Ventral Hernia Surgery

Repairing Abdominal Hernias
Understanding Ventral Hernias

A hernia (or “rupture”) is a weakness or defect in the wall of the abdomen. This weakness may be present at birth. Or, it can be caused by the wear and tear of daily living. Although men are more likely to have hernias, they also occur in women and children. In fact, ventral (abdominal) hernias are so common that people of any age can get them. Most hernias aren’t life-threatening. But treatment can help eliminate discomfort and prevent complications.

When a Bulge Forms

A weakness or break in the abdominal wall allows the contents of the abdomen to push outward. This often causes a bulge under the skin. It can also cause discomfort or pain. Your symptoms depend on the size and location of your hernia. Common symptoms include:

- A bulge in the abdomen. The bulge may get bigger when you stand and go away when you lie down.
- Discomfort or pain that is worse at the end of the day or after standing for long periods.
- Pain during lifting, coughing, sneezing, or physical activities.
- A feeling of weakness or pressure in the groin.
- Discomfort or pain during urination or bowel movements.
How Hernias Are Treated

A hernia will not heal on its own. Surgery is needed to repair the defect in the abdominal wall. If not treated, a hernia can get larger. It can also lead to serious medical complications. Fortunately, hernia surgery can be done quickly and safely. Below is an overview of surgical treatment.

Your Evaluation
Your surgeon will ask questions about your symptoms and overall health. You’ll also be examined. In some cases, tests are needed to make sure you’re healthy enough for surgery.

Surgical Treatment
In some cases surgery is done using a laparoscope, special instruments, and small incisions. In other cases, open surgery is used. You can usually go home the same day as surgery.

Your Recovery
After surgery, you can likely return to your normal routine within a short time. Repairing the hernia will also make it easier to enjoy daily activities without pain or worry.

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The Abdomen and Groin

Hernias occur when part of the body bulges into an area where it shouldn’t. Most often, this happens when tissues in the abdomen bulge through an opening into the groin. Normally, the abdomen and groin are kept separate by a wall of muscle and tissue. The only natural openings in the wall are small tunnels called canals. These allow nerves, blood vessels, and other structures to pass between these two areas.

The Abdominal Wall

The abdominal wall is formed by layers of tissue, such as muscle and connective tissue. It helps protect and enclose the intestines and other organs.
Areas of Weakness

Certain areas of the abdominal wall are naturally prone to weakness. With time and physical stresses, these areas may weaken further and tear. This can allow the intestines or other tissues to bulge out through the opening. It may help to think of the abdominal wall as the rubber on a bicycle tire. If a spot on the outside of the tire weakens and frays, the inner tube will bulge out.

The contents of the abdomen may bulge out through the abdominal wall like the inner tube of a worn bicycle tire.

What Makes an Area Weak?

Any opening in the abdominal wall is prone to weakness. This includes canals in the groin area. It also includes previous openings that have closed, such as the navel (bellybutton) or the site of a healed surgical incision. In other areas, the abdominal wall can be weakened by injury or aging.

Weak Areas in Men

Most hernias in men occur at or near the inguinal canal. This is where nerves and vessels pass between the groin and abdomen.

Weak Areas in Women

Like men, women are most likely to get hernias in the inguinal area. But women are more likely to have femoral hernias than men.
Locations of Hernias

The type of hernia you have depends on its location. Some types of hernias form in the abdomen. Other types form in the groin. Hernias can also form on both sides of the body (bilateral hernias), or recur in the same spot (recurrent hernias). In some cases, you can have more than one type at a time.

Ventral Hernias

Ventral hernias most often form at the site of a previous surgery or near the middle of the upper abdomen.

Other Hernias

**Umbilical hernias** occur at the navel.

**Direct inguinal hernias** occur in the groin near the opening for the inguinal canal.

**Indirect inguinal hernias** occur in the groin at the opening of the inguinal canal.

**Femoral hernias** occur in the femoral canal.

**Incisional hernias** occur at the site of a previous surgical incision.

**Epigastric hernias** occur in the upper abdomen at the midline.
How a Hernia Develops

Although a hernia bulge may appear suddenly, hernias often take years to develop. They grow larger as pressure inside the body presses the intestines or other tissues out through a weak area. With time, these tissues can bulge out beneath the skin of the abdomen. In some cases, a loop of intestine may become tightly trapped by muscle tissue. This can cause severe pain and requires immediate treatment.

The Wall Weakens or Tears

The abdominal lining bulges out through a weak area and begins to form a hernia sac. The sac may contain fat, intestine, or other tissues. At this point, the hernia may or may not cause a visible bulge.

The Intestine Pushes into the Sac

As the intestine pushes further into the sac, it forms a visible bulge. The bulge may flatten when you lie down or push against it. This is called a reducible hernia and does not cause any immediate danger.

The Intestine May Become Trapped

The sac containing the intestine may become trapped by muscle (incarcerated). If this happens, you won’t be able to flatten the bulge. You may also have pain. Prompt treatment may be needed.

The Intestine May Become Strangulated

If the intestine is tightly trapped, it becomes strangulated. The strangulated area loses blood supply and may die. This can cause severe pain and block the intestine. Emergency surgery is needed to relieve the blockage.
Why Surgery Works

Both laparoscopic and open surgery treat a hernia by repairing the weakness in the abdominal wall. An incision is made so the surgeon has a view of the hernia, either directly or through the laparoscope. With laparoscopy, instruments are inserted through a few tiny incisions to perform the surgery. But with open surgery, the repair is done through the single larger incision. To repair the defect, muscle and connective tissue may be sewn (sutured) together. This makes a “traditional repair.” More often, though, special mesh materials are used to patch the weak area and make a “tension-free repair.”

Layers of the Abdominal Wall

The abdominal wall is made up of layers of muscle, fat, and other tissues. These layers work together to give strength to the abdominal wall. During hernia surgery, the goal is to repair the weakness in the muscle and connective tissue. This prevents the intestines or other tissues from bulging out again.

Tissues that can weaken:
- Abdominal muscle
- Connective tissue

Tissues that can bulge through the weak area:
- Intestine
- Peritoneum (the inner lining of the abdomen)

Traditional Repairs

To make a traditional repair, an incision is made over the hernia. The muscle tissue surrounding the weak area is then sewn together to repair the defect. The incision is closed with stitches, staples, surgical tape, or special glue. This method can be used to repair any type of hernia.
Tension-Free Repairs Using Mesh

Most hernias are treated using “tension-free” repairs. This is surgery that uses special mesh materials to repair the weak area. Unlike traditional repairs, the abdominal muscle isn’t sutured together. Instead, the mesh covers the weak area like a patch. This repairs the defect without “tension” on the muscles. It also makes recovery faster and less painful. The mesh is made of strong, flexible plastic that stays in the body. Over time, nearby tissues grow into the mesh to strengthen the repair.

Where the Mesh Is Placed

Tension-free repairs are made in different ways. In some cases, the mesh materials are placed in front of the weak area (anterior repair). In others, the mesh is placed behind the weak area (posterior repair). Occasionally, a combination repair is used.

Repair in Front

An incision is made over the hernia. A mesh “patch” is then placed in front of the weak area. The patch is sutured to nearby tissues to hold it in place.

Repair in Back

An incision is made over the hernia. A mesh “patch” is placed behind the weak area. It is then sutured to nearby tissues. Pressure inside the abdomen helps hold the patch in place.

Combination Repair

An incision is made over the hernia. Mesh devices are then placed in front of and behind the weak area. In some cases, this type of repair includes mesh that goes through the defect in the abdominal wall.
Repairing Epigastric Hernias

Epigastric hernias form in the upper abdomen at the midline. This is an area where muscle and connective tissue fibers are prone to weakness. Epigastric hernias may be treated using a traditional repair. Often, though, a mesh device is used to make a tension-free repair.

Reducing the Hernia

An incision is made to reach the weakened area. Any protruding tissue is then pushed back into the abdomen. The defect can now be repaired.

Repairing the Weakness

A thin mesh patch is placed behind or in front of the weak area. It is then secured to nearby tissues. Once the mesh is in place, the skin is closed with stitches, staples, surgical tape, or special glue. Over time, new tissue grows into the mesh. This strengthens the repair and helps prevent the hernia from recurring.
Repairing Incisional Hernias

Incisional hernias bulge through the scar left by a previous surgical incision. They can occur months or years after the surgery. Over time, incisional hernias can widen and become more difficult to repair. They can also become strangulated and cause serious complications. Incisional hernias may be treated using a traditional repair. More often, though, a mesh device is used to make a tension-free repair.

Reducing the Hernia

An incision is made through the previous surgery scar. The hernia is then reduced by pushing any protruding tissue back into the abdomen. The weak area can now be repaired.

Repairing the Weakness

A thin mesh patch is placed behind or in front of the defect. It is then secured to nearby tissues. Once the mesh is in place, the skin is closed with stitches, staples, surgical tape, or glue. Over time, new tissue grows into the mesh. This strengthens the repair and helps prevent the hernia from recurring.
Your Surgical Experience

The first step in preparing for surgery is having a physical exam. Your surgeon will also ask about your medical history. Then you and your surgeon will schedule a date for surgery. Follow your surgeon’s advice on how to prepare for the procedure. Most people go home the same day, no matter whether they’ve had laparoscopic or open surgery. In some cases, though, an overnight hospital stay may be needed.

Medical History and Physical Exam

Your surgeon will ask questions about your symptoms, health, and any history of hernia problems. You’ll then have a physical exam. You may be asked to cough or tighten your stomach muscles while your surgeon checks for signs of a hernia. Certain tests may also be needed to ensure you’re healthy enough for surgery.

Getting Ready for Surgery

Your surgeon will talk with you about preparing for surgery. Follow all the instructions you’re given and be sure to:

• Tell your surgeon about any medications, supplements, or herbs you take. This includes both prescription and over-the-counter items.
• Stop taking aspirin, ibuprofen, and naproxen as directed.
• Arrange for an adult family member or friend to give you a ride home after surgery.
• Stop smoking. Smoking affects blood flow and can slow healing.
• Gently wash the surgical area the night before surgery.
• Don’t eat or drink after midnight, the night before your surgery.
The Day of Surgery

Arrive at the hospital or surgical center at your scheduled time. You’ll be asked to change into a patient gown. You’ll then be given an IV to provide fluids and medication. Shortly before surgery, an anesthesiologist will talk with you. He or she will explain the types of anesthesia used to prevent pain during surgery. You will have one or more of the following:

• Monitored sedation to make you relaxed and sleepy.
• Local anesthesia to numb the surgical site.
• Regional anesthesia to numb specific areas of your body.
• General anesthesia to let you sleep during surgery.

After Surgery

When the procedure is over, you’ll be taken to the recovery area to rest. Your blood pressure and heart rate will be monitored. You’ll also have a bandage over the surgical site. To help reduce discomfort, you’ll be given pain medications. You may also be given breathing exercises to keep your lungs clear. Later, you’ll be asked to get up and walk. This helps prevent blood clots in the legs. You can go home when your surgeon says you’re ready.

Risks and Complications

Hernia surgery is safe, but does have risks, including:

• Bleeding
• Infection
• Numbness or pain
• Risk the hernia will recur
• Anesthesia risks
• Mesh complications
• Inability to urinate
• Bowel or bladder injury
Your Recovery

Help make your surgery a success by taking an active role in your recovery. Start by reducing pain and swelling. Then begin easing back into your routine. For best results, take short walks as soon as you can. This helps prevent blood clots in the legs. It will also help speed healing. Follow your surgeon’s advice about caring for your incision. And be sure to keep appointments for follow-up visits.

Reduce Swelling
For the first few days, it’s common for the area around incisions to be swollen, discolored, and sore. This is especially true after open surgery. To reduce swelling, put an ice pack or bag of frozen peas in a thin towel. Then place the towel on the swollen area 3 to 5 times a day for 15 to 20 minutes at a time.

Incision Care
Take care of incisions as advised by your surgeon. You should also ask your surgeon when it’s okay to start bathing again. In most cases, this is within a day or two after surgery.

Manage Pain
You will likely have some pain for the first few days. You may also feel bloated and tired. To help you feel better, your surgeon will prescribe pain medications. Don’t wait for pain to get bad. Take your medications on time as directed. Be aware that some pain medications can cause constipation. So, your surgeon may also suggest a laxative or stool softener.
Return to Activity
You can start getting back to your routine as soon as you feel able. Just take it easy at first. Follow all your surgeon’s advice for recovery. These tips may help:

- Take short walks to improve circulation.
- Avoid heavy lifting for at least a week.
- Ask your surgeon about returning to work.
- Eat healthy, high-fiber foods and drink lots of fluids.
- You can begin having sex again when you feel ready.

Keep Follow-up Appointments
Keep follow-up appointments during your recovery. These allow your surgeon to check your progress and make sure you’re healing well. You may also need to have your stitches, staples, or bandage removed. During office visits, tell your surgeon if you have any new symptoms. Your surgeon can also help answer any questions or concerns you may have.

When to Call Your Surgeon
Call your surgeon if you have any of the following:

- A large amount of swelling or bruising
- Bleeding
- Increasing pain
- Fever over 101°F (38.3°C)
- Increasing redness or drainage of the incision
- Trouble urinating
- Nausea or vomiting
Feeling Good Again

Don’t let a hernia put limits on your life. By deciding to have surgery, you can help eliminate discomfort and prevent future problems. This makes it easier to enjoy daily activities—even if it’s just a day on the job.