

# RECURRENT UTI IN ADULT, NON-PREGNANT FEMALES V2.0

## Comments from the Expert Advisory Group

### Scope of this guidance

This guidance refers to non-pregnant adult females with a diagnosis of uncomplicated recurrent UTIs supported by laboratory evidence.

It does not apply to men, children under 16, pregnant women, those who are immunocompromised, those with anatomic or functional abnormalities of the urinary tract, those who self-catheterise or have indwelling catheters, or those who have signs or symptoms of an upper UTI.

N.B. Specialist opinion should be considered for patients with recurrent UTI. In particular, it is advisable to refer men, pregnant women and children under 16 for specialist opinion. Antimicrobial prophylaxis should only be considered in these groups following specialist advice.

### **This guideline refers to symptomatic culture-proven recurrent urinary tract infection (UTI).**

Recurrent lower urinary tract symptoms are often NOT due to infection, and it is important to consider other diagnoses, to avoid unnecessary antibiotic exposure.

- **Definition of recurrent UTI.** Recurrent UTI in adults is defined as 2 or more UTIs in the last 6 months or 3 or more UTIs in the last 12 months.
  - Evaluation of clinical features of recurrent UTIs should include sending a mid-stream urine (MSU) sample for culture.
  - Recurrent UTI may be due to relapse (same strain of bacteria) or reinfection (different strain or species of bacteria).
- **Persistent asymptomatic bacteriuria** is NOT the same as recurrent UTI
  - Urinary growth of bacteria in an asymptomatic individual (asymptomatic bacteriuria) is common, particularly in older people. It does NOT require treatment in most cases, except in pregnant women and prior to urological procedures, which breach the mucosa.
- **Recurrent or persistent lower urinary tract symptoms are not always due to recurrent UTI.** Many conditions can cause similar symptoms. Clinical examination is important to identify dermatological conditions affecting this area. In women who do not have laboratory evidence of UTI, consider:
  - Sexually-transmitted infections
  - Postmenopausal atrophic vaginitis
  - Vulvovaginal candidiasis
  - Vulval lichen sclerosis, psoriasis or other dermatological conditions
  - Vulvodinia

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## Treatment

### Non-antimicrobial measures

- In non-pregnant females with recurrent lower UTI, try non-antimicrobial measures prior to antimicrobial prophylaxis
- Give advice on **behavioural measures**, which may reduce the risk of recurrent UTI. Note that there is limited evidence for these interventions but, anecdotally, many patients find them effective:
  - Increase fluid intake
  - Vulval care: Vulval skin is easily irritated. Avoid use of potential irritants such as soaps, perfumes, talcs, cleansing wipes, disinfectants etc. Do not wash too often (once a day is usually sufficient). Use an emollient-based product or plain warm water to wash. Consider a barrier cream or ointment in incontinence.
  - Post-coital voiding
  - Do not habitually delay urination
  - Avoid constipation
  - Wipe from front to back after defaecation
- Consider **vaginal oestrogens** in post-menopausal women
- There is limited evidence that D-mannose 2 g once daily, an inert sugar which may prevent bacterial adhesion to urothelial cells, may be beneficial in preventing recurrent urinary tract infections. D-mannose is available to purchase but is not available on the GMS/ DPS scheme in Ireland. D-mannose may affect blood sugar levels in patients with diabetes.
- There is some limited evidence that methenamine hippurate, 1 g every 12 hours, may be effective for preventing UTI in patients without renal tract abnormalities, particularly when used for short-term prophylaxis. Methenamine is available in Ireland as an exempt medicinal product (i.e. unlicensed), and has a GMS unlicensed medicines code. This means it is GMS-reimbursable. As with antimicrobial prophylaxis, methenamine should be reviewed after 3-6 months with a view to de-prescribing.

### Antimicrobial Prophylaxis

- Antimicrobial prophylaxis, either **single-dose** (e.g. post-coital) or **continuous**, can be effective and should be considered if non-antimicrobial measures are unsuccessful. However, the side-effects of antibiotic prophylaxis should also be considered.
  - All antibiotics are associated with a risk of *C. difficile* infection
  - Long-term nitrofurantoin use is associated with multiple adverse effects, including liver damage, pulmonary fibrosis and peripheral neuropathy. Patients on long-term nitrofurantoin should be monitored closely for these conditions and treatment should be withdrawn if they emerge.
- Review all UTI antimicrobial prophylaxis after 3-6 months with a view to de-prescribing, irrespective of whether it was started by a GP or a specialist. There is limited evidence of any additional benefit from such prophylaxis beyond 3-6 months. There is significant evidence of harm.
- In patients with **an identifiable trigger** (e.g. sexual intercourse), single-dose prophylaxis (e.g. post-coital) is as effective as continuous prophylaxis in preventing recurrent UTI, but with fewer side-effects, and should thus be the preferred option.
- While there is no evidence for the effectiveness of **“standby” antibiotics** (i.e. a course of antibiotics to keep at home to take if UTI symptoms develop), there is evidence that self-diagnosis of cystitis has a high positive predictive value and the rationale for this approach is to facilitate early treatment. Thus, it may be appropriate to use standby antibiotics in selected patients.

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- When a trial of antimicrobial prophylaxis is given, **advise the patient** regarding:
  - The risk of resistance with long term antibiotics
  - The possible adverse effects of long term antibiotics
  - The need to seek medical help if symptoms of an upper UTI develop
  - The review process at 3-6 months with a view to de-prescribing
- [An audit tool has been developed to aid regular review of patients receiving antimicrobial urinary prophylaxis.](#)
- [Further information on de-prescribing of antimicrobial urinary prophylaxis is available.](#)

### RECURRENT UTI IN ADULT NON-PREGNANT FEMALES TREATMENT TABLE

- **Check patient's recent susceptibility results before choosing antibiotic –only prescribe an agent with confirmed susceptibility.**
- **All recurrent UTI prophylaxis should be reviewed after 3 to 6 months with a view to de-prescribing.**

Drug	Single Dose Following Exposure to Trigger	Continuous Prophylaxis Dose	Notes
<b>1<sup>st</sup> Choice Options</b>			
Nitrofurantoin	100 mg (single dose)	50 – 100 mg every 24 hours at night.	Nitrofurantoin is contraindicated in patients with eGFR $\leq$ 45 mL/min/1.73 m <sup>2</sup>
Trimethoprim	200 mg (single dose)	100 mg every 24 hours at night	Monitor full blood count when on trimethoprim long term.
<b>2<sup>nd</sup> Choice Options</b>			
Amoxicillin	500 mg (single dose)	250 mg every 24 hours at night	Avoid in penicillin allergy.
Cefalexin	500 mg (single dose)	125 mg every 24 hours at night	Cephalosporins should not be used in severe penicillin allergy Cefalexin 125 mg is only available as a liquid.

## Patient Information

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