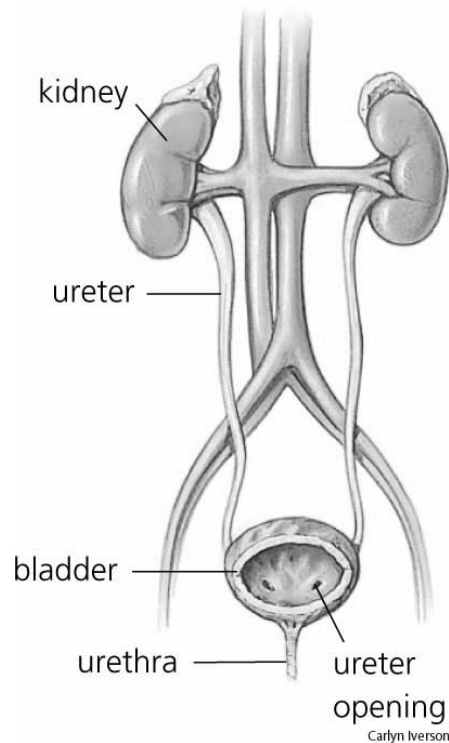


URINARY TRACT INFECTION

“Keep it at bay”



The urinary system is composed of the kidneys, ureters, bladder and urethra. Any of these can become infected. Urinary tract infection (UTI) is an infection that begins in the urinary system. It is often painful and annoying and can become a serious health problem if it spreads to the kidneys. Most infections involve the lower tract – the urethra and the bladder. Women are most at risk of developing a UTI due to the nearness of the urinary and genital passages.

Signs and symptoms

Not everyone with a UTI develops recognizable signs and symptoms, but most people have some. These can include:

- A strong, persistent urge to urinate
- A burning sensation when urinating
- Feeling of having passed urine incompletely
- Passing frequent, small amounts of urine
- Blood in the urine (hematuria) or cloudy, strong-smelling urine

Depending on which part of the urinary tract is infected, the presentation may vary slightly:

- **Acute pyelonephritis:** Infection of kidneys may occur after spreading from the bladder. Kidney infection can cause flank pain, high fever, shaking chills, and nausea or vomiting.
- **Cystitis:** Inflammation or infection of your bladder may result in pressure in the pelvis and lower abdomen and strong-smelling urine.
- **Urethritis:** Inflammation or infection of the urethra leads to burning with urination and sometimes pus in the urine. In men, urethritis may even cause penile discharge.

Causes

Urinary tract infections typically occur when bacteria enter the urinary tract through the urethra and begin to multiply in the bladder. The urinary system has infection-fighting properties that inhibit the growth of bacteria and is designed to keep out such microscopic invaders. However, certain factors increase the chances that bacteria will enter the urinary tract, take hold and multiply into a full-blown infection.

Bacteria in the urine don't always signify infection. Some people, especially older adults, may have bacteria in the bladder that don't cause any signs or symptoms or harm. This condition is known as asymptomatic bacteriuria.

Cystitis may occur in women after sexual intercourse. But even girls and women who are not sexually active are susceptible to lower urinary tract infections because the anus is so close to the female urethra. Most cases of cystitis are caused by *Escherichia coli* (*E. coli*), a species of bacteria commonly found in the gastrointestinal tract.

In urethritis, the same organisms that infect the kidney and bladder can infect the urethra. In addition, because of the female urethra's proximity to the vagina, sexually transmitted diseases (STD) such as herpes simplex virus and Chlamydia, also are possible causes of urethritis. Conversely, organisms that infect the urethra can easily spread to the vagina and cause an STD.

In men, urethritis often is the result of bacteria acquired through sexual contact. The majority of such infections are caused by Gonorrhea and Chlamydia.

Risk factors

Some people appear to be more likely than others to develop UTIs. Up to one in five women will develop a bladder infection over a lifetime. A key reason is their anatomy. Women have a shorter urethra than men have, which cuts down the distance the bacteria must travel to reach the bladder.

Women who are sexually active tend to have more UTIs. Sexual intercourse can irritate the urethra, allowing germs to more easily travel through the urethra into the bladder. Women who use diaphragms for birth control also

may be at higher risk. After menopause UTIs may become more common because tissues of the vagina, urethra and the base of the bladder become thinner and more fragile due to loss of estrogen.

Other risk factors include:

- Anything that impedes the flow of urine, such as an enlarged prostate in men or a kidney stone
- Diabetes and other chronic illnesses that may impair the immune system
- Medications that lower immunity, such as cortisone in higher doses
- Prolonged use of tubes (catheters) in the bladder

Screening and diagnosis

A urine routine test, sometimes followed by a urine culture, can reveal whether you have an infection. Although no simple test can differentiate between an upper and lower urinary tract infection, the presence of fever and flank pain indicates that the infection likely involves your kidneys.

Complications

When treated promptly and properly, UTIs rarely lead to complications. But left untreated, a urinary tract infection can become something more serious than a set of uncomfortable symptoms.

Untreated UTIs can lead to acute or chronic pyelonephritis (infection in the kidneys), which could permanently damage your kidneys. Young children and older adults are at the greatest risk of kidney damage due to UTIs because their symptoms are often overlooked or mistaken for other conditions. Women who have UTIs while pregnant may also have an increased risk of delivering low birth weight or premature infants.

Treatment

Antibiotics are the first line of treatment for most UTIs. Drugs most commonly recommended for simple UTIs include amoxicillin, nitrofurantoin, trimethoprim and its antibiotic combination with sulfamethoxazole.

Usually, UTI symptoms clear up within a few days of treatment. But you may need to continue antibiotics for a week or more. Take the entire course of antibiotics recommended by your doctor to ensure that the infection is completely eradicated and prevent recurrence.

If you have recurrent UTIs, your doctor may recommend a self-treatment program with short courses of antibiotics or a longer course of antibiotic treatment. He or she may refer you to a doctor who specializes in urinary disorders (urologist) or a doctor whose speciality is kidneys (nephrologists) for an evaluation to determine if urologic abnormalities may be causing the infections. For a woman with infections related to sexual activity, a doctor may recommend taking a single dose of antibiotic after sexual intercourse.

For severe UTIs, hospitalization and treatment with intravenous antibiotics may be necessary. When recurrences are frequent or a kidney infection becomes chronic, your doctor will likely recommend that you seek medical care from a specialist who can identify underlying and potentially treatable causes.

Prevention

You can take steps to reduce your risk of urinary tract infections. Women in particular may benefit from the following:

- **Drink plenty of liquids, especially water.** Cranberry juice may have infection-fighting properties. However, don't drink cranberry juice if you're taking the blood-thinning medication Warfarin. Possible interactions between cranberry juice and Warfarin can lead to bleeding.
- **Urinate frequently.** Avoid retaining your urine for a long time after you feel the urge to void.
- **Wipe from front to back.** Doing so after urinating and after a bowel movement helps prevent bacteria in the anal region from spreading to the vagina and urethra.
- **Empty your bladder as soon as possible after intercourse.** Also, drink a full glass of water to help flush bacteria.
- **Avoid potentially irritating feminine products.** Using deodorant sprays or other feminine products, such as douches and powders, in the genital area, can irritate the urethra.

Self-care

UTIs can be painful, but you can take steps to ease your discomfort until antibiotics clear the infection. Follow these tips:

- **Use a heating pad.** Sometimes a heating pad placed over the abdomen can help minimize feelings of bladder pressure or pain.
- **Drink plenty of fluids.** However, avoid coffee, alcohol, and soft drinks containing citrus juices and caffeine until your infection has cleared, because these things can irritate your bladder and tend to aggravate your frequent or urgent need to urinate.

If you have recurrent bladder infections, let your doctor know. Together you can determine a strategy to reduce recurrences and the discomfort UTIs can bring.

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LOGO

Dr. Umesh Khanna

Chairman

Mumbai Kidney Foundation

111-C, Lancelot Medical Centre, Opp. Shastri Nagar, Borivli (West),
Mumbai-400092.

Ph Nos.: 28012783, 28016266, 28626854

www.mumbaikidneyfoundation.org

24hrs helpline number: 9819164159