Protocol for the administration of Gentamicin Using Extended once-daily interval (Adults)

Single daily dosing with gentamicin is recommended in most patients requiring aminoglycoside therapy

Exclusions
Endocarditis, prophylaxis, pregnancy and post-partum, children, patients with ascites, major burns, cystic fibrosis, dialysis, acute renal failure - seek specialist advice.
If elderly or frail, contact Microbiology/Pharmacy for dosage advice.

Administration and monitoring for toxicity

- **Calculate dose at 5mg/kg** (based on actual body weight [ABW] unless patient is obese (20% over ideal body weight [IBW]) with initial interval of 24 hours (See below for calculations)
- The usual maximum daily dose is 500mg.
- IV infusion in 100ml sodium chloride 0.9% or dextrose 5% over 30-60 minutes.

  I. **Arrange** for bloods to be taken 6 – 14 hours after dose – **this is the prescriber’s responsibility**
  II. **Take** 5 - 10 mls blood in a clotted tube (yellow top)
  III. **Record** the exact sampling time and date of blood sample on request form
  IV. **Record** exact time and date of last gentamicin dose administered on request form

- If gentamicin level is normal (appropriate for daily dosing) and renal function is stable, there is no need to recheck level unless gentamicin therapy continues beyond 5 days
- Only give >48 hrs under direction from Microbiology.
- Monitor serum gentamicin level 6 -14 hours after first dose using the Urban & Craig nomogram (see below for nomogram)
- Monitor serum creatinine three times a week or daily if renal function unstable.

  1. If first level is missed and if renal function is normal, give 2nd dose after 24 hours and monitor serum gent level 6 – 14 hours after 2nd dose.
  2. If in exceptional circumstances, no gentamicin levels have been done, calculate creatinine clearance (see additional notes on next page for equations)
Urban & Craig nomogram for 5mg/Kg ABW gentamicin dosing*

*Use ODW for **gentamicin** prescriptions if actual weight > 120% IBW:

**Obese Dosing Weight (ODW) - for gentamicin**

ODW (kg) = IBW + 0.4 (actual weight – IBW)

Obese dosing weight= IBW + 0.4 (ABW-IBW).

**Males:** IBW=50kg + 1kg for every cm over 150cm height

**Females:** IBW=45kg + 1kg for every cm over 150cm height

Request the **Cockcroft & Gault Creatinine Clearance from Biochemistry. Sex, age and weight need to be stated on the form**

\[
\text{CrCl (ml/min)} = A \times (140 - \text{age}) \times \text{Wt (kg)}
\]

\[A = 1.23\text{ for males and 1.03 for females}\]

Serum Creatinine (µmol/l)