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

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. So the majority of urinary infections are confined to the bladder and, while causing important symptoms, are not serious or life threatening.

Types of infections
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 ósignalsô the urge to urinate and urine leaves the body through a tube called the urethra.

Urinary tract infections are caused by micro-organisms or germs, usually bacteria. The different types of urinary tract infection can include:

- **Urethritis** ï infection of the urethra
- **Cystitis** ï infection of the bladder
- **Pyelonephritis** ï infection of the kidneys.

Symptoms of urinary tract infection
Some of the symptoms include:

- Wanting to urinate more often, if only a few drops (urgency)
- Burning pain or a óscaldingô sensation on urination
- A feeling that the bladder is still full after urination
- 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.

Micro-organisms are the cause
Urine is normally sterile, which means it doesnôt 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 (opening in the

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.

People at greater risk
Some people are at greater risk than others of developing urinary tract infections. These include:

- **Women** ï sexually active women are vulnerable, in part because the urethra is only 4cm long and bacteria have only this short distance to travel from the outside to the inside of the bladder.
- **People with urinary catheters** ï such as the critically ill, who canôt empty their own bladder.
- **People with diabetes** ï changes to the immune system make a person with diabetes more vulnerable to infection.
- **Men with prostate problems** ï such as an enlarged prostate gland that can cause the bladder to only partially empty.
- **Babies** ï especially those born with physical problems (congenital abnormalities) of the urinary system.

Urinary abnormalities in children
Urine infection in a child needs to be investigated as it may indicate a more serious condition. The most common urinary system condition is vesico-ureteric reflux. This means the bladder valve isnôt working properly and allows urine to flow back to the kidneys, increasing the risk of a kidney infection.

Vesico-ureteric reflux and the associated infections can scar or permanently damage the kidney. It can also lead to:

- High blood pressure
- Toxaemia in pregnancy
- Kidney failure.

The disorder tends to run in families, so itôs important to screen children as early as possible if a close relation is known to have the problem.

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

- 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.

- eel the urge to urinate, rather than holding on.
- k (urethra to anus) after going to the toilet.
- Empty your bladder after sex.

Controlled trials have shown that cranberry juice may decrease the number of UTIs with symptoms over a 12-month period in women. Cranberry juice appears to lower the ability of *E. coli* to stick to the urinary tract lining cells. Cranberry products can also be effective in reducing the risk of UTIs in women who have had recurrent infections. Let your doctor know if you are having cranberry juice as it can alter the effectiveness of some antibiotics.

Seek medical attention

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. If the infection is in the kidney, permanent damage or even kidney failure can occur if it is left untreated. 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
- Your local community health centre
- Kidney Health Australia Information Line Tel. 1800 4 KIDNEY (543 639), TTY 1800 005 881

Things to remember

- 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.