Open- Umbilical Hernia Repair

Basics of Abdominal Wall Anatomy

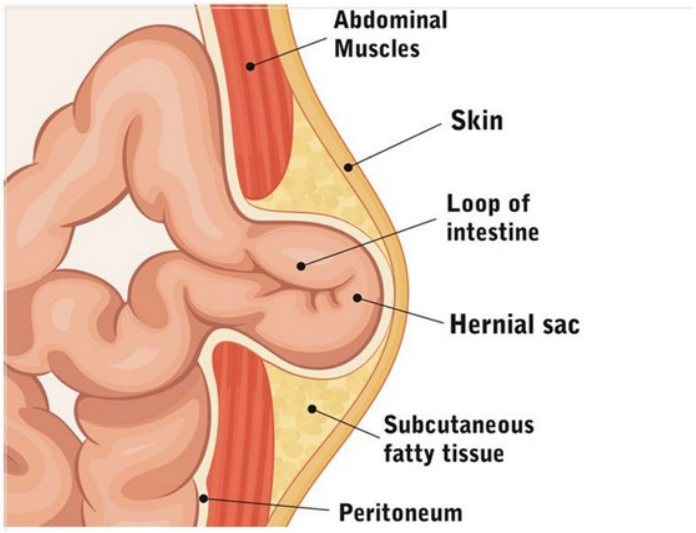
The abdominal wall is made up of several layers that work together to contain and protect the abdominal organs:

- Skin on the outside
- Subcutaneous fatty tissue beneath the skin
- Abdominal muscles and fascia, which provide strength and support
- Peritoneum, a thin inner lining that separates the abdominal wall from the organs inside
- Abdominal contents, such as loops of intestine

What Is an Umbilical Hernia?

An umbilical hernia occurs when tissue from inside the abdomen pushes through a weak area in the abdominal wall at or near the belly button. The drawing shows small intestine caught in the hernia. However, the hernia may contain pre-peritoneal fat, omentum (intra-abdominal fat pad), or colon.

Hernias do not heal on their own. Surgery is the only way to repair an umbilical hernia.



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There are several different types of umbilical hernias:

- Reducible- the hernia disappears when pushed back in
- Incarcerated- the hernia remains despite efforts to push back in
- Strangulated- blood supply to the hernia contents is compromised meaning hernia contents are at risk of dying. This is a surgical emergency. If I feel this is the case, I will send you to the Emergency Department.
- Recurrent- the hernia was repaired once before but has come back.

When Is Surgical Repair Recommended?

Surgery is commonly recommended when the hernia causes symptoms, enlarges, or interferes with daily activities.

What Is an Open Umbilical Hernia Repair (Without Mesh)?

In this operation, a small incision is made at the belly button. The hernia sac is identified, the tissue is either placed back inside the abdomen or transected, and the muscle opening is closed with sutures (stitches).

No mesh is used in this type of repair. The muscle edges are brought back together directly with heavy suture.

This is typically an outpatient procedure, meaning you go home the same day.

Who Is a Good Candidate for Repair Without Mesh?

A suture-only repair (without mesh) may be a good option for:

- Patients with very small hernias (< 1-2 cm)
- Young, healthy patients with strong tissue quality
- Patients who strongly prefer to avoid mesh
- Mesh is generally considered necessary if the hernia has been repaired once, already.

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For small defects, this approach can be safe and effective. Larger hernias generally benefit from mesh reinforcement to reduce recurrence risk, but small hernias can often be repaired successfully with sutures alone.

During your evaluation, we will review your hernia size, tissue quality, medical history, and goals to determine if this is the right option for you.

Do you ever use mesh in an open repair?

Yes, I certainly do. When mesh is used in an open repair, it is typically placed in:

- The pre-peritoneal space, or
- The retromuscular (retrorectus) space, located behind the rectus muscles (six-pack) and in front of the posterior rectus sheath.

If we decide to perform an open umbilical hernia repair, surgical incision planning and mesh insertion location / techniques will be discussed in detail.

Patient Optimization Before Surgery

Optimizing overall health before surgery helps reduce complications and improve healing.

- **Smoking cessation**: Smoking significantly increases the risk of wound complications, infection, and hernia recurrence. Patients are strongly encouraged to stop smoking well before surgery and remain smoke-free during recovery.

- **Diabetes control**: Poor blood sugar control increases the risk of infection and delayed healing. When applicable, we aim for a hemoglobin A1C less than 7% prior to elective hernia repair.

Other individualized measures may include weight management and treatment of chronic medical conditions as part of preoperative planning.

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Risks During Umbilical Hernia Repair

All surgical procedures carry risks. These risks apply to both open and robotic-assisted repairs, although their likelihood varies based on anatomy and hernia size.

- **Bleeding:** Usually minimal and controlled during surgery; rarely requires transfusion or additional procedures.
- **Infection:** May involve skin incisions or, less commonly, the mesh. Treatment may include antibiotics or further intervention.
- **Injury to underlying structures:** There is a small risk of injury to the intestine, blood vessels, or abdominal wall nerves during this procedure.
- **Recurrence:** Even with proper technique +/- mesh reinforcement, the hernia may recur over time.

Other potential risks include chronic pain, fluid collections (seroma), scarring, or the need for additional surgery.

Steps We Take to Minimize Risk

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

- Careful preoperative evaluation and imaging when indicated to define anatomy and defect size.
- Placement of mesh in well-protected tissue planes whenever possible.
- Meticulous hemostasis to minimize bleeding.
- Sterile instruments, antiseptic skin cleaning, and antibiotics administered before surgery are all utilized to reduce infection risk.
- Careful layered closure and umbilical reconstruction to restore anatomy and appearance

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After Surgery: Wound Care

- The incision is closed with absorbable sutures under the skin and with Dermabond- a purple protective covering. Dermabond is watertight.
- It is OK to shower day of surgery- just pat wound dry.
- Please do not expose wounds to sunlight for 6 months after surgery. The wound is young and the new skin cells are immature. If they become sunburned, they may become permanently discolored.
- No matter how the hernia is repaired, every effort is made during an open repair to recreate a natural, inward-appearing umbilicus**.**
- A compressive umbilical dressing will likely be applied. Please remove **Sunday** after surgery.

Pain Control After Surgery

Post-operative pain control is customized to each individual and is designed to maximize comfort while minimizing opioid use.

A nerve block may be provided by the anesthesia team to help reduce pain immediately after surgery.

Scheduled medications (first 3 days):

- **Acetaminophen (Tylenol)** 1,000 mg every 6 hours
- **Celecoxib (Celebrex)** 200 mg every 12 hours
- **Methocarbamol (Robaxin)** 500 mg every 8 hours. This is a muscle relaxer. Not typically useful in an open, suture only repair.

After the first 3 days, these medications may be taken **as needed** rather than on a fixed schedule.

A **narcotic pain medication** will be prescribed **for breakthrough pain** that is not controlled with the above regimen.

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You can expect:

- Soreness and tightness at the belly button
- Mild to moderate discomfort for several days
- Gradual improvement each day

Recovery Expectations

- Go home the same day
- Walking is encouraged immediately
- Light activity is allowed
- Avoid heavy lifting (generally over 10 pounds) for several weeks
- Most patients return to work within 1–2 weeks depending on job demands

You may notice firmness or swelling at the incision site. This is normal and improves overtime.

When to Call After Surgery

Contact our office or seek urgent care if you experience:

- Fever over 101°F
- Increasing redness or drainage from the incision
- Severe or worsening pain
- Persistent nausea or vomiting
- A new bulge at the surgical site

For severe symptoms such as uncontrolled pain, shortness of breath, chest pain, or inability to keep fluids down, seek urgent medical attention

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Final Thoughts

Open umbilical hernia repair without mesh is a straightforward, effective operation for carefully selected small hernias. Our approach focuses on:

- Appropriate patient selection
- Precise surgical technique
- Multimodal, opioid-sparing pain control
- Safe and efficient recovery

If you have questions about whether this approach is right for you, we will review all options together and tailor the plan to your goals and medical needs.

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

This QR Code takes you to a site that has this guide in electronic (pdf) format for ease of use / reference. The site also contains additional information on scheduling surgery, what to expect on day of surgery, etc.