

URINARY TRACT INFECTIONS
Lower UTI /Cystitis
(i.e., no fever or flank pain, in men and women)

Organisms

- *Escherichia coli*, Coliforms, *Proteus mirabilis* *Staphylococcus saprophyticus*, *Enterococcus* spp.

Treatment

- Advise paracetamol or ibuprofen for pain.
- **Non-pregnant women:** back up antibiotic (to use if no improvement in 48 hours or symptoms worsen at any time) or immediate antibiotic.
- **In patients >65 years, do not treat asymptomatic bacteriuria** as it is not associated with increased morbidity.
- In the presence of a catheter, antibiotics **will not** eradicate bacteriuria; only treat if systemically unwell or pyelonephritis likely (see [Complicated UTIs](#)).

Community multi-resistant E. coli is increasing so send a pre-treatment MSU sample and review empirical treatment with the result in all treatment failures and if risk factors for increased resistance as below:

- Risk factors for increased resistance include:
 - >65yrs
 - Care home resident
 - Recurrent UTI
 - Recent travel to a country with increased antimicrobial resistance
 - Hospitalisation >7days in the last 6 months
 - Previously resistant organisms in urine
 - Treatment failures
- Multi-resistant isolates are usually resistant to amoxicillin, co-amoxiclav, cephalosporins, and may also be resistant to trimethoprim and quinolones. However, they are often susceptible to nitrofurantoin, pivmecillinam and fosfomycin.
- **Amoxicillin resistance is common** and there is also an increased risk of *Clostridium difficile* compared to first-line agents, therefore not routinely tested, or used.
- **Trimethoprim resistance** has increased locally such that it is no longer recommended for empiric treatment when risk factors for resistance are present (including age >65yrs).
- For all male patients, those with risk factors for more difficulty to clear infection³ treat for 7 days (or two fosfomycin doses 48 hours apart – on day 1 and day 3).
- For pregnant patients, see [UTI in Pregnancy](#), for children, see [UTI in Children](#).
- For patients with lower UTI symptoms and signs of systemic infections, see [Acute Pyelonephritis Guideline](#).
- The [TARGET antibiotics toolkit hub includes leaflets to discuss with patients, diagnostic tools](#), and other UTI resources.

Antibiotic Treatment for Adults and Non-pregnant Women

Drug	Dose	Duration of Treatment
First line: (avoid if eGFR<45ml/min – ineffective, if eGFR 30-45mls/min only use if no alternative with safety netting advice)		
Nitrofurantoin	100mg M/R BD (50mg QDS if MR caps unavailable)	Women: 3 days or 7days ³ Men: 7 days
Second line: If <65yrs and no risk factors for resistance:		
Trimethoprim	200mg BD	Women: 3 days or 7days ³ Men: 7 days
Second line: If ≥65yrs or risk factors for resistance		
Pivmecillinam ¹ Or Fosfomycin ^{1,2}	400mg stat then 200 mg TDS Women 3g one-off dose Men or risk factor ³ 3g stat day 1 plus a further 3g on day 3 (unlicensed, as per PHE guidance)	Women: 3 days or 7days ³ Men: 7 days Single dose As described
¹ Not recommended when CrCl<10ml/min.		
² Most effective when taken an hour before or two hours after food.		
³ Risk factors for more difficult to clear infection, diabetes mellitus, recurrent infections, those with structural or functional abnormality of the urinary tract, or recent urinary surgery/instrumentation (excluding urinary tract catheterisation)		

Version Control- Lower UTI/Cystitis			
Version	Author(s)	Date	Changes
V2.1	Shary Walker Interface and Formulary Pharmacist	29/04/22	1. Key points: male patients, diabetic, and those with structural/functional abnormality of the UTI 2. Added the links; Upper UTI, UTI in Pregnancy, & UTI in Children 3. Added links to antibiotics toolkit hub