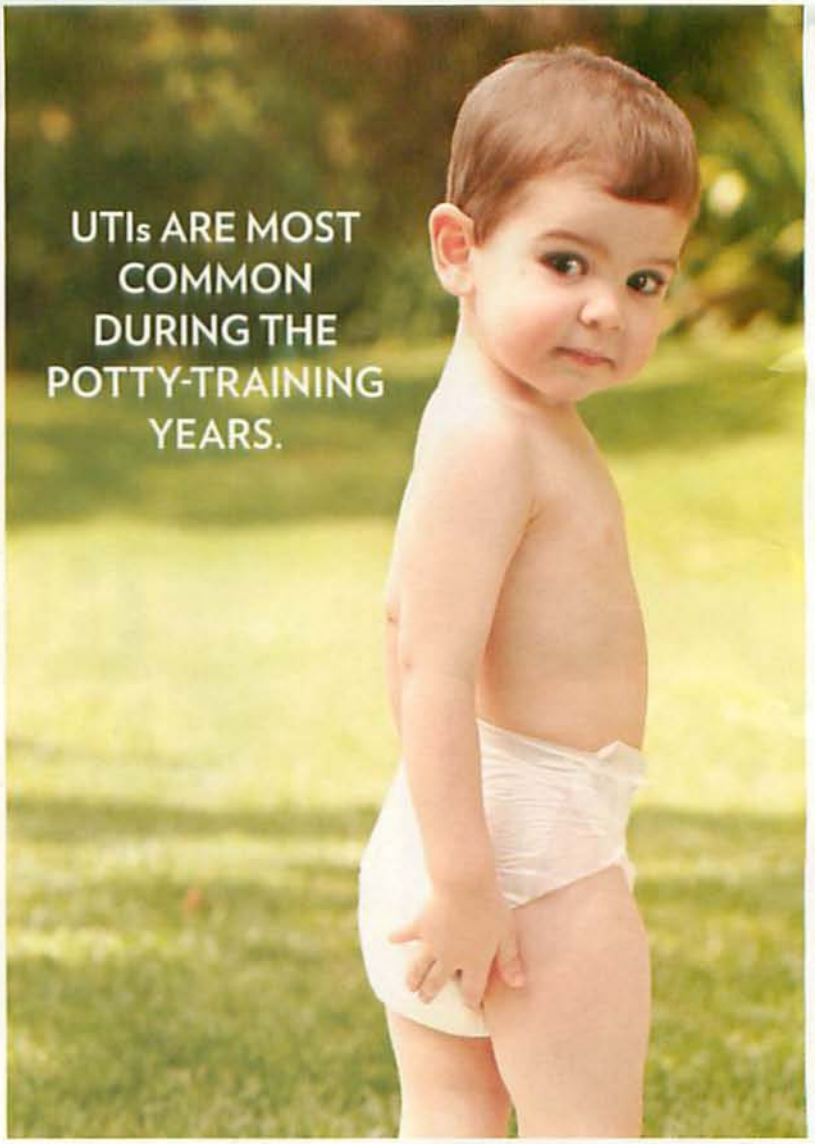
Could Your Child Have a UTI?

Urinary tract infections can be serious because they're easy to miss, especially in young kids. A pediatrician who's treated his fair share explains exactly what parents should look for.

BY DARSHAK SANGHAVI, M.D.

For several days, the parents of the 6-month-old girl I'll call Amber dutifully gave her the antibiotics that had been prescribed for her ear infection. But Amber didn't get better. She still had a fever, didn't eat much, and became listless. Her parents brought her to our emergency room at UMass Memorial Medical Center, in Worcester, where tests showed that this little girl was severely dehydrated, with a rapid heartbeat and low blood pressure—signs of life-threatening septic shock.

KATE POWERS STYLING BY PAMELA CAMPBELL. GROOMING BY SHAWNA CLARK. WRANGLING BY LYNN RAINES



Luckily, the doctors were fairly certain what was wrong. One physician inserted a thin plastic tube through Amber's urethra and into her bladder to collect a teaspoon of urine, which was abnormally cloudy. The lab soon confirmed the diagnosis: Amber had a urinary tract infection, or UTI.

UTIs are the most common serious bacterial infection in young children. They're caused by bacteria that climb through the body's plumbing system into the bladder and then up to the kidneys, and they're found in almost one in ten female infants and one in 30 male infants with a high fever. The infections often become serious because babies aren't able to tell anyone about the early mild symptoms like burning or painful urination. Today, pediatricians know it's critical to check the urine of babies and toddlers who have a high fever because otherwise they could miss the problem. Studies show that almost 4 percent of infants who were previously thought to have a fever from another illness such as an ear or a gastrointestinal infection had a UTI (it's possible they had both). When not treated promptly, bacteria can multiply and enter the bloodstream. From there, a UTI can permanently scar the kidneys, which can lead to high blood pressure and other long-term problems. And as with Amber, it can lead to life-threatening complications.

The Common Causes

Babies and toddlers are vulnerable to UTIs because they're in diapers most of the time, which keeps their genital area moist and warm and allows bacteria to breed. Plus, diapers don't always keep their messes contained, so bacteria from bowel movements can easily get into the genitals and sometimes cause an infection. Because girls have a shorter distance between the end of the urethra and the bladder than boys do, girls seem to have a higher chance of getting an infection this way. And research has shown that uncircumcised boys have about a tenfold greater risk of getting a UTI than circumcised boys do, because bacteria can hide under the foreskin, making it harder to clean.

But your child isn't defenseless. Every time he pees, his urine blasts out any offending bacteria that have gotten into the urethra. Urine is also a mild acid and contains antibacterial proteins that fight invaders. That's why most children get through life without any infections, even though the urethra is near one of the least clean areas of the body.

But the bacteria do fight back and actually sometimes win. Like evil little mountain climbers, some microorganisms have actually evolved to have tiny little hooks that allow them to hang on to the walls of the urethra and avoid being washed away as they climb higher. Many bacteria also have a coating that shields them from a child's immune system.

UTIs can occur for another reason. Just as some adults have acid reflux from stomach contents that bubble up into the esophagus, 43 percent of babies have urinary reflux. In this condition, some urine flows backward from the bladder up into the kidney, instead of down and out through the urethra, and it may carry invading bacteria into the kidney itself. Though urinary reflux may improve as a child grows up, it can cause repeated infections in infancy and early childhood. (More on reflux later.)

The infections are common during the potty-training years. Some headstrong toddlers may hold in their urine for prolonged periods, possibly allowing the bacteria to climb and cause an infection before they're washed away. (Rarely, very frequent UTIs may even signal a problem with the nerves controlling the bladder, which a doctor might suspect if a child also has weakness in his lower body.) A child with severe constipation can have such full intestines that they actually pinch shut the plumbing around the bladder, which makes it harder to pee and causes infections.

What It Takes to Make a Diagnosis

In babies, the most frequent—and often the only—symptom is fever, though others can include foul-smelling urine, persistent vomiting, or diarrhea. Some babies may lose interest in eating. Toddlers and school-age kids may also have belly pain and may urinate frequently or complain that it hurts when they go.

The only way to be sure that an infant has a UTI is to perform a catheterization, as we did with Amber. In the past, some pediatricians would simply tape a plastic bag onto an infant's genitals, and collect urine whenever the child happened to pee. Today, most doctors realize that normal bacteria around the genitals contaminate the bag, making the results unreliable.

I know how upsetting these catheterizations are for parents, who usually need to help hold their child down as I insert the catheter. And though I first dip it in pain-numbing gel, studies have shown that doesn't reduce the discomfort much. Still, I try to explain that the procedure typically takes just a minute or two and is key to avoiding long-term kidney damage. (Some potty-trained older toddlers can urinate cleanly into a sterile cup, so a catheterization isn't always needed.)

Urine is normally clear, so if it's cloudy, we suspect a UTI. If the child is very uncomfortable, we may prescribe antibiotics while awaiting confirmation from the lab. Technicians will check for the telltale white blood cells found during infections. (That's what makes the urine cloudy.) Then they'll see whether any bacteria grow. If they don't, we stop the meds. But if they do, the lab worker will try to kill them with various antibiotics, and then report back within a day or two on which one worked best. That's how your doctor knows the best medicine to prescribe.

Questions About Treatment

Young infants often need to stay in the hospital and have antibiotics administered via IV for several days, but older babies and toddlers might only get oral antibiotics for one to two weeks. Once the infection is gone, your doctor will likely order a kidney ultrasound and an X-ray to assess for urinary reflux, which is the common condition that may increase the risk of repeated UTIs.

If a child has reflux, the official policy is for pediatricians to prescribe a daily antibiotic for several years to prevent another infection, until a child outgrows the reflux. These recommendations haven't been updated for more than ten years, though, and they're controversial because the drugs may not make much difference. A large study from Australia found that daily antibiotics reduced a child's risk of getting another UTI from almost one in five to about one in eight, regardless of the presence of reflux. The downsides of taking a preventive antibiotic are that it can increase the odds of getting a resistant infection, the medication can cause diarrhea, and the cost might add up for parents.

The Trouble With Prevention

Unfortunately, a lot of the advice you may have heard about how to prevent UTIs hasn't been proven to work. For one thing, avoiding bubble baths won't keep UTIs away, even though doctors have told parents that the suds can be irritating. The chemicals in swimming pools don't cause UTIs either, so staying away from them doesn't decrease your child's risk. You may have heard that drinking cranberry juice may prevent *E. coli* from attaching to the walls of the bladder, but clinical trials haven't proven this.

So we're left with this: There simply isn't a whole lot you can do to prevent your child from getting a UTI, especially if she's already had one. This is why it's key to get your child's urine checked when she has a fever, even if she seems to have an ear infection or another ailment that might cause the fever. It's always best to be sure. □