Rule Category
AMGL IP

Ref: No.
0012

Version Control
Version No. 0.1

Effective Date
31-03-2023

Revision Date
NIL

Inguinal Hernia
Guidelines

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المظلة هيلثكير مانجمنت
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HEALTHCARE MANAGEMENT

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Definitions

Abdominal fat or a loop of small intestine enters the inguinal canal, a tubular passage through the lower layers of the abdominal wall. A hernia occurs when part of an internal organ (usually the small intestine) protrudes through a weak point or tear in the peritoneum, the thin muscular wall holding the abdominal organs in place resulting in a bulge

Characteristics of asymptomatic hernias are as follows:

- Swelling or fullness at the hernia site
- Aching sensation (radiates into the area of the hernia)
- No true pain or tenderness upon examination
- Enlarges with increasing intra-abdominal pressure and/or standing

Characteristics of incarcerated hernias are as follows:

- Painful enlargement of a previous hernia or defect (tenderness and Redness).
- Cannot be manipulated (either spontaneously or manually) through the fascial defect
- Nausea, vomiting, and symptoms of bowel obstruction (possible)

Characteristics of strangulated hernias are as follows:

- Patients have symptoms of an incarcerated hernia
- Systemic toxicity secondary to ischemic bowel is possible
- Strangulation is probable if pain and tenderness of an incarcerated hernia persist after reduction
- Suspect an alternative diagnosis in patients who have a substantial amount of pain without evidence of incarceration or strangulation

If surgery is not performed immediately (for incarcerated and strangulated), the condition can become life threatening,

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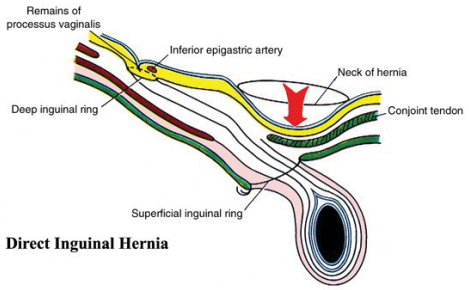
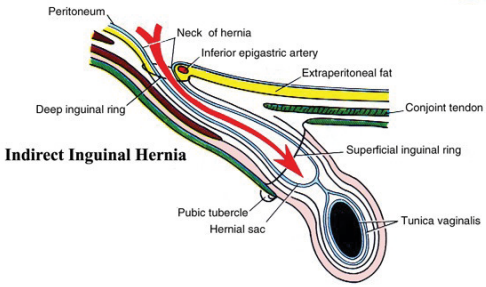
Incidence:

it is far more common in males with a lifetime risk of 27% in men and 3% in women





1-Direct inguinal hernias

Direct inguinal hernias are caused by connective tissue degeneration of the abdominal muscles, which causes weakening of the muscles during the adult years.

This type of hernia primarily occurs in men. Women and children rarely develop this type of hernia.

2-indirect inguinal hernias

Indirect inguinal hernias are related to a defect in the lower abdominal wall that is present at birth. In a developing fetus, the inguinal canals have openings inside the abdomen that typically close before birth. In some cases, one or both openings remain open. Contents of the abdomen may bulge through this opening, causing a hernia. While the defect is present at birth, an indirect inguinal hernia may not occur until many years later.

Complication

- Risk of general anesthesia
- Hernia recurrence. Recurrence is the most common complication of inguinal hernia repair, causing patients to undergo a second operation
- Bleeding
- Wound infection
- Painful scar (keloid formation)
- Injury to internal organs.

Work up:
Laboratory studies:

are not specific for hernia but may be useful for general medical evaluation Imaging studies are not required in the normal workup yet can be useful in assessment.

Ultrasound study may be done for exclusion of other causes of inguinal mass or lesions.

Conservative management indication:

Watchful waiting — Males with asymptomatic or minimally symptomatic inguinal hernias and pregnant patients with uncomplicated inguinal hernias can be observed

Male patients with asymptomatic or minimally symptomatic inguinal hernias can be managed with watchful waiting. The hernias can be reducible or chronically incarcerated

Pregnancy — A new-onset groin lump in a pregnant patient is likely caused by round ligament varicosity rather than a hernia, which can be confirmed by Doppler ultrasound, followed expectantly, and will likely spontaneously resolve after delivery (indication for surgery are complications, such as acute incarceration, strangulation, or bowel obstruction).

Patients with ascites — In patients with ascites, we suggest an open rather than laparoscopic repair

Surgical repair:

is the definitive treatment for an inguinal hernia. As a general rule, all symptomatic inguinal hernias should be repaired when possible. In some asymptomatic or minimally bothersome hernias, watchful waiting can be an option.

Surgical options:

1. Open hernia repair: Classical technique, for certain limited conditions and situations only.

2. Open mesh repair: mesh can be synthetic or biologic, proved to reduce rate of recurrence, and is contra-indicated for patient with high risk of infection (strangulated bowel).

3. Laparoscopic repair: Two approaches present: transabdominal preperitoneal (TAPP) and totally extra-peritoneal (TEP) repair. transabdominal preperitoneal (TAPP) and totally extra-peritoneal (TEP) repair.

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4- Robotic surgery:

Robot assisted repair of inguinal hernias has demonstrated safety and efficacy in surgeries repairing inguinal hernias that present on both sides of the pubic bone (bilateral) as well as inguinal hernias that present on one side (unilateral).[69] In comparing robot assisted repair of inguinal hernias to traditional laparoscopic techniques, robot assisted surgeries repairing inguinal hernias have longer operating times and can be more costly. However, measures of safety, complication rates, and readmission rates did not significantly differ between robot assisted repair and traditional laparoscopic repair

Coding:

ICD-10:

K40 : Inguinal hernia
K40.0 : Bilateral inguinal hernia, with obstruction, without gangrene
K40.01 : Bilateral inguinal hernia, with obstruction, without gangrene, recurrent
K40.1 : Bilateral inguinal hernia, with gangrene
K40.2 : Bilateral inguinal hernia, without obstruction or gangrene
K40.3 : Unilateral inguinal hernia, with obstruction, without gangrene
K40.9 : Unilateral inguinal hernia, without obstruction or gangrene
K40.91 : Unilateral inguinal hernia, without obstruction or gangrene, recurrent

CPT codes:

49505 : Repair initial inguinal hernia, age 5 years or older; reducible
9507 : Incarcerated or strangulated
49520 : Repair recurrent inguinal hernia, any age; reducible
49650 : Laparoscopy, surgical; repair initial inguinal hernia
49651 : Repair recurrent inguinal hernia

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