

Outpatient parenteral antimicrobial therapy (OPAT) pathway for the management of patients with antibiotic resistant lower urinary tract infection (LUTI)

For OPAT, ambulatory care or Hospital at Home prescribers

1. Assessment and inclusion criteria

Patients should have all of the following:

- symptoms of lower urinary tract infections: ≥ 2 symptoms of dysuria, frequency, urgency and suprapubic tenderness AND positive urine culture
- no suitable oral antibiotic treatment options (for example, trimethoprim, nitrofurantoin, co-amoxiclav, ciprofloxacin, pivmecillinam, fosfomycin, cefalexin) due to resistance, allergy, intolerance or failure.

2. Suitability for LUTI OPAT pathway

Step 1: Exclusion criteria

- Fever or flank pain
- Suspected prostatitis
- Systemic illness – consider alternative diagnosis
- NEWS ≥ 2
- Age < 18
- Pregnant/ breast feeding
- Uncontrolled co-morbidities requiring in-patient assessment

If exclusion criteria identified discuss with OPAT consultant

Step 2: Consider logistics of treatment

- The patient should be ambulant and self-caring or have appropriate carer support
- The patient should have access to transport to be able to attend OPAT service
- Access to OPAT should not result in *unacceptable* delay of treatment

Exclude from OPAT if criteria not met

3. Investigations

- **Confirm microbiology.** Review culture and sensitivities. (*Men and women with Enterococcus or men with Pseudomonas are excluded from this pathway but may be otherwise suitable for OPAT – discuss with OPAT consultant*).
- **Confirm and document recent antimicrobial therapy**, clarify antibiotic allergy status and potential drug-drug, drug – food interactions
- **Perform** urea and electrolytes, full blood count, liver function tests, C-reactive protein (CRP)
- **Record** weight and height and **calculate** creatinine clearance

4. Treatment (see also OPAT LUTI antibiotic choice flow chart, page 2)

1st Line female with Gram negative sensitive to gentamicin or amikacin

Gentamicin or amikacin (dose as per local guidance); Duration: single dose

1st Line male or 2nd Line female with Gram negative sensitive to ceftriaxone

Ceftriaxone 1g daily; Duration: female - 3 days, male - 7 days

2nd Line male or 3rd Line female: if resistant to first and second line options or if severe beta-lactam allergy.

Always discuss with OPAT consultant

Ertapenem 1g once daily (or 500mg once daily if creatinine clearance less than 30ml/min);

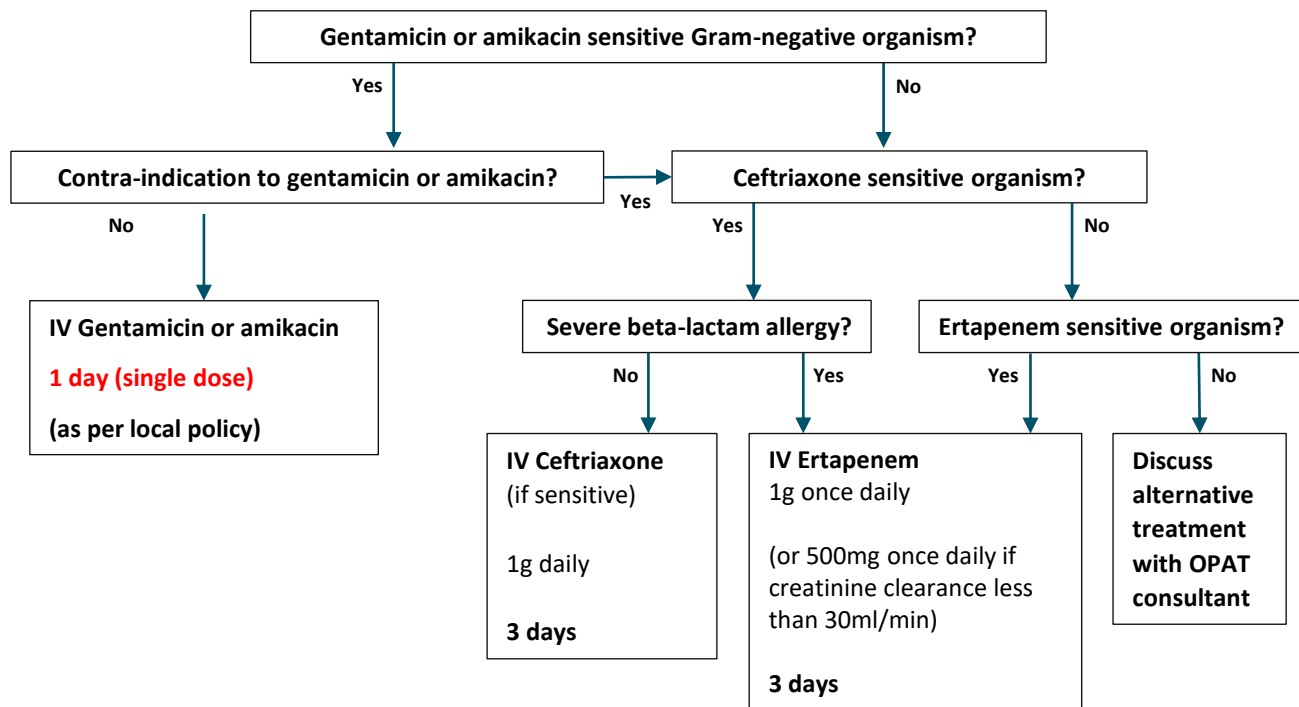
Duration: female - 3 days, male - 7 days

5. Further management

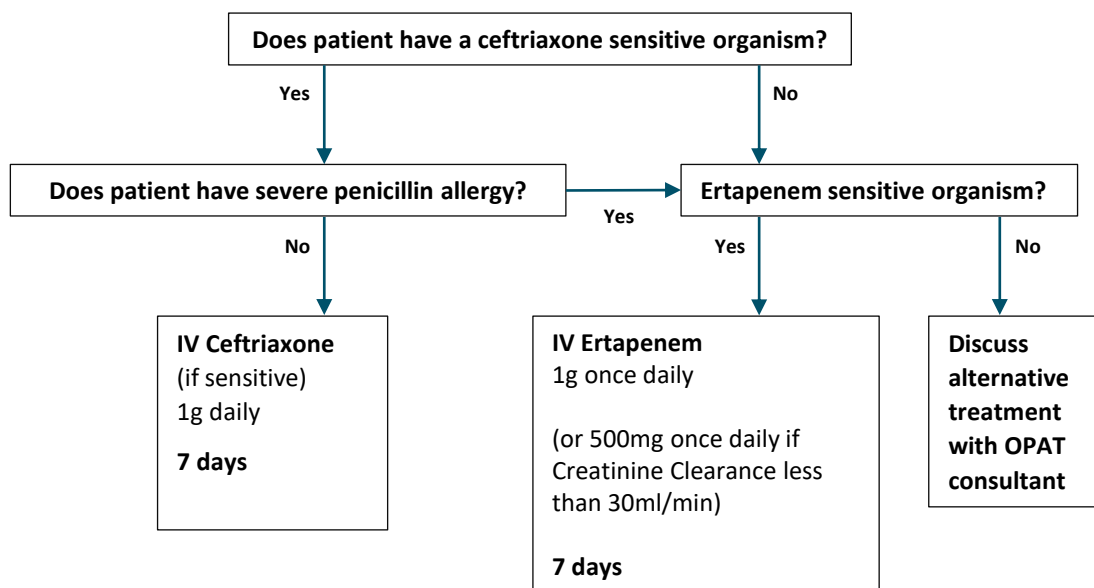
- Ensure adequate hydration and analgesia (paracetamol/ ibuprofen if no contraindications)
- Discuss further investigation including need for imaging and urology referral with OPAT consultant
- Discuss with OPAT multi-disciplinary team. Consider routine ID clinic follow up as appropriate
- Ensure treatment plan and clinical outcome is shared with the patient's GP
- If recurrent urinary tract infections, consider ultrasound to ensure complete emptying
- Consider topical oestrogen in post-menopausal women and/ or methenamine as preventative strategies

OPAT lower UTI antibiotic flow chart

Female



Male



Note: Check British National Formulary (BNF) and manufacturer information for comprehensive list of cautions and contra-indications.

Specifically:

- Gentamicin and amikacin - avoid in previous aminoglycoside ototoxicity, myasthenia and if known genetic predisposition
- Ertapenem - avoid concurrent use with sodium valproate due to increased seizure risk