

Contents of the Posterior Fascial Compartment of the Thigh

1-Muscles:

❖ *Biceps femoris*

❖ *Semitendinosus*

❖ *Semimembranosus*

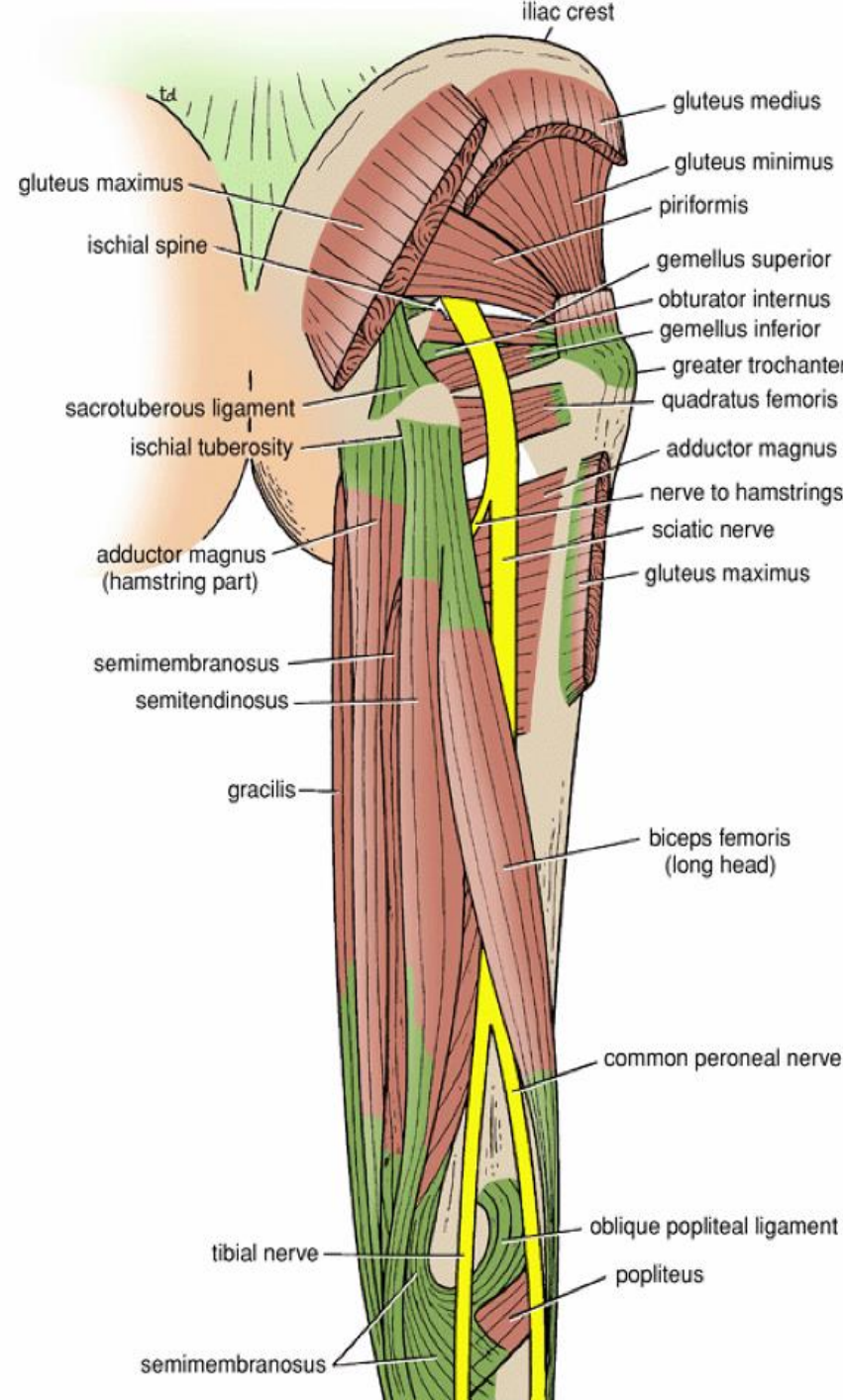
❖ *a small part of the adductor magnus*

(hamstring part

or ischial part)

2-Blood supply: *Branches of the profunda femoris artery*

3-Nerve supply: *Sciatic nerve*



Biceps femoris

Origin: two heads

1-Long head: ischial tuberosity

2-Short head: linea aspera, lateral supracondylar ridge of shaft of femur

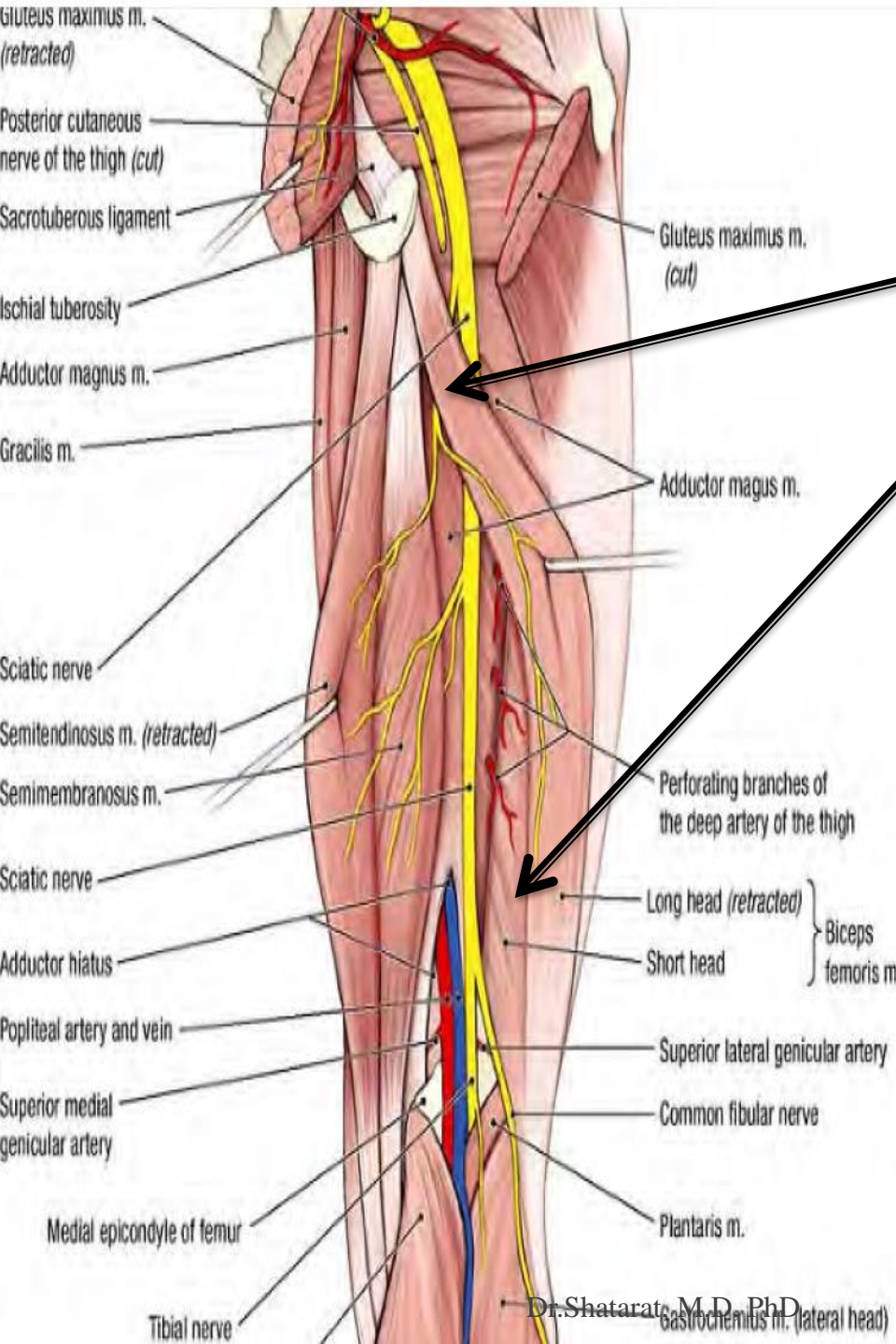
Insertion: Head of fibula

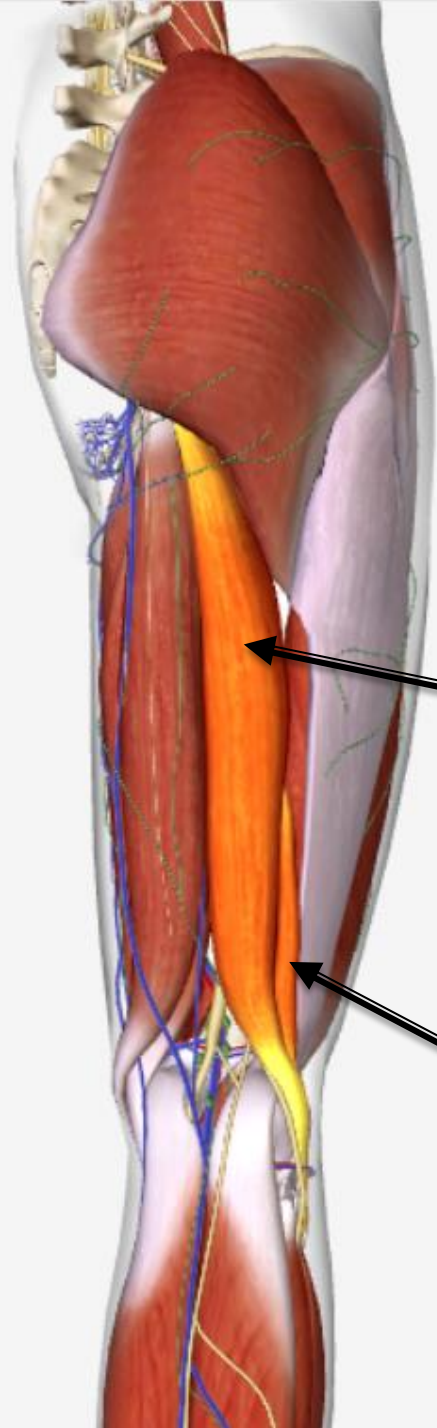
Nerve supply:

Long head: tibial portion of sciatic nerve

Short head: common peroneal portion of sciatic nerve

Actions: Flexes and laterally rotates leg at knee joint; long head also extends thigh at hip joint





Long head of Biceps femoris

Short head Biceps femoris

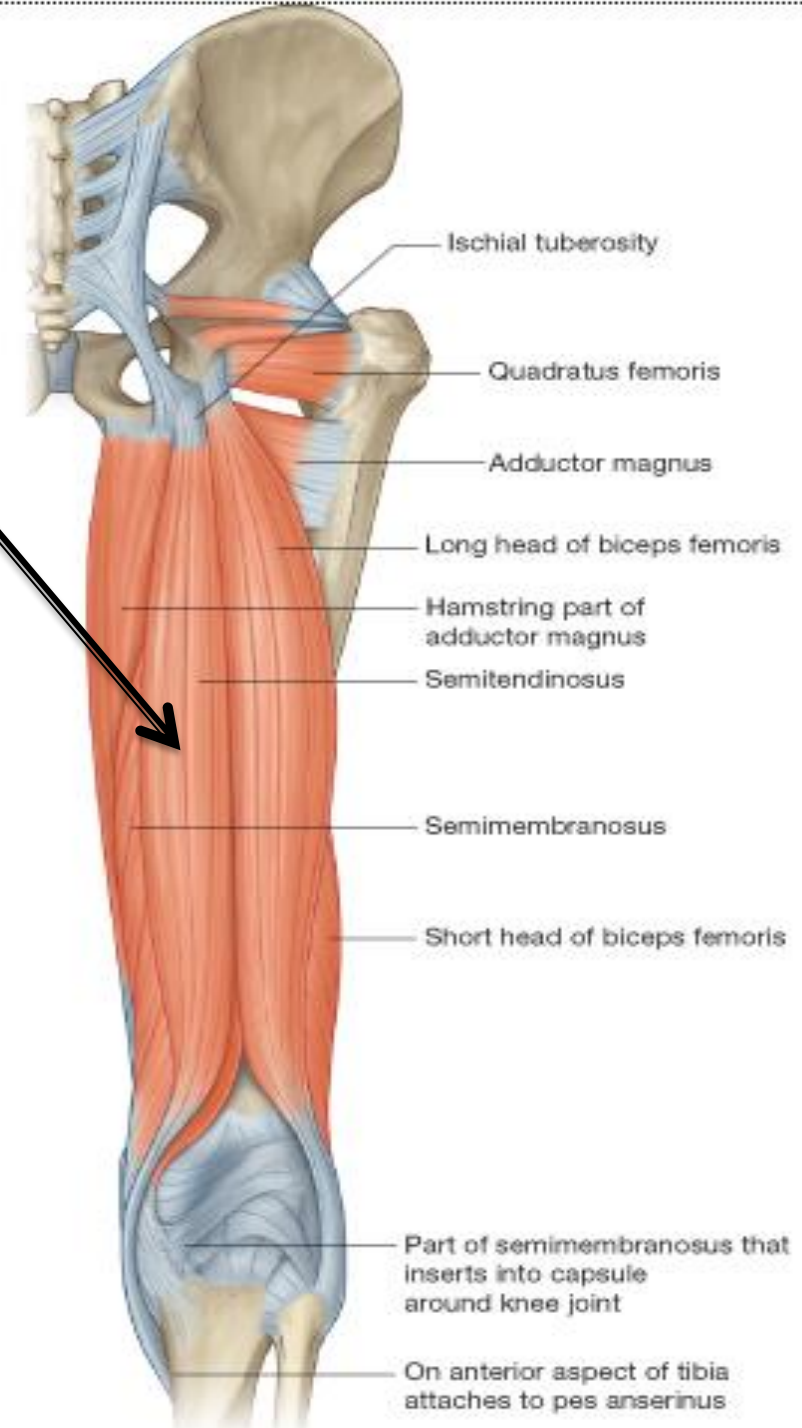
Semitendinosus

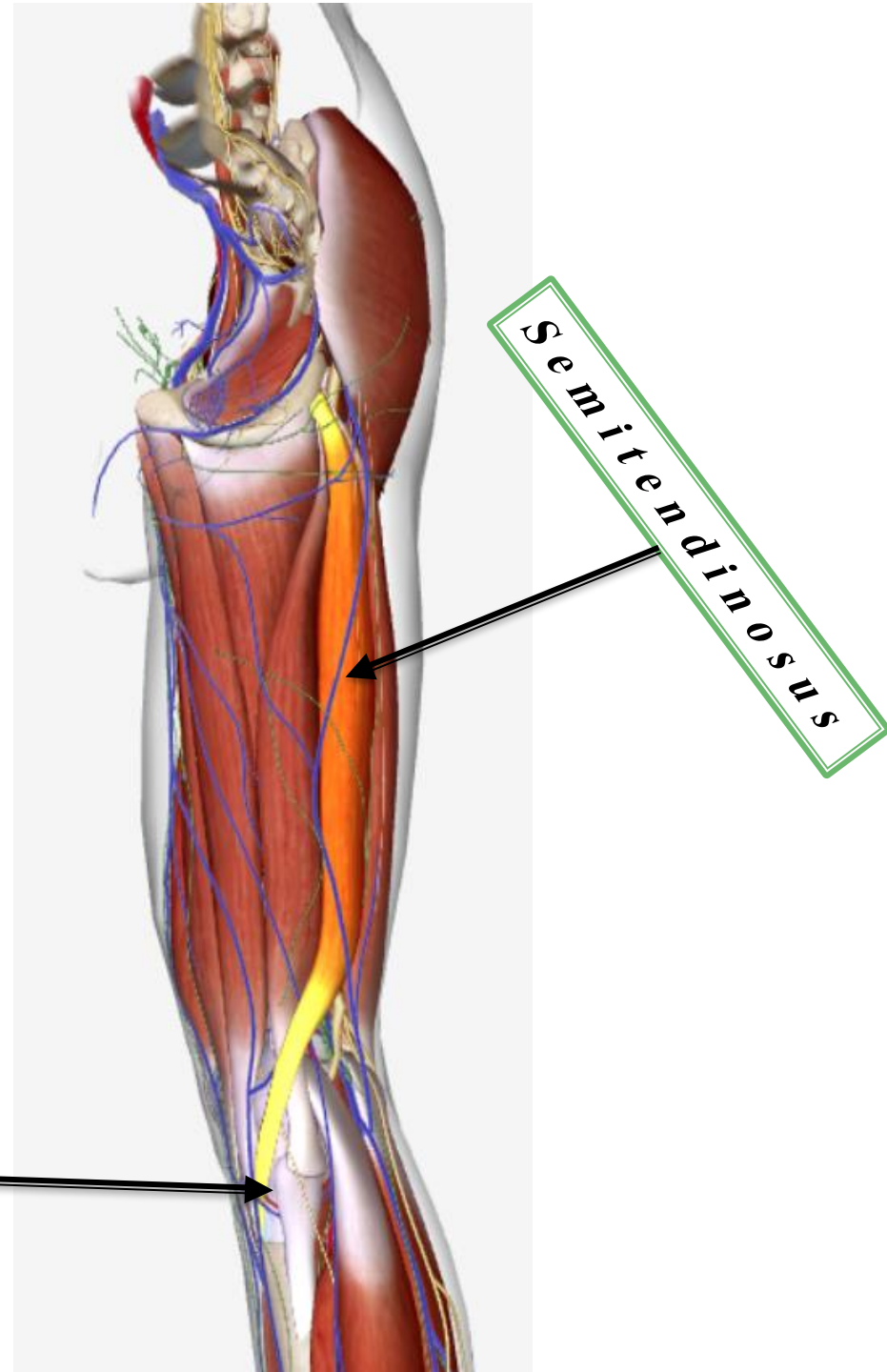
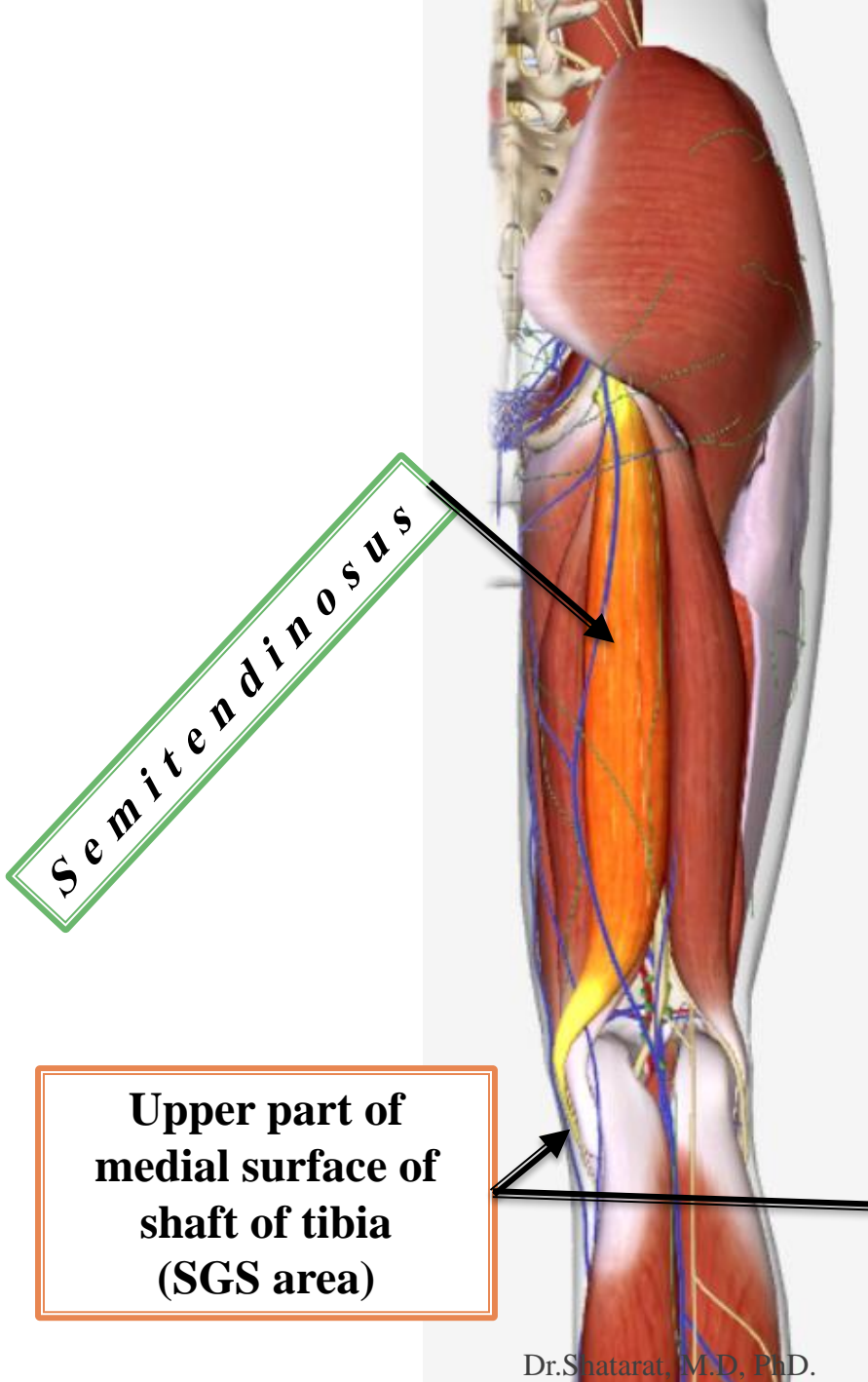
Origin:
Ischial tuberosity
Where?

Insertion:
Upper part of medial surface of
shaft of tibia
(SGS area)

Nerve supply: Tibial portion of
sciatic nerve

Actions: Flexes and medially
rotates leg at knee joint;
extends thigh at hip
joint





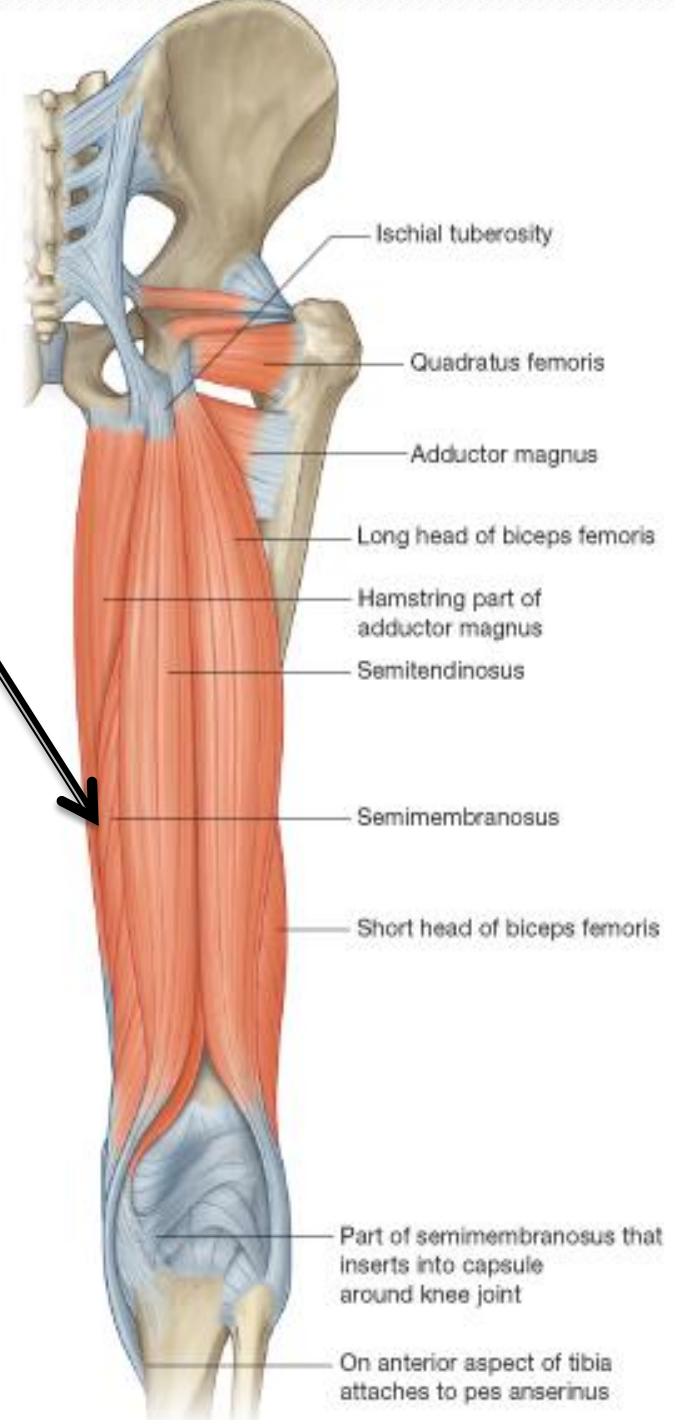
Semimembranosus

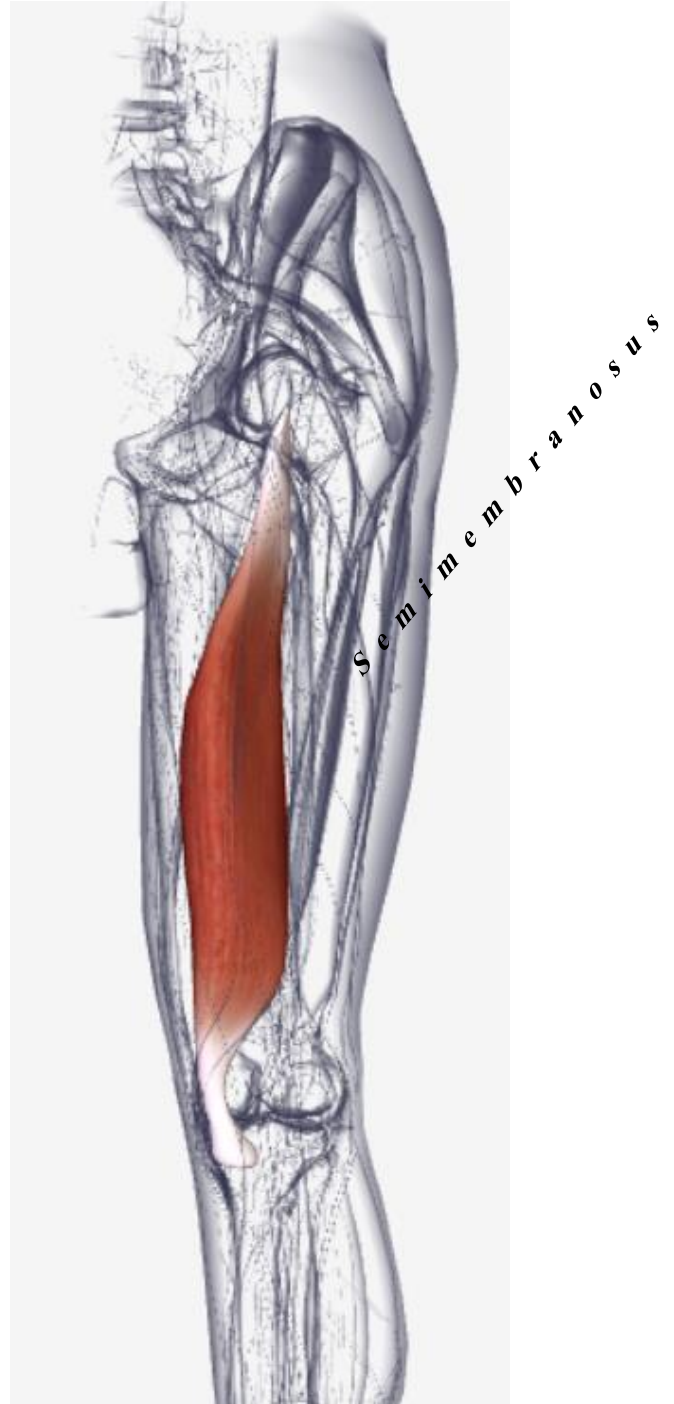
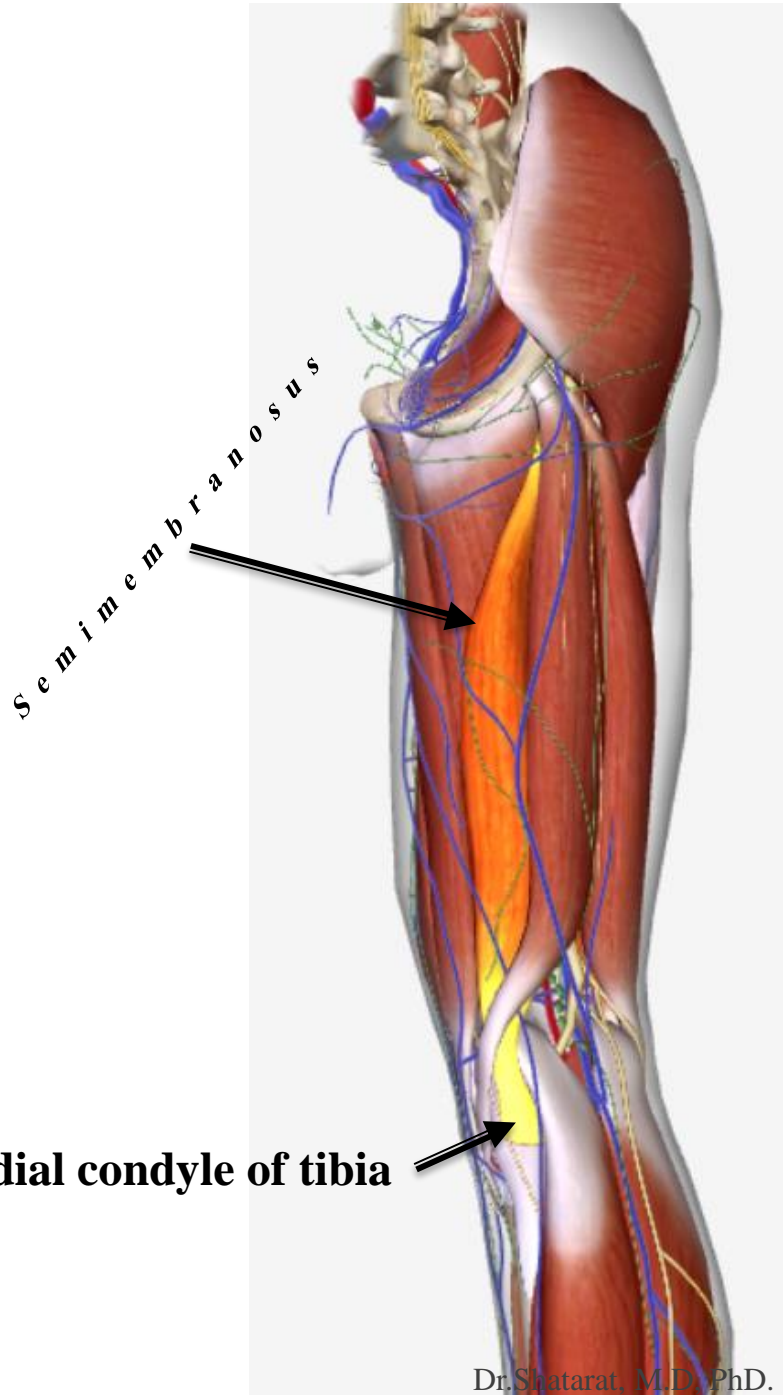
Origin: Ischial tuberosity, where?

Insertion: Medial condyle of tibia

Nerve supply: Tibial portion of sciatic nerve

Actions: Flexes and medially rotates leg at knee joint; extends thigh at hip joint





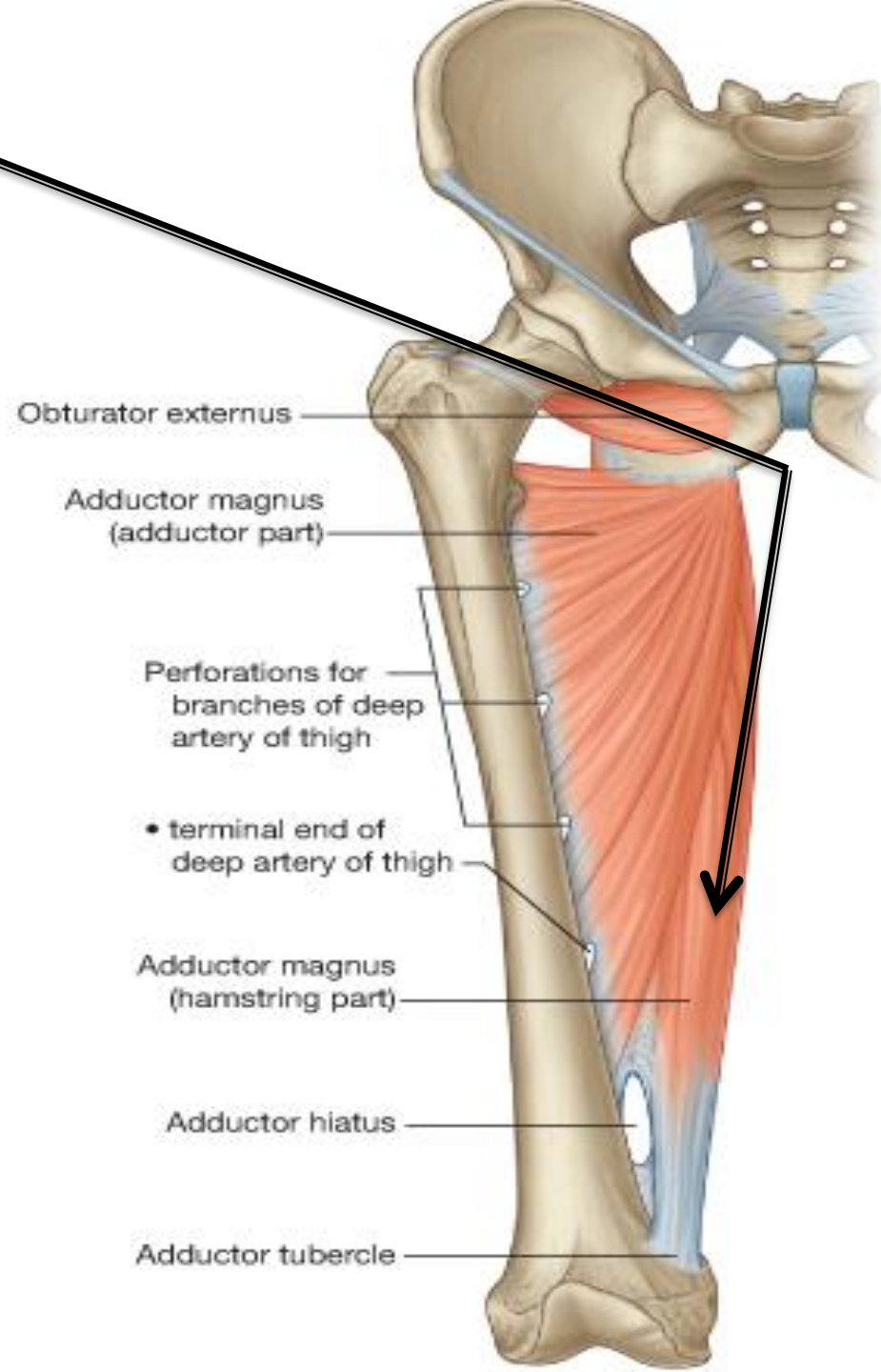
**Adductor magnus
(hamstring portion)
Or ischial part**

Origin: Ischial tuberosity

Insertion: Adductor tubercle of femur

**Nerve supply: Tibial portion of sciatic
nerve**

**Actions: Extends thigh at hip
joint
Does it flex the knee?**



Pay attention to the fact that the muscles of the thigh are designed

To act on the knee joint

For example, quadriceps femoris occupies the anterior compartment of the thigh but its

Main action is to extend the knee joint

The same should be considered for the muscles of the posterior compartment of the thigh

Although they occupy the posterior compartment of the thigh

Their main function is to flex the knee joint

Now think!

Which muscles will rotate the knee joint medially and laterally?

Keep in your mind that when the knee joint is extended medial and lateral rotation is not possible!

The joint said to be locked

Therefore, we need to unlock the extended (locked) knee joint

A small muscle called **popliteus** unlocks the knee joint by rotating the femur on the tibia laterally before any flexion of the knee can take place

Now the joint said to be unlocked

Only now when the knee joint is semiflexed

The biceps femoris **can act as a lateral rotators of the leg**

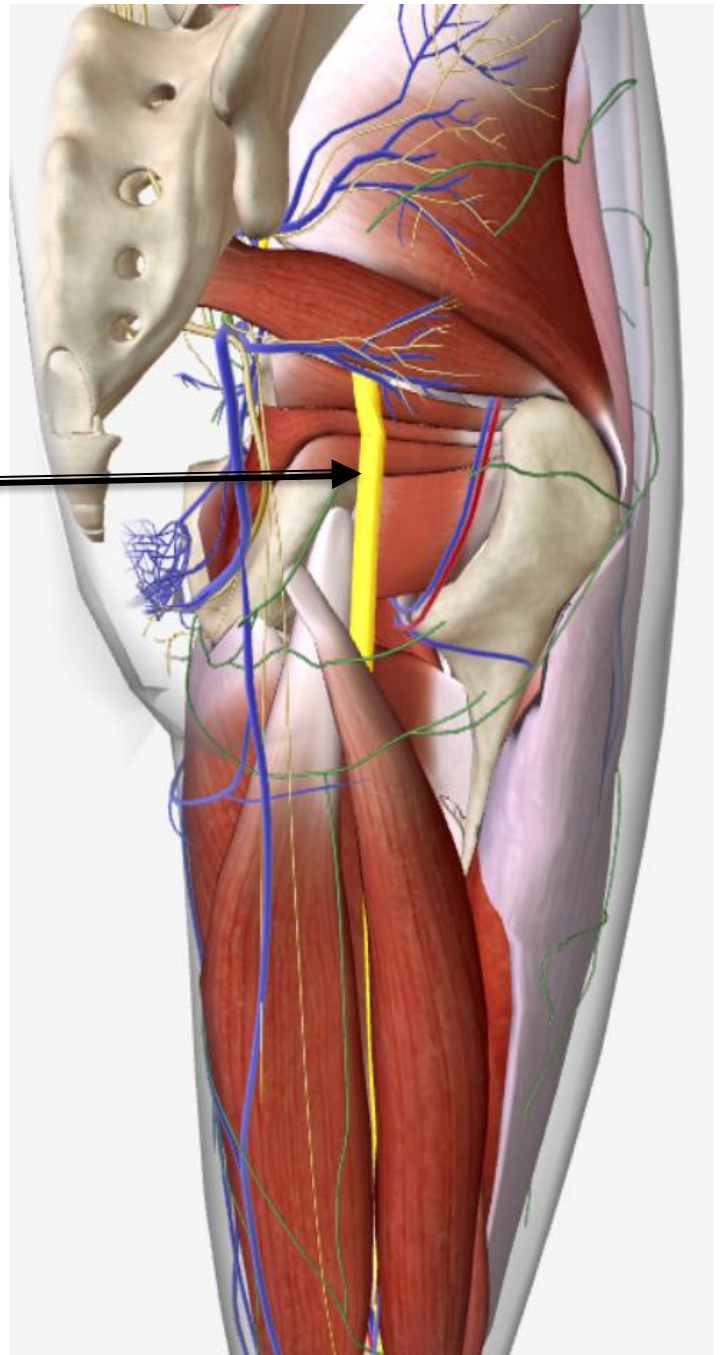
The semimembranosus and semitendinosus **can act as medial rotators of the leg**

Sciatic Nerve

- A terminal branch of the sacral plexus (L4 and 5; S1, 2, and 3)
 - Emerges from the pelvis through the lower part *of the greater sciatic foramen below the piriformis muscle*
 - It is the largest nerve in the body and consists of the **tibial** and **common peroneal** nerves bound together with fascia.
-
- *Commonly terminates in the middle of the thigh by dividing into Tibial Nerve (medial popliteal nerve) and Common peroneal (lateral popliteal nerve ALSO CALLED common fibular nerve)*



Sciatic Nerve



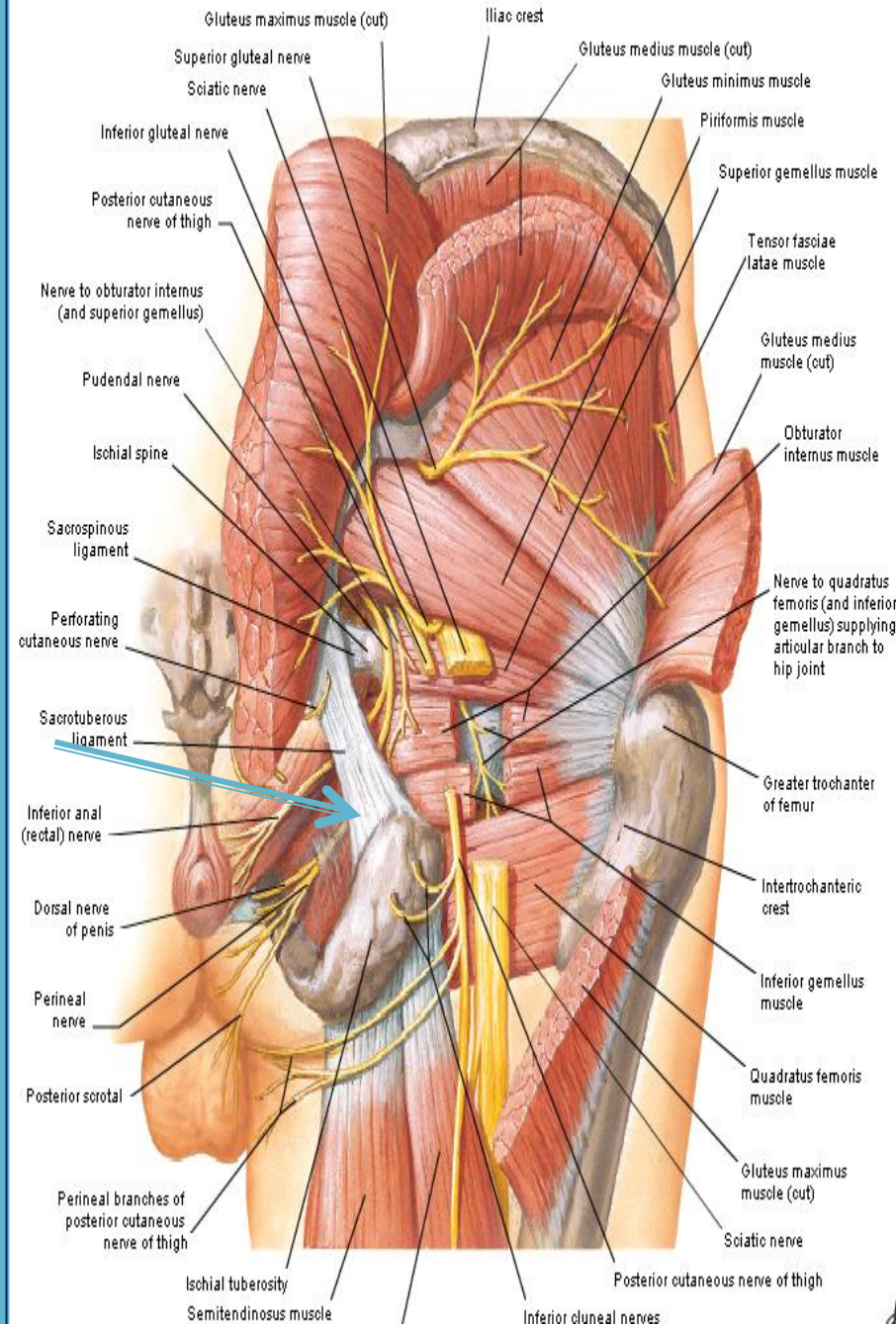
Posterior Cutaneous Nerve of the Thigh

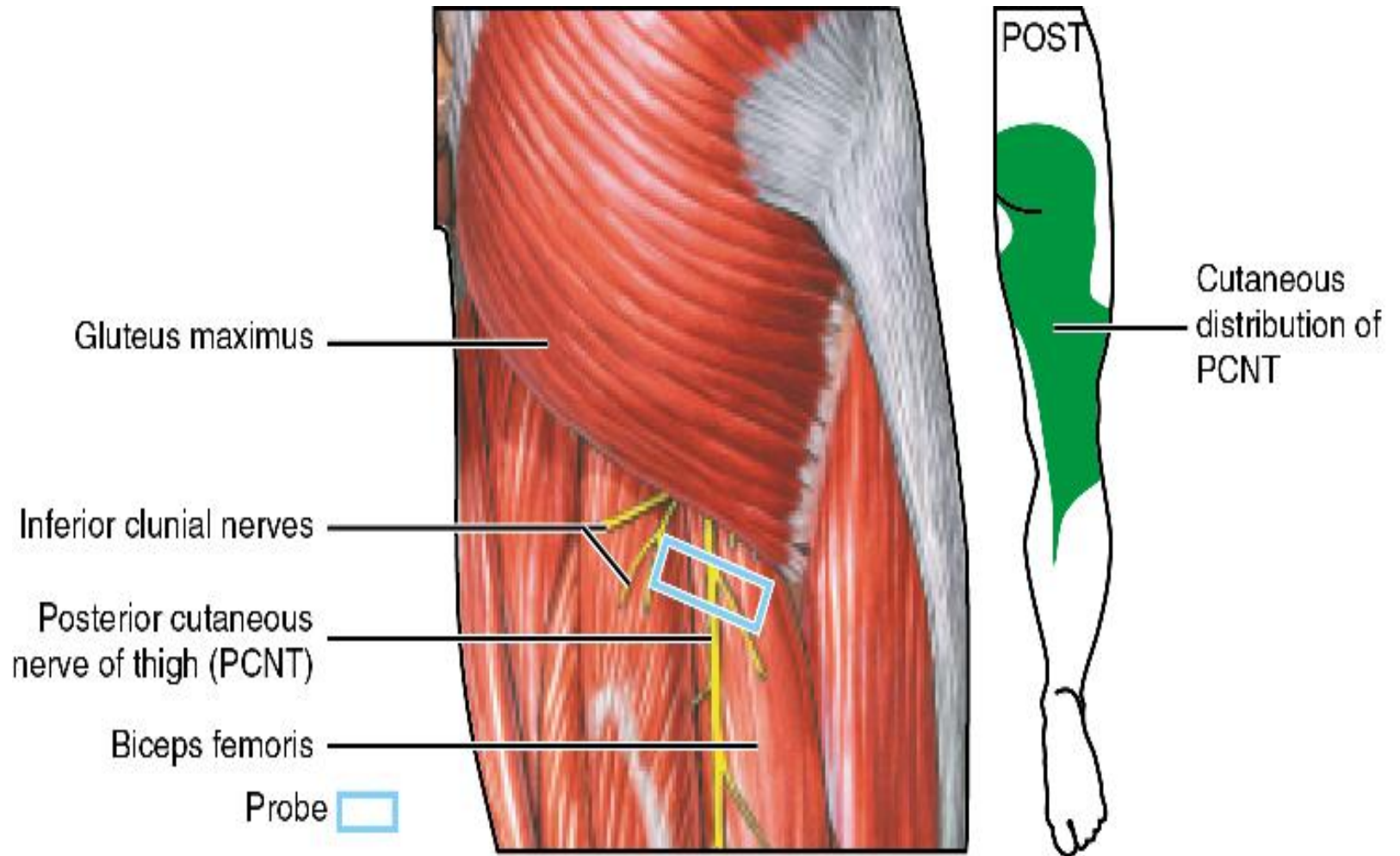
➤ *A branch of the sacral plexus*

S1,2,3.

➤ **Enters the gluteal region through the lower part of the greater sciatic foramen below the piriformis muscle**

➤ **it supplies the skin OVER THE BACK OF THE thigh and upper part of the leg.**





Posterior cutaneous nerve of the thigh. Sonoanatomy for Anaesthetists 2013. Cambridge University Press Edward Lin et al.

THE POPLITEAL FOSSA

Popliteal Fossa

Is a diamond-shaped intermuscular space situated at the back of the knee

Boundaries

Laterally: (above)

The biceps femoris

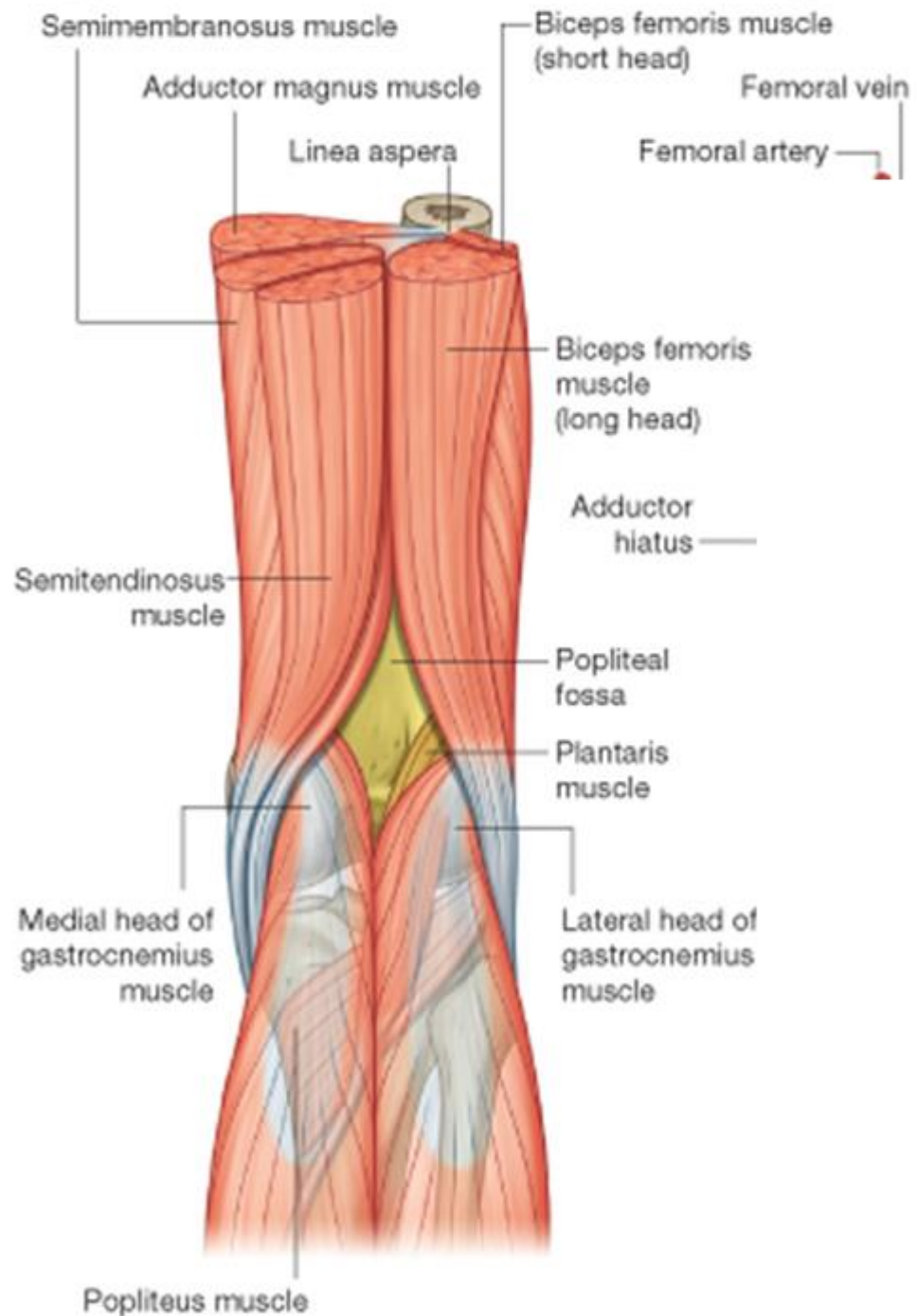
(below) *The lateral head*

of the gastrocnemius and Plantaris

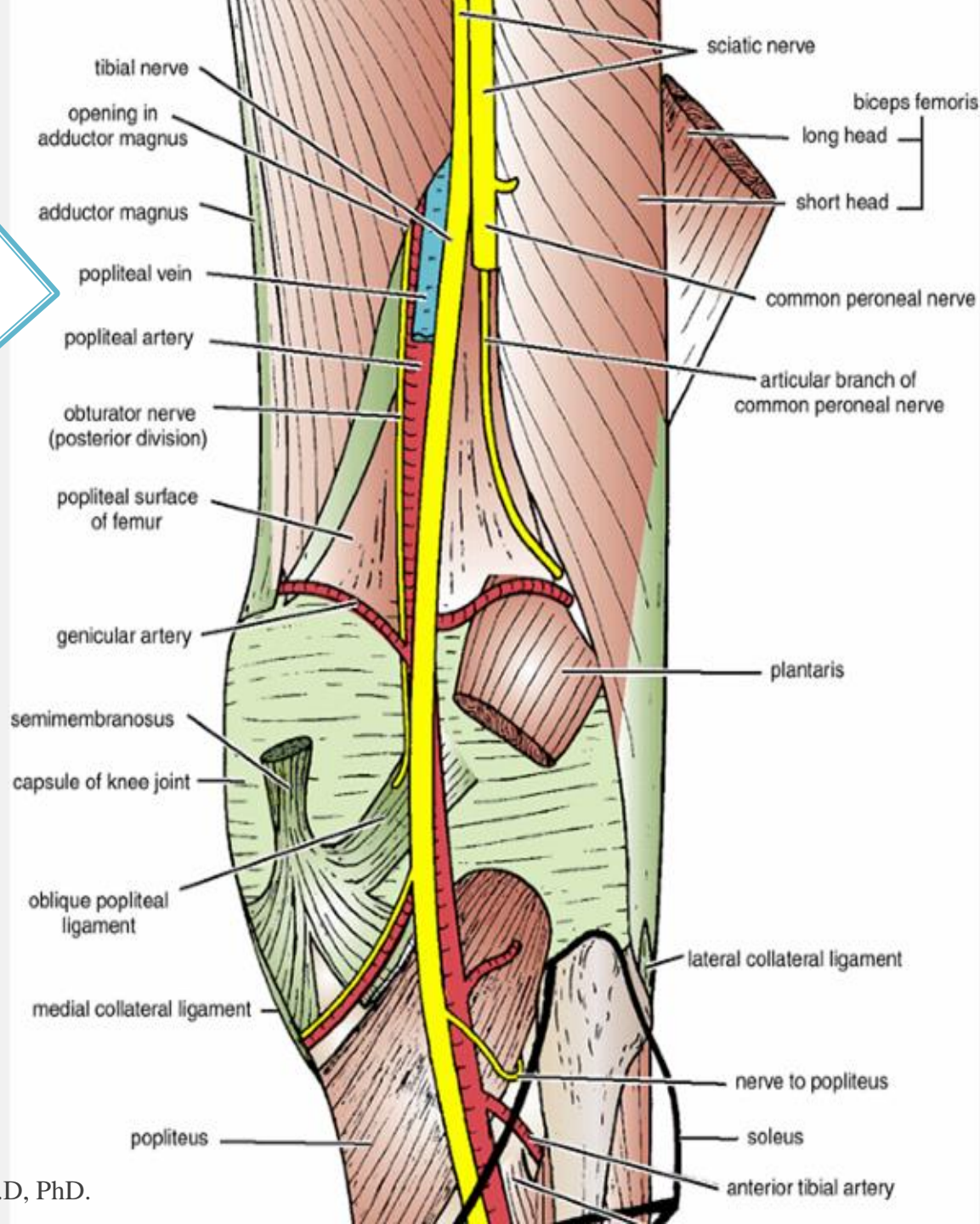
Medially:

(above) *The semimembranosus*
and semitendinosus (below)

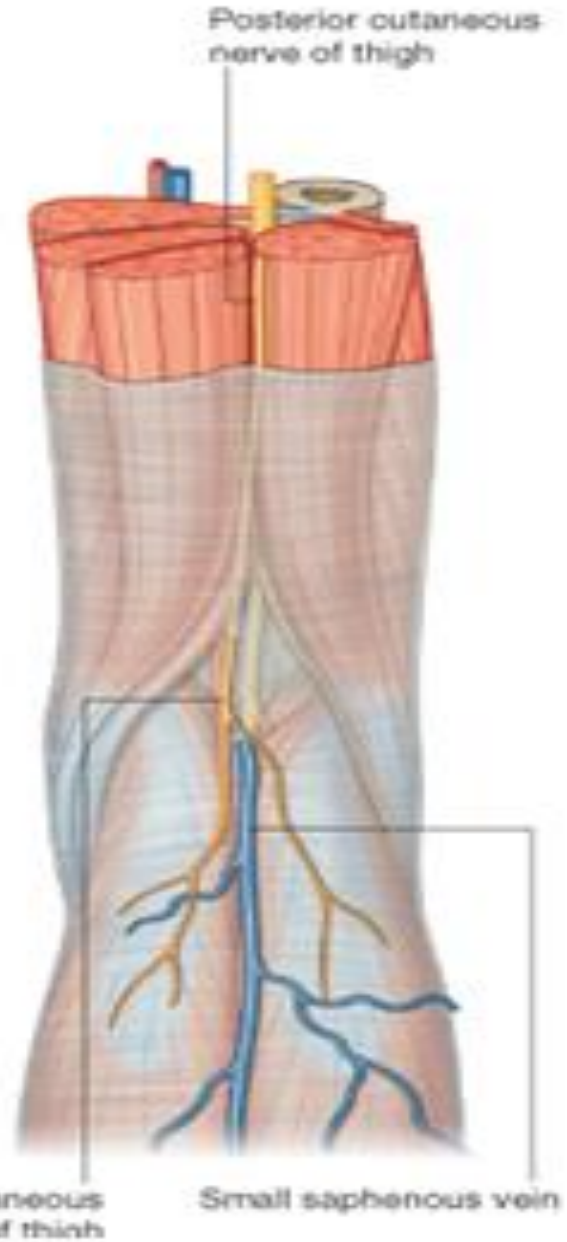
The medial head of the
gastrocnemius

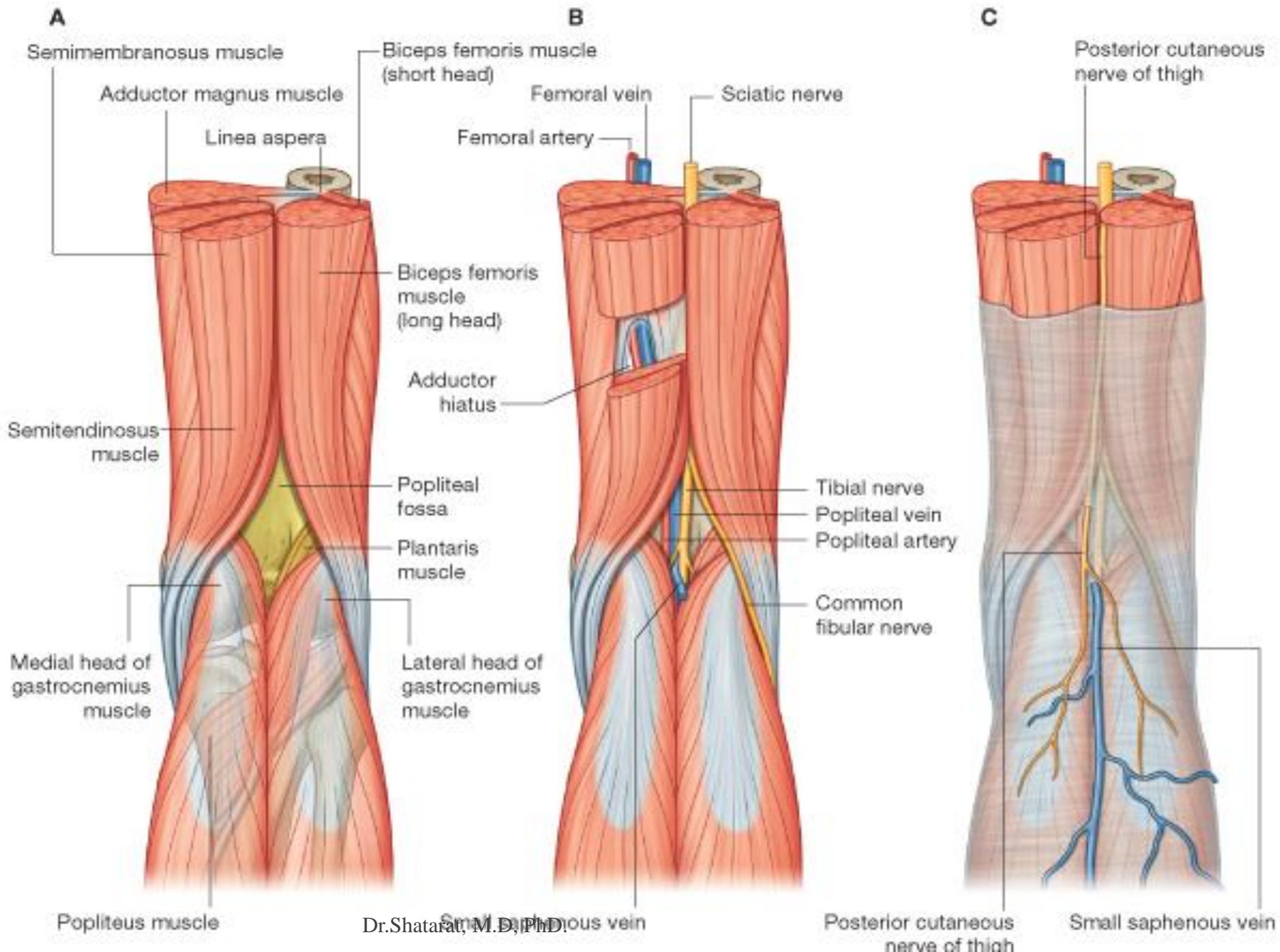


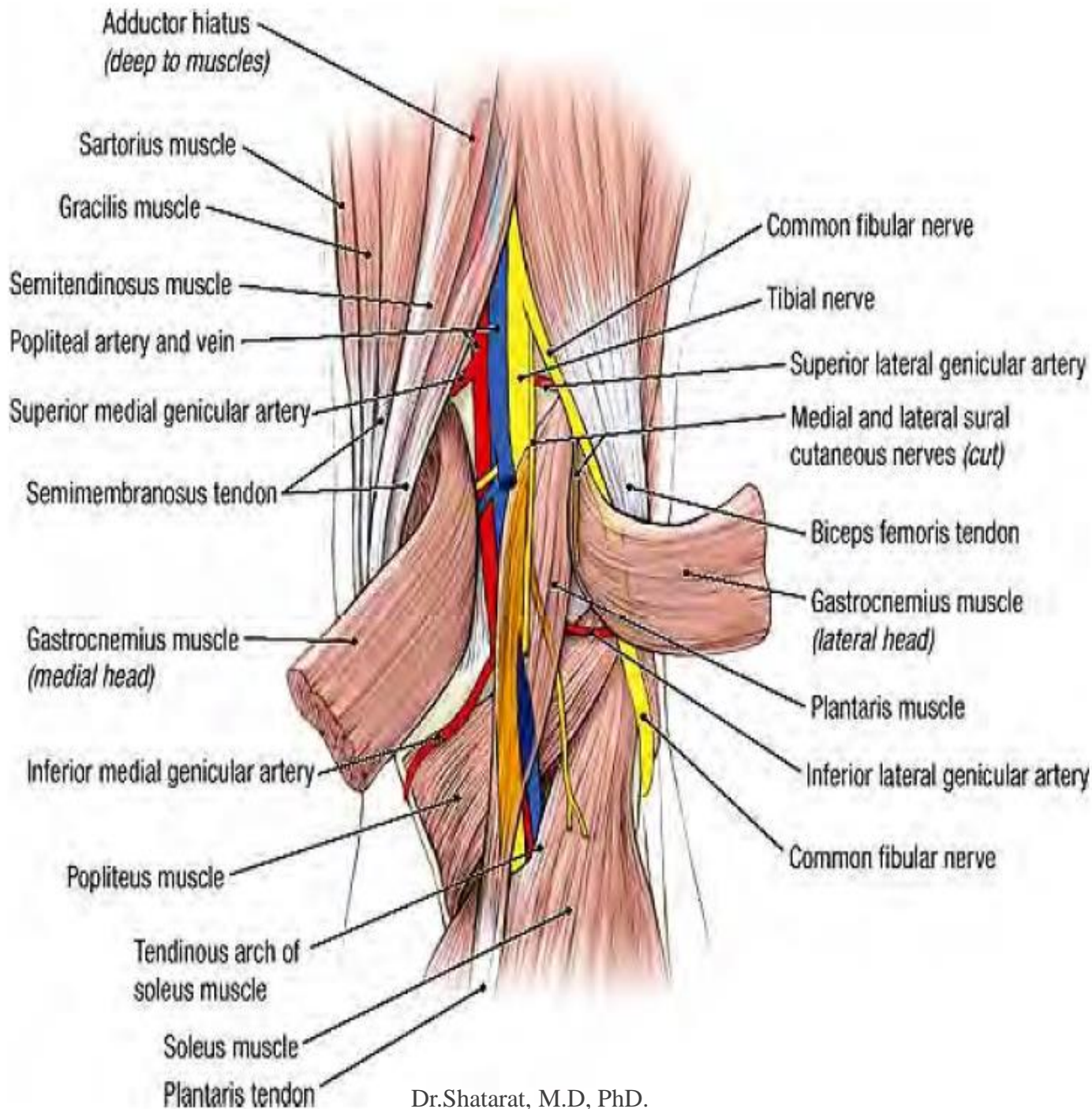
The Floor is formed by
 The popliteal surface of the femur,
 The posterior surface of the knee joint,
 The popliteus muscle.



The Roof is formed by
Skin
Superficial fascia
The deep fascia of the thigh.





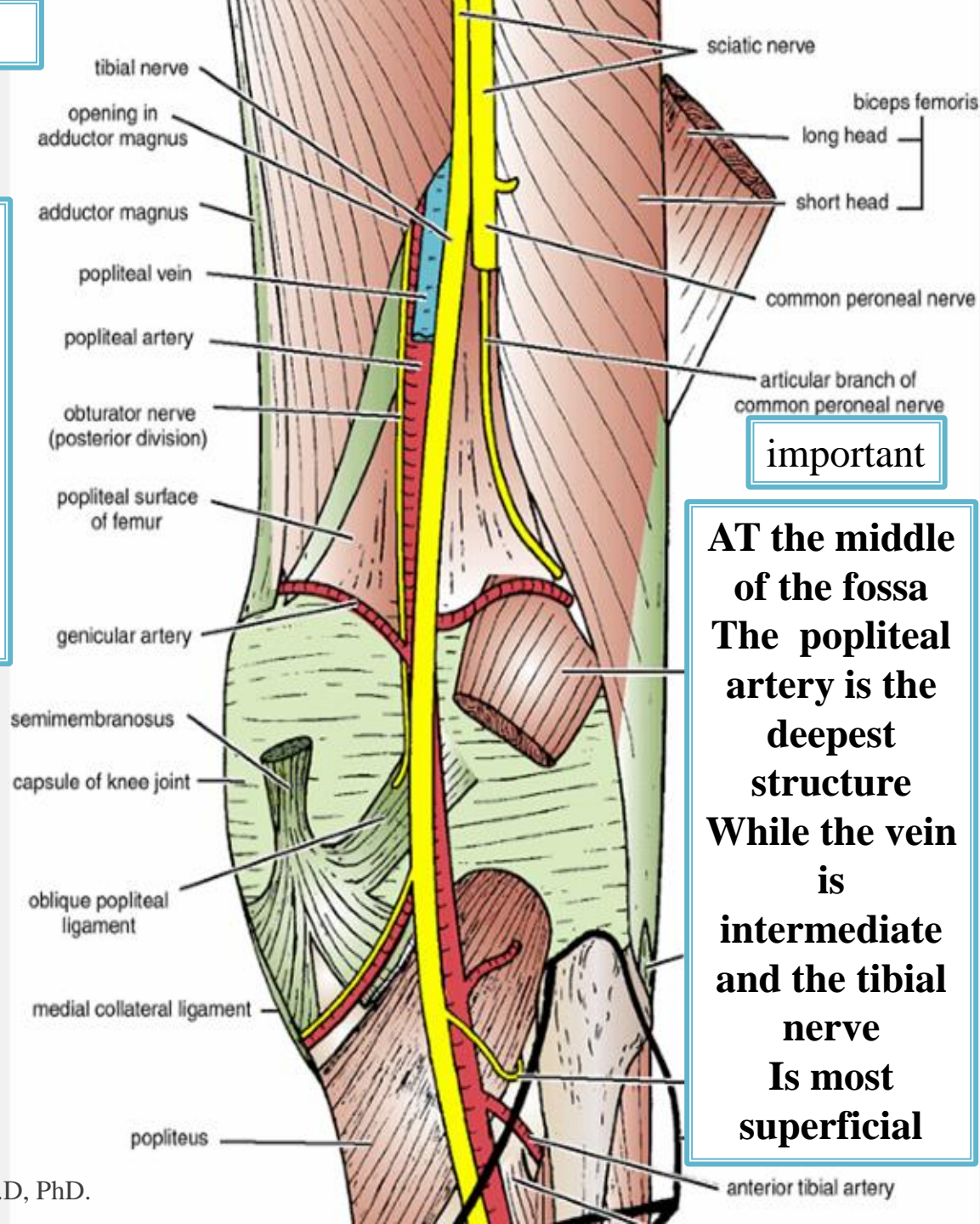


- Contents of the popliteal fossa***
- ***Popliteal artery and vein***
 - ***The common peroneal nerve (lateral popliteal nerve)***
 - ***Tibial nerve (medial popliteal nerve)***
 - ***The posterior cutaneous nerve of the thigh***
 - ***The small saphenous vein***
 - ***Connective tissue, and lymph nodes.***

The popliteal artery

➤ Enters the popliteal fossa through the opening in the adductor magnus as a continuation of the femoral artery (the deepest structure in the fossa).
➤ It ends at the level of the lower border of the popliteus muscle by dividing into anterior and posterior tibial arteries

Branches
Muscular branches
Articular (genicular)
branches to the knee.



important

AT the middle of the fossa The popliteal artery is the deepest structure While the vein is intermediate and the tibial nerve Is most superficial

Tibial Nerve

- The **larger** terminal branch of the **sciatic nerve**
 - Arises in the lower third of the thigh.
 - It runs downward through the popliteal fossa
 - Enters the posterior compartment of the leg by passing beneath the soleus muscle.

Branches

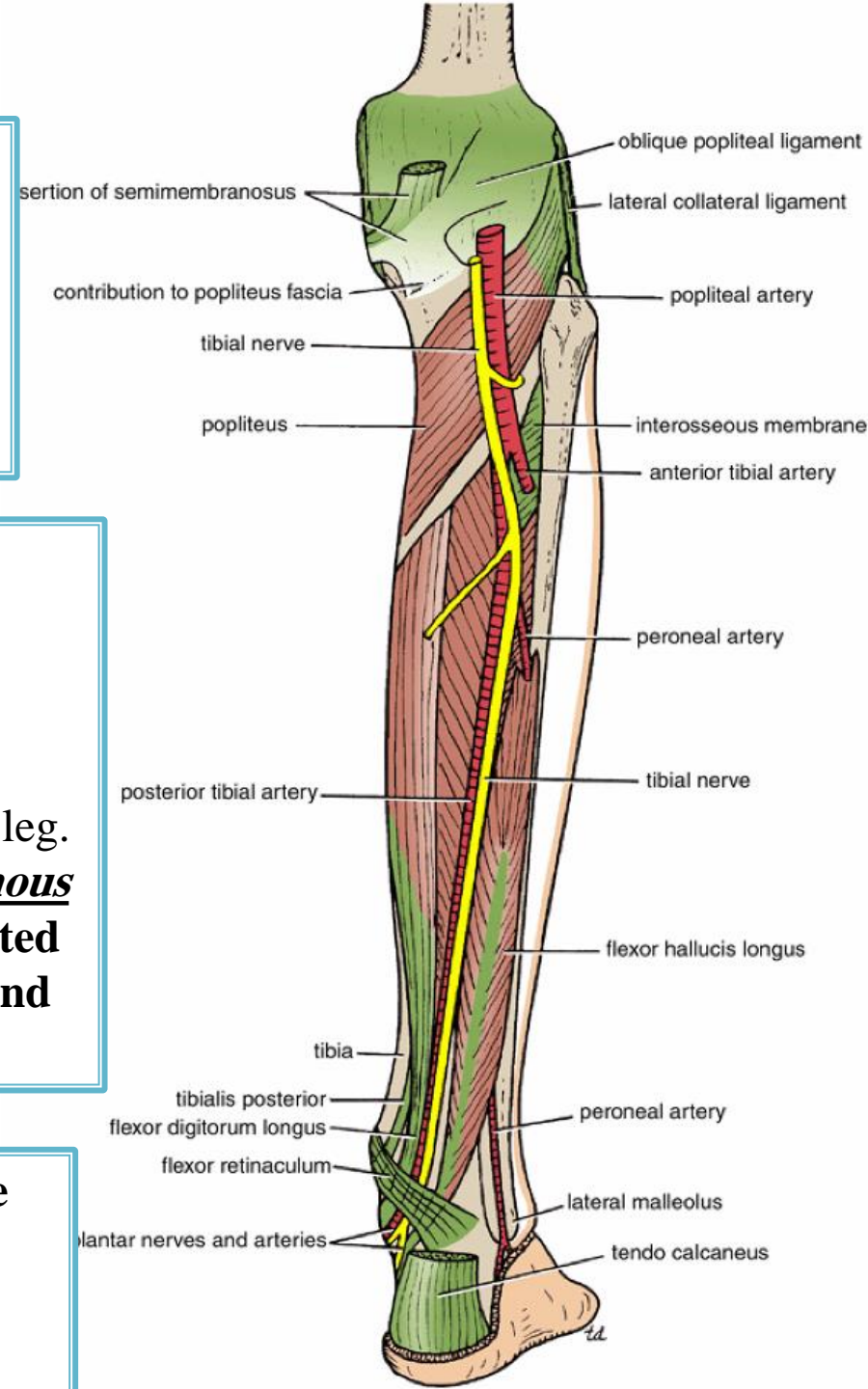
1-Cutaneous:

The sural nerve

- descends between the two heads of the **gastrocnemius muscle**
- Supplies the skin of the calf and the back of the leg.
- The sural nerve accompanies the ***small saphenous vein behind the lateral malleolus*** and is distributed to the skin along the lateral border of the foot and the lateral side of the little toe

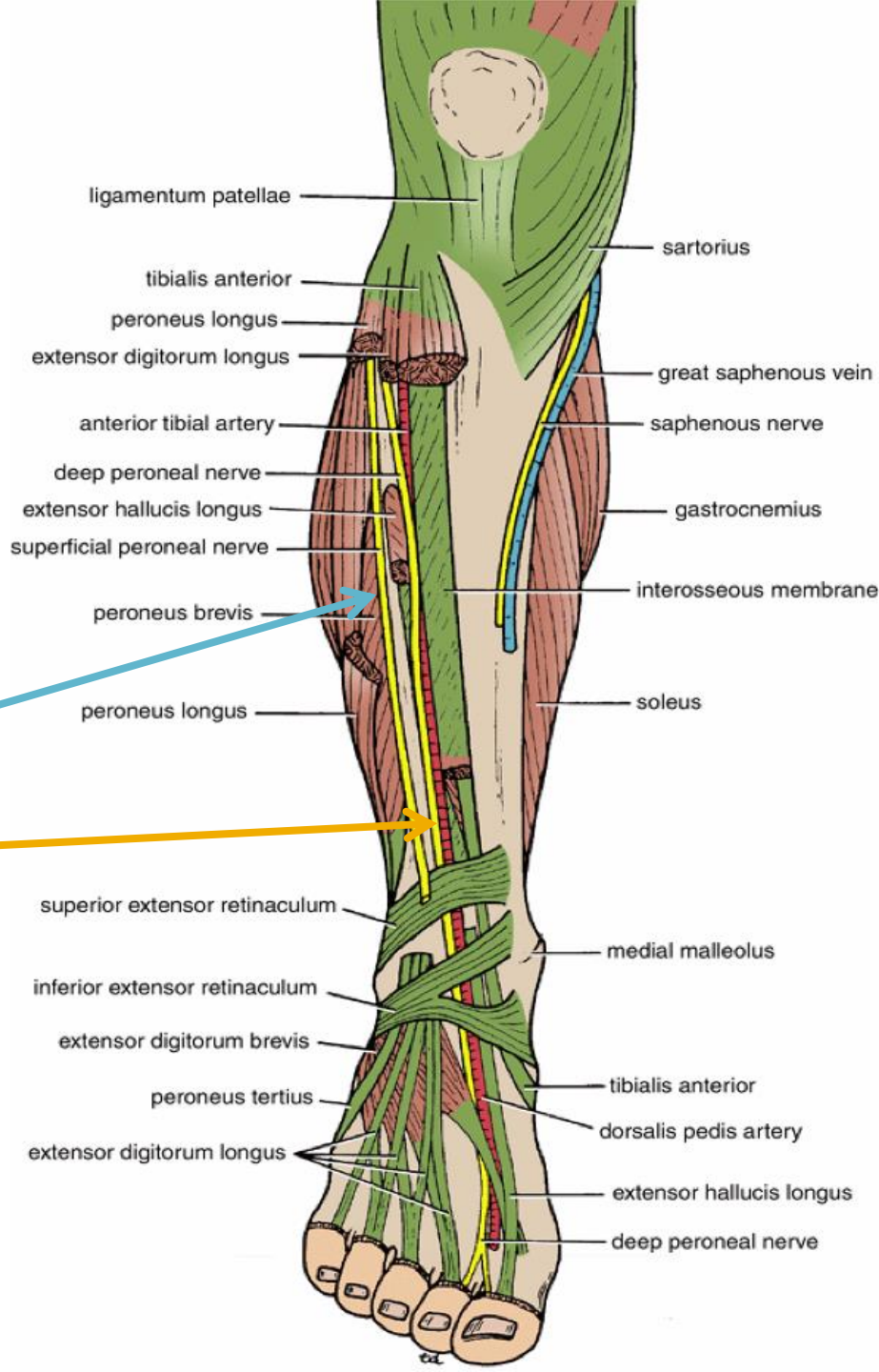
2-Muscular: branches supply both heads of the gastrocnemius and the plantaris, soleus, and popliteus

3-Articular: branches supply the knee joint.



Common Peroneal Nerve

- The smaller terminal branch of the sciatic nerve
- Arises in the lower third of the thigh.
- It runs downward through the popliteal fossa
- It leaves the fossa by crossing superficially the lateral head of the gastrocnemius muscle.
- *It then passes behind the head of the fibula, winds laterally around the neck of the bone (subcutaneous and exposed to injury), pierces the peroneus longus muscle.*
- Divides into two terminal branches:
 - The superficial peroneal nerve
 - The deep peroneal nerve



Branches

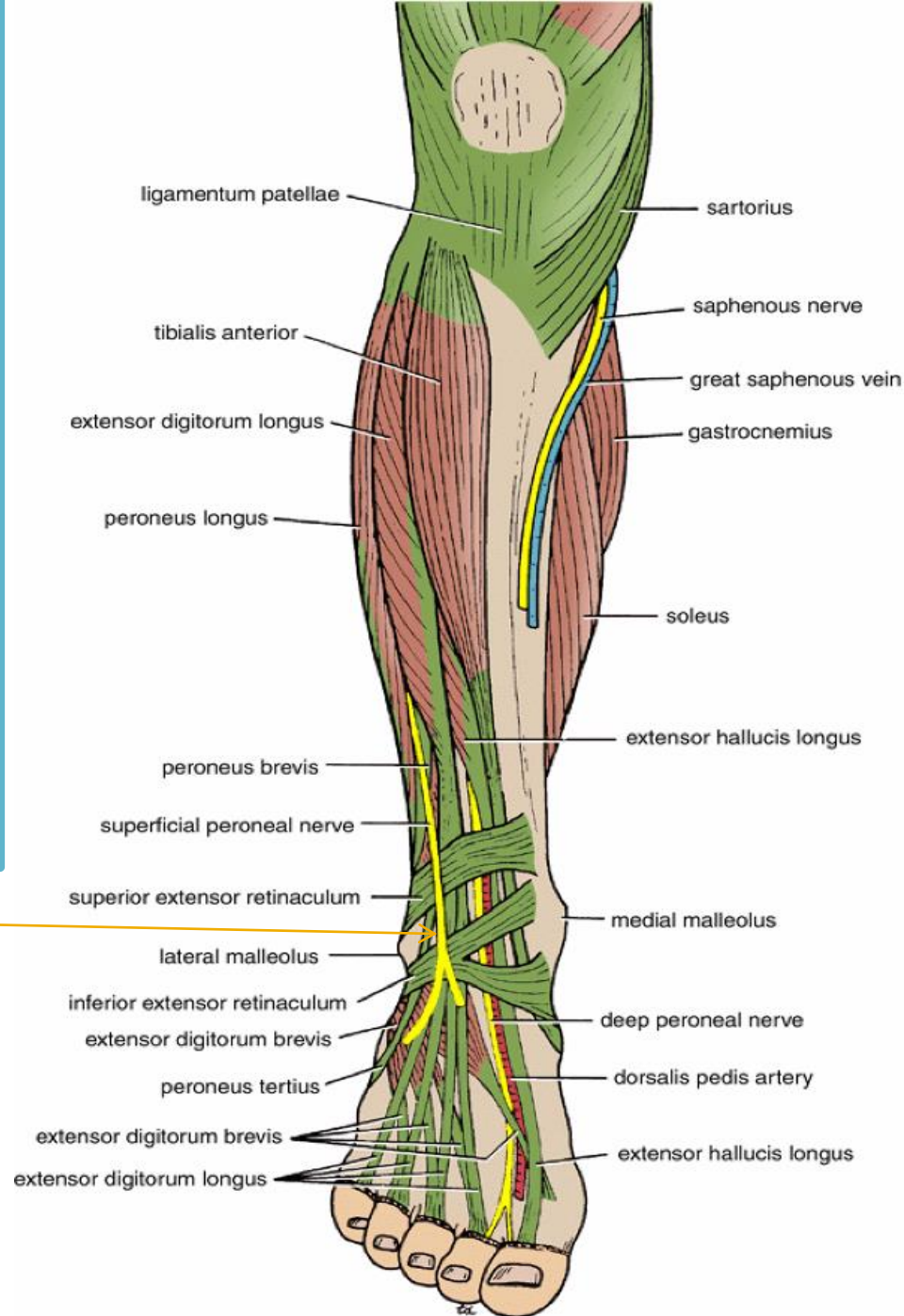
Cutaneous:

- **The sural communicating branch**
- ***The lateral cutaneous nerve of the calf***

supplies the skin on the lateral side of the back of the leg

Muscular branch: to the short head of the biceps femoris muscle, which arises high up in the popliteal fossa

Articular: branches to the knee joint



The superficial peroneal nerve
Also called the musculocutaneous
nerve of the leg,
Supplies two muscles and then becomes
cutaneous where
It supplies the skin over the leg

What Is the Pes Anserine

The pes anserine is an anatomical name for the place where three tendons insert into your shin bone. The tendons form the shape of a goose's foot, and the name pes anserine translates to "goose foot." Three tendons make up the pes anserine insertion. These are:

- The sartorius tendon
- The gracilis tendon
- The semitendinosus tendon of your hamstring

Bursae

- They are small, jelly-like sacs
- They are located throughout the body, including around the shoulder, elbow, hip, knee, and heel.
- They contain a small amount of fluid
- They are positioned between bones and soft tissues,
- Acting as cushions to help reduce friction.

Pes anserine bursitis

- It is an inflammation of the bursa located between the shinbone (tibia) and three tendons
- It occurs when the bursa becomes irritated mostly during running or taking stairs).
- Causes pain on the inside of the knee (The patient may experience spontaneous anteromedial knee pain on climbing or descending stairs and tenderness at the

