

Urinary tract infection

What is a urinary tract infection (UTI)?

A urinary tract infection (UTI) is an infection that develops in any part of the urinary tract. This most commonly affects the bladder but can also include infections of the kidneys or urethra (or prostate, epididymis and testicles in men). UTIs can include:

- urethritis (infection of the urethra)
- cystitis (infection of the bladder)
- pyelonephritis (infection of the kidneys)
- prostatitis (infection of the prostate)
- epididymo-orchitis (infection of epididymis and testicle)

Urinary tract infections are very common. They most commonly occur in women, babies and older people, but can affect younger men too.

What causes UTIs?

Urinary tract infections are most commonly caused by bacteria entering the urinary tract via the urethra and multiplying in the bladder. *E.coli* is the bacterium responsible for most UTIs, however other microorganisms, including some sexually transmitted infections, can also cause infection. There are risk factors that increase a person's chances of developing a urinary tract infection. These include:

- Being female; female anatomy (shorter urethra) means bacteria only need to travel a short distance to reach the bladder and cause an infection
- Use of urinary catheters – as in people who are unwell or undergoing surgery
- Men with prostate problems that prevent them emptying their bladder completely
- Babies – especially those born with abnormalities of the urinary tract
- Cancer, diabetes and other conditions which compromise the immune system
- Unprotected sexual activity with multiple sexual partners increases exposure to sexually transmitted diseases.

What are the symptoms of a UTI?

Urinary tract infection can cause a number of symptoms. These symptoms may vary depending on which part of the urinary tract is affected.

For infections of the urethra and bladder, the following symptoms are common:

- Painful, burning sensations when urinating
- Increased frequency of the urge to urinate
- Lower abdominal and pelvic pain
- Cloudy or smelly urine.

In cases of kidney infection, the following symptoms may occur:

- Fevers and chills
- Back pain
- Lower abdominal pain
- Nausea and vomiting.

Kidney infection is a serious condition that requires urgent medical attention.

How is a UTI treated?

Antibiotics are the most common treatment for urinary tract infections. Your doctor will prescribe medication based on your individual condition and the type of bacteria that is found to be causing the infection, from your urine sample. It is important to take the entire course of antibiotics that your doctor prescribes.

For a severe UTI or kidney infection, intravenous antibiotic treatment and hydration (drip) in hospital is sometimes required.

Patient outcomes

When UTIs are treated promptly, they do not usually cause any long-term problems and the symptoms begin to resolve within a couple of days. People who have had a UTI are likely to develop one again at some stage. Further investigations are recommended in all men to assess for

an underlying cause. In women up to three uncomplicated UTIs a year may be accepted without investigating for an underlying cause.

Preventing UTIs

In women the following may reduce the risk of developing recurrent urinary tract infections:

- Drink adequate fluids, to dilute your urine and help to flush out bacteria
- Daily probiotics to improve the quality of bacteria flora in the perineum
- Taking daily cranberry supplements
- Use of topical estrogen cream to the urethra in post-menopausal women
- Don't hold your urine for longer than necessary
- Avoid constipation
- Consider a change of contraceptive pill

In men, the underlying cause for infection needs to be investigated and managed appropriately.

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European Association of Urology, (2020), EAU Guidelines on Urological Infections, [<https://uroweb.org/wp-content/uploads/EAU-Guidelines-on-Urological-infections-2020.pdf>], accessed 19/02/21.

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