



To dip

..... *OR*

not to dip?

TRAINING HANDBOOK

**“IDEAL FOR NEW STAFF TRAINING
AND REFRESHER TRAINING!”**

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Introduction :

Urinary Tract Infections (UTIs) are the second most common cause for antibiotics being prescribed in the community. Older people living in care homes are particularly vulnerable to infections; often having multiple health conditions, continence problems and memory impairment. Some may have temporary or long-term urinary catheters. All of these factors increase the risk of UTI.

The most severe form of UTI (a bloodstream infection) is of growing concern nationally, therefore accurate diagnosis and appropriate treatment of UTI's are a priority for the NHS.

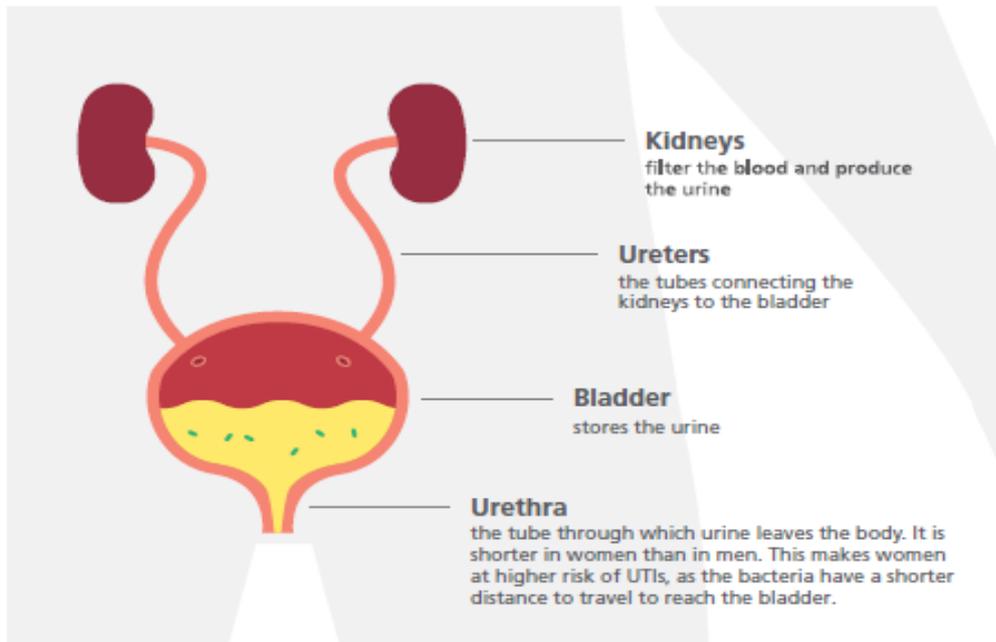
'To Dip or Not to Dip' : Background

'To Dip or Not to Dip' is a quality improvement initiative which aims to improve the diagnosis and management of UTI's in older people living in care homes. It is based on a project carried out in South West England (NHS Bath and North East Somerset), that demonstrated a significant reduction in antibiotic prescriptions for UTI. Admissions to hospital for residents with UTI's or dehydration were also reduced. The To Dip or Not to Dip pathway is based on best practice guidelines, and supports care home staff to both recognise and prevent UTI's.

The 'To Dip or Not to Dip' team worked closely with different healthcare professionals to develop a UTI assessment tool based on best practice guidelines, and educational resources for use in care homes and GP practices.

Urinary tract infections in older people: The Facts

UTIs are 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 (this is called pyelonephritis), which can lead to bloodstream infections. These bacteria are usually the person's own bowel bacteria, or may be introduced through the presence of a urinary catheter.



Signs and Symptoms of UTI

A UTI in an older person without a urinary catheter is defined as two or more of the following:

- Pain on passing urine (this is called 'dysuria')
- Need to pass urine urgently (this is called 'urgency')
- New or worsening urinary incontinence
- Need to [ass urine more frequently (this is called 'frequency')
- Visible blood in the urine (this is called 'haematuria')
- Shivering or chills (this is called 'rigors') or a temperature less than 36°C or above 38°C
- New or worsening confusion or agitation
- Lower abdominal or back pain (this is called 'suprapubic pain' or 'flank pain')

In people with a urinary catheter, the symptoms are different because the person is not passing urine for themselves. In older people with a urinary catheter in place, a UTI is defines as one or more of the symptoms highlighted in red above.



In older people the presence of bacteria in the urine does not always mean an infection is present.

It is VERY important to understand that the presence of bacteria in the urine may be a normal finding in older people. Bacteria often live harmlessly in the bladder of older people, without affecting them or causing any signs of infection. This is called 'asymptomatic bacteriuria'. Evidence suggests this affects up to 40% of men and 50% of women over 65 years, living in care homes. In people with long term urinary catheters 100% will develop bacteria in the urine.

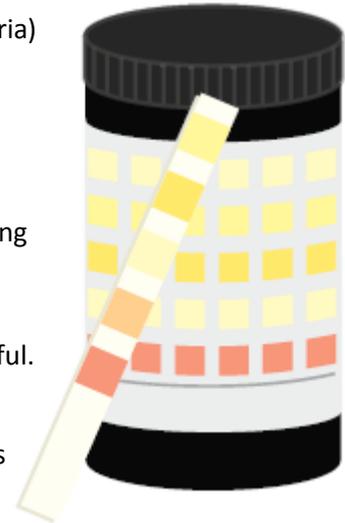
What is the problem with urine dipsticks?

Urine dipsticks detect the presence of nitrites (a chemical made by bacteria) and leukocyte esterase (a chemical in the white blood cells).

These tests will usually be positive if there is bacteria in the urine; **whether they are causing an infection or not.**

A positive urine dipstick is therefore not useful as a clinical decision-making tool in older people and can often mislead people into thinking a UTI is present. Another diagnosis or cause for the persons symptoms might be missed, and antibiotics may be given inappropriately which can be harmful. Frequent use of urine dipsticks is linked to higher rates of antibiotic use.

Urine dipstick results are NOT very helpful in older people and using signs and symptoms are a more accurate way of assessing possible UTI.



What do the best practice guidelines for UTI advise?

Best practice guidance states:

- ➡ 'Do NOT use dipstick testing in the diagnosis of older people with possible UTI' (SAPG UTI older people)
- ➡ 'Do NOT use dipstick testing to diagnose UTI in adults with urinary catheters (NICE QS90)
- ➡ 'People >65 years should have a clinical assessment prior to being diagnosed with a UTI (NICE QS90)

Antibiotics: More Harm than Good ??

Antibiotics are powerful and precious drugs. They are the only drug where the more you use them, the less they work. It is important we only use antibiotics where there is strong clinical evidence of a bacterial infection. If we do not do this, there will be less effective treatment options available to treat severe infections, such as bloodstream infections.



When antibiotics are frequently used, or used when they are not really required, bacteria can develop resistance. This means that the bacteria are no longer killed by the antibiotic and the antibiotic might not work against the infection. There are very few new antibiotics in development and we need to protect the antibiotics that we have by using them appropriately. Preventing antibiotic resistance is everybody's responsibility, not just those who can prescribe the antibiotics. All care professionals have a role to play in protecting antibiotics, so they will still work when needed, for people now and in the future.

Important Side Effects of Antibiotics Include:

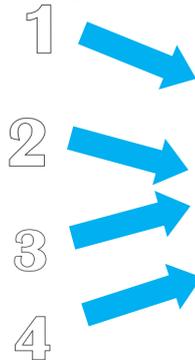
- ◆ Allergic reaction such as rashes
- ◆ Stomach Upset including vomiting and diarrhoea
- ◆ Medication Interactions
- ◆ *C. difficile* diarrhoea ('C. diff) a life threatening bowel infection)
- ◆ Antibiotic resistance: Resistant bacteria can easily spread in care homes, so people who have not even received antibiotics may be at risk



To Dip or Not to Dip Assessment Tool

1. Fill in residents details
2. Does the person have a catheter? This is important as symptoms and management of UTI are different if a urinary catheter is in place.
3. Are there symptoms to suggest an alternative diagnosis? This section asks you to identify any symptoms of other common infections, as the presence of these makes UTI much less likely. If any of these are present seek guidance through usual referral routes.
4. For patients who can communicate please tick all **NEW** or **WORSENING** signs and symptoms present
5. For all patients please fill in as many observations as possible. Temperature **must** be recorded.
6. Fax completed form to GP surgery and file in residents care plan—record outcome in grey box

If the resident does not have any symptoms of a UTI, then UTI is unlikely. If you are still concerned about the resident even though they do not have symptoms of a UTI, discuss with a clinician through usual routes.



Older patients (>65) with suspected UTI (urinary tract infection)
Guidance for Care Home staff

NHS Halton Clinical Commissioning Group

• Complete 11 to 4) and patient details and fax to GP - original to patient notes
 • **DO NOT PENICILIN URINE DIPSITICK** - NOT recommended in pts >65 years
 • **CLEAR URINE** - 10% highly unlikely
 • **Send MSU** particularly if treatment failure or ≥ 2 signs of infection (especially dysuria, Temp>38°C or new incontinence)

Patient:.....
 DOB:.....
 Nursing Home:.....
 Date:..... Care:.....

1) Catheter N Y Reason for catheter:.....

2) Signs of any other infection source? N Y Circle any **NEW** symptoms

Cough Shortness of breath Sputum production Nausea/vomiting Diarrhoea Abdominal pain Red/warm/swollen area of skin

3) Patients who can communicate symptoms: Y N Circle any **NEW** symptoms

NEW ONSET Sign/Symptom	What does this mean?	Tick if present
Disuria	Pain on urinating	
Urgency	Need to pass urine urgently/new incontinence	
Frequency	Need to urinate more often than usual	
Suprapubic tenderness	Pain in lower tummy/above pubic area	
Haematuria	Visible blood in urine	
Chills	Feeling SHIVER, shivers of chills that usual	
Loft pain	Lower back pain	

4) All Patients:

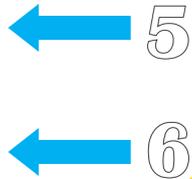
Signs/Symptoms	Tick if present
Temperature above 38.3°C or below 36°C or shaking chills (algorithm 3d/4 hour)	
Heart Rate >100 beats/min	
Respiratory rate >20 breaths/min	
Diastolic BP <70 mmHg	
F.N. Blood Glucose >7.7 mmol/L	
Blood test: Wt/F	
F.F. WCC >23k6 or <4k6	
New onset or worsening confusion or agitation	

Any other information:.....

5) **GP Management Decision - circle all which apply:**

(a) Review in 24 hours
 (b) Mid Stream Urine specimen (MSU) - particularly if ≥ 2 signs of infection (especially dysuria, Temp>38°C or new incontinence) or failed treatment
 (c) Uncomplicated lower UTI
 (d) Pyelonephritis
 (e) Antibiotic prescribed:.....

Other action:..... Signed:..... Date:.....
 Prescribing guidance at http://www.patientcare.nhs.uk/for/majors/documents/05_00_00_infections.pdf#page=22



To Dip or Not to Dip Assessment Tool

The To Dip or Not to Dip pathway uses an Assessment Tool in residents with suspected UTIs, to support the assessment without using urine dipstick.



Do Not Dipstick!

The UTI Assessment Tool is to be used by care home staff in residents over 65 years with suspected UTI. **DO NOT** perform a urine dipstick, instead use the flow chart to identify any signs and symptoms of a UTI in the resident. If you are unsure, discuss with a senior member of staff. This information will help the clinician decide whether further assessment or antibiotics are required.

Actions

Obtaining a urine sample for culture is very important in older people as they are at high risk of antibiotic resistant bacteria.

Turn over the page to find out more about urine samples.



Once any necessary actions have been taken, it is best practice to file the assessment tool in the residents care plan.

Within normal working hours on weekdays follow referral process by faxing completed assessment tool to the GP surgery and follow up with a telephone call to confirm receipt. Out-of-hours and at weekends, follow the usual out-of-hours referral routes (e.g. NHS 111). Use the information in the assessment tool to support you when communicating with the out-of-hours care provider.

Obtaining a urine sample?

Catheter

If a resident with a urinary catheter in place has a suspected UTI, a urine sample **MUST** be taken by a person trained in using 'aseptic non-touch technique', to prevent introduction of outside bacteria into the catheter.



No Catheter

Urine cultures are very important in older people to guide antibiotic choice. If bacteria grow in the laboratory, they can be tested against different antibiotics which informs the prescriber which is the best and safest antibiotic to use, or whether an alternative is required due to resistant infection.

- ◆ Wherever possible, try to obtain a urine sample in a locally agreed urine specimen bottle.
- ◆ Samples should be transported to the lab as soon as possible, and refrigerated (if possible) if there is a significant delay, e.g. overnight.

Some care homes may have urine collection pads such as Newcastle pads, to enable collection of urine from an incontinent resident. These may be helpful if it is very difficult to obtain a clean catch sample of urine. The pad should be worn for as short a time as possible prior to collecting the urine from it, to reduce contamination.

Although urine collected in this way may become contaminated with skin or bowel bacteria, it is probably better than not sending a urine sample, as many residents will not be able to produce a urine sample 'on-demand'. There is a lack of high quality evidence about the best method of obtaining urine samples in older people with urinary or faecal incontinence.

Prevention IS better than cure!

Now you understand more about UTI's, dipsticks and bacteria in the urine of older people, there are some simple steps you can take to reduce the risk of UTI's in your residents.

Dehydration



Dehydration occurs when the body loses more water than it takes in. It leads to small volumes of urine being produced by the kidneys, which can become stale in the bladder over time, allowing any harmful bacteria to multiply and cause infection. Keeping urine flowing through the bladder regularly is one of the main ways of protecting the body against infection.

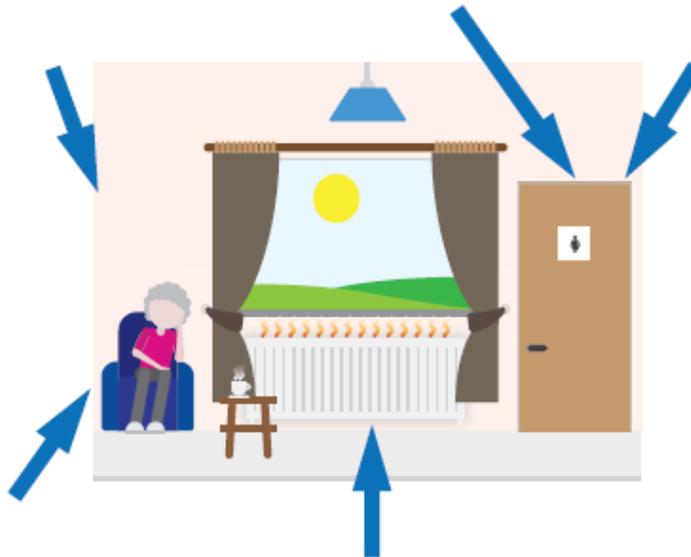
Preventing dehydration and recognising the signs of dehydration are key interventions that you can make as a caring professional to reduce the risk of UTI.



Prevention **IS** better than the cure!

Older people may not recognise when they are thirsty.

Residents with memory impairment may forget to drink, or be unable to communicate their needs clearly



Older people in care homes are often less mobile; this means they may empty their bladder or bowels less often

Older people may not want to drink much fluid, to try and reduce the number of trips to the bathroom

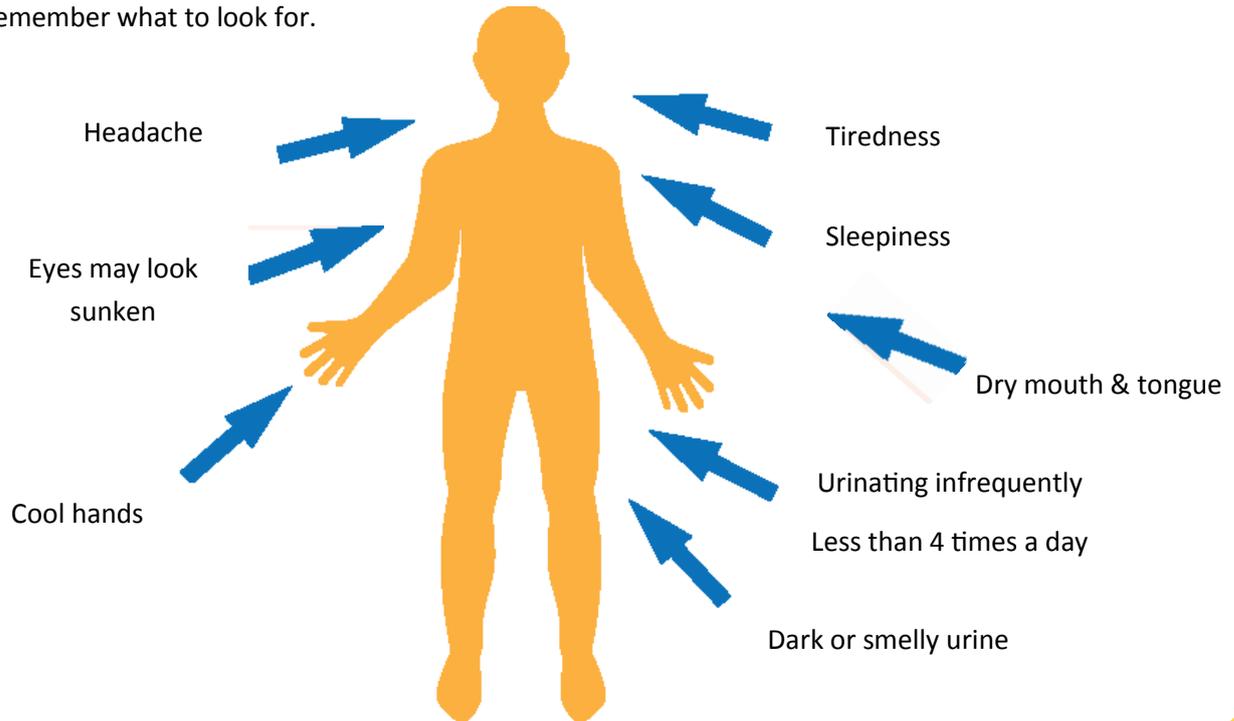


It can be difficult to keep an accurate measure of individual residents' fluid intake.

Living in a warm environment means that more body water is lost through sweating and breathing.

Recognising the signs of dehydration

There are some simple signs you can look for, to help you identify whether a resident is becoming dehydrated. Taking a 'top-to-toe approach', starting at the head and working downwards, can help you to remember what to look for.



Recognising the signs of dehydration



Good



Good



Fair



Dehydrated



Dehydrated



Very Dehydrated



Severely Dehydrated

The Urine Colour Chart:

This is a very quick and easy way to assess the hydration status of a resident. If the urine is any colours, that suggest dehydration, monitor and record their fluid intake and output wherever possible and encourage an increase in fluids. If they do not improve, develop more signs of dehydration, or become more unwell, contact a clinician for advice as soon as possible.

How much to people need to drink?

Most residents need to drink **1.5-2 litres** of fluid a day. An average cup of water is around 200ml. An average cup of tea is around 150ml. This equates to around 8 drinks per day, but this assumes that all of the drink is consumed which may not happen. Recording what fluid is actually drunk, rather than what has been offered, is more accurate. There may be some residents who are on a 'fluid restriction' due to certain medical conditions or medications, if you are unsure if this applies to a resident, you should seek guidance from their GP.



How to prevent dehydration

The NHS website 'Think Kidneys' contains lots of resources for care homes about dehydration and kidney injury. They recommend considering the following to improve fluid intake in residents.

1. Encourage residents to drink regularly throughout the day and offer drinks if giving care at night.
2. Use a cup suitable for the resident—they may prefer to use a straw if a cup is difficult
3. Consider jelly or other foods with a high water content to increase fluid intake
4. Encourage regular toileting for residents who are continent. Important to ensure any bacteria are flushed out and urine does not stagnate in the bladder.
5. Act quickly to resolve constipation, it can stop the bladder from emptying fully, as the bowel can press on the bladder. Seek advice from a clinician if a resident becomes constipated.

Why are we doing 'To Dip or Not to Dip'

Care homes and GP's working with standardised documentation that can be kept in residents care plan scanned into the clinical notes

Residents will be prescribed antibiotics more appropriately therefore improving safety and quality of prescribing.

Care Homes can assure patients their families, and CQC that they provide evidence based care.

Why?

Care home staff will benefit from professional development, and be able to provide improved care

Reduces risk of antibiotic associated harm, such as *C. Difficile* infection, e coli bacteraemia and multi drug resistant UTI.

An evidence based algorithm to inform the diagnosis of suspected UTI. Used successfully in other parts of the country.

Acknowledgements

'To Dip or Not to Dip' is an original quality improvement project, by Elizabeth Beech and Mandy Slatter in the NHS Bath and North East Somerset Clinical Commissioning Group.

This training handbook is based on original resources, supported by Public Health Nottinghamshire County Council and Nottingham West Clinical Commissioning Group



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