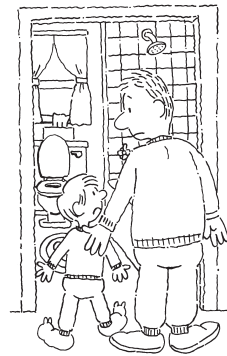


# Urinary Tract Infections in Young Children



Urinary tract infections (UTIs) are common in young children. UTIs may go untreated because the symptoms may not be obvious to the child or to parents. These infections can lead to serious health problems. From this brochure, parents can learn more about urinary tract infections—what they are, how children get them, and how they are treated.

## The Urinary Tract

The urinary tract makes and stores urine. It is made up of the kidneys, ureters, bladder, and the urethra (see illustration). The kidneys produce urine. Urine travels from the kidneys down two narrow tubes called the ureters to the bladder. The bladder is a thin muscular bag that stores urine until it is time to empty urine out of the body. When it is time to empty the bladder, a muscle at the bottom of the bladder relaxes. Urine then flows out of the body through a tube, called the urethra. The opening of the urethra is at the end of the penis in boys and above the vaginal opening in girls.

## Urinary Tract Infections

Normal urine has no germs (bacteria). However, bacteria can get into the urinary tract from two sources: the skin around the rectum and genitals and the bloodstream from other parts of the body. Bacteria may cause infections in any or all parts of the urinary tract, including the following:

- the urethra (called “urethritis”)
- the bladder (called “cystitis”)
- the kidneys (called “pyelonephritis”)

UTIs are common in infants and young children. About 3 percent of girls and 1 percent of boys will have a UTI by 11 years of age. A young child with a high fever and no other symptoms, has a 1 in 20 chance of having a UTI. The frequency of UTIs in girls is much greater than in boys. Uncircumcised boys have slightly more UTIs than those who have been circumcised.

## Symptoms

Symptoms of UTIs may include the following:

- fever
- pain or burning during urination
- need to urinate more often, or difficulty getting urine out
- urgent need to urinate, or wetting of underwear or bedding by a child who knows how to use the toilet
- vomiting, refusal to eat
- abdominal pain
- side or back pain
- foul-smelling urine
- cloudy or bloody urine
- unexplained and persistent irritability in an infant
- poor growth in an infant

## Diagnosis

If your child has symptoms of a UTI, your pediatrician will do the following:

- ask about your child’s symptoms
- ask about any family history of urinary tract problems
- ask about what your child has been eating and drinking (certain foods can irritate the urinary tract and cause similar symptoms)
- examine your child
- get a urine sample from your child

Your pediatrician will need to test your child’s urine to see if there are bacteria or other abnormalities. There are several ways to collect urine from a child.

- The preferred method to diagnose a UTI is to place a small tube, called a catheter, through the urethra into the bladder. Urine flows through the tube into a special urine container.
- Another method is to insert a needle through the skin of the lower abdomen to draw urine from the bladder. This is called needle aspiration.
- If your child is very young or not yet toilet trained, the pediatrician may place a plastic bag over the genitals to collect the urine. Since bacteria can contaminate the urine and give a false test result, this method is used only to screen for infection.
- An older child may be asked to urinate into a container.

Your pediatrician will discuss with you the best way to collect your child’s urine.

## Treatment

UTIs are treated with antibiotics. The way your child receives the antibiotic depends on the severity and type of infection. If your child has a fever or is vomiting and unable to keep fluids down, the antibiotics may be put directly into the bloodstream or muscle using a needle. This is usually done in the hospital. Otherwise, the antibiotics can be given by mouth, as liquid or pills.

UTIs need to be treated right away for the following reasons:

- to get rid of the infection
- to prevent the spread of the infection
- to reduce the chances of kidney damage

Infants and young children with UTIs usually need to take antibiotics for 7 to 14 days, sometimes longer. Make sure your child takes all the medicine your pediatrician prescribes. Do not stop giving your child the medicine until the pediatrician says the treatment is finished, even if your child feels better. UTIs can return if not fully treated.

## Follow-up

After your child finishes the antibiotics, your pediatrician may want to test another urine sample to make sure the bacteria are gone. In addition, your pediatrician will want to make sure the urinary tract is normal and that the infection did not cause any damage. Several tests are available to do this, including the following:

*Kidney and bladder ultrasound:* Uses sound waves to examine the bladder and kidneys.

*Voiding cystourethrogram (VCUG):* A catheter is placed into the urethra and the bladder is filled with a liquid that can be seen on X-rays.

*Intravenous pyelogram:* A liquid that can be seen on X-rays is injected into a vein and then travels into the kidneys and bladder.

*Nuclear scans:* Radioactive materials are injected into a vein to see if the kidneys are normal. There are many kinds of nuclear scans, each giving different information about the kidneys and bladder. The radioactive materials give no more radiation than other kinds of X-rays.

Keep in mind, UTIs are common and most are easy to treat. Early diagnosis and prompt treatment are important because untreated or repeated infections can cause long-term medical problems. Talk to your pediatrician if you suspect that your child might have a UTI.

The information contained in this publication should not be used as a substitute for the medical care and advice of your pediatrician. There may be variations in treatment that your pediatrician may recommend based on individual facts and circumstances.

## From your doctor

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