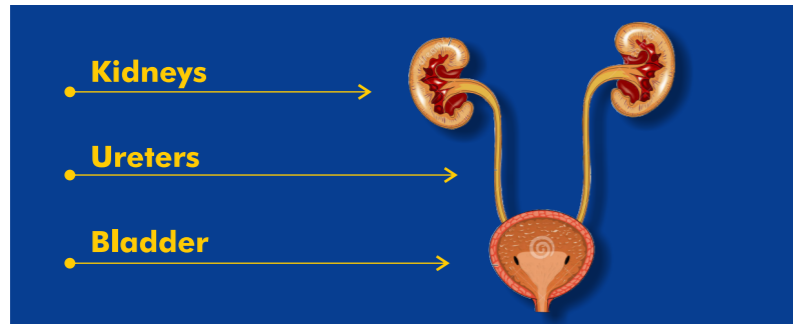




### What is VUR?

Kidneys are important for urine formation. Normally, urine flows into the bladder through ureters. However, in some children, urine from the bladder flows back through the ureters. This condition is known as Vesicoureteral reflux (VUR).



### What causes VUR?

Any abnormality in the connection between the bladder and ureter at the time of birth can lead to VUR. Infrequent or incomplete urination and constipation may also cause VUR. If you had VUR as a child, there is a chance that your children will have VUR.

### How do I know if my child is having VUR?

Your child may have VUR if he/she has the following symptoms

- Does not want to urinate
- Feels pain in the abdomen
- Gets recurrent fever



### Is VUR serious?

VUR is a serious condition. It damages the function of kidneys and can lead to high blood pressure later in life. The risk of kidney damage is greatest during the first 6 years of life.

### How do I know if my child has an infection?

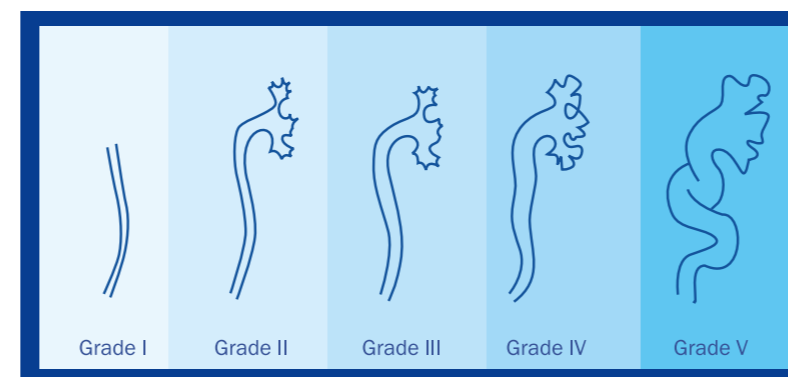
- Foul smelling or cloudy urine
- Fever
- Stomach ache
- Backache
- Headache
- Side pain
- Burning or pain when urinating
- Frequent and urgent urination
- Vomiting

### Infants may have following symptoms

- Diarrhea
- Poor feeding
- Fever
- Increased irritability

### Testing for VUR

VUR is diagnosed using an X-ray of the bladder known as voiding cystourethrogram (VCUG). In this procedure, a thin, soft tube (catheter) is placed in the bladder through the urethra (the tube we urinate through). Dye is then introduced into the bladder through the tube. X-ray pictures are taken to see if the dye flows back into the ureters. Based upon the severity, VUR is categorized into five grades (see Figure). Milder grade of VUR does not require any treatment. Children with frequent urinary tract infections should also be considered for VCUG test. Grade I Grade II Grade III Grade IV Grade V



### What are the treatment options for VUR?

There are 3 options for managing or treating VUR. However, it is important to discuss them with your healthcare provider. Make sure you understand the risks, benefits, and follow-up of each treatment.

**Antibiotic:** It is used to prevent infections until VUR goes away by itself. This treatment may take several years, and children must take medication every day. These children need to be retested for VUR on a regular basis. Antibiotics are most suitable for milder grades of VUR. However, longterm treatment with antibiotics may cause the bacteria to become resistant, leading to more infections.

**Surgery:** This type of treatment cures most children. However, the operation can be stressful and painful to the child. Surgery is most suitable for higher reflux grades.

**Endoscopic treatment:** In this procedure, the medication is injected where the ureter joins the bladder. Children usually go home the same day.

### What is Deflux procedure?

Deflux is a safe and effective treatment for VUR. A gel is introduced into the body where the ureters meet the bladder. This procedure is performed under general anesthesia. Deflux gel is placed at the spot where the ureters connect to the bladder with the help of a small camera called a cystoscope (a type of endoscope used to view the bladder). Eventually, new tissue grows around the gel, providing long-term results for many children. Usually, there will be no pain after procedure. However, your child may feel some stinging during the first few times he or she urinates.

### Is Deflux effective in the treatment of VUR?

Deflux is made from dextranomer and hyaluronic acid. The hyaluronic acid is naturally broken down over time and replaced by the body's own material, while the dextranomer remains in place. Deflux is used for the treatment of all grades of VUR in children. Many children have success after one injection; while some may need more injection procedures. However, lower the grade of VUR, the better it works. Also, the procedure works better for children who have reflux in only one ureter.