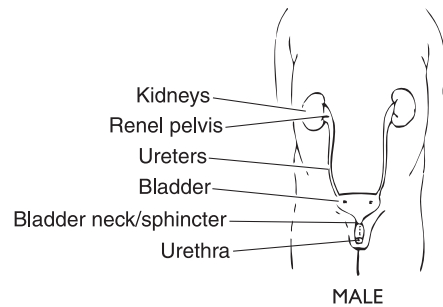


## What Is It?

Urine is made in the kidneys. It flows into the bladder through two tubes called ureters. A valve separates the ureter and bladder. The valve opens only one way. It allows urine to flow into the bladder but not back up into the ureter. If the valve is not working well, urine may back up into the ureters. This is called "reflux."

## Urinary Reflux Varies

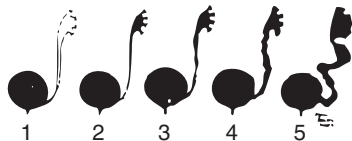


There are two types:

**Primary:** A child is born with a weak valve.

**Secondary:** A child's valve is normal at birth but, because the bladder does not empty well, pressure from the urine may damage the valve. Bladder infections can also damage the valve.

Some children have mild reflux while others have severe reflux. Reflux is graded into 5 degrees (see picture). The treatment suggested depends on how severe the reflux is. Tests will show your child's degree of reflux.



## Tests For Reflux

The following tests help diagnose reflux. Not all of them need to be done. For more information about the tests, ask in the Family Resource Library.

- **Urine sample:** shows if there is infection in the bladder.
- **Ultrasound:** uses sound waves to make pictures of the urinary system.
- **Voiding cystourethrogram (VCU):** the bladder is filled with a fluid that contains a special dye. The x-ray pictures show how much of the dye refluxes into the ureters.
- **Renogram:** A small amount of radioactive material is injected into the blood. The specialist watches on a screen as it moves through the kidneys. It highlights any damaged areas of the kidneys.

## Treatment:

There are two options:  
Medical or Surgical

## Medical Treatment:

More than 80% of grade 1 or 2 reflux cases correct themselves by the time a child is 5 years old.

During this time, the treatment aim is to prevent bladder infections and use ultrasound or VCU tests to check that the reflux is getting better rather than worse.

## Preventing Bladder Infections – Things You Can Do:

1. Encourage your child to empty his/her bladder first thing in the morning and every 3-4 hours (even if they don't feel like they need to void). If urine stays in the bladder for a long time, bacteria can grow.
2. Encourage your child to drink as much as possible during the day. This flushes bacteria from the bladder. Water puts less stress on the bladder than pop or juice and does no harm to their teeth.
3. Serve a variety of fruit and vegetables. This will help prevent constipation. A full bowel makes it harder to empty urine out of the bladder
4. After voiding, girls should wipe from front to back. Wiping from back to front moves the bacteria from the anus toward the bladder opening.
5. Buy loose cotton panties rather than nylon underwear. Tight nylon underwear stays damp and bacteria like warm, wet areas to grow.
6. Bubble bath irritates the delicate skin around the bladder opening. This make it hurt to void and little children hold back from emptying the bladder if it is painful. A full bladder puts pressure on the weak valve.

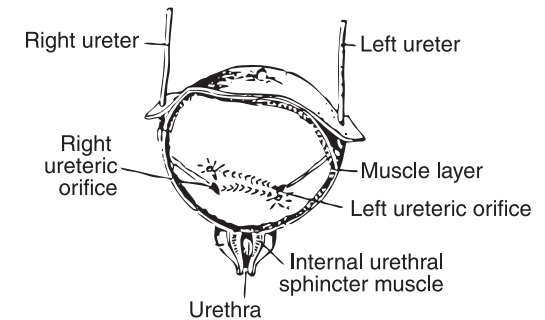
## Preventing Bladder Infections With Antibiotics

If the child has a lot of bladder infections the doctor may suggest a low dose

of antibiotic. Give the dose at night when urine is held in the bladder for the longest time. This low dose, taken for months and sometimes years, prevents infections while the reflux repairs itself. Discuss the risks and benefits of antibiotics with your doctor.

## Surgical Treatment

When the reflux is severe, it will not correct itself. To prevent or control damage to the kidneys, it is best to take action.



**Injection method:** No incisions are made but your child will need an anesthetic for this procedure. The surgeon passes a small tube with a light in it through the urethra into the bladder (cystoscope). The surgeon injects a substance like collagen or teflon through the tube. It goes into the tissues below the valve. The substance swells the tissues and sometimes tightens the valve and stops the reflux.

**Ureteral reimplantation:** The surgeon makes a small incision a few inches below the navel. S/he detaches the ureters and threads them through a tunnel s/he makes in the muscle wall of the bladder. The surgeon stitches the ureters into place (see picture). The

new position and the muscle in the bladder wall helps correct the reflux.

The surgeon will discuss all the treatment options – their risks and benefits -with you so you can make the best choice for your child.

### **Care After The Surgery**

#### **If your child has had the injection treatment:**

S/he will rest in the daycare unit or a few hours to recover from the anesthetic. Your child can return home and go back to normal activities. Your child may have a little burning when voiding for the first few times. This should clear up in a day or two.

#### **If your child has had ureteral reimplantation:**

Your child will be cared for in the hospital for about 1-3 days.

### **Fluids**

On the first day your child will be given fluids through an intravenous (small plastic tube in a vein). Your child will be able to have ice chips and later in the day drink fluids.

### **Pain**

Your child will be kept as free of pain as possible with medication given through the intravenous. After a few days, the intravenous is taken out. If your child still has some pain or bladder spasms, s/he can take pain medicine by mouth or suppository.

### **Urine Flow**

During surgery a catheter (small plastic tube) is placed in the bladder through the urethra. This catheter drains urine from the bladder and gives the bladder time to heal. It is normal to see slightly pinkish urine or small blood clots in the urine for several days after surgery. The nurse will take the catheter out a day or two after surgery.

Your child may also have another catheter called a stent. There are two types of stents. One kind is placed in the ureter and comes out through a small opening in the abdomen. It drains urine from the kidney and ureter into a small bag outside the body. This allows time for the tissues around the valve to heal. The doctor will remove the stent a few days after surgery.

The other type of stent stays in the ureter for a longer period of time. This type of stent is used when the ureter is very narrow or twisted. It keeps the ureter open so the urine can flow from the kidney to the bladder. It remains inside the ureter for six to eight weeks. Your child may need another anesthetic to have the stent removed several weeks later.

### **Care At Home**

Offer your child drinks of water or ice often. Fluid is important to flush the bladder. Pop and juice irritate the bladder.

The wound does not need to be covered with a dressing. The stitches will dissolve on their own.

If the wound looks red, feels wet or sticky, or smells bad, call the clinic for advice.

Your child can bath or shower as usual.

You can give your child pain medicine if s/he has pain. Check the label for the correct dose.

If your doctor has advised antibiotics to prevent infections, give all the medicine. Do not stop taking the antibiotics unless you have discussed this with your doctor.

### **Follow Up**

The surgeon's secretary will arrange an ultrasound for your child. This test is done on the same day as the follow-up visit in 6-8 weeks.

If you have any questions or concerns before this visit, please call the urology nurse clinician at 604-875-2889.

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# Urinary Reflux



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Developed by the health care professionals of the Urology Department with assistance from the Department of Learning and Development

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