Inguinal Hernia

- Abdominal contents protrude through the inguinal canal.
- Commonest type of abdominal hernia; ♂:♀, 8:1.
- 2 types: classified according to its (surgically determined) relationship to the inferior epigastric artery
    1. Indirect inguinal hernia
    2. Direct hernia
- Coexistence of direct and indirect hernias descending either side of
- the epigastric artery produces a ‘pantaloon hernia’.

Indirect Inguinal Hernia

- Most common type of hernia (65% of inguinal hernia)
- More common in younger age group
- More common in males (20:1)
- More common on right side in the first decade of life (55%), but equal on both sides from 2nd decade.
- Bilateral in 12-30%
- Neck is narrow and lateral to inferior epigastric vessels.
- 3 types
    1. Bubonocele- limited to inguinal canal
    2. Funicular- just above the epidydimis
    3. Complete- inguinoscrotal

Clinical features

- Most have no symptoms until a lump is noticed in the groin.
- Ache or dragging sensation, especially towards the end of the day.
- Some can relate the onset of the pain and bulge to a specific activity

Investigations

If the diagnosis is uncertain, investigations are of some help.

- Ultrasound. Least invasive and cheap, but may lead to false results.
- CT and MRI. Highly accurate, but CT involves substantial radiation.
- Herniography (intraperitoneal contrast injection and subsequent X-ray)

Management

- Treat the precipitating causes
- Herniotomy in infants- best time to operate- 3 months
- Herniotomy and herniorrhaphy in adults

Complications of indirect inguinal hernia

- Irreducibility
- Inflammation
- Obstruction
- Strangulation

Direct Inguinal Hernia

- 10-15% of the hernia.
- 35% of the inguinal hernia.
- More common in elderly
- 50% occurs bilaterally
- Uncommon in females
- Hernia is medial to inferior epigastric artery.
- Rarely descends into the scrotum.
- Strangulation is not common.
- Always an acquired condition.

Surgery types for inguinal hernia

- Herniotomy
- Open suture repair
  - Bassini
  - Shouldice
  - Desarda
- Open flat mesh repair
  - Lichtenstein
- Open complex mesh repair
  - Plugs
  - Hernia systems
- Open preperitoneal repair
  - Stoppa
- Laparoscopic repair
  - TEP (totally extraperitoneal)
  - TAPP (transabdominal preperitoneal)

Technical aspects

- Repair may be performed by open surgery or via the laparoscopic approach.
- General or local anaesthesia if done via the open approach.
- Tension-free reinforcement of the transversalis fascia (TVF) layer (usually with non-absorbable mesh.
- Mesh may be fixed in place by sutures (open) or ‘tacking’ devices (laparoscopic approach).
- Avoid heavy lifting and straining for first to second week post-op.
- Lifetime recurrence of combined mesh repairs is approximately 1–2%.
- Laparoscopic approach is recommended for recurrent and bilateral hernias and should be carried out by experienced surgeons in well equipped units (NICE guidelines).

Complications of surgery

- Early - pain, bleeding, urinary retention, anaesthetic related
- Medium - seroma, wound infection
- Late - chronic pain, testicular atrophy

	Indirect	Direct
Age	Any age, but usually young	Uncommon in children and young adult
Etiology	Congenital (patent processus vaginalis)	Acquired weakness in abdominal wall
Relationship to inferior epigastric artery	Lateral	Medial
Descending to scrotum	Often	Rarely
Occluding the internal ring	Controls it	Does not control it
Neck	Narrow	Wide
Strangulation	More likely	Rare
Treatment	Infant—herniotomy (ligation and excision of the sac) Adult—open mesh repair,	Open mesh repair, laparoscopic repair

Sportsman's hernia

- almost entirely restricted to young men who play contact sports such as football and rugby.
- presents as severe pain in the groin area, extending into the scrotum and upper thigh.
- On examination there may be some tenderness in the region of the inguinal canal, over the pubic tubercle, and over the insertion of the thigh adductor muscles. No hernia can be felt.
- In most cases, the pain is due to an orthopaedic injury, such as adductor strain or pubic symphasis diastasis.

- Other causes of pain should be excluded, such as hip, pelvic or lumbar spinal disease and bladder/prostate problems.
- MRI is most likely to detect an orthopedic problem but ultrasonography, herniography or even laparoscopy may be used.