

Definition

Hernia = abnormal protrusion of peritoneal lined abdominal contents through the abdominal wall fascia. May contain viscera, usually small bowel and omentum.

Irreducible or incarcerated = Hernia unable to be reduced back into abdominal cavity.

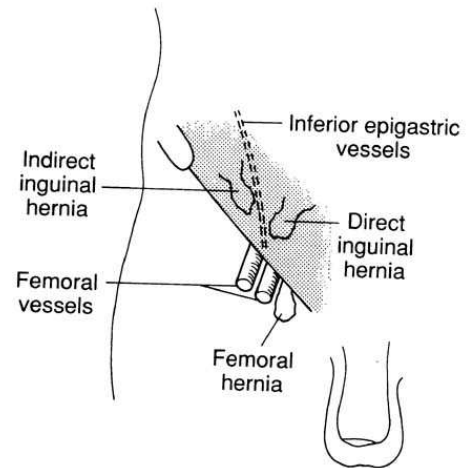
Obstructed = Bowel contents cannot pass hernia.

Strangulation = Compromise of blood supply to herniated contents by twisting or entrapment.

Richter's hernia = Only part of the circumference of bowel herniates/strangulates.

Inguinal hernia

- 75% of all hernias.
- 5M:1F
- *Indirect*: Majority. Passes through internal inguinal ring & along inguinal canal \pm into scrotum. Usually congenital. ~2% children due to widely patent processus vaginalis.
- *Direct*: Protrudes directly through the abdominal wall into inguinal canal. Almost always acquired. More common in elderly & rare in children. Rarely protrudes into scrotum.
- *Pantaloon or saddle bag hernia*: indirect + direct herniae straddling inferior epigastric artery.
- *Features*: Lump in groin worse on coughing, crying, straining, or standing. 60% on R, 20% on L, 20% R+L. 10% incarcerate & a third of these strangulate. Exclude undescended testis and hydrocoele.
- *Mx*: If irreducible or obstructed \rightarrow try manual reduction with analgesia and arrange urgent OT. If easily reducible \rightarrow truss + elective OT. Laparoscopic or open.



Femoral hernia

- Protrusion through the femoral canal.
- F>M
- *Presentation*: Lump is inferior & lateral to pubic tubercle, medial to femoral artery. Commonly incarcerate and 20% strangulate \rightarrow colicky pain and signs of obstruction (N&V) over and above local symptoms.
- *Mx*: Urgent OT as high risk of incarceration & Cx.

Umbilical hernia

- 10-30% of all hernias. Common congenital defect, especially in premature babies and in children esp Afro-Caribbean girls up to 5y. In adults assoc with ascites and obesity.
- *Features*: Hernia gradually enlarges and may be multi-loculated. Sac normally contains omentum \pm bowel. May present with pain on coughing or straining, or an ache or dragging sensation if large.
- *Mx*: In children & small diameter, nearly always closes by age 5y. If older or large usually requires repair. Rarely incarcerates.

Incisional hernia

- Follow ~15% of abdominal ops (usually within 5y). 90% of which have been infected.
- *Mx*: Repair, though rarely incarcerate, with reinforcing mesh. Often recur if large.

Epigastric hernia

- Close to midline above the umbilicus.
- 3-5% population esp men aged 20-30y.
- Multiple herniae in 20%
- *Features:* Usually asymptomatic, but can have epigastric pain ± bloating, N&V post eating. Small hernias may be tender. The hernia can be made to bulge by asking patient to strain.
- *Mx:* Need to be differentiated from a diastasis recti. Surgical repair as high risk of incarceration or strangulation. 10-20% risk of recurrence after repair.

Diaphragmatic hernia

- *Congenital:*
 - Bochdalek hernia (95%): posterolateral. 85% on left. Paravertebral gas on XR. Usually causes lung hypoplasia & 50% neonatal mortality.
 - Morgagni hernia (2%): anterior & parasternal. Mostly right sided, contains transverse colon or omentum. Often asymptomatic.
 - Eventration of diaphragm: Raised thin part of diaphragm allows bulging of abdominal organs into thoracic cavity.
 - Congenital hiatus hernia
- *Hiatus hernia:*
 - Congenital or acquired hernia through hiatus where oesophagus pierces right crus of diaphragm. Acquired assoc: ↑age, F>M, obesity, pregnancy, wasting diseases, gallstones.
 - Types:
 - Sliding hernia (80%): gastroesophageal junction slides up through hiatus.
 - Rolling hernia (10%): Stomach fundus passes up through hiatus
 - Mixed (10%)
 - Features: GORD, dyspepsia, occ ulcers (sliding) or strangulation/torsion (rolling).
 - Mx: Inv with endoscopy, Ba swallow/meal. Conservative, anti-GORD Rx, surgery/fundoplication.
- *Traumatic*

Rarer herniae

- *Spigelian hernia:* Through linea semilunaris muscle. Localised pain → diffuse ache. May be reduced by pressure with a 'gurgling' noise. Needs prompt repair.
- *Littre's hernia:* incl Meckel's diverticulum. 50% inguinal, 20% femoral, 20% umbilical.
- *Lumbar or dorsal hernia:* nearly always in superior & inferior lumbar triangles. Presents with a lump in the side with a heavy, pulling sensation. Needs surgery.
- *Obturator canal hernia:* occurs mainly in elderly women with mortality of up to 40%. Presents with symptoms of small bowel obstruction. Usually only palpable on pelvic or rectal examination. Needs urgent repair.
- *Perineal hernia:* usually post perineal surgery and presents with asymptomatic swelling.
- *Sciatic hernia:* very rare, through greater sciatic foramen + incarceration/strangulation.
- *Sportsman's hernia:* debilitating condition which presents as chronic groin pain. A tear occurs at the external oblique which may result in an occult hernia.
- *Traumatic hernia:* follows blunt trauma and presents with pain, bruising and bulge.