

# Hernias: What You Need to Know

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Welcome!

Nothing to Disclose



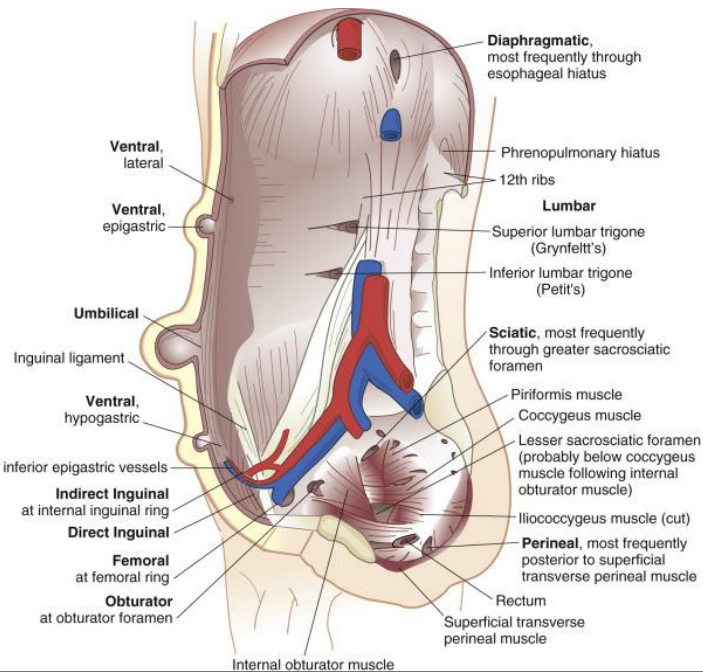
## Outline

- What is a hernia?
- Briefly describe Inguinal/Ventral hernia
  - Signs and symptoms
- Discuss repair options
  - Open
  - Laparoscopic
  - Robotic
- Discuss benefits of robotic repair

## What is a hernia?

- Derived from Latin word for rupture
- Defined as an abnormal protrusion of an organ or tissue through a defect in its surrounding walls
- Can occur anywhere there is a natural weakness (groin)
  - Also includes anywhere there was a previous incision





## Definition of Terms

- **Hernia:** defect
- **Reducible:** hernia can be completely put back into its natural cavity
- **Incarcerated:** hernia cannot be put back into its natural cavity
- **Strangulated:** compromised blood flow to organ which is herniated
  - Surgical emergency

## Inguinal Hernia

- **75%** of all hernias occur in the inguinal region
  - Indirect, direct, femoral
- Men are **25x** more likely to have a groin hernia than women
  - Lifetime risk: **25%** men, **5%** women
- More common on the right side
- **Third** leading cause of **ambulatory care visits**
  - Numbers haven't changed appreciably since 1975

## Inguinal Hernia: symptoms

- Commonly a bulge in the groin area
  - Often asymptomatic
- Heaviness or dull discomfort in the groin
  - With or without bulge
  - Worse with lifting, straining or prolonged standing
- Pain usually worse at end of day
  - After prolonged standing etc

## Inguinal hernia: women

- Women are more likely to present emergently
  - Higher incidence of femoral hernias, more likely to strangulate
- Women are usually older at presentation
- Defect usually smaller (smaller anatomically)
  - More painful
- Bulge usually not present
- Vague pelvic discomfort more common

## Inguinal hernia: natural history

- True hernia **will not** seal/fix itself
- Progressive enlargement
- Progressive pain
- Small potential for incarceration and strangulation (4-6% lifetime risk)
- Longstanding hernias typically more scarred

## Inguinal hernia: natural history

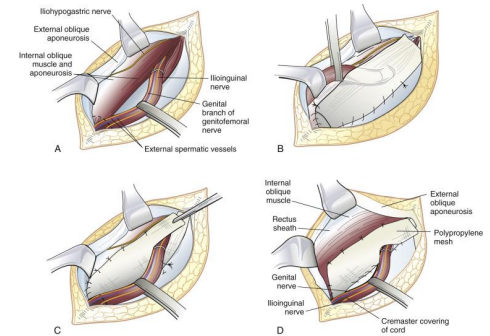
- Risk factors useful in predicting complications
  - Old age
  - Short duration
  - Femoral hernia
  - Coexisting medical illness
- While watchful waiting is safe, I typically recommend surgical correction for most patients

## Ventral hernias

- Account for 15-20% of all hernias
  - Umbilical/epigastric 10% of all hernias
- Incisional hernias 2x more common in women
- 4 million laparotomies are performed annually
  - 2-30% incidence of incisional hernia
  - Obesity, advanced age, malnutrition, ascites, pregnancy (anything that increases intra-abdominal pressure)

## Hernia repair: open

- Oldest method of repair
  - Originally involved direct repair using patients own tissue “tension” – high recurrence rate
- “Tension-free” methods now standard
  - Involve the use of prosthetic mesh
- Hernia is approached anteriorly with an incision over the defect



## Hernia repair: open

- Pros
  - Can use minimal anesthesia
  - Easiest technically to perform
  - Can perform in sickest of patients
- Cons
  - More painful
  - Longer recovery time
  - Anterior mesh placement not ideal

## Hernia repair: laparoscopic

- Provides the mechanical advantage of placing large piece of mesh behind the defect
  - Uses the natural forces of the abdominal wall to disperse pressure over larger area to support the mesh
- Incisions are smaller and away from area of defect

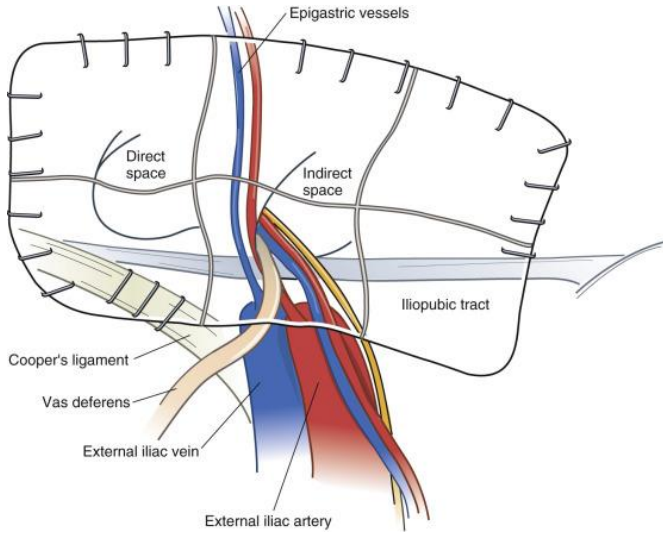
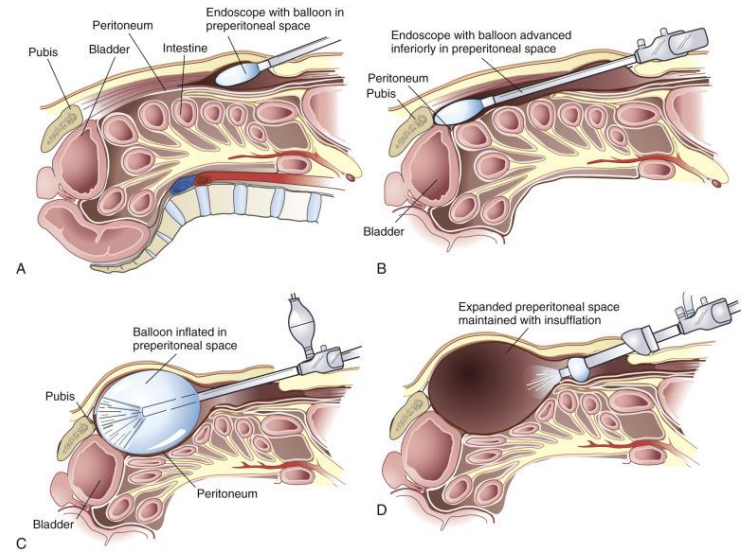
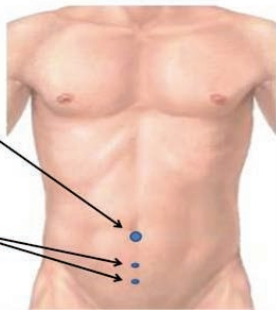
## Incisions

### 8 mm incision

Below navel for the introduction of laparoscope and the mesh

### 2 incisions 5 mm wide

In the lower abdomen for the insertion of laparoscopic tools.

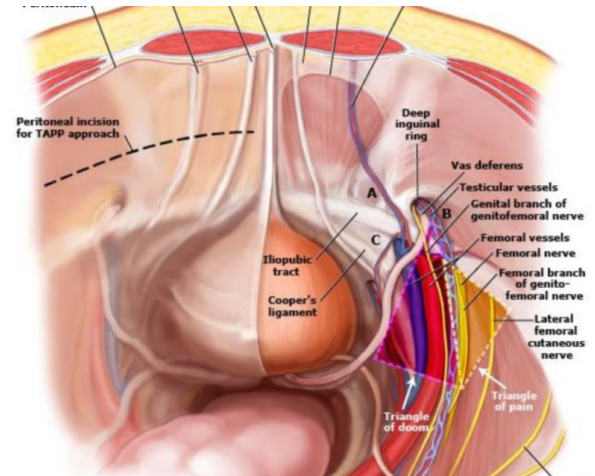


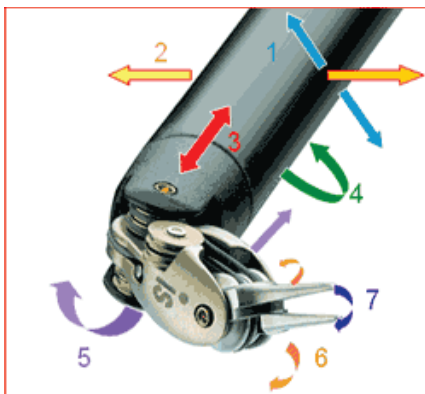
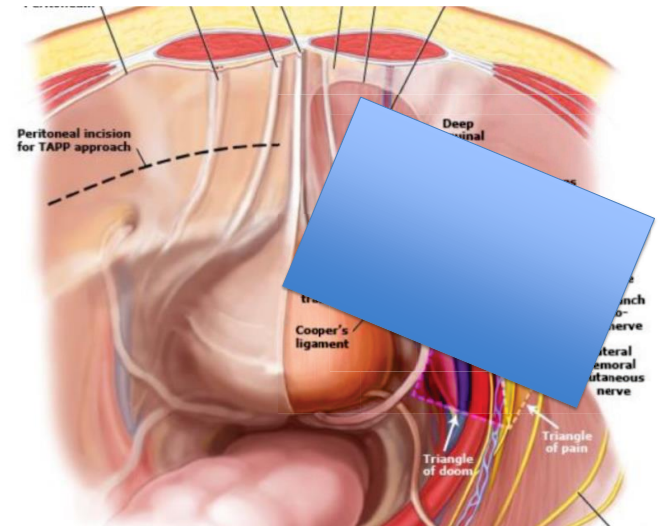
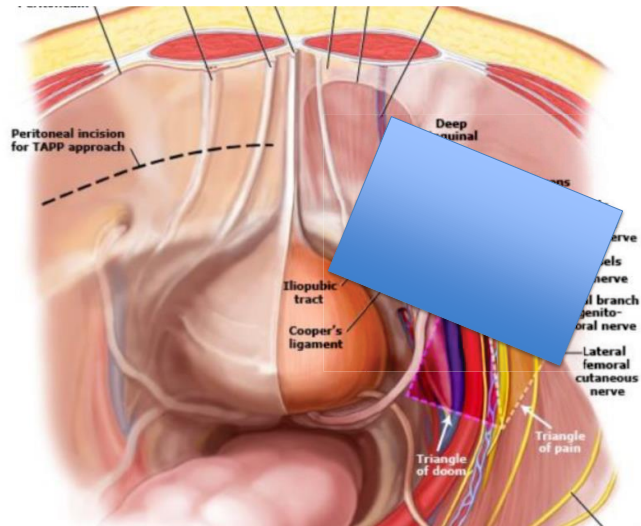
## Hernia repair: laparoscopic

- Pros
  - Small incisions away from defect
  - Uses body's natural abdominal pressure to disperse tension (larger mesh)
- Cons
  - More technical
  - Need general anesthesia
  - Mesh fixation (tacks)

## Hernia repair: robotic

- Utilizes all principles of laparoscopic repair
  - Small incisions away from defect
  - Larger mesh (larger than laparoscopic)
  - Mesh is sutured in place





## Hernia repair: robotic

- Pros
  - Minimally invasive
  - Large mesh can be sutured in place (pain)
  - Newest
- Cons
  - Technically more demanding
  - Access to robot
  - Need general anesthesia
  - Newest

## Which repair is best?

- Optimal Repair
  - Durable
  - Tension free
  - Minimizes risk
  - Control pain
  - Cost effective
  - Allows patient to get back to their life
- Each case is unique and not all patients will qualify for all repairs
  - Medical comorbidities
  - Previous surgeries
  - Ability to tolerate general anesthesia
  - Patients goals

## Why Robotic Repair?



## Benefits of Robotic Repair

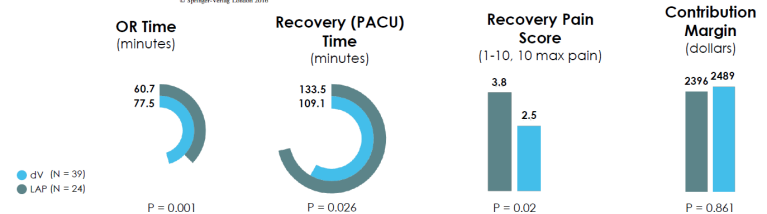
- Shorter Recovery
  - Decreased time of lifting and bathing restrictions
- Less Pain
  - Subjective pain scores lower across the board versus any other modality
  - Less need for opioids
- Durable repair
  - Long term complication/recurrence rates equivalent to laparoscopic

### ORIGINAL ARTICLE

#### Comparison of robotic versus laparoscopic transabdominal preperitoneal (TAPP) inguinal hernia repair

Kimberly E. Waite<sup>1</sup> · Mark A. Herman<sup>1,2</sup> · Patrick J. Doyle<sup>1</sup>

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- Longer operative times with da Vinci<sup>®</sup> Surgery were offset by less time in the PACU
- Pain scores were less in da Vinci Surgery compared to TAPP laparoscopic as reported by patients during the PACU phase
- Contribution margins were noted to be nearly equivalent



# Long-term Robotic Outcomes

**Table 3** Short-term and long-term outcomes following robotic TAPP inguinal hernia repair

	Number of occurrences	Percentage (%)
Intra-operative complications or conversions	0	0
Post-op bruise, hematoma or seroma	0	0
Wound infection	0	0
Hospital stay or readmission	0	0
Post-op urinary retention	4	5.00
Post-op small bowel obstruction	1	0.60
Numbness, paresthesia or chronic pain	0	0
Hernia recurrence	1	0.60

## Early outcomes of robotic-assisted inguinal hernia repair in obese patients: a multi-institutional, retrospective study

Ramachandra Kolachalam<sup>1</sup> · Eugene Dickens<sup>2</sup> · Lawrence D'Amico<sup>3</sup> · Christopher Richardson<sup>4</sup> · Jorge Rabaza<sup>5</sup> · Reza Gamagami<sup>6</sup> · Anthony Gonzalez<sup>5</sup>

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### Author Conclusion:

- *“Obese patients who undergo RHR have a lower rate of postoperative complications compared to obese patients who undergo OHR. Previous laparoscopic IHR experience, more bilateral repairs, and more concomitant procedures were not associated with increased complications in RHR patients. These outcomes may facilitate increased adoption of minimally invasive IHR approaches in the obese population.”*

## Hernia Repair: The Future

- Robotic Utilization
  - Can tackle more complex/challenging cases
  - Available to large patient population
  - Address the opioid epidemic
  - Increase surgeon longevity



## Next Step

- Office Appointment
  - Boulder Valley Surgical Associates
  - 303-502-5895
  - Anderson Medical Building – Foothills Campus

