



Title	CONVENTIONAL INTERVAL GENTAMICIN REGIMEN For children over 1 month
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CONVENTIONAL INTERVAL GENTAMICIN REGIMEN

For children over 1 month

Conventional interval regimen should be used for gentamicin treatment in severe renal impairment, endocarditis, cystic fibrosis, burns, pregnancy or meningitis. Refer to extended interval gentamicin regimen for other patient groups.

Actions and uses:

An aminoglycoside antibiotic with a broad spectrum of activity against some Gram-positive bacteria and Gram-negative bacteria (*Escherichia coli*, *Haemophilus influenzae*, *Pseudomonas aeruginosa*). Generally first line aminoglycoside, except in Cystic Fibrosis.

Contra-indications: Myasthenia Gravis, hypersensitivity to gentamicin or any of the excipients

Dose:

AGE	DOSE	FREQUENCY	COMMENTS
Infants and children 1 month-11 years	2.5mg/kg Based on ideal body weight*	8 hourly	Increase dose to 3mg/kg 8 hourly in Cystic Fibrosis patients. Initial starting dose. Adjust according to Therapeutic Drug Monitoring (TDM) -see below.
12-18 years	2mg/kg Based on ideal body weight*	8 hourly	

*For obese children use ideal body weight (IBW). Extrapolate estimated IBW from height centiles on the growth chart (available on ward 15)

In **renal impairment** give usual starting dose but monitor levels after first dose and **only re-dose** when **trough < 2mg/L**.

- Removed by Haemofiltration- contact pharmacy for advice.

Reconstitution Guidelines:

Available as an already reconstituted solution in two strengths - **80mg/2ml** (40mg/ml) and **20mg/2ml** (10mg/ml)

Compatibilities:

Glucose 5%, sodium chloride 0.9%

Incompatibilities:

Avoid mixing with any drug or solution unless confirmed with pharmacy.

Administration:

Give as a slow IV bolus over 3-5 minutes.

Examples:

- For a 5kg infant a 12.5mg dose would be 1.25ml of **10mg/ml** solution given over 3-5 minutes.
- For a 17.5kg child a 44mg dose would be 1.1ml of **40mg/ml** solution given over 3-5 minutes

Cautions/side effects:

- Side effects of ototoxicity and nephrotoxicity which may be compounded by other agents e.g. amphotericin, vancomycin, ciclosporin, cisplatin, furosemide - monitor closely.
- Enhances the effects of non-depolarising muscle relaxants.
- Ensure adequate flushing if patient is also prescribed a penicillin or cephalosporin.
- Use with care in conditions characterised by muscle weakness.

Therapeutic Drug Monitoring:

- Monitor blood levels before and after 3rd dose (and 3rd dose following a dosage adjustment).
- If levels satisfactory, repeat sampling daily for courses up to 3 days. For longer courses, further samples should be taken every 2- days (or sooner if clinically indicated)
- Monitor earlier and more frequently depending on renal function.
- Sample trough level immediately prior to dose and peak level one-hour post dose.
- Therapeutic range:
 - Trough < 2mg/L (endocarditis <1mg/L)
 - Peak 5-10mg/L (endocarditis 3 – 5mg/L and in Cystic Fibrosis 8 -12mg/L)
- If levels unsatisfactory seek advice from Pharmacy or Consultant Microbiologist on dose or interval adjustment