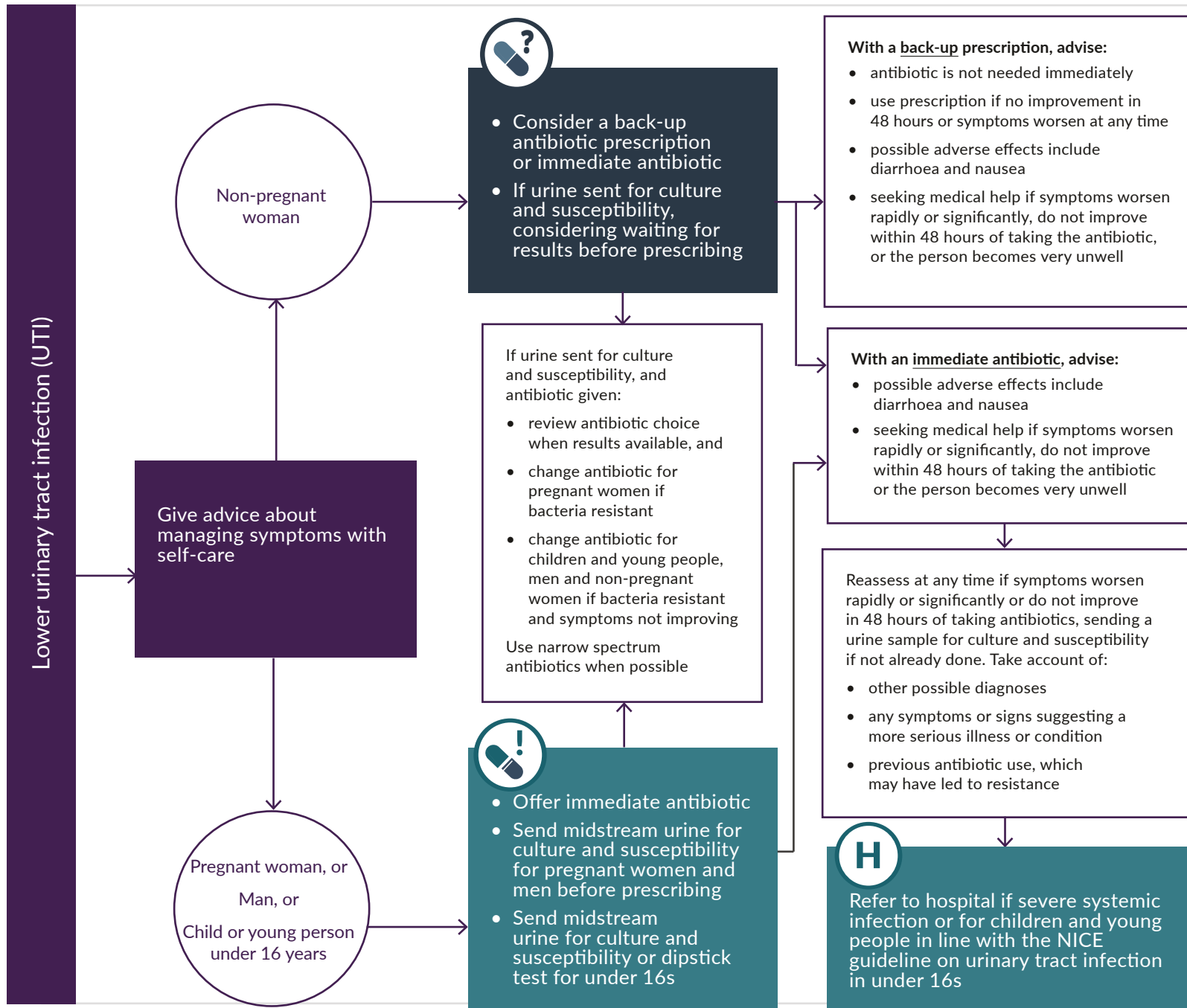


# UTI (lower): antimicrobial prescribing



## **i** Self-care

- Consider paracetamol for pain or, if preferred and suitable, ibuprofen
- Advise an adequate intake of fluid
- Explain no evidence found for cranberry products

## **Background**

- Lower UTI (cystitis) is an infection of the bladder usually caused by bacteria travelling up the urethra from the gastrointestinal tract
- People at higher risk of complications include those with abnormalities of the genitourinary tract or underlying disease (such as diabetes or immunosuppression)

## **Asymptomatic bacteriuria**

- Asymptomatic bacteriuria is clinically significant levels of bacteria in urine with no UTI symptoms
- Screened for and treated in pregnant women because risk factor for pyelonephritis and premature delivery
- Not screened for or treated in non-pregnant women, men, children or young people

NICE uses 'offer' when there is more certainty of benefit and 'consider' when evidence of benefit is less clear.

# UTI (lower): antimicrobial prescribing

## Choice of antibiotic: non-pregnant women aged 16 years and over

Antibiotic <sup>1</sup>	Dosage and course length <sup>2</sup>
First choice <sup>3</sup>	
Nitrofurantoin - if eGFR ≥45 ml/minute	50 mg four times a day or 100 mg modified-release twice a day for 3 days
Trimethoprim - if low risk of resistance and not used in past 3 months	200 mg twice a day for 3 days
Second choice (no improvement in lower UTI symptoms on first choice taken for at least 48 hours, or when first choice not suitable) <sup>3, 4</sup>	
Nitrofurantoin – if eGFR ≥45 ml/minute and not first choice	50 mg four times as day or 100 mg modified-release twice a day for 3 days
Pivmecillinam	400 mg initial dose, then 200 mg three times a day for a total of 3 days
Fosfomycin	3 g single dose sachet
<sup>1</sup> See <a href="#">BNF</a> for use and dosing in specific populations, for example, hepatic impairment, renal impairment and breast-feeding. <sup>2</sup> Doses given are by mouth using immediate-release medicines, unless otherwise stated. <sup>3</sup> Check any previous urine culture and susceptibility results and antibiotic prescribing and choose antibiotics accordingly. <sup>4</sup> If there are symptoms of pyelonephritis or sepsis, see the recommendations on choice of antibiotic in the NICE guideline on acute pyelonephritis.	
Abbreviations: eGFR, estimated glomerular filtration rate.	

## Choice of antibiotic: children and young people under 16 years

Antibiotic <sup>1</sup>	Dosage and course length <sup>2</sup>
Refer <b>children under 3 months</b> to paediatric specialist and treat with intravenous antibiotics in line with the NICE guideline on <a href="#">fever in under 5s</a>	
<b>Children aged 3 months and over</b> - First choice <sup>3, 4</sup>	
Trimethoprim – if low risk of resistance and not used in past 3 months	3 to 5 months, 4 mg/kg or 25 mg twice a day for 3 days 6 months to 5 years, 4 mg/kg or 50 mg twice a day for 3 days 6 to 11 years, 4 mg/kg or 100 mg twice a day for 3 days 12 to 17 years, 200 mg twice a day for 3 days
Nitrofurantoin - if eGFR ≥45 ml/minute <sup>5</sup>	3 months to 11 years, 750 micrograms/kg four times a day for 3 days 12 to 17 years, 50 mg four times a day or 100 mg modified-release twice a day for 3 days
<b>Children aged 3 months and over</b> - Second choice (worsening lower UTI symptoms on first choice taken for at least 48 hours or when first choice not suitable) <sup>3, 4, 5</sup>	
Nitrofurantoin – if eGFR ≥45 ml/minute and not first choice	3 months to 11 years, 750 micrograms/kg four times a day for 3 days 12 to 17 years, 50 mg four times a day or 100 mg modified-release twice a day for 3 days
Cefalexin	3 to 11 months, 12.5 mg/kg or 125 mg twice a day for 3 days 1 to 4 years, 12.5 mg/kg twice a day or 125 mg three times a day for 3 days 5 to 11 years, 12.5 mg/kg twice a day or 250 mg three times a day for 3 days 12 to 17 years, 500 mg two or three times a day for 3 days
Amoxicillin (only if culture results available and susceptible)	1 to 11 months, 125 mg three times a day for 3 days 1 to 4 years, 250 mg three times a day for 3 days 5 to 11 years, 500 mg three times a day for 3 days 12 to 17 years, 500 mg three times a day for 3 days
<sup>1</sup> See <a href="#">BNF for children</a> for use and dosing in specific populations, for example, hepatic impairment and renal impairment. <sup>2</sup> The age bands apply to children of average size and, in practice, the prescriber will use these with other factors such as the severity of the condition and the child's size in relation to the average size of children of the same age. Doses given are by mouth using immediate release medicines, unless otherwise stated. <sup>3</sup> Check previous urine culture and susceptibility results and antibiotic prescribing. Where a child or young person is receiving prophylactic antibiotics, treatment should be with a different antibiotic, not a higher dose of the same antibiotic. <sup>4</sup> If 2 or more antibiotics are appropriate, choose the antibiotic with the lowest acquisition cost. <sup>5</sup> If symptoms of pyelonephritis or sepsis, see the NICE guideline on acute pyelonephritis.	
Abbreviations: eGFR, estimated glomerular filtration rate.	

# UTI (lower): antimicrobial prescribing

## Choice of antibiotic: pregnant women aged 12 years and over

Antibiotic <sup>1</sup>	Dosage and course length <sup>2</sup>
First choice for treating lower UTI <sup>3</sup>	
Nitrofurantoin - if eGFR $\geq$ 45 ml/minute	50 mg four times as day or 100 mg modified-release twice a day for 7 days
Second choice for treating lower UTI (no improvement in lower UTI symptoms on first choice taken for at least 48 hours or when first choice not suitable) <sup>3,5</sup>	
Cefalexin	500 mg twice a day for 7 days
Amoxicillin (only if culture results available and susceptible)	500 mg three times a day for 7 days
Alternative second choices	Consult local microbiologist, choose antibiotics based on culture and susceptibility results
Treating asymptomatic bacteriuria	
Choose from cefalexin, amoxicillin or nitrofurantoin based on recent culture and susceptibility results	
<sup>1</sup> See BNF for appropriate use and dosing in specific populations, for example, hepatic impairment and renal impairment.	
<sup>2</sup> Doses given are by mouth using immediate-release medicines, unless otherwise stated.	
<sup>3</sup> Check any previous urine culture and susceptibility results and antibiotic prescribing and choose antibiotics accordingly.	
<sup>4</sup> Avoid at term in pregnancy; may produce neonatal haemolysis (BNF, April 2018).	
<sup>5</sup> If there are symptoms of pyelonephritis or sepsis, see the recommendations on choice of antibiotic in the NICE guideline on acute pyelonephritis.	
Abbreviations: eGFR, estimated glomerular filtration rate.	

## Choice of antibiotic: men aged 16 years and over

Antibiotic <sup>1</sup>	Dosage and course length <sup>2</sup>
First choice <sup>3</sup>	
Trimethoprim	200 mg twice a day for 7 days
Nitrofurantoin - if eGFR $\geq$ 45 ml/minute <sup>4</sup>	50 mg four times as day or 100 mg modified-release twice a day for 7 days
Second choice (no improvement in UTI symptoms on first choice taken for at least 48 hours or when first choice not suitable) <sup>3</sup>	
Consider alternative diagnoses and follow recommendations in the NICE guideline on acute pyelonephritis or acute prostatitis, basing antibiotic choice on recent culture and susceptibility results.	
<sup>1</sup> See BNF for appropriate use and dosing in specific populations, for example, hepatic impairment and renal impairment.	
<sup>2</sup> Doses given are by mouth using immediate-release medicines, unless otherwise stated.	
<sup>3</sup> Check any previous urine culture and susceptibility results and antibiotic prescribing and choose antibiotics accordingly.	
<sup>4</sup> Nitrofurantoin is not recommended for men with suspected prostate involvement because it is unlikely to reach therapeutic levels in the prostate.	
Abbreviations: eGFR, estimated glomerular filtration rate.	