



## Treatment of urinary tract infection:

**T**reatment recommendations for children who are found to have urinary infections will vary with the child's age, number of infections, and x-ray findings. Some children with reflux or repeated urinary tract infections

may require continuous daily low-dose medication for months or years.

**Children with a urinary tract infection** are treated with a safe and well-tolerated antibiotic that the urine culture shows will be effective. If the urinary tract is normal, **children who have a bladder infection** are treated for 5-7 days. Another urine culture should be done when the medication is finished to make sure the infection is gone. Generally, the appropriate antibiotic is continued until the recommended tests are done.

**Children with a kidney infection** should be treated for 10-14 days with a well-tolerated antibiotic that the urine culture shows will be effective. Occasionally, a child with a kidney infection will require hospitalization for intravenous antibiotics.

Children with urinary tract infections often have **abnormal toilet habits**:

- They may wait too long to go to the bathroom. They need to be encouraged to completely empty their bladders every 3-4 hours.
- They may be constipated. A high-fiber diet or supplemental fiber may be helpful to have a daily bowel movement.

These changes in habits tend to be lifelong and often require daily attention.

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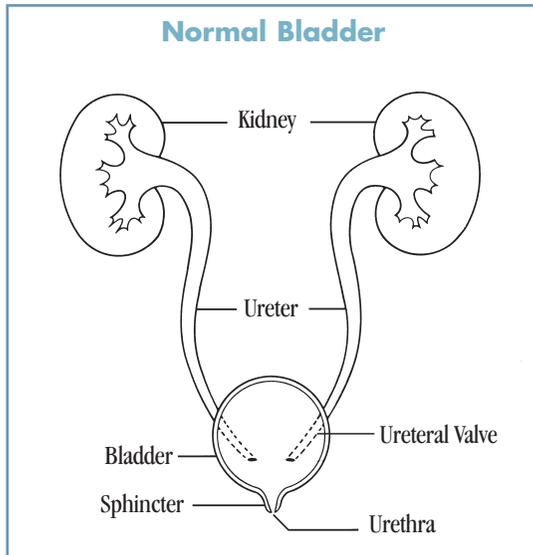
## A GUIDE FOR PARENTS: URINARY TRACT INFECTIONS



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## What is the urinary tract?

The kidneys filter blood to produce urine. Urine travels from the **kidneys** down the **ureters** and into the urinary **bladder**. The urine is stored in the bladder until urination occurs. The tube that carries urine out of the bladder is the **urethra**. All of these structures make up the **urinary tract**.



## What is a urinary tract infection (UTI)?

A urinary tract infection is an infection of any part of the urinary tract. It is usually caused by bacteria that enter the urethra and move up into the bladder. When the infection is only in the bladder it is called **cystitis**.

A kidney infection is called **pyelonephritis**. Urinary tract infections are not contagious.

## What are the signs and symptoms of urinary tract infection?

The signs and symptoms of urinary tract infection in children depend on the child's age, as well as whether it is a bladder or kidney infection.

**INFANTS:** These are non-specific, and urinary tract infections may be missed unless a urine culture is obtained:

- irritability
- vomiting and diarrhea
- poor feeding
- failure to gain weight
- foul-smelling urine
- fever

**OLDER CHILDREN:** It becomes easier to recognize urinary tract infections as the child becomes verbal and is toilet trained:

- burning with urination
- frequent or urgent urination
- wetting episodes
- lower abdominal pain
- fever
- side or back pain

**Bladder infections (cystitis)** are not usually associated with fever and generally do not produce any long-term damage to the bladder or kidneys.

**Kidney infections (pyelonephritis)** are usually associated with a fever and may produce permanent damage or scarring of a kidney even after only one infection.

## How can we find out if my child has a urinary tract infection?

After getting a history and examining your child, your doctor will have your child's urine tested (urinalysis). The urine will also be sent for culture if needed (a test to grow and identify any bacteria present). Your doctor should have the final results of the urine culture in 48 - 72 hours.

The method of urine collection affects the accuracy of the urine culture. The urine should be collected in a clean container. If collected at home, keep the urine sample cold by immediately placing it in a refrigerator and then packing the container in ice while transporting it.



## Why and when should my child be evaluated?

Abnormal findings of the urinary tract are found in one of three children with culture-proven urinary tract infection.

Girls under 4 years and boys of any age should have an evaluation of their urinary tract. This is especially important for infants and small children, since most of them will develop another urinary tract infection. Waiting until a child has had two or more urinary tract infections before being tested increases the risk for permanent kidney damage or scarring. Older girls who have a high fever with an infection also need to be evaluated.

## What does the evaluation consist of?

**BLADDER X-RAY (CYSTOGRAM):** A small plastic tube (catheter) is passed through the urethra and a fluid (contrast media or isotope) flows into the bladder. Pictures are taken with the child awake. There may be some discomfort, but medication for pain is generally not needed.

**VESICoureTERAL REFLUX**, or a back flow of urine from the bladder into the ureter and up to the kidney, is the most common problem found on a cystogram. Reflux may be dangerous because it allows bacteria that might be in the bladder to reach the kidney. This can cause a kidney infection and kidney damage.

**KIDNEY AND BLADDER SONOGRAM (ULTRASOUND):** This test is done to outline the kidneys and urinary bladder to look for evidence of a blockage in the urinary tract. It does not require injections or radiation and is painless.

**KIDNEY (RENAL) SCAN:** This test evaluates the function and drainage of the kidneys. It also shows kidney damage and scarring. It requires an injection and sometimes a catheter.