



# Antibiotic Stewardship Programme in Primary Care

## Guidance Notes — Acute Uncomplicated Cystitis in Women

### Role of antibiotics:

1. Acute uncomplicated cystitis in this Guidance Notes is defined as an uncomplicated lower urinary tract infection (UTI) in a pre-menopausal, non-pregnant woman with no known urological abnormalities or comorbidities.
2. In women who present with 1 or more symptoms of UTI, the probability of infection is approximately 50%. Specific combinations of symptoms (e.g. dysuria and frequency without vaginal discharge or irritation) raise the probability of UTI to more than 90%, effectively ruling in the diagnosis based on history alone.
3. Empirical antibiotic treatment is indicated based on clinical judgement. *Escherichia coli* is the predominant causative pathogen (80%).
4. Antibiotic treatment is not required for asymptomatic bacteriuria except in pregnancy or before urological procedures for which mucosal bleeding is anticipated.

### Practical tips:

5. Family doctors should enquire about fever, flank pain, vaginal discharge, last menstrual period (LMP), and also patient's sexual history and past medical history (e.g. history of UTIs, diabetes mellitus, presence of indwelling urinary catheters, immunocompromised conditions, underlying urological abnormalities) which might be suggestive of a diagnosis other than simple bacterial cystitis (e.g. vaginitis, urethritis, structural urethral abnormalities, painful bladder syndrome (interstitial cystitis), pelvic inflammatory disease and nephrolithiasis).
6. Dipstick urinalysis can be useful to support the diagnosis if the clinical presentation is not typical. In women with uncomplicated UTI, the negative predictive value of urine dipstick testing when nitrite, leucocytes, and blood are all negative was 73%. The positive predictive value for having nitrite and either blood or leucocytes was 92%.
7. Urine cultures are recommended for women who present with atypical symptoms, or symptoms that do not resolve or that recur within two to four weeks after the completion of treatment, and for women with suspected acute pyelonephritis.

## Recommended antibiotic treatment for acute uncomplicated cystitis in women\*:

Drug (Route)	Dosage and Frequency (Usual)	Duration (Usual)	Remarks
<b>First line</b>			
<b>Nitrofurantoin (oral)</b>	50 mg four times daily	5-7 days	<ul style="list-style-type: none"> <li>Nitrofurantoin is an appropriate choice for therapy due to low local resistance rate and is less likely to select drug-resistant organisms.</li> <li>It is contraindicated in patients with eGFR of less than 45 ml/minute.</li> </ul>
<b>Amoxicillin-clavulanate (oral)</b>	250 mg/125 mg three times daily or 875 mg/125 mg twice daily	5-7 days	<ul style="list-style-type: none"> <li>Beta-lactam agents are appropriate choices for therapy even if there is intermediate susceptibility because they are physiologically concentrated in urine.</li> </ul>
<b>Second line</b>			
<b>Cefuroxime (oral)</b>	500 mg twice daily	5-7 days	<ul style="list-style-type: none"> <li>Beta-lactam agents are appropriate choices for therapy even if there is intermediate susceptibility because they are physiologically concentrated in urine.</li> </ul>
<b>Levofloxacin (oral)</b>	250 mg once daily	3 days	<ul style="list-style-type: none"> <li>Fluoroquinolones should be reserved for use in patients who have no other treatment options for acute uncomplicated cystitis because the risk of serious side effects (e.g. joint or tendon pain, muscle weakness, tingling or pricking sensation, numbness in the arms or legs, confusion, and hallucinations) generally outweighs the benefits.</li> </ul>
<b>Ciprofloxacin (oral)</b>	250 mg twice daily	3 days	
<b>Ofloxacin (oral)</b>	200 mg twice daily	3 days	
<b>Sulfamethoxazole-trimethoprim (oral)</b>	960 mg twice daily	3 days	<ul style="list-style-type: none"> <li>Sulfamethoxazole-trimethoprim is not recommended as the first line agent given the high local resistance.</li> <li>Beware of possible adverse reactions (e.g. skin rash).</li> </ul>

\* Clinicians should tailor-make drug treatment based on clinical judgement. Definitive therapy should be based on microbiological and antibiotic sensitivity results if available.



**Disclaimer:**

This guidance notes is intended for medical professionals for reference only and is not intended to be prescriptive or a substitute for clinical judgement on management of individual patient. It is not a complete authoritative diagnostic or treatment guide. Medical professionals are recommended to obtain relevant information from other sources, and provide patient management based on clinical judgement.

This guidance notes will be kept updating thereafter. Please visit the website of Centre for Health Protection, Department of Health for the latest update and other information. The Department of Health gratefully acknowledges the invaluable support and contribution of the Advisory Group on Antibiotic Stewardship in Primary Care in the development of this guidance notes.

