

## URETERAL REIMPLANTATION SURGERY

AT CHILDREN'S HOSPITAL OF PITTSBURGH OF UPMC, we believe parents and guardians can contribute to the success of this surgery and we invite you to participate. Please read the following information to learn about the surgery and how you can help.

### Fast Facts About Ureteral Reimplantation Surgery

- Ureteral reimplantation is a surgery to fix the tubes that connect the bladder to the kidneys.
- The surgery changes the position of the tubes at the point where they join the bladder to stop urine from backing up into the kidneys.
- Your child's surgery will be done under general anesthesia (*an-es-THEEZ-ya*), which means that he or she will be sound asleep during the surgery.
- In addition to the general anesthesia, your child may receive caudal (*COD-ool*) anesthesia, which will give pain relief in the area below the waist.
- A pediatric urology surgeon—a doctor who specializes in conditions of the urinary tracts and reproductive organs of children—will do your child's ureteral reimplantation surgery.
- Your child will stay in the hospital for 1 to 2 days after this surgery.
- This surgery takes several hours to complete.

### What Is Ureteral Reimplantation?

Ureteral reimplantation (*yoor-EET-er-ool RE-im-plan-TAY-shun*) is used to treat reflux (*REE-flux*), a condition in which urine from the bladder is able to flow back up into the kidneys through the tubes that connect the kidneys with the bladder.

- When these tubes, called the ureters (*YOOR-et-ers*), are working properly, urine flows only one way through them from the kidneys and into the bladder so that it can leave the body. The ureters connect to the bladder through a tunnel that acts as a valve to keep urine from flowing backward.
- Sometimes, a ureter has a bad connection to the bladder wall. When there is not enough of the tunnel at the connection point, reflux will occur. If left untreated, reflux can cause scarring of the kidneys and permanent kidney damage.

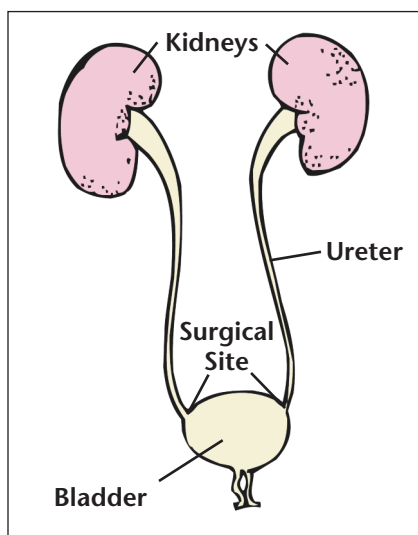


- When reflux is not expected to go away with time, or is causing kidney damage, surgery is needed.
- Surgery to correct reflux consists of changing the way the ureter connects to the bladder by creating a new tunnel into the bladder. The doctor "reimplants" the ureter to fix its connection to the bladder.

### What Is Anesthesia?

General anesthesia makes your child's whole body go to sleep and is needed for ureteral reimplantation surgery so that his or her reflexes will be completely relaxed. General anesthesia makes the surgery easier and safer to do because your child will not feel any pain or have any memory of it.

Caudal anesthesia is given with general anesthesia to block pain in the low back, belly, and lower trunk area. It allows the anesthesia doctor to give a smaller amount of general anesthesia during the surgery, and also provides up to 4 hours of pain relief in that area after the surgery.



### Home Preparation

**When general anesthesia is needed, there are important rules for eating and drinking that must be followed in the hours before the surgery.** One business day before your child's surgery, you will receive a phone call from a surgical nurse between the hours of 1 and 9 p.m. (Nurses do not make these calls

on weekends or holidays.) Please have paper and a pen ready to write down these important instructions.

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- The nurse will give you specific eating and drinking instructions for your child based on your child's age. Following are the **usual** instructions given for eating and drinking. No matter what age your child is, you should follow the specific instructions given to you on the phone by the nurse.

### For children older than 12 months:

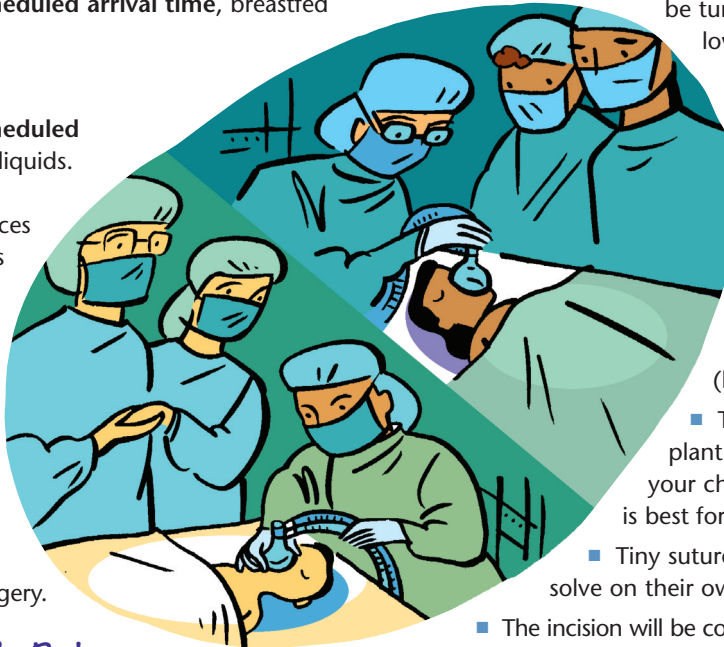
- After midnight the night before the surgery, do not give any solid food or non-clear liquids. That includes milk, formula, juices with pulp, chewing gum or candy.

### For infants under 12 months:

- Up to 6 hours before the **scheduled arrival time**, formula-fed babies may be given formula.
- Up to 4 hours before the **scheduled arrival time**, breastfed babies may nurse.

### For all children:

- Up to 2 hours before the **scheduled arrival time**, give only clear liquids. Clear liquids include water, Pedialyte®, Kool-Aid®, and juices you can see through, such as apple or white grape juice. Milk is not a clear liquid.
- In the 2 hours before scheduled arrival time, give nothing to eat or drink.
- You may bring along a "comfort" item—such as a favorite stuffed animal or "blankie"—for your child to hold before and after the surgery.



- Younger children will get their sleep medication through a "space mask" that will carry air mixed with medication. Your child may choose a favorite scent to flavor the air flowing through the mask. There are no shots or needles used while your child is still awake.
- Older children may choose between getting their medication through the mask or directly into a vein through an intravenous (IV) line.
- When your child has fallen asleep, you will be taken to the waiting room. If it has not already been done, an IV will be started so that medication can be given to keep your child sleeping throughout the surgery.

- After the IV has been placed, your child will be turned onto his or her side. The lower back near the spine will be cleaned for the caudal anesthesia injection.

### The Surgery

- The ureteral reimplantation surgery is done in an operating room at Children's Hospital.
- An incision (*in-SIZ-yun*) is made in the lower part of the abdomen (belly) just above the pubic bone.
- There are several ways to reimplant the ureter into the bladder, and your child's doctor will use the way that is best for your child's condition.
- Tiny sutures (*SOO-chers*) or stitches that dissolve on their own will be placed under the skin.
- The incision will be covered by a simple dressing that you will be told when and how to change. When the incision is fully healed, your child will have a small scar from the surgery.

### A Parent's/Guardian's Role

The most important role of a parent or guardian is to help your child stay calm and relaxed before the surgery. The best way to help your child stay calm is to for you to stay calm.

### Going To Sleep

Once your child has been registered for the surgery, a nurse, nurse practitioner or physician's assistant and a member of the anesthesia staff will meet with you to take your child's vital signs, weight, and medical history. As the parent or legal guardian, you will be asked to sign a consent form before the anesthesia is given.

- The anesthesia doctor will review your child's medical information and decide which kind of sleep medication he or she should get.
- If your child is very scared or upset, the doctor may give him or her a special relaxation medication. This medication is flavored and takes effect in 10 to 15 minutes.
- If you wish, you may go with your child to the room where the surgery will be done and stay as the sleep medication is given.

### While Asleep

While your child is asleep, his or her heart rate, blood pressure, temperature, and blood oxygen level will be checked continuously.

- Your child may have a breathing tube placed while he or she is asleep. If a breathing tube is used, your child may have a sore throat after the surgery.
- To keep your child asleep during the surgery, he or she may be given anesthetic medication by mask, through the IV tube or both. When the surgery is over, the medications will be stopped and your child will begin to wake up.

## URETERAL REIMPLANTATION cont'd

### Waking Up

When your child is moved to the recovery room, you will be called so that you can be there as he or she wakes up.

- The doctor who did your child's surgery will meet with you to talk about the surgery and answer any questions you might have.
- The caudal anesthesia will allow your child to wake up comfortably, without any pain from the surgery.
- A catheter (*CATH-it-er*), a soft, flexible tube, will be placed inside your child's urethra (*yoo-REETH-ra*) or urinary opening to drain urine from the bladder. The urine will go into a bag, where it will be collected. Your child's nurse will empty the bag when needed. Usually, the catheter will be taken out early the next morning after surgery. Taking the catheter out causes little discomfort.
- Your child will need to stay in the recovery room to be watched until he or she is alert and his or her vital signs are stable. The length of time your child will spend in the recovery room will vary because some children take longer than others to wake up after general anesthesia.
- When alert and all vital signs have returned to normal, your child will be moved to a hospital room where the nursing staff will continue his or her care.
- Children coming out of anesthesia may react in different ways. Your child may cry, be fussy or confused, feel sick to his or her stomach, or vomit. These reactions are normal and will go away as the anesthesia wears off.
- Children who have received caudal anesthesia may have some weakness, numbness or tingling in their legs. These feelings are normal and should go away as the anesthesia wears off. You should watch your child closely for a few hours to prevent tripping or falling.

### Going Home

After your doctor has cleared your child to be discharged, you may take him or her home. He or she should take it easy for several days.

- You will be told how to care for your child's dressing. An ointment may be prescribed for you to use with the dressing.
- Your child may be restricted from bathing for several days after surgery.
- Your doctor will tell you when your child may resume normal activities.



- If you notice a fever higher than 101.4°F, bleeding or foul smelling drainage from the area around the incision, call the doctor who did the surgery right away.

### Special Needs

If your child has any special needs or health issues you feel the doctor needs to know about, please call your doctor's office and ask to speak with a nurse. It is important to notify us *in advance* about any special needs your child might have.

To contact your child's doctor, please use the numbers below. If you are unable to reach your child's doctor, or if it is after hours, call the Children's Hospital operator at 412-692-5325 and ask to page the doctor who is on-call for your child's doctor.

**Dr. Steven Docimo**  
**Dr. Michael Ost**

**412-692-7932**

**Dr. Mark Bellinger**  
**Dr. Francis Schneck**

**412-687-5437**

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**Children's Hospital of Pittsburgh of UPMC**  
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4401 Penn Ave.  
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412-692-7932

**Children's North**  
2599 Wexford-Bayne Road  
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**Children's South**  
1300 Oxford Drive  
Bethel Park, PA 15102

**Children's East**  
Corporate One Office Park  
Building One  
4055 Monroeville Blvd.  
Monroeville, PA 15146

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To see the list of all available patient procedures descriptions, please visit [www.chp.edu/procedures](http://www.chp.edu/procedures).