

# Urinary Tract Infections



National Kidney  
Foundation®

[www.kidney.org](http://www.kidney.org)

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KIDNEYS**



## Did you know that...

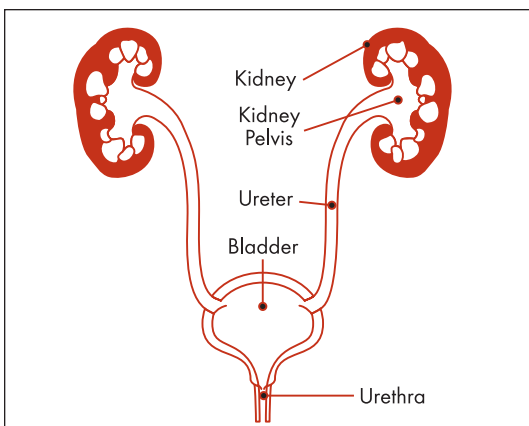
- Urinary tract infections (UTIs) are responsible for nearly 10 million doctor visits each year.
- One in five women will have at least one UTI in her lifetime. Nearly 20 percent of women who have a UTI will have another, and 30 percent of those will have yet another. Of this last group, 80 percent will have recurrences.
- About 80 to 90 percent of UTIs are caused by a single type of bacteria.

- UTIs can be treated effectively with medications called antibiotics.
- People who get repeated UTIs may need additional tests to check for other health problems.
- UTIs also may be called cystitis or a bladder infection.

This brochure answers the questions most often asked about UTIs. If you have more questions, speak to your doctor.

## What is a urinary tract infection?

A urinary tract infection is what happens when bacteria (germs) get into the urinary tract (the bladder) and multiply. The result is redness, swelling and pain in the urinary tract (see diagram).



Most UTIs stay in the bladder, the pouch-shaped organ where urine is stored before it passes out of the body. If a UTI is not treated promptly, the bacteria can travel up to the kidneys and cause a more serious type of infection, called pyelonephritis (pronounced pie-low-nef-right-iss). Pyelonephritis is an actual infection of the kidney, where urine is produced. This may result in fever and back pain.

### **What causes a UTI?**

About 80 to 90 percent of UTIs are caused by a type of bacteria, called *E. coli* (pronounced ee-co-lie). These bacteria normally live in your intestines, but they sometimes get into the urinary tract. Some UTIs are caused by other, less common types of bacteria.

### **What are the symptoms of a UTI?**

Some people don't have any symptoms with a UTI. However, most get at least one or some of the following:

- an urgent need to urinate, often with only a few drops of urine to pass



- a burning feeling when urinating
- an aching feeling, pressure or pain in your lower abdomen
- cloudy or blood-tinged urine
- a strong odor to your urine.

If the infection spreads to the kidneys and becomes more severe, you may also have:

- pain in your lower back
- fever and chills
- nausea and vomiting.

See your doctor right away if you have any of these symptoms.

## What will the doctor do to check for a UTI?

Your doctor will test a sample of your urine for bacteria and blood cells. This is called a urinalysis. It is important that you get instruction on how to collect the urine specimen properly to avoid bacterial contamination. A culture of the urine will tell the doctor which bacteria are present. Different antibiotics may also be tested to see which works best against the bacteria.

If an infection does not clear up with treatment, or if you have repeated infections, your doctor may refer you to a urologist, a physician who specializes in diseases of the urinary tract. Often, the urologist will order some special tests such as:

- An ultrasound exam, which gives a picture of your kidneys and bladder using sound waves.
- A cystoscopic exam, which uses a hollow tube with special lenses to look inside the bladder.

- Urodynamics, a test that determines if the bladder is functioning properly.
- An intravenous pyelogram, which involves injecting a dye into a vein and taking images of your kidneys and bladder.

## **How are UTIs treated?**

UTIs are treated with antibiotics. Your doctor may ask you to take the antibiotics for a week or two to make sure the infection has been cured. If your infection has spread to your kidneys, you may need several weeks of antibiotic treatment. In addition to antibiotics, your doctor may also tell you to drink plenty of fluids.

When people have other health problems in addition to their UTI, such as an enlarged prostate gland (in a man) or kidney stones, they will need to have these problems treated along with the UTI.

## Are certain people more likely to get UTIs?

Yes. While anyone can get a UTI, some people are more likely than others to get them.

- People who have diabetes may have changes in their body's immune system, making it easier for them to get UTIs.
- People with blockages in their urinary tract, such as a kidney stone, are more likely to get UTIs. An enlarged prostate gland in a man can also block the flow of urine and cause a UTI.
- Infants who are born with an abnormality of their urinary tract have an increased chance of getting a UTI. Surgery is sometimes needed to correct the problem.
- People who have a catheter, or tube, placed in their bladder for a long time are more prone to UTIs. This is because bacteria on the catheter can infect the bladder.
- Women get more UTIs than men. This may be because women have a shorter urethra (pronounced you-reeth-rah), which makes it easier for bacteria to travel up to the bladder.



## **Are pregnant women more likely to get UTIs?**

UTIs may be more serious during pregnancy because the bacteria are more likely to travel to the kidneys. A pregnant woman with a UTI should consult her doctor to avoid potential problems like high blood pressure or premature delivery of her baby.

## **What can be done for women who get repeated UTIs?**

A woman who gets UTIs often (three or more a year) should speak to her doctor. The doctor may recommend one of the following options:

- Taking low doses of an antibiotic daily for six months or longer.
- Taking a single dose of an antibiotic after having sex. (For many women, having sex seems to trigger a UTI.)
- Taking an antibiotic for one or two days when symptoms of a UTI occur.

## Do men get UTIs?

Yes, though much less often than women. A UTI in a man may be caused by an enlarged prostate gland, which can block the flow of urine.

## Do children get UTIs?

Yes, though less often than adults. Girls, especially between the ages of 4 and 8, are more likely to have UTIs than boys. Because it's easy to overlook symptoms of a UTI in children, parents should look for the following signs of a possible UTI:

- low fever
- irritability
- frequent urination
- pain or burning when urinating (younger children may cry when urinating)
- pain around the belly button
- strong odor to the urine and cloudy or blood-tinged urine
- new day or night wetting in a child who has been dry.



If the infection spreads to the kidneys, the child may also have:

- high fever
- back pain
- vomiting.

Children who have an unexplained fever for more than 24 hours or other signs of a possible UTI should be checked by a doctor. Some infants and children who get UTIs may have an abnormality of their urinary tract that needs to be treated. The doctor may want to do some special tests, such as an ultrasound exam, to check for any problems in the child's urinary tract.



## **Can anything be done to help prevent UTIs?**

Yes. The following steps may help to prevent UTIs:

- Drink plenty of fluids.
- Studies show that drinking a glass of cranberry juice each day may help prevent recurrent UTIs. New research also suggests a similar effect from other cranberry products, including dried cranberries and dietary supplements. Cranberries contain compounds that may

stop certain bacteria from attaching to the urinary tract wall. For those with diabetes or at-risk for diabetes, low-sugar or sugar-free options are available.

- Don't postpone going to the bathroom, urinate when you feel the urge.
- Women should also:
  - Wipe from front to back to prevent bacteria from the bowels from getting into the urinary tract.
  - Cleanse the genital area every day and before having sex.
  - Empty your bladder completely before going to sleep.

## **Do UTIs lead to kidney damage?**

Not usually. In most cases, UTIs can be treated successfully without causing kidney damage. However, UTIs caused by problems like an enlarged prostate gland (in a man) or a kidney stone can lead to kidney damage if the problem is not

corrected, and the infection continues. Pyelonephritis does cause some degree of kidney damage especially when it recurs.

UTIs that are associated with high fevers in young children may sometimes cause kidney damage if not treated promptly. This damage may lead to poor kidney function and high blood pressure in the future.

### **How can I find out more about UTIs?**

Your healthcare professional can answer specific questions you or your family may have about UTIs, symptoms and medications. The doctor can order the tests needed to find out if you have a UTI and plan any other tests or treatment you may need.

You can also find more information on the issues mentioned in this booklet online at the National Kidney Foundation's A to Z Guide: <http://www.kidney.org/atoz>.

NKF's brochure, *Your Kidneys: Master Chemists of the Body* (11-10-0103), may also be helpful to you. To order a free copy of this brochure, call the NKF toll-free at 800.622.9010 or visit the NKF online store at [www.kidney.org/store](http://www.kidney.org/store).



# National Kidney Foundation

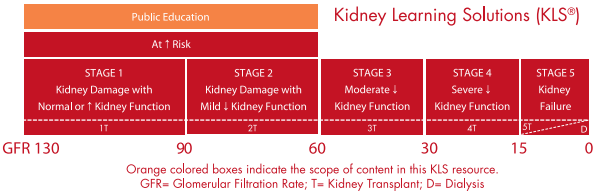
The National Kidney Foundation (NKF) is dedicated to preventing kidney diseases, improving the health and well-being of individuals and families affected by these diseases and increasing the availability of all organs for transplantation.

With local offices nationwide, the NKF provides early detection screenings and other vital patient and community services. The Foundation conducts extensive public and professional education, advocates for patients through legislative action, promotes organ donation and supports kidney research to identify new treatments.

In 2009, NKF launched a groundbreaking multifaceted collaborative initiative to **"END THE WAIT!"** for a kidney transplant in the United States in 10 years by using proven strategies to eliminate barriers to donation and institute best practices across the country.

The NKF relies on individual and corporate donations, foundation and government grants, membership and special events to support its range of programs, services and initiatives.

## A Curriculum for CKD Risk Reduction and Care



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