



Patient Information

Conquering Urinary Tract Infections

The urinary tract eliminates waste from the body in the form of urine. It includes the kidneys, which make urine by removing waste and extra water from the blood; the bladder, which stores the urine until you eliminate it from your body; the *ureters* (**yur**-reht-ehrs), which are the long narrow tubes that carry urine from the kidneys to the bladder; and the *urethra* (yuh-**ree**-thruh), which carries urine from the bladder out of the body.

A urinary tract infection, or UTI, occurs when bacteria enter the opening of the urethra and multiply. The majority of UTIs are caused by *Escherichia coli* (esh-uh-**rick**-ee-uh **koh**-lie) bacteria—called *E. coli* for short—which are normally found in the colon and digestive tract. These infections generally involve only the lower urinary tract (the urethra and bladder). If left untreated, however, the UTI can travel up the ureters to the kidneys, causing a more serious condition that requires more extensive treatment.

Other bacteria that can cause UTIs are *Chlamydia* (kluh-**mid**-ee-uh) and *Mycoplasma* (my-koh-**plaz**-muh). Men and women infected with these bacteria can transmit them to their partner during sexual intercourse, not only causing a UTI but infecting their partner's reproductive system as well.

How do I know if I'm at risk?

UTIs are common and can develop in anyone at any age. Women, however, tend to develop more UTIs than men, possibly because their urethras are shorter and are close to the vagina and anus (which are

both sources of UTI causing bacteria). A woman's risk of developing a UTI increases if she is sexually active, uses a diaphragm, has a partner who uses condoms with *spermicidal* (spuhr-muh-**side**-uhl) foam, is pregnant, or has reached menopause. Some women may be vulnerable to UTIs and have them frequently. Research suggests that reasons may be linked to blood type and hereditary factors.

People who have a disorder that affects the immune system (such as diabetes) or an obstruction to the flow of urine (for example, a kidney stone or an enlarged prostate gland) have a greater risk of developing a UTI. The same is true of those who, due to unconsciousness or extreme illness, cannot urinate on their own and require the use of a *catheter* (**kath**-eht-ehr)—that is, a tube inserted into the bladder to drain urine. For infants, wearing a soiled diaper increases the chance of developing a UTI.

What are the warning signs?

Signs and symptoms of a UTI include: an urge to urinate frequently, even when little or no urine can be passed; a painful or burning sensation when urinating; cloudy, bloody, or strong smelling urine; back pain; and fever. In addition to fever and back pain, a UTI affecting the kidneys may cause chills, nausea, vomiting, and pain in the side below the ribs.

It may be more difficult to identify the signs of a UTI in an infant than in an adult. These can include diarrhea, loss of appetite, unexplained fever, nausea, vomiting, or excessive crying that is not relieved by

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food or holding. Call a doctor immediately if you notice any of these signs or any change in an infant's urinary pattern.

What tests do I need?

Your doctor will ask you to collect a "clean catch" sample of your urine by washing your genital area and urinating "midstream" into a sterile cup. (This is done to ensure that your sample isn't spoiled by normal bacteria from around the genital area.) Your sample will be tested for the presence of pus or white blood cells—both signs of infection. If there is an infection, your urine may be cultured to determine what type of bacteria caused it. If your infection does not clear up with treatment, an intravenous, or IV, *pyelogram* (**pie**-uh-luh-gram) may be performed. This involves injecting dye into a vein in your arm and taking pictures of your bladder, ureters, and kidneys.

If you have frequent UTIs, you may need to have an *ultrasound* (**uhl**-truh-sound), which uses sound waves to produce pictures of your internal organs. Or, in order to see both the urethra and bladder in detail, your doctor may apply a local anesthetic to your urethra and insert a *cystoscope* (**sis**-teh-skope), which is a narrow tube with a small camera.

How can I avoid the problem?

To prevent UTIs: drink plenty of water daily to remove bacteria from the urinary tract; urinate when you feel the need rather than holding it for long periods of time; cleanse your genital area before engaging in sex; urinate after sex; take showers instead of baths; and avoid using scented soaps. For women, both feminine hygiene sprays and douches can irritate the urethra and should be avoided—especially if you have frequent UTIs. And always wipe from front to back to prevent bacteria from entering the urethra.

To protect infants from UTIs, make sure that soiled diapers are changed promptly.

How is it treated?

Your doctor will likely prescribe an *antibiotic* (an-tie-bye-**aht**-ik) medication that can kill the specific type of bacteria that is causing your infection. If *E. coli* is the culprit, three to seven days of taking antibiotics in pill form may be sufficient. Longer treatment may be necessary to kill *Chlamydia* or *Mycoplasma*. Men may need to take antibiotics for a longer period than women to ensure that the infection doesn't spread to the prostate.

Be sure to complete the entire course of antibiotics—even if your symptoms go away. Not finishing the prescription may cause the infection to return, even stronger, or allow it to advance to your kidneys. A kidney infection may require up to six weeks of antibiotic therapy, and hospitalization may be necessary. Fortunately, permanent kidney damage can be prevented in most situations.

If your UTI has been caused by a kidney stone or other urinary tract obstruction, surgery may be required to remove the blockage.

To help ease the pain of UTI, your doctor may recommend that you take an over-the-counter pain reliever or place a hot water bottle or heating pad on your pelvic area. It's best to avoid drinking coffee and alcohol, eating spicy foods, and smoking while undergoing treatment. In fact, if you smoke, ask your doctor for help quitting—smoking is the leading cause of bladder cancer.

If you get UTIs frequently, your doctor may develop a special antibiotic treatment plan for you. If so, make sure you understand your doctor's instructions and follow them exactly. ●

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