Managing lower urinary tract infections (UTI) in adult women (16 and over)

A booklet for patients, carers and families
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Who is this booklet for?

This booklet is for adult women (16 and over) who may have symptoms of:

- suspected urinary tract infection (UTI)
- repeated episodes of UTI

Family members, friends and carers may also find the booklet helpful.
What is this booklet about?

This booklet explains the recommendations in a guideline, produced by the Scottish Intercollegiate Guidelines Network (SIGN), about the diagnosis and management of suspected bacterial lower urinary tract infections in adult women. The guideline is based on what we know from current medical research. It gives advice based on this research along with the opinion of healthcare professionals who are experienced in how best to diagnose and manage people with UTI.

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<td>• Diagnosis and management of lower UTI in:</td>
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Information available from: www.nhsinform.scot

The booklet also aims to make you aware of the latest advice on using antibiotics and other treatments. You will be managed individually depending on factors such as your age and the symptoms that you are experiencing. It is important that you have all the information you need to help you to understand your symptoms and how best to manage them.

There are two different types of recommendations in this booklet

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<th>Recommendation based on clinical experience</th>
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The full SIGN guideline is available on our website www.sign.ac.uk/our-guidelines/management-of-suspected-bacterial-lower-urinary-tract-infection-in-adult-women/

On page 21 you can find out how we produce guidelines.
What is a lower urinary tract Infection (UTI)?

A lower urinary tract infection is a common infection in women, involving the bladder and urethra (the hole you pee out of). It is due to inflammation of the bladder and is commonly known as cystitis.

It is this inflammation that will cause the common symptoms of discomfort or pain and going to the toilet more often than usual. It will often settle on its own. Some women are more prone to urinary tract infection, such as those with diabetes.

My first UTI was when I was in my early 50’s, before this I didn’t know what a UTI felt like. I was quite scared as my urine was red and it hurt so much.
What are the symptoms of UTI?

UTIs can produce a range of symptoms and these are shown in the table below.

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<th>The five most common symptoms of urinary tract infection in adult women under 65 are:</th>
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People with a UTI often experience more than one symptom, for example pain and frequency are a common combination.

Other symptoms such as fever and vomiting, especially in combination with any of the above symptoms, do not happen in lower urinary tract infection. Fever and vomiting could be symptoms of an upper urinary tract infection, or kidney infection, and need urgent medical attention.

Symptoms of a UTI may be similar to those that happen with vaginal infections. A vaginal discharge is not a symptom of a urinary tract infection. Most women have some natural vaginal discharge to keep the vagina moist and at the right acidity level as a natural protection against infection. A heavier than usual vaginal discharge or vaginal irritation usually means another sort of infection (for example ‘thrush’) and makes a diagnosis of urinary tract infection less likely.
How is a UTI diagnosed?

Your healthcare professional (doctor, nurse, or pharmacist) will ask if you are experiencing any of the symptoms in the table on page 4. This will help them to find out if you have a UTI. A urine test may also be needed.

How is a UTI diagnosed in women under 65?

Your healthcare professional will ask if you are experiencing any of the five most common symptoms to help find out if you have a UTI.

Recommendation based on the research evidence

If you have one symptom, your healthcare professional will not offer treatment for a UTI.

Recommendation based on clinical experience

If you have one symptom, your healthcare professional should advise you to return if the symptom fails to improve, or other symptoms develop.

If you have two or more symptoms your healthcare professional will suspect that you have a UTI and they may carry out a dipstick test. This simple test of your urine looks for ‘nitrites’, which are chemicals converted by the bacteria that cause urinary tract infection.

If you have two or more symptoms and a positive dipstick test your healthcare professional will discuss treatment options with you.
How is a UTI diagnosed? continued

How should I collect a urine sample for a dipstick test?

**Recommendation based on clinical experience**

The urine needs to be in your bladder for four hours for the dipstick test to be useful. If you are visiting the toilet more often than usual to pass urine, the test may not be helpful.

**Information**

You might find it easiest to provide a sample when you first wake up because at other times of the day, it can be uncomfortable to keep urine in the bladder for long enough. Follow the step-by-step instructions to collect your urine sample.

- You can use a cup or jug with a larger opening (as long as it has been cleaned with boiled water).
- Label a sterile screw top container with your name, date of birth, time and date that sample has been collected.
- Wash your hands.
- Part your labia and urinate. Collect a ‘mid-stream’ urine sample.
- Transfer immediately to the sterile screwtop container and seal tightly.
- Wash your hands.

A ‘mid-stream urine’ sample means you don’t collect the first or last part of urine that comes out. This reduces the risk of the sample being contaminated with bacteria from your hands or the skin around the urethra (the hole you pee out of).
How is a UTI diagnosed? continued

The laboratory will test your urine to see if there are any bacteria present. They will report which type of bacteria (if any) are grown, and will also test the sample with a selection of antibiotics to see which are able to kill the bacteria. It takes at least two days for a full result to give time for the bacteria to grow.

Recommendation based on clinical experience
If you have two or more urinary symptoms and a negative dipstick test result for nitrite your healthcare professional may consider sending a urine sample to the laboratory for testing.

The laboratory will test your urine to see if there are any bacteria present. They will report which type of bacteria (if any) are grown, and will also test the sample with a selection of antibiotics to see which are able to kill the bacteria. It takes at least two days for a full result to give time for the bacteria to grow.

Recommendation based on the research evidence
Your healthcare professional will not routinely send a sample of your urine to the laboratory.

Recommendation based on clinical experience
For some people who are diagnosed with a UTI, a urine sample may also be sent to the laboratory for testing. This may be required if you:
• have a history of UTIs due to resistant bacteria
• have taken one or more courses of antibiotics in the past six months
• have not responded to the antibiotics you were given for UTI symptoms.
How is a UTI diagnosed in women over 65?

The older we get the more common it is to have harmless bacteria in our urine. Evidence shows there is no advantage, and is in fact harmful, to give antibiotics to kill bacteria in the urine if they are not causing symptoms. Over half of frail women in care homes have harmless bacteria in their urine. The likelihood of UTI symptoms being caused by antibiotic resistant bacteria is higher as we get older.

This means that a dipstick test is not useful in this group of people. If your healthcare professional does suspect a UTI, they will only send a urine sample to the laboratory to check which bacteria is involved and which antibiotics will work.

Recommendation based on the research evidence

A dipstick test will not be used to diagnose a UTI in women who are 65 and above in care homes or in frail elderly people requiring assisted living services.

Recommendation based on the research evidence

Diagnosing UTI in older frailer women is difficult. Older frailer women, especially those in long term care, often do not have the usual symptoms of UTI seen in younger women. There may just be a change in the older woman’s ability to do her normal daily activities such as washing, dressing and eating meals. However it should be remembered that decline in daily activities may have many other causes, such as dehydration, medications, pain, other infections or something as simple as constipation.
How will a lower UTI be treated?

Lower UTI can be treated with antibiotics but for some patients other approaches may be suitable e.g. self-care with increasing fluid intake and painkillers.

Your healthcare professional will discuss treatment options with you so that you can make a shared decision about what treatment is best for you. This guideline does not apply to pregnant women, but if there is any possibility you could be pregnant, please tell your healthcare professional.

What is the treatment of a lower UTI in women under 65?

If you are under the age of 65 with a lower urinary tract infection (UTI), you may not need an antibiotic to treat your symptoms.

Information

Urinary tract infection symptoms can be very unpleasant, but are usually not dangerous. Unless you have fever or vomiting, you may prefer to take self-care measures such as drinking plenty of fluids and simple pain killers such as ibuprofen (if you are able to take it), or paracetamol.

There is no good evidence for the use of sachets of a urinary alkaliser (called sodium citrate), available from pharmacies, but they might give some symptomatic relief from the stinging pain. They can interfere with one of the most commonly used antibiotics and you should not take these sachets if you are on antibiotics. If you are considering taking them, you should check with your pharmacist before you take them.

If symptoms do not settle within a few days, or you are distressed by more severe symptoms or have repeated episodes within a short time, then please get help from your healthcare professional.

Pharmacies in Scotland are now able to advise and treat urinary tract infection in healthy non-pregnant women under 65 who do not have repeated episodes of UTI. They cannot treat women with fever, blood in the urine, or with certain underlying medical conditions.
How will a lower UTI be treated? continued

Having the right information was important to me. I did not know that there was so much that I could do for myself to care for a suspected UTI without the need for antibiotics. I now know what to do for myself and when to speak to my healthcare professional. I’m much more confident.

Evidence shows that ibuprofen, a commonly used painkiller, may be helpful in relieving UTI symptoms and reduce the need for antibiotic treatment. Ibuprofen is a non-steroidal anti-inflammatory medicine (NSAID) which are medicines to relieve pain. However ibuprofen is not a suitable treatment for some people so your healthcare professional will discuss the risks and benefits of using it based on your medical history and other regular medicines you may be taking. If an NSAID is not suitable for you, then your healthcare professional will discuss other self-care methods and this may include taking paracetamol if pain is present.

Recommendation based on the research evidence
If your symptoms are mild and you are able to continue with your daily activities as normal, a NSAID, such as ibuprofen, may be used instead of an antibiotic.

Recommendation based on clinical experience
Your healthcare professional should discuss the risk and benefits of using an NSAID with you.
How will a lower UTI be treated? continued

Recommendation based on clinical experience
When treating a UTI, NSAIDs should only be used to treat your UTI symptoms for up to three days to reduce the risk of side effects. If your UTI symptoms do not improve within three days of using a NSAID, or if they become worse at any time, you should contact your healthcare professional for further advice.

Recommendation based on clinical experience
If your symptoms are affecting your daily activities, a NSAID or an antibiotic can be considered. Your healthcare professional should discuss the risk and benefits of each option with you, so you can agree on the best treatment for your UTI.

Information
If you do need antibiotics to treat your urine infection, your healthcare professional will want to know that you are not allergic to the antibiotic that they are prescribing for you, and will decide the best antibiotic for your infection. There are several antibiotics that are commonly used to treat urine infections and you may be given a different antibiotic to that you have previously received for a UTI. All antibiotics may cause some side effects, and these are listed in the patient leaflet that comes with the medicine.

If you experience mild side effects such as an upset stomach you should still finish the course of antibiotics that you have been given, but if you are worried about side effects, you can get advice from your healthcare professional.
How will a lower UTI be treated? continued

**Information**
If your symptoms do not improve with treatment, get worse or come back after treatment, please contact your healthcare professional or NHS24 if out of hours (at weekends and evenings).

**Recommendation based on clinical experience**
Three days’ treatment with an antibiotic is normally enough to clear a UTI. The number of tablets or capsules that you take each day will depend on the antibiotic that you are prescribed, and it is important that you take your treatment regularly for the full three days.

It’s very important you complete the full course of antibiotics. If you don’t start to feel better follow up with your GP as your lab results may indicate you need a different antibiotic to kill the infection. This was quite common for me.

**Information**
If you still have symptoms after three days, or you are feeling worse whilst taking the antibiotics you should speak to your healthcare professional again.
You should always finish a course of antibiotics, even if you start to feel better. If you do not finish the course or miss several doses, the infection may return.
How will a lower UTI be treated? continued

How is a UTI treated in women over 65?
The SIGN guideline looked at women over 65 as a separate group as this was the most common cut-off used in research studies. However ‘over 65’ covers a huge range of people from being fit, healthy and active women to much frailer women in a care home or receiving care at home with other health problems. Your healthcare professional will take this into account when discussing treatment options with you.

Recommendation based on the research evidence
Decisions on management of UTI should be made on an individual basis, with younger fitter over 65s being managed in a similar way to the under 65s.

There was no evidence identified to recommend the use of non-steroidal anti-inflammatory drugs (NSAIDs) as a treatment option in patients over 65 years.

Recommendation based on clinical experience
Decisions on the treatment on the frailer over 65 year old need to be made on an individual basis. For example keeping hydrated is very important in this age-group but there are a few conditions that may require fluid restriction. The Care Inspectorate document Eating and Drinking Well in Care provides best practice guidance (see page 19). If antibiotics are needed they should be targeted according to the laboratory results, local guidelines and other conditions and medications in that individual patient.
How is a recurrent UTI (repeated UTI) treated?

Some women experience repeated episodes of UTI (several infections over the course of one year).

Self-care approaches such as getting enough fluid each day (hydration) and hygiene measures (wiping from ‘front to back’) should always be tried first in recurrent UTI. Hydration is particularly important for preventing UTI in frail older women.

**Recommendation based on clinical experience**

Public information about hydration is available online from Health Protection Scotland [www.hps.scot.nhs.uk/web-resources-container/national-hydration-campaign-materials](http://www.hps.scot.nhs.uk/web-resources-container/national-hydration-campaign-materials)

Some people with certain health conditions need to be careful about how much fluid they drink so if you are unsure about fluid intake you should ask your healthcare professional for advice.

For some women a UTI may be triggered by use of spermicide-containing contraceptives or by sexual intercourse.

**Recommendation based on the research evidence**

Your healthcare professional will consider offering you an alternative to spermicide-containing contraceptives if you are experiencing recurrent UTI.

**Recommendation based on the research evidence**

If you find that self-care measures are not successful then preventative antibiotics may be considered. These may be taken every night for several months or may be used as a single ‘post-coital’ (after sexual intercourse) treatment if this is a trigger. Some people may be given a ‘stand by’ three-day course of antibiotics to take if they develop UTI symptoms. Your healthcare professional should discuss the risks and benefits of antibiotic treatment prior to prescribing them.
How is a recurrent UTI (repeated UTI) treated? continued

**Recommendation based on the research evidence**
In older women the use of long term preventative antibiotics should only be considered after discussing the risks and benefits. If you have been on preventative antibiotics for a long time these should be stopped after discussing how any future urine infections will be managed if they happen.

**Recommendation based on clinical experience**
Preventative antibiotics are given for three to six months to allow your bladder to heal which makes further UTI much less likely. This avoids the problem with longer courses of preventative treatment leading to resistant bacteria which make it difficult to treat UTIs in the future.

Some women may use alternative treatments for preventing UTI such as:

- Cranberry products (capsules, juice)
- Herbal products
- Probiotics
- Methenamine (Hiprex).

Evidence for the effectiveness of cranberry products is conflicting and it is not possible to make a recommendation on its use. There is not enough evidence for SIGN to make a recommendation on the use of herbal products, probiotics or methenamine.

There is some evidence that acupuncture may be helpful and while acupuncture is not routinely used in Scotland for this purpose, its use could be considered by individual patients.
How will the UTI be diagnosed and treated if I have a catheter?

Some women need to use a urinary catheter to collect and drain urine from their bladder. A catheter may be inserted and left in place for a prolonged period (indwelling catheter) or some patients may insert then remove their catheter several times per day (intermittent self-catheterisation).

Having a catheter within your urinary tract increases your chances of getting a UTI. Catheter-associated UTI happens when bacteria from your catheter enters your bladder. Symptoms of a catheter-associated UTI may be different from symptoms that people without a catheter have. You may experience fever, confusion, back pain and a general feeling of being unwell. Your healthcare professional will discuss your symptoms and decide if a UTI is likely and what action to take.

**Recommendation based on clinical experience**
Your healthcare professional may use a scoring tool to help decide if your symptoms may be due to a urine infection. This considers the combination of symptoms that you are experiencing and the likelihood that they are due to a UTI.

**Recommendation based on clinical experience**
Dipstick testing of urine from your catheter will not be used to determine if you have a urine infection. This is because it is normal for people who have a catheter to have bacteria in their urine. It is also important that you and your carers do not buy and use dipstick tests as the results are not helpful in detecting urine infection.

**Recommendation based on the research evidence**
If you develop signs and symptoms of a UTI, a urine sample will be taken from your catheter to send to the laboratory for identification of the bacteria causing the infection and the most suitable antibiotic treatment.
How will the UTI be diagnosed and treated if I have a catheter? continued

How can a urinary catheter care passport help?

A “catheter passport” is a patient-held document for you and or anyone else involved in the care of your catheter.

**Recommendation based on clinical experience**

The information in your catheter passport will help you care for your catheter at home and ensure your carer or healthcare professional has the right information. There is a section for your healthcare professional to fill in details relating to your catheter care. If you don’t have a catheter passport please ask your healthcare professional for one.

**Information**

Information about the Urinary Catheter Passport can be found here [www.hps.scot.nhs.uk/web-resources-container/urinary-catheter-care-passport](http://www.hps.scot.nhs.uk/web-resources-container/urinary-catheter-care-passport)

**Recommendation based on clinical experience**

People with long term catheters should discuss with their healthcare professional on a regular basis whether there is an ongoing need for their catheter and whether an alternative approach could be considered.
Where can I find out more information?

If you haven't found what you're looking for, here are some further sources of information. The organisations we have listed may be able to answer your questions and offer support. SIGN accepts no responsibility for the information they give.

**Websites**

**NHS Inform**

The national health information service for Scotland is a patient access website providing health advice across a wide range of topics.

Phone: 0800 22 44 88


**Bladder Health**

Bladder Health UK gives support to people with all forms of cystitis, overactive bladder and continence issues together with their families and friends.

Phone: 0121 702 0820
Email: info@bladderhealthuk.org

[bladderhealthuk.org/cystitis-utis-fowlerssyndrome](http://bladderhealthuk.org/cystitis-utis-fowlerssyndrome)

**British Association of Urological Surgeons**

The British Association of Urological Surgeons is a registered charity which promotes the highest standards of practice in urology, for the benefit of patients.

Email: admin@baus.org.uk

[www.baus.org.uk/patients/conditions/14/urinary_infection_a](http://www.baus.org.uk/patients/conditions/14/urinary_infection_a)
Where can I find out more information? continued

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**Care Inspectorate**

Eating and drinking well in care: good practice guidance for older people

Email: hub@careinspectorate.gov.scot


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**Healthcare Improvement Scotland**

In collaboration with the Scottish Delirium Association, NHS Education for Scotland and colleagues across NHSScotland, Healthcare Improvement Scotland has developed a range of tools and resources to support improvements in the identification and immediate management of delirium. A THINK Delirium toolkit has been produced to provide easy access to all of these tools and resources.

Email: info@ihub.scot

ihub.scot/improvement-programmes/acute-care-portfolio/older-people-in-acute-care/delirium

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**National Hydration Campaign Materials**

The Scottish Urinary Tract Infection Network worked together with national organisations (including Health Protection Scotland, NHS Education Scotland, Care Inspectorate, Scottish Care, NHS 24, Scottish Antimicrobial Prescribing Group and Scottish Government) and launched a National Hydration Campaign which aims to convey the public health benefits of good hydration in terms of UTI prevention.

Phone: 0141 300 1100
Email: phs.HealthProtectionEnquiries@phs.scot

www.hps.scot.nhs.uk/web-resources-container/national-hydration-campaign-materials/
Where can I find out more information? continued

National Urinary Catheter Passport

The National Urinary Catheter Care Passport was developed by Health Protection Scotland and the Scottish Urinary Tract Infection Network. It is a patient-held record which provides information to support individuals to effectively manage their catheters and allows for revisions to clinical management plans, the history of catheter changes and a record of catheter maintenance to be recorded.

Phone: 0141 300 1100
Email: phs.HealthProtectionEnquiries@phs.scot
www.hps.scot.nhs.uk/web-resources-container/urinary-catheter-care-passport

Patient

Patient is a health information website which contains patient advice reviewed by doctors and other health professionals.

Email: clinicalcontent@patient.info

Scottish Antimicrobial Prescribing Group

The Scottish Antimicrobial Prescribing Group, part of Healthcare Improvement Scotland developed guidance based on the available evidence and national consensus to support primary care teams in managing acute and recurrent urinary tract infections

Email: his.sapg@nhs.scot
www.sapg.scot/quality-improvement/primary-care/urinary-tract-infections

The Cystitis & Overactive Bladder Foundation

The Cystitis and Overactive Bladder Foundation is the largest bladder patient support charity in the UK. It gives support to people with all forms of cystitis, overactive bladder and continence issues together with their families and friends.

Email: info@cobfoundation.org
www.cobfoundation.org/bacterial-cystitis
How are SIGN guidelines produced?

Our guidelines are based on the most up-to-date scientific evidence. We read research papers to find evidence for the best way to diagnose, treat and care for patients. If we cannot find this out from the research evidence, we ask healthcare professionals to use their clinical experience and judgment to suggest treatments.

1. Gather lived experience
2. Identify the questions
3. Search for the evidence
4. Look at the evidence
5. Make judgements and recommendations
6. Ask people for feedback
7. Publish
8. Let everybody know about our guidelines

You can read more about us by visiting www.sign.ac.uk or you can phone 0131 623 4720 and ask for a copy of our booklet ‘SIGN guidelines: information for patients, carers and the public’.

The Scottish Intercollegiate Guidelines Network (SIGN) writes guidelines which give advice for healthcare professionals, patients and carers about the best treatments that are available. We write these guidelines by working with healthcare professionals, other NHS staff, patients, carers and members of the public.

We are happy to consider requests for other languages or formats. Please phone 0131 623 4720 or email sign@sign.ac.uk