

UNCOMPLICATED UTI IN ADULT NON-PREGNANT FEMALES V2.2

Comments from the Expert Advisory Group

- This guidance refers to uncomplicated urinary tract infections in adult non-pregnant females under 65 years. It does not apply to pregnant patients, male patients, patients with a catheter in-situ or acute pyelonephritis
- Empirical antibiotic choice should be tailored based on previous results (if available).
- Offer advice on hydration and pain relief (paracetamol and/ or ibuprofen if suitable)
- Consider delayed antibiotic prescription for use if symptoms worsen or do not improve over 48 hours.
- Refer to the [national Position Statements Dipstick Urinalysis for UTIs in Adults for guidance](#) for guidance on the role of dipstick urinalysis for assessment of UTI.
- Send MSU if failing to respond to treatment (i.e. after 48 hours of first line treatment) or if recent antimicrobial therapy as risk of antimicrobial resistance may be higher.
- Consider sexually transmitted infections, particularly in young people presenting with lower urinary tract symptoms.

Treatment

Choice of empirical therapy should be governed by local resistance rates where available. Patterns can vary substantially across the country

UNCOMPLICATED UTI IN ADULT NON-PREGNANT FEMALES EMPIRIC TREATMENT TABLE (i.e. no fever / flank pain)			
Drug	Dose	Duration	Notes
1st Choice Options			
Nitrofurantoin Immediate Release Capsules OR	50 mg every 6 hours	3 days*	*If history of recurrent infection or inadequate treatment response, consider extending treatment to 5 days. Nitrofurantoin is NOT a suitable antibiotic choice for Upper UTI.
Nitrofurantoin Prolonged Release Capsules	100 mg every 12 hours	3 days*	Nitrofurantoin is contraindicated in patients with eGFR < 30 mL/min/1.73 m ² . Immediate/ Prolonged Release should be stated on the prescription (see note below on formulation difference).
Alternative 1st Choice Options (if nitrofurantoin unsuitable)			
Cefalexin OR	500 mg every 12 hours	3 days	Cephalosporins should not be used in severe penicillin allergy
Trimethoprim	200 mg every 12 hours	3 days	Use only when risk of resistance is low i.e. where previous culture suggests susceptibility (and trimethoprim was not used) or in younger patients without a significant antibiotic exposure history. Risk of resistance is more likely in older people in residential facilities.
2nd Choice or alternative if recent resistance/ 1st choice agents unsuitable			
Fosfomycin	3 g	Single dose	Should ideally be taken at night, on an empty stomach, and empty bladder to maximise absorption and effectiveness

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Some considerations for antibiotic choice:

Nitrofurantoin is the preferred first choice if it is not contra-indicated. Nitrofurantoin resistance rates remain low in community *E.coli* UTIs throughout Ireland (including in ESBL-producing isolates) despite increasing resistance to other antibiotics.

Nitrofurantoin precautions

1. Tissue concentrations are too low for treatment of systemic infection, including pyelonephritis. It is only suitable for uncomplicated lower urinary tract infection and in lower CA-UTI where the patient is systemically well.
2. Nitrofurantoin should *not* be used in patients with severe renal impairment (CKD Stage 4/5, eGFR <30 mL/min/1.73m², Creatinine Clearance <30 mL/min) because of diminished urinary tract concentrations and increased risk of toxicity. Nitrofurantoin may be used with caution (as short-course therapy only) if there is a lesser degree of renal impairment (eGFR greater than 30 mL/min/1.73m²) to treat suspected or proven resistant pathogens, when the benefits are expected to outweigh the risks. In frail elderly patients with poor fluid intake and an infection, creatinine levels may deteriorate quickly so if a patient is dehydrated then established renal impairment may be further compromised.
3. Two nitrofurantoin formulations are available: nitrofurantoin immediate release capsules (MacroDantin[®]) and nitrofurantoin prolonged release capsules (MacroBid[®]). For the treatment of infection the prolonged release **MacroBid[®]** capsules are dosed twice daily whilst the standard **MacroDantin[®]** capsules are dosed four times daily. As ADVANZ PHARMA is the sole supplier of these products in Ireland, a stock management plan has been introduced to ensure patients in Ireland have access to these important medicines. Should any customer have difficulty in getting supply, ADVANZ PHARMA have advised pharmacists to contact their customer service line on +353 15294230 to allow them to assist in meeting patients' needs.

There is data to indicate that the rate of **trimethoprim** resistance in *E.Coli* in community urinary samples is high in particular in older people in residential care facilities. Empiric trimethoprim is therefore no longer recommended except where nitrofurantoin is unsuitable and the risk of resistance is low (e.g. where a previous urine culture has had a trimethoprim-susceptible isolate and trimethoprim has not been used, or in a young patient without a significant antibiotic exposure history).

Fosfomycin is suggested for use as a second-line agent e.g. for patients with symptoms not resolving on first-line agents. Many multi-resistant community UTI isolates (including ESBL-producing *E. coli*) remain susceptible to fosfomycin. To preserve the efficacy of this drug, its use should be limited to second-line treatment. Urine cultures should be sent prior to starting Fosfomycin treatment. Fosfomycin is not recommended in patients with creatinine clearance <10 mL/min.

Amoxicillin is **not** recommended as empiric therapy, as resistance rates in community *E. coli* UTIs are extremely high. Only use if amoxicillin susceptibility known.

Co-amoxiclav resistance in *E. coli* in community urine samples is high. In addition, it is a systemic agent and should be avoided in uncomplicated cystitis if a locally acting agent (e.g. nitrofurantoin) could be used instead.

Ciprofloxacin is a broad-spectrum antibiotic, associated with *C. difficile* infection and multiple adverse effects. It is not recommended for the empiric treatment of uncomplicated cystitis. It may be considered for targeted therapy of multi-resistant infections, where there are no other appropriate options.

Patient Information

[HSE A to Z Urinary tract infections](#)