

Managing suspected lower urinary tract infection (UTI) in adult women

A booklet for patients, carers and families



Contents

Who is this booklet for?	1
What is this booklet about?	2
What is a lower urinary tract infection (UTI)?	3
What are the symptoms of UTI?	4
How is a lower UTI diagnosed?	6
How is a lower UTI diagnosed in women under 65?	6
How is a lower UTI diagnosed in women over 65?	9
How will a lower UTI be treated?	11
How is a lower UTI treated in women under 65?	11
How is a lower UTI treated in women over 65?	15
How is a recurrent UTI (repeated UTI) treated?	16
How will a lower UTI be diagnosed and treated if I have a catheter?	19
How can a urinary catheter care passport help?	20
Where can I find out more information?	21
How are SIGN guidelines produced?	24

© Scottish Intercollegiate Guidelines Network

978-1-909103-86-3

First published 2021

This document is licensed under the Creative Commons Attribution-Noncommercial-NoDerivatives 4.0 International Licence. This allows for the copy and redistribution of this document as long as SIGN is fully acknowledged and given credit. The material must not be remixed, transformed or built upon in any way. To view a copy of this licence, visit <https://creativecommons.org/licenses/by-nc-nd/4.0/>

Who is this booklet for?

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

- symptoms of lower 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. It also gives the opinion of healthcare professionals who are experienced in how best to diagnose and manage people with UTI.

The booklet will cover:	The booklet will not cover:
<ul style="list-style-type: none">• Diagnosis and management of lower UTI in:<ul style="list-style-type: none">- women aged 16-64 years- women aged 65 years and over- women of any age using a catheter. 	<ul style="list-style-type: none">• Diagnosis and management of upper UTI• UTI in children under 16 years of age• UTI in pregnant women• UTI in men. <p>More information on these groups of people is available from: www.nhsinform.scot</p> 

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 things such as your age and symptoms. It is important that you have all the information you need to help you understand your symptoms and how best to manage them.

There are two different types of recommendations in this booklet

 <p>Recommendation based on the research evidence</p>	 <p>Recommendation based on clinical experience</p>
---	--

The 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 24 you can find out how we produce guidelines.

What is a lower urinary tract infection (UTI)?

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

The inflammation causes the common symptoms of discomfort or pain and needing to pee more often than usual. It will often go away on its own. Some women, such as those with diabetes, are more prone to UTIs.

“ My first UTI was when I was in my early 50s, 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?

You can have a range of symptoms from a UTI and these are shown in the tables below.

The five most common symptoms of lower urinary tract infection in adult women under 65 are:

1	Pain, stinging or a burning sensation when passing urine (dysuria)
2	A need to pee more often than usual (frequency)
3	Having little warning before peeing and having to 'run' to the toilet (urgency)
4	Peeing at night more often than normal (nocturia)
5	Blood in your urine, even in very small amounts, which stains the urine pink (haematuria)

This booklet does not deal with upper urinary tract infection, but we think you should be aware of the symptoms as they need urgent attention.

The six most common symptoms of upper urinary tract infection in adult women under 65 are:

1	A fever (a high temperature of 38 °C {100.4 °F} or above)
2	Uncontrollable shivering
3	Feeling sick (nausea)
4	Vomiting
5	Diarrhoea
6	Headache

What are the symptoms of UTI? continued

People with a lower UTI often have more than one symptom, for example pain and needing to pee often.

Symptoms of a lower UTI may be similar to those that come with vaginal infections. A vaginal discharge is not a symptom of a UTI. 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'). This makes a diagnosis of lower UTI less likely.



How is a lower UTI diagnosed?

How is a lower UTI diagnosed in women under 65?

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



Recommendation based on the research evidence

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



Recommendation based on clinical experience

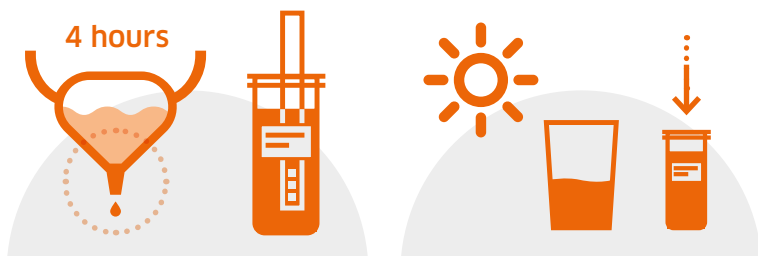
If you have one symptom, your healthcare professional should advise you to return if the symptom does not improve, or other symptoms develop.

If you have two or more symptoms, your healthcare professional will suspect you have a UTI and may carry out a dipstick test. This simple test of your urine looks for 'nitrites'. Normally urine should not show any traces of nitrites, which result from a chemical change caused by the bacteria that cause UTI.

If you have an appointment to see your healthcare professional, they may ask you to bring a urine sample to your appointment or to provide a sample during the consultation. Evidence has shown that having a positive dipstick test in women under 65 increases the accuracy of diagnosis. It also helps to avoid the use of unnecessary antibiotics.

If you have two or more symptoms and a positive dipstick test, your healthcare professional will discuss treatment options with you.

How is a lower 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 peeing more often than usual, 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 these step-by-step instructions to collect your urine sample.

- You can use a cup or jug with a larger opening (but clean it first with boiled water).
- Label a sterile screw-top container with your name, date of birth, time and date that you are collecting the sample. If you don't have one, ask your healthcare professional for one. A container with a non-leak screw-top that has been cleaned out with boiled water can also be used.
- Wash your hands.
- Part your labia and urinate. Collect a 'mid-stream' urine sample.
- Transfer immediately to the sterile screw-top container and seal tightly. Do not overfill the container.
- Wash your hands.
- Store it in a fridge in a sealed plastic bag if you cannot hand it in straight away.

How is a lower UTI diagnosed? continued

A '**mid-stream urine**' sample means you do not collect the first or last part of the 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).



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 any bacteria are present. They will report on the type of bacteria (if any), and will also test the sample with a selection of antibiotics to see which can kill the bacteria. It takes at least two days for a full result as the bacteria take time to grow.

Recommendation based on the research evidence

Your healthcare professional will not always send a sample of your urine to the laboratory.

How is a lower UTI diagnosed? continued



Recommendation based on clinical experience

A urine sample may also be sent to the laboratory for testing if:

- you have a history of UTIs due to antibiotic-resistant bacteria
- you have taken one or more courses of antibiotics in the past six months
- the antibiotics you were given have not cleared the UTI symptoms.

How is a lower UTI diagnosed in women over 65?

The older we get, the more common it is to have harmless bacteria in our urine. It may be 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 no good for this group of people. So if your healthcare professional does suspect a UTI, they will only send a urine sample to the laboratory to check which bacteria is causing it and which antibiotics will work.



Recommendation based on the research evidence

A dipstick test will not be used to diagnose a UTI if you are over 65 and less fit and healthy because of other conditions you may have.



Recommendation based on the research evidence

If you are caring for a woman over 65 who is frail, who requires assisted living services or lives in a care home, please be aware that a dipstick test will not be used to diagnose whether or not she has a UTI.



Recommendation based on the research evidence

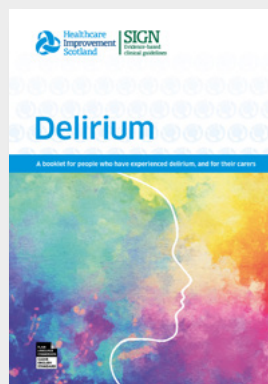
Diagnosing UTI in older, more frail women is difficult. Especially those in long-term care often do not have the usual symptoms of UTI seen in younger women. There may just be a change in the older woman's ability to do her normal daily activities such as washing, dressing and eating meals.

However, a change in daily activities may have many other causes, such as dehydration, medications, pain, other infections or something as simple as constipation.



Information

Delirium (a state of mental confusion that can happen if you become unwell) is a common sign of a UTI in older women. It is important to be aware of this. You can read more about it in our booklet on delirium www.sign.ac.uk/patient-and-public-involvement/patient-publications/delirium/



How will a lower UTI be treated?

A lower UTI can be treated with antibiotics. But for some patients other methods may be better, for example self-care by taking more fluids 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 booklet does not apply to pregnant women, but if there is any possibility you could be pregnant, please tell your healthcare professional.

How is a lower UTI treated in women under 65?

If you are under 65 with a lower UTI, you may not need an antibiotic to treat your symptoms.



Information

UTI symptoms can be very unpleasant, but are usually not dangerous. Unless you have fever or are vomiting, you may prefer self-care such as drinking plenty of fluids and taking over-the-counter painkillers 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 relief from the stinging pain. They can interfere with one of the most common 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 doing so.

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

Pharmacies in Scotland can now advise and treat lower UTIs 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 there was so much 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 reducing the need for antibiotic treatment. Ibuprofen is a non-steroidal anti-inflammatory medicine (NSAID) that relieves pain. However, ibuprofen is not suitable 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, which may include taking paracetamol if you are in pain.



Recommendation based on the research evidence

If your symptoms are mild and you are able to continue with your daily activities as normal, an NSAID, such as ibuprofen, may be used instead of an antibiotic.

Recommendation based on clinical experience

Your healthcare professional should discuss the risks and benefits of using an NSAID with you.

How will a lower UTI be treated? continued



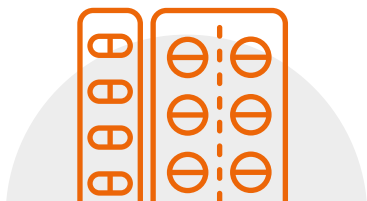
Recommendation based on clinical experience

NSAIDs may be used to treat your UTI symptoms but should be only used for up to 3 days to reduce the risk of side effects. If your UTI symptoms do not improve within three days of using an 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, an 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 they are prescribing for you, and will decide on the best one for your infection. Several antibiotics are commonly used to treat urine infections and you may be given a different one to what you have had before 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 have mild side effects such as an upset stomach, you should still finish the course of antibiotics you have been given. If you are worried about side effects, you can get advice from your healthcare professional.



Recommendation based on clinical experience

Three days of treatment with an antibiotic will normally clear a UTI. The number of tablets or capsules you take each day will depend on the antibiotic you are prescribed. It is important to take your treatment regularly for the full three days.



It is very important you complete the full course of antibiotics. If you do not 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

- 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 come back.
- If you still have symptoms after three days, or you are feeling worse while taking the antibiotics, you should speak to your healthcare professional again.
- During weekends and evenings if you are worried about your symptoms not improving or about feeling worse, you can seek advice from NHS24 (telephone 111).

How is a lower 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 fit, healthy and active women to much frailer women with other health problems in a care home or receiving care at home. Your healthcare professional will take this into account when discussing treatment options with you.



Recommendation based on the research evidence

Decisions on managing lower UTI should be made on an individual basis. If you are over 65 and in otherwise good health and fitness, you will be managed in a similar way to women under 65.

There is no evidence 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

If you are over 65 and less fit and well because of another health condition, decisions about your treatment will be made taking this into account.

If antibiotics are needed, they will be chosen according to the laboratory results, other conditions you may have and medications you may be taking.



Information

Keeping hydrated is very important. But some people with certain health conditions need to be careful about how much fluid they drink. If you are unsure about this, you should ask your healthcare professional for advice.

How is a recurrent UTI (repeated UTI) treated?

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

The following self-care approaches should always be tried first in recurrent UTI:

- Wiping your bottom from front to back after you poo.
- Emptying your bladder as soon as possible after having sex, and washing this area.
- Making sure you drink enough fluid each day (hydration).

Hydration is particularly important for preventing UTI in frail older women.



Information

Some people with certain health conditions need to be careful how much fluid they drink. So if you are unsure about this, you should ask your healthcare professional for advice. For some women a UTI may be triggered by using 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 having recurrent UTI.



Recommendation based on the research evidence

If you find that self-care is not successful, preventive 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 'standby' three-day course of antibiotics to take if they develop UTI symptoms. Your healthcare professional should discuss the risks and benefits of antibiotic treatment with you before prescribing them.

If you suffer recurrent UTI that does not respond to antibiotics, your doctor may refer you to a hospital specialist for investigation.



Recommendation based on the research evidence

In older women, the use of long-term preventive antibiotics should only be considered after discussing the risks and benefits. If you have been on preventive 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

Preventive antibiotics are given for three to six months to allow your bladder to heal, which makes further UTIs much less likely. This avoids the problem that longer courses of preventive treatment may lead to resistant bacteria, which make it difficult to treat UTIs in the future.

How is a recurrent UTI (repeated UTI) treated? continued

Some women find methenamine (Hiprex) helpful in preventing UTIs. Methenamine is a prescribed antibiotic used to prevent recurring UTIs. There is not enough evidence for SIGN to make a recommendation on this yet.

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

- cranberry products (capsules, juice)
- herbal products
- probiotics (live bacteria and yeasts promoted as having various health benefits. They are usually added to yoghurts or taken as food supplements, and are often described as 'good' or 'friendly' bacteria)
- D-Mannose (a type of sugar you can buy over the counter at health food stores).

The evidence for cranberry products is not clear cut and we cannot make a recommendation on their use. There is not enough evidence for SIGN to make a recommendation on the use of herbal products, probiotics or D-mannose.

There is some evidence that acupuncture may be helpful. It is not routinely used in Scotland for this purpose, but its use could be considered by individual patients.

How will a lower 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 long time (indwelling catheter) or some patients may insert and then remove their catheter several times a day (intermittent self-catheterisation).

Having a catheter in 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 get 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 you have 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 tell if you have a urine infection. This is because it is normal for people who have a catheter to have bacteria in their urine. You and your carers should not buy and use dipstick tests as they do not help detect a 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. This should identify the bacteria causing the infection and the most suitable antibiotic treatment.



How can a urinary catheter care passport help?

A 'catheter passport' is a patient-held document for you and 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 about your catheter care. If you do not 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

Recommendation based on clinical experience

People with a long-term catheter should regularly discuss with their healthcare professional whether it is still needed and whether something else could be considered.

Where can I find out more information?

If you have not found what you are looking for, here are some further sources of information. The organisations we have listed may be able to answer your questions and offer support.



Websites

NHS Inform

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

Phone: 0800 22 44 88

www.nhsinform.scot/illnesses-and-conditions/kidneys-bladder-and-prostate/urinary-tractinfection-uti

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

www.bladderhealthuk.org/cystitis-utis-fowlerssyndrome

British Association of Urological Surgeons

The British Association of Urological Surgeons is a registered charity that 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

SIGN accepts no responsibility for the content of the websites listed.



Websites 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 that provides information to help people effectively manage their catheters. It allows for revisions to clinical management plans, shows the history of catheter changes and records catheter maintenance.

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 that contains patient advice reviewed by doctors and other health professionals.

Email: clinicalcontent@patient.info

patient.info/womens-health/lower-urinary-tract-symptoms-in-women-luts



Useful publications

Delirium: A booklet for people who have experience of delirium, and for their carers

www.sign.ac.uk/assets/pat157.pdf

Spotting the signs of dehydration: simple first steps...

[4_Spotting the signs of dehydration Leaflet.pdf](#)

Reducing Urinary Tract Infections (UTIs) in older people: key information for carers and care home staff

[5_Reducing UTI in Older People Leaflet for Carers and Care Home Staff.pdf](#)

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



Healthcare Improvement Scotland

Edinburgh Office

Gyle Square
1 South Gyle Crescent
Edinburgh
EH12 9EB

0131 623 4300

Glasgow Office

Delta House
50 West Nile Street
Glasgow
G1 2NP

0141 225 6999