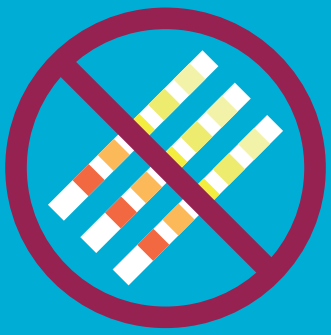
Staff Handbook

Assessment of Older People for Urinary Tract Infection (UTI)



SKIP THE DIP

for urinary tract infections in over 65s

RESIST

A quality improvement initiative to increase awareness of current best-practice guidance in assessment of people aged 65 years and older for UTI

FOREWORD

Antimicrobial resistance is recognised as one of the greatest potential threats to human health.

Reduction of harm in relation to antibiotic use and antimicrobial resistance is a key priority for the HSE.

Urinary tract infection (UTI) is a common infection in older people that prompts the use of antibiotics.

The HSE “SKIP THE DIP for Urinary Tract Infections in over 65s” quality improvement initiative aims to increase awareness of current best-practice guidance in the assessment of older people for UTI.

Acknowledgements:

HSE Community Antimicrobial Pharmacists for developing the ‘Skip the Dip for UTI in over 65s’ quality improvement initiative.

The UK NHS ‘To Dip or Not to Dip’ Campaign and Nottingham University Hospitals NHS Trust.

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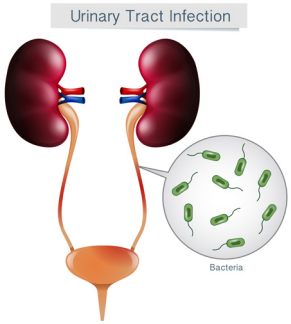
Introduction to Urinary Tract Infection (UTI)



A urinary tract infection occurs when bacteria in any part of the urinary (kidney-bladder) system causes a person to feel unwell.

UTI is caused by bacteria entering the bladder through the urethra and multiplying within the urine in the bladder. Bacteria may also travel up to the kidneys and cause a kidney infection (pyelonephritis) which can lead to blood stream infection and possibly sepsis.

These bacteria are usually our own bowel bacteria. The bacteria may also be introduced through the presence of a urinary catheter.

UTI is one of the most common indications for antibiotics in older people. Older people can be more vulnerable to infection, may have multiple co-morbidities, continence issues and in some instances temporary or indwelling urinary catheters. All of these factors increase the risk of UTI.

Accurate diagnosis and treatment of UTI is a key priority for the HSE due to increasing antimicrobial resistance and challenges in treating complicated UTI. Prompt treatment of UTI in people who are systemically unwell is important to prevent complications.

Many other conditions can also be mistaken for a UTI. Consider other causes of urinary symptoms. These include infective and non-infective conditions. Some infective causes include prostatitis, epididymo-orchitis and sexually transmitted infections. Non-infective causes include benign prostatic hyperplasia and overactive bladder. A common cause of UTI symptoms in older women is the genitourinary syndrome of menopause. There is good evidence to show that vaginal oestrogen is effective for treating symptoms of vaginal dryness and irritation associated with menopause, and reduces recurrence of UTI.

Signs and symptoms of UTI

The signs and symptoms in older people of a UTI can differ depending on whether they have a urinary catheter or not.

Without a urinary catheter

If the service user has

- New onset dysuria alone OR two or more of[a]:
- New urinary frequency
- New urinary urgency
- New onset urinary incontinence
- New suprapubic / flank pain or tenderness
- Fever (temperature more than 37.9 °C, or 1.5 °C above baseline) OR shaking / chills twice in last 12 hours[b]
- New onset or worsening delirium / debility (confusion / agitation / functional deterioration) or change from baseline[b]
- Visible haematuria (if trauma / other causes excluded)

With a urinary catheter

If the service user has any of the following new symptoms[a]:

- New suprapubic / flank pain or tenderness
- Fever (temperature more than 37.9 °C, or 1.5 °C above baseline) OR shaking / chills twice in last 12 hours[b]
- New onset or worsening delirium / debility (confusion / agitation/ functional deterioration) or change from baseline[b]
- Visible haematuria (if trauma / other causes excluded)

[a] Non-verbal adults may not reach the criteria threshold; clinical judgement is advised

[b] If fever or chills, and / or delirium or debility only: consider other causes before treating for UTI (Box 1 and 2 on page 6)

Signs and symptoms of UTI

Box 1: **Check for other causes of delirium if relevant (PINCH ME)**

☐ **P**:	Pain
☐ **IN**:	**Infection**[c]
☐ **C:**	Constipation
☐ **H**:	Hydration and Nutrition (Is there major electrolyte imbalance?)
☐ **M**:	Medication (e.g. hypnotics, opioids)
☐ **E**:	Environment change

Box 2: Consider other sources of infection, if relevant

[c] Are there any symptoms suggestive of non-urinary infection such as?

- Respiratory - shortness of breath, cough or sputum production, new pleuritic chest pain
- Gastrointestinal - nausea or vomiting, new abdominal pain, new onset diarrhoea
- Skin or soft tissue infection - new redness, warmth, swelling, purulent drainage

If yes, medical review is advised and manage according to guidelines on www.antibioticprescribing.ie

Refer to decision aid on page 14 for more information

Why SKIP THE DIP for UTI in over 65s?

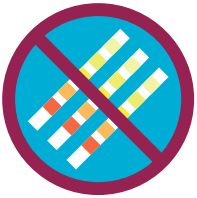
Bacteria can live in the urinary tract of older people without causing an infection.

Approximately half of persons aged 65 years or older, without symptoms of a UTI, will show urine dipstick positive for nitrites or leucocyte esterase. This is called asymptomatic bacteriuria. This is not harmful in the absence of signs and symptoms of infection.

Antibiotics provide no benefit in asymptomatic bacteriuria in older persons and may cause harm.

For all persons aged 65 years and older, the use of urine dipstick tests in assessing for evidence of a UTI is not a useful guide to management and is not recommended. (1)

In asymptomatic bacteriuria, a urine culture may also show presence of bacteria, but this may not always indicate there is a current infection. Always focus on current clinical signs and symptoms to assess for UTI. Only send urine culture for SYMPTOMATIC patients. The clinical assessment determines whether to treat. The urine culture can help in determining how to treat.



Urine dipsticks are likely to be positive if there are bacteria in urine, whether they are causing an infection or not.

(1) HSE position statements on Use of Dipstick Urinalysis to Assess for Evidence of Urinary Tract Infection in Adults (refer to www.antibioticprescribing.ie).

Myths and truths about UTI

MYTH	TRUTH
Dark or smelly urine = UTI	Dark or smelly urine is not an indicator of UTI in the absence of signs and symptoms, and is likely due to dehydration
Urine should be sterile, therefore bacteria in the urine = UTI	Urine is not sterile, asymptomatic bacteriuria is common. Incidence of asymptomatic bacteriuria increases with age: • Up to 50% of people over 65 years of age • Up to 100% of people catheterised for over 4 weeks

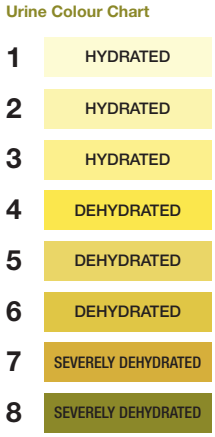
What about hydration?

Keeping urine flowing through the bladder regularly is one of the main ways of protecting the body against urinary tract infections.

Maintaining hydration in older adults is very important to reduce the risk of urinary tract infections, as they are particularly vulnerable to dehydration. Preventing dehydration and recognising the potential signs of dehydration are key interventions that you can make to reduce the risk of UTI in the service users you care for.

Signs of dehydration may include:

- Increased thirst
- Dry lips or mouth
- Dry and loose skin
- Headache
- Dizziness
- Tired or sleepy
- Strong smelling or dark urine
- Decreased urine output



Darker urine on the urine colour chart may indicate dehydration. In service users who are not fluid restricted, increasing fluid intake can help prevent UTIs.

What about hydration?

Some strategies to encourage hydration include:

- ensure service users have consistent access to a variety of fresh fluids they like throughout the day, for example, water, milk, unsweetened juice, tea, coffee, soup, homemade fruit smoothies, etc. Water should be first preference.
- women should drink at least 1.6 litres and men 2 litres of fluid a day (about 8 cups) if not on fluid restriction.
- monitor for fluid loss during hot weather.
- if needed, consider adding suitable fluid rich foods, such as soups, jelly, custard, ice cream, fruit, sauces etc.
- encourage all healthcare staff to promote fluid intake throughout the day by supporting and encouraging service users to drink fluids at regular intervals.

Antibiotics: more harm than good?

Antibiotics can be life-saving, and in many instances they are an essential component for the management of true UTI in older people, but they are not always needed for all urinary symptoms.

Antibiotics are a precious resource - the more we use them, the less they work due to resistant bacteria emerging.

To keep antibiotics working, it's important that we only use them when there is clinical evidence of an infection.

Giving antibiotics for asymptomatic bacteriuria means an older person is five times more likely to experience side-effects (2), such as rash, stomach upset and thrush.

Antibiotics can also cause *Clostridioides difficile infection* (C. diff), a potentially life-threatening bowel infection.

Antibiotics may have significant drug interactions with other medications the service user may be taking (seek advice from pharmacist).

(2) Krzyzaniak N et al. Antibiotics versus no treatment for asymptomatic bacteriuria in residents of aged care facilities: a systematic review and meta-analysis. British Journal of General Practice, September 2022

How do I assess for UTI without a dipstick test?

- Focus on the signs and symptoms of UTI.
- The *Decision aid for management of suspected urinary tract infection (UTI) in community settings: for adults aged 65 years and over or adults with a urinary catheter* is a tool to support the evaluation and management of a service user with suspected UTI (see page 14).
- In suspected UTIs with non-specific signs and symptoms, consider other possible causes. For example, dehydration or, in women, vaginal atrophy (where topical oestrogen may be of benefit).
- If there are specific signs and symptoms of a UTI, follow the decision aid algorithm in conjunction with medical advice.
- If there are signs of sepsis, or if symptoms worsen, seek immediate medical advice.

For guidance on the use of antibiotics for urinary tract infection refer to **www.antibioticprescribing.ie**

In Summary

1. **Bacteria in the urine can be normal in older people.**
2. **Urine dipsticks are *not* recommended to assess for evidence of UTI in people 65 years of age and older.**
3. **Diagnosis of a UTI should be made on clinical assessment of signs and symptoms.**
4. **Use the decision aid to guide the management of suspected UTI in older persons.**
5. **Using antibiotics when you don't need them can cause unnecessary side effects and promote antimicrobial resistance.**

Decision aid for management of suspected urinary tract infection (UTI) in community settings: for adults aged 65 years and over or adults with a urinary catheter

RESIST

- Do not perform dipstick urinalysis
- Focus on clinical signs and symptoms to guide management
- Only send urine culture for SYMPTOMATIC patients

- Bacteria can live in the urinary tract and not cause infection. Up to half of elderly patients with no symptoms will have a positive dipstick urinalysis and urine culture, without a UTI

UTI suspected (urinary signs and symptoms, abnormal temperature, non-specific signs and symptoms)

Do not perform dipstick urinalysis. Focus on clinical signs and symptoms.

Consider other causes of urinary symptoms. Infective: prostatitis, epididymo-orchitis, sexually transmitted infections.
Non-Infective: genitourinary syndrome of menopause (GSM) [1], benign prostatic hyperplasia, overactive bladder.
[1]In women with symptoms suggestive of GSM, vaginal oestrogen should be considered.

Could this be sepsis? Check for signs and symptoms

Yes → Urgent medical review and transfer to acute hospital for evaluation, diagnosis and management if in line with the patient's wishes.

No

Does the patient meet the following criteria?

NO URINARY CATHETER

- ☐ **New onset dysuria alone OR 2 or more of [2]:**
- ☐ New urinary frequency
- ☐ New urinary urgency
- ☐ New onset incontinence
- ☐ New suprapubic/flank pain or tenderness
- ☐ Fever (Temperature >37.9°C, or 1.5°C above patient's baseline) or shaking chills, twice in the last 12 hours[3]
- ☐ New onset or worsening delirium/ debility (confusion/ agitation/ functional deterioration) or change from baseline[3]
- ☐ Visible haematuria(if trauma/other causes excluded)

URINARY CATHETER

If patient has any of the following new symptoms [2]:

- ☐ New suprapubic/flank pain or tenderness
- ☐ Fever (Temperature >37.9°C, or 1.5°C above patient's baseline) OR shaking chills, twice in the last 12 hours[3]
- ☐ New onset or worsening delirium/ debility (confusion/ agitation/ functional deterioration) or change from baseline[3]
- ☐ Visible haematuria (if trauma/other causes excluded)

Check for catheter blockage AND consider catheter removal or replacement

[2] Non-verbal adults may not reach the criteria threshold; clinical judgement is advised
[3] If fever/chills and / or delirium/debility only: consider other causes before treating for UTI (Box 1 and 2 below)

Yes → **UTI LIKELY (lower UTI or pyelonephritis / upper UTI)**

- Medical review advised
- Don't perform dipstick urinalysis
- Send urine for culture if symptomatic (pre-antibiotics, if feasible). Take catheter samples from sample port

Antibiotic treatment:

a) If mild symptoms, consider back-up antibiotics in women without catheter and with low risk of complications **OR**

b) Offer immediate antibiotics as per www.antibioticprescribing.ie

- Review antibiotic choice when culture result available, and in accordance with treatment response
- Ensure adequate hydration
- For catheter-associated UTI, review ongoing need for the catheter. If catheter has been in place for > 2 weeks and is still indicated, it should be replaced whilst on antibiotics
- **If worsening symptoms, consider sepsis and escalate appropriately (See sepsis box above)**

Consider pyelonephritis / upper UTI
(Immediate antibiotics indicated as per www.antibioticprescribing.ie)
Check for signs and symptoms:
- Flank pain which radiates to iliac fossa and suprapubic area
- Tenderness and guarding over kidney
- Sudden onset general systemic disturbance with fever / rigors / nausea / vomiting

No → **UTI UNLIKELY**

- Consider other causes of symptoms (Box 1 and 2 below)
- Provide safety netting to patient and monitor
- Ensure adequate hydration
- Re-evaluate if symptoms worsen

Box 1: Check for other causes of delirium if relevant (PINCH ME)

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Box 2: Consider other sources of infection, if relevant

[4] Are there any symptoms suggestive of non-urinary infection such as?

- Respiratory - shortness of breath, cough or sputum production, new pleuritic chest pain
- Gastrointestinal - nausea/vomiting, new abdominal pain, new onset diarrhoea
- Skin/soft tissue - new redness, warmth, swelling, purulent drainage

If yes, medical review is advised and manage according to guidelines on www.antibioticprescribing.ie

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