

---ABDOMINAL WALL & HERNIA---

Abdominal wall anatomy

--Layers

1. Skin
 2. Subcutaneous tissue [becomes: Colle's in penis and Dartos in Scrotum]
 - Camper's fascia (fatty)
 - Scarpa's fascia
 3. Ext. oblique [becomes ext spermatic fascia, fascia lata]
 - Forms inguinal ring (ASIS to pubic tubercle) and superficial ring
 4. Int. oblique [becomes cremasteric muscle]
 5. Transversus abdominus
 - Forms posterior inguinal wall and deep ring
 6. Transversus fascia [becomes int spermatic fascia]
 7. Peritoneum [becomes tunica vaginalis]
 - If tunica persists = hydrocele, indirect hernia
- Semicircular line of Douglas: midway between umbilicus and pubis symph
 Below this line, only peritoneum and transv fascia are deep to rectus
 Conjoint tendon: transv abd joins int oblique at pubic tubercle
 Ant. cutaneous nerves run deep to int oblique
 Midline incisions = no inj to vascular structures
 Transverse abd incisions = physiologic, in line w/ Langer's lines of cleavage

Abdominal wall hernias

Relative incidence of hernia type

	Direct	Indirect	Femoral
Men	40%	50%	10%
Women		70%	30%
Children		100%	

Indirect inguinal hernia

- Lateral to Inf epigastrics
- Patent process vaginalis (20% of males) + ↑ intraabd press (cough, constipation)
- Sac is usu on anteromedial surface of cord
- Usu R sided d/t delayed descent of R testicle

Direct inguinal hernia

- Medial to Inf epigastrics (Hesselbach's triangle)
- Defect in post inguinal wall

Femoral hernia

- Increased risk of strangulation d/t rigid structures surrounding it (inguinal, Cooper's, and lacunar ligaments)

Rx:

--Truss

--Incarcerated inguinal hernia

- Apply gentle pressure in cephalad, lateral and dorsal direction in rev. T berg
- 60% successful

--Surgical repair

Strangulation risk <0.1%; chronic pain post op = 6-13%

Goal: reduce sac, create tension free inguinal floor, recreate snug deep ring

Kids – high ligation of sac w/o muscle/fascia repair

Females – ligate round ligament

Mesh repairs have 50-75% decreased recurrence vs non-mesh repairs

Anterior – mesh placed between int and ext oblique layers

Lichtenstein, Mesh plug (umbrella)

Preperitoneal – placed deep to peritoneum

Umbilical hernia

Usu superior side of umb

Umb A/V and allantois

Little risk of strangulation in kids (some risk in adults d/t rigid linea alba)

Rx: kids = wait; <1.5cm = primary repair (suture), >1.5cm = mesh

Omphalocele – covered by sac

Gastroschisis – no sac, lateral to midline, other defects

Incisional (ventral) hernia

#1 cz = infxn; also obesity, steroids

Smaller defect = higher risk of strangulation

Rx: mesh repair with 2-3cm overlap

Pantaloon hernia: indirect + direct (straddle inf epigastrics like a pair of pants)

Sliding hernia: hernia wall is made up of an organ (sigmoid, cecum, bladder, ovary)

Richter's hernia: only antimesenteric side

Littre's hernia: contain Meckel's diverticulum, usu strangulated

Grynfelts/Petit's hernia: sup/inf lumbar triangle, no strangulation

Epigastric hernia: through linea alba, above umbilicus

Diastasis recti: not true hernia b/c fascia still intact; Rx: reassurance