Urinary tract infections (UTI)

Summary

- A urinary tract infection is caused by micro-organisms, usually a bacteria called *Escherichia coli* (*E. coli*).
- The urethra, bladder or kidneys can be affected.
- Even though urinary tract infections are very common, treatment with antibiotics may be needed, so seek advice from your doctor.

Urinary tract infections (UTIs) are very common – particularly in women, babies and older people. Around one in two women and one in 20 men will get a UTI in their lifetime.

The kidneys control the amount of water in the blood and filter out waste products to form urine. Each kidney has a tube called a ureter, which joins the kidney to the bladder. The urine leaves the kidneys through the ureters and enters the bladder. The bladder 'signals' the urge to urinate and urine leaves the body through a tube called the urethra.

The urinary system is designed to minimise the risk of serious infection in the kidneys. It does this by preventing the urine from flowing back up into the kidneys from the bladder. The majority of urinary infections are confined to the bladder and, while causing symptoms, are not serious or life threatening.

Types of urinary tract infections (UTIs)

UTIs are caused by micro-organisms or germs, usually bacteria. The different types of UTI can include:

- **urethritis** – infection of the urethra
- **cystitis** – infection of the bladder
- **pyelonephritis** – infection of the kidneys.

Symptoms of UTIs

Some of the symptoms of UTIs include:

- wanting to urinate more often and urgently, if only a few drops
- burning pain or a 'scalding' sensation when urinating
- a feeling that the bladder is still full after urinating
- pain above the pubic bone
- blood in the urine.

Kidney infections are serious

If infection reaches the kidneys, prompt medical attention is needed. In addition to the general symptoms, a person with a kidney infection can also experience:

- chills
- fever
- loin (lower abdominal) pain
- pain in the back.

Causes of UTIs

Urine is normally sterile, which means it doesn't contain any bacteria, fungus or viruses. To infect the urinary system, a micro-organism usually has to enter through the urethra or, rarely, from the bloodstream. The most

common culprit is a bacterium common to the digestive tract called Escherichia coli (E. coli). It is usually spread to the urethra from the anus.

Other micro-organisms, such as mycoplasma and chlamydia, can cause urethritis in both men and women. These micro-organisms are sexually transmitted so, when these infections are detected, both partners need medical treatment to avoid re-infection.

Risk factors for developing UTIs

Some people are at greater risk than others of developing UTIs. These include:

- women – sexually active women are vulnerable, in part because the urethra is only 4 cm long and bacteria have only this short distance to travel from the outside to the inside of the bladder
- people with urinary catheters – such as the critically ill, who can't empty their own bladder
- people with diabetes – changes to the immune system make a person with diabetes more vulnerable to infection
- men with prostate problems – such as an enlarged prostate gland that can cause the bladder to only partially empty
- babies – especially those born with physical problems (congenital abnormalities) of the urinary system.

Urinary abnormalities in children

A urinary infection in a child needs to be investigated as it may indicate a more serious condition. The most common urinary system condition is urinary reflux. With this condition, the bladder valve isn't working properly and allows urine to flow back to the kidneys, increasing the risk of a kidney infection.

Urinary reflux and the associated infections can scar or permanently damage the kidney, and can also lead to:

- high blood pressure
- toxaemia in pregnancy
- kidney failure.

Urinary reflux tends to run in families, so it's important to screen children as early as possible if a close relative is known to have the problem.

Prevention of UTIs

Although not always backed up by clinical research, some women have found some suggestions useful in reducing their risk of developing urinary tract infections, including:

- Drink plenty of water and other fluids to flush the urinary system.
- Treat vaginal infections such as thrush or trichomonas quickly.
- Avoid using spermicide-containing products, particularly with a diaphragm contraceptive device.
- Practice good hygiene.
- Go to the toilet as soon as you feel the urge to urinate, rather than holding on.
- Wipe yourself from front to back (urethra to anus) after going to the toilet.
- Empty your bladder after sex.

Cranberries (usually as cranberry juice) have been used to prevent UTIs. Cranberries contain a substance that can prevent the E. coli bacteria from sticking to the urinary tract lining cells. However, recent research has shown that cranberry juice does not have a significant benefit in preventing UTIs, and most people are unable to continue drinking the juice on a long-term basis.

Let your doctor know if you are having cranberry juice as it can alter the effectiveness of some antibiotics.

Seek medical attention for UTIs

It is important to seek medical attention if a bladder or kidney infection is suspected. Early treatment of urinary infection can help to prevent the infection spreading to the kidneys.

Infection that has spread from cystitis or pyelonephritis is a much more serious condition. Your doctor will test your

urine to check which micro-organism is present. Urinary tract infections usually respond quickly and well to antibiotics.

Where to get help

- Your doctor
- Local community health centre
- Kidney Health Australia Information Line Tel. 1800 454 363

This page has been produced in consultation with and approved by:

Kidney Health Australia