

How are we connect the lower limb to other regions?
Through gaps and openings:

[1] behind the inguinal ligament

* connects the lower limb with the abdomen.

* structures that pass:

① Muscles: Psoas major tendon, ② Iliacus tendon, ③ Psoas minor.

④ Nerve: Femoral nerve

⑤ Femoral branch of genitofemoral nerve

⑥ Lateral cutaneous nerve of the thigh

The artery and venous vein are arranged from medial to lateral as (VAN)
① femoral vein (most medial)
② femoral artery
③ femoral nerve

⑦ Vessels: Femoral artery.

⑧ femoral vein.

⑨ Lymphatics

[2] Great sciatic foramen:

* connects the posterior structures of pelvis with gluteal region.

① muscle: piriformis → divide the foramen into above and below

② above: ① superior gluteal nerve
② superior gluteal vessels

③ below: ① inferior gluteal nerve
② inferior gluteal vessels

③ sciatic nerve.

④ posterior cutaneous nerve of the thigh.

⑤ nerve to quadratus femoris

⑥ pudendal nerve

⑦ internal pudendal vessels

⑧ nerve to obturator internus

[3] lesser sciatic foramen.

* connects the perineum with gluteal region.

① tendon of obturator internus.

② pudendal nerve

③ pudendal artery

④ nerve to obturator internus

these enter here after passing out of the greater foramen.

[4] obturator canal.

* connects anterior of pelvis to thigh.

① obturator nerve

② obturator artery.

- we have:
- Femoral triangle
 - femoral sheath
 - femoral canal.

Let's differentiate between them:

1] Femoral triangle (scarpas triangle).

* located in upper part of the medial aspect of the thigh below inguinal ligament.
 * it's a 3D shape.

* Boundaries:



- ① Superiorly: Inguinal ligament (base of Δ).
- ② Laterally: medial border of sartorius muscle (this means that it's not a content only boundary)
- ③ Medially: medial border of adductor longus muscle. (it's a part of content).
- ④ Floor: it's gutter shape.
 * from lateral to medial: ① iliopsoas muscle, ② pectineus muscle, ③ Adductor longus.
- ⑤ Apex: directed downward and is formed by meeting point of sartorius + adductor longus

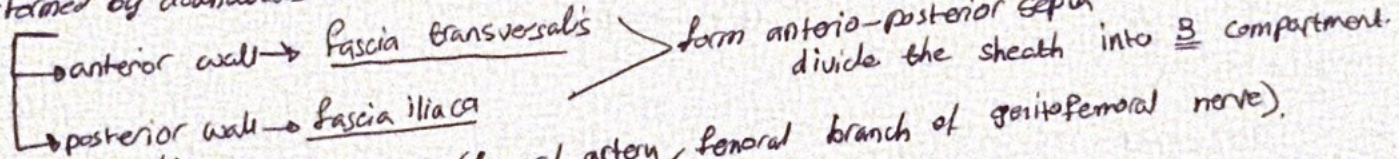
- ⑥ Roof: skin, superficial fascia, deep fascia.
 - ① superficial fascia contain:
 - ① superficial inguinal lymph nodes
 - ② femoral branch of genitofemoral
 - ③ superficial branch of femoral artery and veins
 - ④ branches of ilioinguinal.
 - ⑤ terminal part of great saphenous vein.
 - ② Deep fascia → contains saphenous opening.

* Contents:

- ① Terminal part of femoral nerve and branches
- ② The femoral sheath
 - femoral artery
 - femoral vein
 - lymphatics.
- ③ femoral branch of genitofemoral.
- ④ lateral cutaneous nerve.
- ⑤ Deep inguinal lymph

2] Femoral sheath: [funnel shaped sleeve of fascia, 2.5 cm below inguinal ligament]

* formed by downwards of extension of abdominal fascia.



* compartments:

- ① lateral compartment → arterial (femoral artery, femoral branch of genitofemoral nerve).
- ② Intermediate compartment → Venous (femoral vein)
- ③ medial compartment → lymphatics ⇒ this compartment is called femoral canal.

* Femoral canal:

- ① small medial compartment for lymph vessels (1.3 cm in length).
 - ② upper opening is called (femoral ring) ⇒ femoral septum closes the ring (condensation of extra-peritoneal)
 - * Contains: ① plug of fat
 - ② constant lymph nodes "node of femoral canal" "Cloquet's gland"
 - ③ efferent lymph vessels from deep inguinal lymph.
- * The function of canal: ① it's a dead space for potential expansion of femoral vein
- ② lymphatic pathway from the external iliac nodes.

* The femoral ring is wider in women, common space of hernia.

* Femoral canal:

boundaries

- ① anteriorly → Inguinal ligament
- ② medially → sharp free edge of the pectineal part of inguinal ligament
 - ↳ lacunar ligament (Gimbernat's ligament).
- ③ posteriorly: pectineal ligament (Ashley Cooper)
 - ↳ what's that? thickened periosteum along the pectineal border of the superior pubic ramus and continuous medially with the pectineal part of inguinal ligament.
- * ④ laterally → Femoral vein.

* Subsartorial (adductor canal)

↳ Hunter's canal.

* what is it? Intra muscular cleft → on the medial aspect of the middle third of the thigh → under sartorius muscle.

* starts from apex of femoral Δ

* Grob by adductor hiatus formed in the tendon of adductor magnus.

* If we cut it in cross section, it looks like a triangle.

↳ ① Anteromedial wall: sartorius muscle and fascia.

↳ ② posterior wall: adductor longus and magnus.

↳ ③ lateral wall: vastus medialis.

* Contents:

- ① terminal part of femoral artery.
- ② Femoral vein.
- ③ ~~femoral~~ saphenous nerve.
- ④ terminal part of obturator nerve.
- ⑤ deep lymph vessels

* Under the sartorius muscle we also have ⇒ Subsartorial plexus:

formed by:

- ① medial cutaneous nerve of the thigh.
- ② saphenous nerve
- ③ the anterior division of obturator nerve.

* Popliteal fossa:

* diamond-shaped, intermuscular space → in back of knee.

* Boundaries:

- ① laterally: above → biceps femoris
below → lateral head of gastrocnemius + plantaris.
- ② medially: above → semimembranosus, semitendinosus.
below → medial head of gastrocnemius.
- ③ floor: ① Bone: popliteal surface of femur.
② posterior surface of knee joint
③ popliteus muscle.
- ④ roof: skin, superficial fascia, deep fascia.
- ⑤ contents: ① popliteal artery and vein.
② common peroneal nerve
③ tibial nerve
④ posterior cutaneous nerve of thigh.
⑤ small saphenous vein.
⑥ connective tissue.

* Sphenoid opening:
(fossa ovalis)

↳ gap in the fascia lata

↳ covered by loose connective tissue called (cribriform fascia).

* the ~~cribriform~~ cribriform fascia is pierced by:

- ① Great sphenoid vein. → (before it joins femoral vein)
 - ② superficial branches of femoral artery
 - ③ Lymphatics.
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