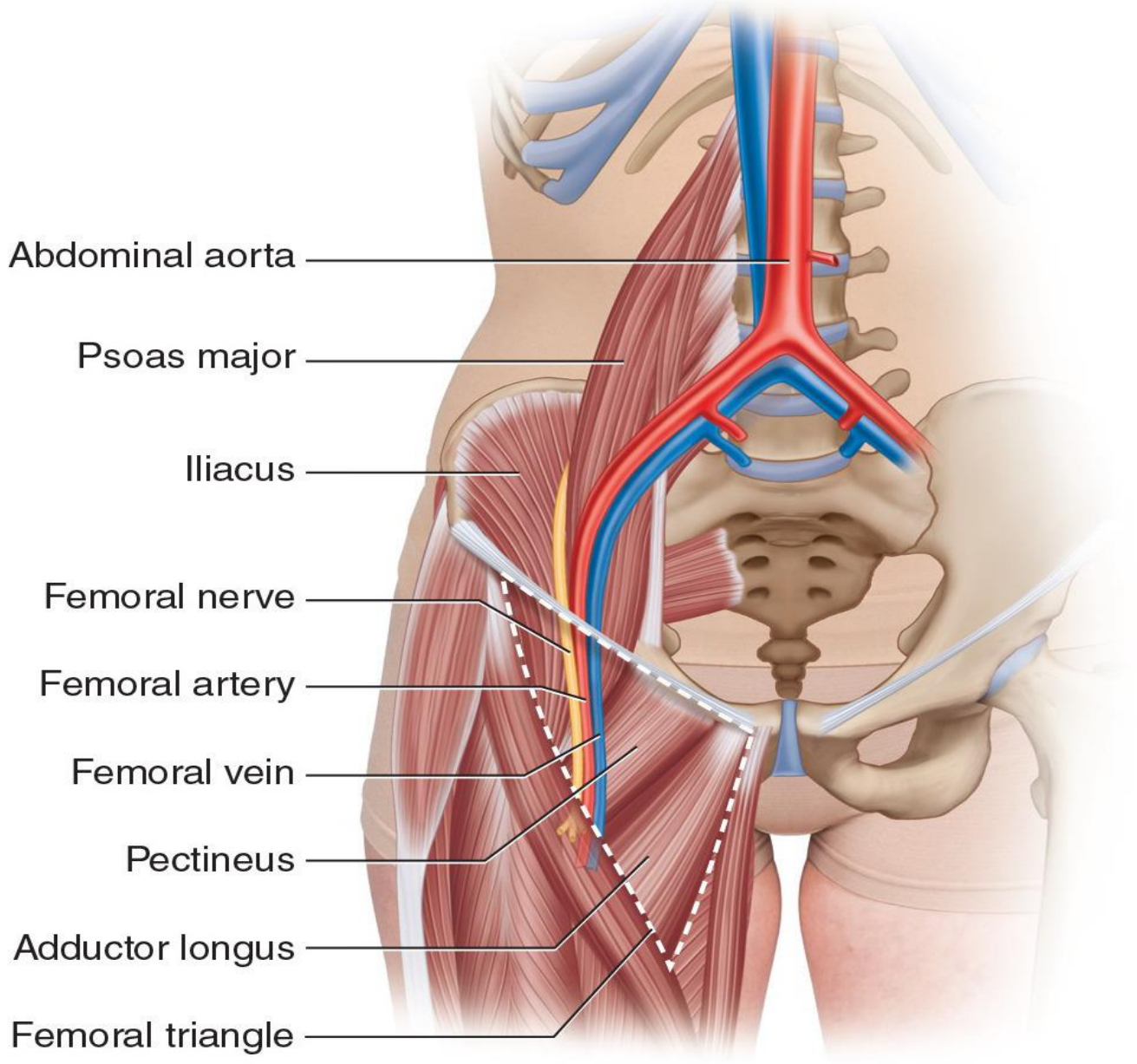
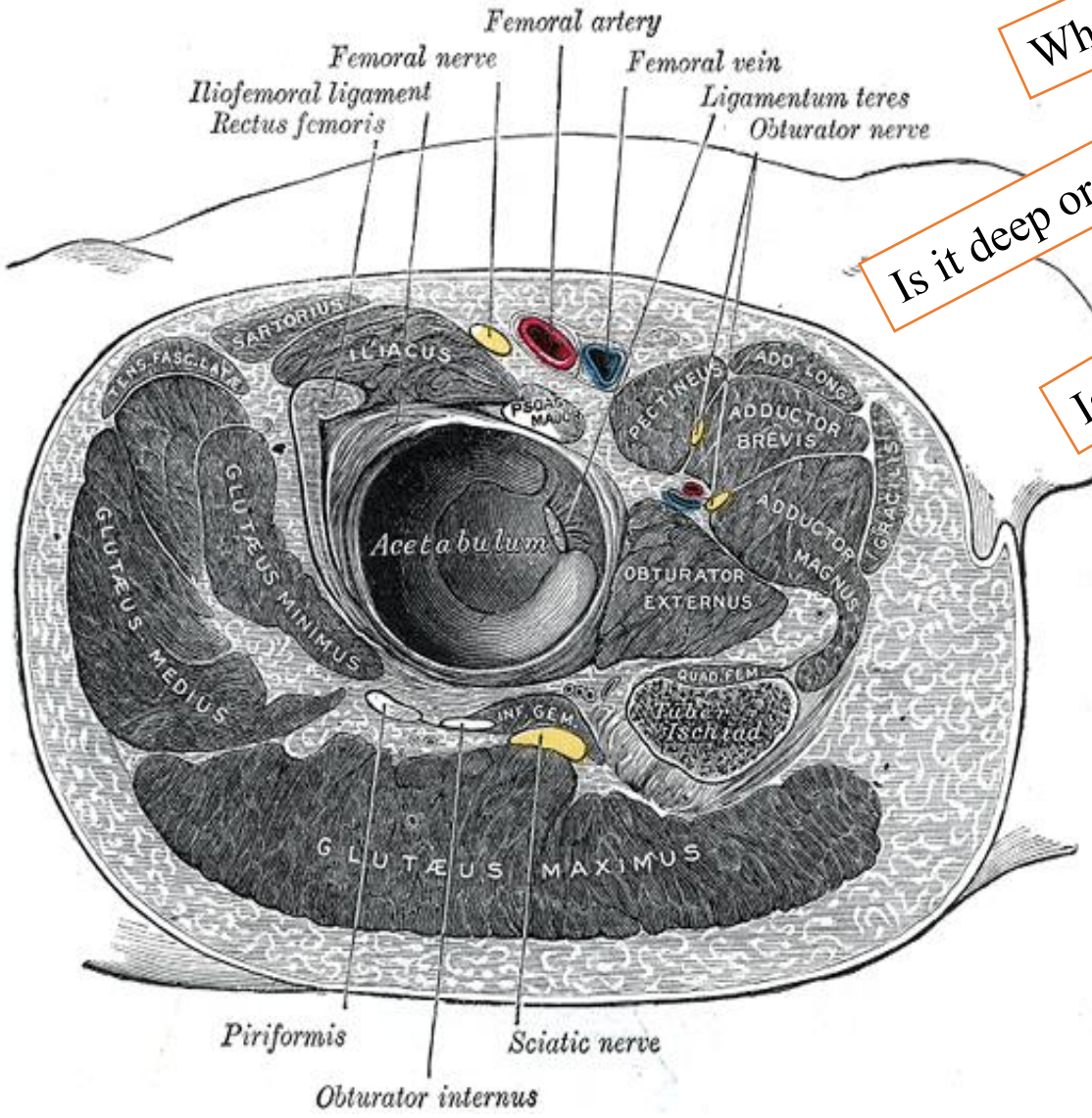
THE FRONT OF THE THIGH

The femoral nerve, femoral artery and femoral vein as they pass from the pelvis to front of the thigh need to be protected, the question is how?



Femoral triangle (Scarpa's triangle)

Is *a triangular* depressed area located *in the upper part <u>of the medial aspect</u> of the thigh* immediately *<u>below the inguinal ligament</u>*.



Why do need it?

Is it deep or superficial?

Is it a 3D space?

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Boundaries

Superiorly:

The *inguinal ligament*
(the base of the triangle)

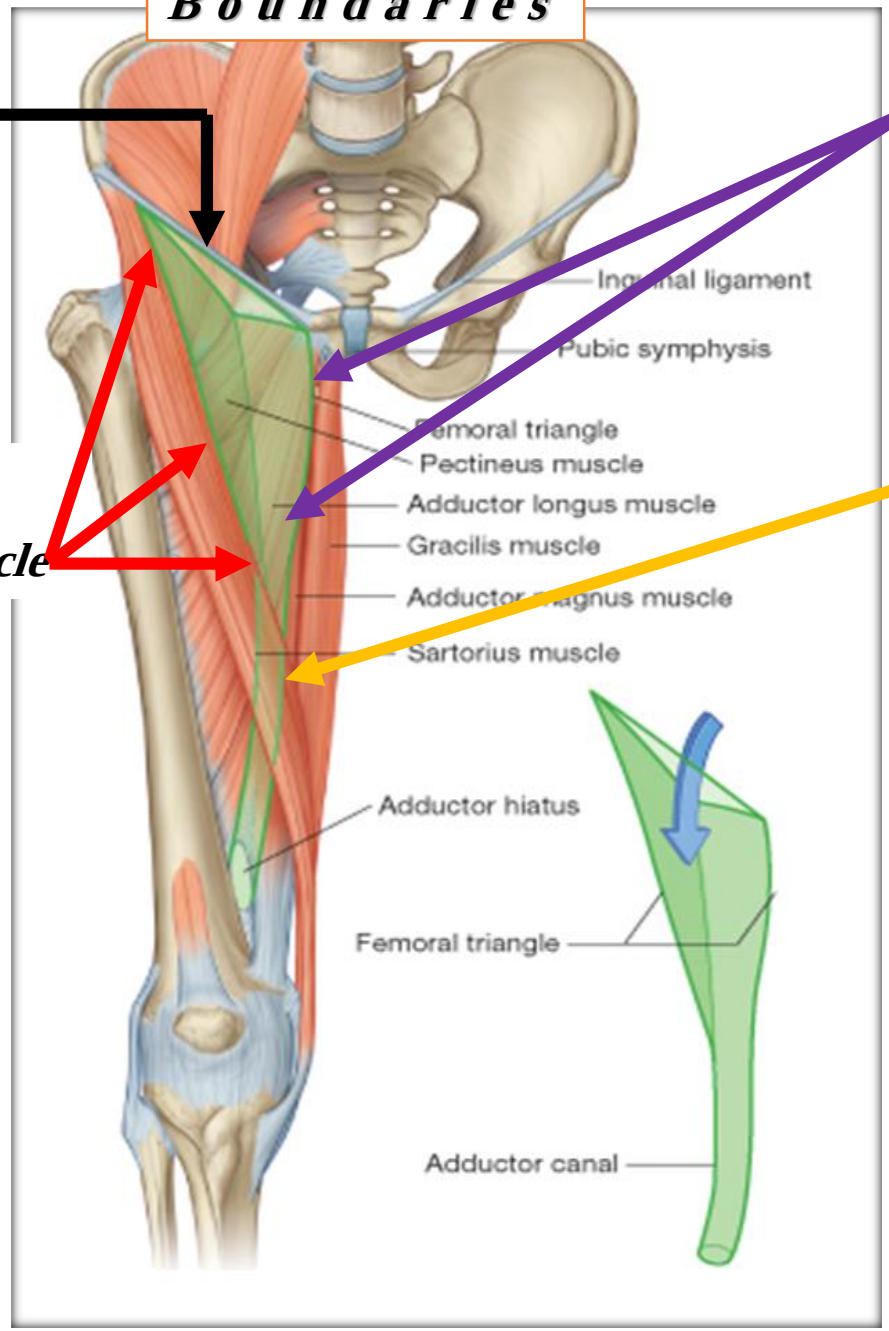
Medially:

The medial border of *adductor longus muscle*

Laterally:

The *medial border of Sartorius muscle*

The apex: directed downwards and is formed by the meeting point of Sartorius and adductor longus muscles

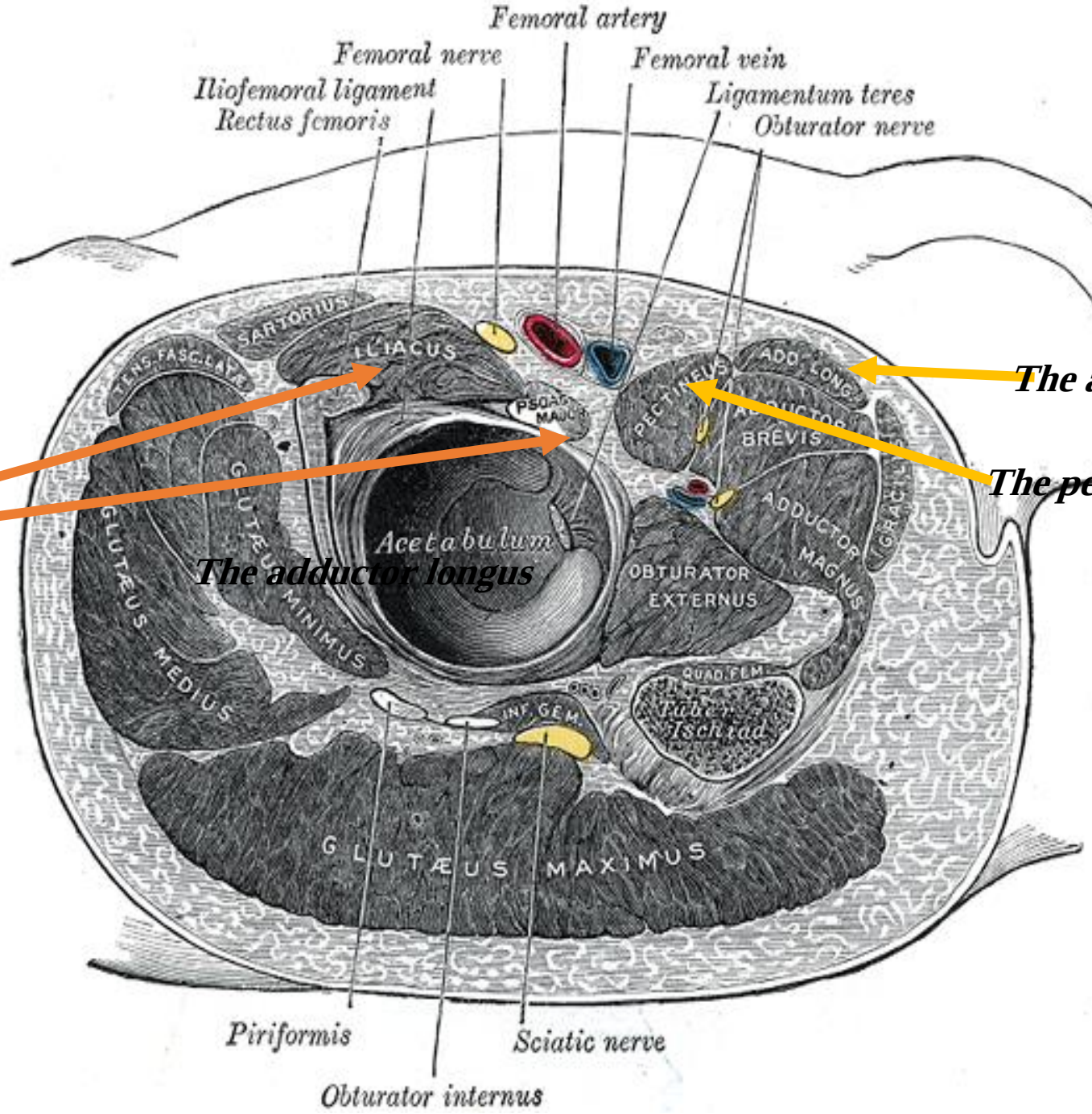


Floor: gutter shaped from lateral to medial is made by

The iliopsoas muscle

The pectineus muscle

The adductor longus



The adductor longus

The pectineus muscle

The adductor longus

Roof :

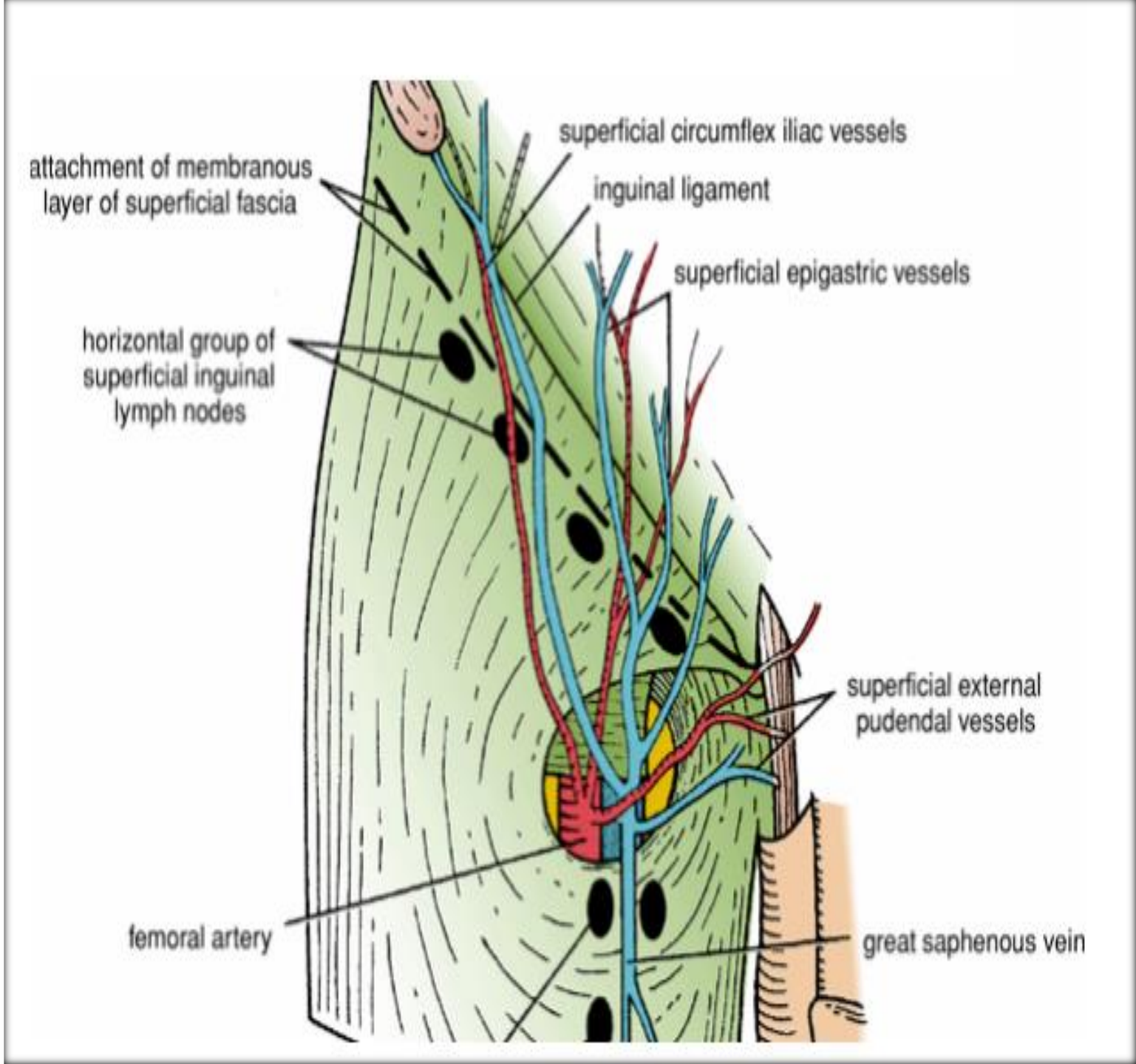
Formed by

1- skin

2-Superficial fascia which contains:

A-Superficial inguinal lymph nodes
B-Femoral branch of the genitofemoral nerve
C-Branches of ilioinguinal nerve
D-Superficial branches of the femoral artery and corresponding veins
E- Terminal part of the great saphenous vein

3- Deep fascia containing the Saphenous opining



Contents of the femoral triangle

1-Terminal part of the femoral nerve and its branches.

2- The ***femoral sheath!!!***

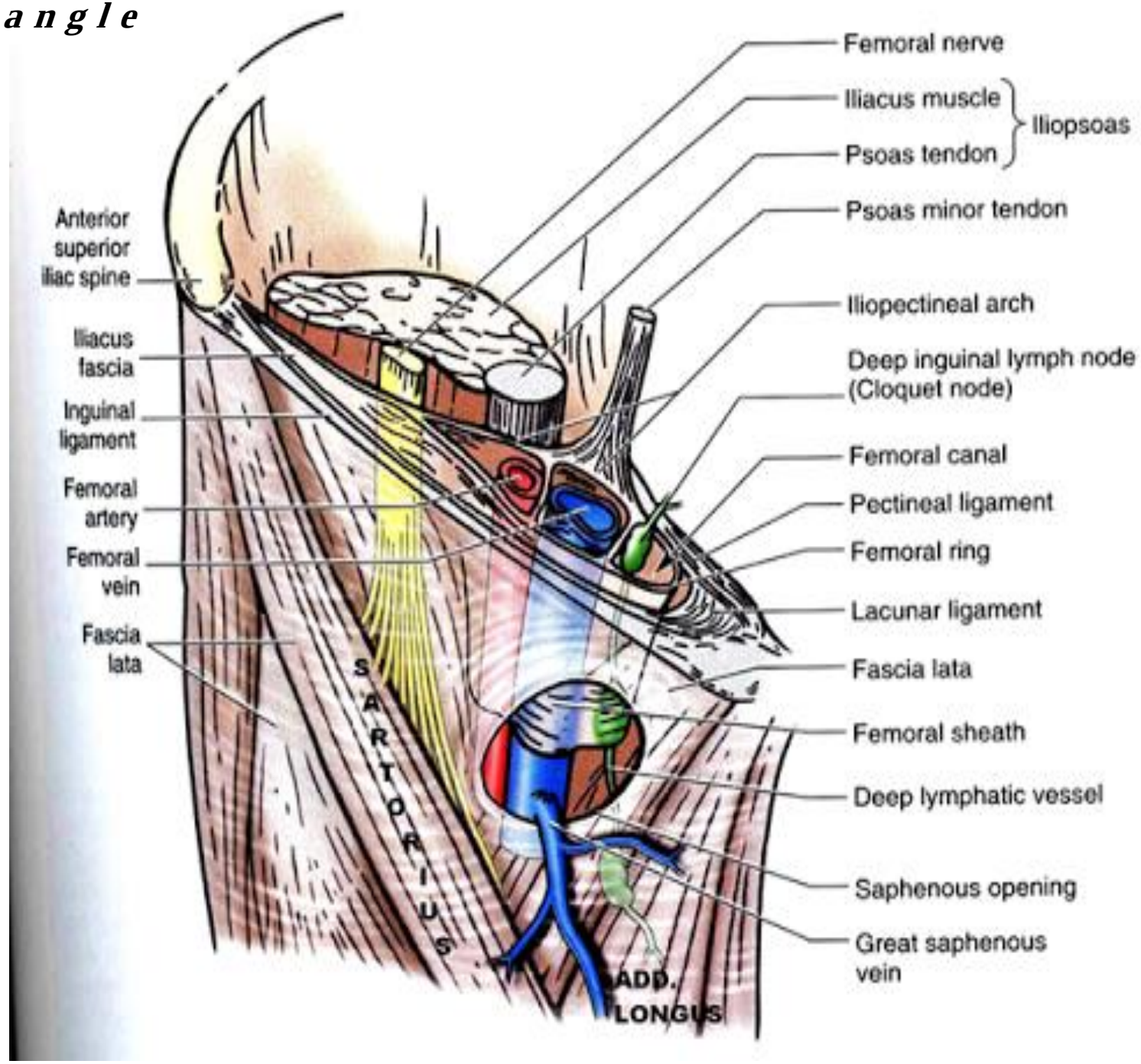
3- The femoral artery and its branches.

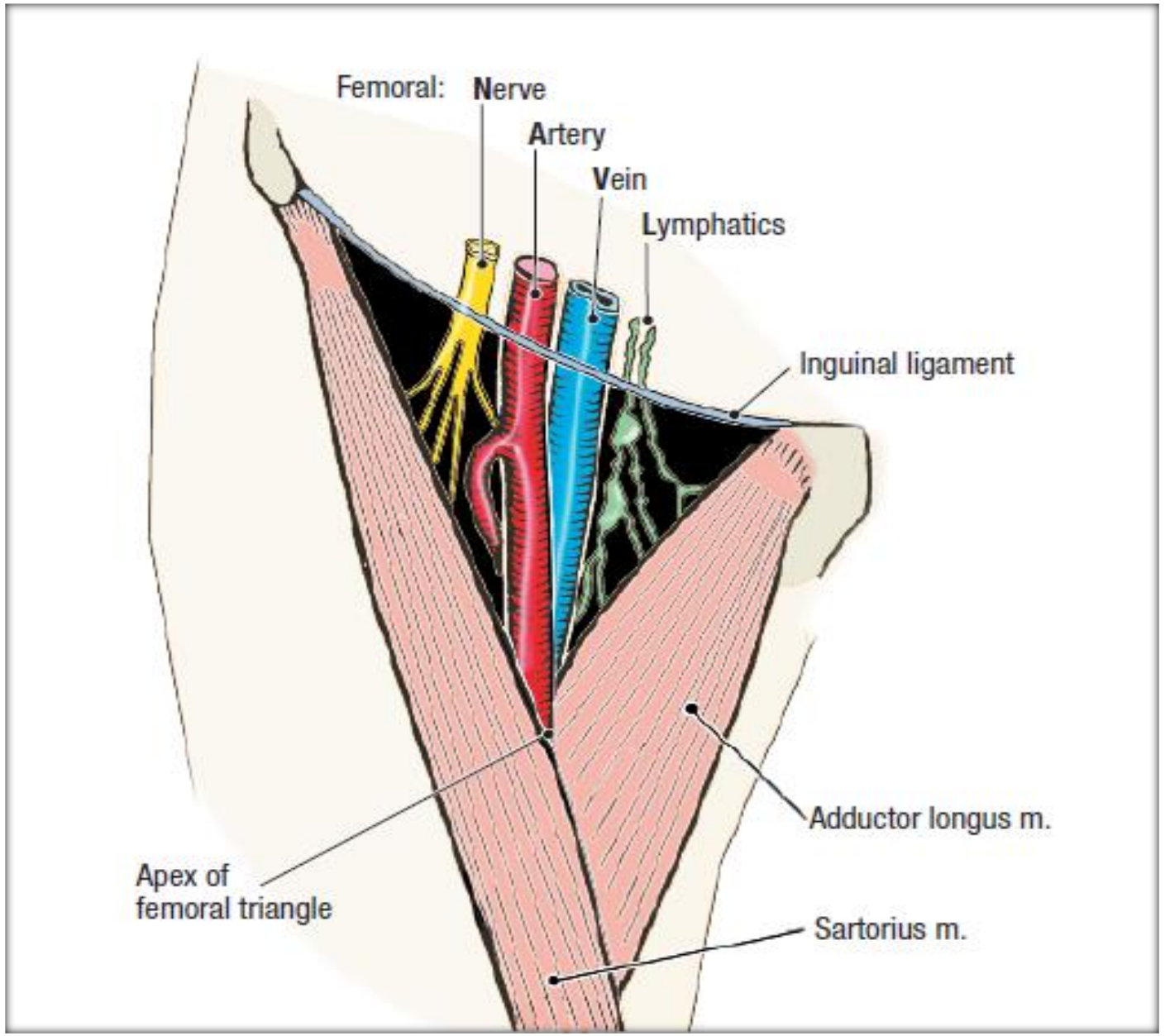
4- The femoral vein and its tributaries.

5- Deep inguinal lymph nodes

6- femoral branch of genitofemoral nerve

7- lateral cutaneous nerve of the thigh




Femoral: Nerve
Artery
Vein
Lymphatics
Inguinal ligament
Adductor longus m.
Apex of
femoral triangle
Sartorius m.

The femoral sheath

It is a funnel-shaped sleeve of fascia

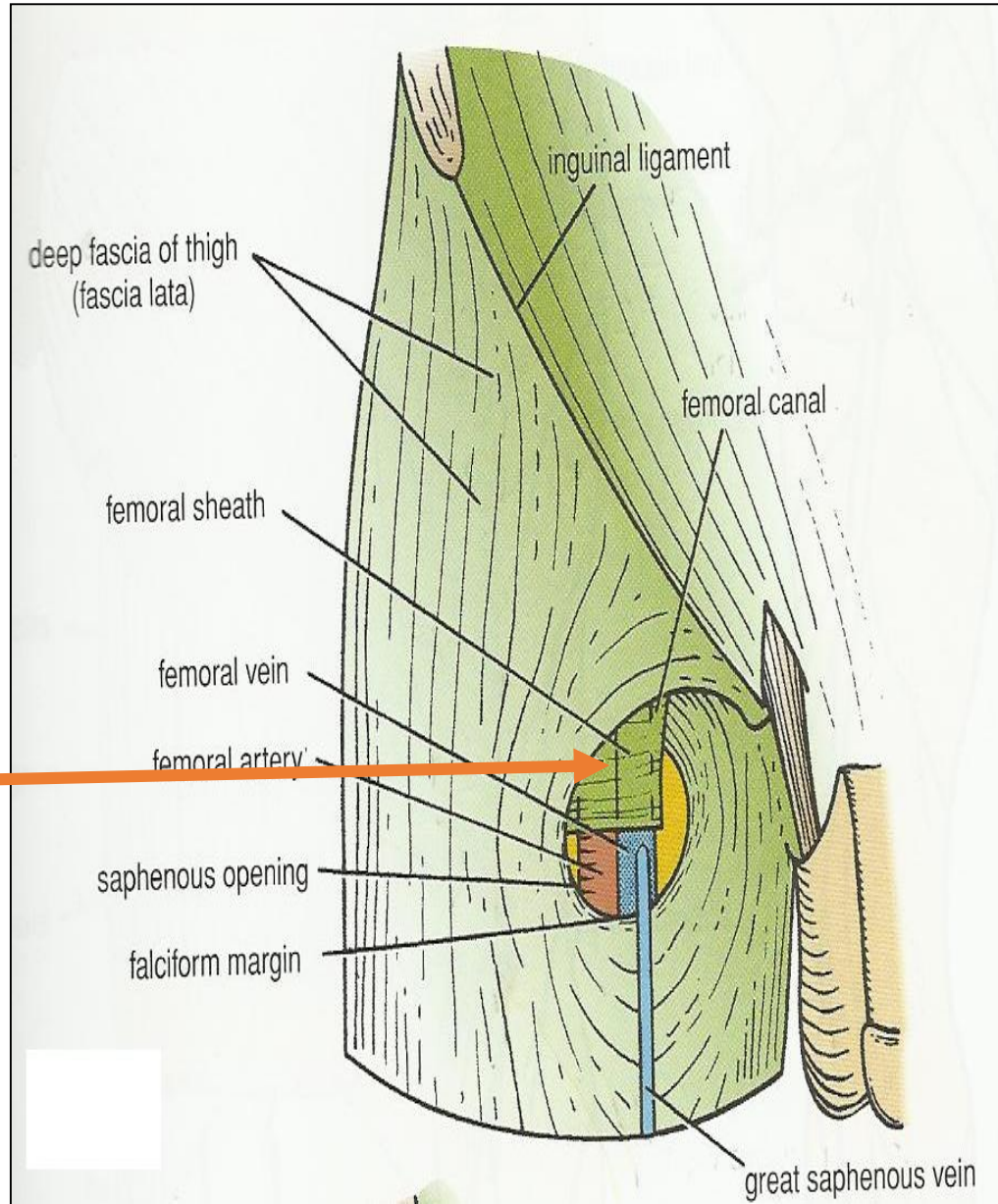
surrounded the

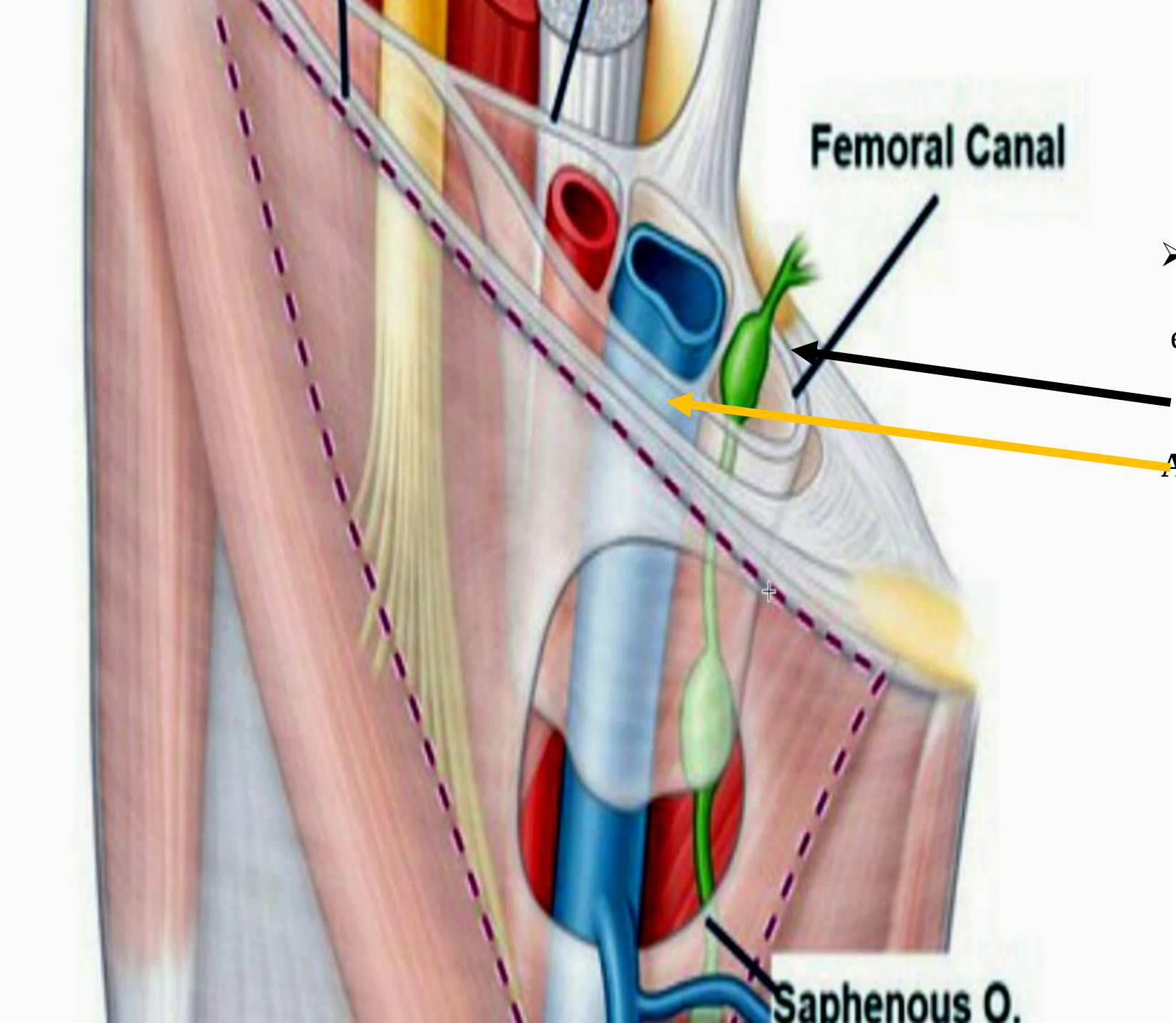
femoral artery

vein and the associated lymphatic vessels

in the *femoral triangle* for 2.5 cm below

the inguinal ligament.

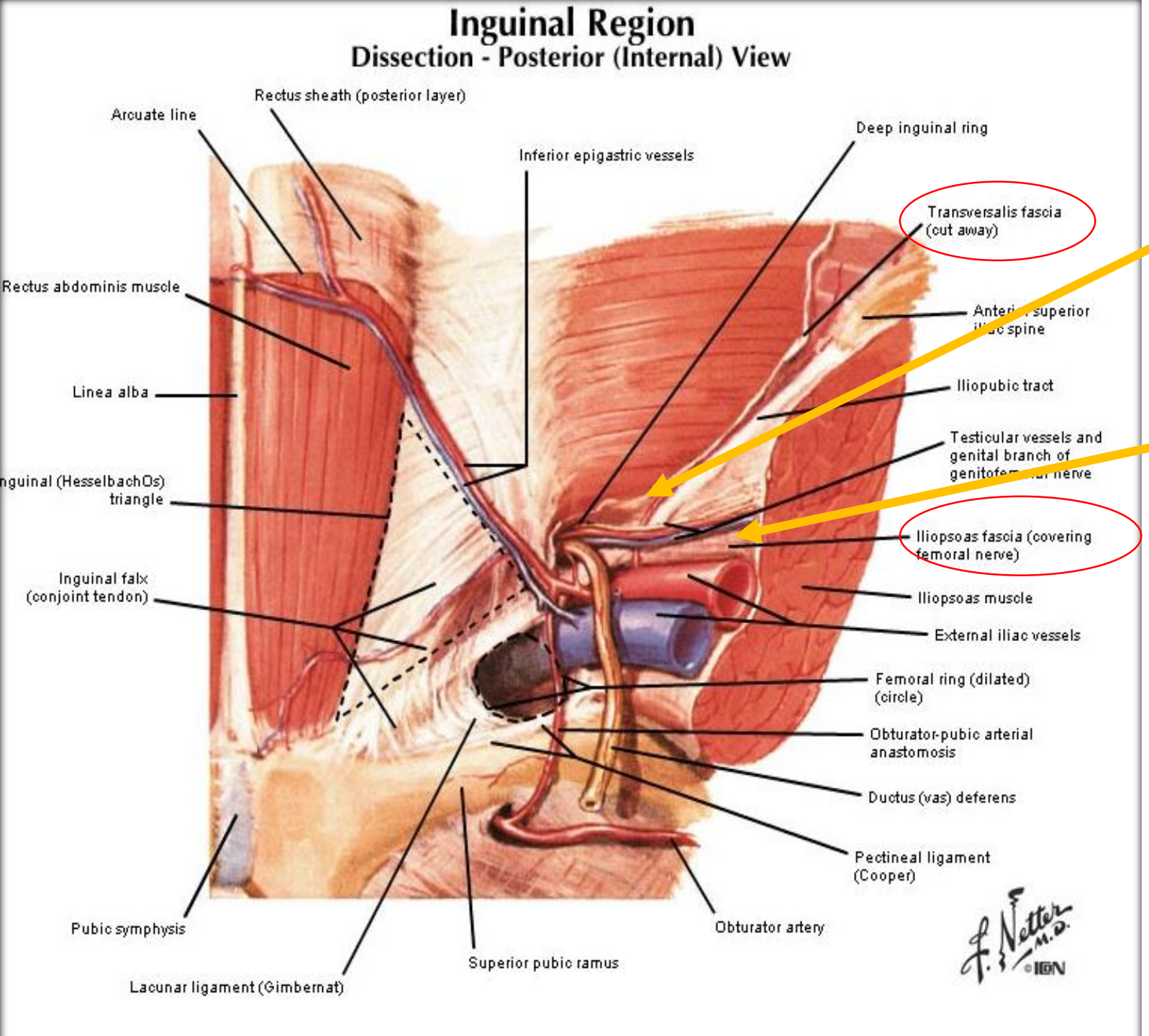




- The femoral sheath is formed by a downwards extension of the ***abdominal fascia.***

Posterior wall: ***fascia iliaca***

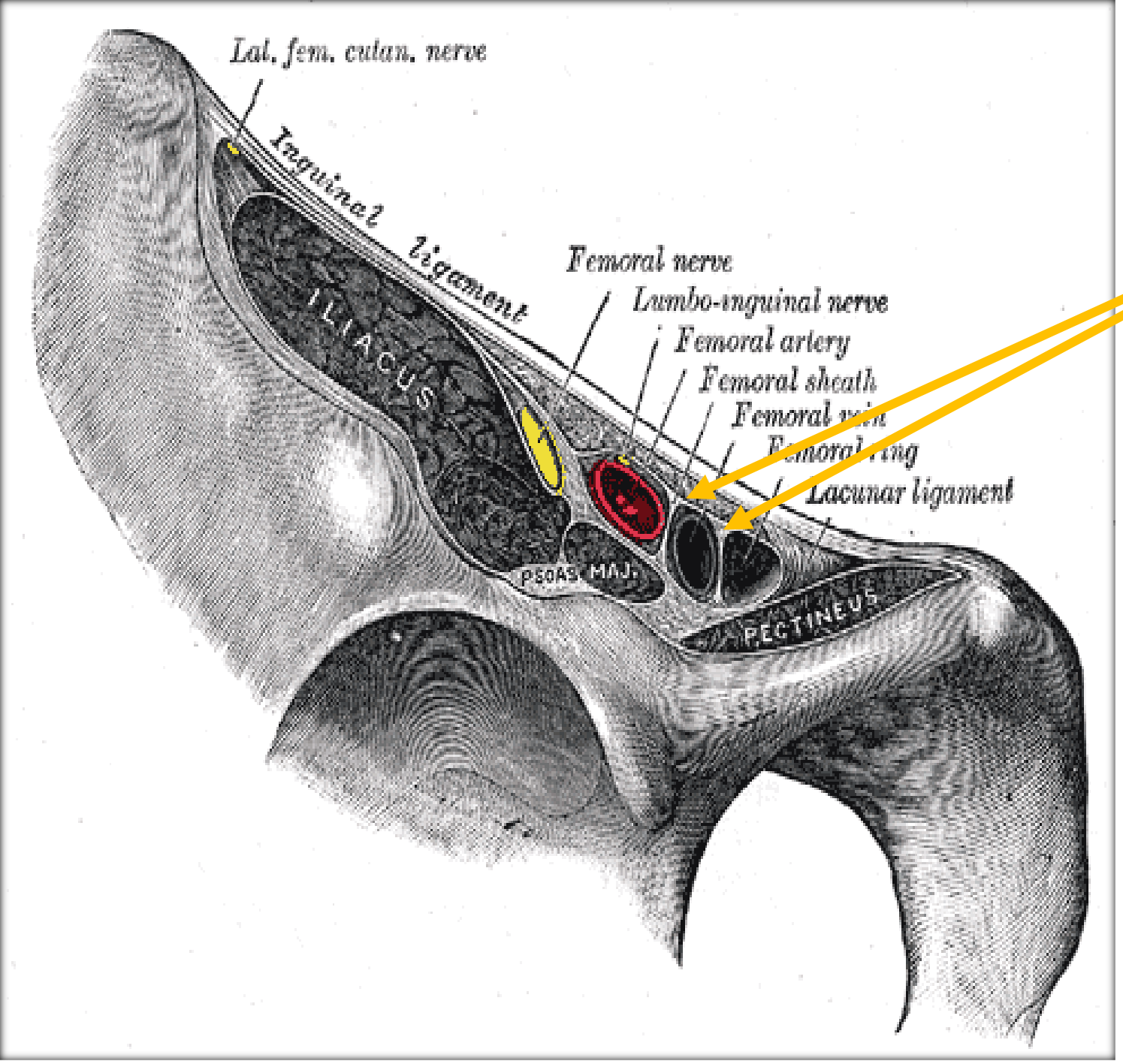
Anterior wall: ***fascia transversalis***



Anterior wall: *fascia transversalis*

Posterior wall: *fascia iliaca*

You are looking at the posterior wall
Of the abdominal wall



➢**Two Anterio-posterior septa** divide the sheath into **3 compartments:**

1-Lateral compartment **(<u>arterial</u>)**

occupied by the ***femoral artery and <u>femoral branch of the genitofemoral nerve</u>***

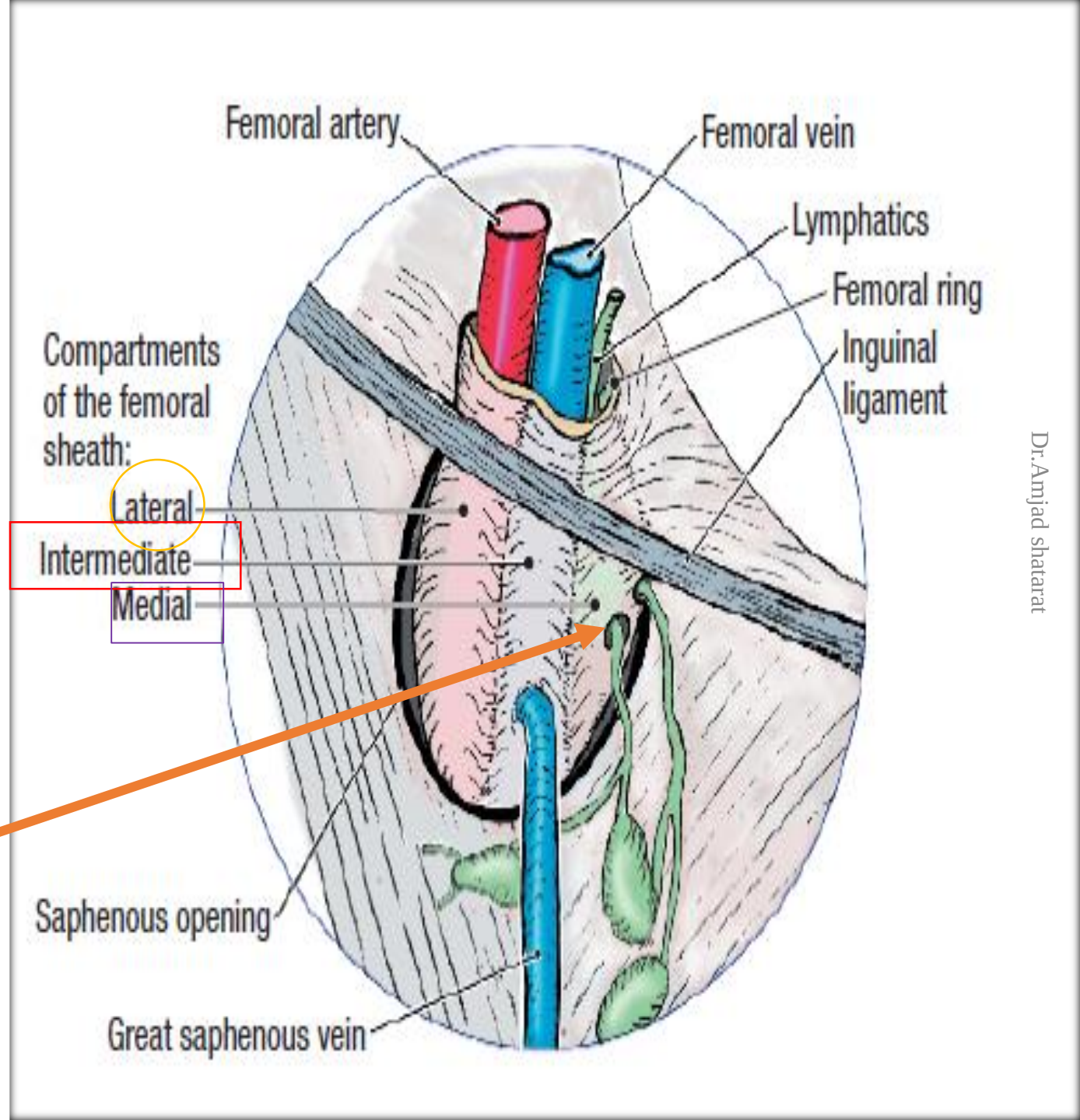
2-Intermediate compartment (<u>venous</u>)

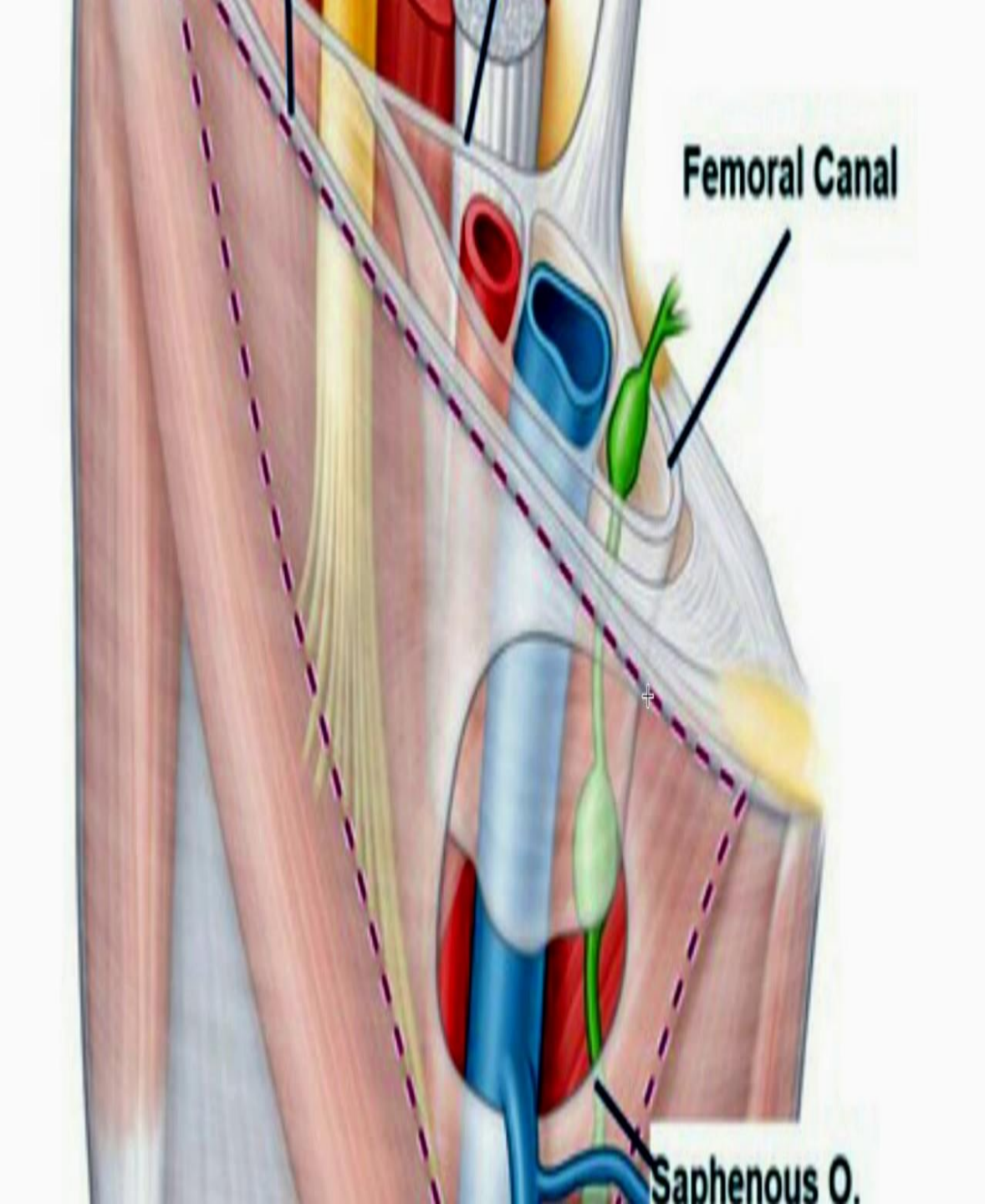
occupied by the ***femoral vein***

3-Medial compartment (<u>lymphatic</u>)
occupied by the ***lymph vessels***

(also Called

<u>f e m o r a l c a n a l</u>





Femoral canal

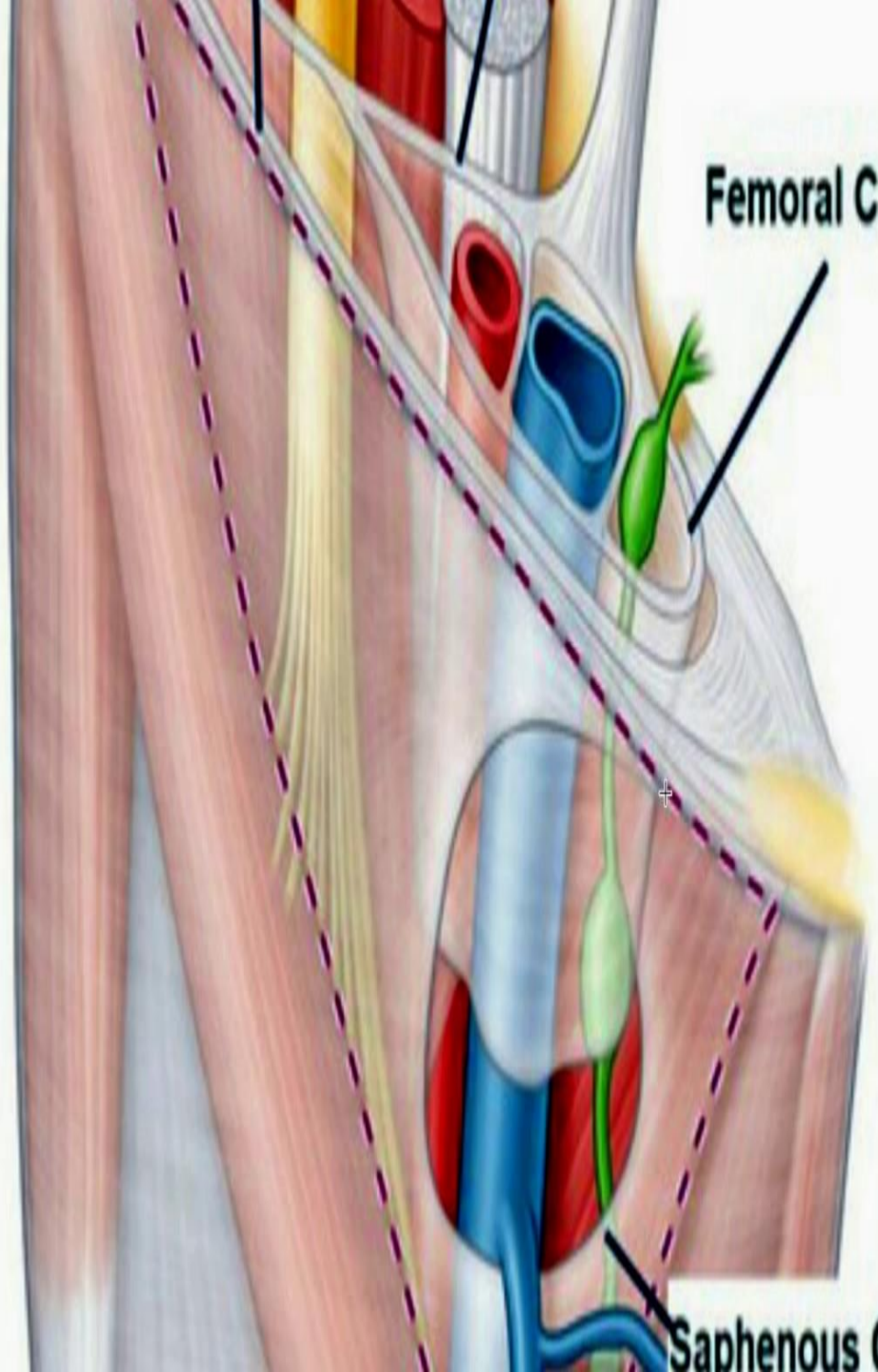
- Is the small **medial compartment for the lymph** vessels **1.3 cm** In length. just admits the tip of the little finger.

- **Its upper opening is called the <u>femoral ring</u>**

- **The femoral septum (is a condensation of extraperitoneal tissue), closes the ring**

Note: the femoral ring is wider in femals because of their wider pelvis and therefore, femoral hernia is commoner in femals than in males

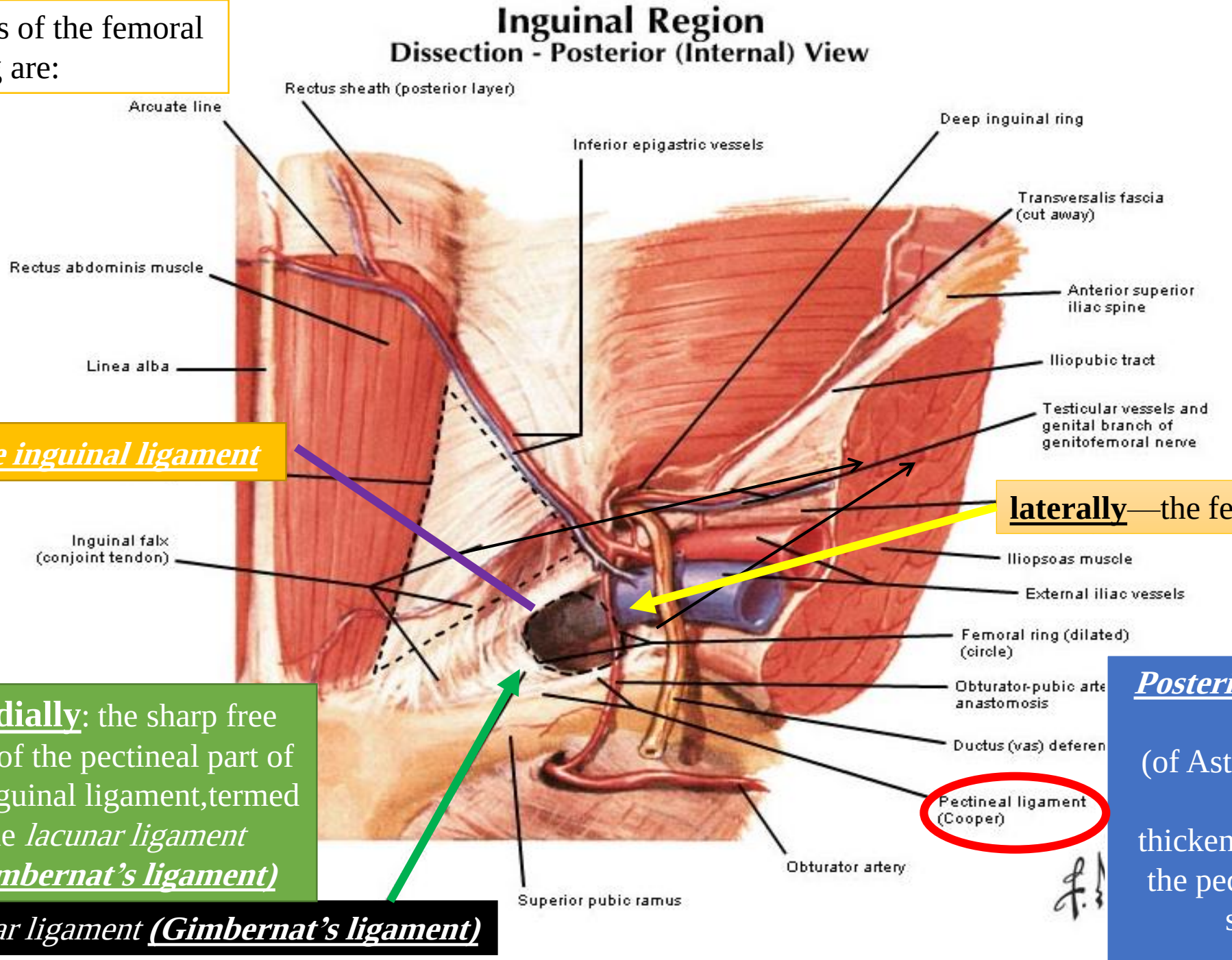
- The lower end of the canal is normally **closed** **by the adherence of its medial wall to the tunica adventitia of the femoral vein.**



The canal contains:
1-a plug of fat
2-a constant lymph node—the *node of the femoral canal or Cloquet's gland.*
3-all the efferent lymph vessels from the deep inguinal lymph nodes

The canal has two ***functions:*** first, as a dead space for expansion of the distended femoral vein and, second, as a lymphatic pathway from the lower limb to the external iliac nodes

The boundaries of the femoral ring are:



Anteriorly: ***the inguinal ligament***

laterally—the femoral vein

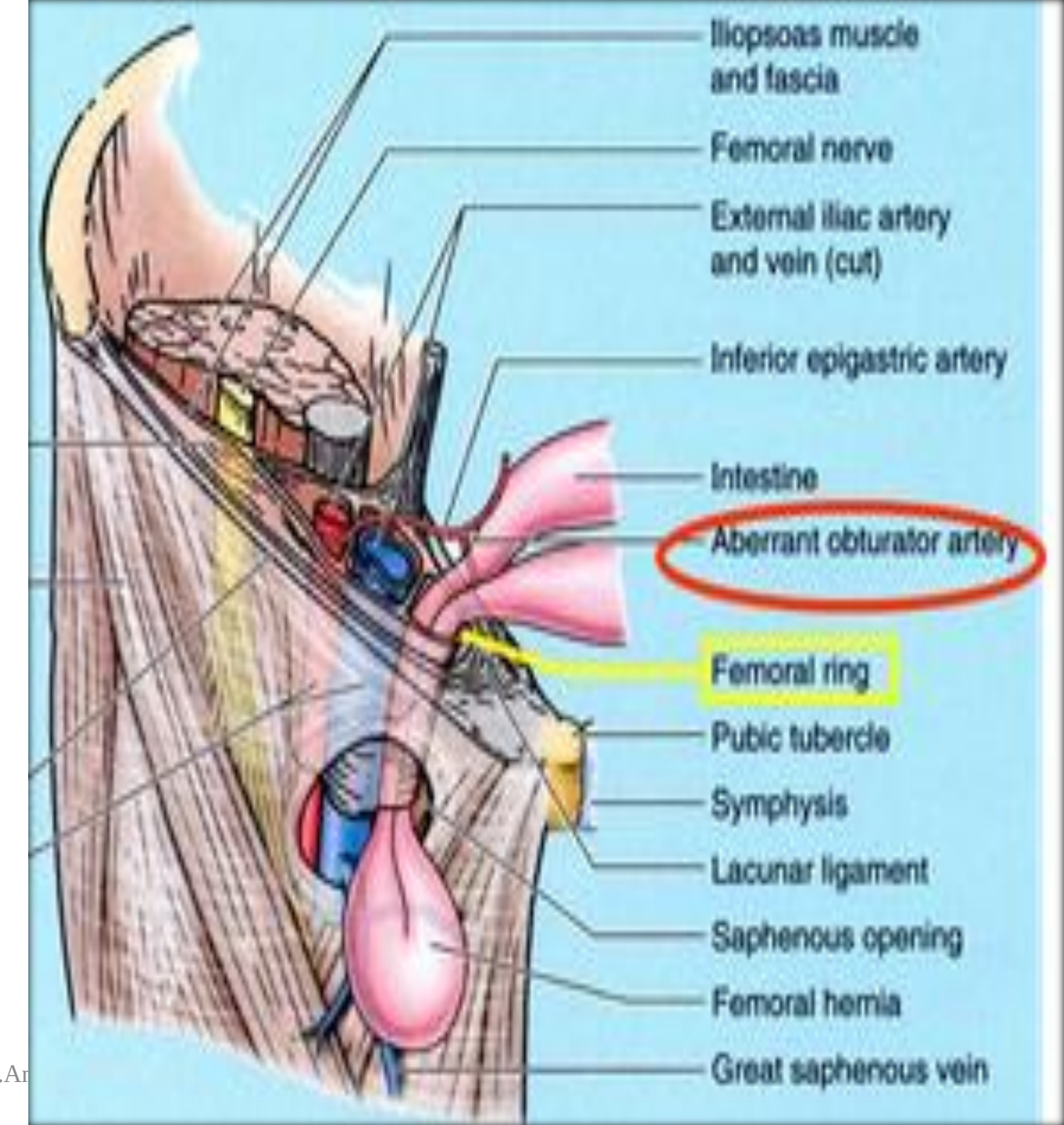
Medially: the sharp free edge of the pectineal part of the inguinal ligament,termed the *lacunar ligament* ***(Gimbernat's ligament)***

Posteriorly — the pectineal ligament (of Astley Cooper) which is the thickened periosteum along the pectineal border of the superior pubic ramus

lacunar ligament ***(Gimbernat's ligament)***

➢ **The part of the femoral sheath that forms the femoral canal *<u>is not adherent to the walls of the small lymph vessels</u>*; it is this site that forms a potentially weak area in the abdomen.**

A protrusion of **peritoneum** could be forced down the femoral canal, pushing the femoral septum. Such a condition is known **<u>as a femoral hernia.</u>**

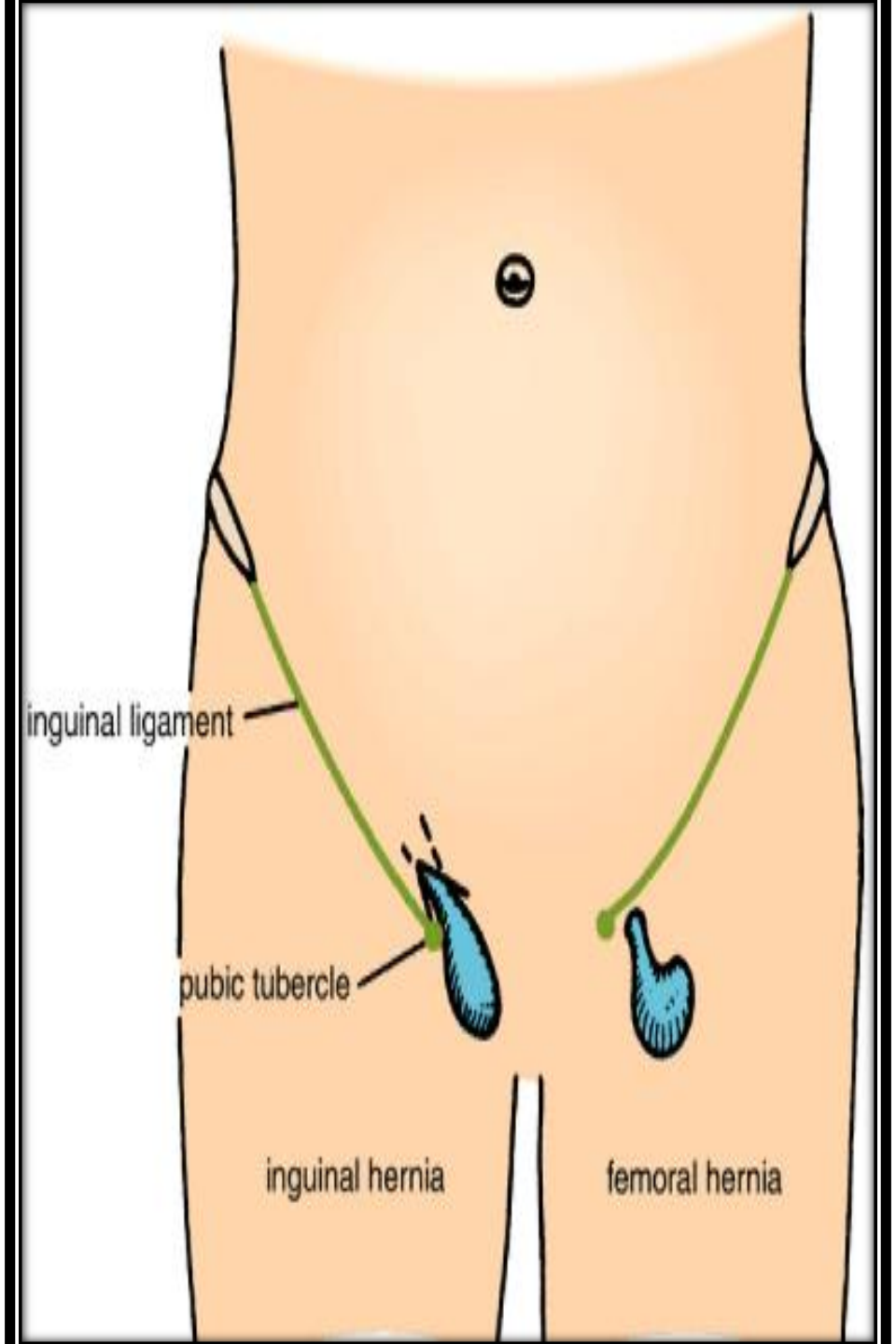


Femoral hernia

A protrusion of abdominal parietal
peritoneum down
through the
femoral canal to form hernial sac

In femoral hernia

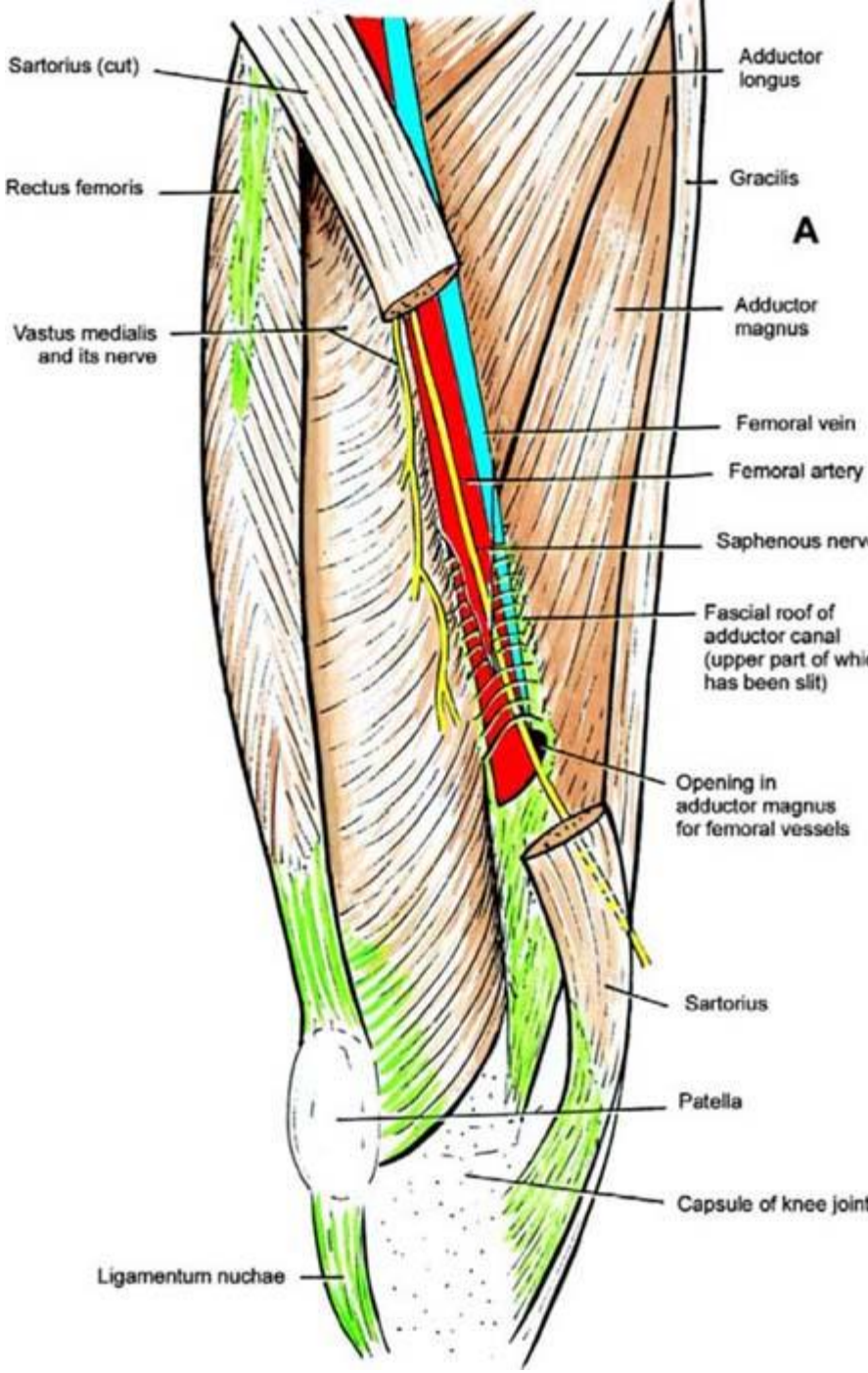
The neck of the hernial sac is located
below and lateral
to the ***pubic tubercle***



Adductor canal (Subsartorial) or Hunter's canal

- **is an intermuscular cleft situated on *the medial aspect of the middle third of the thigh beneath the sartorius muscle***

- **It commences above at the apex of the femoral triangle and ends below at the opening in the adductor magnus.**

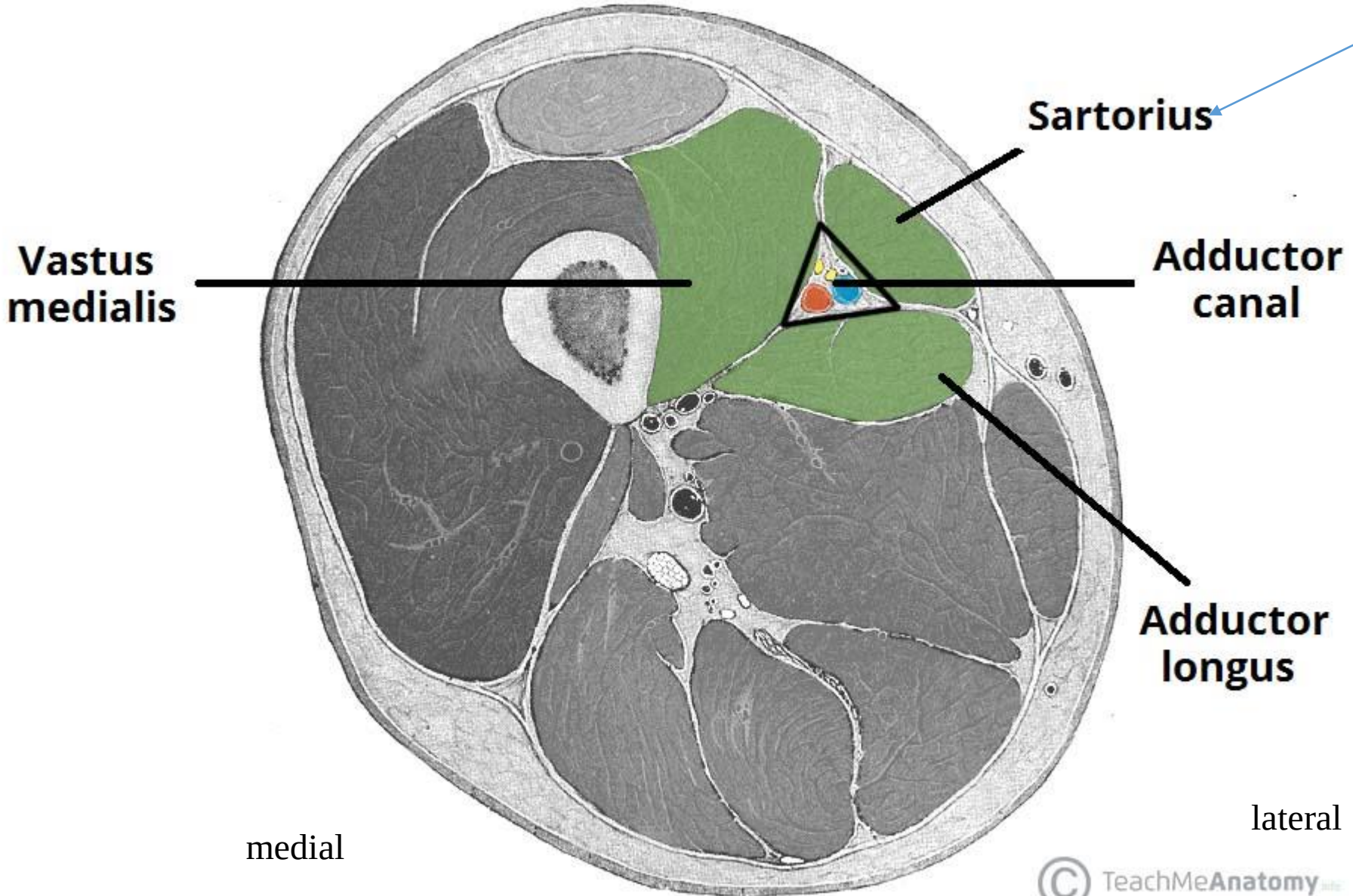


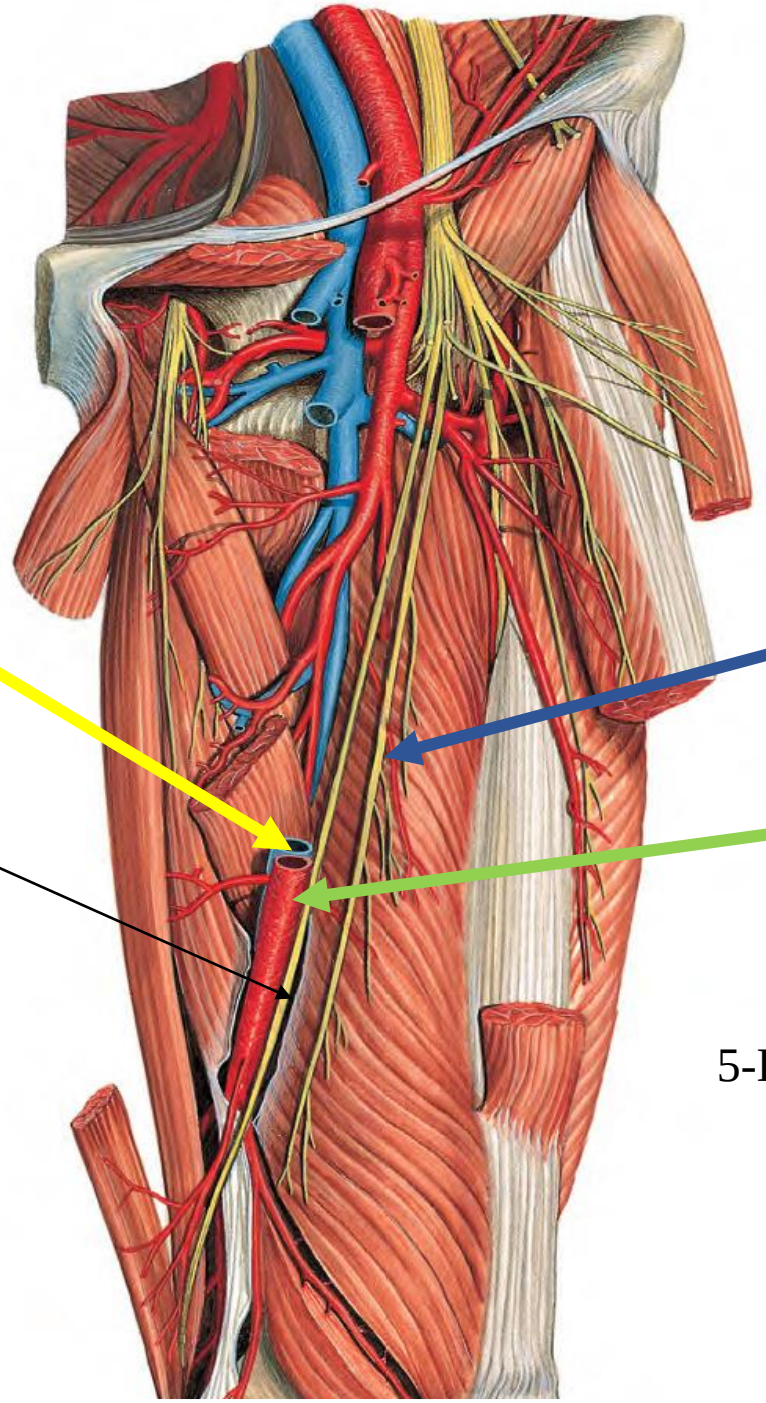
In cross section it is triangular, having

Borders

The adductor canal is bordered by muscular structures:

- **Anteromedial:** Sartorius.
- **Lateral**: Vastus medialis.
- **Posterior**: Adductor longus and adductor magnus.





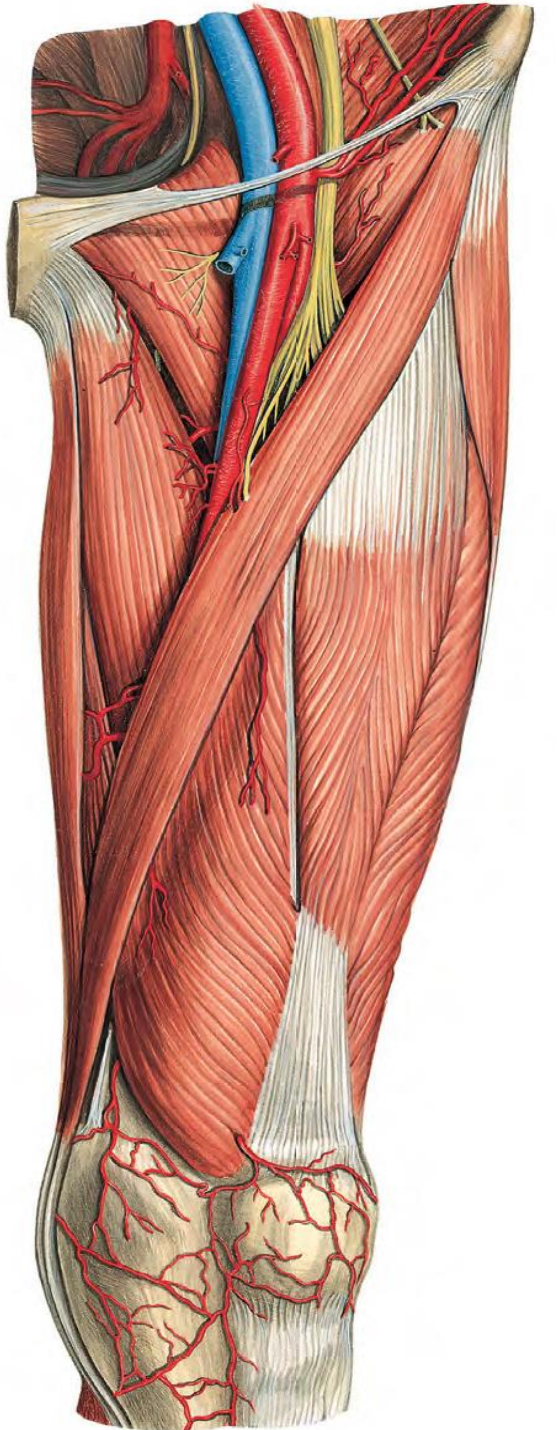
2-The femoral vein

3-The saphenous nerve

4-Nerve to vastus medialis

1-The terminal part of the femoral artery

5-Deep lymphatic vessels



The Femoral artery

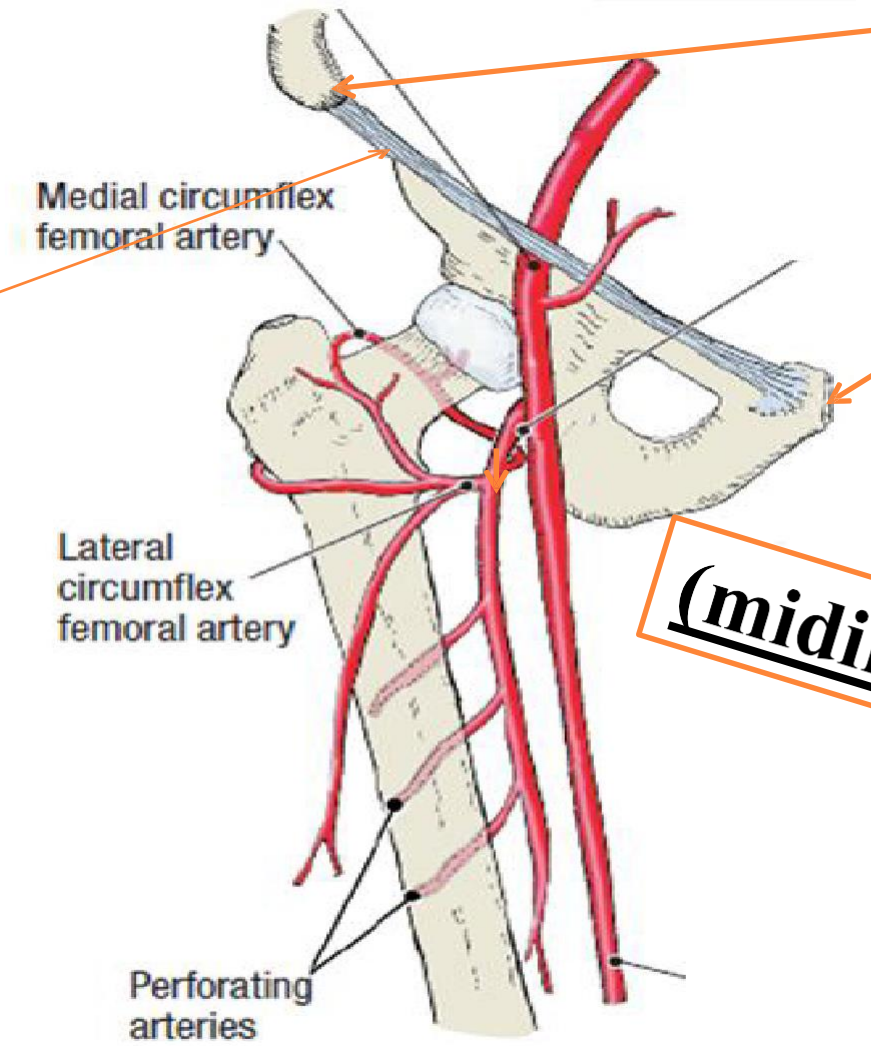
- The femoral artery is a continuation of the external iliac artery

- It begins behind the inguinal ligament, midway between the anterior superior iliac spine and the pubic symphysis

- descends along the anteromedial part of the thigh in the femoral triangle
- passes through the adductor (subsartorial) canal
- becomes the popliteal artery as it passes through an opening in adductor magnus

1- It enters the thigh from behind the inguinal ligament as a continuation of *the external iliac artery.*

2-It lies midway between the anterior superior iliac spine and *the symphysis pubis*



Anterior views

(midinguinal point)

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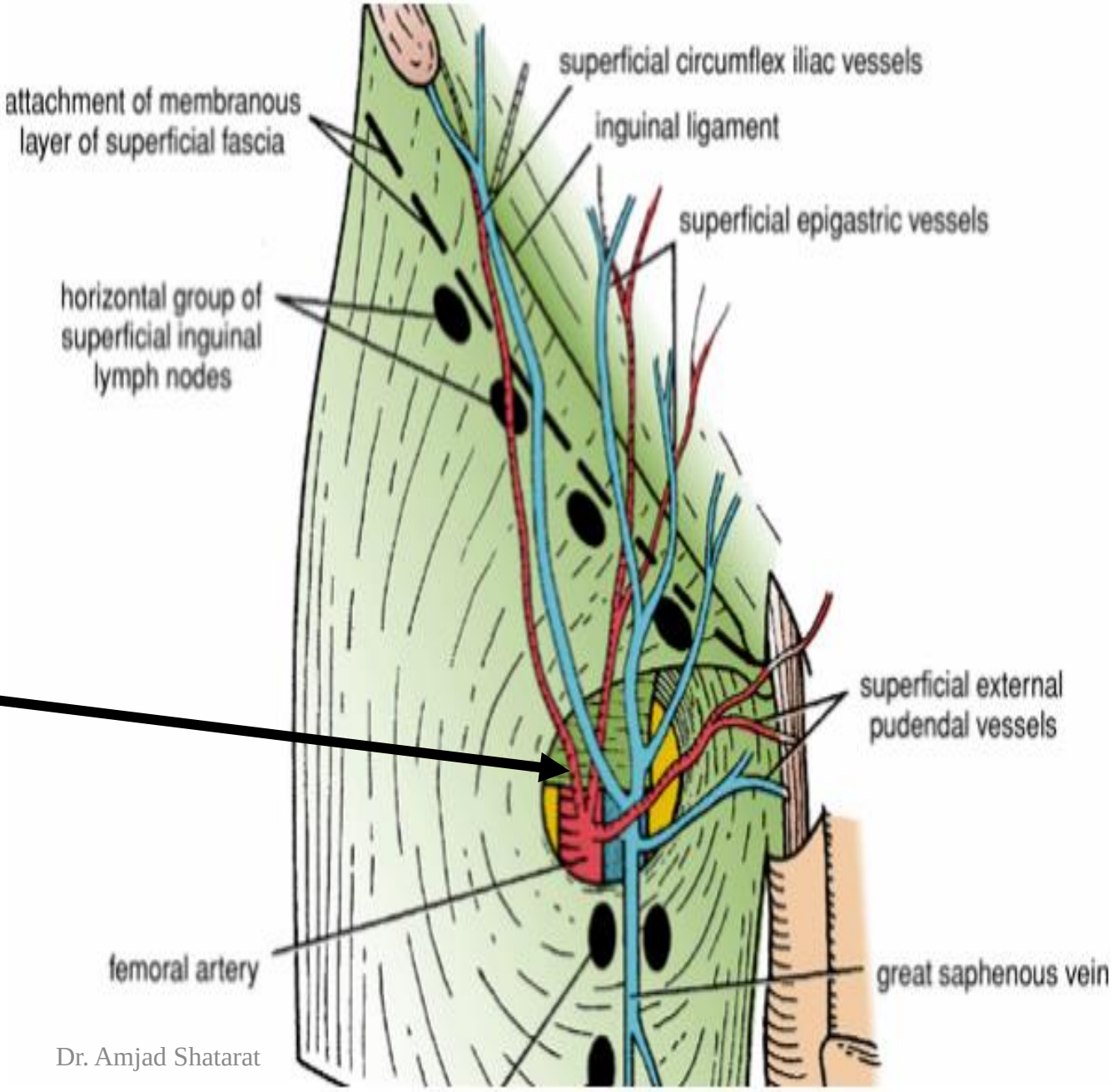
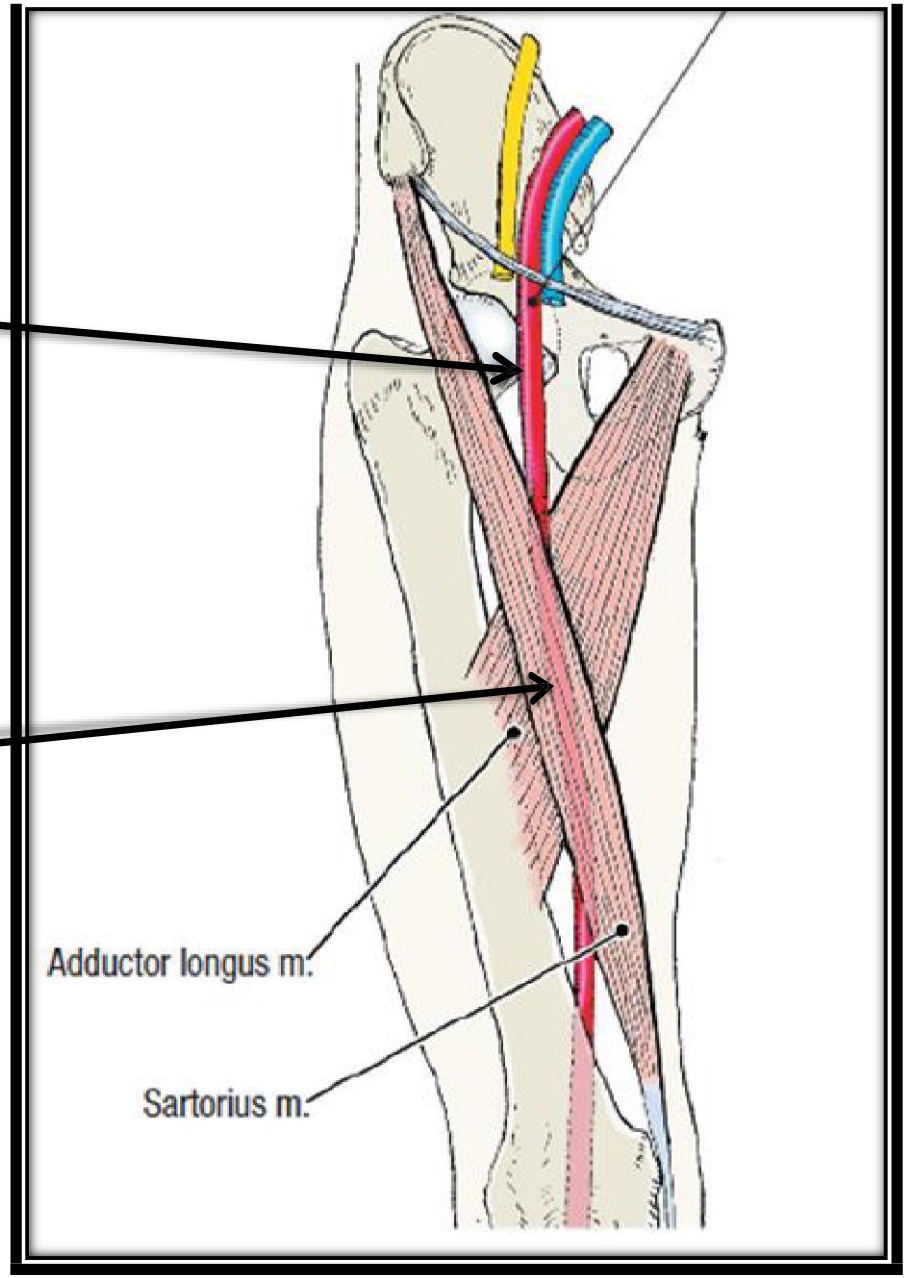
- Its first three or four centimetres are enclosed, in the femoral sheath.

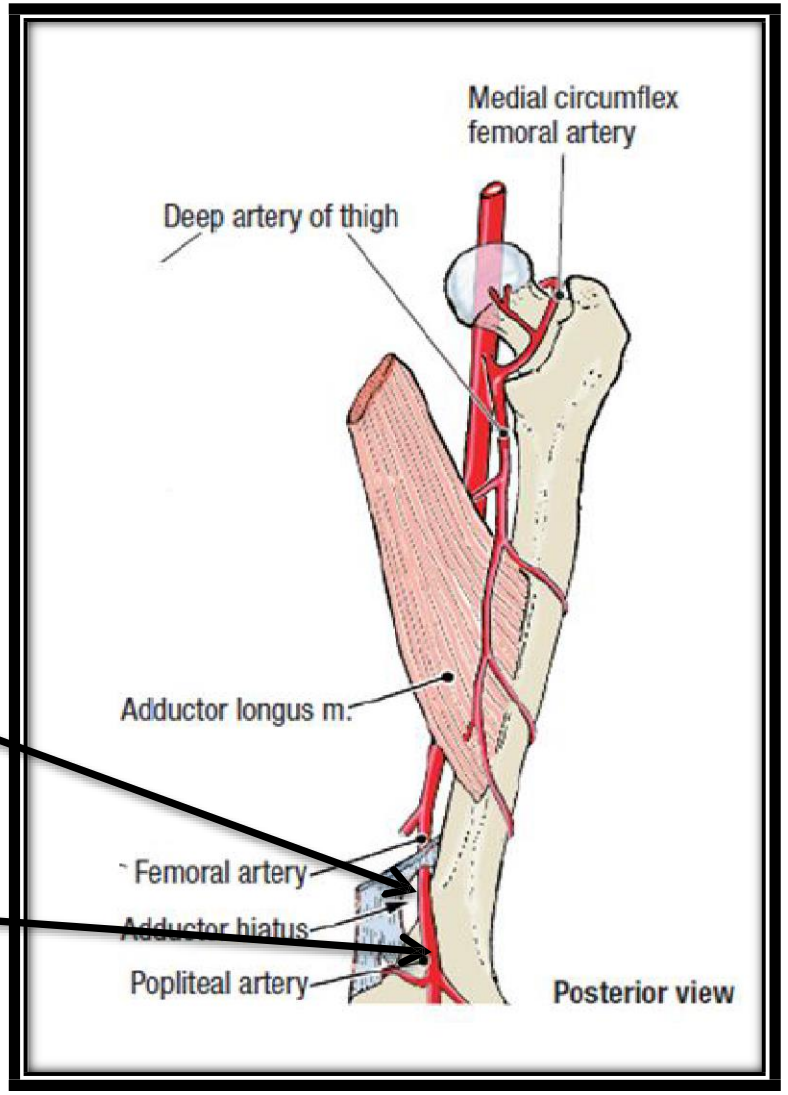


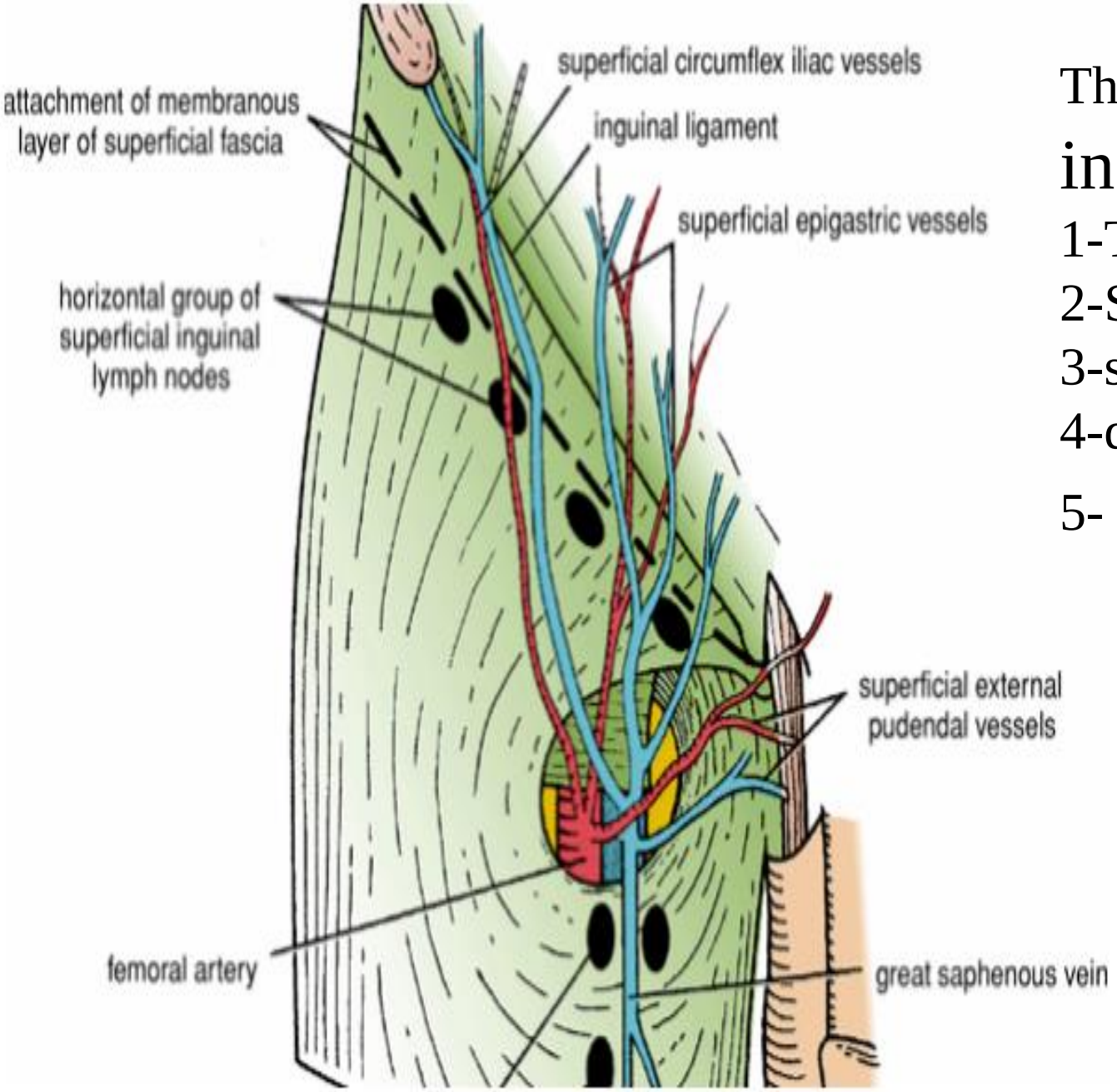
3-As the femoral artery descends downwards, its upper half lies ***superficial in the femoral triangle***

while in the lower half it lies ***deep in the subsartorial (adductor) canal***



4- The femoral artery then descends almost vertically toward the adductor tubercle of the femur and ends at the opening (Adductor hiatus) in the adductor magnus muscle by entering the popliteal space as THE POPLITEAL ARTERY





The femoral artery gives off several branches in the proximal thigh, including

1-The superficial epigastric
2-Superficial circumflex iliac
3-superficial external pudendal
4-deep external pudendal
5- **profunda femoris arteries**

The profunda femoris artery (*Deep artery of thigh)*

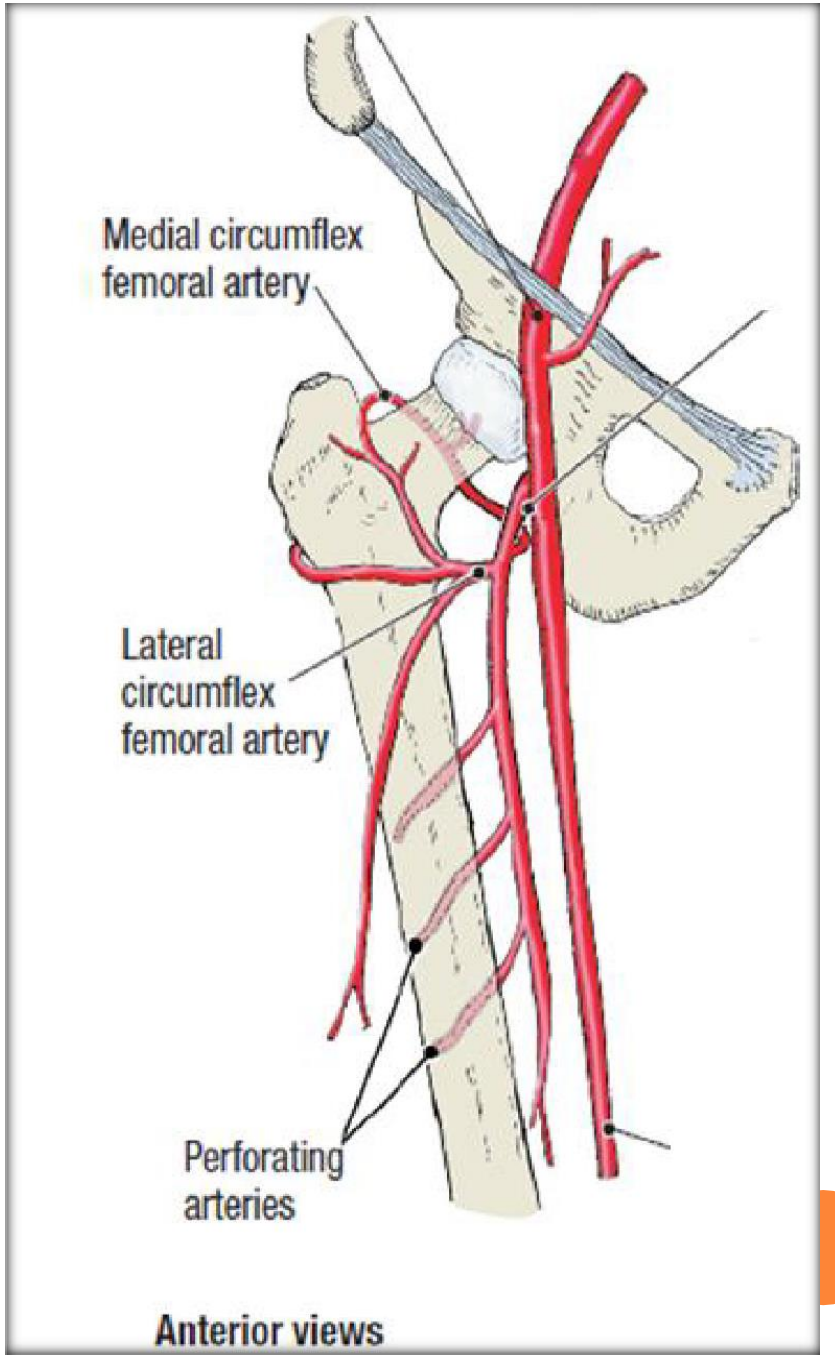
arises from the lateral side of the femoral artery about
(4 cm) below the inguinal ligament

it gives off:

A) lateral femoral circumflex artery

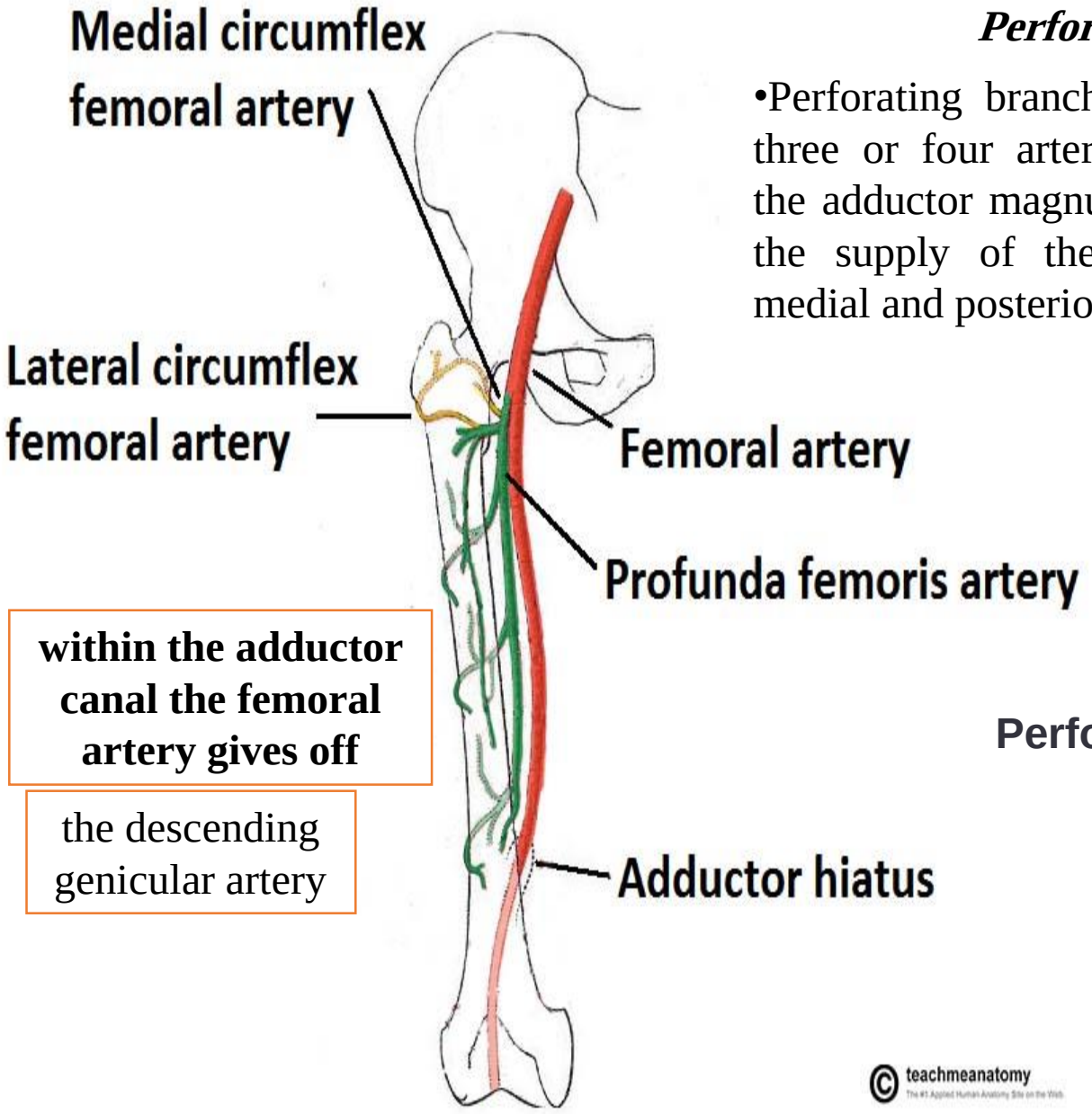
B) The medial femoral circumflex artery

C) Perforating arteries



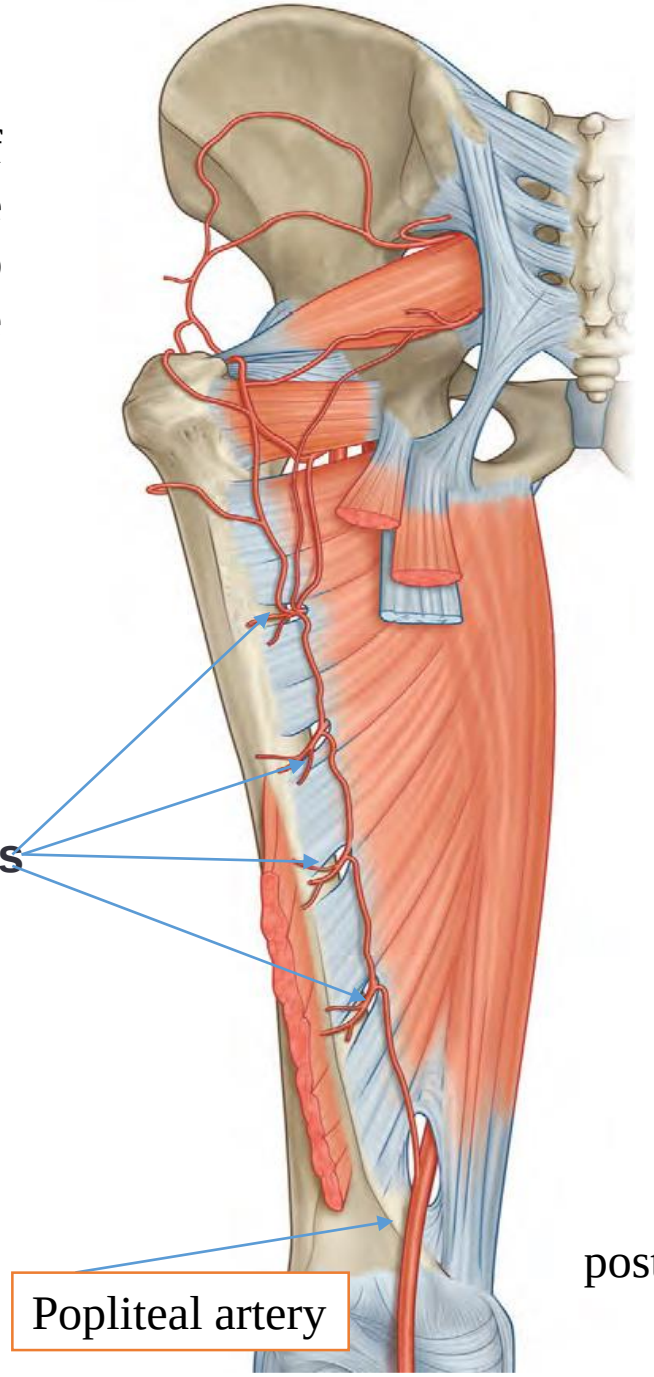
Perforating arteries

•Perforating branches – Consists of three or four arteries that perforate the adductor magnus, contributing to the supply of the muscles in the medial and posterior thigh.



within the adductor canal the femoral artery gives off

the descending genicular artery



The femoral artery

In the femoral triangle, its pulse is easily felt just inferior to the inguinal ligament midway between the pubic symphysis and the anterior superior iliac spine.

Femoral pulse