MEDIAL COMPARTMENT OF THIGH

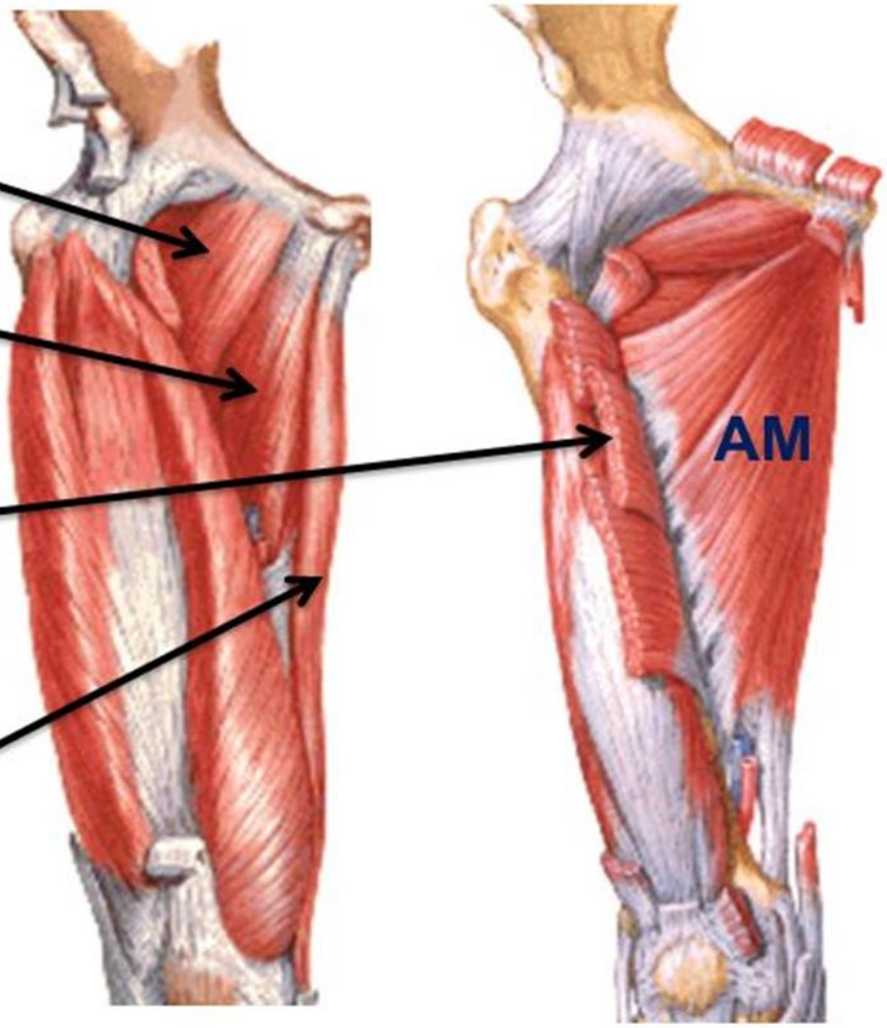
DR NAJMA ATTAULLAH
LECTURER ANATOMY KGMC

Contents of the Medial Fascial Compartment of the Thigh

- **Muscles:** Gracilis, adductor longus, adductor brevis, adductor magnus
- **Blood vessels:** Profunda femoris artery and vein & obturator artery and vein
- **Nerves :** Obturator nerve

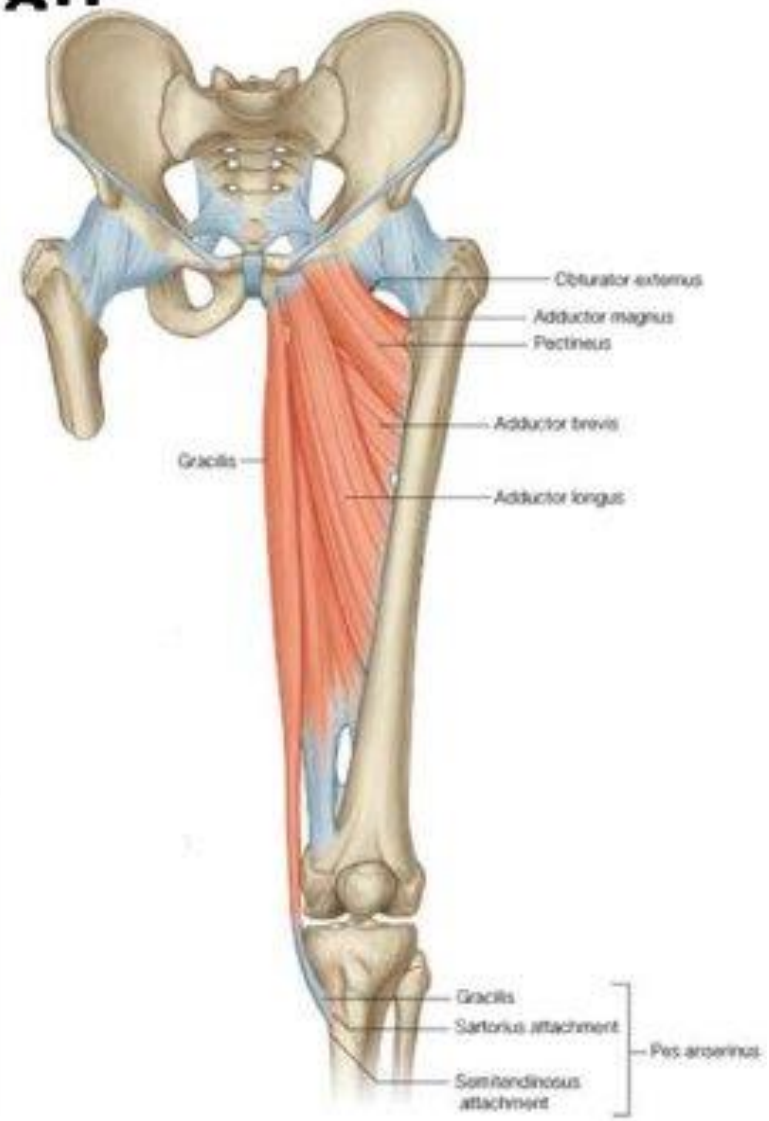
MUSCLES OF MEDIAL COMPARTMENT

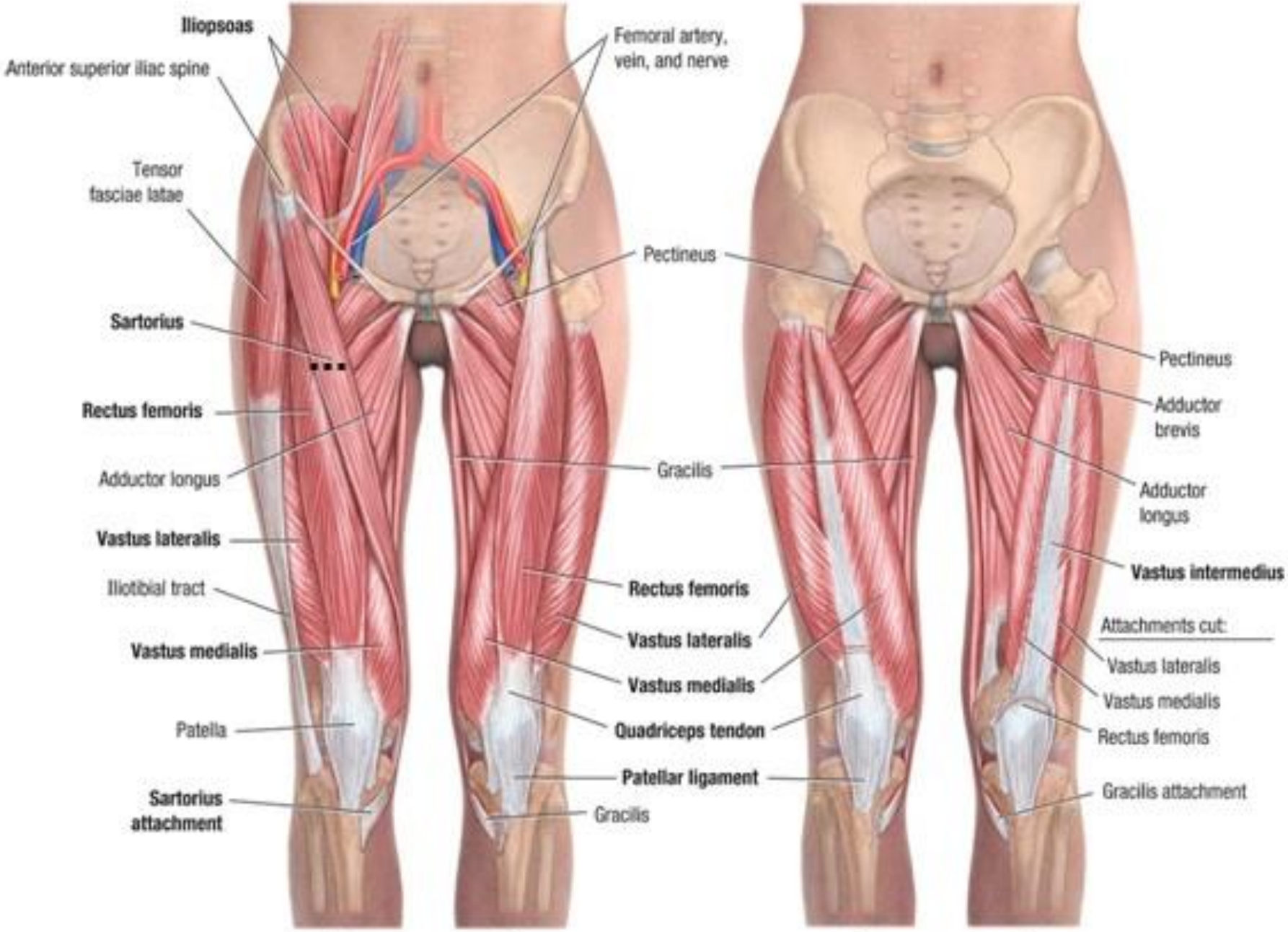
- Pectineus
- Adductor longus
- Adductor brevis
- Adductor magnus
- Gracilis



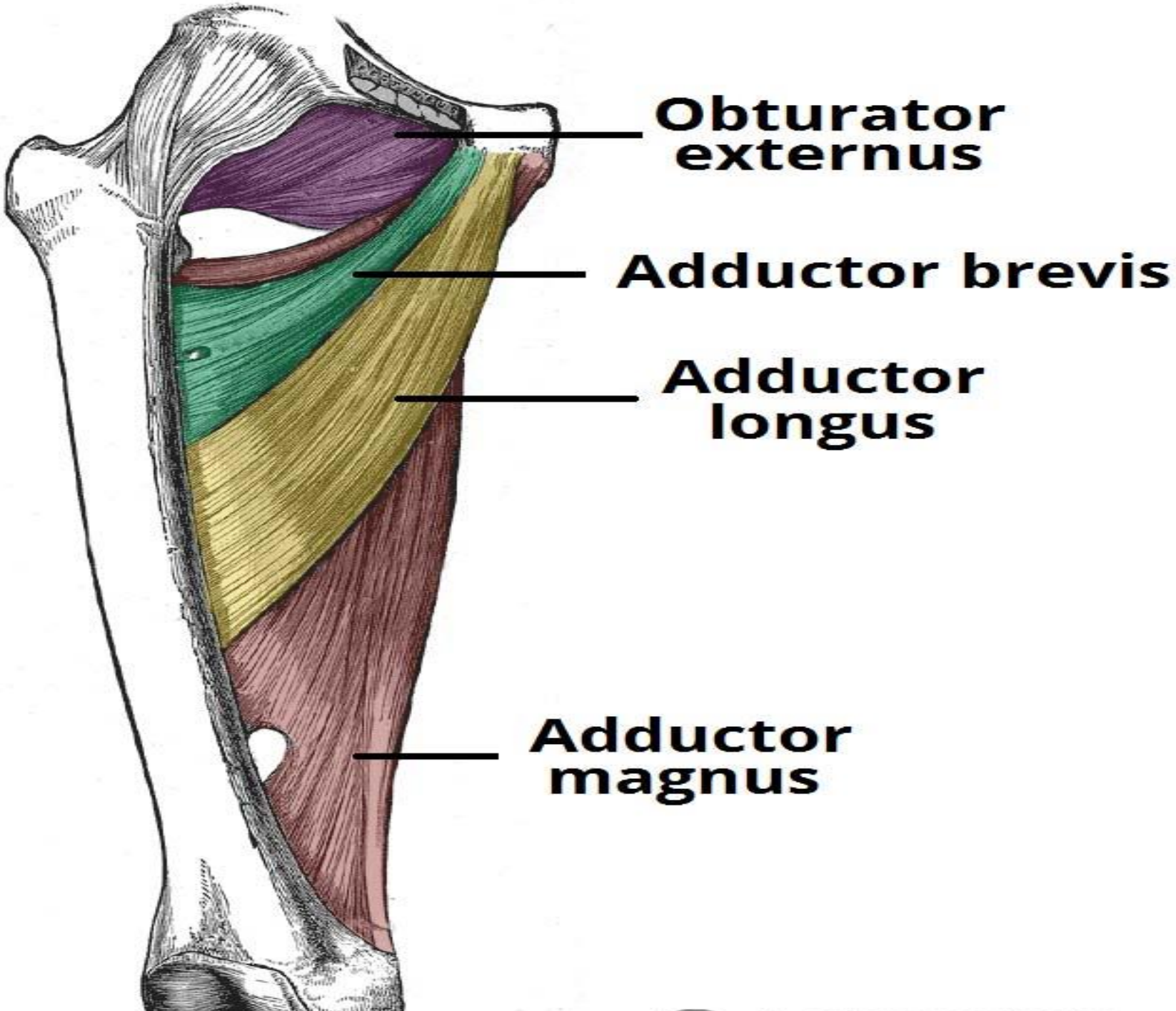
Muscles of the medial compartment of the thigh

1. Gracilis.
2. Adductor longus.
3. Adductor brevis.
4. Pubic part of Adductor magnus





Anterior Views


Obturator externus
Adductor brevis
Adductor longus
Adductor magnus

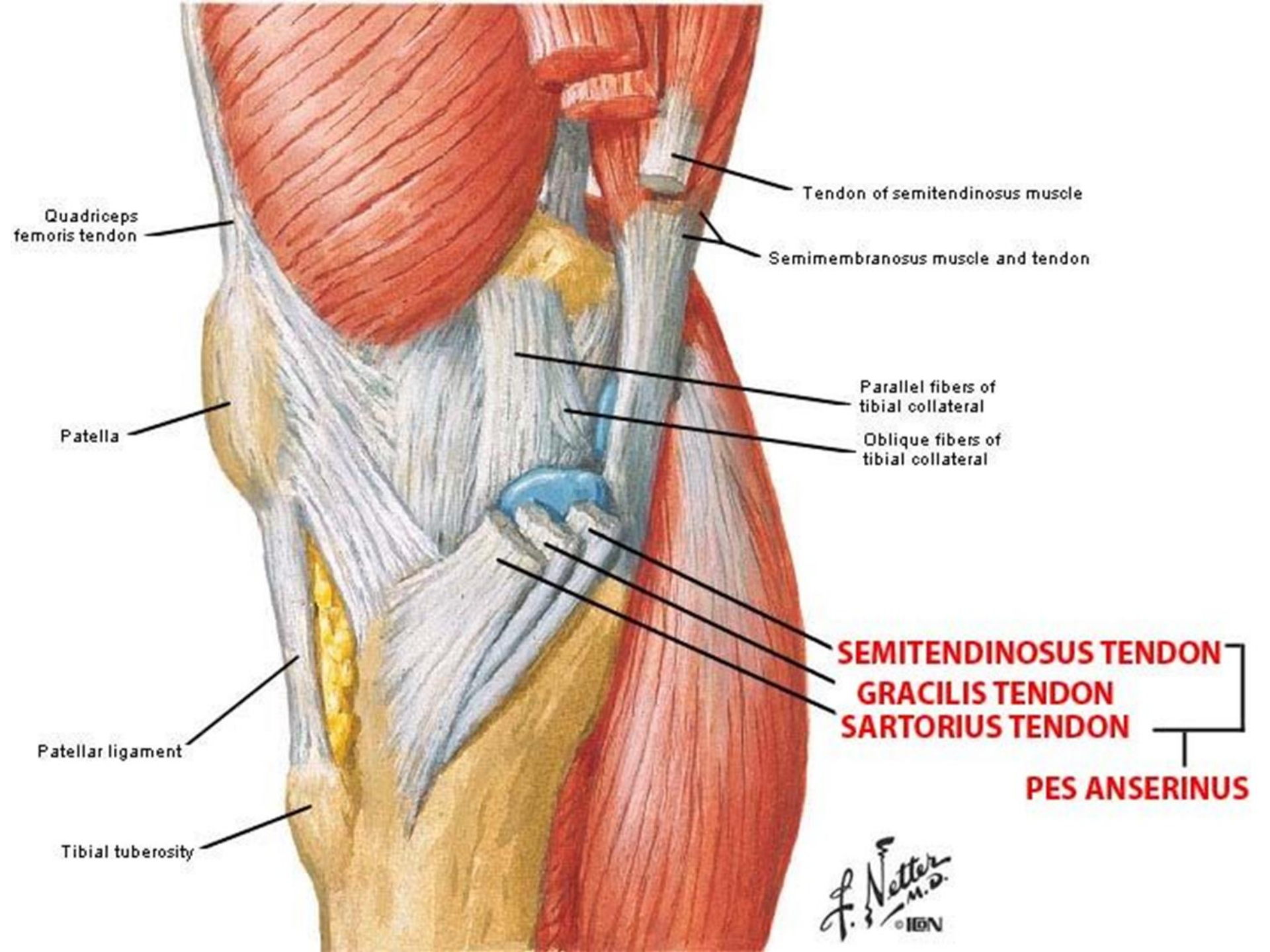
Gracilis

Origin: Inferior pubic ramus and ischial ramus (pubic arch close to its margin).

Insertion: Upper part of the medial surface of the shaft of the tibia.

Nerve Supply: Anterior division of obturator nerve

Action: Adduction of the thigh. Flexion of the leg.


Quadriceps femoris tendon
Patella
Patellar ligament
Tibial tuberosity
Tendon of semitendinosus muscle
Semimembranosus muscle and tendon
Parallel fibers of tibial collateral
Oblique fibers of tibial collateral
SEMITENDINOSUS TENDON
GRACILIS TENDON
SARTORIUS TENDON
PES ANSERINUS
F. Netter M.D.
©IBN

Adductor Longus

Origin:

Body of the pubic bone just below and medial to the pubic tubercle.

Insertion:

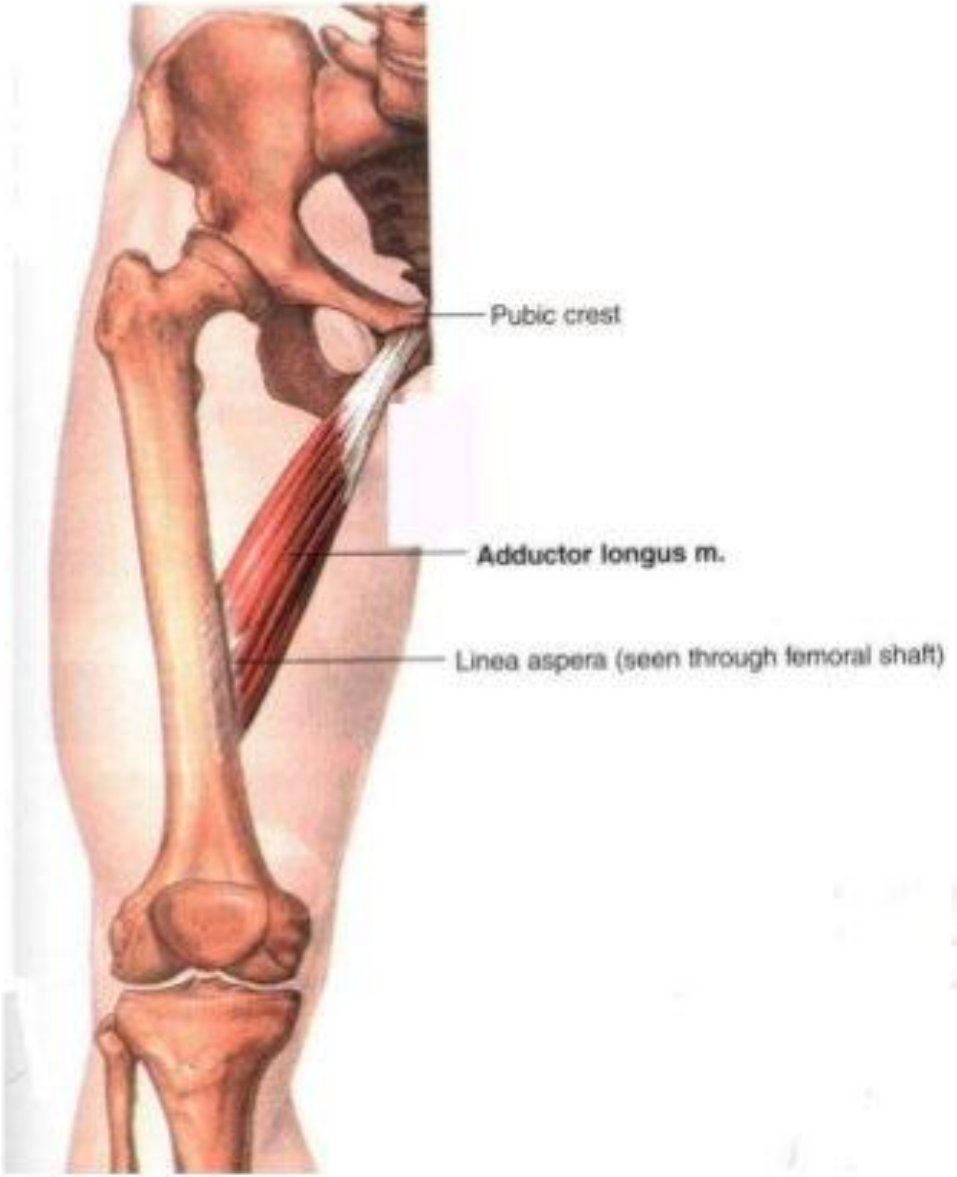
Linea aspera of the femur lateral to the origin of vastus medialis.

Nerve Supply:

Anterior division of the obturator nerve.

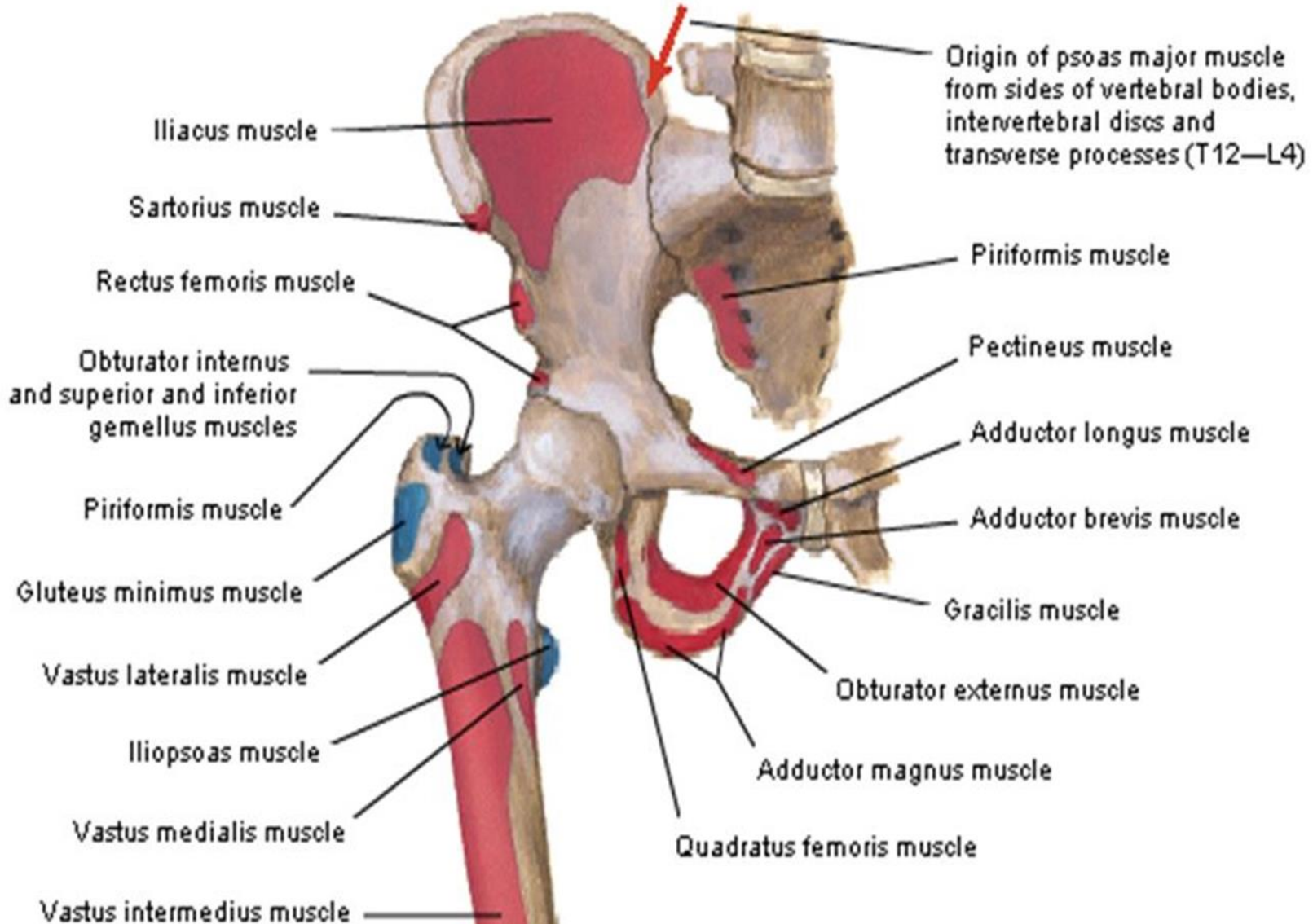
Action:

Adduction of the thigh.
Helps lateral rotation of the thigh.



HIP & THIGH MUSCLES ATTACHMENT

(ANTERIOR VIEW)



Adductor Brevis

Origin:

inferior ramus of the pubic bone.

Insertion:

Linea aspera of the femur.

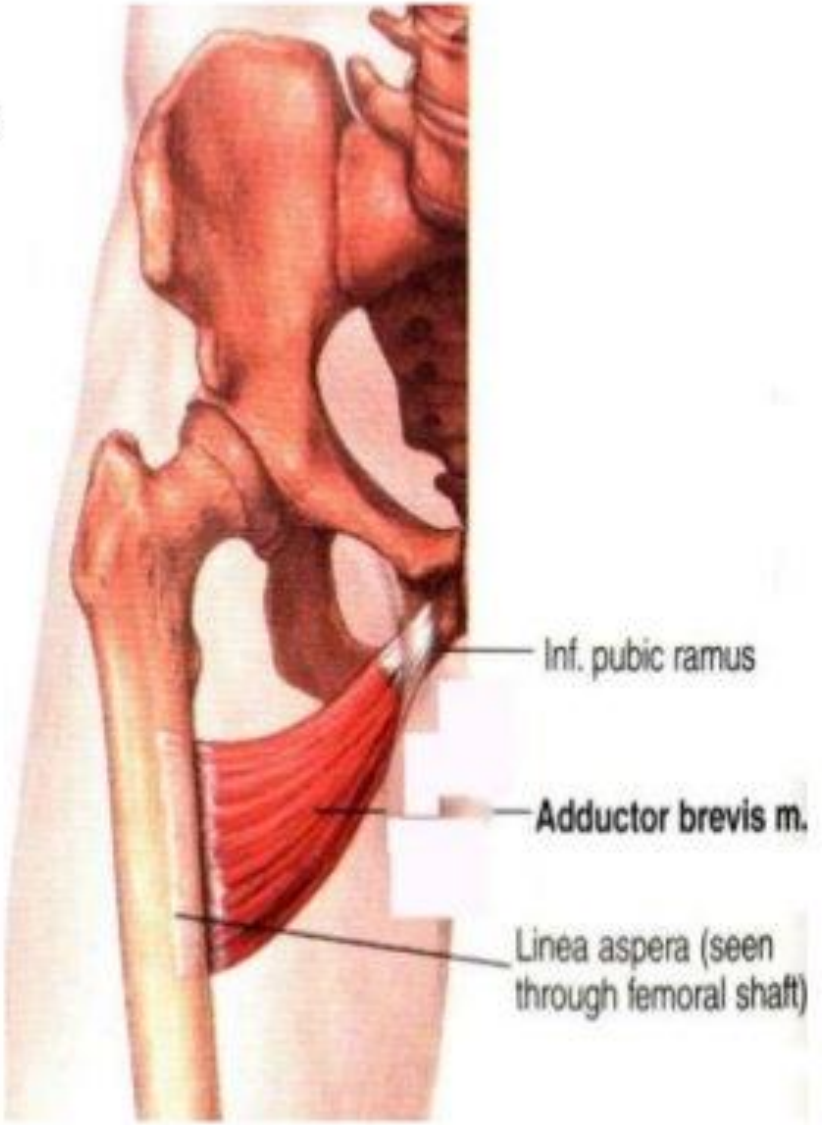
Nerve Supply:

Anterior division of the obturator nerve.

Action:

Adduction of the thigh.

Helps in lateral rotation of the thigh.



Adductor Magnus

Origin:

Pubic part: from Inferior pubic ramus.

Ischial part: from Ischial ramus and lateral part of the lower area ischial tuberosity.

Insertion:

Pubic part: linea aspra and medial supracondylar line

Ischial part: Adductor tubercle of the femur.

Nerve Supply:

Pubic part: posterior division of the obturator nerve.

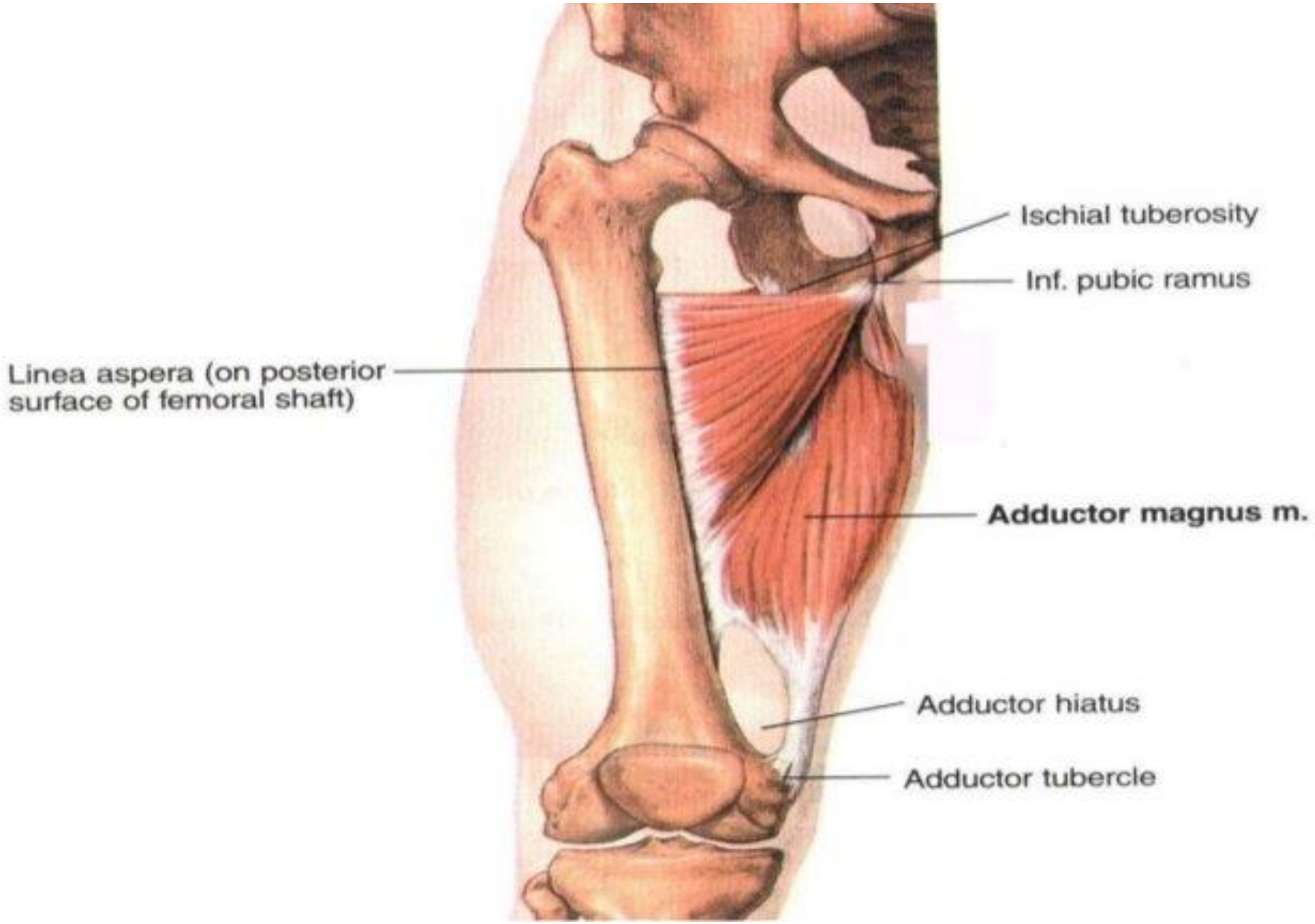
Ischial part: Sciatic nerve.

Action:

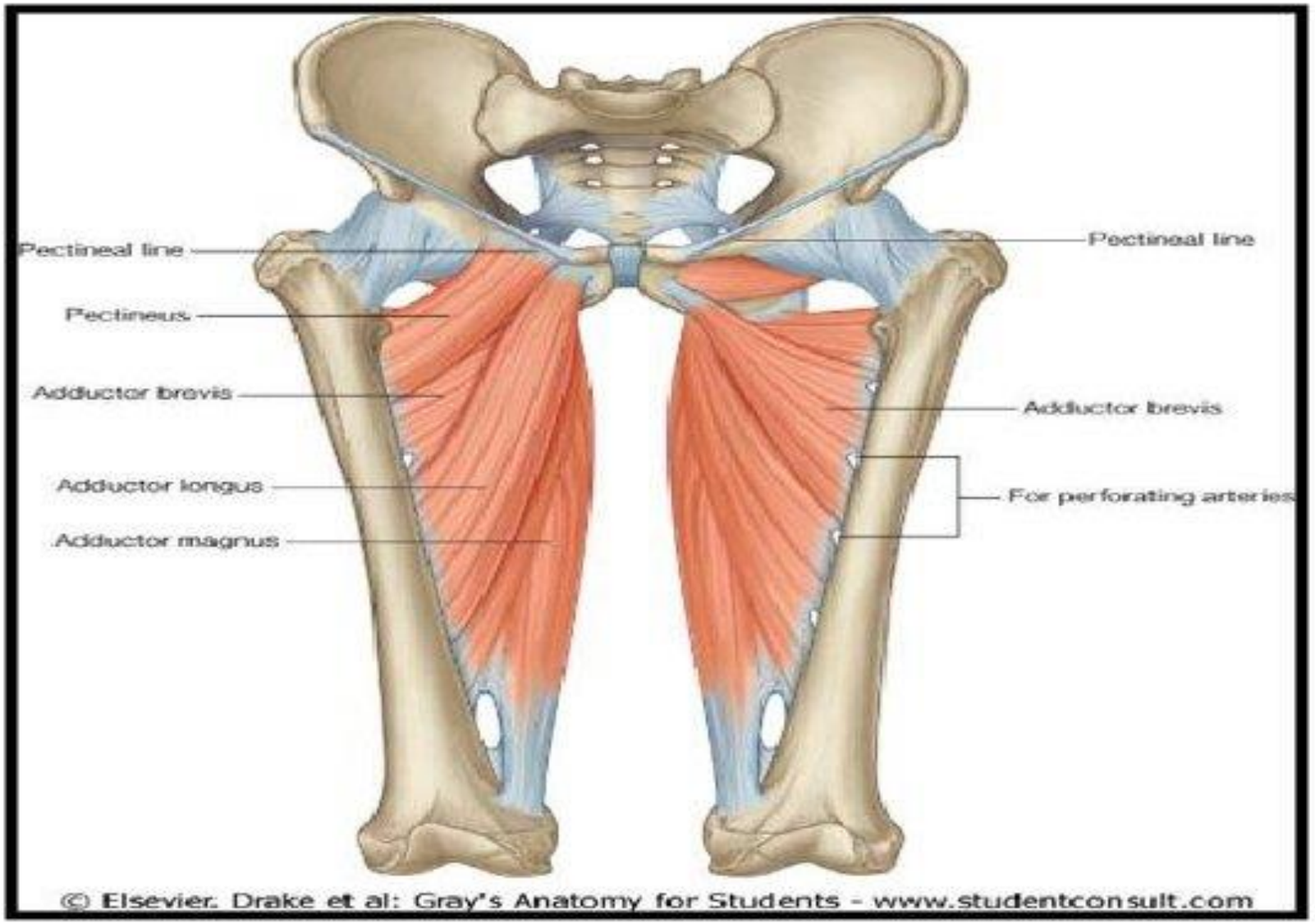
Pubic part: Adduction of the thigh.

Ischial part: Extension of the thigh.

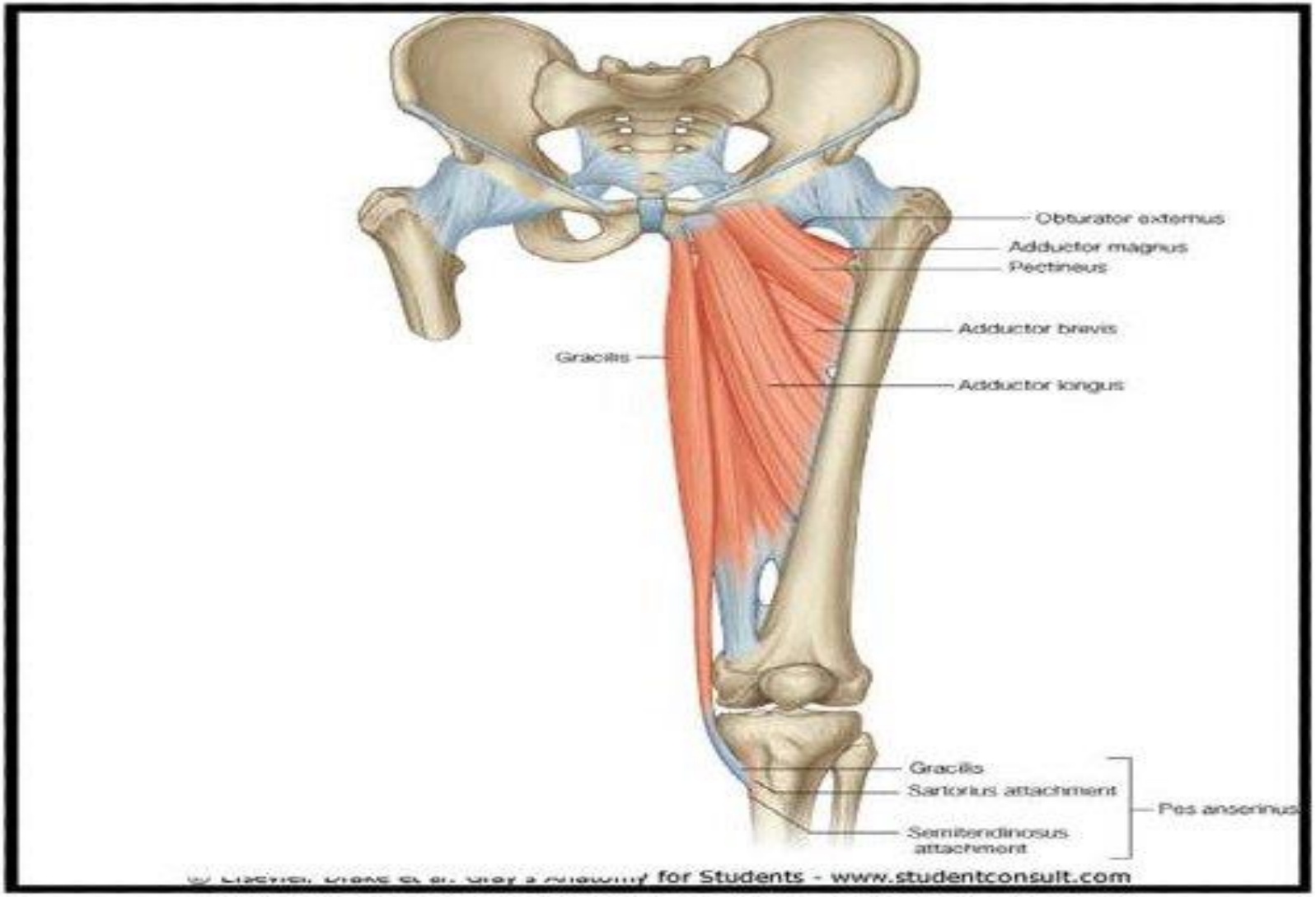
The adductor hiatus is a gap in the attachment of this muscle to the femur, which permits the femoral vessels to pass from the adductor canal downward into the popliteal space.

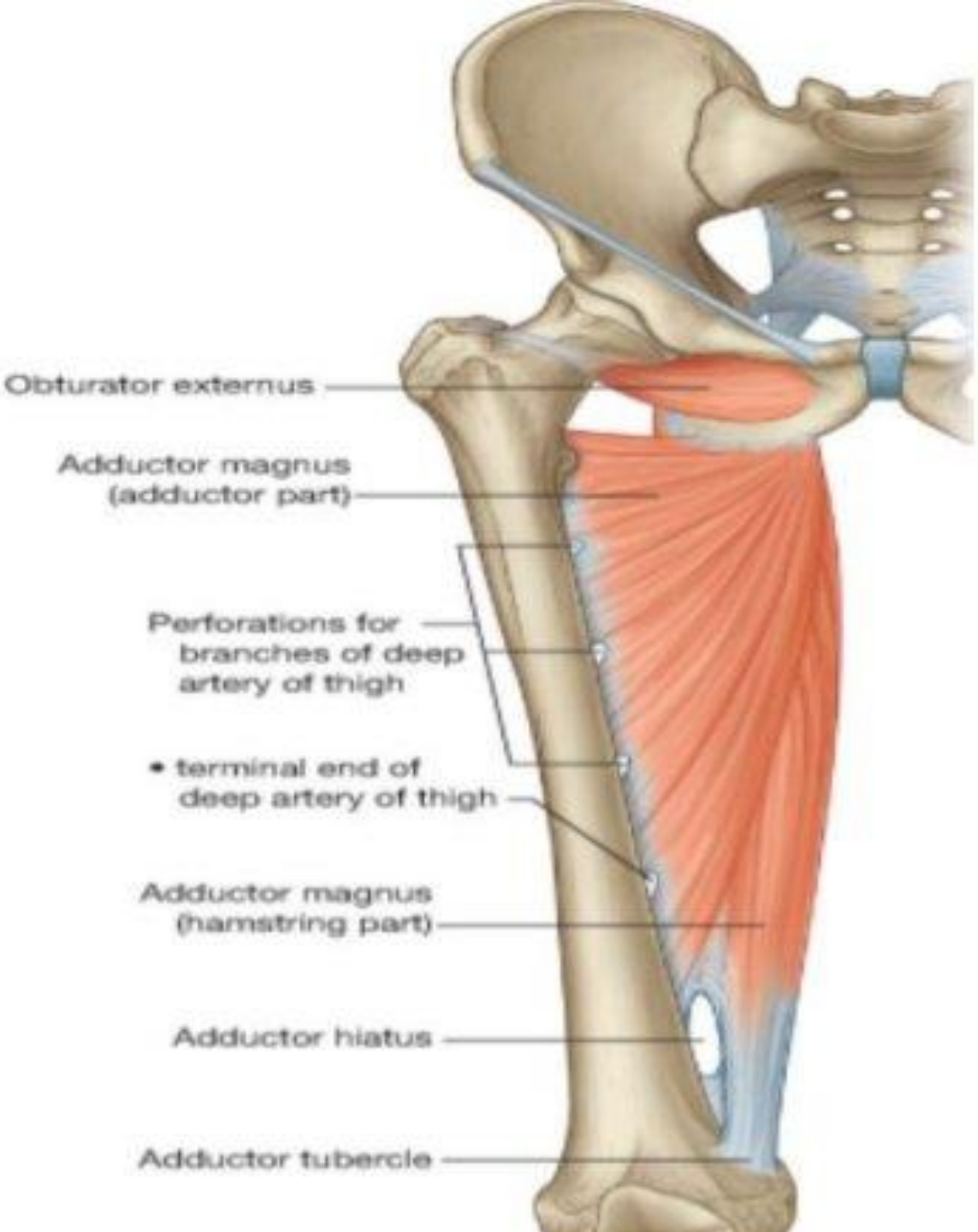

Ischial tuberosity
Inf. pubic ramus
Linea aspera (on posterior surface of femoral shaft)
Adductor magnus m.
Adductor hiatus
Adductor tubercle

Medial Compartment



Medial Compartment




Obturator externus
Adductor magnus (adductor part)
Perforations for branches of deep artery of thigh
• terminal end of deep artery of thigh
Adductor magnus (hamstring part)
Adductor hiatus
Adductor tubercle

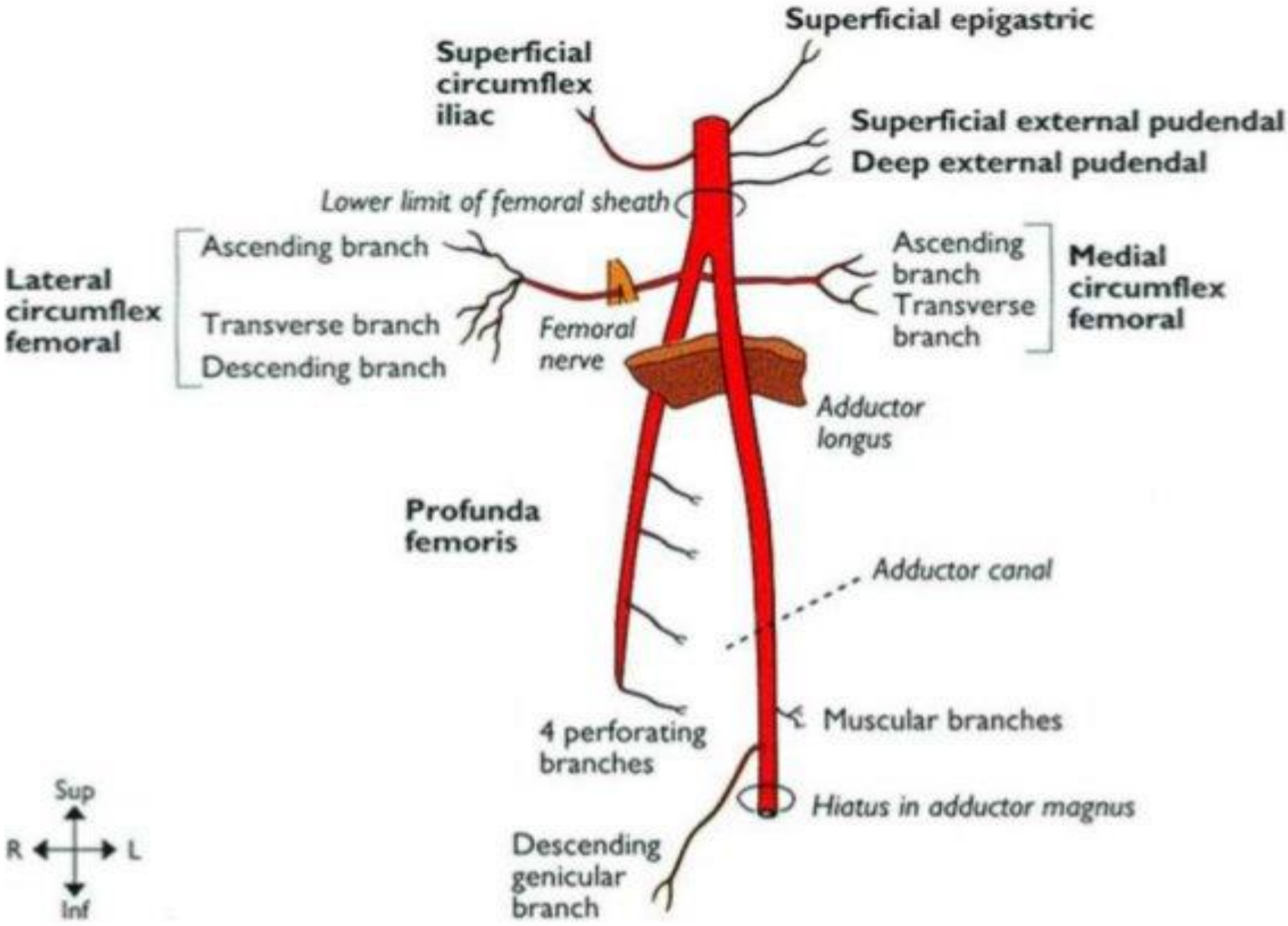

Gracilis


Pectineus
Adductor brevis
Adductor longus


Obturator Externus
Adductor Magnus
(adductor part)
Adductor Magnus
(hamstring part)

Profunda Femoris Artery

- It is a large artery that arises from the femoral artery in the femoral triangle, about 1.5 in. (4 cm) below the inguinal ligament.
- It descends in the interval between the adductor longus and adductor brevis and then lies on the adductor magnus, where it ends as **the fourth perforating artery.**

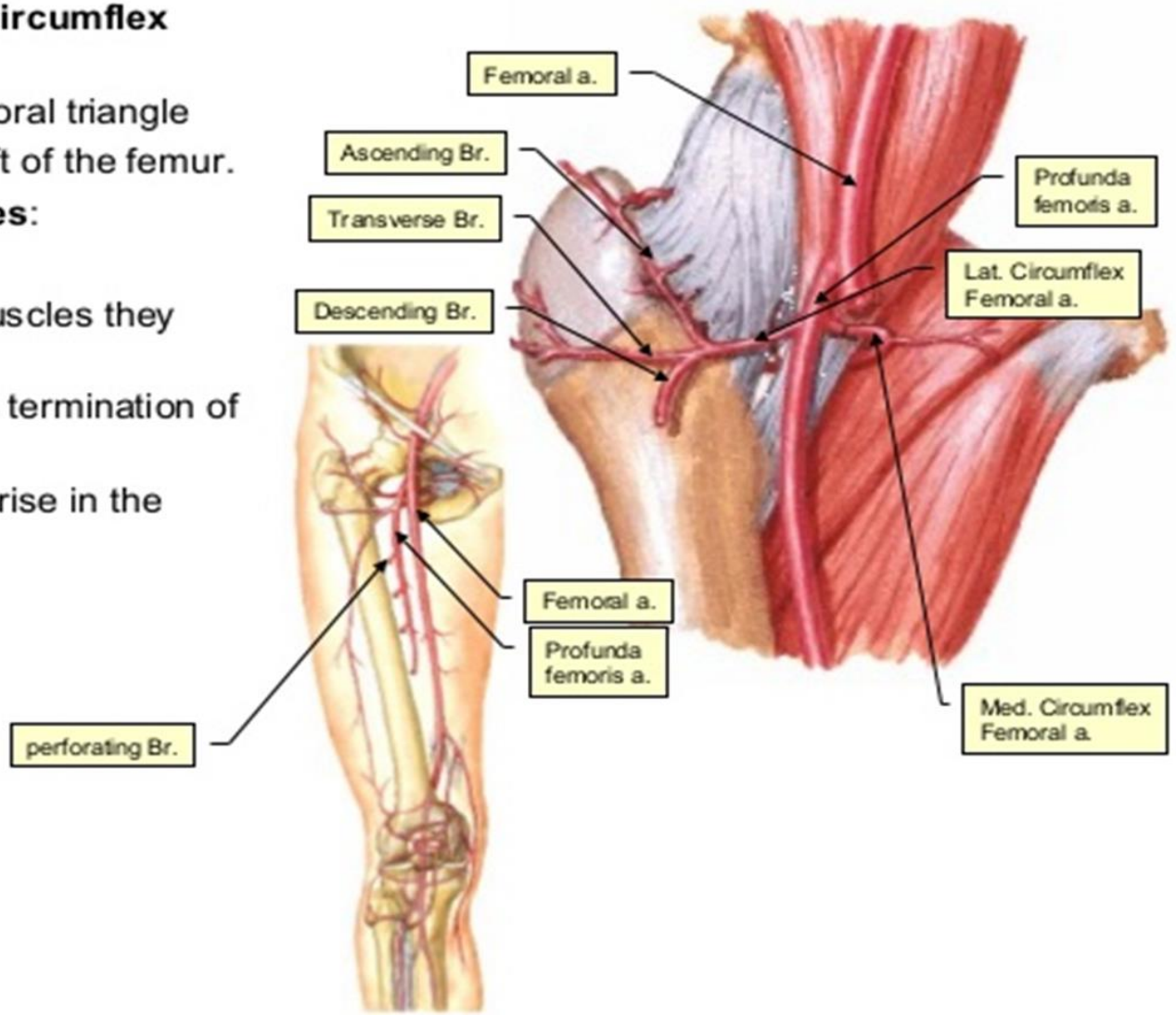

Superficial epigastric
Superficial circumflex iliac
Superficial external pudendal
Deep external pudendal
Lower limit of femoral sheath
Lateral circumflex femoral
Ascending branch
Transverse branch
Descending branch
Femoral nerve
Ascending branch
Transverse branch
Medial circumflex femoral
Adductor longus
Profunda femoris
Adductor canal
4 perforating branches
Muscular branches
Hiatus in adductor magnus
Descending genicular branch
Sup
R
L
Inf

Branches of the profunda femoris artery

- **Medial circumflex femoral artery:** This passes backward between the muscles that form the floor of the femoral triangle and gives off ascending and transverse branches . It takes part in the formation of the cruciate anastomosis.
- **Lateral circumflex femoral artery:** This passes laterally between the terminal branches of the femoral nerve. It gives off ascending, transverse and descending branches. It takes part in the formation of the cruciate anastomosis.
- **Four perforating arteries:** Three of these arise as branches of the profunda femoris artery; the fourth perforating artery is the terminal part of the profunda artery.

Branches of the profunda femoris artery

- **lateral and medial circumflex femoral arteries**:
  - given in the femoral triangle
  - encircle the shaft of the femur.
- **Perforating branches**:
  - Four.
  - Perforate the muscles they meet.
  - The fourth is the termination of the vessel.
  - The upper two arise in the femoral triangle



Dr. Akram Jaffar

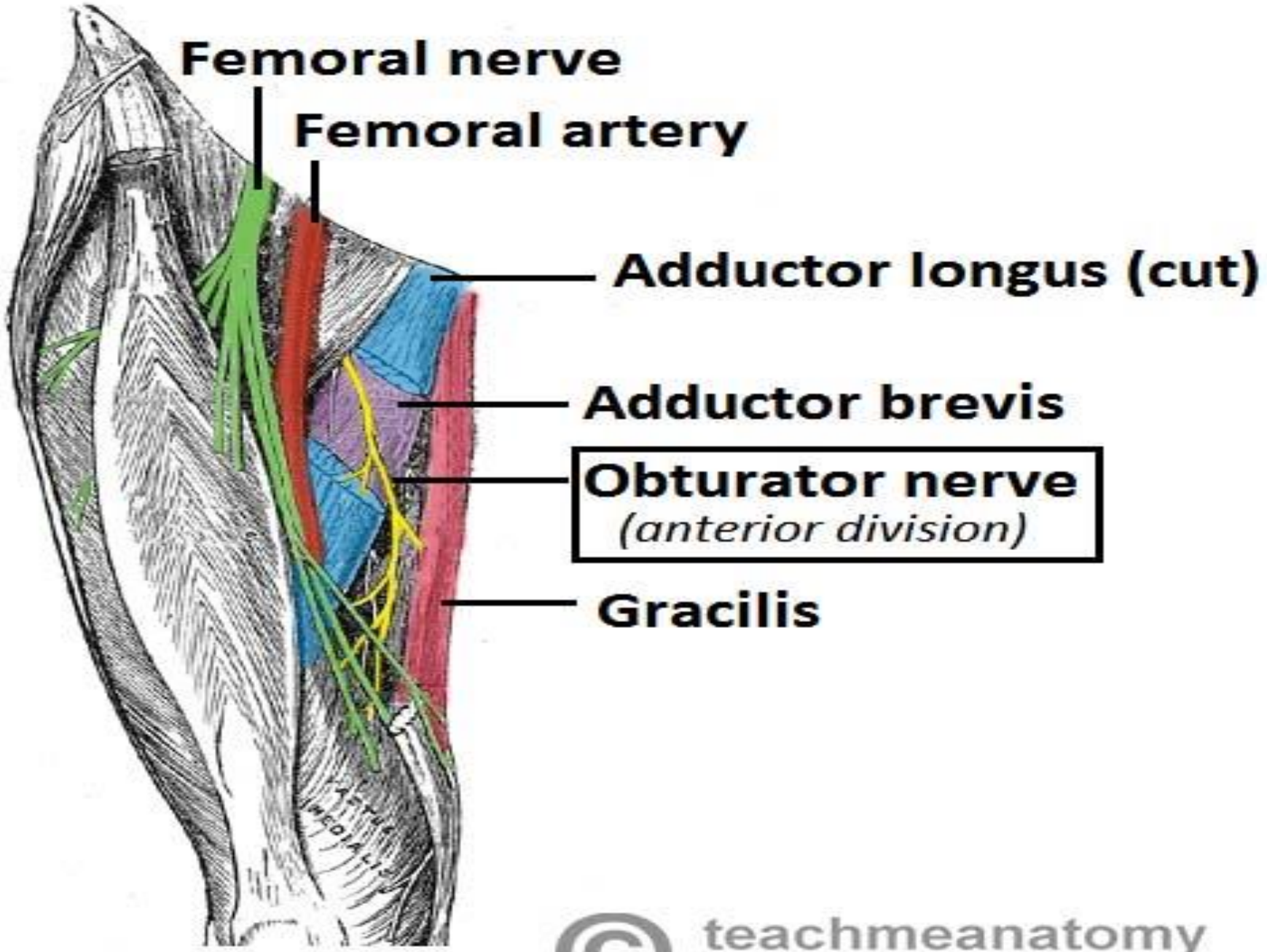
Profunda Femoris Vein

The profunda femoris vein receives tributaries that correspond to the branches of the artery.

It drains into the femoral vein.

Obturator Artery

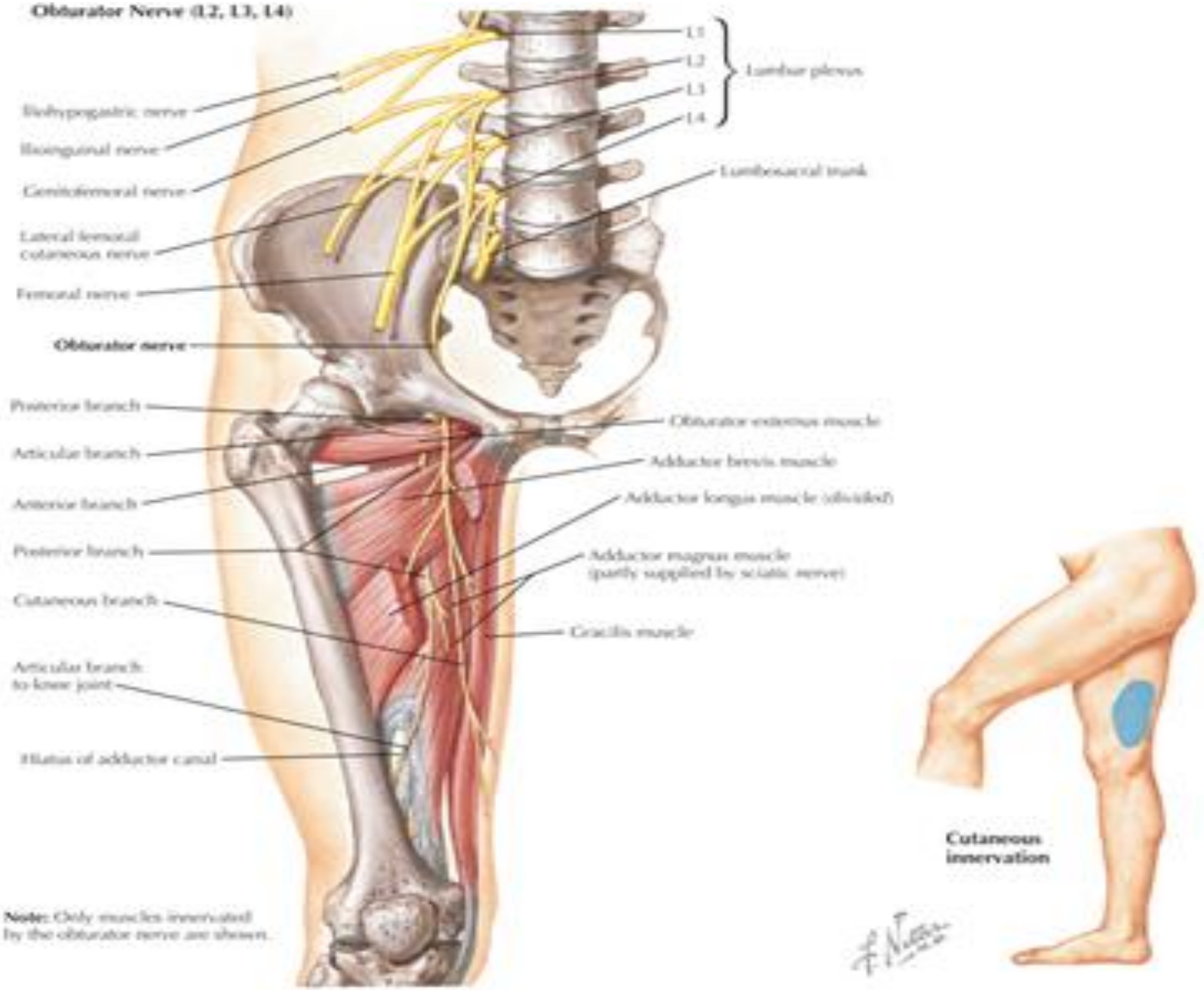
- It is a branch of the internal iliac artery.
- It passes forward on the lateral wall of the pelvis and accompanies the obturator nerve through the obturator canal.
- On entering the medial compartment of the thigh, it divides into medial and lateral branches, which pass around the margin of the outer surface of the obturator membrane. It gives off muscular branches and an articular branch to the hip joint.
- **Obturator Vein**
- The obturator vein receives tributaries that correspond to the branches of the artery. It drains into the internal iliac vein.



© teachmeanatomy
The #1 Applied Human Anatomy Site on the Wet

Obturator Nerve

- The obturator nerve arises from the lumbar plexus (L2, 3, and 4) and emerges on the medial border of the psoas major muscle within the abdomen.
- It runs forward on the lateral wall of the pelvis to reach the upper part of the obturator foramen, where it divides into anterior and posterior divisions.


Obturator Nerve (L2, L3, L4)
L1
L2
L3
L4
Lumbar plexus
Lumbosacral trunk
Iliohypogastric nerve
Ilioinguinal nerve
Genitofemoral nerve
Lateral femoral cutaneous nerve
Femoral nerve
Obturator nerve
Posterior branch
Articular branch
Anterior branch
Posterior branch
Cutaneous branch
Articular branch to knee joint
Hiatus of adductor canal
Obturator externus muscle
Adductor brevis muscle
Adductor longus muscle (divided)
Adductor magnus muscle (partly supplied by sciatic nerve)
Gracilis muscle
Note: Only muscles innervated by the obturator nerve are shown.
Cutaneous innervation

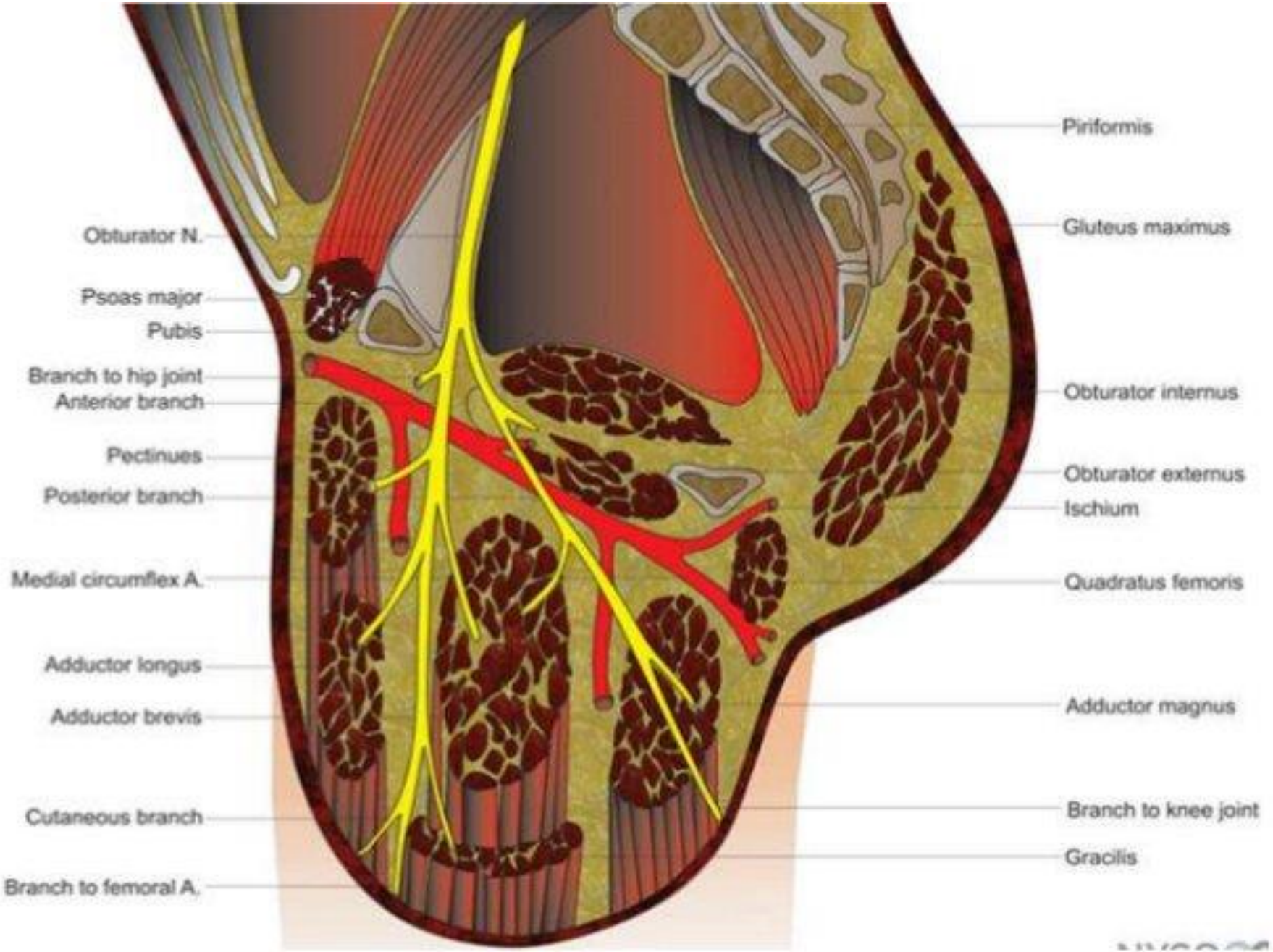
Branches of the obturator nerve

The anterior division passes downward in front of the obturator externus and the adductor brevis and behind the pectineus and adductor longus.

- It gives muscular branches to the gracilis, adductor brevis, and adductor longus, and occasionally to the pectineus.
- It gives articular branches to the hip joint and terminates as a small nerve that supplies the femoral artery.

The posterior division passes downward behind the adductor brevis and in front of the adductor magnus.

- It terminates by descending through the opening in the adductor magnus to supply the knee joint.
- It gives muscular branches to the obturator externus, to the adductor part of the adductor magnus.


Piriformis
Gluteus maximus
Obturator N.
Psoas major
Pubis
Branch to hip joint
Anterior branch
Obturator internus
Pectinues
Obturator externus
Posterior branch
Ischium
Medial circumflex A.
Quadratus femoris
Adductor longus
Adductor brevis
Adductor magnus
Cutaneous branch
Branch to knee joint
Gracilis
Branch to femoral A.

Clinical Relevance: Injury to the Adductor Muscles

- Strain of the adductor muscles is the underlying cause of what is colloquially known as a ‘groin strain‘. The proximal part of the muscle is most commonly affected, tearing near their bony attachments in the pelvis.

- Groin injuries usually occur in sports that require explosive movements or extreme stretching. Treatment of any muscle strain should utilise the RICE protocol – rest, ice, compression and elevation.