

- Seek advice from pharmacy or microbiology if you are unsure how to interpret the result or if the concentration is lower than expected.
- Doses up to 600 mg may be required in obese patients but seek advice before giving doses > 400mg.
- If a blood sample is not taken, is lost or is taken at wrong time *and* if there is any concern about the patient's renal function, take a sample 20-24 hours after the start of the gentamicin infusion and wait for the result before giving the next dose. Otherwise, take a blood sample after the next dose.

If the measured concentration is unexpectedly HIGH or LOW, consider the following:

- Were dose and sample times recorded accurately?
- Was the correct dose administered?
- Was the sample taken from the line used to administer the drug?
- Was the sample taken during drug administration?
- Has renal function declined or improved?
- Does the patient have oedema or ascites?

If in doubt, take another sample before re-prescribing and / or contact pharmacy for advice

STEP 3: Assess daily the ongoing need for gentamicin and signs of toxicity

- Take a further blood sample 6-14 hours after the dose, at least every 2 days.
- If the gentamicin concentration is unexpectedly high or if renal function alters, daily sampling may be necessary.
- To minimise the risk of toxicity, duration of treatment should normally be limited to 72 hours. All gentamicin prescriptions that continue beyond 3-4 days of treatment must be discussed with microbiology or an infection specialist. Consider changing to an oral alternative - refer to the IV to Oral switch policy.

Box 2: Renal toxicity

- Monitor creatinine daily. Seek advice if renal function unstable (change in creatinine level).
- Signs of renal toxicity include increase in creatinine or decrease in urine output/oliguria.
- Consider an alternative agent if creatinine is rising or the patient becomes oliguric.

Box 3: Ototoxicity

- Ototoxicity secondary to gentamicin is independent of drug concentration. It is suggested by any of the following: new tinnitus, dizziness, poor balance, hearing loss or oscillating vision.
- Toxicity is associated with prolonged aminoglycoside use (usually > 10 days but may be > 72 hours) and is secondary to drug accumulation within the inner ear. Multiple courses of gentamicin are also a risk factor for ototoxicity.
- Stop treatment if ototoxicity is suspected and refer to microbiology or an infection specialist for advice on future therapy and refer to ENT for assessment.
- If gentamicin continues for > 7 days, consider referring to audiology for assessment.