Hernia Examination

Always start with the patient STANDING

Inspect standing

- Exposure is very important – ensure you can see from umbilicus to knees at least!
- Look in the groin for evidence of a swelling – if you cant see one, then ask the patient which side they have noticed a lump
- Look for evidence of previous hernia surgery – oblique scar often well hidden in pubic hair line
- Any other obvious skin changes, swellings, lumps that may be relevant
- Ask the patient to look over their shoulder and cough (so they don't cough into your face!)
- As they cough, look at the lump to see if there is a cough impulse

Palpate standing

- Palpate the swelling
- Can you get above it (suggesting originates in scrotum/spermatic cord e.g. hydrocoele)
- Does it feel soft, fluctuant, Pulsatile etc.
- Ask the patient again to cough, palpating for a cough impulse
- Ensure that you feel the opposite side, as bilateral hernias are very common, often one being much more prominent

Auscultate

- Take this opportunity to auscultate the lump, as if it is readily reducible, there will be nothing to listen too when the patient lies down.

Lie the patient down

Inspection

- Again, inspect the groin to ensure there is nothing missed from standing inspection.
- Offer to palpate the abdomen for any cause of raised intra-abdominal pressure such as ascites or mass, which can predispose to herniation

Palpation

- Having identified a hernia, the next task is to assess if it is indirect or direct.
- Ask the patient if they can reduce the hernia, if it has not done so by being supine – NEVER do this standing as it is painful.
- Palpate the groin to assess if the hernia has completely reduced
- Warn the patient that you will palpate some bony points

- Feel for the anterior superior iliac spine and the pubic tubercle (delineating the inguinal ligament – as opposed to the ASIS to pubic symphysis, to identify the mid-inguinal point, the landmark for the femoral artery)
- Palpate the midpoint of the inguinal ligament (the surface landmark for the deep inguinal ring) and ask the patient to cough
- If the hernia is CONTROLLED by pressure over the deep inguinal ring, it suggests that the hernia is indirect.
- In order to confirm that you were in fact controlling the hernia, ask the patient to cough without pressure to ensure that the hernia now appears.
- Offer to examine the scrotum, where you should palpate the testis and epididymis (my finals hernia case had epididymal cysts which were expected to be found)

That completes the examination of the hernia, but offer to examine the abdomen for masses etc.

People often find hernias difficult as there is not much opportunity to practice – however, as finals loom ensure you seek out hernia lists in day surgery as these cases often come up.

Some theory

Hernia = protrusion of viscus through the confines of the cavity within which the viscus normally lies

There are many types of hernia – ensure you are aware of the following types

- Inguinal – see below
- Femoral
    - 1/3 hernias in women – i.e. more common in women but inguinal still commoner
    - Rare in males
    - Arise inferiorly and laterally to the pubic tubercle
    - More rigid boundary - inguinal ligament, pectineal ligament, lacunar ligament and femoral vein being the boundaries
    - More likely to strangulate
    - Can be ‘richter hernia’ where a knuckle of bowel wall is trapped rather than the entire circumference
    - Can present as obstruction with no localising signs
- Sphigelian
- Umbilical
- Para-umbilical
- Epigastric
- Lumbar
- Obturator
- Hiatus

Inguinal hernias

These are the commonest type of hernia in both males and females.

Indirect – hernial sac passes through the deep inguinal ring, through the inguinal canal and can pass into the scrotum. These tend to be found in younger men

Direct – hernial sac passes directly through the transversalis fascia and rarely pass into the scrotum. These tend to be more prevalent in the older man. More precisely, direct hernias pass through Hasselbachs triangle, delineated by the inferior epigastric artery laterally, the rectus abdominus muscle medially and inguinal ligament inferiorly.

In the exam, it would be prudent to comment that although your clinical findings suggest that this is an indirect/direct hernia, this can only be confirmed at operation. The precise definition of direct vs indirect is in relation to the inferior epigastric vessels. Direct hernias arise medially to these vessels and indirect laterally.

It would be worth revising the anatomy of the inguinal canal and the contents of the spermatic cord:

- 3 arteries – testicular artery, artery to vas, artery to cremaster
- 3 nerves – genital branch of genitofemoral, sympathetics and ilioinguinal (this nerve actually travels WITH the spermatic cord rather than within
- 3 others – vas deferens, lymphatics, pampiniform venous plexus
- Some also include the 3 layers of fascia.

Common exam questions

1. What is the difference between indirect and direct? – see above

2. Discuss anatomy of inguinal canal

3. What investigation could be performed if unsure if hernia? – ultrasound is often used if it is unclear if there is a hernia or not

4. What is the management?
   - The answer should be repair of the hernia, as there is a risk of the hernia becoming strangulated – unless there are contraindications to surgery – however the repair can even be done under local anaesthesia

5. What are the operative options?
   - There is the option of performing the repair open (Lichenstein procedure) or using a pre-peritoneal laparoscopic approach which has the advantage in bilateral hernias to do both with the same incision, and in redo operations. The ‘pre-peritoneal’ means that the peritoneum is not breached. Laparoscopic surgery is becoming more popular and is associated with sooner return to work. Both types can be done as day surgery. The principal of both types is the use of ‘tension free mesh repair’, whereby a mesh is used to incite a fibrous reaction to create a strong barrier to herniation that doesn’t rely upon the tension of sutures closing the defect

6. What is the differential diagnosis of a lump in the groin?
    - Approach this systematically:
        - Skin – sebaceous cyst
        - Subcutaneous – lipoma, fibroma
        - Arterial – femoral pseudo/aneurysm
        - Venous – saphena varix
        - Lymphatic – lymphadenopathy
        - Psoas abscess
        - Hernia – inguinal, femoral
        - Ectopic testis