

Louth: Antimicrobial Guidelines - Louth Hospitals: Antimicrobial Guidelines: Adult Gentamicin Guideline

[Gentamicin Calculator](#)

[KDIGO AKI Definition](#)

[Assessing Renal Function](#)

LH Adult Gentamicin Dosing Guideline, V.5, 2024

1. Select patient appropriately

- Note - For endocarditis, gentamicin 3mg/kg once daily recommended instead of 5mg/kg once daily
- Before starting therapy, consider renal function, hydration status, concomitant nephrotoxic medicines and contra-indications (e.g. myasthenia gravis)
- Review need for gentamicin daily - avoid duration in excess of 5 days. Prolonged duration is associated with increased risk of nephrotoxicity and ototoxicity.

2. Use Gentamicin Calculator on LH Antimicrobial Guidelines App to calculate dose based on renal function and weight

- N.B. CrCl is NOT accurate in AKI, consider full clinical picture, see dose recommendations for AKI as well as CKD below
- If BMI $\geq 30\text{kg/m}^2$, use obese dosing weight (ODW) to calculate dose - gentamicin calculator will do this automatically
- If pregnant, use booking weight to calculate dose (ODW if BMI $\geq 30\text{kg/m}^2$)
- Prescribe ACTUAL DOSE (not mg/kg) – maximum dose 480mg daily

Normal Renal Function or CKD	AKI (KDIGO)	Once Daily Dose (Max dose 480mg)
CrCl $\geq 50\text{mL/min}$	AKI Stage 1	5mg/kg once daily N.B. Wait for trough level result before re-dosing if renal impairment.
CrCl $< 50\text{ mL/min}$	AKI Stage 2 or 3	3mg/kg STAT N.B. Wait for trough level result before re-dosing if renal impairment.
Dialysis	Dialysis	Contact clinical microbiologist or pharmacist for dosing advice.

3. Check urea and creatinine daily/alternate days as indicated

- Ensure patient well hydrated.
- If urea and creatinine deteriorate from baseline, review patient and consider holding gentamicin until trough level checked and urea and creatinine repeated.

4. Check trough level 16 – 24 hours after first dose

- Gentamicin levels are processed in Biochemistry from 8am to 8pm Mon – Fri and 9am to 5pm Sat – Sun.
- Consultant request only outside of these hours.

5. Check trough level result before next dose given

Trough	Action
$< 1\text{mg/L}$	Give dose as prescribed
$\geq 1\text{ mg/L}$	Verify that level checked at correct time. If true trough level result, hold dose and repeat level next day. Do not redose until level $< 1\text{mg/L}$.
Not available	<ul style="list-style-type: none"> • If renal function normal, give dose as prescribed. • If renal function abnormal or unstable, usually hold dose until level result available, however if patient acutely septic, contact senior doctor for advice. • If dose given before level back, review level result when available.

6. Repeat trough level when clinically indicated

Normal stable renal function	Every 3 days: Review duration of gentamicin as soon as possible.
Abnormal or unstable renal function	Daily: Review duration of gentamicin as soon as possible.

Approved by LH Drugs and Therapeutics Committee