

PATIENT EDUCATION



The American College of
Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

Urinary Tract Infections

Many women have a urinary tract infection (UTI) at some point during their lives. Some women will have repeat infections and may have them often. Most UTIs are not serious. They are easy to treat with **antibiotics**, and symptoms can be relieved quickly.

This pamphlet explains

- *causes of UTIs*
- *symptoms and treatment*
- *how UTIs can be prevented*

A Woman's Urinary Tract

The urinary tract is made up of the following parts:

- Two **kidneys**, which produce urine
- Two tubes called **ureters** that take urine from the kidneys to the **bladder**
- The bladder, where urine is stored
- The **urethra**, which carries urine from the bladder out of the body

The urinary tract has a lower part and an upper part. The lower tract is made up of the urethra and the bladder. The upper urinary tract consists of the ureters and kidneys.

Types of Urinary Tract Infections

Most UTIs start in the lower urinary tract. Bacteria can enter through the urethra and spread upward to the bladder. This causes cystitis, a bladder infection. In some cases, urethritis, an infection of the urethra,

occurs at the same time. Bacteria that have infected the bladder may travel up the ureters to the kidneys. This can cause pyelonephritis, a kidney infection. An infection in the upper tract may cause a more severe illness than infection in the lower tract.

Women are more likely than men to get UTIs because the urethra is shorter in a woman than in a man. That means bacteria can reach the bladder more easily.

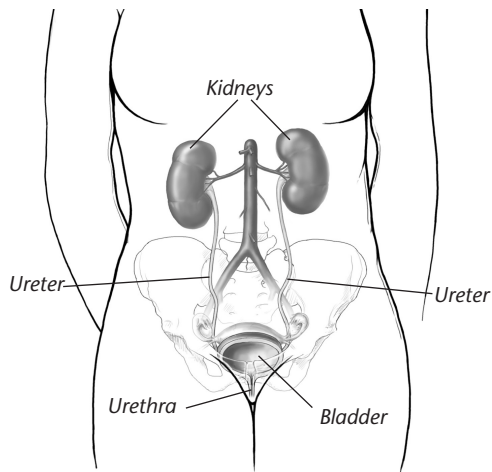
Causes

There are many reasons why a woman may get a UTI. The most common causes include bacteria from the **rectum** and **vagina**, sex, or urinary tract problems.

Bacteria

Bacteria from the bowel live on the skin near the **anus** or in the vagina. These bacteria can spread and enter the urinary tract through the urethra. If they move up the urethra, they may cause infections in the bladder and, sometimes, in other parts of the urinary tract.

Female Urinary Tract



Sex

Women's anatomy makes them prone to getting UTIs after having sex. The opening of the urethra is in front of the vagina (see figure below). During sex, bacteria near the vagina can get into the urethra from contact with the penis, fingers, or devices.

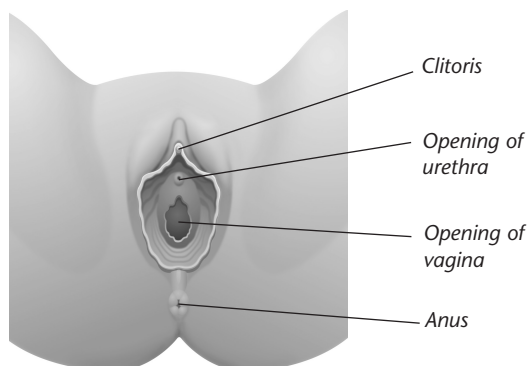
Urinary tract infections also tend to occur in women who begin having sex or have it more often. Using *spermicides* or a diaphragm also can cause more frequent UTIs.

Problems in the Urinary Tract

Infections also can occur when the bladder does not empty completely. This condition may be caused by

- blockage (a stone) in the ureters, kidneys, or bladder that prevents the flow of urine through the urinary tract
- a narrowed tube (or a kink) in the urinary tract
- problems with the pelvic muscles or nerves

The Vulva



Other Causes

Certain other factors increase your chance of getting a UTI. You are more likely to get an infection if you

- have had a UTI before
- have had several children
- have *diabetes mellitus*
- are obese

UTIs can occur during *menopause* and pregnancy. If you are pregnant and think you may have a UTI, be sure to tell your *obstetrician-gynecologist (ob-gyn)* or other health care professional promptly. If untreated, it may cause problems for you and your *fetus*.

Symptoms

Symptoms of UTIs can come on quickly. One sign is a strong urge to urinate that cannot be delayed (urgency). As urine flows, a sharp pain or burning, called *dysuria*, is felt in the urethra. The urge to urinate then returns minutes later (frequency). Soreness may be felt in the lower abdomen, in the back, or in the sides.

Other signs may show up in the urine. It may

- have a strong odor
- look cloudy
- sometimes be tinged with blood

Blood in the urine may be caused by a UTI, but it also may be caused by other problems. Tell your ob-gyn or other health care professional promptly if you see blood in your urine.

If the bacteria enter the ureters and spread to the kidneys, symptoms also may include

- back pain
- chills
- fever
- nausea
- vomiting

If you have any of these symptoms, tell your ob-gyn or other health care professional right away. Kidney infections are serious. They need to be treated promptly.

Symptoms linked with a UTI, such as painful voiding, can be caused by other problems (such as an infection of the vagina or *vulva*). Tests may be needed to confirm the diagnosis. Be sure to let your ob-gyn or other health care professional know if you have any of these symptoms.

Diagnosis

The diagnosis of a UTI often is made based on symptoms, including pain with urination or frequent urination. Your ob-gyn or other health care professional may first do a simple test, called urinalysis, to find out whether you have a UTI. For this test, you will be asked to provide a urine sample. This sample will be

How to Provide a Urine Sample

For urinalysis, it is important to provide a clean sample of urine. Your ob-gyn or other health care professional will explain how to do this.

Open the sterile cup and place it at easy reach (place cap with bottom turned up). Separate the **labia** with one hand, and with the other hand, clean your genital area with a special wipe. Be careful to wipe from front to back and do not touch or wipe your rectum. While still holding the labia open, pick up the opened container with your other hand, then pass a little bit of urine into the toilet and catch the rest into the cup.

Do not touch the inside of the lid or the inside of the cup at any time. This helps ensure that bacteria from other areas and from your hands do not get into the sample. If they do, they may affect the test results.

studied in a lab for the presence of white and red blood cells and bacteria. The urine sample also may be grown in a culture (a substance that promotes the growth of bacteria) to see which bacteria are present.

When an infection does not clear up with treatment, you have had several UTIs in a row, or you have pain, fever, and chills, your ob-gyn or other health care professional may need to examine your urinary tract more closely for signs of a more serious problem. He or she may order an **ultrasound exam** or **computed tomography (CT)** of the upper urinary tract.

Treatment

Antibiotics are used to treat UTIs. Treatment is meant to relieve symptoms. A simple UTI rarely leads to infection of the upper urinary tract. The type, dose, and length of the antibiotic treatment depend on the type of bacteria causing the infection and on your medical history.

In most cases, treatment lasts a few days and is very effective. Most symptoms go away in 1–2 days. Be sure to take all the medication even though your symptoms may go away before you finish your prescription. If you stop treatment early, the infection may still be present or it could come back after a short time.

For more severe infections, such as a kidney infection, you may need to stay in the hospital. These infections take longer to treat and you may be given medication intravenously (through a tube in a vein).

Recurrent Infections

If you have three or more UTIs in a year, you have a **recurrent infection**. The first step in treatment is finding the cause. Factors that increase the risk of recurrent infection are

- frequent sex
- young age at first UTI

- spermicide use
- diaphragm use
- a new sexual partner

Recurrent infections are treated with antibiotics. A week or two after you finish treatment, a urine test may be done to see if the infection is cured. Changing your birth control method also may be recommended. If you often get UTIs through sexual activity, you may be given an antibiotic to take in single doses after you have sex.

Prevention

There are a number of ways to prevent UTIs:

- Wash the skin around the anus and the genital area.
- Drink plenty of fluids (including water) to flush bacteria out of your urinary system.
- Empty your bladder as soon as you feel the urge or about every 2–3 hours.

Unsweetened cranberry juice and cranberry pills may decrease the risk of getting a UTI. The exact amount of juice or pills needed and how long you need to take them to prevent infection are being studied. Treatment with an **estrogen** cream or pills is being studied as a way to prevent UTIs in menopausal women.

Finally...

Urinary tract infections are common and can be painful. Treatment can decrease painful symptoms. If you have multiple UTIs in a year, it is important to talk with your ob-gyn or other health care professional. With prompt, proper treatment, these infections can be treated with success.

Glossary

Antibiotics: Drugs that treat certain types of infections.

Anus: The opening of the digestive tract through which bowel movements leave the body.

Bladder: A hollow, muscular organ in which urine is stored.

Computed Tomography (CT): A type of X-ray that shows internal organs and structures in cross section.

Diabetes Mellitus: A condition in which the levels of sugar in the blood are too high.

Dysuria: Pain during urination.

Estrogen: A female hormone produced in the ovaries.

Fetus: The stage of human development beyond 8 completed weeks after fertilization.

Kidneys: Organs that filter the blood to remove waste that becomes urine.

Labia: Folds of skin on either side of the opening of the vagina.

Menopause: The time when a woman's menstrual periods stop permanently. Menopause is confirmed after 1 year of no periods.

Obstetrician–Gynecologist (Ob-Gyn): A doctor with special training and education in women's health.

Rectum: The last part of the digestive tract.

Recurrent Infection: An infection that occurs more than once.

Spermicides: Chemicals (creams, gels, foams) that inactivate sperm.

Ultrasound Exam: A test in which sound waves are used to examine inner parts of the body. During pregnancy, ultrasound can be used to check the fetus.

Ureters: A pair of tubes, each leading from one of the kidneys to the bladder.

Urethra: A tube-like structure. Urine flows through this tube when it leaves the body.

Vagina: A tube-like structure surrounded by muscles. The vagina leads from the uterus to the outside of the body.

Vulva: The external female genital area.

This information was designed as an educational aid to patients and sets forth current information and opinions related to women's health. It is not intended as a statement of the standard of care, nor does it comprise all proper treatments or methods of care. It is not a substitute for a treating clinician's independent professional judgment. Please check for updates at www.acog.org to ensure accuracy.

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