

INGUINAL HERNIA REPAIR 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.

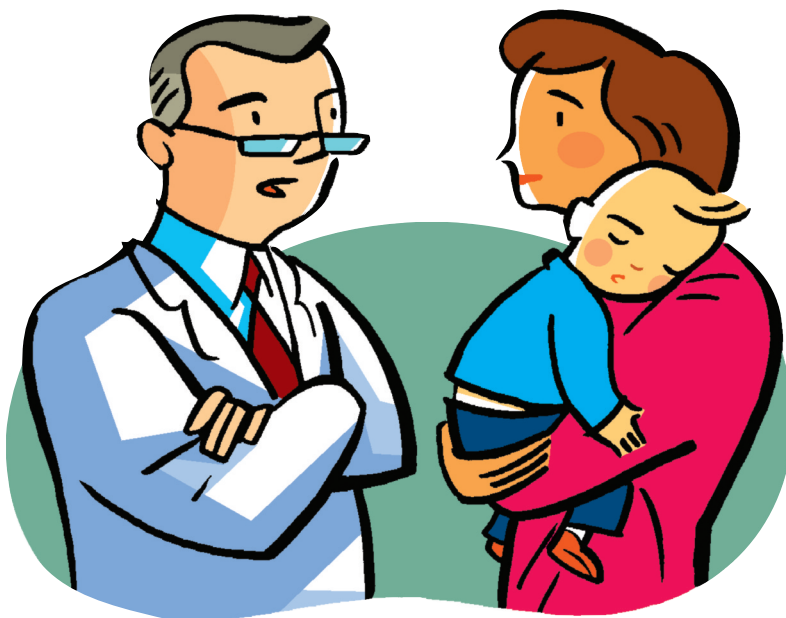
Fast Facts About Inguinal Hernia Repair

- An inguinal hernia is an opening in the belly (abdominal) wall near the groin. Fluid or intestines can pass through this opening if it is left untreated.
- Because an inguinal hernia will not go away by itself, surgery is always needed.
- Your child's surgery will be done under general anesthesia, which means that he will be sound asleep during the surgery.
- In addition to the general anesthesia, your child may receive caudal anesthesia, which will give pain relief in the area below the waist.
- A pediatric urology doctor—a specialist in surgery of the urinary tract and reproductive organs of children—will do your child's inguinal hernia repair.
- This surgery takes between 30 minutes to 1 hour.

What Is An Inguinal Hernia?

An inguinal (*IN-gwa-nul*) hernia is an internal opening in the inguinal canal, which is located within the abdominal or belly wall. In boys, the inguinal canal is a passageway between the abdomen and the scrotum—the sac of skin that holds the testicles on the outside of the body. The testicles are attached to a cord called the spermatic cord, which passes through the inguinal canal. Before birth, a baby boy's testicles are located high inside his belly. As the baby develops inside the mother, his testicles drop down through this passageway into the scrotum. In girls, the inguinal canal is the passageway for a ligament that holds the uterus in place. Whether in a boy or a girl, the passageway or opening usually closes up by itself before the baby is born. If it does not, a pouch may form in the inner lining of the belly. That pouch is called an inguinal hernia.

Although both boys and girls can have inguinal hernias, they are much more common in boys than girls. Often the hernia goes undetected for years because of its small size, and may not be noticed until a child is in his or her teens. Usually, inguinal hernias are found by pediatricians during routine physical exams. Nearly all cases of inguinal hernias are congenital (*con-JEN-it-tool*), meaning that they were present at birth. Straining, coughing or crying may make the hernia



more visible, but they are not the cause of the hernia. Inguinal hernias in children are not the same as hernias or "ruptures" that adults may get from straining or lifting.

Inguinal hernia repair is one of the most common surgeries done on babies and children. Most inguinal hernias can be repaired as an "elective" surgery, which means that surgery can be scheduled at the parents' earliest convenience.

- In some cases, part of the intestine can drop down through the opening and occasionally become trapped. If your child has pain near the hernia site, you should call your doctor immediately. This condition is unpredictable and can be very serious because the trapped intestine can die within a few hours. Emergency surgery may be necessary.
- For this reason, surgery sometimes needs to be done soon after your doctor diagnoses an inguinal hernia.
- Fluid may build up in the scrotum, causing a bulge or swelling around the testicles. This build up of fluid is called a hydrocele (*HI-dro-seal*). In most newborn boys, the fluid will be absorbed back into the body over time, usually by 6 to 12 months of age. If the hydrocele changes sizes—that is, swells and shrinks every day—it is more likely to be an inguinal hernia and require surgical repair.

What Is Anesthesia?

General anesthesia (*an-es-THEEZ-ya*) makes your child's whole body go to sleep and is needed for inguinal hernia repair so that his 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 (*COD-ool*) anesthesia is given with general anesthesia to block pain in the low back, belly, and lower trunk area and

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provides up to 4 hours of pain relief in that area after the surgery. Caudal anesthesia is usually intended for younger children or those having hernias repaired on both sides.

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.

- 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.

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 keep your child calm is 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 a special medication to help him or her relax. 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.
 - 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

Surgery to fix the hernia is done in an operating room. A small incision (*in-SIZH-yun*) or cut is made over the area of the hernia, usually in one of the skin folds.

- The hernia sac is removed through this small incision; the intestines are placed back in the belly if they are in the hernia sac; and the opening in the lower belly is closed.
- Some children who have a hernia on one side may have an undiagnosed hernia on the other side, so your child's doctor may recommend repairing the other side, if needed.
 - 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, most children have a small scar from the surgery.
- The surgery will take between 30 minutes to 1 hour.



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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.

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.
- Your child will need to stay in the recovery room to be watched until he or she is alert and 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.
- 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 within a few hours. You should watch your child closely for a few hours to prevent tripping or falling.

Going Home

After your child is discharged and goes home, he or she may still be groggy and should take it easy for the day.

- 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 will be restricted from bathing for several days after surgery.
- Your surgeon will determine when your child may resume normal activities.

- Your child may begin to eat and drink a little at a time and resume normal eating and drinking as long as he or she is feeling well.
- 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
One Children's Hospital Drive
4401 Penn Ave.
Pittsburgh, PA 15224
412-692-7932

Children's North
2599 Wexford-Bayne Road
Sewickley, PA 15143

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

To see the list of all available patient procedures descriptions, please visit www.chp.edu/procedures.