

Vesicoureteral Reflux

What Parents Should Know



What is Vesicoureteral Reflux?

Normally, urine flows one way, down from the kidneys, through tubes called ureters, to the bladder. But what happens when urine flows from the bladder back into the ureters? This is called vesicoureteral reflux (VUR).

With VUR, urine flows backward from the bladder, up the ureter to the kidney. It may happen in one or both ureters. There is a grading system for reflux that goes from one to five. Grade five is the most severe. When the “1-way valve” does not work and lets urine flow backward, bacteria from the bladder can enter the kidney. This may cause a kidney infection that can cause kidney damage.

When the reflux is more severe, the ureters and kidneys may become large and winding. More severe reflux is tied to a greater risk of kidney damage if there is an infection present. Some children born with reflux are also born with kidney disease.

VUR often does not have symptoms; it usually does not cause pain or make it hard to pass urine.

How Does the Urinary Tract Work?

The urinary tract is made up of two kidneys, two ureters, one bladder and one urethra.

- **The kidneys make urine.** Urine drains down through thin tubes called ureters into the bladder. The kidneys are two fist-sized, bean-shaped organs that sit on both sides of the lower back. The job of the kidneys is to clean our blood and remove waste (urine). They also serve as our body’s filter to control electrolytes, fluid balance, pH and blood pressure.
- **The ureters move urine** from the kidneys to the bladder. The ureters and the bladder are joined with a 1-way valve. The 1-way valve keeps urine flowing one-way

(down the ureter and into the bladder).

- **The bladder stores urine.** Urine is prevented from flowing back up into the ureters by the 1-way valves.
- **The urethra is a tube for urine** to exit the body. The urethra is at the bottom of the bladder.

What Causes VUR?

The exact percentage of children with VUR is unknown. Estimates are that VUR occurs in about one of every 100 healthy children. It is not contagious. In most children, reflux is the result of a difference in how the bladder and ureters developed. There is a shorter than normal attachment between the ureter and bladder or “1-way valve” that does not work. While some children are born with reflux, some children may develop it because they do not pass urine properly.

In many cases, reflux appears to be passed down (inherited). About one in three sisters and brothers of children with reflux also have this health problem. Also, if a mother has been treated for reflux, as many as half of her children may also have reflux.

Signs to Look For

Urinary Tract Infection Signs	Kidney Infection Signs	Bladder Infection Signs
<ul style="list-style-type: none"> • Fever • Fussiness • Throwing up • Diarrhea • Poor weight gain 	<ul style="list-style-type: none"> • Fever • Pain in the belly or lower back • Feeling ill • Feeling sick to the stomach • Throwing up 	<ul style="list-style-type: none"> • Painful and frequent voiding • An urgent need to pass urine • Wetting (lack of urinary control)



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How Is VUR Treated?

VUR is treated either non-surgically or surgically. A urologist can help guide a patient's family to the best choice.

- The goal of non-surgical treatment is to prevent UTI and kidney damage while your child grows. Often, reflux gets better without treatment. During the "watch and wait" period, some doctors offer a long-term, low-dose antibiotic.
- The goal of surgery is to cure reflux and avoid the risks of continued reflux. There are a few surgical options. These include open surgery, endoscopic injection and robotic or laparoscopic surgery.

After VUR treatment, your child should feel much better. You may be asked to see your urologist for follow-up exams to make sure all is well.

To keep healthy, it is of great value to prevent or quickly treat future UTIs. Treating infections quickly will lower the risk of kidney scarring. Some urologists may suggest that infant boys become circumcised to lower your risk of infections.

Questions to Ask Your Doctor

- How did my child develop VUR?
- What treatment do you suggest?
- Is there anything I can do to help my child feel better?
- How will I know if my child is getting better or worse?
- How soon should my child feel better?
- If surgery is best: why and what type?
- How long will it take to recover from surgery?
- How often should I take my child for check-ups?

About the Urology Care Foundation

The Urology Care Foundation is the world's leading urologic foundation – and the official foundation of the American Urological Association. We provide information for those actively managing their urologic health and those ready to make health changes. Our information is based on the American Urological Association resources and is reviewed by medical experts. To learn more, visit the Urology Care Foundation's website, **UrologyHealth.org/UrologicConditions** or go to **UrologyHealth.org/FindAUrologist** to find a doctor near you.

Disclaimer

This information is not a tool for self-diagnosis or a substitute for professional medical advice. It is not to be used or relied on for that purpose. Please talk to your urologists or health care provider about your health concerns. Always talk to a health care provider before you start or stop any treatments, including medications.

For more information, visit **UrologyHealth.org/Download** or call 800-828-7866.

