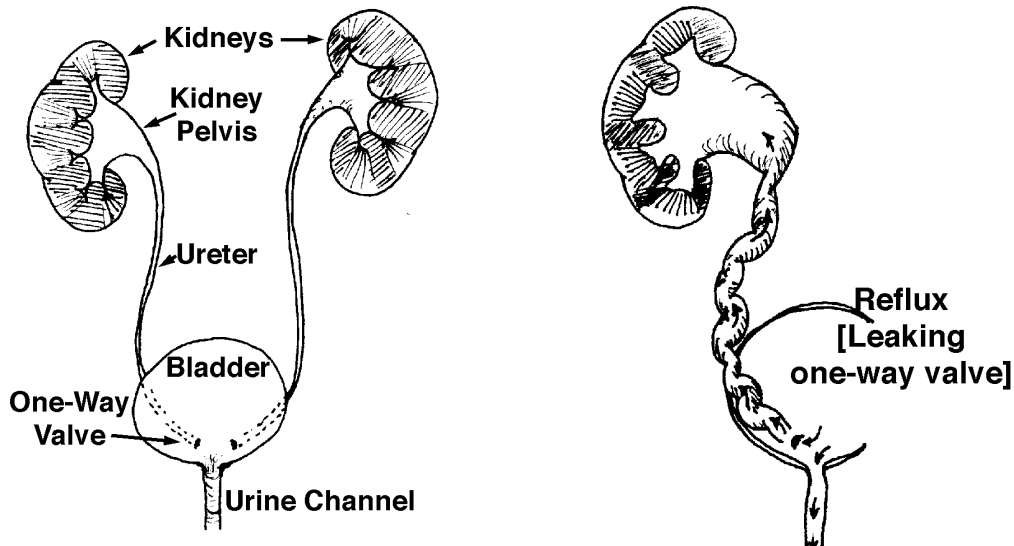


Information for Parents About Reflux Surgery

Your doctor has recommended that your child have surgery to correct reflux. This pamphlet will give you information about the surgery and the care after surgery.

What is reflux?

In the normal urinary system, two kidneys filter the blood and produce urine, the waste liquid. The urine produced by the kidneys then drains down tubes called **ureters** (**you-re-ters**) and into the bladder. At the bottom end of each ureter, a one-way valve normally allows urine to drain easily into the bladder, but prevents urine from moving back up the ureter toward the kidney. If the one-way valve leaks, urine from the bladder can go backwards up the ureters to the kidney during urination. This is called **reflux**.

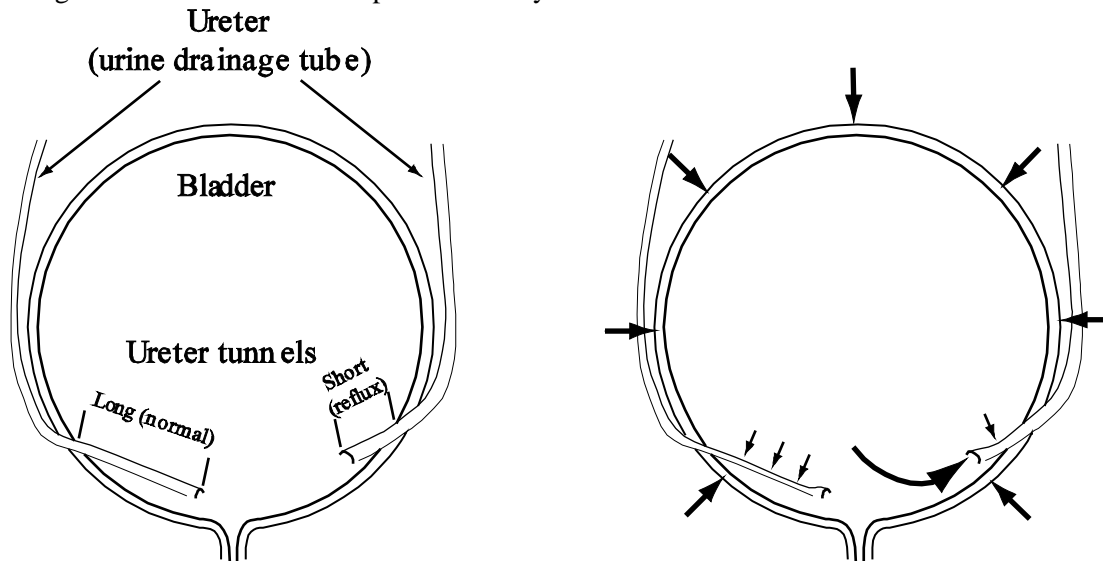


Why does reflux cause urine infections?

It is not uncommon for bacteria (germs which can cause urine infection) to move up through the urine channel to the bladder. Normally, this bacteria is rinsed completely out of the bladder the next time a child urinates. However, in children who have reflux, the bacteria can follow the urine from the bladder backwards up toward the kidneys. Bacteria in the kidney can cause an infection. Repeated kidney infections can permanently damage a kidney. This is why we are so concerned about infections in children with reflux.

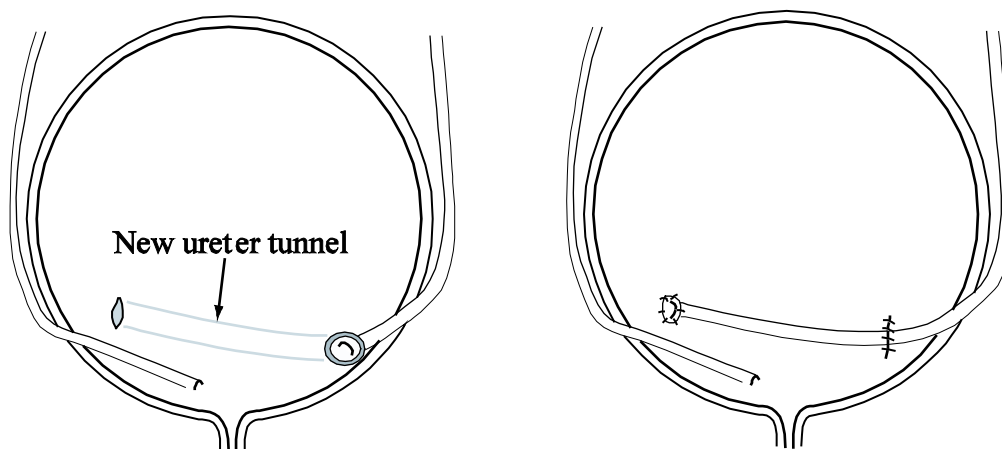
Why does the valve leak?

The ureter (the tube that carries the urine to the bladder) enters the bladder from the side. It passes through the bladder muscle and then it travels under the lining of the bladder before it opens into the bladder. This tunnel acts as a one-way valve that lets urine easily drain from the kidney, but it prevents urine from leaking backwards up to the kidney. How well the valve works at preventing reflux depends on how long the tunnel is. When the bladder muscle squeezes to empty the urine, the pressure in the bladder goes up. This causes the ureter tunnel to flatten out and close, preventing reflux. A ureter tunnel may not be long enough to flatten out and act as a one-way valve, allowing the urine to reflux back up to the kidney.



How is reflux surgery done?

The goal of reflux surgery (called a reimplant) is to make the ureter tunnel long enough to prevent the leakage. We make a 'bikini' incision through the skin on the lower abdomen. This incision is low enough that it won't show when your child wears a bathing suit. The bladder is opened and a cut is made around the opening of the ureter. The ureter is separated from the bladder muscle. Then a new tunnel is made, crossing to the other side of the bladder. The ureter is brought through the new tunnel and sewn in place. Then the bladder is closed.

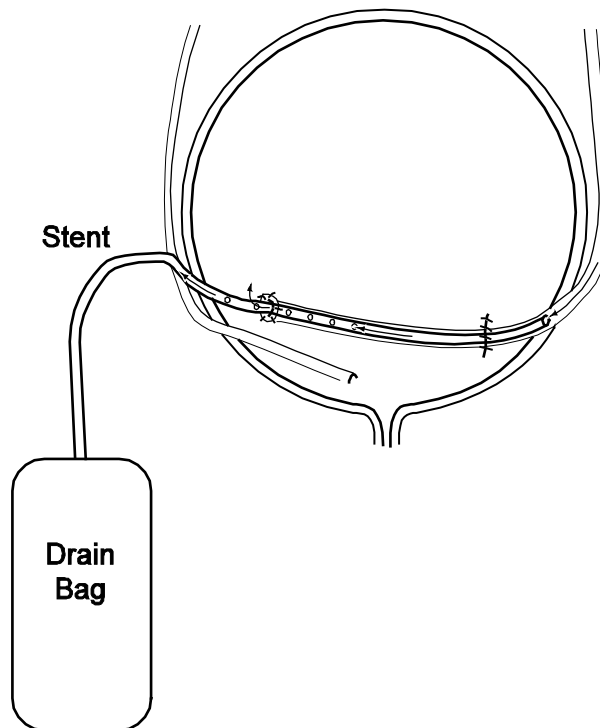


We use dissolving stitches to close the skin. Steri-strips (small tapes) are put cross-ways on the skin to hold the edges in alignment while the healing starts.

Will there be any catheters or drain tubes after the surgery?

We will place a catheter in the urine channel to keep the urine drained while the bladder heals. This catheter will drain into a bag. It will be removed on the day your child goes home. Don't be alarmed if the urine in the drain bag is red with blood. This is normal. A small amount of blood in the bag will turn the urine quite red.

Sometimes we use a stent (small plastic catheter) to help urine drain through the ureter temporarily while healing begins. The stent is passed up the ureter through the bladder and brought out through the skin below the incision. It is anchored to the skin with a blue plastic disk held in place with stitches. While your child is in the hospital, the stent will drain urine into a bag. On the day your child is ready to leave the hospital, we will put a cap on the stent so that it drains into the bladder. In 1 ½ to 2 weeks, we will cut the stitches on the blue disk and pull out the stent in the clinic.



Are there any complications that could happen during or after the surgery?

As with any surgery, there are possible complications with a reimplant. The most common complication is persisting reflux. This happens in 1 – 2 / 100 patients having the surgery. In many cases, the reflux will disappear with time. The second most common complication is blockage at the re-connection point. This occurs in less than 1/100 surgeries. If a blockage developed, a second surgery may be necessary to relieve it. Urine infection can occur following the surgery. This is usually treated with antibiotics. As with any surgery, bleeding can occur during or after a reimplant. Serious bleeding is a rare complication of the procedure.

Will there be a bandage?

Yes, there will be a bandage over the incision and around any drain or stent. We like to avoid placing tape on the skin because removing the tape hurts. For this reason, we usually use a fishnet bandage to hold the gauze bandage in place. As your child heals, you may use underwear to hold a gauze in place.

How long will my child need to be in the hospital?

To be ready to leave the hospital, your child will need to be eating regular food and had his/her pain controlled with oral pain medicine. Most children enter the hospital the day of the surgery early in the morning. They are usually ready to go home from the hospital 1 – 2 days later (usually 2 days). Of course, every child is different. We will not send your child home from the hospital until he/she is ready.

When we return home, how active my child be?

Most children are less active than they normally are for several days following pyeloplasty surgery. We recommend that your child not participate in organized sports or gym class for three weeks following the surgery. It is very important, though, for your child to move around and walk after the surgery. This will help the healing process.

What can I give my child for pain?

While your child is in the hospital, we will give him/her pain medication through an intravenous line. Before you leave the hospital we will use pain medication that your child can take by mouth (liquid or pills). We will give you a prescription for Tylenol with codeine for your child to take at home. The surgery involves making a tunnel at the bottom of the bladder. This is the most sensitive part of the bladder. Many children have bladder spasms after reimplant surgery. A bladder spasm causes intense pain for 15 – 45 seconds. If your child has a bladder spasm, he/she may tense his/her legs and abdomen and cry out. We will give you a prescription of medication to prevent or lessen the bladder spasms (Ditropan, Detrol, etc.).

When can my child bathe?

If your child has no catheter, stent or drain, he/she can take a brief shower or bath (5-10 minutes) 2 days following surgery. If your child has a catheter, stent or drain, he/she should have a sponge bath until the catheter, stent or drain is removed.

How will we know if the surgery was successful?

We will see your child in the clinic 1-3 weeks following surgery to check the incision. Two to three months following the surgery we will order a kidney ultrasound to see how the kidneys are growing and to make sure there is no enlargement of the funnel systems. In some situations, we may need to get a bladder reflux test to make sure the reflux is gone. This is not necessary in most patients. We usually recommend that children continue to take antibiotics for 6 – 8 weeks following the surgery. After the antibiotics are stopped, we will schedule periodic urine tests to check for urine infection.

What special care will my child need on the day of surgery?

In order for the surgery to be safe your child needs to have an empty stomach on the day of surgery. This means that he/she should have nothing to eat or drink (including water) for several hours before surgery. The anesthesia doctor will tell you more about this. **Your child should not take ibuprofen (Motrin, Advil, etc.) or aspirin within 7 days of the surgery.** It can increase the risk of bleeding complications. If your child has a cold, flu or fevers within one week of the surgery please call my office to reschedule. It would be unsafe to proceed with surgery if your child is ill.

Is there anything I can do to prepare my child for surgery?

When a child is old enough to talk there are several things which can help prepare him/her for surgery. Most children are anxious if they don't know what will happen to them. You can ease this fear by talking about the upcoming surgery. Many local libraries have books about going to the hospital or doctor's office. Some have video tapes on this subject. Loyola's Ronald McDonald Children's Hospital is a special place with well-trained nurses and care givers who are experts in the care of children. Some families like to visit the hospital before the surgery so that their child will feel familiar with the surroundings. Tours can be arranged by calling Child Life Coordinator (708/216-5607). Children who take the tour are often much more comfortable when they return for their operation. Children are usually fearful of an unfamiliar environment. It may help to bring a favorite toy or blanket on the day of surgery.

What if I have more questions?

Like children, parents also are sometimes anxious about the unknown. We want you to have all the information you need about the surgery. If you have questions, it may help to write them down. You are welcome to call or write to us to have your questions answered.

To schedule the surgery, e-mail Linda Bauman, Senior Secretary [lbauman@luhs.org] or call (708/216-6266).

For more information on this topic you are welcome to visit Dr. Hatch's web site: Genitourinary Development [www.meddean.luc.edu/lumen/meded/urology/guhome.htm]

For more information about Dr. Hatch please visit our web site [www.luhs.org/urology]

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Directions and maps available at www.luhs.org
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