



Greenville Medical Associates

Urinary Tract Infections

Overview

The urinary tract is the body's drainage system for removing waste and extra water. It includes two kidneys, two ureters, a bladder and a urethra. Urinary tract infections, or UTIs, are the second most common type of infection in the body.

You may have a UTI if you notice:

- Pain or burning when you urinate.
- Fever, tiredness or shakiness.
- An urge to urinate often.
- Pressure in your lower belly.
- Urine that smells bad or looks cloudy or reddish.
- Pain in your back or side below the ribs.

People of any age or sex can get UTIs. But about four times as many women get UTIs as men. You are also at higher risk if you have diabetes, need a tube to drain your bladder or have a spinal cord injury.

If you think you have a UTI it is important to see your health care provider. Your health care provider can use a urine test to tell if you have a UTI. UTIs are treated with antibiotics.

Introduction

A urinary tract infection, or UTI, is an infection of the urinary tract. Infections are caused by microbes, including bacteria, fungi and viruses.

Infections of the urinary tract are the second most common type of infection in the body. If you think you have a UTI, it is important to see your health care provider.

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This health information explains the causes and symptoms of urinary tract infections, and the treatment options for urinary tract infections.

Anatomy

The urinary tract is the body's drainage system for removing waste and extra water. The urinary tract usually includes two kidneys, two ureters, a bladder and a urethra.

The kidneys are a pair of organs that are each about the size of a fist. They are located below the ribs, one on each side of the spine, toward the middle of the back.

Urine travels from the kidneys down two narrow tubes called the ureters.

The urine is then stored in a balloon-like organ called the bladder. It is emptied through the urethra, which is a tube at the bottom of the bladder.

When the bladder empties, a muscle called the sphincter relaxes and urine flows out of the body through the urethra.

Urinary Tract Infection

A urinary tract infection, or UTI, is an infection of the urinary tract. Infections are caused by microbes. Microbes are organisms too small to be seen without a microscope. They include bacteria, fungi and viruses.

Bacteria are the most common cause of UTIs. Normally, bacteria that enter the urinary tract are quickly removed by the body before they cause symptoms. But sometimes bacteria overcome the body's natural defenses and cause infection.

Urinary tract infections are the second most common type of infection in the body. Millions of people are treated for UTIs each year.

Women are more likely to develop UTIs. One reason is that a woman's urethra is shorter than a man's. This allows bacteria quicker access to the bladder from the outside. Also, a woman's urethral opening is near sources of bacteria from the anus and vagina.

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More than 50% of women develop at least one episode of UTI at some point in their lives. UTIs in men are not as common as in women but can be serious when they happen.

Symptoms

Symptoms of a UTI depend on the type of infection. Symptoms depend on age and gender. Even men or women within the same age group having the same UTI may experience different symptoms.

Among young women, UTI symptoms typically include a frequent and intense urge to urinate and a painful, burning feeling in the bladder or urethra during urination. The amount of urine may be small.

Older women and men are more likely to be tired, shaky and weak. They may also have muscle aches and abdominal pain. Urine may look cloudy, dark or bloody. It may have a foul smell.

Normally, UTIs do not cause fever if they are limited to the bladder. A fever may mean the infection has reached the kidneys or has involved the prostate.

Other than fever, symptoms of a kidney infection include:

- Pain in the back or side below the ribs.
- Nausea.
- Vomiting.

If you think you have a UTI or another infection, see your health care provider.

Causes

Most UTIs are caused by bacteria that live in the bowel. The bacterium *E. coli* causes many UTIs.

Microbes called chlamydia and mycoplasma can infect the urethra and reproductive system but not the bladder. Chlamydia and mycoplasma infections may be sexually transmitted and require treatment of sexual partners.

A UTI can also be caused by a catheter. A catheter is a tube placed in the bladder through the urethra to help empty the bladder. It is typically placed in a health care facility. But some patients are sent home with a catheter.

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Urinary tract infections in men are often the result of an obstruction, like a kidney stone or an enlarged prostate, or are from a catheter used during a medical procedure. The first step in treating this infection is to identify the infecting organism and the medications to which it is sensitive.

UTIs in men are frequently associated with acute bacterial prostatitis, an infection of the prostate, which can be life threatening if not treated urgently.

Diagnosis

To find out whether you have a UTI, your health care provider will ask about urinary symptoms and then test a sample of urine for the presence of bacteria and white blood cells, which are produced by the body to fight infection.

Because bacteria can be found in the urine of healthy individuals, a UTI is diagnosed based on both symptoms and a laboratory test.

You will be asked to give a clean catch urine sample by washing the genital area and collecting a sample of urine in a sterile container. This method of collecting urine helps prevent bacteria around the genital area from getting into the sample and confusing the test results.

Usually, the sample is sent to a laboratory, although some health care providers' offices are equipped to do the testing. For some patients, such as people with recurring infections and patients in a health care facility, health care providers may request a urine culture.

The culture is performed by placing part of the urine sample in a tube or dish with a substance that encourages any bacteria present to grow. Once the bacteria have grown, which usually takes 1 to 3 days, a health care provider can identify the specific bacteria causing the infection.

Your health care provider may also order a sensitivity test, which tests the bacteria for sensitivity to different antibiotics. This will help your health care provider determine which medication is best for treating the infection.

If a person has recurring UTIs, the health care provider may order some additional tests to determine if your urinary tract is normal. There could be a structural obstruction making infections more likely.

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When a UTI happens in a healthy person with a normal, unobstructed urinary tract, the term uncomplicated is used to describe the infection. Most young women who have UTIs have uncomplicated UTIs. These usually can be cured with 2 or 3 days of treatment.

Treatment

Most UTIs are caused by bacteria, which are treated with antibiotics. The choice of medication and length of treatment depends on your medical history and the type of bacteria causing the infection.

Taking the full course of treatment is important because symptoms may disappear before the infection is fully cleared.

Your health care provider will request a follow up test to make sure that the urinary tract is free of any infection. Another urine test is needed during the follow up.

If the infection has spread to the kidneys, then the antibiotic treatment may require several weeks. Severely ill patients with kidney infections may be hospitalized until they can take fluids and needed medications on their own.

Kidney infections in adults rarely lead to kidney damage or kidney failure unless they go untreated.

Symptoms of kidney infections last longer. Bladder infections usually go away on their own. But antibiotic treatment shortens the amount of time a person has symptoms. Patients usually feel better within a day or two of treatment.

Drinking lots of fluids and urinating frequently may speed healing. Over-the-counter pain medication may be helpful in reducing pain. A heating pad on the back or abdomen may also help.

Health care providers may advise women who have frequent UTIs to:

- Take low doses of the prescribed antibiotic daily for 6 months or longer.
 - Take a single dose of an antibiotic after sexual intercourse.
 - Take antibiotics for 2 to 3 days when symptoms appear.
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Preventing Urinary Tract Infections

The urinary tract has several systems to prevent infection. The points where the ureters attach to the bladder act like one-way valves to prevent urine from backing up toward the kidneys. Urination washes microbes out of the body. In men, the prostate gland produces secretions that slow bacterial growth.

Drinking lots of fluids can help flush bacteria from the system. Water is best. Most people should try for six to eight, 8-ounce glasses a day. A person who has kidney failure should not drink that much fluid. Talk with your health care provider about how much fluid is healthy for you.

Urinating often can help prevent bacterial growth. Bacteria can grow when urine stays in the bladder for too long.

Drinking cranberry juice seems to help prevent UTIs. This may be due to the fact that cranberry juice causes the urine to become very acidic. Bacteria have trouble surviving in urine that is more acidic.

Women and men should urinate shortly after sex to flush away bacteria that might have entered the urethra during sex. Drinking a glass of water will also help flush bacteria away.

After using the toilet, women should wipe from front to back, from the vaginal area towards the anus. They should also not use the same toilet paper that has touched the anal area to wipe the vaginal area again. This helps to keep bacteria from getting into the urethra.

Cotton underwear and loose-fitting clothes should be worn so air can keep the area around the urethra dry. Tight-fitting jeans and nylon underwear should be avoided because they can trap moisture and help bacteria grow.

Both un-lubricated condoms and spermicidal condoms increase vaginal irritation in women. This may help bacteria grow in the vagina, which may later spread to the urinary tract. To decrease irritation, women can choose a lubricated condom without spermicide.

Another alternative is using non-spermicidal lubricant during intercourse which may decrease irritation and help prevent UTIs in women.

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Summary

Infections of the urinary tract, known as UTIs, are the second most common type of infection in the body. Most urinary tract infections are caused by one type of bacteria, E. coli, which normally lives in the bowel.

Symptoms of a UTI in adults may include:

- Pain or burning when you use the bathroom.
- Fever, tiredness or shakiness.
- An urge to use the bathroom often.

Other symptoms of UTIs include:

- Pressure in your lower belly.
- Urine that smells bad or looks cloudy or reddish.
- Nausea or back pain.

The infection may spread to the kidneys and prostate and become more severe. Fever may indicate a kidney or prostate infection.

UTIs can be prevented. Drinking lots of water and frequently urinating helps prevent UTIs. Drinking cranberry juice seems to prevent UTIs by making the urine too acidic for bacteria to survive.

If you think you have a UTI, it is important to see your health care provider. Your health care provider can tell if you have a UTI by testing a sample of your urine. Treatment with medicines to kill the infection will make it better, often in one or two days.

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