Pediatric inguinal (groin) hernias are the most common pediatric surgical procedure. Although the smallest premature babies are at higher risk for hernias, they can occur at any time from birth to age 18.

Your child’s hernia repair is a surgery procedure and will be performed at the Santa Clara Medical Center Hospital. Our staff at Kaiser Permanente is skilled in pediatric hernia repair. About 400 pediatric groin hernia repairs are performed at the Santa Clara Medical Center each year.

Today in class you will have time to ask questions. After class your child will be examined and you will be able to choose a date for surgery. All pediatric hernias are done on Thursdays, as outpatient procedures. We usually schedule procedure appointments 1 – 2 months in advance. We operate youngest to oldest on each Thursday, so one or two days before your scheduled surgery date you will be notified by phone of the time that you should arrive for the surgery.

**Preparation and Procedure**

Your child should stop eating and drinking 6 hours before the operation. Small amounts of water may be sipped up to one hour before your child’s procedure appointment.

If your child has had a cold or flu in the week before your surgery please call us at (408) 851-2000 to reschedule the surgery. It is important that your child be in good health at the time of the procedure.

Children's surgery requires general anesthesia. You will meet your anesthesiologist on the day of surgery, and they can answer all of your anesthesia related questions. Although each hernia repair only takes 15 minutes, your child will be in the operating room for approximately an hour. You will be at the hospital for four or five hours because there is time spent getting ready for, and recovering from surgery.

Parents are with their child until the child leaves for the operating room. After the operation, one person at a time can visit your child in the recovery room. Unfortunately, no siblings are allowed in the waiting rooms, so please arrange for sibling child care.

Before you go home the recovery room staff will make your post-operation Telephone Advice Visit, “TAV” appointment. This is normally 10 – 14 days after the surgery.
**Care at home**

All children will have local anesthetic (numbing medication) at their incision location. The area around the incision will be numb for 4 - 6 hours. At home, children under two years old will need over the counter Tylenol for pain. Older children will be prescribed liquid Tylenol with a narcotic, dose determined by the child’s weight. The prescription is filled for you at the time of discharge. Give the medicine as needed every four hours. Each child has individual pain medicine needs, so trust your judgment. Do not use Motrin, Advil, ibuprofen or aspirin. Unlike Tylenol, these other pain medicines change blood clotting ability and cause more bruising and bleeding.

Your child has dissolving skin sutures. No suture removal is necessary. The deep sutures that close the hernia itself are permanent and often can be felt for weeks to years after the procedure in thin children.

Children will have various amounts of bruising and swelling. Some children will have black and blue colored skin around the incision area, some will not. An ice pack applied to the hernia site over the dressing can help with reducing the swelling, bruising, and pain. Make sure the ice pack is wrapped and applied for 10-20 minutes. Remove after icing for 2 hours. Reapply the ice as needed. Bruising and swelling are not worrisome, but if your child has a fever of more than 101.5 in the 4-5 days after surgery you should call us at (408) 851-2000.

The dressing (bandage) is skin glue, or steri strips, sometimes covered by a white gauze and a clear plastic Tegaderm sheet. You can expect some bloody drainage to collect underneath the dressing. The drainage will dry on its own and come away when the dressing comes off. We recommend you not try to change or clean the dressing yourself as the area under the dressing is still sterile. If your child's dressing loosens or falls off early that is ok. Leave it open to air. Please do not use any ointments or creams.

Baths and showers can be resumed on the Saturday after your Thursday operation (48 hours). Leave the dressing on for the bath. It is quite waterproof.

There are no activity restrictions. The doctor makes the repair childproof, and children are smart. They let pain be their guide. If something hurts, they will stop. Continue to use your usual child seats, baby carriers, seatbelts, and sleeping positions. The only exception to this rule is swimming. We prefer no swimming for 2 weeks because prolonged soaking could loosen the dressing before its time.

We will do everything we can to keep your child comfortable and to keep you fully informed. Please do not hesitate to ask any questions along the way. We can be most easily reached at (408) 851-2000.
Frequently asked questions

Q: Why did my child get a hernia?
A: During pregnancy, male fetus testicles are formed at 6 months in their abdomen. Each side has an opening between the abdomen and scrotum where the testicles come down at 7 - 8 months of pregnancy. After testicles come through, the opening closes snugly to stop intestines from entering the scrotum. Hernias occur when the opening does not close, or it reopens and intestine or abdominal fluid comes down. The intestine bulging out through the opening is a hernia. Fluid coming out is called a “communicating” hydrocele. Girls have the same opening. The ovaries sit in the abdomen above the opening, and intestine or an ovary can bulge out causing a hernia. Inguinal hernias occur in 5 of 100 full term and 30 of 100 preterm infants. They are 10 times more frequent in boys.

Q: Why do we need surgery? Will the hernia go away on its own or with medication?
A: A hernia will not go away on its own. No medications can close the hernia. Some babies are born with neonatal hydroceles; abdominal fluid trapped in the scrotum when the testicle came down. This does not require surgery. The fluid is reabsorbed by age two years. Since the opening between the abdomen and scrotum is closed no more fluid or intestine can come down. Sometimes people mistake hydroceles for hernias, and may think there was a hernia that “went away.”

Q: Do hernias hurt? Is my child fussy or gassy or colicky because of the hernia?
A: Hernias do not hurt. When colicky babies cry their hernias stick out more. People may think the hernia is to blame for the crying, but we know from older children and adults with large hernias that the hernias are not painful. No improvement in colic or fussiness is expected after hernia repair.

Q: Are hernias dangerous?
A: Most hernias are not dangerous. There is one exception. When intestine or ovary gets truly stuck out in the hernia, this is called incarceration. Incarceration is the main reason for fixing hernias. Incarceration can occur in 10% of inguinal hernias and increases to 30% in premature infants. Incarceration is rare, but most often happens in babies less than 1 year old. Incarceration can cause severe pain. The child is inconsolable, and may vomit bile. It is not subtle, so you will know if it occurs. If your child’s hernia becomes incarcerated go to the pediatrician or emergency room immediately. If it reduces easily, the child will go home and have surgery as planned. If it is difficult to reduce we will keep the child in the hospital, let the swelling go down, and repair the hernia the next day. If we cannot reduce it we will proceed to surgery right away.

Q: What is the chance the hernia will recur after surgery?
A: Although all hernias are repaired in the same way, about 1-2% of hernias will recur. The patients at most risk for recurrence are premature babies, and those whose hernia was incarcerated. Repaired emergency recurrence occurs in 20% of patients.

Q: Is plastic mesh used for the repair?
A: No mesh is used. Only sutures are used to repair hernias in children.
Q: What is the ideal timing of surgery?
A: We like to fix the hernia early, to minimize the time that it could incarcerate. But Hernias are elective surgery and we will work around your schedule. Waiting until after a planned trip or for a semester break is okay. It is best to not leave town for 2 or 3 days after surgery so we can see you if needed. There is one exception. Premature babies are scheduled when they are “60 weeks corrected age.” A preemie born at 6 months gestation is a 24 week baby (6 months x 4 weeks per month = 24 weeks). A 24 week preemie would need to wait another 36 weeks to attain 60 weeks corrected age, so we schedule Hernia Class at 55 weeks and surgery at 60 weeks, nine months after their birth date. We also like to wait as repairing them prior leads to increased incidence of recurrence.

Q: What are the risks of surgery?
A: All surgery, even routine surgery has risks.

All incisions leave a scar. Each hernia incision is about 2 -3 millimeters long. One is hidden in the umbilicus. The other one (or two if bilateral hernias are fixed) is located in the lower abdomen where it is difficult to see, not on the scrotum. The younger the child is at operation the fainter the scar will be.

Bleeding is extremely rare. If an infection occurs antibiotics are needed, so be sure to call us if a fever develops after the operation.

Suture extrusion occurs when tissue “spits” out a deep suture, similar to when your body spits out a splinter. This can happen weeks to months later. It can mimic an infection, but there is no fever. Simply keep the area clean and dry. Do not pull on or cut the suture. Letting the body spit the suture at its own speed minimizes recurrence.

Recurrence is very rare. Highest risk for recurrence is among preemies and children with incarcerated hernias.

Damage to blood vessels serving the testicles is rare. These vessels are adjacent to the hernia. If they are injured, one testicle might end up smaller than the opposite side. Fertility and hormones are preserved by the opposite side testicle.

Damage to vas deferens, a tube smaller than a spaghetti that delivers sperm from the testicle to the penis is rare. It is adjacent to the hernia and we are careful to avoid harming it. If a vas deferens were injured, fertility and hormones would be preserved because the boy has another vas deferens on the other side for the opposite testicle. It is reported to occur in less than 20% of 1,000 repairs. Ovaries are well away from the hernia and are not normally at risk.

Q: My child strains at stool or is constipated. Did that cause the hernia? Will it make the hernia recur if he/she pushes hard after surgery?
A: Straining did not cause the hernia. Straining will be uncomfortable after surgery, so if possible work with your pediatrician to improve stooling behavior before the hernia repair.

Q: Will my child be at risk for a hernia on the opposite side?
A: Clinical presentation of a hernia occurs on the right side in 60-75% of patients, and occurs on the left side in 20% of patients. A hernia occurs on both sides in 15% of patients and this can increase to 20% in females. The surgeon inspects both sides from within, and will close an open opposite side to prevent a future hernia.