What is the Abdominal Wall?

Worksheet

The anterior abdominal wall has nine layers from superficial to deep: skin, Camper's fascia, Scarpa's fascia, external oblique, internal oblique, transversus abdominis, transversalis fascia, extraperitoneal fat, and parietal peritoneum.

Questions

1. Which layer lies directly deep to Scarpa's fascia?

A) Transversalis fascia
B) External oblique muscle/aponeurosis
C) Parietal peritoneum
D) Internal oblique muscle

2. Below the arcuate line, the rectus abdominis is backed only by:

A) Posterior rectus sheath
B) Transversalis fascia
C) Camper's fascia
D) Peritoneum only

3. A direct inguinal hernia passes:

A) Lateral to the inferior epigastric vessels
B) Through Hesselbach's triangle, medial to the inferior epigastric vessels
C) Through the deep inguinal ring only
D) Behind the peritoneum only

4. The external oblique aponeurosis fibers run:

A) Vertically
B) Superomedially
C) Inferomedially (like hands in pockets)
D) Purely transverse

5. A surgeon performs a Pfannenstiel incision 2 cm above the pubic symphysis. Which layers are divided before the peritoneum is opened?

6. During a McBurney (gridiron) incision for appendectomy, why is minimal muscle damage expected?

7. A patient has a hernia bulging above the inguinal ligament, medial to the inferior epigastric vessels, lateral to the rectus sheath. Which anatomical zone contains it?

8. Define: What are the 9 layers of the anterior abdominal wall?

9. Define: What forms the rectus sheath?

10. Define: Where is the arcuate line?

Answer Key

1. B) External oblique muscle/aponeurosis - After the two superficial fascial layers (Camper's, Scarpa's), the external oblique is the first true muscular/aponeurotic layer.

2. B) Transversalis fascia - Below the arcuate line all three aponeuroses pass anterior to the rectus, leaving only transversalis fascia posteriorly.

3. B) Through Hesselbach's triangle, medial to the inferior epigastric vessels - Direct hernias push through the weak floor of Hesselbach's triangle, medial to the inferior epigastric vessels.

4. C) Inferomedially (like hands in pockets) - External oblique fibers run inferomedially; internal oblique fibers run perpendicular, superomedially.

5. Skin Camper's fascia Scarpa's fascia Anterior rectus sheath (fused aponeuroses of external oblique, internal oblique, transversus abdominis) Rectus abdominis muscles retracted, not cut Transversalis fascia extraperitoneal fat parietal peritoneum

6. External oblique aponeurosis is incised in line with its fibers Internal oblique and transversus abdominis are split, not cut, along their fiber direction (muscle-splitting technique) This preserves innervation and strength, unlike a vertical midline incision

7. This is Hesselbach's triangle: bounded by the inguinal ligament (inferior), inferior epigastric vessels (lateral), lateral border of rectus abdominis (medial) A hernia protruding directly through this triangle is a direct inguinal hernia Indirect hernias instead pass lateral to the inferior epigastric vessels, through the deep inguinal ring

8. Skin, Camper's fascia, Scarpa's fascia, external oblique, internal oblique, transversus abdominis, transversalis fascia, extraperitoneal fat, parietal peritoneum.

9. The fused aponeuroses of the external oblique, internal oblique, and transversus abdominis, enclosing the rectus abdominis muscle.

10. A transition point below the umbilicus where the posterior rectus sheath disappears, leaving only transversalis fascia behind the rectus muscle.