



Non-surgical treatment:

- A low dose of a safe antibiotic is recommended each day to prevent urinary tract infections. This medication is continued as long as the reflux lasts or the child is at risk for kidney scarring.

- Urine cultures for fever over 101° to rule out urinary infections.
- Bladder x-rays every 12-18 months to check if the reflux has disappeared.

Surgical treatment:

Some children who have infections while on antibiotics and those with high grade reflux that does not improve may require a procedure to correct the problem.

- Reimplantation of the refluxing ureter requires a surgical incision to reposition it in the bladder. A one or two night stay in the hospital is necessary. This procedure is about 98 percent effective.
- A more recent option uses a special cystoscope to inject an FDA-approved implant beneath the refluxing ureter. No incision is required and the child resumes normal activity the following day. This procedure is about 80 percent effective after one injection.

When should I call the urologist?

Call if your child has a urinary tract infection while taking antibiotics or if there is any question regarding medication.

DO NOT STOP the medication without discussing this with your doctor.

If you have questions at anytime, please call the Division of Urology at (202) 476-5042.

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DIVISION OF UROLOGY

A GUIDE FOR PARENTS: VESICoureTERAL REFLUX



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Medical Center,

How does the normal urinary system work?

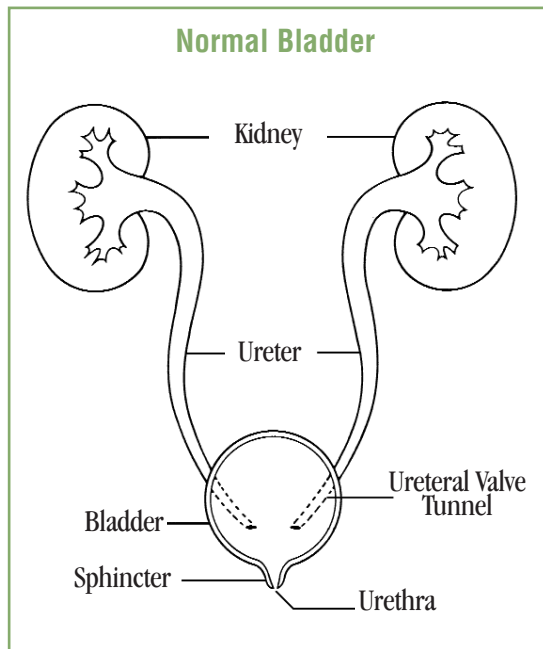
Blood passes through the kidneys and is filtered to make urine. Urine passes from the kidneys, down the ureters, and into the urinary bladder.

The bladder is a muscle with an elastic wall that stretches to hold and store urine. As the bladder fills, the control (**sphincter**) muscle tightens to prevent urine from leaking out.

Once in the bladder, the urine is stopped from going back up the ureters by a valve, which is located where the ureters and bladder meet.

The valve is created by the ureter passing through a tunnel between the muscle layer and lining of the bladder.

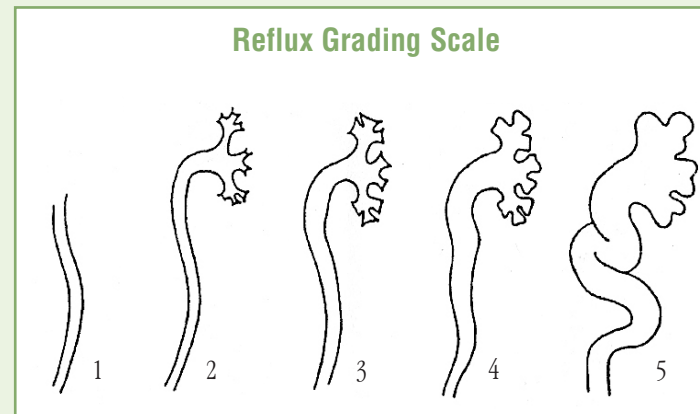
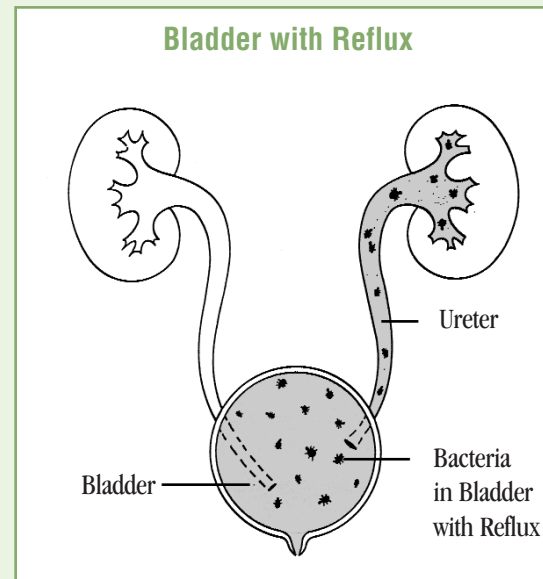
When it is time to urinate, the bladder contracts while the sphincter relaxes, which allows the bladder to empty through the **urethra**.



What is vesicoureteral reflux?

Reflux is the condition in which bladder urine flows back from the bladder into the ureters. It is caused by failure of the valve between the ureters and the bladder to work properly.

About one out of three children who have urinary tract infections are found to have reflux. Reflux is a condition people are born with and tends to run in families. Your doctor may suggest that other family members be checked for reflux.



Is reflux dangerous?

Reflux itself does not harm the kidneys. However, when a child with reflux has a bladder infection, bacteria can be carried to the kidneys and cause a kidney infection (pyelonephritis). If not treated promptly,

this can result in damage to the kidneys.

How do I know if my child has reflux?

The diagnosis of reflux is made by a bladder x-ray called a cystogram. During the test, a small plastic tube (catheter) is placed in the urethra and a fluid (contrast media or isotope) is injected into the bladder. X-ray pictures are then taken. Your child will be awake during the cystogram. There is some discomfort, but pain medication or sedation is generally not necessary.

If reflux is found, a kidney (isotope renal) scan may be done to check how well the kidneys are working and to look for kidney damage. In some cases a kidney and bladder sonogram may be done to check the size of the kidneys. Your doctor will review the results of the x-ray studies with you, and a written report will be sent to your child's physician.

How is reflux treated?

The plan of treatment will vary according to your child's age, number of urinary tract infections, and x-ray findings.

Reflux is "graded" on a scale of 1 through 5 with 1 being the mildest and 5 the most severe. In children with mild to moderate reflux (grades 1-3), there is an excellent chance that the reflux will disappear as the child gets older. For children with high grade reflux (grades 4 - 5) there is less of a chance that the reflux will resolve by itself.

Treatment is aimed at preventing urinary tract infections since kidney damage results when both reflux and urinary tract infection are present.