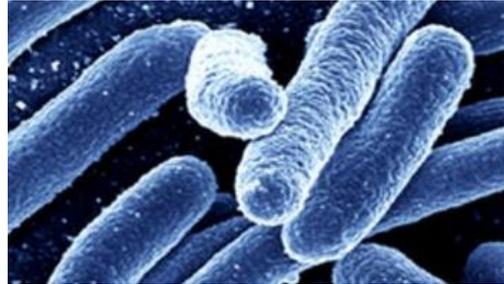


Patients I think I might have...

Urinary infection (adult)

Quick Links

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- What causes urinary infection?
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NOTE: Some of the information provided contains graphic, medical images which individuals may find upsetting

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Back to topIMPORTANT: please note

The vast majority of urinary infections in adults are treated by primary care physicians (GPs). As a general rule, urologists only become involved if further investigations are required, or if other causes have been identified. Referral may be considered for:

- stones;
- poorly-draining bladders;
- abnormal kidneys; or
- when infections become recurrent with no obvious cause.

The information on this page does not apply to infants or children. For advice on urinary tract infection in a child, please [click here](#)

Back to topWhat causes urinary infection?

Most urine infections occur when bacteria enter your bladder through your urethra (waterpipe);

Risk factors include:

- sexual intercourse
- passing urine infrequently
- incomplete bladder emptying
- stones



- poorly-draining or mis-shapen kidneys
- catheters;

Most urine infections are caused by a bacterium called *E coli* (illustrated right). Other types of bacteria may be responsible, and the type of organism can sometimes give a pointer to the underlying problem (e.g. kidney or bladder stones may be associated with a bacterium called *Proteus*).



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Symptoms can vary from very mild to severe, depending on whether the infection is confined to your bladder (*cystitis*) or has affected your kidney(s) as well (*pyelonephritis*):

Symptoms of bladder infection (cystitis)	Symptoms of kidney infection (pyelonephritis)
<ul style="list-style-type: none"> Smelly urine Passing urine frequently Urgency (a pressing need to pass urine) Pain in your lower abdomen (tummy) Pain in your urethra (waterpipe) Bloodstained urine 	<ul style="list-style-type: none"> Fever Shaking (rigors) and chills Pain in your flank (kidney area) <p>(± symptoms of bladder infection)</p>

Back to topHow will my urinary infection be confirmed?

The simplest and most important test is analysis of a sample of your urine; this can normally be done at your GP surgery using a special "dipstick" technique. The stick test also looks for other abnormalities in your urine (e.g. protein, sugar, bilirubin).

A more thorough microbiological test, called "microscopy, culture and sensitivity (MC&S)", is sometimes performed; this requires a mid-stream sample of your urine to be collected into a sterile container, usually at your GP surgery.

Test	Advantages	Disadvantages
 <p>DIPSTICK</p>	<ul style="list-style-type: none"> Quick & easy to perform; Can be done in your GP surgery; Semi-automated when read by machine; and Reasonably accurate in detecting infection. 	<ul style="list-style-type: none"> Checks for diabetes, acidity & specific gravity; Does not confirm the type of bacteria; and Cannot determine antibiotic sensitivity.
 <p>MC&S</p>	<ul style="list-style-type: none"> Confirms the type of bacteria present; Identifies the best antibiotic for treatment; Identifies antibiotic-resistant bacteria; and Helps to distinguish different infections. 	<ul style="list-style-type: none"> Can take 48 hours for the result; Requires transport to the laboratory; and Requires careful storage if awaiting transport.

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Simple treatment for helping the symptoms include:

- increasing the amount of fluid you drink
- taking regular painkillers (e.g. paracetamol) - this also helps reduce any fever
- taking agents which alkalise your urine (e.g. bicarbonate of soda or preparations which you can buy from any chemist) - these neutralise the acidity of your urine and improve the burning when you pass urine

Antibiotics are the most effective treatment for urinary infection. The type and dose will depend on various factors, including:

- your previous history;
- other medications (drugs) you may be taking;



- the likely type of bacteria;
- the result of urine microscopy, culture & sensitivity;
- previous bacterial sensitivities;
- the severity of the infection; and
- how unwell you are.



Bladder infection (cystitis) usually responds rapidly to a short course of antibiotics, but kidney infection (pyelonephritis) generally requires a longer course of treatment. In the UK, antibiotics may only be prescribed by a medically-qualified doctor, or by a nurse with special training.

In severe infections, where you are unwell with severe dehydration, sickness or inability to keep down any fluids you take by mouth, hospital treatment with antibiotics by injection may be necessary.

Back to topWill I need further tests?

A single episode of cystitis in a woman that settles quickly on treatment, does not usually need any further investigation.

Recurrent cystitis, pyelonephritis and all urinary infections in men or children should be investigated. **Ultrasound scanning** is the main method of investigation, looking particularly at bladder emptying. For men (who get stones more commonly than women) a plain abdominal X-ray may be used to exclude stones, together with a flow rate test to look for prostate obstruction.

If any kidney abnormalities are seen on ultrasound scanning, further imaging using CT scanning is often needed.

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The most important and effective measures are lifestyle changes, including:

- drinking enough fluid to make you need to pass urine every two to three hours;
- keeping your urine acidic by taking regular Vitamin C, either as fruit juice or in tablet form;
- passing urine as soon as possible after sexual intercourse;
- avoiding strong soaps in the bath; and
- avoiding constipation.



PLEASE NOTE: Cranberry products (juice or tablets) are no longer recommended to prevent urinary infections. Analysis of the most recent medical studies suggests that they are not as effective as was once thought.

For further information about managing recurrent infections,  [download a guide to self-help for recurrent cystitis](#).

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- **Antibiotic prophylaxis**

When lifestyle alterations and increasing your fluid intake on their own do not work, taking a half or quarter dose of an antibiotic, usually last thing at night, does help prevent further infections. This is best started after a full treatment course for a proven infection, and may help prevent recurrence of the infection. Your GP will be able to advise you about this.

- **Low-dose vaginal oestrogens**

Weekly use of an oestrogen cream or tablet, placed into the vagina, can help reduce the number of infections suffered by some women after the menopause. Oestrogens are often given more frequently for the first four to six weeks of treatment.

- **D-mannose**

This is an alternative therapy that you can buy over the counter at health food shops or via the internet. Small studies have suggested that taking two grams each day can help prevent urine infection to a similar degree to low-dose antibiotics, but more evidence is needed before we know if this is really true. For the time being, it is well-tolerated and seems safe to take.

Back to topAre there any newer approaches available?

Despite all the measures described above, some patients with normal investigations continue to get infections, and this can be very debilitating. There are, however, some novel treatments being trialled in urology departments for intractable cystitis. These include:

- **vaccine treatments;**
- **urinary antiseptics taken by mouth; and**
- **chemical treatments put directly into your bladder through a small catheter.**

If your symptoms cannot be controlled by any of the measures outlined above, you should talk to your GP about getting a hospital referral

to see a urologist.

More resources on Urinary infection (adult)

Some/all of these resources are links to external sites, the content on which BAUS accepts no responsibility for.

[NHS Choices](#)

NHS-approved information about urinary tract infection in adults & children

[NICE guidance for UTI in adults](#)

Official guidance on UTI from the National Institute for Health & Clinical Excellence

[IUGA information sheet](#)

Information about urinary tract infection from the International Urogynaecological Association

[UTI Diagnosis on Guidelines.co.uk](#)

Information for GPs on diagnosing urinary tract infection (UTI)

