

Letterkenny University Hospital - LUH Antimicrobial Prescribing Policy/Guidelines: Gentamicin Dosing & Monitoring

Gentamicin Dosing & Monitoring

1. Overview

- Effective gentamicin use is **complex** ; **discuss with Microbiology or Pharmacy as required** .
- Refer to:

Table 1 – Once daily Gentamicin Dosing Guidelines

Table 2 – Administration & Monitoring Guidelines

Table 3 – Interpretation of Levels

Table 4 – Gentamicin Dosing in Infective Endocarditis ONLY

2. Patient Selection and Review

- Avoid aminoglycosides in patients with renal impairment whenever possible. However, in cases of septic shock, a one-off full dose of gentamicin may be necessary regardless of renal function. If gentamicin is required, consult Microbiology for guidance.
- Special populations that require Microbiology advice include:
 - Patients with **CrCl <30 mL/min**
 - Patients with **infective endocarditis**
- Treatment should be **reviewed within 24 hours** and **daily thereafter** by consultant or registrar.
- Treatment courses should **not usually exceed 3 days** .

3. Toxicity Considerations

- Gentamicin is potentially **nephrotoxic and ototoxic** .
- Monitor gentamicin levels and renal function **closely** .
- **Avoid prolonged treatment** and co-administration with other **nephrotoxins** (e.g., diuretics, NSAIDs, vancomycin) where possible.
- Note: Ototoxicity may present initially as vestibular symptoms (vertigo, ataxia) even if levels are in range.

4. Dosing and Monitoring

Once daily dosing is recommended for most patients (discuss dosing with Microbiology in patients with CrCl <30ml/min or endocarditis as this may vary).

- In a patient **less than 65 years with good renal function** (creatinine clearance > 80ml/minute) and with good urine output **do NOT hold** dose while waiting for level to be reported.
- In a patient **over 65 years, or with abnormal renal function** (creatinine clearance < 80ml/minute), it is generally preferable to **await the result** of the first gentamicin level before giving the next dose.

5. Responsibility for Monitoring

- The **clinical team must check gentamicin levels regularly** and adjust dosing accordingly.
- The laboratory **does NOT notify teams** about out-of-range levels.
- Gentamicin levels are available daily from **8am to 8pm** .

The image is a screenshot of a clinical guideline document for Gentamicin. It contains several sections with detailed instructions:

- Indications:** Lists uses such as respiratory tract infections, urinary tract infections, and skin/soft tissue infections.
- Contraindications:** Lists conditions like renal impairment, ototoxicity, and myasthenia gravis.
- Dosing:** Provides dosing regimens based on renal function (CrCl) and patient age. For example, for CrCl > 30 mL/min, the dose is 5-7 mg/kg once daily. For CrCl < 30 mL/min, the dose is 5 mg/kg once daily.
- Monitoring:** States that gentamicin levels should be checked 24 hours after the first dose and then daily thereafter. It also mentions monitoring for nephrotoxicity and ototoxicity.