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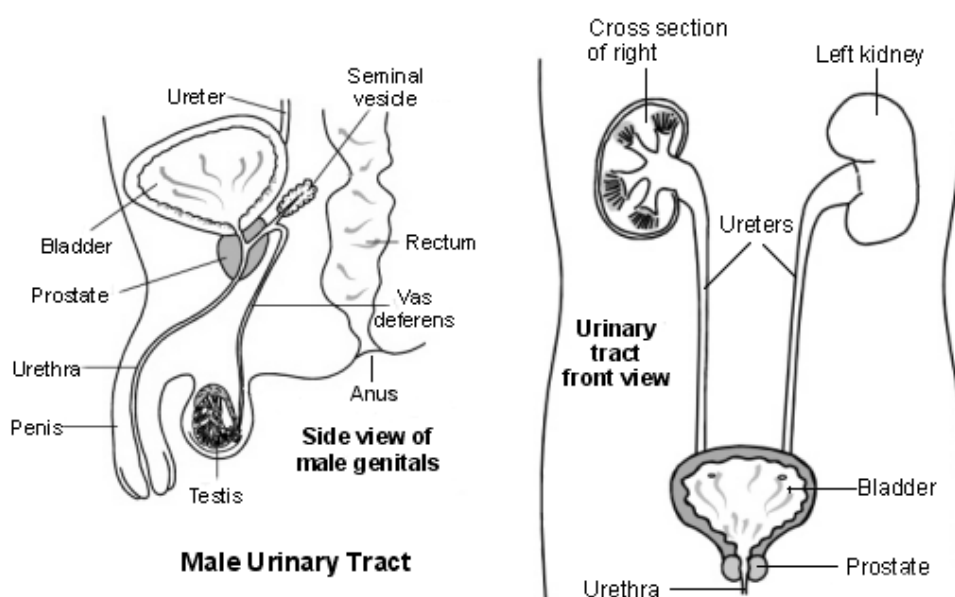
Urine infection in older people

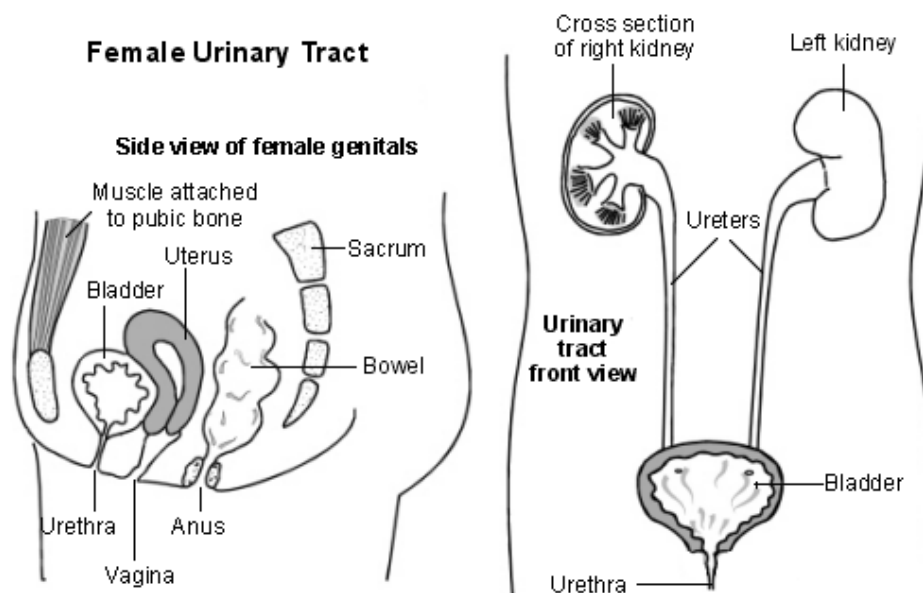
If you have a urine infection, you have germs (bacteria) in your bladder, kidneys or the tubes of your urinary system. Urine infections are more common in older people, and there is more likely to be an underlying cause.

How the urinary tract works

Urine is made by your two kidneys, one on each side of the tummy (abdomen). Urine drains down tubes called ureters into the bladder. There it is stored and passed out through a tube called the urethra, when you go to the toilet.

In the average adult patient there should be a urine output of: 0.5–1 ml/kg/hr. This means that an average 70 kg man should produce 35–70 mls an hour. However urine output decreases in older patients and the target urine output should be 0.25–0.5 ml/kg/hr. This means that a 70 kg man who is aged over 65 years should produce 17.5–35 mls per hour.





What is a urine infection and what causes it?

Most urine infections are caused by germs (bacteria) that come from your own bowel. They cause no harm in your bowel but can cause infection if they get into other parts of your body. Some bacteria lie around your back passage (anus) after you pass a stool. These bacteria sometimes travel up the tube called the urethra and into your bladder. Some bacteria thrive in urine and multiply quickly to cause infection.

A urine infection is often called a urinary tract infection (UTI) by healthcare professionals. When the infection is just in the bladder and urethra, this is called a lower UTI. If it travels up to affect one or both kidneys as well then it is called an upper UTI. This can be more serious than lower UTIs, as the kidneys can be damaged by the infection.

Why do some people develop urine infections?

In many cases the infection occurs for no apparent reason. There is no problem with the bladder, kidney, prostate gland, or defence (immune) system that can be identified. In other cases, an underlying problem can increase the risk of developing a urine infection.

In older women

- After the [menopause](#) the lining of tissues around your genital area may become more fragile. This is called [atrophic vaginitis](#). It is associated with having more urine infections.

- A [prolapse of the womb \(uterus\)](#) or vagina can also increase your risk of infection.

In older men

An [enlarged prostate gland](#) may stop the bladder from emptying properly. Some urine may then pool in the bladder. Germs (bacteria) are more likely to multiply and cause infection in a stagnant pool of urine.

In both

- Bladder or kidney problems may lead to infections being more likely. For example, [kidney stones](#) or conditions that cause urine to pool and not drain properly.
- Having a thin, flexible, hollow tube (called a catheter) in place to drain urine.
- An underlying health condition may also be responsible. A poor immune system increases the risk of having any infection, including urine infections. For example, if you are having [chemotherapy](#) to treat cancer. Diabetes can also increase your risk of having urine infections.
- Being [constipated](#). If your lower gut (bowel) is full and swollen, it may press on the bladder. This may stop it emptying properly, making you more prone to urine infection.

What are the symptoms of a urine infection?

- [Infection in the bladder \(cystitis\)](#) usually causes pain when you pass urine. You pass urine more frequently. You may also have pain in your lower tummy (abdomen). Your urine may become cloudy, bloody or offensive-smelling. You may have a high temperature (fever).
- **Infection in the kidneys** may cause you to feel generally unwell. There may be a pain in your back. This is usually around the side of the back (the loin), where each kidney is located. You may have a high fever. You may feel sick, or be sick (vomit).

In some older people the only symptoms of the urine infection may be becoming confused or just feeling generally unwell.

The confusion is caused by a combination of factors such as having a fever and having a lack of fluid in the body (dehydration). The confusion should pass when the infection has been treated.

How common are urine infections?

Urine infections are much more common in women. This is because in women the urethra – the tube from the bladder that passes out urine – is shorter. Also it opens nearer the back passage (anus) than in men. Half of all women will have a urine infection that needs treating in their lifetime.

Urine infections are less common in men. They are very uncommon in young and middle-aged men. They are more common in older men. They are more likely to occur in men who have to use a catheter. A catheter is a thin, flexible, hollow tube used to drain urine. Older men are more likely to need a catheter because of [prostate problems](#), which become more common with age.

Urine infections tend to become more common as you get older.

Are any tests needed?

In some cases the diagnosis may be obvious and no tests are needed. A test on a [urine sample](#) can confirm the diagnosis and identify what germ (bacterium) is causing the infection. Sometimes a dipstick test can provide enough information immediately. In other cases the urine sample is sent to a laboratory for further examination under a microscope. This result takes several days.

Further tests are not usually necessary if you are otherwise well and have a one-off infection. However, your doctor may advise tests of your kidney or bladder if an underlying problem is suspected. If you are a man, you may be advised to have some tests for your prostate gland.

An underlying problem is more likely if the infection does not clear with antibiotic medication, or if you have:

- Symptoms that suggest a kidney is infected (and not just the bladder).
- Recurring urine infections (for example, two or more episodes in a three-month period).
- Had problems with your kidney in the past, such as kidney stones or a damaged kidney.
- Symptoms that suggest a blockage (an obstruction) to the flow of urine.

Relevant tests may include:

- A blood test. This might be a [general blood test](#), or a specific test for the prostate gland (called [the prostate specific antigen, or PSA, test](#)) if you are male.
- A scan of your kidneys or bladder, such as an [ultrasound scan](#).
- Tests to see how well your bladder is functioning, called [urodynamic tests](#).
- [A look inside your bladder with a special telescope \(cystoscopy\)](#).

What is the treatment for a urine infection in older people?

- A course of an [antibiotic medicine](#) will usually clear the infection quickly. You should see a doctor if your symptoms are not gone, or nearly gone, after a few days.
- [Paracetamol](#) or [ibuprofen](#) will usually ease any pain, discomfort, or high temperature (fever).
- An underlying cause such as an [enlarged prostate gland](#) or [constipation](#) may be found and need treatment.

Note: if you have an infection of your bladder (cystitis) then having plenty to drink is traditional advice to flush out the bladder. However, there is no proof that this is helpful when you have cystitis. Some doctors feel that it does not help and that drinking lots may just cause more toilet trips, giving you more unnecessary pain. Therefore, it is difficult to give confident advice on whether to drink lots or just to drink normally when you have mild symptoms of cystitis. However, if you have a high temperature and/or feel unwell, having plenty to drink helps to prevent having a lack of fluid in your body (dehydration).

What is the outlook (prognosis)?

Most people improve within a few days of starting treatment. See a doctor if you do not quickly improve. If your symptoms do not improve despite taking an antibiotic medicine then you may need an alternative antibiotic. This is because some bacteria are resistant to some types of antibiotics. This can be identified from tests done on your urine sample.

Can I prevent urine infections?

Unfortunately, there are few proven ways to prevent urine infections. No evidence has been found for traditional advice given, such as drinking cranberry juice or the way you wipe yourself.

There are some measures which may help in some cases:

- It makes sense to avoid constipation, by eating plenty of fibre (such as fruit) and drinking enough fluid.
- Older women with [atrophic vaginitis](#) may wish to consider [hormone replacement creams or pessaries](#). These have been shown to help prevent urine infections.
- If there is an underlying medical problem, treatment for this may stop urine infections occurring.
- For some people with repeated urine infections, a preventative low dose of antibiotic taken continuously may be prescribed.

Further reading

- [Guidelines on Urological Infections](#); European Association of Urology (2019)
- [Urinary tract infection \(lower\) - women](#); NICE CKS, October 2020 (UK access only)
- [Urinary tract infection \(lower\) - men](#); NICE CKS, November 2018 (UK access only)
- [Jump RL, Crnich CJ, Nace DA](#); Cloudy, Foul-Smelling Urine Not a Criteria for Diagnosis of Urinary Tract Infection in Older Adults. J Am Med Dir Assoc. 2016 Aug 1;17(8):754. doi: 10.1016/j.jamda.2016.04.009. Epub 2016 May 20.

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