

CPO Pyelonephritis Pathway

Purpose

To support intravenous (IV) therapy for the management of pyelonephritis following failure of oral antimicrobial therapy.

This is to be used for guidance only and should not replace clinical judgment.

Criteria

- Hawke's Bay Resident
- Patient presents with pyelonephritis requiring IV management and can be safely managed in the community

Funding

Referral and Claiming/Outcome is through the **Halcyon Provider Portal > CPO Programmes > Pyelonephritis**. Funding is fee for service.

CPO will fund the administration of the IV Gentamicin and follow up consultation at 24 hours, as required.

Pathway

If no improvement after 24 hours or oral antibiotics, consider IV Antibiotics:

- Determine creatinine clearance
- Provided CrCl is >2020mL/min, administer a stat dose (once only) of IV Gentamicin, 3.5mg/kg in a normal saline infusion - a minimum of 100ml infused over 30 minutes.
- Planned follow-up and commencement of oral antibiotics at 24 hours guided by the cultural sensitivities.
- If patient fails to respond to one dose of IV Gentamicin, seek advice from the appropriate clinician at Te Whatu Ora – Hawke's Bay

The following is a copy of the guidelines Te Whatu Ora – Hawke's Bay for the administration of one dose of Gentamicin

FOR ONE DOSE ONLY

The first dose is usually between 3-5mg/kg depending on the renal function and the nature of the illness of the patient.

The consultant in charge of the patient will advise on the appropriate dose to be given but as a guideline:

1. The patient's creatinine clearance (CrCl) needs to be calculated:

$$\text{CrCl (mL/second)} = \frac{(140 - \text{age (years)}) \times \text{lean body weight (kg)}}{\text{serum creatinine (micromole/L)} \times 50^*} \quad (\times 0.85 \text{ if female})$$

* (0.833 for mL/minute)

Lean body weight (kg) males = 50kg + 0.9 kg for each cm > 150 cm in height.

Lean body weight (kg) females = 45kg + 0.9 kg for each cm > 150 cm in height.

2. From Table (1) calculate the initial dose:

Table 1

CrCl (mL/second)	CrCl (mL/minute)	Dose (mg/kg)
>1.1	65	5, 6, 7
0.91 – 1.1	55 – 65	5 – 6
0.71 – 0.9	43 – 54	5
0.51 – 0.7	31 – 42	4
0.35 – 0.5	20 – 30	3
<0.35	<20	Consider using another antibiotic

Gentamicin Supplies in General Practice

- Health Hawkes Bay will be supply each practice with Gentamicin for their medication cupboard. Gentamicin is stocked by CPO pharmacies for use as above. Replenish stock with a patient prescription from one of the CPO pharmacies as used.
- Intravenous normal saline is available in 500ml and 1L bags through the practitioners supply order (PSO) form.