjustment if required
References	KEMH/PMH research/audits Monitoring: J. Ailakis Pharmacist PMH Kemp CA, McDowell JM. Paediatric pharmacopoeia. Melbourne; 2002.

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Standards Applicable:	NSQHS Standards: 1 Governance, 3 Infection Control, 4 Medication Safety		

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