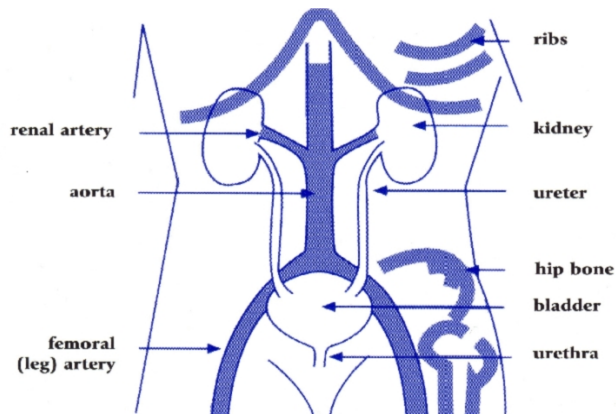


# URINARY TRACT INFECTIONS

## HOW DOES YOUR URINARY SYSTEM WORK?



Location of Kidney & Bladder

Your urinary system is made up of the kidneys, ureters, bladder and urethra. Your kidneys do many important jobs. One is to remove waste and extra fluid from the blood to make urine.

Narrow tubes called ureters carry urine from the kidneys to the bladder. Urine is stored in your bladder and emptied through the urethra. The urethra is the tube that drains the bladder.

## WHAT ARE URINARY TRACT INFECTIONS?

Urinary Tract Infections (UTIs) are one of the most common reasons for visiting a doctor about an infection. About 1 in 3 adult women will get a UTI in their lifetime.

A UTI can range from an infection of the bladder to an infection of the kidney. If the infection is in the urethra, it is called urethritis and infection in the vagina is called vaginitis. Pyelonephritis describes an upper urinary tract infection, which is very serious as it may affect the kidneys. If it is in the bladder, it is called cystitis. Cystitis is the most common lower urinary tract infection and causes the bladder lining to become raw and inflamed.

## WHAT CAUSES URINARY TRACT INFECTIONS?

Bacteria do not normally live in the urinary tract. When bacteria enter the urinary tract and multiply, they can cause a UTI.

There are many germs that can cause urine infections or cystitis. Germs are also called bacterium or micro-organisms. The most common germ causing urinary tract infections (UTIs) is found in your digestive system, *E. coli*. It can easily spread to the urethra and sticks to the lining of your urinary system.

Other germs such as *Mycoplasma* and *Chlamydia* can cause urethritis in both men and women. These germs can be passed on during sexual intercourse so both partners need medical treatment to avoid re-infection.

Some people may be more susceptible to infections because the urinary flow is blocked or the urine is backed up as it flows from the bladder to the kidneys.

See 'Urinary reflux in Children' and 'Kidney Stone' fact sheets for more information.

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## **WHY ARE THEY MORE COMMON IN WOMEN?**

UTIs are common, particularly with increasing age. Women are more likely to get a UTI than men. About 1 in 3 women and 1 in 20 men will get a UTI in their lifetime. Nearly 1 in 3 women will have a UTI needing treatment before the age of 24.

Women get more UTIs than men because of the length of their urethra. The longer the urethra, the more protection you have. In women the urethra is fairly short and straight, making it easier for germs to travel into the bladder.

For some women, UTIs relate to changes in their hormonal levels. Some are more likely to get an infection during certain times in their menstrual cycle, such as just before a period or in pregnancy. In older women, the tissues of the urethra and bladder become thinner and drier with age as well as after menopause or a hysterectomy. This can be linked to increased UTIs. If you are taking hormone replacement therapy in tablet or patch form, you may wish to speak to your doctor about using a hormone replacement therapy cream as a supplement in the genital area for relief of dryness.

During pregnancy the drainage system from the kidney to the bladder widens so urine does not drain as quickly. This makes it easier to get a UTI and sometimes germs can move from the bladder to the kidney causing a kidney infection. UTIs during pregnancy can result in increased blood pressure and a smaller, premature baby so it is very important to have them treated promptly.

Women are more at risk of repeated UTIs if they have:

- Used spermicide jelly or diaphragm for contraception
- Had a new sexual partner in the last year. UTIs caused by bacteria are not usually passed on during sex. However an increase in sexual activity may trigger symptoms of a UTI in some women.
- Their first UTI at or before 15 years of age
- A mother with a history of UTIs
- Suffer from constipation

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## **DO MEN GET UTIS?**

Men can get UTIs particularly if they have trouble with urine flow. Older men who experience prostatitis (an inflammation of the prostate) are in a higher risk group. If the bladder is not emptying properly, the residual urine makes it harder to cure the infection but is not itself a cause

A small number of young men may get a urinary tract infection. In males, urethritis is usually the result of a sexually transmitted disease (STD).

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## **WHAT IS THE LINK WITH DIABETES?**

UTIs are more common in women than men and more likely in women with diabetes. A high level of glucose, a type of sugar, in the blood or urine is a clear sign of diabetes. When your kidneys remove large amounts of sugar from your blood, they release it into the bladder in the urine. This provides germs with an ideal environment and *E. coli* loves sugar.

Diabetes may also change your body's defence system making it harder to fight a UTI. The higher your blood sugar, the less effectively your white blood cells work.

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## **WHY ARE OLDER PEOPLE MORE AT RISK?**

With age, both men and women are more likely to get a UTI. Chronic conditions, some medications and problems with incontinence put older people in a higher risk group.

People using bladder catheters including the elderly and those with spinal cord injuries, are more likely to develop a UTI. A catheter is a soft plastic tube inserted into your urethra. The longer the catheter is in place, the higher the risk of a UTI.

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## **DO BABIES AND YOUNG CHILDREN GET UTIS?**

Babies and children are also more at risk of UTIs. These infections always need to be investigated as they may indicate a serious underlying condition such as urinary reflux. Reflux is caused by a bladder valve problem allowing urine to flow back into the kidneys from the bladder. Reflux can cause the urine to stay inside the body and may become a pool for infection. It may lead to kidney scarring, which in turn leads to high blood pressure and sometimes kidney problems. It is important to have children tested as early as possible if another family member has reflux. An ultrasound is often used to examine the kidney and urinary tract. Circumcision can help to protect male babies under 6 months of age against UTIs. Research is ongoing.

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## **WHAT ARE THE SYMPTOMS?**

Bacteria can be present in a urine sample without causing any symptoms. This is more common in women who have diabetes, repeated UTIs or the elderly. This type of UTI may not always need treatment except in special situations, such as in pregnant women. UTIs with symptoms are most common among sexually active women.

Common symptoms include:

- Burning sensation when passing urine
- Wanting to urinate more often, if only to pass a few drops
- Cloudy, bloody or very smelly urine
- Pain in the lower part of your body

Signs of UTIs in children can also include:

- Low fever
- Irritability
- New day or night wetting in a child who has been dry
- Feeding problems in babies

If the infection moves to the kidneys, you may also have high fever and back pain and vomiting. It is important to see a doctor if a kidney infection or kidney stones are suspected because lasting damage or even kidney failure can occur if these conditions are left untreated. Infection which has spread from cystitis or pyelonephritis is a much more serious condition.

## HOW CAN URINARY TRACT INFECTIONS BE TREATED?

A faint prickly feeling during urination is usually the first sign of a urinary tract infection. Sometimes mild cystitis can be treated by:

- Drinking plenty of fluids, particularly water
- Taking a commercial urinary alkalinising agents or one teaspoon of baking soda or bicarbonate of soda in water. This may help to alleviate the discomfort of burning and scalding when passing urine. It is important to refer to your doctor if symptoms persist. These treatments may reduce symptoms but an infection can still be present and need different treatment.
- Avoid acidic food or drinks as these can aggravate the burning when passing urine. They will also cancel out the effect of urinary alkalinising agents

Medical advice is needed if self-help treatments aren't working. The doctor usually tests the urine to check for blood, white blood cells and acidity. UTIs respond well to antibiotics.

If a UTI comes back again, your doctor can order a 'culture'. A 'culture' is a test to see which germs are present in your urine. The identification of the germ assists with the choice of antibiotic to treat the infection. Sometimes a low dose antibiotic may be prescribed for long-term use if the UTI is persistent. Test results may not always be reliable as there is a chance of a false negative result. If the UTI does not improve or are frequently recurring it may be a good idea to get a referral to a specialist from your GP. See 'Make the most of your visit to the doctor' fact sheet for more information.

Men should see a doctor if they have trouble with the urine stream or problems starting and stopping urine flow; it may point to an enlargement of the prostate. As urine infections are less common in men, their doctor should review all men who have had a urine infection.

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## HOW CAN URINARY TRACT INFECTIONS BE AVOIDED?

Women can lower their risk of having a urinary tract infection by:

- Drinking lots of fluid, particularly water, to wash bacteria from the bladder and urinary tract. If you are unsure about how much to drink, ask your doctor.
- Quickly treating a vaginal infection, such as thrush or trichomoniasis
- Avoiding spermicide-containing products, particularly with a diaphragm
- Avoid constipation
- Some women have found the following tips helpful although there is no research to support them:
  - Urinating immediately after sexual intercourse
  - Do not delay going to the toilet when you need to
  - Wipe from front to back after urinating
  - Wear cotton underwear
  - Use only water when washing between your legs
  - Wash between your legs every day and before having sexual intercourse

For women who have recurrent UTIs, daily intake of cranberry juice or capsules can reduce the incidence of symptomatic UTIs. . Cranberry juice

appears to lower the ability of *E. coli* to stick to the urinary tract lining cells. Let your doctor know if you are having cranberry juice as it can alter the effectiveness of some antibiotics.

It is important to remember that getting UTIs is not because of lack of cleanliness. Self-help treatments such as vaginal douching do not change the likelihood of getting UTIs.

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**For more information about kidney health or this topic, please contact Kidney Health Australia: Kidney Information Line (freecall) on 1800 682 531 or visit website [www.kidney.org.au](http://www.kidney.org.au)**

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This is intended as a general introduction to this topic and is not meant to substitute for your doctor's or Health Professional's advice. All care is taken to ensure that the information is relevant to the reader and applicable to each state in Australia. It should be noted that Kidney Health Australia recognises that each person's experience is individual and that variations do occur in treatment and management due to personal circumstances, the health professional and the state one lives in. Should you require further information always consult your doctor or health professional.

Kidney Health Australia gratefully acknowledges the valuable contribution of the National Renal Resource Centre and KHA Kidney and Urinary Advisory Group in the development of this material.

Revised Oct 2009