Inguinal Hernia Surgery in Women

What is Robotic-Assisted Laparoscopic Surgery?

Robotic-assisted laparoscopic surgery is a minimally invasive technique that uses advanced robotic technology to help the surgeon perform precise movements through small incisions. During the procedure, the surgeon “docks” the robot to the patient and then sits at an adjacent console, which is close to the operating table. From the console, the surgeon uses hand and foot controls to guide the robotic arms and instruments inside the patient. The robotic system provides a high-definition, 3D view of the surgical area and allows for enhanced precision, flexibility, and control. The rest of the surgical team remains at the bedside to assist with the procedure and patient care.

What is an Inguinal Hernia?

An inguinal hernia occurs when tissue — such as part of the intestine or abdominal fat — pushes through a weak spot in the lower abdominal wall (groin). This can cause a bulge, discomfort, or pain, especially when lifting, coughing, or straining. Lower abdominal wall pain does not always mean a hernia is present.

Although inguinal hernias are more common in men, they do occur in women. In women, the hernia sac may contain ovarian tissue or fallopian tube, which requires careful handling during surgery.

Understanding Inguinal Anatomy in Women

- **Anatomy:**
  The inguinal region is located in the lower part of the abdomen, near the groin. In women, key structures include the inguinal canal, the round ligament (which runs through the canal and attaches the uterus to the labia majora), blood vessels, and nerves.
- **Embryology:**
  During development, the inguinal canal forms as the round ligament (the female equivalent of the male gubernaculum) descends from the uterus through the canal. This process creates a natural weakness in the abdominal wall — the same area where hernias can develop.
- **Physiology:**
  The abdominal wall muscles and connective tissue normally keep internal organs and fat in place. Weaknesses or defects in this tissue allow hernias to form. In women, the internal inguinal ring (the opening where the round ligament enters the canal) is a common site for hernias.

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Types of Inguinal and Related Hernias in Women

- **Indirect Inguinal Hernia:**
  The most common type in women. Abdominal contents push through the internal inguinal ring, following the path of the round ligament. The hernia sac may contain bowel, fat, ovary, or fallopian tube.
- **Direct Inguinal Hernia:**
  Develops due to weakness in the abdominal wall muscles, allowing tissue to push directly through the floor of the inguinal canal. Less common in women than in men.
- **Femoral Hernia:**
  Occurs just below the inguinal ligament, through the femoral canal — the small space through which the femoral artery and vein pass into the thigh. Femoral hernias are more common in women than in men due to the wider female pelvis, which creates a larger femoral canal. They often present as a small, firm bulge near the upper inner thigh. Femoral hernias carry a higher risk of incarceration (becoming stuck) and strangulation (loss of blood supply) compared to inguinal hernias, making timely repair important. During robotic surgery, the femoral space is fully visualized and covered with mesh, protecting against femoral hernias at the time of inguinal repair.

Your Surgical Options: Open vs. Robotic Repair

- **Robotic (Minimally Invasive) Repair — Preferred Approach:**
  Three small incisions are made in the abdomen. A camera and robotic instruments are used to repair the hernia from inside using mesh. This approach offers excellent visualization of the entire groin area, including the femoral space. Recovery is typically faster, with less pain and a quicker return to activity. The round ligament is preserved in most cases.
- **Open Repair (Lichtenstein-type or Tissue Repair):**
  A single incision is made directly over the groin. The surgeon opens the external oblique aponeurosis (a layer of tough tissue covering the inguinal canal) to expose the canal. The round ligament is encircled, carefully lifted aside, and transected (divided) to allow full access to the hernia defect. The internal inguinal ring is then closed around the cord structures, and a flat mesh is placed to reinforce the floor of the inguinal canal. The external oblique is then closed over the repair. Open repair may be preferred in certain situations, such as prior pelvic surgery, complex anatomy, or patient preference.

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The Robotic Procedure — Step by Step

1. Preparation:

You will be asked to urinate before going to the operating room. The bladder sits in the middle of the pelvis. If it is too full, it can block the surgeon's view, which may require placement of a Foley catheter.

2. Creating Access:

Access to the abdomen is made using a 5 mm OptiView technique at Palmer's Point (upper left abdomen). This minimizes the risk of injury to underlying organs. After entry, the area is inspected for any injuries.

3. Bladder Management:

After entering the abdomen, the pelvis is inspected visually. If the bladder is too full, a Foley catheter will be placed to drain it. This improves visualization and reduces the risk of bladder injury. In women, the uterus and ovaries are also noted during this inspection.

Some patients experience difficulty urinating after surgery (urinary retention). If this occurs, a catheter may be needed temporarily. We will arrange urology follow-up if you need to go home with a catheter.

4. Inserting Instruments:

Two or three additional small incisions are made for robotic instruments and a camera.

5. Identifying Anatomy:

A flap of the inner abdominal lining (peritoneum) is created. This exposes key structures including blood vessels, nerves, the hernia sac, and — in women — the round ligament. The round ligament is identified, mobilized, and gently divided to allow full access to the hernia defect and the internal inguinal ring. Dividing the round ligament does not affect reproductive function or fertility. It is divided well away from the internal inguinal ring to minimize risk of nerve injury.

6. Reducing the Hernia:

Protruding tissues are gently separated from surrounding structures and returned to the abdominal cavity. In women, the hernia sac may contain ovarian tissue or fallopian tube, which is handled with care.

7. Ensuring Critical View of the Myopectineal Orifice:

The myopectineal orifice is the key area where all groin hernias — inguinal and femoral — can occur. Fat and tissue are cleared to fully visualize the boundaries, including the femoral space below the inguinal ligament. This ensures all potential hernia sites are addressed and critical structures are protected.

8. Surgical Safety: Avoiding Nerve and Vessel Injury:

"Triangle of Pain" — This area contains important nerves. To avoid nerve injury, the surgeon stays close to the peritoneum when working laterally, minimizing the risk of nerve damage.

"Triangle of Doom" — This area contains major blood vessels. The surgeon carefully dissects the peritoneum away from the fat overlying these vessels to avoid injury.

9. Placing the Mesh:

After the hernia contents are reduced and the critical view is established, a synthetic mesh is placed over the weakened area of the abdominal wall, covering the entire myopectineal orifice — including the femoral space. The mesh is anchored in 2 or 3 places to the pelvis, specifically to Cooper's Ligament and the anterior abdominal wall. This keeps the mesh securely in place and prevents recurrence.

10. Closing the Peritoneal Flap and Final Steps:

The peritoneal flap (inner lining of the abdomen) is closed over the mesh. Air is removed from the space, allowing the peritoneum to collapse against the mesh. The surgeon ensures there is no wrinkle or "clam shell" in the mesh — a fold or buckle that could create a gap between the mesh and the abdominal wall and increase the risk of recurrence.

11. Closing Incisions:

The instruments are removed, and the small incisions are closed with absorbable sutures placed deep to the skin. The incisions are then covered with Dermabond, a watertight "super glue" for the skin.

12. Nerve Block:

A local anesthetic may be injected near nerves in the groin to help control pain after surgery. This greatly reduces the need for post-operative narcotics.

Potential Complications

- **Bleeding or infection:**
  Bleeding is minimized by using electrocautery on small blood vessels. Infection risk is reduced by skin antiseptic prep, sterile instruments, and pre-operative antibiotics. See #8 above — "Triangle of Doom."
- **Injury to blood vessels or organs:**
  Can occur during entry into the abdomen. See #2 above.
- **Injury to the ovary or fallopian tube:**
  In women, the hernia sac may contain ovarian tissue or fallopian tube. These structures are carefully identified and preserved. The risk of injury is low with careful dissection.
- **Recurrence of the hernia:**
  See #9 above.
- **Nerve injury or chronic pain:**
  See #8 above — "Triangle of Pain."
- **Urinary retention:**
  Difficulty urinating after surgery can occur. A catheter may be needed temporarily. We will arrange urology follow-up if you need to go home with a catheter. This is much more common in men.
- **Triangle of Pain:**
  An area containing important nerves. Injury can cause numbness or chronic pain. Special care is taken to protect these nerves during the procedure.
- **Triangle of Doom:**
  An area containing major blood vessels. Injury can cause serious bleeding. Special care is taken to protect these vessels during the procedure.

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Multi-Modal Pain Management

After surgery, pain is managed using several types of medications:

- **NSAIDs (e.g., ibuprofen or celecoxib):**
  Reduce inflammation and pain.
- **Acetaminophen (Tylenol):**
  Helps control pain and fever.
- **Robaxin (methocarbamol):**
  A muscle relaxant to reduce muscle spasms.
- **Narcotics (as needed):**
  For severe pain, used for the shortest time necessary.

This approach helps minimize the need for narcotics and improves comfort.

What to Expect After Surgery

- **Recovery:**
  Most patients go home the same day. You may have mild pain, swelling, or bruising in the groin.
- **Activity:**
  Walk as tolerated but avoid strenuous activity.
- **Lifting Restrictions:**
  Do not lift more than 10 pounds until your first post-op appointment.
- **Wound Care:**
  You may shower the day of surgery. Do not submerge your incisions in water (bathtub, pool, or lake) for 2 weeks. Absorbable sutures are placed deep to the skin and covered with Dermabond, a watertight “super glue” for the skin.
- **Follow-Up:**
  Attend your scheduled post-op appointment to check healing and discuss returning to normal activities.
- **Keep Incisions Covered:**
  As incisions heal, they are sensitive to sun. If they become sunburned, they can discolor. This discoloration may become permanent.

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When to Call the Office

Contact us if you experience:

- Fever over 101°F
- Severe pain not controlled by medication
- Redness, swelling, or drainage from incisions
- Difficulty urinating or breathing
- Constipation issues
- If you have any questions…call (817) 250-7030

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 (drop down menu on far right). The site also contains additional information on scheduling surgery, what to expect on day of surgery, etc.