

Urinary Tract Infections

Urinary tract infections are a relatively common problem in children, especially girls. Some children have repeated urinary tract infections. Prompt treatment is needed to prevent complications, especially spreading of the infection to the kidneys.

What are urinary tract infections?

Urinary tract infections (UTIs) are infections of the bladder (called *cystitis*), kidney (called *pyelonephritis*), or both. They are usually caused by bacteria and occasionally by a virus. The infections are often caused by spread of bacteria from fecal (bowel movement) material.

Symptoms of UTIs include frequent urination, pain when urinating, and fever. These infections almost always need treatment to get rid of the bacteria and to reduce the risk of complications, which can sometimes cause permanent kidney damage.

What do they look like?

The main symptoms of UTIs include:

- Pain and/or a burning feeling when urinating. Your child may also feel pain in the pelvic area, abdomen, back, or side.
- Frequent urination. Your child may suddenly and urgently have to go to the bathroom and be unable to control his or her urination. Wetting “accidents” in a toilet-trained child are a common sign of UTIs.
- Abnormal-smelling urine.
- Fever, which is often present with kidney infections but usually not with bladder infections.
- In babies, fever may be the only symptom. (However, some babies also have a poor appetite or vomiting.)
- Nausea and vomiting and sometimes mild diarrhea.

What causes urinary tract infections?

- Germs (bacteria) growing anywhere within the urinary system. The bacteria usually come from contamination with fecal (bowel movement) matter. (Bacteria that are normal and harmless in the intestine can cause infection if they get into the urinary system.)
- Occasionally a virus called an adenovirus can cause an infection of the bladder. These infections usually produce blood in the urine.

What are some possible complications of urinary tract infections?

Without proper treatment, UTIs may lead to kidney damage. That’s why it is so important to call our office as soon as possible whenever your child develops symptoms of a UTI.

What increases your child’s risk of urinary tract infections?

- The risk is higher in girls than boys, especially after the first year. Three to five percent of girls have at least one UTI compared to 1% of boys.
- Children with one UTI are at higher of repeated UTIs.
- The risk is higher in boys who have not been circumcised.
- Other factors that may increase the risk of UTIs include:
 - Constipation.
 - Poor hygiene.
 - Urine-withholding behaviors: rushing to the bathroom, waiting till the last minute to urinate.
- UTIs are a frequent symptom of many different problems with the urinary system, including:
 - Vesicoureteral reflux (backward flow of urine from the bladder to the kidney).
 - Urinary tract obstruction (blockage).
 - Neuropathic bladder (problems with nerve supply to the bladder).
 - Any problem requiring placement of a tube (catheter) to drain urine.

Can urinary tract infections be prevented?

- To reduce the chance of UTIs, avoid the risk factors listed above.
- Teach girls how to keep the vaginal area clean. After bowel movements, your daughter should wipe backwards, away from the vagina.
- If your child has had previous problems with the urinary system, proper medical follow-up can help to reduce the frequency of UTIs.

How are urinary tract infections diagnosed and treated?

Diagnosis. Diagnosis is based on your child's symptoms, evaluation of a urine sample (urinalysis), and urine cultures.

- Urinalysis is an evaluation of the urine for signs of infection, such as pus cells. Children with UTIs usually have white blood cells (pus) in the urine.
- The urine culture test is the only way to make sure that a UTI is present. It's important to make sure the urine sample used for this test isn't contaminated by germs from the skin or elsewhere. Older children can simply urinate into a cup. For infants, a small tube (catheter) can be placed into the urethra (the tube where urine flows out) to get a urine sample.
- If bacteria are present in the urine, they will grow in the culture from the urine sample. It takes about a day before the culture results are known. This provides information on the type of bacteria present and what antibiotics will work to treat them.
- The doctor may recommend starting antibiotic treatment before the culture results are known. Antibiotic treatment can always be changed or stopped later, if needed.
- *Antibiotics.* Your child will get a prescription for antibiotics to kill the bacteria causing the infection.
 - Very ill children, especially babies, may need treatment in the hospital. In this case, antibiotics are often given through a vein or intravenously (IV). Your child will also receive fluids and other treatments until he or she starts getting better.
 - Otherwise, your child can recover at home while taking antibiotics. Antibiotics may be given in shot or pill form. Make sure your child finishes his or her

antibiotic prescription, even if the symptoms have gotten better. Stopping treatment too early may allow the infection to come back.

- Antibiotic treatment may continue for about 7 to 14 days. Kidney infections (pyelonephritis) need longer treatment than bladder infections (cystitis).
- *Follow-up.* The doctor will need to see your child again to make sure that the UTI is completely gone.
 - If your child does not seem better within a few days, another culture or tests may be performed.
 - Especially in infants and young children, special tests may be done to examine the kidneys and bladder. The goal is to check whether your child has any urinary system problems that may have contributed to the UTI. If such a problem is discovered, appropriate treatments can be recommended.

Call our office any time your child has symptoms of a possible UTI. 

When should I call your office?

During treatment for UTI, call our office if your child's symptoms aren't getting better, if the symptoms get worse, or if new symptoms develop.

After treatment, call our office any time your child has symptoms of a possible UTI: 

- Frequent urination.
- Loss of control over urination.
- Pain when urinating.
- Fever in babies, without typical symptoms of a cold or other illness.