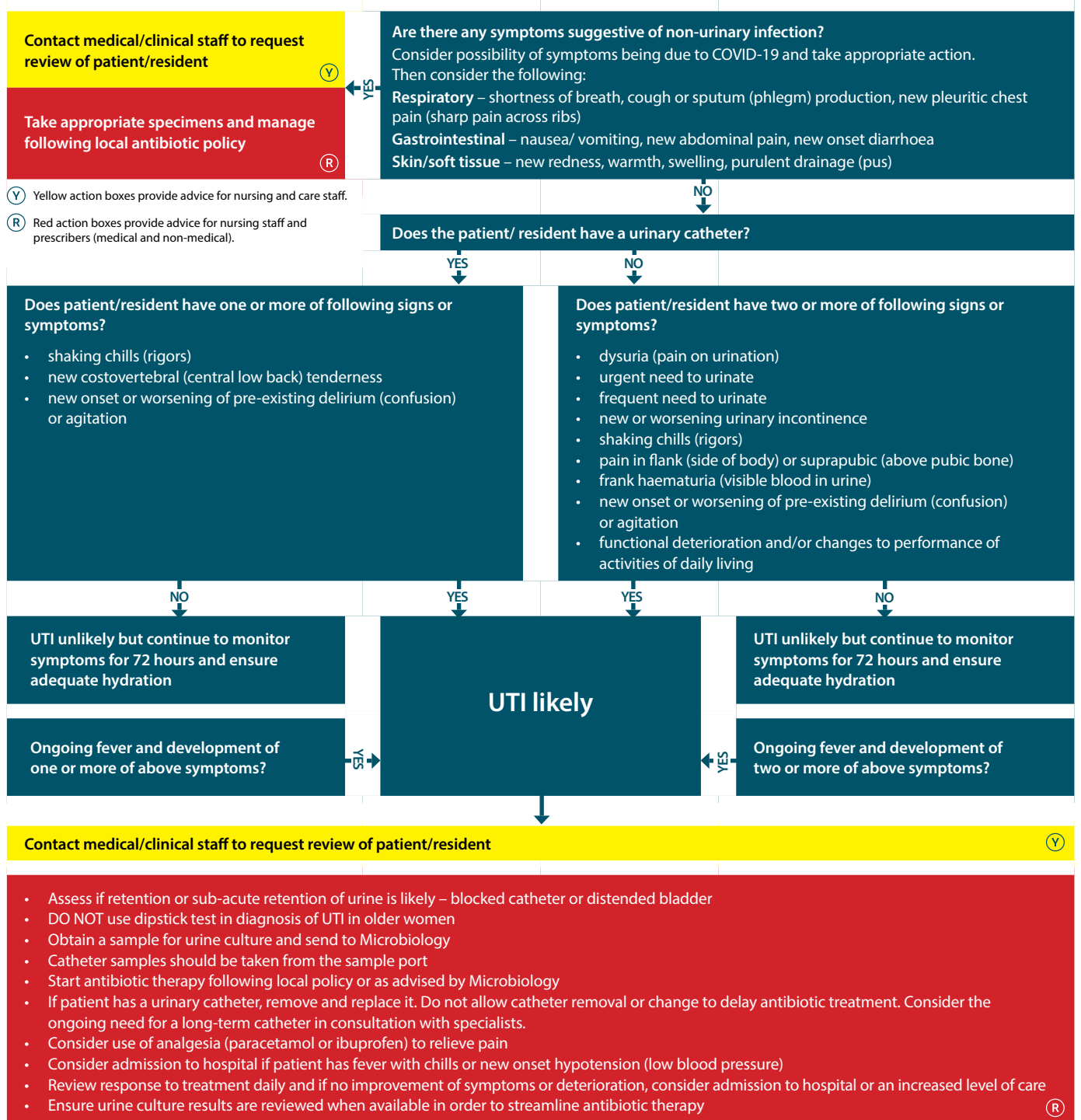


# Decision aid for diagnosis and management of suspected urinary tract infection (UTI) in people aged 65 years and over

This flowchart has been designed to help nursing and care staff and prescribers manage patients/residents with urinary tract infection. Dipstick testing should not be used to diagnose UTI in patients over 65 years. If a patient/resident has a fever (defined as temperature >37.9°C or 1.5°C increase above baseline occurring on at least 2 occasions in last 12 hours) this suggests they have an infection. Hypothermia (low temperature of <36°C) may also indicate infection, especially in those with co-morbidities (heart or lung disease, diabetes). Some patients/residents may also have non-specific symptoms of infection such as abdominal pain, alteration of behaviour, delirium (confusion) or loss of diabetes control. The information overleaf provides good practice points and evidence sources for prescribers.



## Good practice points

### Urine culture

- Older people often have asymptomatic bacteriuria (no symptoms but bacteria in urine) which does not indicate infection.
- Dark or foul smelling urine alone does not mean infection, and may be a sign of dehydration.
- Do not perform urine dipsticks as they become more unreliable with increasing age over 65 years.
- Do not send catheter specimens of urine (CSU) unless patient has signs and symptoms of infection as CSU samples will almost always have bacteriuria (bacteria in urine).
- Review urine culture results to check organism is sensitive to antibiotic prescribed and change to an alternative antibiotic if necessary.
- Interpretation of the urine culture results – high epithelial cell count or heavy mixed growth may indicate contamination. Ensure correct sampling process is followed and take repeat urine sample if clinically indicated.
- Be alert to UTI due to resistant organisms such as Extended Spectrum Beta-Lactamase E. coli. Microbiology will provide advice on treatment options. In patients with a previous ESBL UTI discuss with Microbiology the potential treatment options should the patient become symptomatic again.
- Do not send urine samples for post-antibiotic checks or clearance of infection.

### Prophylaxis of UTI

- The evidence base supporting antibiotic use for prophylaxis of UTI is **not strong**; all studies were conducted pre-2000 and none evaluated patients beyond one year.
- Women who do not have a catheter and have more than three UTIs within a 12 month period **may** be considered for a trial of nightly antibiotic prophylaxis with trimethoprim or nitrofurantoin. The risk of adverse effects versus the potential benefit needs to be considered carefully.
- Long term antibiotics prescribed for UTI prophylaxis do promote resistance and there is no evidence to support their use beyond 3-6 months. Therefore ongoing clinical need should be reviewed after 6 months.
- Cranberry products may be considered as an alternative but evidence of their efficacy is lacking.
- In post-menopausal women consider the possibility of recurrent symptoms being associated with vaginal atrophy or prolapse. Clinical examination is important to rule these out.

### Reference

SIGN 160: Management of suspected bacterial lower urinary tract infection in adult women, includes a section on women over 65 years which provides further information and evidence.

[https://www.sign.ac.uk/media/1766/sign-160-uti-0-1\\_web-version.pdf](https://www.sign.ac.uk/media/1766/sign-160-uti-0-1_web-version.pdf)

NICE Urinary tract infection (lower) - men, provides useful information specific to UTI in men

<https://cks.nice.org.uk/topics/urinary-tract-infection-lower-men>

### Antibiotic therapy

- Older people are vulnerable to infection, particularly *Clostridioides difficile* infection, therefore use of broad spectrum antibiotics such as ciprofloxacin, co-amoxiclav and cephalosporins should be avoided if possible.
- First choice antibiotics for uncomplicated lower UTI in non-catheterised patients are trimethoprim or nitrofurantoin. Recommended course duration is 3 days in women and 7 days in men.
- BNF suggests avoid nitrofurantoin if eGFR <45ml/min/1.73m<sup>3</sup> but can be used with caution if GFR 30-44ml/min/1.73m<sup>3</sup> as a short course only (3-7 days). Nitrofurantoin should be used with caution in patients with interstitial lung disease due to the increased risk of adverse effects.
- In catheterised patients with symptoms of UTI, a seven day course of antibiotics, following local antibiotic guidelines is recommended. In some patients a shorter 3-day course may be considered based on severity of symptoms.
- Consider changing the catheter if it has been in place for more than 7 days but do not delay antibiotic treatment.
- The national catheter passport should be used to support good practice
- Second choice antibiotics should always be guided by urine culture and history of antibiotic use.