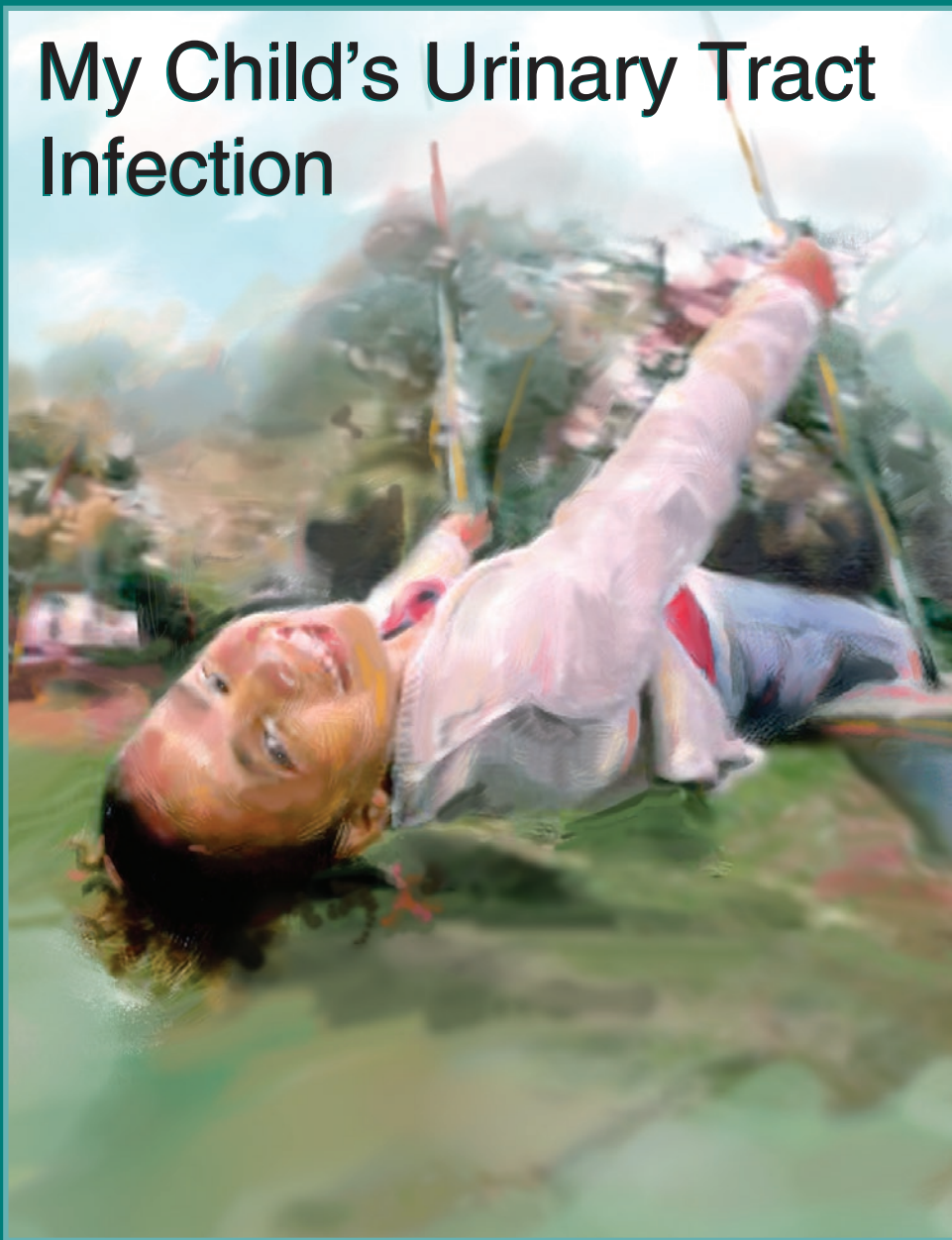


What I need to know about

My Child's Urinary Tract Infection



NIDDK | NATIONAL INSTITUTE OF
DIABETES AND DIGESTIVE
AND KIDNEY DISEASES

NATIONAL INSTITUTES OF HEALTH
National Kidney and Urologic Diseases Information Clearinghouse



U.S. Department
of Health and
Human Services

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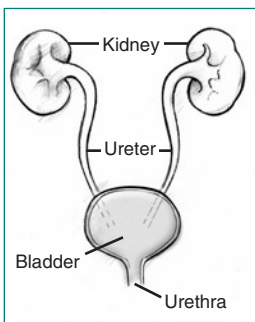
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Many children get urinary tract infections (UTIs). Girls get UTIs more often than boys. Most of the time, a UTI will go away after a child takes a bacteria-fighting medicine called an antibiotic. If a child keeps getting UTIs, another problem may need to be looked into. UTIs may suggest a kidney or bladder problem. And repeat infections may damage the kidneys.

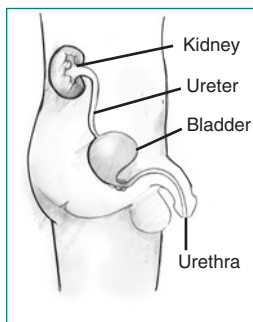
What is the urinary tract?

The urinary tract is the body's system for getting rid of extra water and wastes. It includes two kidneys, two ureters, a bladder, and a urethra.

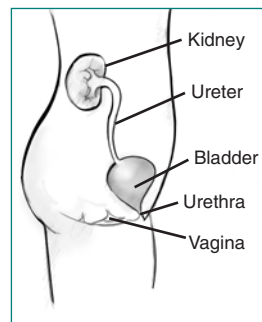
Blood flows through the kidneys, and the kidneys filter out wastes and extra water, making urine. The urine flows from the kidneys to the bladder through the ureters. The bladder fills with urine until it is full enough to signal the need to urinate.



Front view of urinary tract.



Side view of male urinary tract.



Side view of female urinary tract.

What is a urinary tract infection?

Normal urine flow usually washes away the germs, called bacteria, that cause UTIs. A UTI occurs when bacteria do not get washed away and instead get into the kidneys or bladder. The bacteria often come from stool after a bowel movement.

Some habits that can also lead to bacteria growth and UTIs are

- wiping back to front after using the toilet—
for girls
- delaying trips to the bathroom
- not emptying the bladder completely

Some children are simply prone to getting UTIs, even though they have good habits.

If a child has constipation, the hard stool in the bowel may press against the urinary tract and block the flow of urine, increasing the risk of a UTI.

A child may have a defect where the ureter joins the bladder, causing urine to flow backwards—a condition commonly known as vesicoureteral reflux. When urine stays in the urinary tract, bacteria have a chance to grow and spread.

What are the symptoms of a UTI?

Young children probably won't be able to tell you what is wrong. You will have to look for signs of a UTI, such as

- fever
- fussiness and irritability
- refusal to eat
- diarrhea
- vomiting
- cloudy or foul-smelling urine
- blood in the urine



In older children, symptoms may include

- burning with urination
- frequent urination
- cloudy or dark urine
- back pain
- stomach pain
- nighttime or daytime wetting
- blood in the urine

When should I call the doctor?

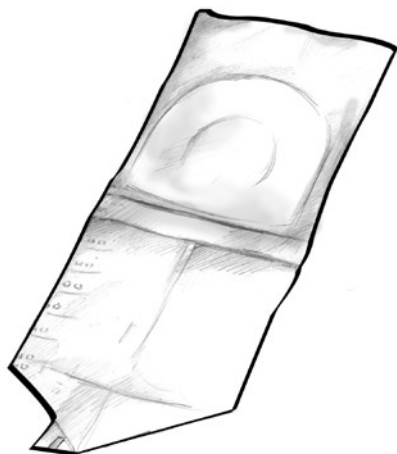
Call the doctor if your child has any of these symptoms:

- fever of 100.4 degrees or higher
- pain in the lower back or abdomen
- sudden onset of frequent urination
- dark, cloudy, or foul-smelling urine



How are UTIs diagnosed?

At the doctor's office, the doctor or nurse will give you a cup into which your child can urinate. If your child is still in diapers, a collection bag may be placed over the child's urethra after the area around the urethra has been washed with soap and warm water or a sterile wipe. The bag has adhesive strips to keep it in place. Remove the bag as soon as the child urinates into it.



Urine collection bag for infants.

In other infants and toddlers, it may be necessary to collect the urine by inserting a thin tube called a catheter into the bladder. A nurse or a doctor will perform this collection very quickly and cause no harm to the child. This collection method gives the best chance of finding and identifying an infection.

A nurse or doctor will check the urine sample for bacteria or pus. To get more information, the sample will be sent to a lab for a urine culture. The lab will place the sample in a tube or dish with a substance that encourages any bacteria present to grow. Once the germs have multiplied, they can be identified and tested to see which medications will work best. Growing bacteria in the lab often takes 2 or 3 days to complete.

How is a UTI treated?

If the first check of the urine sample reveals bacteria or pus, the doctor will prescribe an antibiotic that fights the most common bacteria. When the results of the urine culture come back, the doctor may switch to another antibiotic that targets the specific type of bacteria.

Most often, the child will need to take medicine for 7 to 10 days. Some prescriptions may last a couple of weeks. Be sure your child takes every pill or every dose of liquid. Your child should feel better after a couple of days, but the infection might come back if he or she stops taking the antibiotic too early.

How can UTIs be prevented?

Here are some steps you can take to prevent your child from getting a UTI in the future:

- Have your child drink plenty of fluids.
- Teach your child to use the bathroom regularly. Don't hold in urine.
- Teach good bathroom hygiene. Teach girls to wipe from front to back, away from the vagina, after using the toilet, especially after a bowel movement.
- Avoid tight clothing for your child. Tight clothes can trap moisture, which allows bacteria to grow.
- Buy your child only cotton underwear. Cotton lets in air to dry the area.
- Avoid baths and bubble baths.
- If your child has constipation, speak with the doctor about the best way to treat it.

What if my child's UTI comes back?

Returning UTIs may be a sign that urine is blocked or flowing backwards. Backward urine flow, called urinary reflux, can lead to repeated infections.

If the doctor thinks that your child may have urinary reflux or some other problem that is blocking urine, the doctor may order additional tests—ultrasound or x rays—to get a picture of the urinary tract.



Pictures of the urinary tract may show urine is blocked or flowing backward.

If your child has urinary reflux, it will probably go away as your child grows. Your doctor may prescribe a low dose of antibiotic to keep the infection from coming back. Unless urine blockage is severe, no more treatment should be needed. Your doctor may want to keep track of the problem with regular x-ray exams. Be on the lookout for signs of infection.

If tests show urine is backing up and antibiotics don't prevent infection, your doctor may suggest surgery to correct a defect in the urinary tract. One way to correct the problem is to cut one or both of the ureters away from the bladder and attach them back at a different angle so urine can't back up. A newer method is to inject a bulking agent into the tissue around the opening to the ureter to close it. Urine can flow into the bladder but not back out.

What should I ask my child's doctor about UTIs?

Here are some questions to ask your child's doctor:

- Does my child need an antibiotic?
- What should I do if the symptoms come back?
- Does my child need additional tests to check the urinary tract?
- Is there a chance my child has kidney damage?
- What can I do to help my child avoid UTIs in the future?

Points to Remember

- Many children get urinary tract infections (UTIs).
- Symptoms of a UTI include
 - fever
 - fussiness and irritability
 - refusal to eat
 - diarrhea
 - vomiting
 - cloudy or foul-smelling urine
 - burning urination
 - back or stomach pain
 - nighttime or daytime wetting in older children
 - blood in the urine
- Diagnosis of a UTI is based on a urine sample.
- Most of the time, a UTI will go away after a child takes a bacteria-fighting medicine called an antibiotic.
- Most UTIs can be prevented with good bathroom habits.

- Repeat infections may be a sign that the child has reflux of urine from the bladder back toward the kidney.
- Repeat infections can also damage the kidneys.
- Urinary reflux can be corrected with surgery or injections where the ureters open into the bladder.

Hope through Research

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) conducts and supports research to help people with urologic disease, including children. The NIDDK's Division of Kidney, Urologic, and Hematologic Diseases (DKUHD) maintains the Pediatric Urology Program, which supports research into the early development of the urinary tract. The DKUHD supports the Randomized Intervention for Children with Vesicoureteral Reflux (RIVUR) study to evaluate current treatments for children with UTIs and urinary reflux.

For More Information

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