HERNIAS IN ADULTS

HERNIA IS A PROTRUSION OF ANY VISCUS FROM ITS SURROUNDING TISSUE WALLS → NEARLY 10% OF THE POPULATION WILL BE AFFECTED

HERNIAS ARE CLASSIFIED BY ANATOMIC LOCATION, HERNIA CONTENTS AND THE STATUS OF THOSE CONTENTS (REDUCIBLE, STRANGULATED OR INCARCERATED)

A HERNIA IS CALLED REDUCIBLE WHEN THE HERNIA SAC ITSELF IS SOFT AND EASY TO REPLACE BACK THROUGH THE HERNIA DECT DEFECT

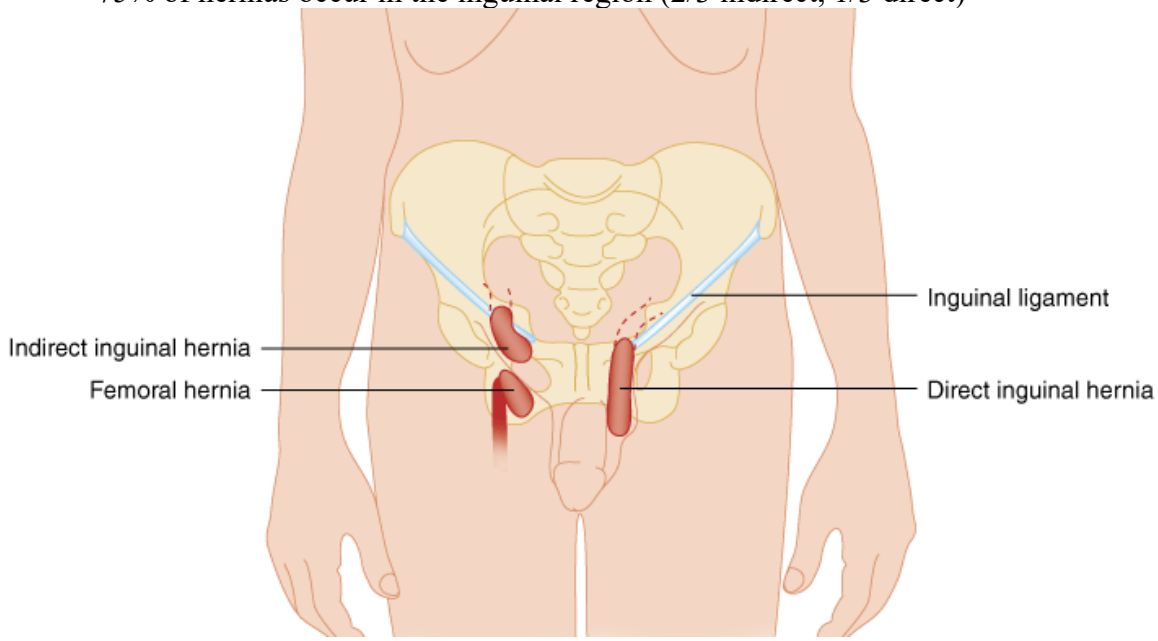
A HERNIA IS CALLED INCARCERATED WHEN IT IS FIRM, OFTEN PAINFUL AND NONREDUCIBLE BY DIRECT MANUAL PRESSURE

STRANGULATION DEVELOPS AS A CONSEQUENCE OF INCARCERATION AND IMPLIES IMPAIRMENT OF BLOOD FLOW (BE IT ARTERIAL, VENOUS OR BOTH) → PRESENTS WITH SEVERE, EXQUISITE PAIN AT THE HERNIA SITE, OFTEN WITH SIGNS AND SYMPTOMS OF INTESTINAL OBSTRUCTION, TOXIC APPEARANCE AND SKIN CHANGES OVERLYING THE HERNIA SAC

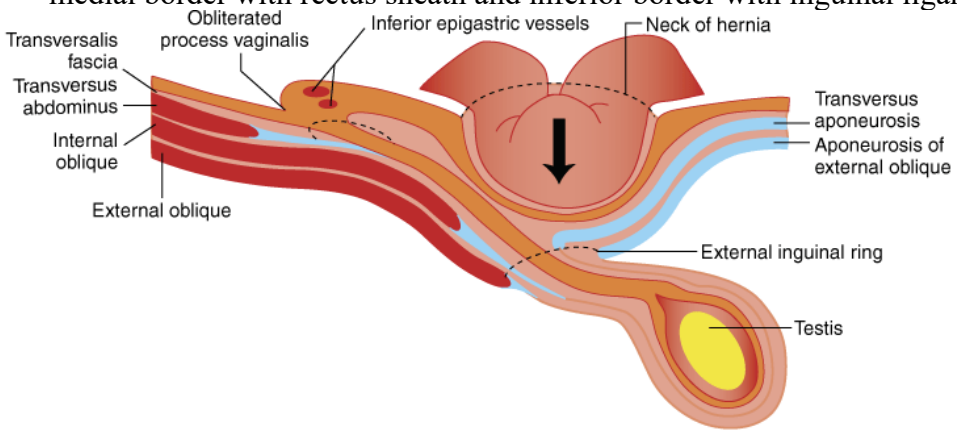
COMMON ANATOMIC TYPES:

INGUINAL HERNIAS:

- 75% of hernias occur in the inguinal region (2/3 indirect, 1/3 direct)

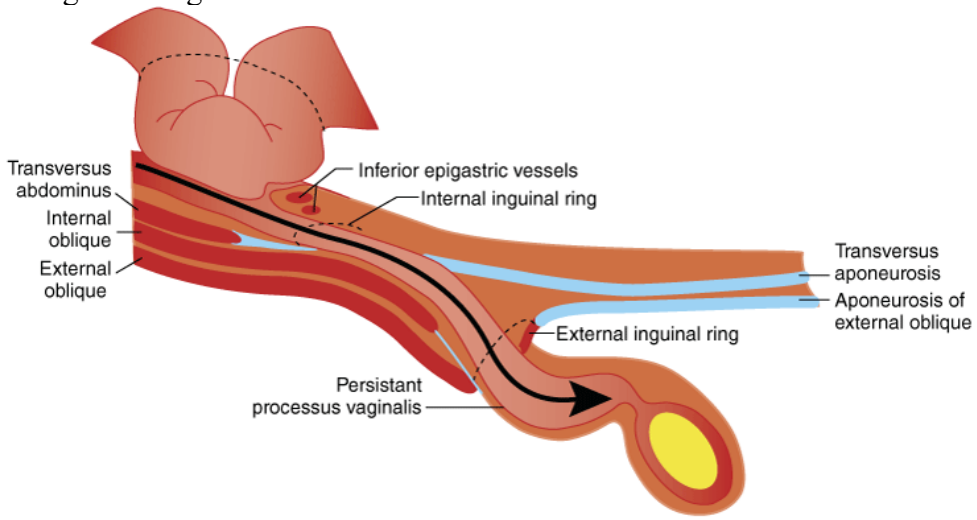


- Present as a groin mass, typically present for some time but may present with incarceration or strangulation
- DDx for groin mass → lymphoma, abscess, femoral hernia, inguinal hernia, hydrocele, femoral aneurysm
- US can be very helpful
- **DIRECT** → passes directly through a weakness in the transversalis fascia in Hesselbach triangle (constructed with lateral border of inferior epigastric artery, medial border with rectus sheath and inferior border with inguinal ligament)



Direct inguinal hernia

- INDIRECT → forms as a result of a patent process vaginalis, passes from the internal inguinal ring and ultimately into the scrotum (or labia) via the external inguinal ring



Indirect inguinal hernia

VENTRAL HERNIA → result of a defect in the anterior abdominal wall and can be either spontaneous or acquired

- INCISIONAL → account for 20% of abdominal wall hernias → result of excess wall tension or inadequate wound healing (contributing factors include obesity, age, wound infection, COPD → due to increased intra-abdominal pressure). Recurrence rate post OT can be up to 90%
- UMBILICAL → largely acquired and is due to medical conditions that increase intra-abdominal pressure (ascites, pregnancy, obesity) → although strangulation is rare, those with chronic ascites are at risk for umbilical hernia strangulation,

rupture and death from peritonitis and thus should strongly consider elective repair

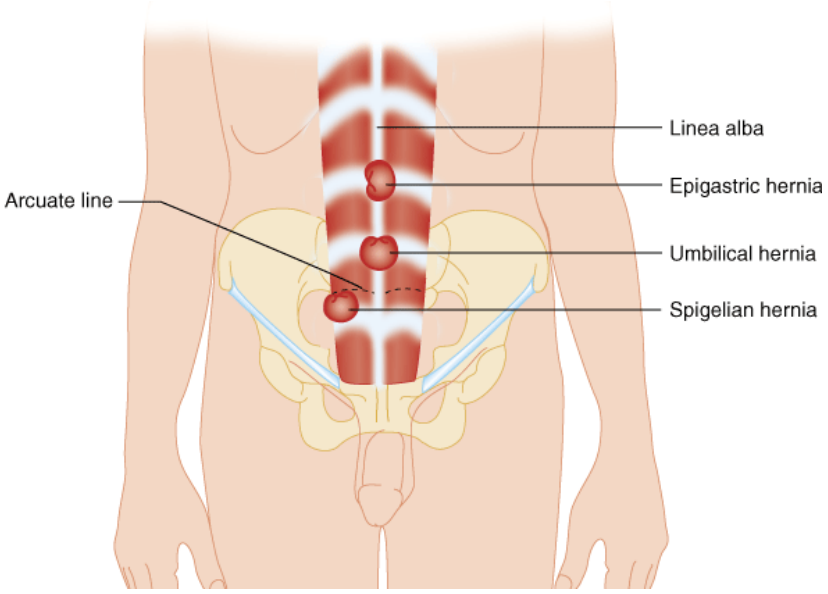
UNCOMMON ANATOMIC TYPES:

FEMORAL HERNIA:

- So named becaused the hernia sac protrudes through the femoral canal a produces a mass that is TYPICALLY BELOW THE INGUINAL RING
- More common in women (10:1 predilection)
- PARTICULARLY PRONE TO COMPLICATIONS → incarceration and strangulation with 40% emergency surgery rate in patients with known femoral hernia

SPIGELIAN HERNIA:

- Also known as a LATERAL VENTRAL HERNIA → arises at the lateral edge of the rectus muscle and arcuate line

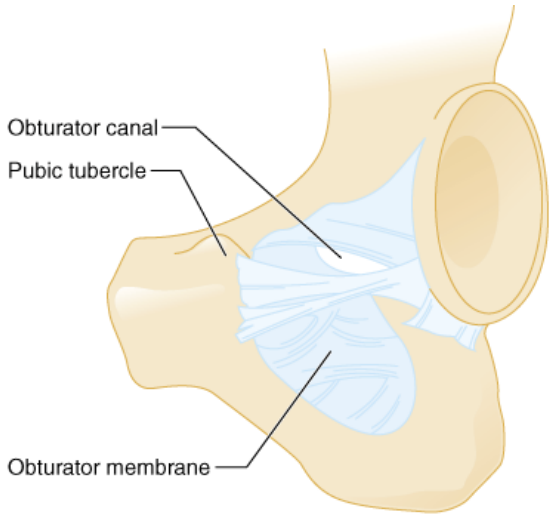


Anterior abdominal wall hernia, including Spigelian

- Notoriously difficult to diagnose
- Classic presentation is anterior lateral abdominal wall mass or bulge → bedside US can make the diagnosis but CT scan remains the best test available
- HIGH RATE OF INCARCERATION → hence they should be surgically corrected

OBTURATOR HERNIA:

- Bowel herniation thorugh the obturator canal (see below) and NEARLY ALWAYS PRESENTS AS EITHER A PARTIAL OR COMPLETE BOWEL OBSTRUCTION
- Diagnosis is made by CT
- It is important to diagnose this hernia given its high complication rate (perforation in >50% cases and mortality approaching 20%)



RICHTER HERNIA:

- Involves only the antimesenteric border of the intestine and only involves a portion of the wall circumference
- Insidious presentation and often leads to strangulation and gangrene than other more standard hernias

EVALUATION:

LAB STUDIES → routinely ordered but are of minmal value in the evaluation of the hernia patient

RADIOGRAPHIC STUDIES:

- Plain films can be ordered to look for signs of obstruction or free air
- US → operator dependent and confounded by body habitus
- CT → best test for diagnosis and can identify uncommon hernia types and demonstrate strangulation or incarceration

TREATMENT:

- If the hernia is easily reducible on physical examination, then the patient should be referred for elective outpatient surgical repair
- If the hernia is exquisitely tender and is associated with systemic signs and symptoms (obstruction, toxic appearance, peritonitis, sepsis) → assume strangulation and consult surgery immediately and administer broad spectrum IV antibiotics
- If the hernia is incarcerated b ut the patient does not yet show signs strangulation, then make one or two attempts at reduction in ED under appropriate sedation/analgesia:
    - Proper positioning, with the patient supine in mild Trendelenburg position
    - Apply cold packs to the hernia site to reduce swelling and facilitate reduction

    - Grasp and elongate the hernia neck with one hand, and with the other apply firm, steady pressure to the distal part of the hernia
    - Consult surgery if the reduction is unsuccessful
- If there is any concern for strangulation, do not attempt hernia reduction as the reintroduction of ischaemic, necrotic bowel back into the peritoneum and can result in subsequent perforation and sepsis