

# SAFE GENTAMICIN PRESCRIBING IN PAEDIATRICS

## TAKING THE CONFUSION AND HARM OUT OF GENTAMICIN DOSING AND MONITORING

### Initial Dosing up to 48 hours

Age		Dose	Frequency	Max dose	Trough level	Recommended resource
Neonates in NICU or nurseries (postmenstrual age)	< 30 weeks	5 mg/kg/dose IV/IM	48 hourly			Neomed <a href="http://www.seslhd.health.nsw.gov.au/RHW/Newborn_Care/Guidelines/Medication/pdf/gentamicin6-16.pdf">http://www.seslhd.health.nsw.gov.au/RHW/Newborn_Care/Guidelines/Medication/pdf/gentamicin6-16.pdf</a>
	30-34 weeks	5 mg/kg/dose IV/IM	36 hourly			
	≥ 35 weeks	5 mg/kg/dose IV/IM	24 hourly			
Birth (at term) – 1 month		5* mg/kg/dose IV/IM	24 hourly		If gentamicin is continued after 48 hours, take level prior to administration of 4 <sup>th</sup> dose	Australian Medicines Handbook- Children's Dosing Companion <a href="https://childrens.amh.net.au/acs.hcn.com.au/">https://childrens.amh.net.au/acs.hcn.com.au/</a>
1 month – 10 years		7.5 mg/kg/dose IV/IM	24 hourly	320 mg		
10 – 18 years		6-7 mg/kg/dose IV/IM	24 hourly	560 mg		

If patient is >20% over ideal weight, use ideal weight to calculate dose

\*AMH CDC recommends a range of 4 to 5 mg/kg/dose

### Practice points

- Empiric gentamicin should be limited to short-term therapy (less than 48 hours) pending the outcome of microbiological investigations
- Collect samples for microbiological testing before starting antibiotic treatment
- Prescribe gentamicin according to above dosing recommendations
  - Adjust dose for renal impairment in consultation with nephrologist or paediatrician
- Review results of microbiological testing. Replace gentamicin with a less toxic antibiotic if available, guided by susceptibility results.
- All patients requiring more than 48 hours of gentamicin need infectious diseases/microbiology and/or paediatrician approval to receive ongoing therapy
- For **preterm** neonates continued on gentamicin beyond 48 hours, refer to Neomed for dose and therapeutic drug monitoring recommendations
- For **term** neonates and older, if further dosing beyond 48 hours is required:
  - patient with normal renal function – take a trough level before the fourth dose (at 72 hours)
  - if trough level is high (> 1 mg/L), discuss extending the dosing interval with a paediatrician or infectious diseases physician
  - patient with renal impairment or at risk of nephrotoxicity – take a trough level before the second dose (at 24 hours) and adjust dose in consultation with nephrologist or paediatrician
- When gentamicin is prescribed for the treatment of an identified susceptible pathogen, different dose monitoring is required. Discuss with your local infectious diseases physician or refer to **Therapeutic Guidelines: Antibiotic** for further information.

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### Your local contacts

ID physician:

Paediatrician: