

# Open Abdominal Wall Reconstruction

You have a hernia in the muscles of your abdominal wall. A hernia occurs when tissue from inside the abdomen pushes through a weakness in the muscle or fascia, creating a visible bulge that may cause discomfort, pain, or activity limitation.

Your hernia could have been a primary ventral hernia that enlarged over time or from a prior midline incision (or a combination of both). About 2 out of every 10 people who have had a midline abdominal incision (called a laparotomy) later develop a hernia.

Following prior abdominal surgery, the risk of developing a hernia is higher in people with diabetes, people who smoke, those who are overweight, those who required emergency surgery, or in those who developed an incisional infection following a prior abdominal surgery.

Your hernia is \_\_\_\_ cm wide and is approximately \_\_\_\_ cm in length.

I am offering to repair your hernia with an open approach. The information that follows is intended to supplement what we discussed in clinic. My intention is to help you explain the procedure to family and friends who have questions.

## Why Repair a Ventral Hernia?

Surgical repair is recommended when a hernia causes symptoms, enlarges over time, or interferes with daily activities. Repair restores strength and function to the abdominal wall and reduces the risk of future complications associated with your hernia.

## Detailed Abdominal Wall Anatomy

The abdominal wall consists of skin, subcutaneous tissue, fascia, and muscle layers. The paired rectus abdominis muscles are enclosed within the rectus sheath. Behind the posterior rectus sheath lies the retrorectus space, followed by the peritoneum and abdominal organs.

## How Abdominal Wall Hernias Are Repaired

Hernia repair involves rebuilding the abdominal wall and reinforcing it with surgical mesh. Mesh can be placed in different tissue layers depending on anatomy and hernia complexity.

Whenever possible, mesh is placed in locations where it does not contact the bowel (retro-rectus/sublay position is preferred for this operation). If mesh must be placed closer to abdominal organs, a special coated mesh is used to reduce adhesion risk.

## What Is Open Abdominal Wall Reconstruction?

Open abdominal wall reconstruction rebuilds the abdominal wall through a single incision, usually reopening your prior surgical scar. It is the traditional approach for larger or more complex hernias, and gives the surgeon direct, hands-on access to every part of the repair. The repair is performed in the retro-rectus space whenever possible, keeping mesh separated from the intestines.

## Goals of the Procedure

The goals of open ventral hernia repair are to identify and repair all hernia defects, restore normal abdominal wall anatomy, rebuild the midline (linea alba) in a tension-free manner, and reinforce the repair with mesh.

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## How the Repair Is Performed

The incision is made directly over the hernia, typically reopening the prior surgical scar. The rectus muscles are carefully freed from the tissue behind them and from surrounding scar tissue. Using pre-operative CT imaging as a guide, all hernia defects are identified and repaired, and the right and left rectus muscles are brought together with heavy suture to reconstruct the center of the abdominal wall.

Mesh is then measured, tailored, and placed flat in the retrorectus space. In some patients, the mesh may extend from just below the breastbone (sternum) to the pelvis.

## When a Transversus Abdominis Release (TAR) May Be Needed

If the muscles cannot be brought together without excessive tension, a transversus abdominis release (TAR) may be performed to allow additional mobilization. TAR involves cutting the transversus abdominis muscle and bluntly dissecting along tissue just below the cut muscle. The release allows better movement of your abdominal muscles with less tension when reconstructing the midline. TAR may be required on one or both sides in larger or more complex hernias.

## Special Situations: Contaminated Fields and Combined Procedures

Some operations involve more than a routine hernia repair. If a bowel procedure needs to happen in the same operation, or if there's an infection or prior mesh that has to be removed, the surgical field is considered "contaminated" or "clean-contaminated." In these cases, a different type of mesh (often a biologic mesh that the body can incorporate) is sometimes used instead of permanent synthetic mesh, to lower the risk of mesh infection.

If a large amount of loose, overhanging skin is present, a panniculectomy (removal of that excess skin) may be combined with the repair to improve the final result and reduce wound complications. A wound vacuum (wound VAC) is sometimes used after surgery to support healing of larger or higher-risk incisions.

## Advantages of the Open Approach

- **Hands-on exposure:** Direct access to the entire abdominal wall, valuable for very large or complex hernias
- **Wide mesh coverage:** Improving durability of the repair
- **Mesh placement outside the abdominal cavity:** Reducing bowel adhesion risk
- Restoration of normal abdominal wall anatomy and function
- **Allows combined procedures:** Bowel surgery or panniculectomy can be performed in the same operation when needed

## Risks of Ventral Hernia Repair Surgery

- **Bleeding:** May occur during or after surgery and rarely requires transfusion or additional procedures
- **Infection:** May involve the incision or mesh and may require antibiotics or further treatment
- **Injury to bowel or other organs:** Uncommon but may require repair
- **Injury to blood vessels:** May cause bleeding or bruising

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- **Nerve injury or chronic pain:** May result in numbness or persistent discomfort
- **Fluid or blood collection (seroma or hematoma):** Often resolves on its own but may require drainage
- **Hernia recurrence:** Possible despite mesh reinforcement
- **Respiratory or pressure-related symptoms:** Usually temporary after large repairs
- **Wound healing problems:** Especially with larger incisions or contaminated fields
- **Excess skin or midline ridge:** May occur and often improves over time
- **Additional procedures:** May be necessary if complications occur

## Steps We Take to Minimize Risk

Several measures are routinely taken to reduce operative risk and improve outcomes:

- **Pre-operative evaluation and imaging:** Careful review of history and imaging, when indicated, to define anatomy and defect size
- **Mesh positioning:** Placement of mesh in well-protected tissue planes whenever possible
- **Meticulous hemostasis:** Careful control of bleeding throughout the operation
- **Infection prevention:** Sterile instruments, antiseptic skin preparation, and antibiotics administered before surgery

## Hospital Course and What to Expect After Surgery

- Hospital stay is typically longer than with a minimally invasive approach — often several days, depending on the size and complexity of the repair.
- After you fall asleep in the OR, a urinary catheter is placed during surgery. It is removed once you are up and moving well, usually within a day or two.
- An abdominal binder is placed after surgery. Some patients find it helpful, while others do not; use is optional.
- **Home medications:** Usually restarted on post-operative day 1. Blood thinners are typically resumed on post-operative day 2 — depending on your situation and my pre-operative communication(s) with your cardiologist / pulmonologist.
- Some patients experience early fullness or temporary difficulty taking deep breaths due to increased abdominal pressure. These symptoms are usually temporary. Walking, sitting upright, and incentive spirometry are encouraged and will aid in recovery.
- If drains are placed, they remove excess fluid and promote healing, and are removed when drainage is less than 30 cc (about 2 tablespoons) in 24 hours.

Goals for discharge: pain control must be manageable with oral medications, you must be able to eat and drink adequately, void spontaneously after the catheter is removed, and walk safely (physical therapy may help assess this).

## Pain Control After Surgery

Pain control is individualized to maximize comfort while minimizing narcotic use. In the pre-op holding area, anesthesia providers may offer an abdominal wall nerve block. These blocks can last up to 72 hours.

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Scheduled medications for the first 3 days: acetaminophen (Tylenol) 1,000 mg every 6 hours (maximum 4,000 mg per day), celecoxib (Celebrex) 200 mg every 12 hours, and methocarbamol (Robaxin) 500 mg every 8 hours. Narcotic pain medication is available IV and orally immediately post-op, and orally for discharge home, for breakthrough pain only. Constipation is common after surgery and narcotic use; preventive medications will be provided. After the first 3 days, these medications may be taken as needed.

## Wound Care

- **Incisions:** Closed with absorbable sutures and covered with Dermabond, a purple colored, waterproof protective dressing.
- **Showering:** Permitted the day of surgery; allow water to run over incisions and pat dry.
- **Umbilical dressing:** Remove on Sunday after surgery if present.
- **Sun exposure:** Avoid direct sunlight to incisions for 6 months to prevent permanent discoloration.

## Post-Operative Activity Limitations

- **Walking:** Encouraged starting the day of surgery.
- **Lifting:** Avoid pushing, pulling, or lifting more than 10 pounds for 4 weeks. We will discuss your progress at your first post-operative visit.
- **Exercise:** Avoid strenuous activity and core exercises during this period.
- **Driving:** May resume once narcotic pain medications are no longer required.

## When to Call the Office

- **Fever:** Greater than 101°F
- **Incision changes:** Increasing redness, warmth, swelling, or drainage
- **Pain:** Worsening or not improving with prescribed medications
- **Gastrointestinal symptoms:** Persistent nausea or vomiting
- **Abdominal changes:** Increasing swelling or a new bulge
- **Concerns:** Regarding recovery or activity restrictions, call (817) 250-7030

## What to Expect

Recovery is gradual over several weeks. Temporary swelling, firmness, or changes in abdominal contour are common and usually improve with time.

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*This handout is intended for patient education. Surgical technique, pain management, mesh selection, and recovery are individualized based on anatomy and clinical findings.*