


NEONATAL MEDICATION PROTOCOLS

GENTAMICIN
 Created by: NCCU
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NCCU Clinical Guidelines
 KEMH/PMH
 Perth, Western Australia

DRUG:	GENTAMICIN			
PRESENTATION:	Ampoules: 80 mg/2 mL Prefilled Syringe: 8mg in Water for Injections 0.8mL (KEMH) Prefilled Syringe: 25mg in Water for Injections 2.5mL (KEMH)			
ALERTS & RESTRICTIONS:	 HIGH RISK Medication Antimicrobial Restriction: Category A GREEN Unrestricted			
ACTION & INDICATION:	Aminoglycoside antibiotic for the treatment of infections caused by susceptible organisms including E. Coli, Pseudomonas, Klebsiella.			
DOSE:	Corrected Gestational Age	Postnatal Age	Dose	Frequency
	<30 weeks	0-7days	5mg/kg	48 hourly
		>7days	5mg/kg	24 hourly
	30-35 weeks	0-7days	6mg/kg	48 hourly
		>7days	6mg/kg	24 hourly
	>35 weeks	0-14days	4½mg/kg	24 hourly
		>14days	7mg/kg	24 hourly
Dosage adjustment may be required in cases of renal impairment.				
PREPARATION:	IV: Use solution prepared in Pharmacy if available. If premade solution is not available, use the following process to prepare a 10mg/mL solution. Diluent: 0.9% Sodium chloride or Water for Injections Take 2mL and dilute to 8mL = 10mg/mL IM: Use undiluted			
ADMINISTRATION:	IV Injection: Give over 10 minutes IM Injection: As per NCCU Policy			
ADVERSE EFFECTS:	Nephrotoxicity - reduce dose in renal impairment. Increased risk when administered with other nephrotoxic drugs and cephalosporins. Auditory and vestibular deafness.			
COMMENTS:	Monitor urine output - dose may need adjusting in renal failure. IV aminoglycoside antibiotics are inactivated by IV cephalosporins, penicillins and teicoplanin. Do not give simultaneously. Consider monitoring of electrolytes with prolonged use.			
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			

	<p>3. Check levels every four days subsequently</p> <p>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.</p> <p>For all babies calculate "area under the curve" using the results obtained.</p> <p>Area Under The Curve (AUC): Ideal range is 80 – 100mg/L.hour</p> <p>Expected levels:</p> <p>Peak: >10mg/L</p> <p>Trough level at 24 hours post dose: < 2mg/L</p> <p>Trough level at 48 hours post dose: < 1mg/L</p> <p>Consult a senior physician if levels are outside these AUC parameters.</p> <p>To calculate the "Area Under the Curve", a computer programme called "48-NeoGent" has been written. The calculator is available via the intranet.</p> <p>To perform the calculations and generate a report, please follow these instructions;</p> <ol style="list-style-type: none"> 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; <ol style="list-style-type: none"> (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:	<p>KEMH/PMH research/audits Monitoring: J. Ailakis Pharmacist PMH Paediatric Pharmacopoeia 13th Ed Royal Children's Hospital Melbourne</p>
DATE:	November 2015