

# UTI's & Delirium



A Urinary Tract Infection (UTI) is an infection of any part of the urinary tract (Kidneys, Ureters, Bladder, Urethra). This is usually caused by bacteria, but the infection can also be fungal.

If left untreated, a person is at risk of developing urinary stones; a kidney infection; an inflamed / swollen prostate; impaired kidney function, urosepsis and ultimately death.

## Signs and symptoms of a UTI to look out for

- Pain or discomfort when urinating
  - Frequent urges to pass urine
  - Passing urine more often at night
  - Discomfort or tenderness in the lower abdomen
  - Odorous urine
  - Cloudy urine
  - General signs of infection
  - Agitation
  - Lethargy
  - Delirium (see below) or increased levels
- of confusion in an individual who has confusion as a result of an underlying condition, such as dementia, stroke or other neurological impairment

## Urinary Tract Infections

Hydration levels are heavily linked with the likelihood of contracting a Urinary Tract Infection (UTI), which can put older people at increasing risk of falls.

## What are the signs of dehydration?

- Thirst
- Sunken eyes
- Irritability
- Cool hands or feet
- Low blood pressure
- Raised heart rate
- Headaches
- Drowsiness
- Dry and inelastic skin
- Dryness of the mouth lips and tongue
- Add dark coloured urine (see chart below)

# Risks of dehydration



Those already experiencing chronic degenerative neurological diseases, such as Alzheimer's disease and Parkinson's disease should be monitored closely for pain during urination, urgency, frequency and colour.

Dark urine with an odour is an indication that there may be a UTI present. Pale and odourless urine indicates that the person is hydrated.

Furthermore, some people can experience confusion and incontinence, which in turn can result in a potential fall.

## Causes of dehydration

Older people are more at risk of dehydration and there are several reasons for this.

- **Not drinking enough fluids.**
  - » They may have a reduced sensation of thirst (particularly with neurological / cognitive impairment like dementia).
  - » They may forget to drink or be afraid to drink due to fear of needing to void at an inconvenient time. (Incontinence predisposes to dehydration as people may limit their fluid intake).
  - » They may not be physically able to get drinks for themselves.
  - » They may have dysphagia (difficulty swallowing).
  - » They may require thickener which may make drinks unpalatable.
- **Kidney function** plays a vital role in fluid regulation. However due to age-related changes the hormonal response to dehydration (which is key to fluid balance) may be impaired.
- **Medications** - The likelihood of dehydration may also be exacerbated by medications including diuretics and laxatives. It is also important to consider the role of Antacids (these require a lot of moisture when being absorbed) and Chemo (side effects may include vomiting, diarrhoea, sweating, all of which can cause fluid imbalance and further dehydration).
- **Poorly controlled diabetes** is more common in older people and is associated with poor hydration.
- **Water Sodium Balance** - This changes as we age making dehydration more likely.

## Urine Colour Chart

GOOD

GOOD

FAIR

DEHYDRATED

DEHYDRATED

VERY DEHYDRATED

SEVERELY DEHYDRATED

# Delirium

Delirium is also known as an **'acute confusional state'** that is associated with dehydration and UTIs. Older people and people with dementia, severe illness or a hip fracture are more at risk of delirium and therefore at a higher risk of falls.

It can be difficult to distinguish between delirium and people living with dementia as some people may be living with both conditions. If uncertainty exists over the diagnosis, the person should be managed initially for delirium.

Here are some indicators of delirium:

- Recent changes in behaviour
- Worsened concentration
- Slow responses
- Confusion
- Hallucinations
- Reduced mobility
- Reduced movement
- Restlessness
- Agitation
- Changes in appetite
- Sleep disturbance
- Lack of cooperation with reasonable requests
- Withdrawal
- Alterations in communication
- Mood and/or attitude.

If any of these behaviour changes are present, a healthcare professional who is trained and competent in diagnosing delirium should carry out a clinical assessment to confirm the diagnosis.

Please check our online delirium checklist for more information:  
[www.hcpastopfalls.info/delirium-checklist](http://www.hcpastopfalls.info/delirium-checklist)

# Diagnosing a UTI

## To Dip or Not to Dip?

NHS

'To Dip or Not to Dip' is an evidence-based pathway which aims to improve the diagnosis and management of Urinary Tract Infections (UTI) in older people living in care homes. This pathway has been shown to reduce antibiotic use and hospital admissions for UTI. This leaflet explains more about UTIs and the 'To Dip or Not to Dip' care pathway.

## Bacteria in the Urine in Older People



The presence of bacteria in the urine in older people does not necessarily mean there is an infection that requires antibiotics. Bacteria can live harmlessly in the urine of older people. In fact, around 50% of older people have bacteria in the urine without causing any symptoms. In those with a long-term urinary catheter, this rises to 100%.

## What's the Problem with Urine Dipsticks?



Urine dipsticks are often used in the diagnosis of UTI in older people living in care homes. A positive result for 'nitrite' (bacterial marker) or 'leucocyte' (white blood cell marker) may be a normal finding because of the high proportion of older people that have bacteria in the urine. Often, if a resident has a positive dipstick result and has non specific symptoms, such as had a fall or is drowsy, they are inappropriately diagnosed with a UTI. The real diagnosis may be missed and the resident may receive antibiotics unnecessarily.

## Antibiotics: More Harm than Good?



Antibiotics are powerful and precious drugs. Bacteria can develop antibiotic resistance. This means that antibiotics won't work when a person really does need them and these resistant bacteria can spread very easily in a care home setting. Side-effects, such as rashes and stomach upset are common in older people receiving antibiotics. A life-threatening infection called *Clostridium difficile* (or 'Cdiff') can be caused by antibiotics. Everyone has a responsibility to protect antibiotics and they should only be used when there is strong evidence of a bacterial infection.

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## To Dip or Not to Dip Pathway



In the pathway, urine dipsticks are not used, instead care home staff use a UTI Assessment Tool which focuses on the signs and symptoms of the resident and what actions to take. The tool was developed with specialist healthcare professionals and care home staff and is based on best practice guidelines. Obtaining a urine sample in residents with suspected UTI is very important to enable the best, and safest, antibiotic to be chosen.

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Questions? Please Contact the Care Home Manager.

In partnership with Public Health Nottinghamshire County Council



'To Dip or Not to Dip' is an original quality improvement project by Elizabeth Beech and Mandy Slatter (NHS Bath and North East Somerset CCG) and is based on the Scottish Antimicrobial Prescribing Group Decision Aid for Suspected UTI in Older People 2016.

Image source: <https://www.enhertscg.nhs.uk/sites/default/files/To-Dip-or-Not-to-Dip.pdf>

# Urosepsis

Urosepsis is a type of sepsis that is caused by an infection in the urinary tract. It is a complication that is often caused by urinary tract infections that have not been treated promptly or adequately.

Urosepsis is a serious complication which requires immediate medical care to prevent it from becoming potentially life-threatening. Anyone experiencing symptoms should seek emergency medical attention.

In some cases, the infection can spread beyond the bladder, potentially reaching the kidneys and ureters. Urosepsis is a possible complication when the infection reaches these areas.

Alongside the UTI symptoms listed above, urosepsis may cause some more serious symptoms which are common to other forms of sepsis. Anyone experiencing these symptoms should seek immediate medical care.

## Symptoms of urosepsis include:

- Pain near the kidneys, on the lower sides of the back
- Nausea with or without vomiting
- Extreme fatigue
- Reduced urine volume or no urine
- Trouble breathing or rapid breathing
- Confusion or brain fog
- Unusual anxiety levels
- Changes in heart rate, such as palpitations or a rapid heartbeat
- Weak pulse
- High fever or low body temperature
- Profuse sweating

**In serious cases, if left untreated, urosepsis may progress to severe sepsis, septic shock, or multi-organ failure.**

If a person has severe sepsis, they produce little to no urine, may have difficulty breathing, and their heart may have difficulty functioning.

During septic shock, blood pressure drops extremely low, and the organs may begin to shut down. These symptoms are life-threatening and require immediate medical care.

Use RESTORE2 and NEWS2 to recognise early signs of infection and for guidance to escalate appropriately to emergency services/GP

[Restore 2 paperwork](#)

[Restore 2 Escalation process EN Herts](#)

[Restore 2 Escalation process Herts Valley](#)