



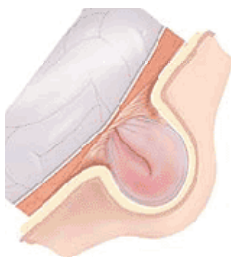
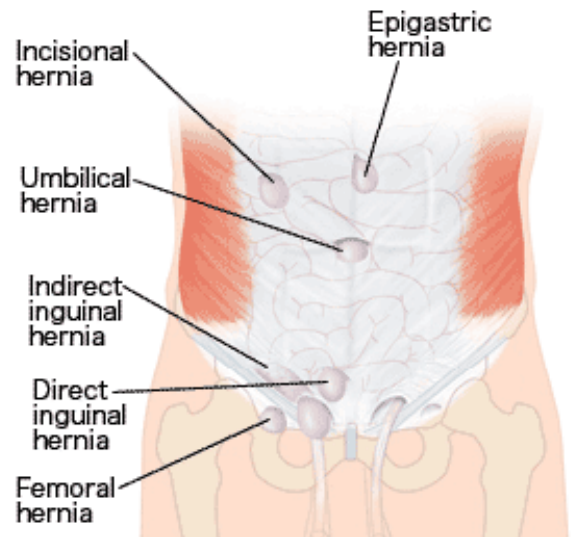
Hernia (Updated 10.08)

A hernia is a weakness in the wall of your abdomen. When you lift a heavy load, or when pressure in the abdomen increases, as when you cough, abdominal organs and tissues push against the wall. If the pressure is enough, they can push through at the weak spot, bulging out in a lump that you may be able to feel under your skin. This is not always painful, and you may be able to push the lump back inside. Then it is called a *reducible* hernia.

Unfortunately, weak areas in your abdominal wall do not heal on their own but usually become weaker with aging and activity. If part of your intestine protrudes through a hernia, it can become trapped (incarcerated), strangling the intestine and causing a bowel obstruction. This can become a life-threatening situation, requiring emergency surgery to repair the damage. Thus, it is best to treat and repair a hernia before an emergency arises.



The abdominal wall is made up of layers that provide strength, including muscle, fat, connective tissue, and peritoneum. The most common kinds of hernias are called **inguinal**, **umbilical**, and **femoral**, because of the natural weak spots in the wall in those locations: the inguinal (groin), umbilical (naval), and femoral areas (just below the groin). A fourth common kind of hernia is an **incisional** hernia, which occurs where the incision from a previous surgery has created a weakened area.



A less common condition is a **Hiatal** hernia which occur at the top of the stomach, when a weak spot in the diaphragm allows the stomach to move up into the chest cavity.

What Causes a Hernia?

Most hernias in adults result from strain on the abdominal muscles, as when you lift a heavy object, although sometimes the problem is present from birth (a *congenital* hernia). Hernias can also result from a marked weight gain, when constipation leads to straining during bowel movements, or even from repeated coughing attacks.

Diagnosing a Hernia

Although many hernias are easy to detect and diagnose during a clinical exam, your doctor may send you for an ultrasound or X-ray that will pinpoint the weakness or gap, or to rule out other causes of a suspicious lump.

Surgery for Hernia Repair

Surgery is the necessary treatment for a hernia. If left untreated, the intestine may become trapped in the hernia, causing strangulation. This leads to severe pain and may cause intestinal obstruction or death to the intestinal tissue, which is a medical emergency.

A hernia repair, or ***herniorrhaphy***, is surgery to repair the weakness in the abdomen. Your surgeon will either suture the area closed or apply a piece of mesh as a patch.

Risks and complications of surgery

Although complications are rare, it is important to be aware of the risks and complications before any surgical procedure. Those risks and complications for herniorrhaphy include: bleeding, infection, injury to bowel or bladder, urinary retention (inability to urinate), numbness or pain in the groin or leg (from damage to nerves in the operative area), risks from anesthesia, and blood clots.

Also, while every attempt is made to minimize a recurrence of a hernia, the "perfect" repair does not exist, and sometimes hernias reappear. However, the recurrence rate over many years is small, as low as 1 to 5 percent. The smoother your recovery, the better the chances that your hernia will not recur.

Herniorrhaphy

What to expect before, during, and after your surgery

Before your surgery

- Your doctor may ask you to have blood tests, an EKG (electrocardiogram), and a chest X-ray to prepare for surgery.
- Tell your doctor about all medications you are taking, including vitamins, supplements, and blood thinners.
- Do not eat or drink anything after midnight the night before your surgery.
- Make sure that you have someone to give you a ride home from the hospital.

During the Operation

Hernia repair may be done with an open incision or laparoscopically. Either way, you will receive general anesthesia. A nurse will place an IV in your arm, and the surgical site may be shaved. Many hernia repairs are done on an outpatient basis and you go home after you have recovered from the anesthetic.

With an open repair, the surgeon creates an incision where the weakened area is located. The hernia is "reduced" by pushing the protruding tissue back into the abdomen. In most cases, the surgeon uses a special mesh to cover and repair the weak area, like a patch, and secures it to nearby tissue with suture. Over time, the nearby tissues and scar tissue grow into the mesh to strengthen the repair. Some small hernias do not require mesh. The surgeon tightens the muscle tissue surrounding the weak area to repair the wall defect.

Laparoscopic hernia repair is done in a similar fashion but with a tiny scope inserted so the surgeon can watch the surgery on a video monitor. Several small incisions are made in the abdomen and it is filled with carbon dioxide gas to provide space for the surgeon to see and work. A camera and small surgical instruments are inserted through the incisions. At the end of the surgery, most of the carbon dioxide gas is removed. Recovery from laparoscopic surgery is often faster than from an open repair.

When the surgery is over, you will be taken to the recovery area where a nurse will monitor your blood pressure, heart rate, and pain. Make sure that you have someone to drive you home and stay with you during the first 24 hours following surgery.

After your surgery

With a large ventral hernia, you may be admitted to the hospital for a few days to monitor pain and your diet for the first few days. A large hernia repair may cause a postoperative ileus. This is a temporary paralysis of a portion of the intestines preventing food or drinks from moving forward. It is important for you to slowly start your diet to prevent complications. You will start with a liquid diet and progress to a soft and regular diet as tolerable. Refer to handout diet after an open abdomen surgery.

Recovery from Surgery

Activity/Work: The day of surgery you should relax and control your pain by taking the pain medications prescribed by your doctor. Get up and walk to speed your recovery and prevent blood clots. You will be able to do most activities of daily living without difficulties. Continue to take it easy for the first 2 to 3 days after surgery. You can then resume normal activities, but avoid strenuous activities and do not lift more than 5 to 10 pounds for at least 3 weeks or more following your surgery, as directed by your surgeon.

Pain: As with any operation, the amount of pain you will experience varies from patient to patient. Right shoulder pain is common after laparoscopic surgery, and you may experience abdominal pain from the gas used to inflate your belly until it is reabsorbed. Be sure to stay ahead of the pain and take your pain medication as prescribed by your doctor. You may add Advil (Ibuprofen) to your pain medication if you do not have any allergies or contraindications for taking it, such as gastric ulcers, gastric reflux, kidney disease or allergy to ibuprofen.

Diet: You will start with a liquid diet and progress to a soft and regular diet as tolerable. Please refer to the diet information provided you.

Incision care: Your incision will be covered with a steri-strip or piece of tape. This should be left on until you are seen in the office or it falls off on its own. You can shower, but do not soap the area. Pat it dry. Do not soak in a bath, hot tub, or swimming pool for at least 4 to 6 weeks after surgery.

You may see a little dried blood through the bandage. This is normal and the bandage doesn't need to be changed. If a little drainage comes from the incision, tape gauze over top of the incision and hold pressure. If the drainage continues over 3 to 4 hours or there is a lot of drainage, call your doctor.

Signs of infection include increasing redness past the incision, pus-like drainage, or increasing pain. A fever over 101.5 and flu-like symptoms should not be ignored. Call your doctor if these occur.

Swelling: A little redness or swelling around the incision is normal. To help reduce the swelling, place an ice pack wrapped in a towel on the affected area for 15 to 20

minutes 3 to 5 times per day. You can also use ibuprofen to help with the swelling, but do not use ibuprofen if you have a history of gastric ulcers, gastric reflux, kidney disease, or allergy to ibuprofen.

Men who have had an inguinal hernia repair may find their scrotum is swollen and turn black and blue. This is normal and may worsen after a few days. To help reduce swelling, use ice packs and wear supportive underwear such as briefs. The scrotum will return to normal in a few weeks.

Constipation: Constipation is very common following a surgery. The anesthetic used during the operation paralyzes the bowel, which can lead to constipation for up to a week. Pain medications such as vicodin or percocet also cause the bowel to move more slowly. You may try over-the-counter medications such as milk of magnesia, Colace, or Metamucil, as well as prune or apple juice to get your bowels moving.

Shower: You can shower 24 – 48 hours after surgery, unless otherwise instructed by your doctor. There will be sterile tape (called a “steri-strip”) over the incision. Leave the tape on while showering. Do not soak in a bath or hot tub. Sometimes an incision is stapled and you won’t have steri-strip. In this case you can shower with a bandage. Be sure to dry the area well after your shower.

Driving: Anyone who has had a hernia repair should not drive until they feel confident about performing an emergency stop without discomfort, usually a week after surgery. Do not drive while taking pain medications. It is considered driving “under the influence” and is dangerous.

When to Call the Doctor

- Fever over 101.5 degrees.
- Increased redness or drainage from an incision.
- Change in skin color/jaundice.
- Pain or swelling in your calf.
- Difficulty breathing.

When to Go to the Emergency Room

- Uncontrolled bleeding from an incision.
- Persistent vomiting.
- Change in mental status.
- Inability to breathe.

You are always welcome to call the office with your questions or concerns. After hours, an answering service will direct your questions to the on-call providers. However, these individuals are unable to call in prescriptions for pain medication after 5 p.m.



Diet after Open Abdomen Surgery (Updated 10.08)

Key Factors:

- Eat small, frequent meals to prevent your stomach from stretching. We recommend eating 6 times per day, or every 2-3 hours.
- Eat foods that are easy to swallow and digest. These usually consist of soft, moist foods such as soup, gelatin, pudding and yogurt. Avoid gummy foods such as bread and tough meats.
- Take small bites, chew your food well and avoid gulping. This helps prevent gas build-up and aids in swallowing.
- To prevent swallowing air, which produces excess gas, avoid drinking through a straw and don't chew gum or tobacco. Also avoid caffeine, carbonated drinks, alcohol, citrus and tomato products.
- Avoid any foods that you know cause stomach gas and distention. Including corn, beans, peas, lentils, onions, broccoli, cauliflower, and cabbage.
- Use a blender to puree foods, such as soup or fruit, to a tolerable consistency.
- Remember to chew foods well before swallowing.
- To preserve nutrients when cooking foods:
 - Steam or microwave vegetables.
 - When boiling potatoes, peel after cooking.

The Soft Diet:

A soft diet serves as a transition from liquids to a regular diet. It generally eliminates foods that are difficult to chew or swallow and also spicy, fried or gassy foods.

To ease digestion these foods are generally eliminated:

- Tough meats
- Raw fruits and vegetables
- Chewy or crispy breads
- Nuts and seeds
- Fried, greasy foods
- Spicy foods
- High fiber foods like whole grain breads and cereals

After surgery, your diet will change slowly from clear liquids to full liquids to a soft diet progressing to a regular diet. A soft diet is recommended for the first 2-6 weeks following surgery. You will then slowly advance to a regular diet; this is dependent on your progress and tolerance for food. Remember the foods tolerable on this diet can vary greatly from one person to the next. Use the guidelines below to choose your soft diet and adjust accordingly to your own needs.

Eating Guide for a Soft Diet:

Food Group	Foods Recommended	Foods to Avoid
Beverages	<ul style="list-style-type: none"> • Milk • Decaf tea • Powdered drink mixes • Non-citrus juices 	<ul style="list-style-type: none"> • Chocolate drinks • Caffeinated drinks • Decaf coffee • Carbonated drinks • Alcohol • Citrus juices
Grains	<ul style="list-style-type: none"> • Ready to eat cereal • Refined bread • Crackers • Plain white rice • Pasta • Pancakes/waffles 	<ul style="list-style-type: none"> • Whole-grain breads and cereals • Anything with seeds, nuts, raisins, dried fruit or coconut • Whole grain rice • Sweet rolls, coffee cake or donuts • Seasoned crackers • Popcorn
Meats and beans	<ul style="list-style-type: none"> • Tender meat, pork, poultry and fish (baked, broiled, boiled, roasted, stewed or simmered) • Eggs • Tofu • Smooth peanut butter 	<ul style="list-style-type: none"> • Anything fried • Tough meats with gristle • Smoked meats • Sausage • Shellfish • Fatty meats • Cold cuts/lunch meat • Fried eggs • Dried beans • Nuts & seeds
Dairy	<ul style="list-style-type: none"> • Low-fat milk products • Smooth yogurt • Mild cheese • Cottage cheese 	<ul style="list-style-type: none"> • Sharp/strong cheeses • Dairy with nuts or seeds • Cheese with peppers • Crunchy peanut butter
Vegetables	<ul style="list-style-type: none"> • Soft-cooked or canned vegetables • Fresh lettuce or tomato • Potatoes without the skin • Peeled white or sweet potatoes (boiled, mashed, baked or creamed) 	<ul style="list-style-type: none"> • Raw vegetables, tomatoes or products of tomatoes • Gas-producing vegetables: broccoli, Brussels sprouts, cabbage, cauliflower, onions, corn, cucumber, green peppers, radishes & sauerkraut • Dried beans, peas & lentils • Fried Potatoes or potato chips
Fruit	<ul style="list-style-type: none"> • Soft raw fruits (without skin) • Cooked and canned fruits • Fruit Juice 	<ul style="list-style-type: none"> • Dried fruits • Fruits with skins, seeds or pits such as berries, figs or raisins • All citrus fruits and juices • Ripe bananas • Coconut

Food Group	Foods Recommended	Foods to Avoid
Fats & Sweets	<ul style="list-style-type: none"> • Ice cream sherbet & frozen yogurt • Pudding • Cake and cookies without hard pieces • Sugar, syrup, honey, jelly & seedless jam • Molasses • Marshmallows • Butter & margarine • Mayonnaise & vegetable oils • Mildly seasoned salad dressings, sauces and gravies • plain cream cheese & sour cream 	<ul style="list-style-type: none"> • spicy salad dressings • bacon, bacon fat, ham fat, lard & salt pork • fried foods • nuts • anything with dried fruit, nuts, coconut, candied fruit • peanut brittle