

# POSTERIOR COMPARTMENT OF THIGH

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# Contents of the Posterior Compartment of the Thigh

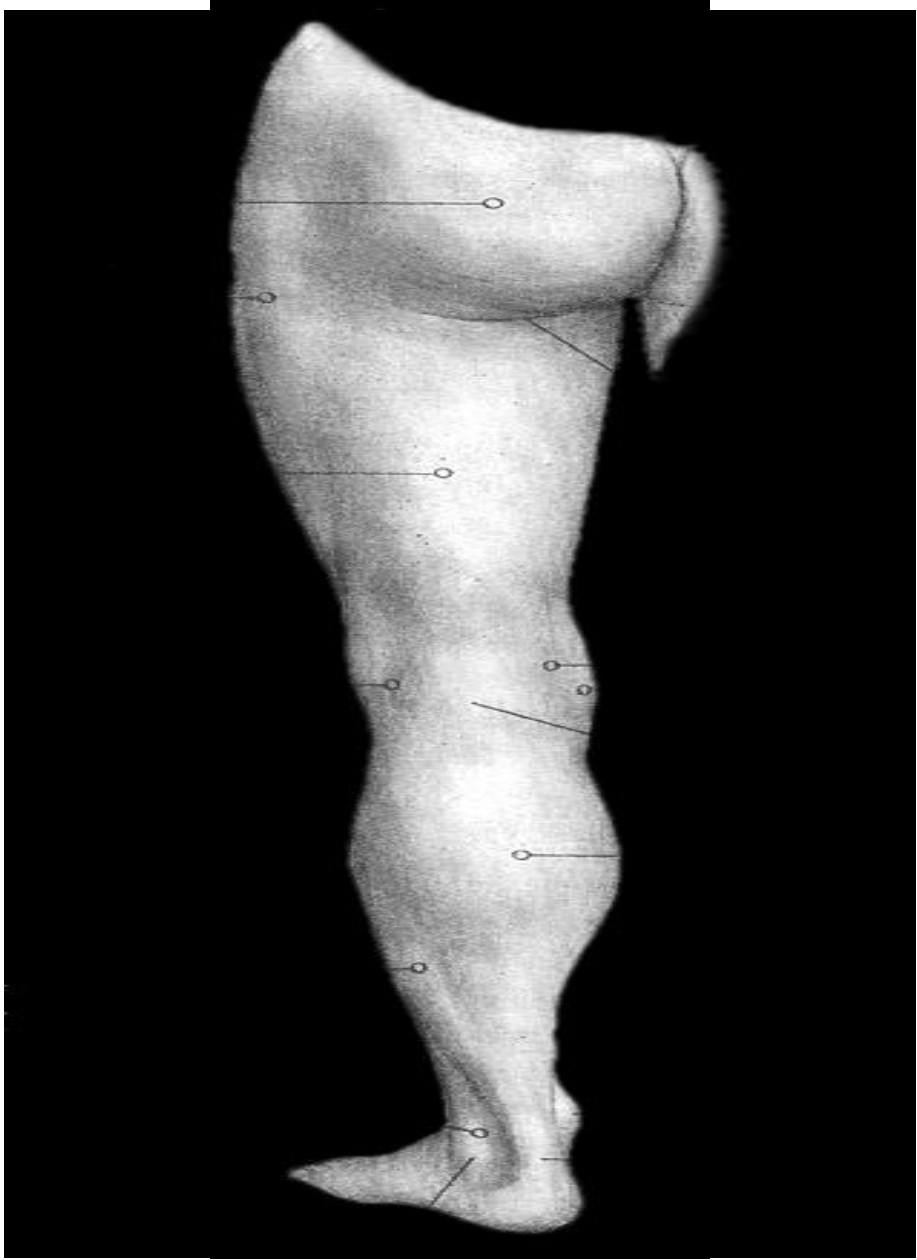
- **Muscles (hamstring muscles):**

Biceps femoris, semitendinosus, semimembranosus, and ischial part of the adductor magnus

- **Blood supply:**

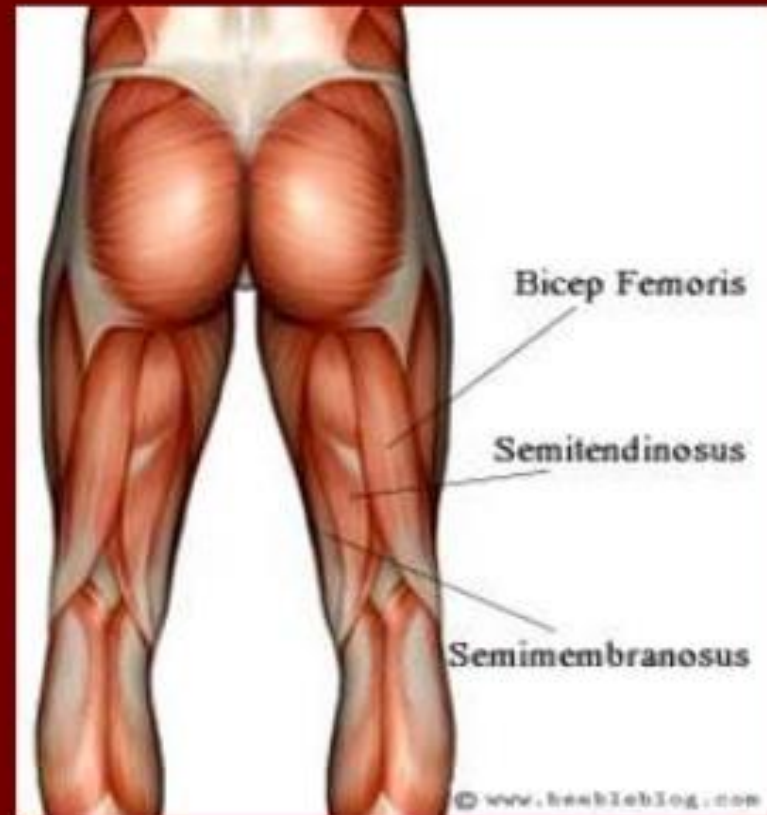
Branches of the profunda femoris artery

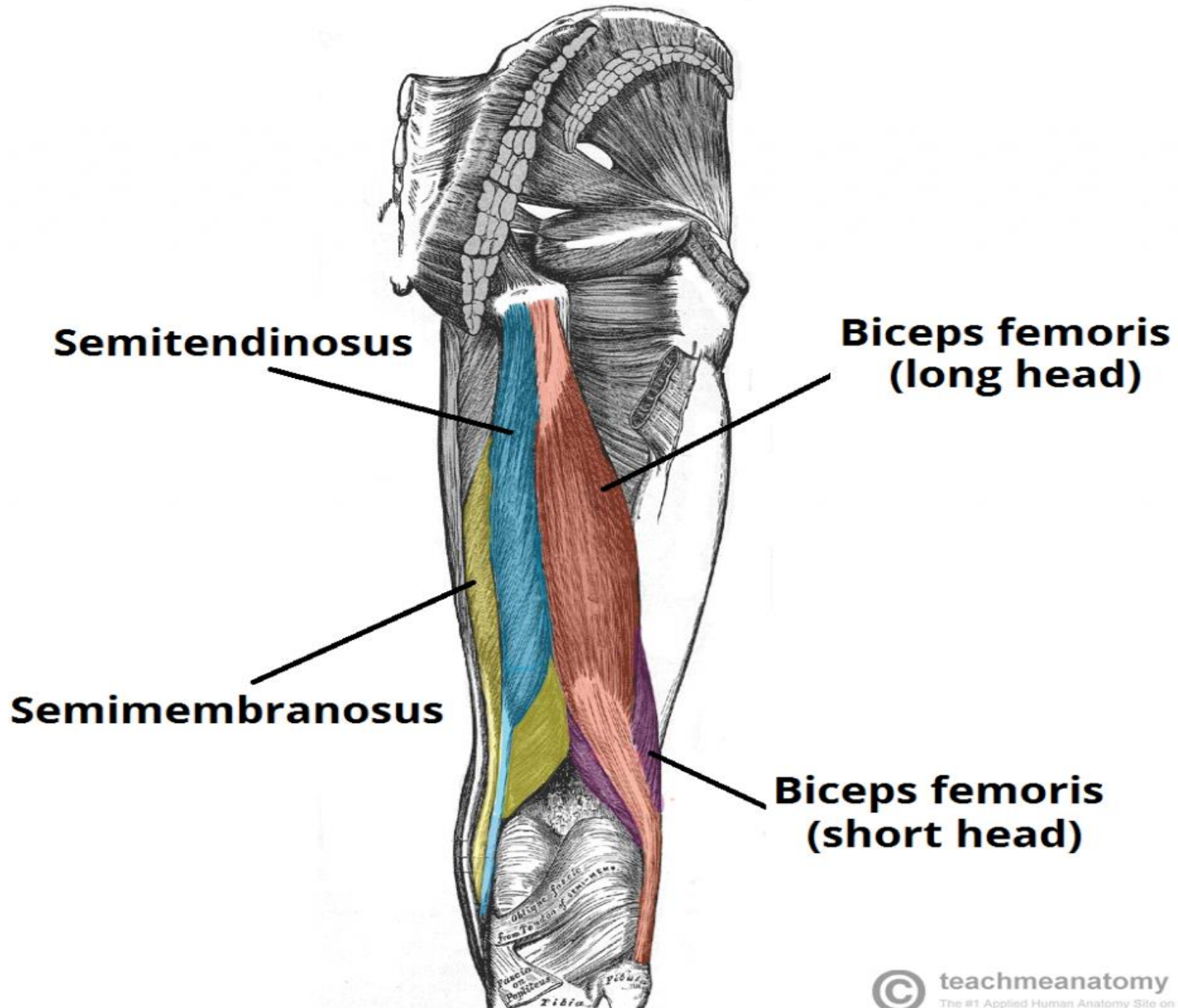
- **Nerve supply:** Sciatic nerve



# Hamstring Muscles

**Biceps femoris.**  
**Semitendinosus.**  
**Semimembranosus**  
**Ischial part of**  
**Adductor magnus.**





**Semitendinosus**

**Biceps femoris  
(long head)**

**Semimembranosus**

**Biceps femoris  
(short head)**

## Anterior Extensor Muscles

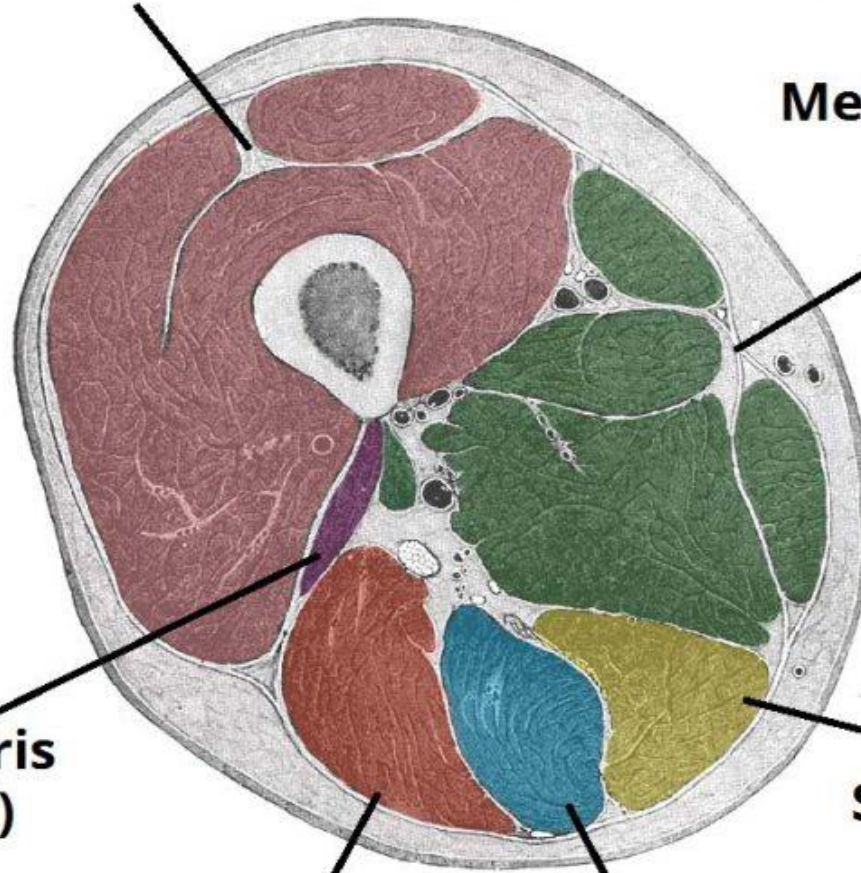
## Medial Adductor Muscles

Biceps femoris  
(short head)

Semimembranosus

Biceps femoris  
(long head)

Semitendinosus



# Biceps Femoris

The Long Head originates from a combined tendon with the semimembranosus on the superior medial quadrant of the ischial tuberosity

The Short Head arises from the Femoral Shaft

- middle third of the Linea Aspera
- Lateral Supracondylar Ridge



# Biceps Femoris

The two muscles unite to form an aponeurosis that inserts onto

- fibular head
- lateral collateral ligament of the knee
- lateral tibial condyle

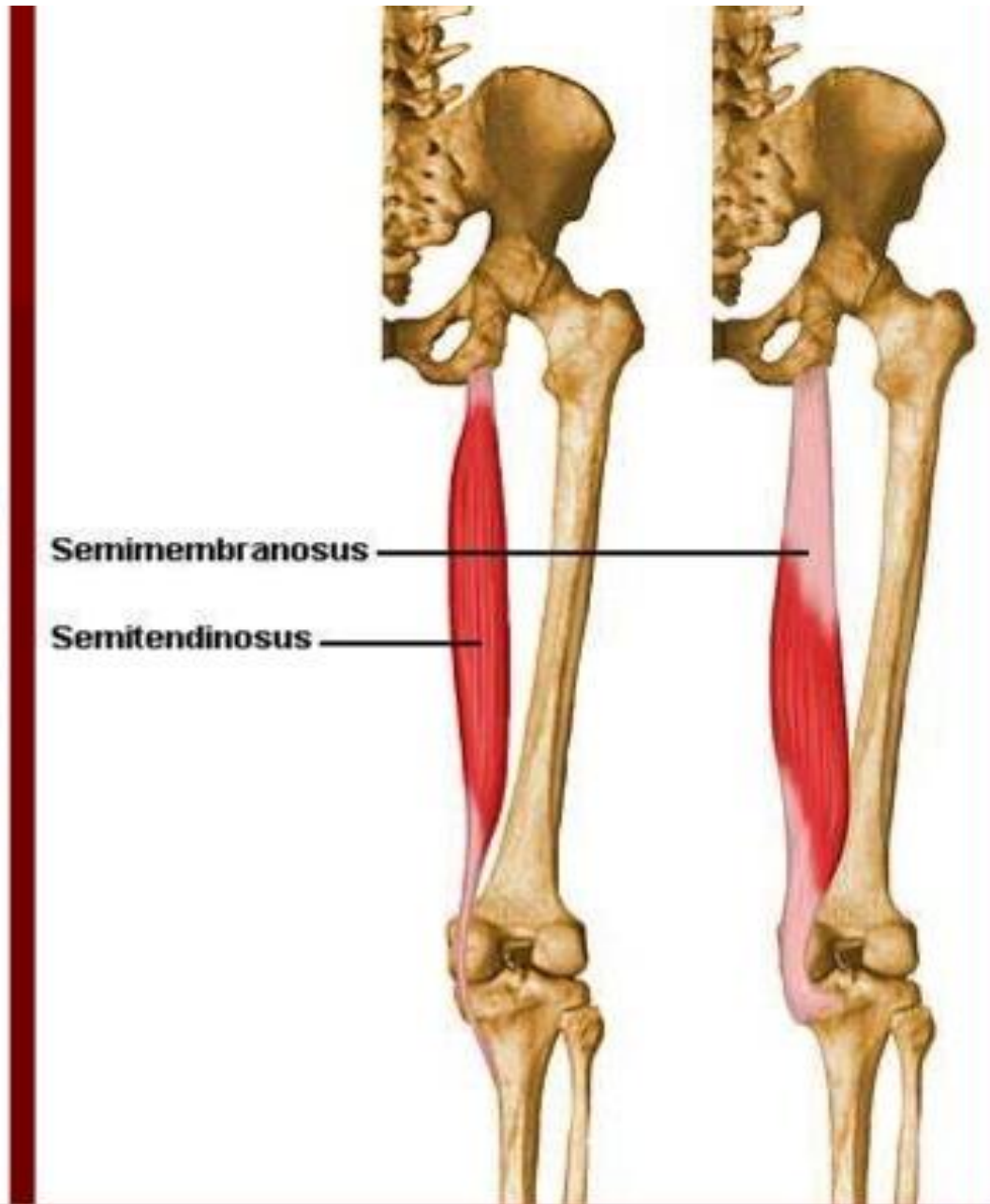


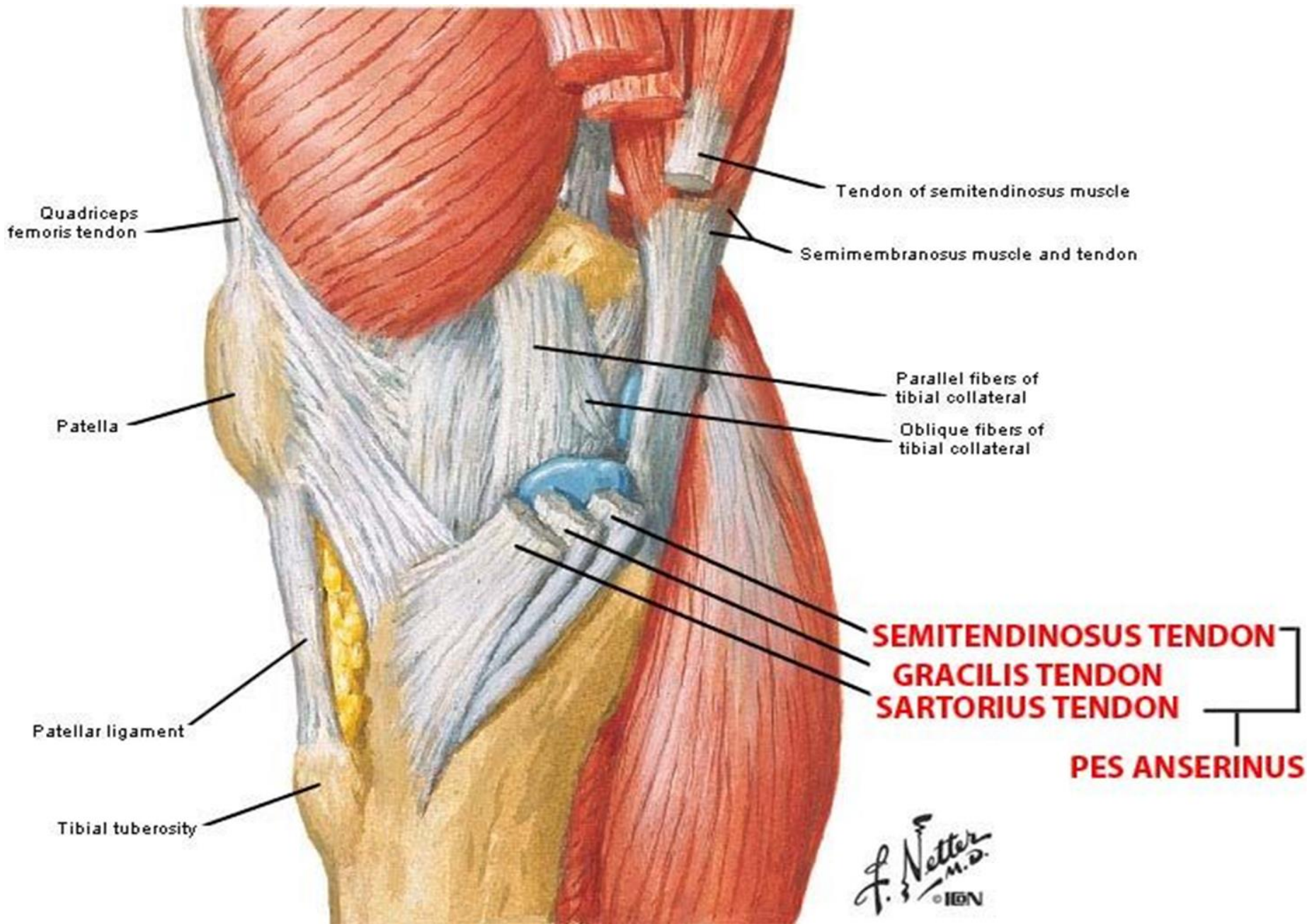


- Actions: Main action is flexion at the knee. It also extends the thigh at the hip, and laterally rotates at the hip and knee.
- Innervation: Long head innervated by the tibial part of the sciatic nerve, whereas the short head is innervated by the common fibular part of the sciatic nerve.

# SEMITENDINOSUS MUSCLE

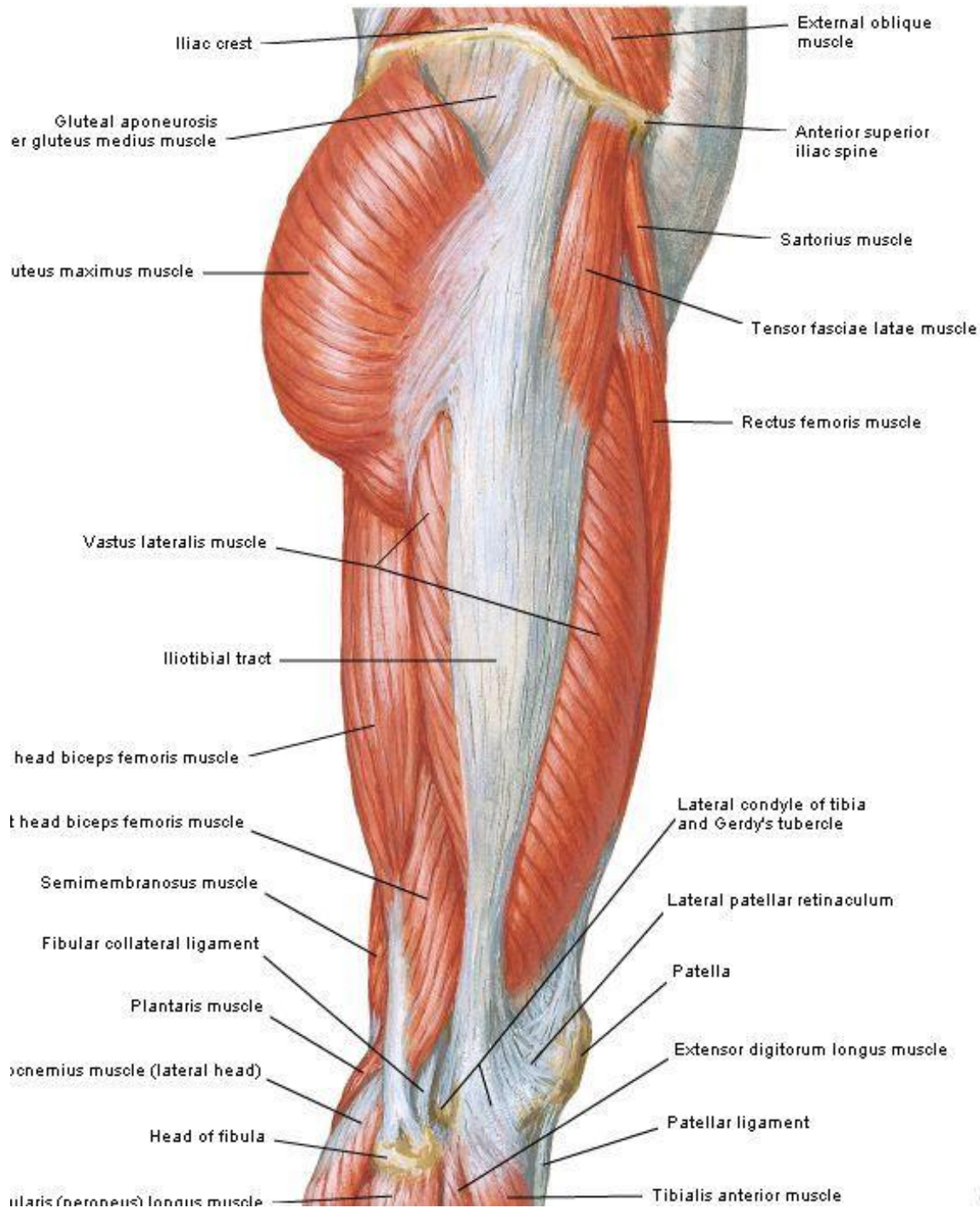
- The semitendinosus is a largely tendinous muscle. It lies medially to the biceps femoris, and covers the majority of the semimembranosus.
- Attachments: It originates from the ischial tuberosity of the pelvis, and attaches to the medial surface of the tibia.
- Actions: Flexion of the leg at the knee joint. Extension of thigh at the hip. Medially rotates the thigh at the hip joint and the leg at the knee joint.
- Innervation: Tibial part of the sciatic nerve.





# SEMIMEMBRANOSUS MUSCLE

- The semimembranosus muscle is flattened and broad. It is located underneath the semitendinosus.
- Attachments: It originates from the ischial tuberosity, but does so more superiorly than the semitendinosus and biceps femoris. It attaches to the medial tibial condyle.
- Actions: Flexion of the leg at the knee joint. Extension of thigh at the hip. Medially rotates the thigh at the hip joint and the leg at the knee joint.
- Innervation: Tibial part of the sciatic nerve.



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# Ischial part of the adductor Magnus

## Origin:

from the lateral part of the lower area of the ischial tuberosity.

## Insertion:

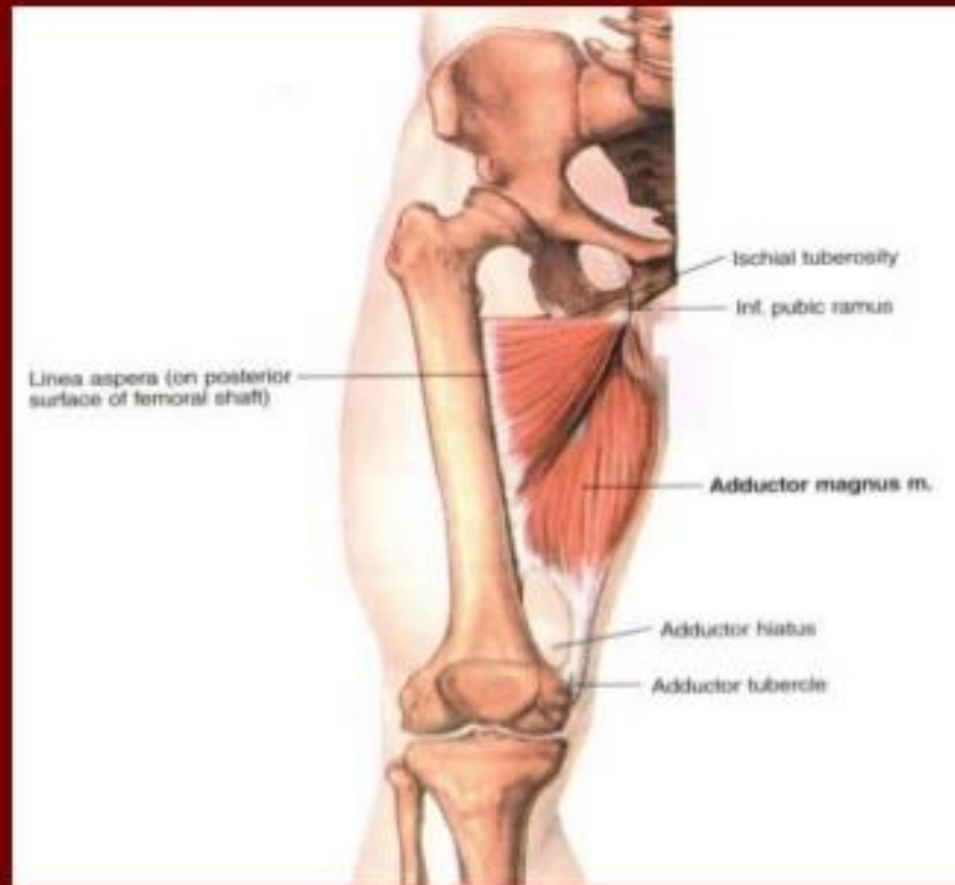
Adductor tubercle of the femur.

## Nerve Supply:

Sciatic nerve.

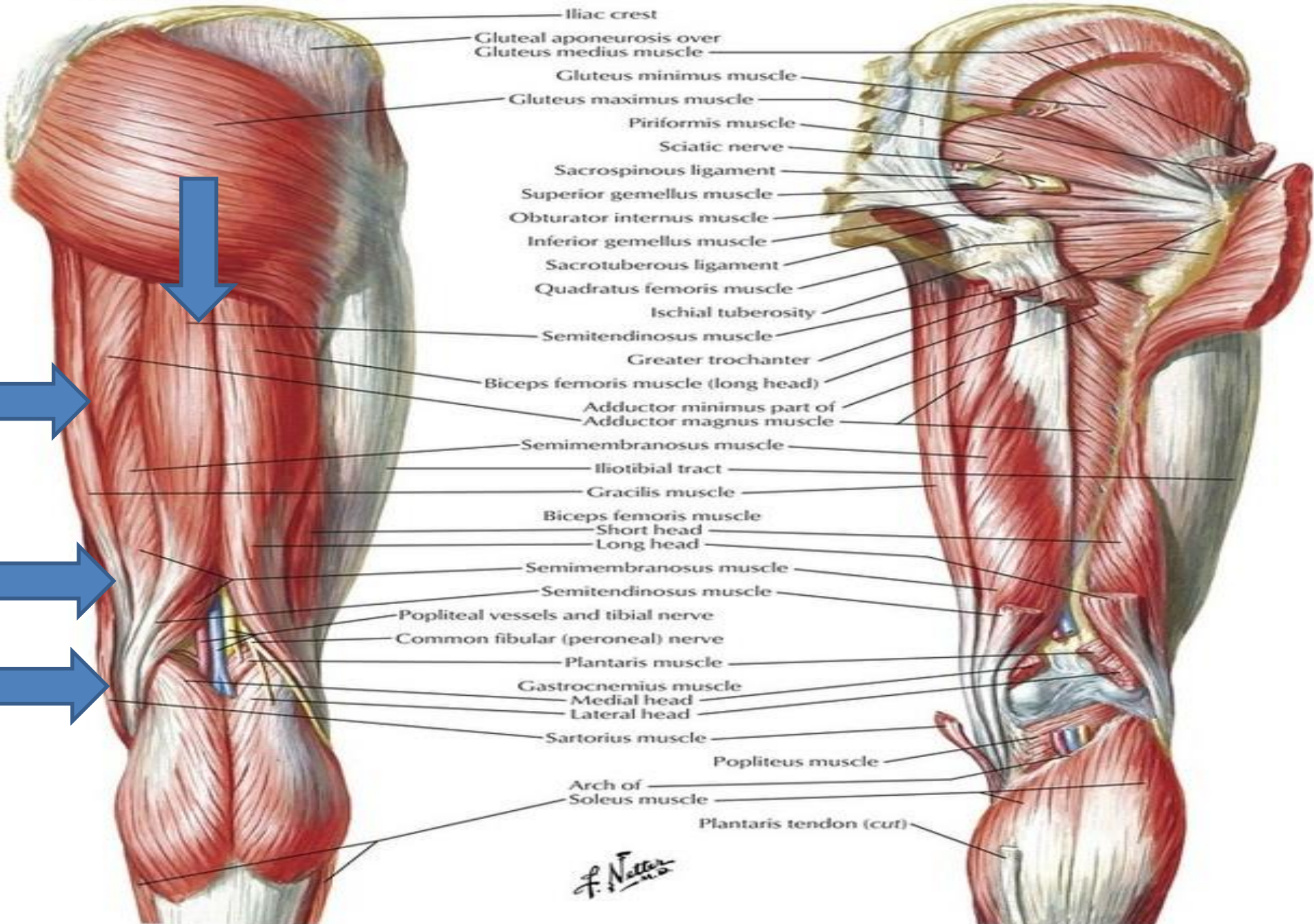
## Action:

Extension of the thigh.



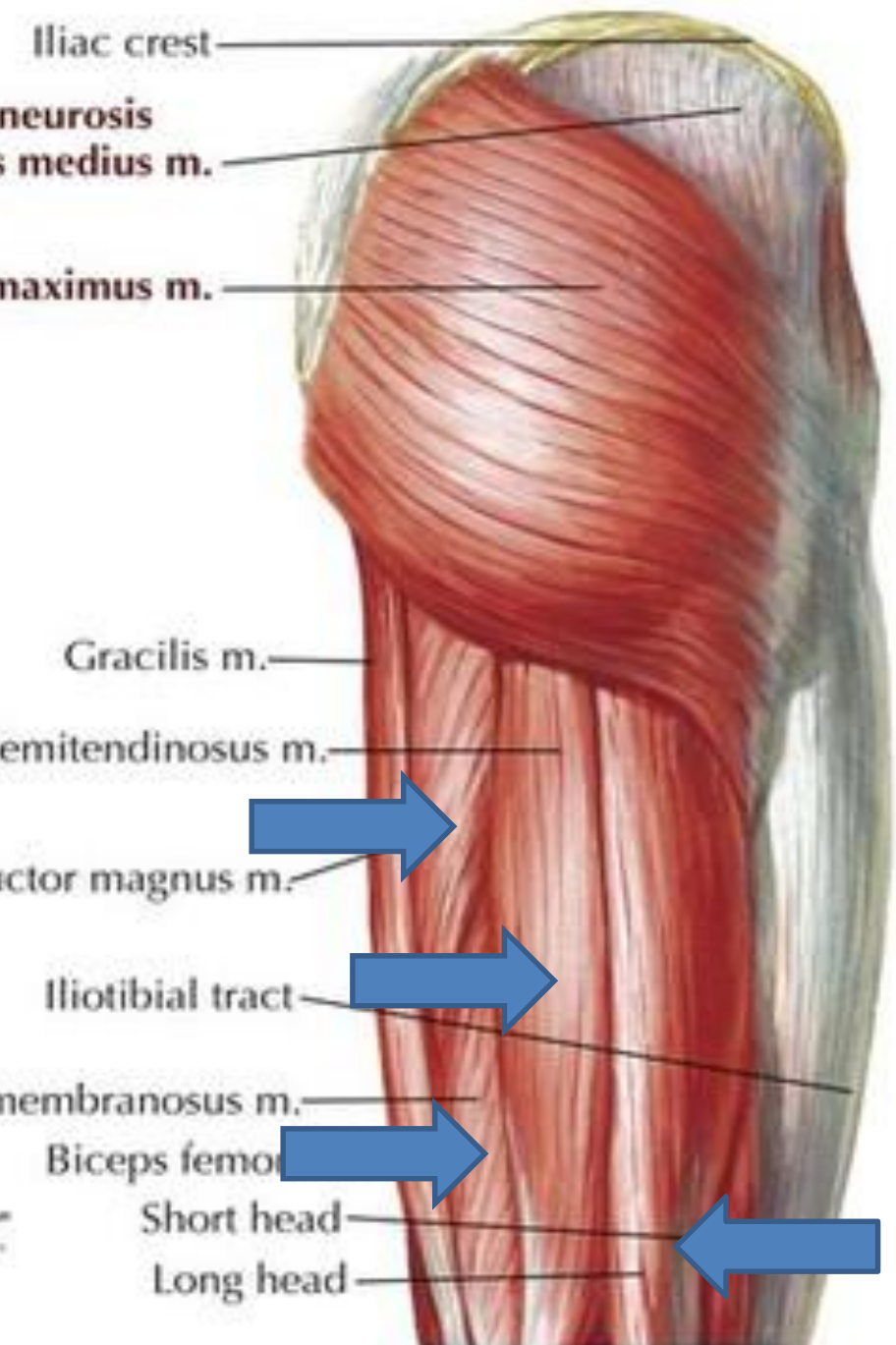
## Superficial dissection

## Deeper dissection

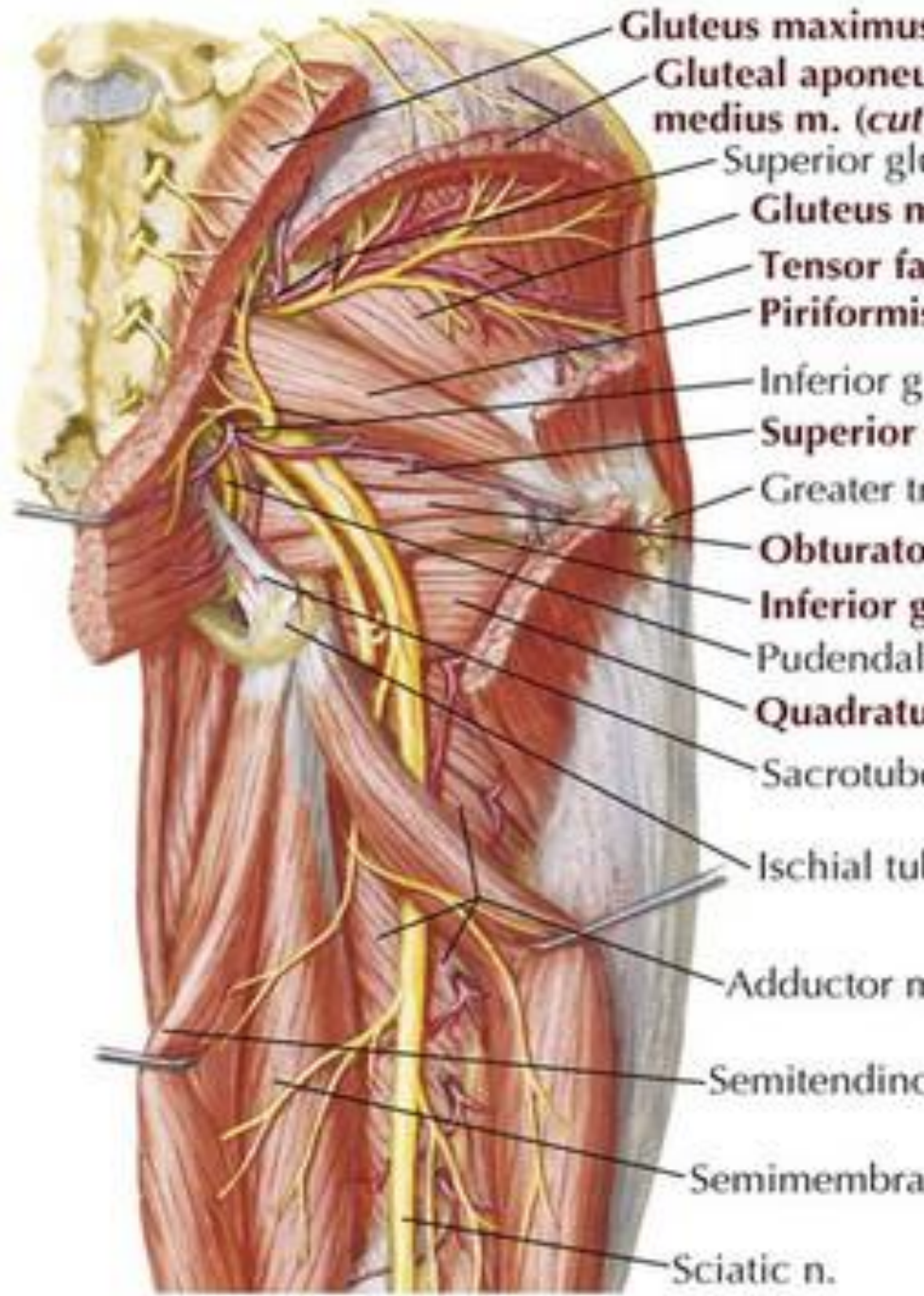




## Superficial dissection



## Deep dissection

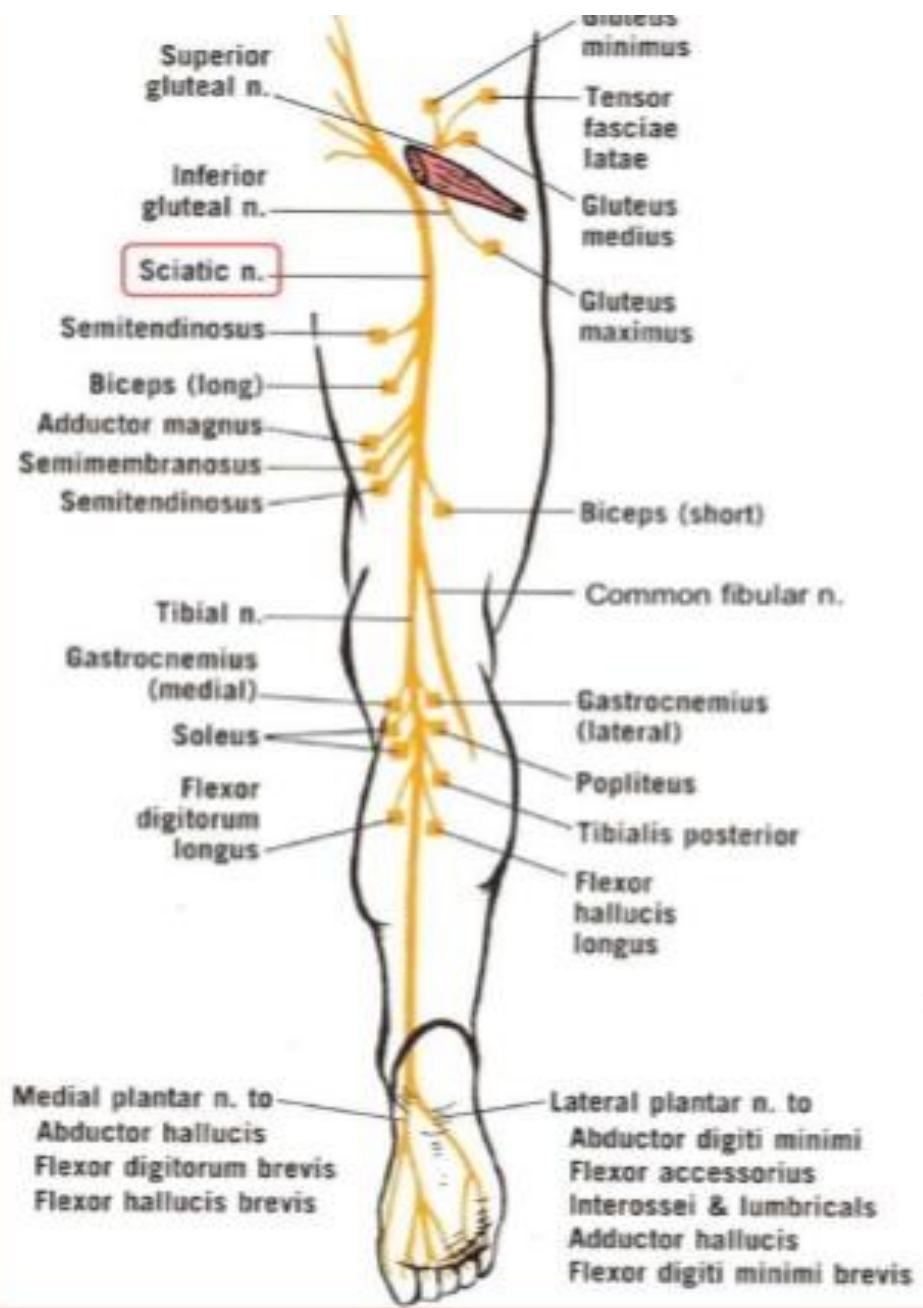
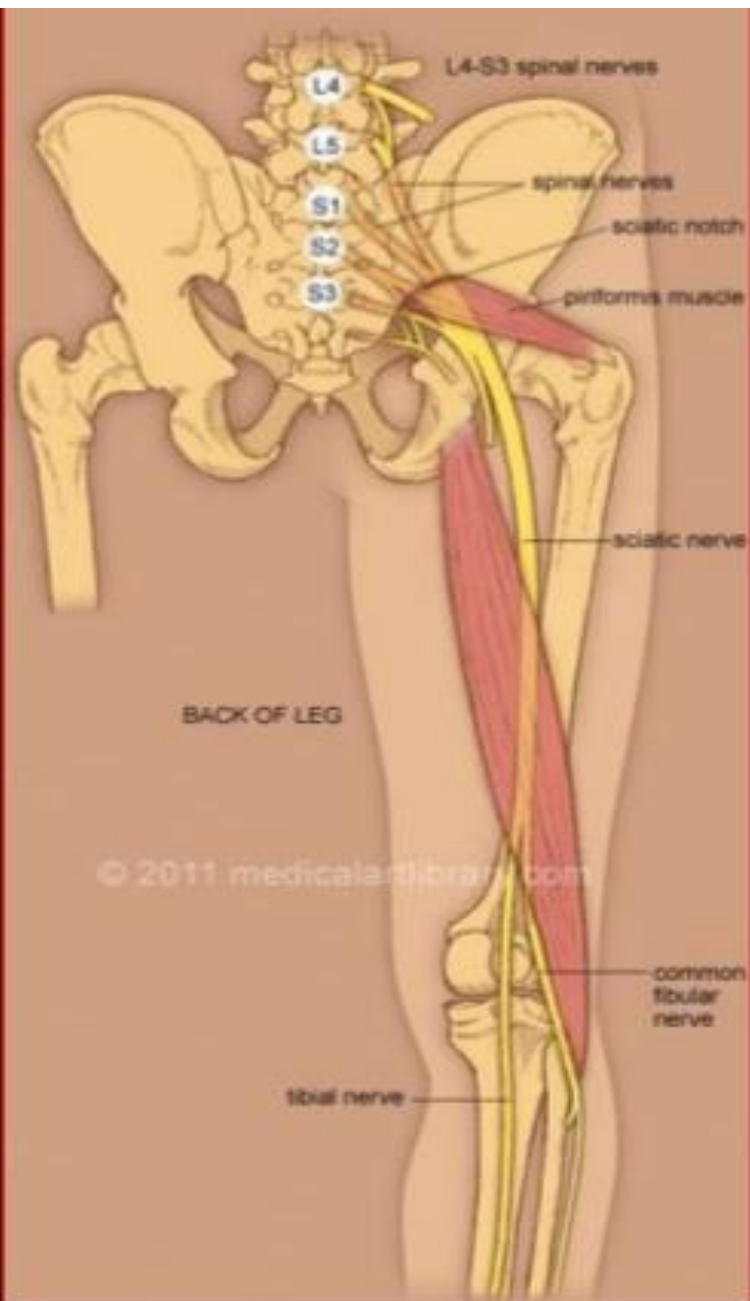


# Nerve Supply of the Posterior Thigh



At its origin the  
Sciatic Nerve is the thickest  
nerve in the body - 2cm

It exits the pelvis through the  
Greater Sciatic Foramen  
and runs down the  
posterior aspect of the thigh





The Sciatic Nerve has two components

-Tibial Division

-Common Peroneal Division

The level at which the Sciatic nerve divides into its component parts is variable

It is usually at the middle to lower third of the thigh, but can be as high as the origin of the sciatic nerve itself



Hamstring muscles are  
supplied by the

**Sciatic Nerve**

Semimembranosus

Semitendinosus

Long Head of Biceps Femoris

Are supplied by the Tibial Division



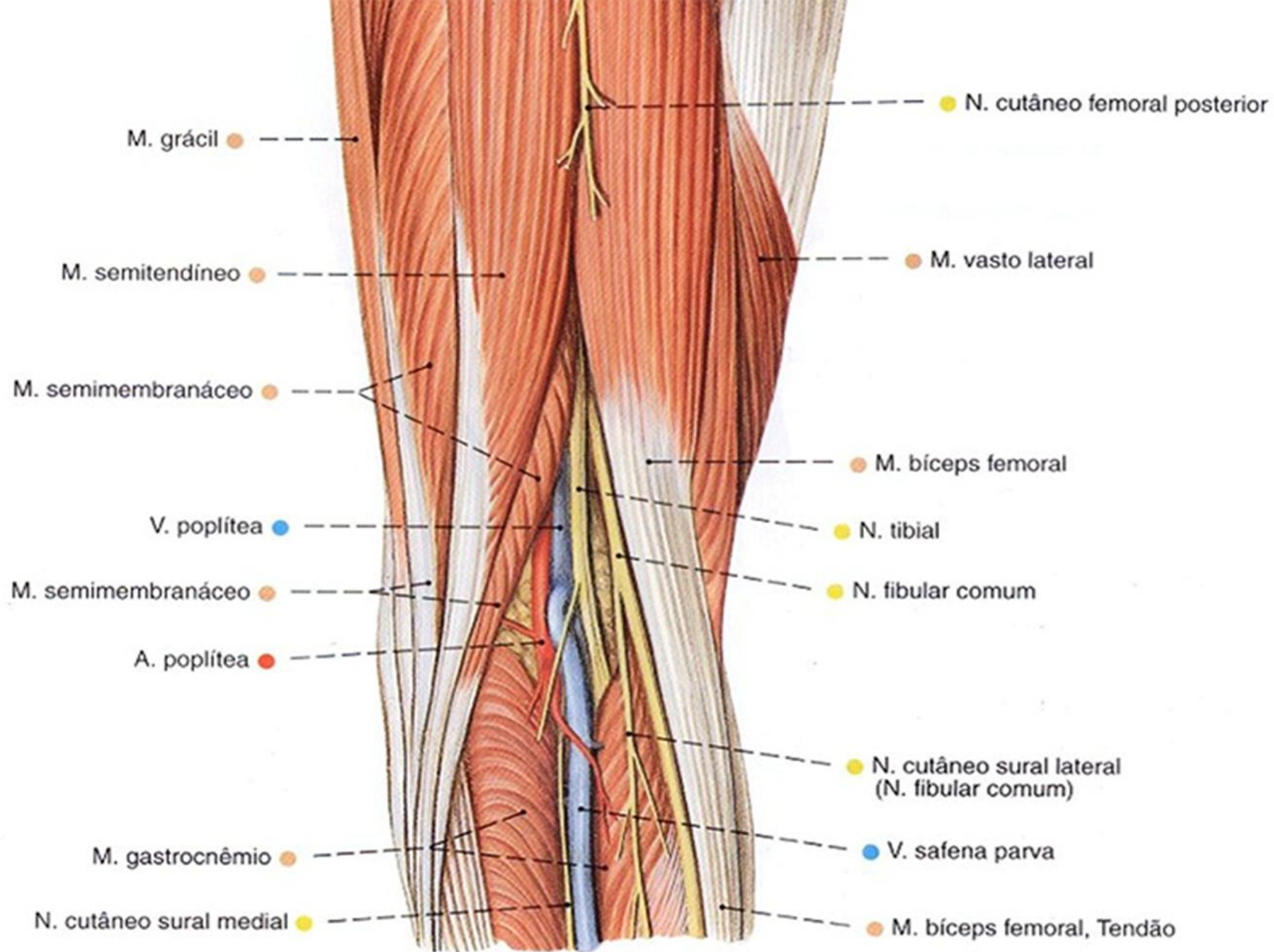
The Hamstring muscles are  
supplied by the  
**Sciatic Nerve**

The Short Head of Biceps  
is supplied by the  
**Common Peroneal Division**



The Tibial Division of the  
Sciatic Nerve  
also supplies the  
Hamstring portion of  
Adductor Magnus



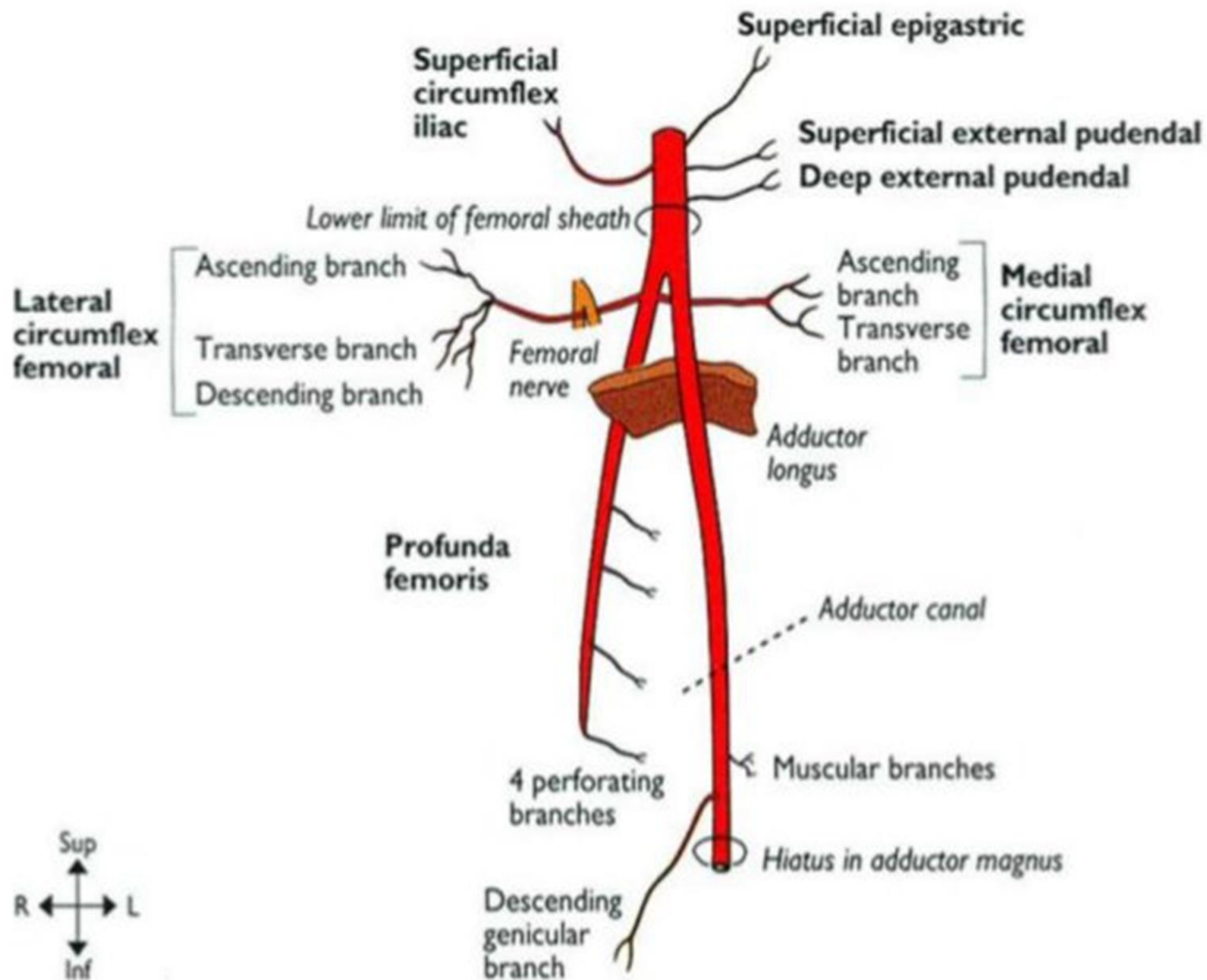


# Blood Supply

- The four perforating branches of the profunda femoris artery provide a rich blood supply to the posterior compartment of the thigh.
- The profunda femoris vein drains the greater part of the blood from the compartment.

## Profunda Femoris Artery

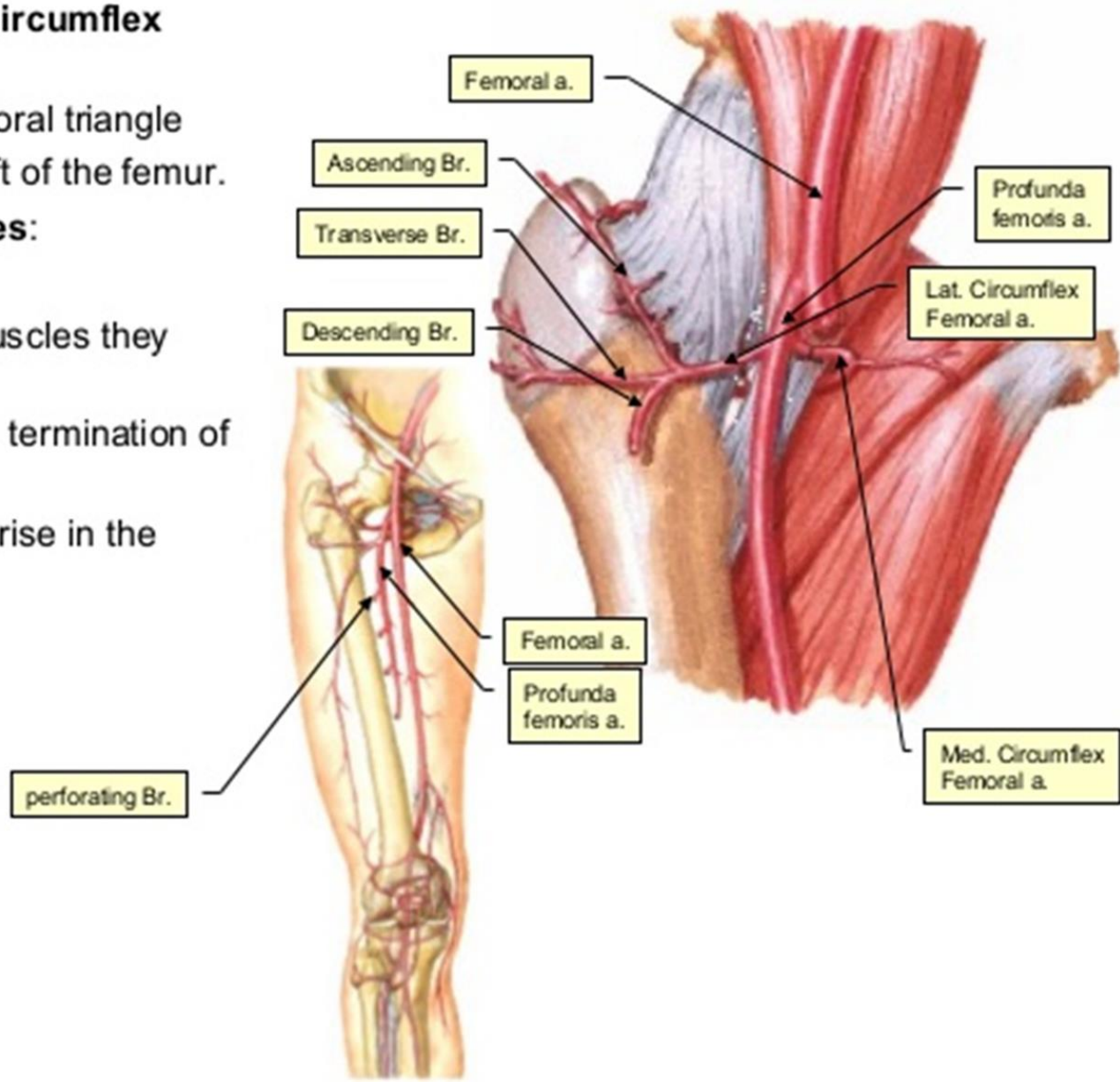
- It is a large artery that arises from the femoral artery in the femoral triangle, about 1.5 in. (4 cm) below the inguinal ligament.
- It descends in the interval between the adductor longus and adductor brevis and then lies on the adductor magnus, where it ends as **the fourth perforating artery**.





# 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



# CLINICAL ANATOMY.....Muscle Strain

- A hamstring strain refers to excessive stretch or tearing of the muscle fibres. They are often seen in athletes involved in running or kicking sports. Damage to the muscle fibres is likely to rupture the surrounding blood vessels – producing a haematoma (a collection of blood). The haematoma is contained by the overlying fascia lata.
- Treatment of any muscle strain should utilise the RICE protocol – rest, ice, compression and elevation.

# Avulsion Fracture of the Ischial Tuberosity

- An avulsion fracture occurs when a fragment of bone breaks away from the main body of bone.
- In an avulsion fracture of the ischial tuberosity, the hamstring tendons ‘tear off’ a piece of the ischial tuberosity. Such an injury usually occurs in sports that require rapid contraction and relaxation of the muscles – such as sprinting, football and hurdling.