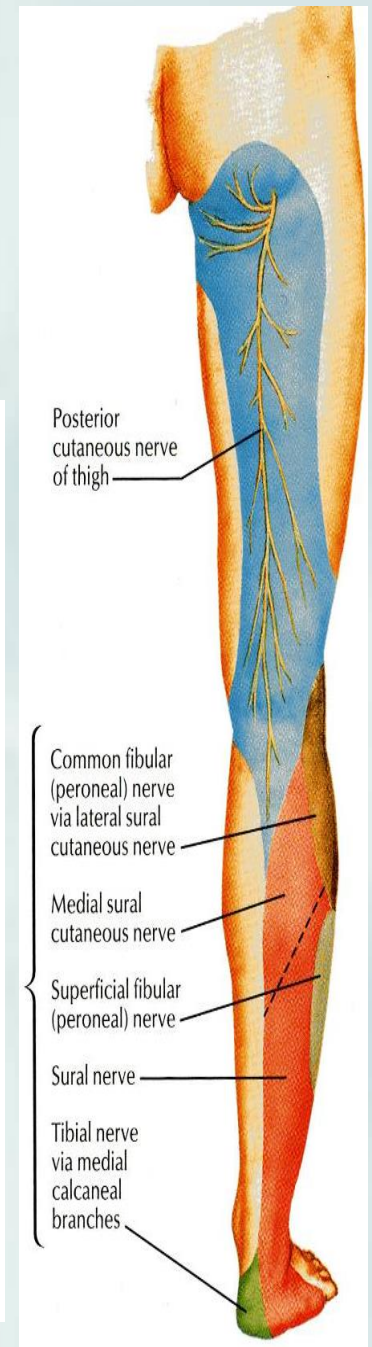
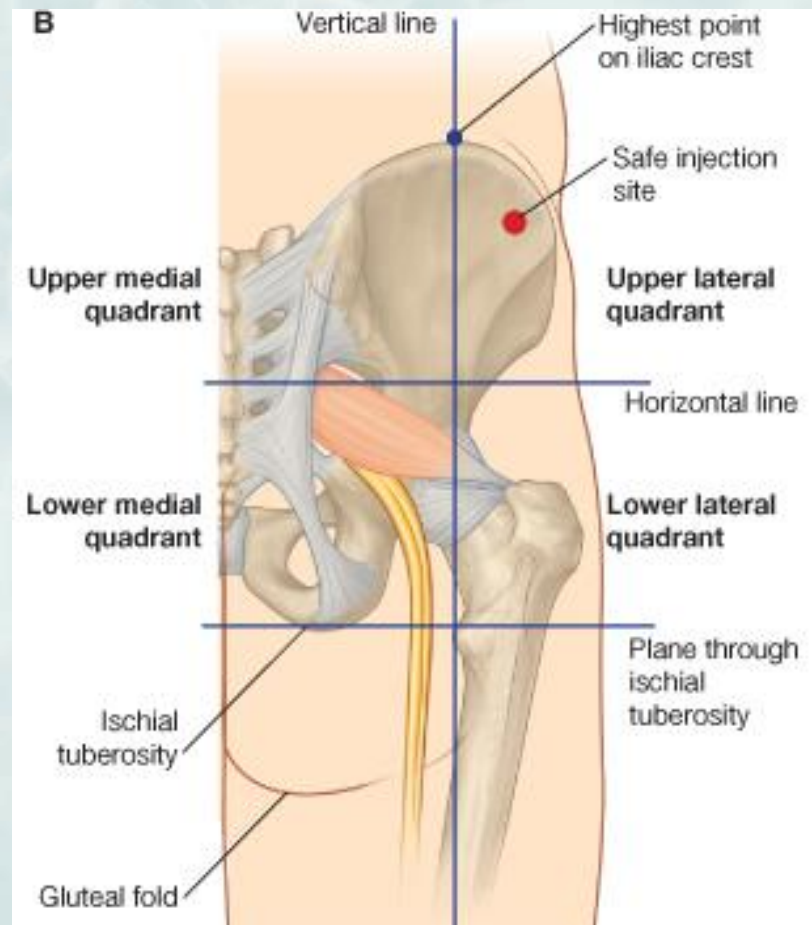


GLUTEAL REGION & BACK OF THIGH



OBJECTIVES

- ❖ By the end of this lecture, you should be able to identify:
- ❖ Contents of the gluteal region:
 - ❖ **3 Glutei muscles:** Gluteus maximus, medius and minimus.
 - ❖ **Other 5 Small muscles:** Piriformis, Obturator internus, Superior gemellus, Inferior gemellus and Quadratus femoris.
- **Nerves & vessels.**
- ❖ Foramina: 1-Greater Sciatic Foramen.
2-Lesser Sciatic Foramen.
- **Back of the thigh: Hamstring muscles.**

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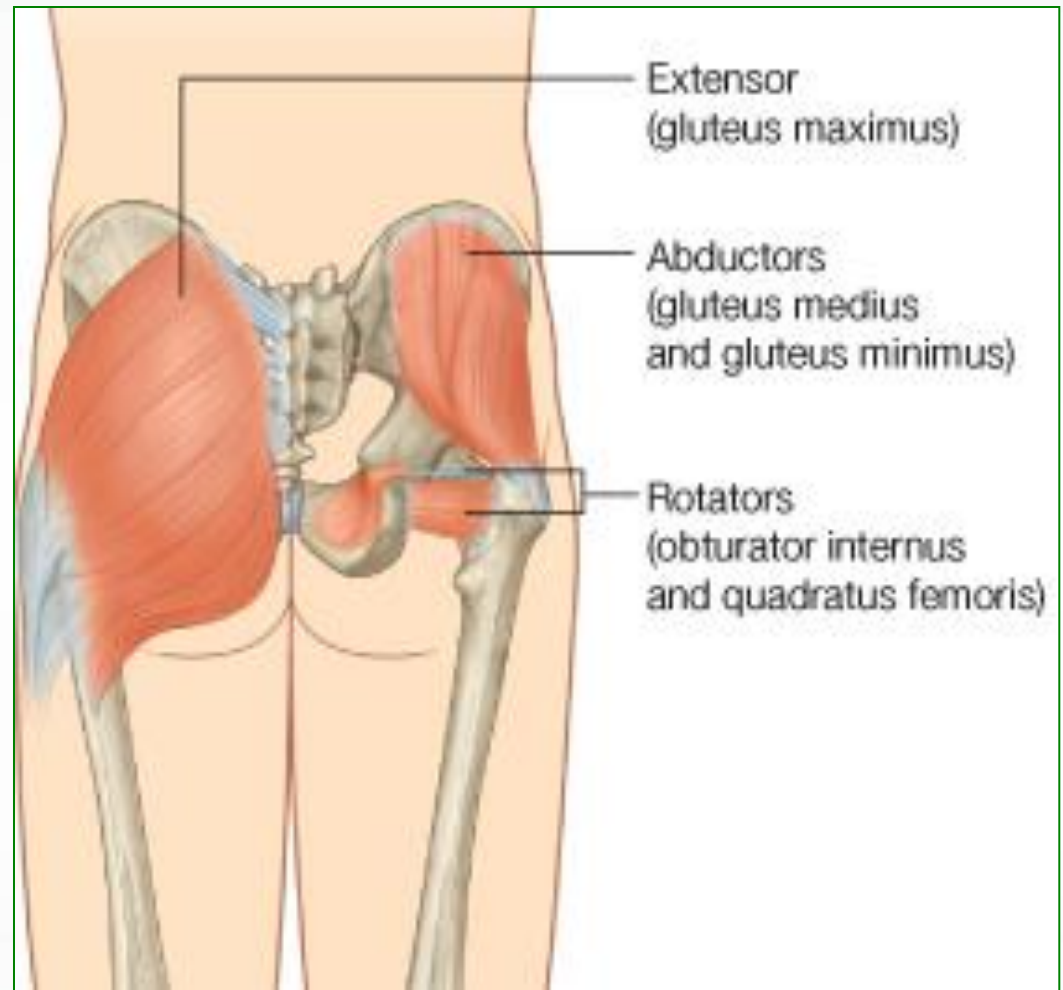
- I - Muscles:

A- GLUTEI:

1. Gluteus maximus.
2. Gluteus medius.
3. Gluteus minimus.

B- GROUP OF SMALL MUSCLES:

1. Piriformis.
2. Obturator internus.
3. Superior gemellus.
4. Inferior gemellus.
5. Quadratus femoris.

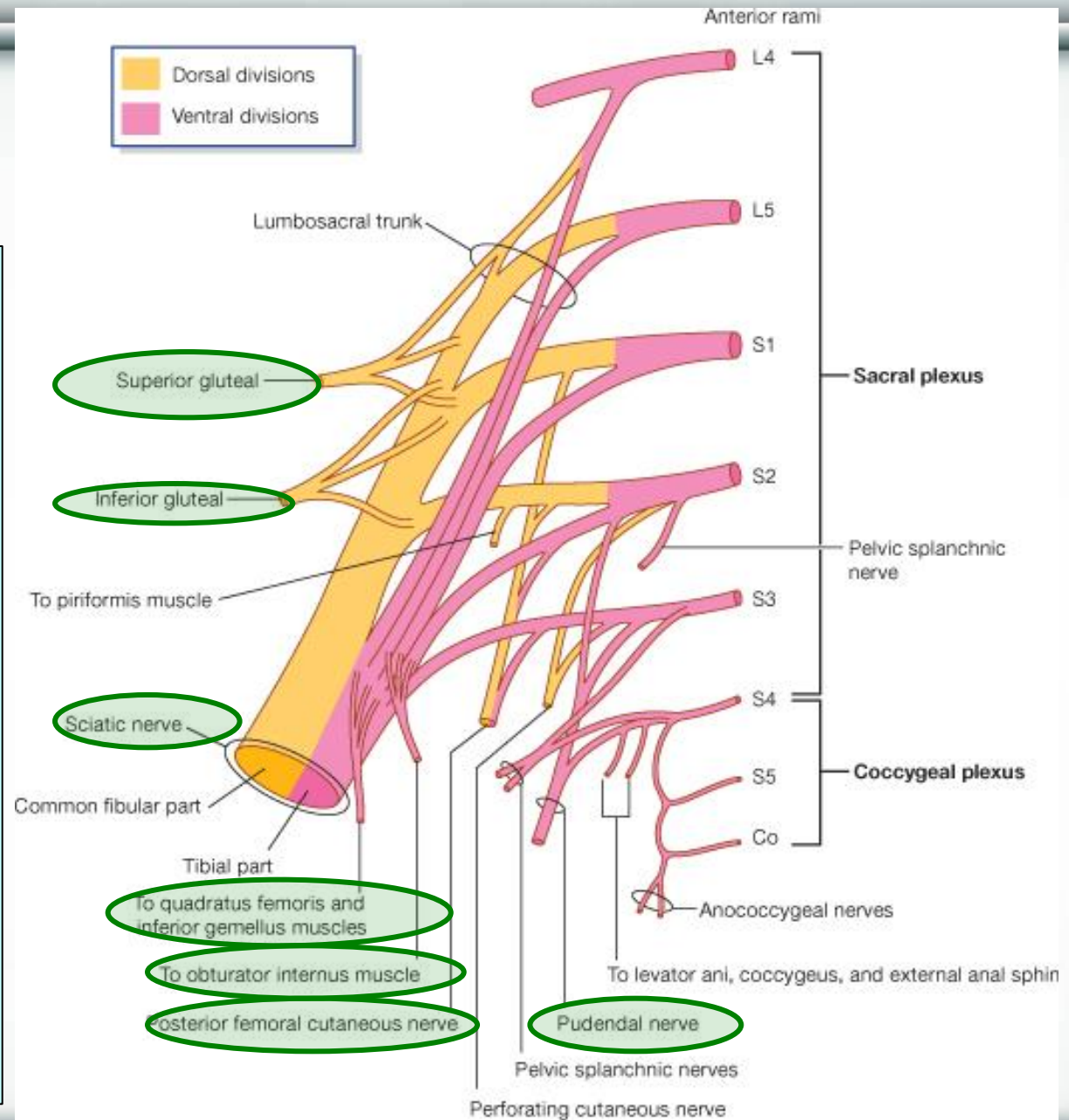


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II – NERVES:

(all from sacral plexus):

1. Sciatic nerve.
2. Superior gluteal n.
3. Inferior gluteal n.
4. Posterior cutaneous nerve of thigh.
5. Nerve to obturator internus.
6. Nerve to quadratus femoris.
7. Pudendal nerve.

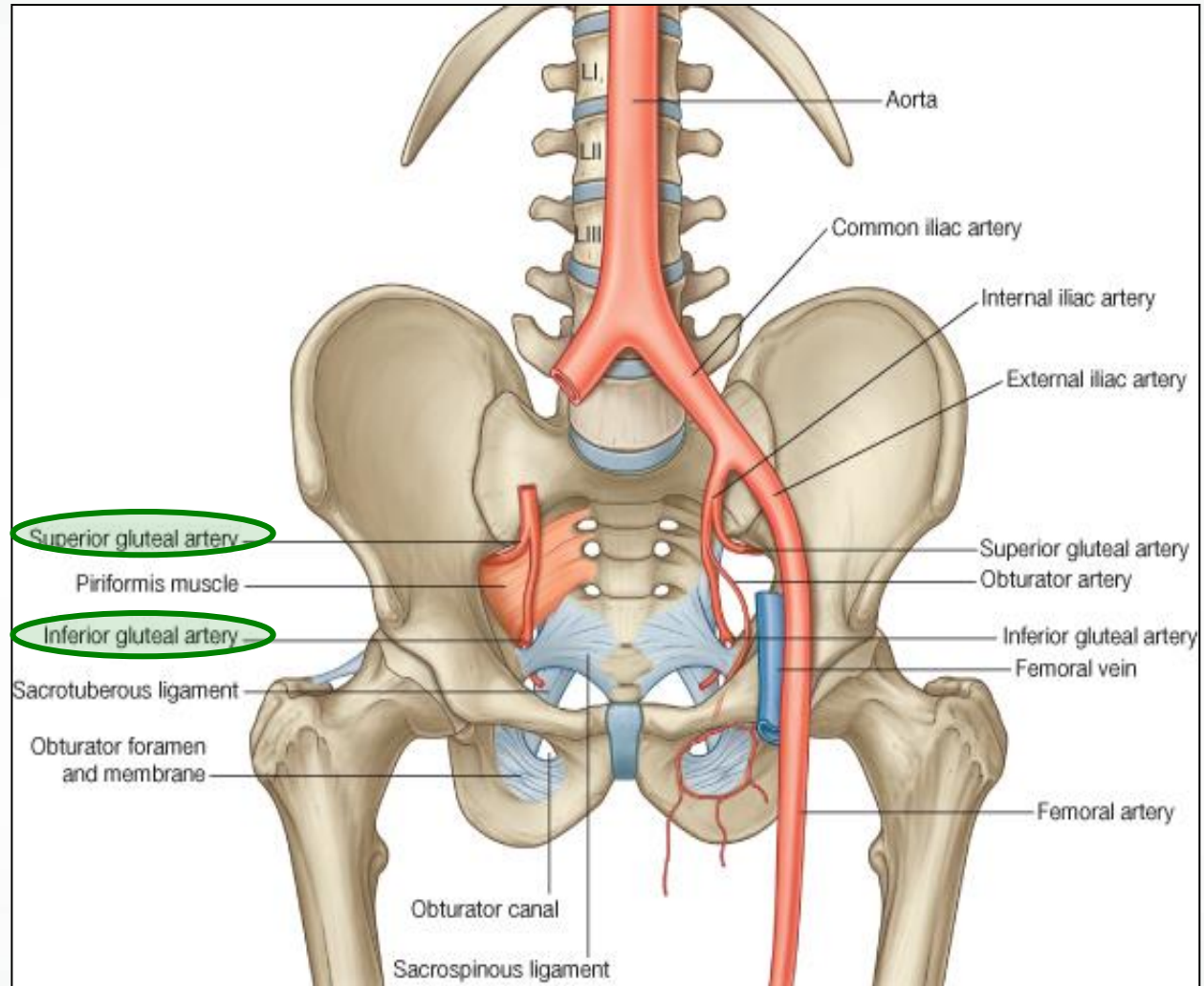


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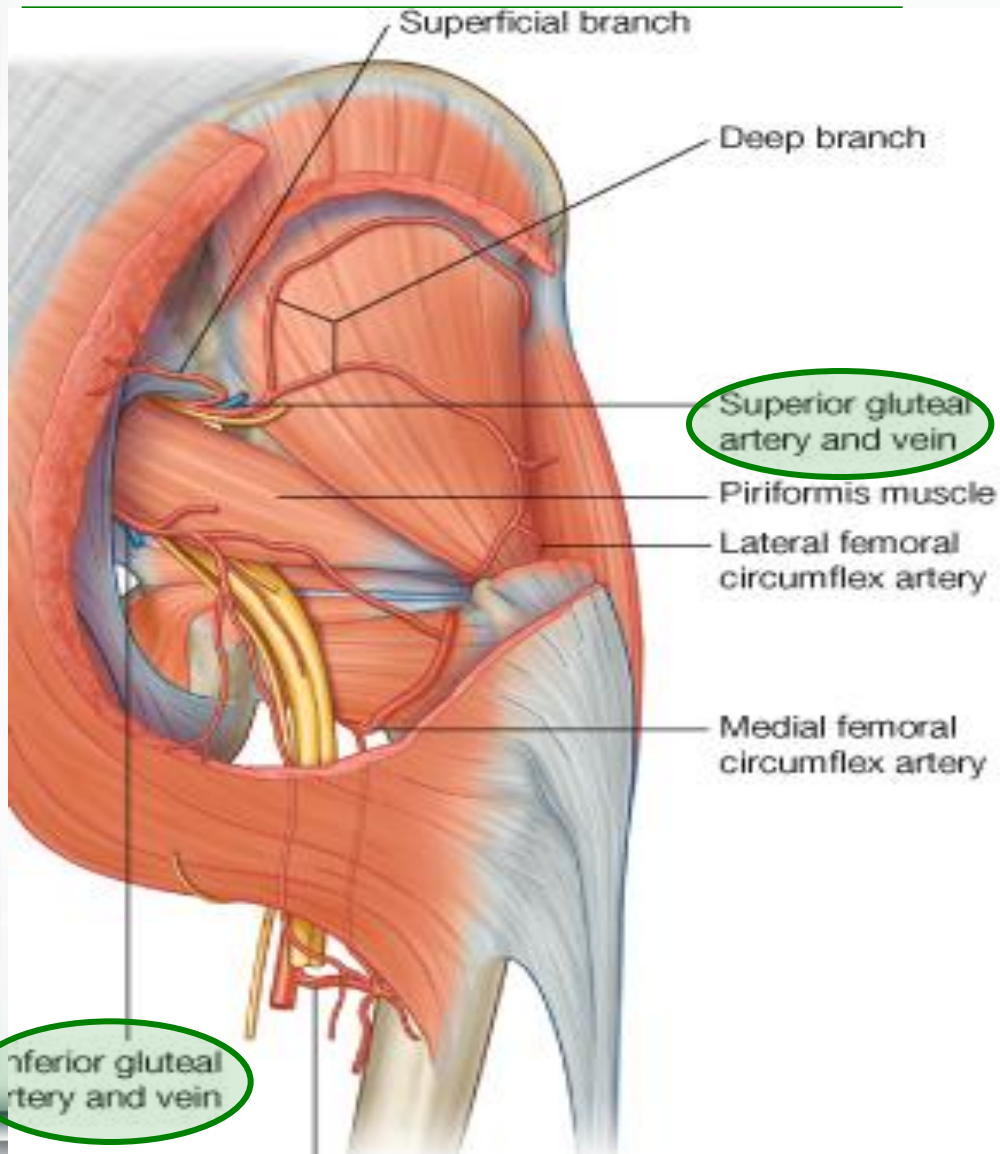
III - VESSELS:

(all from internal iliac vessels):

1. Superior gluteal V.
2. Inferior gluteal V.
3. Internal pudendal vessels.



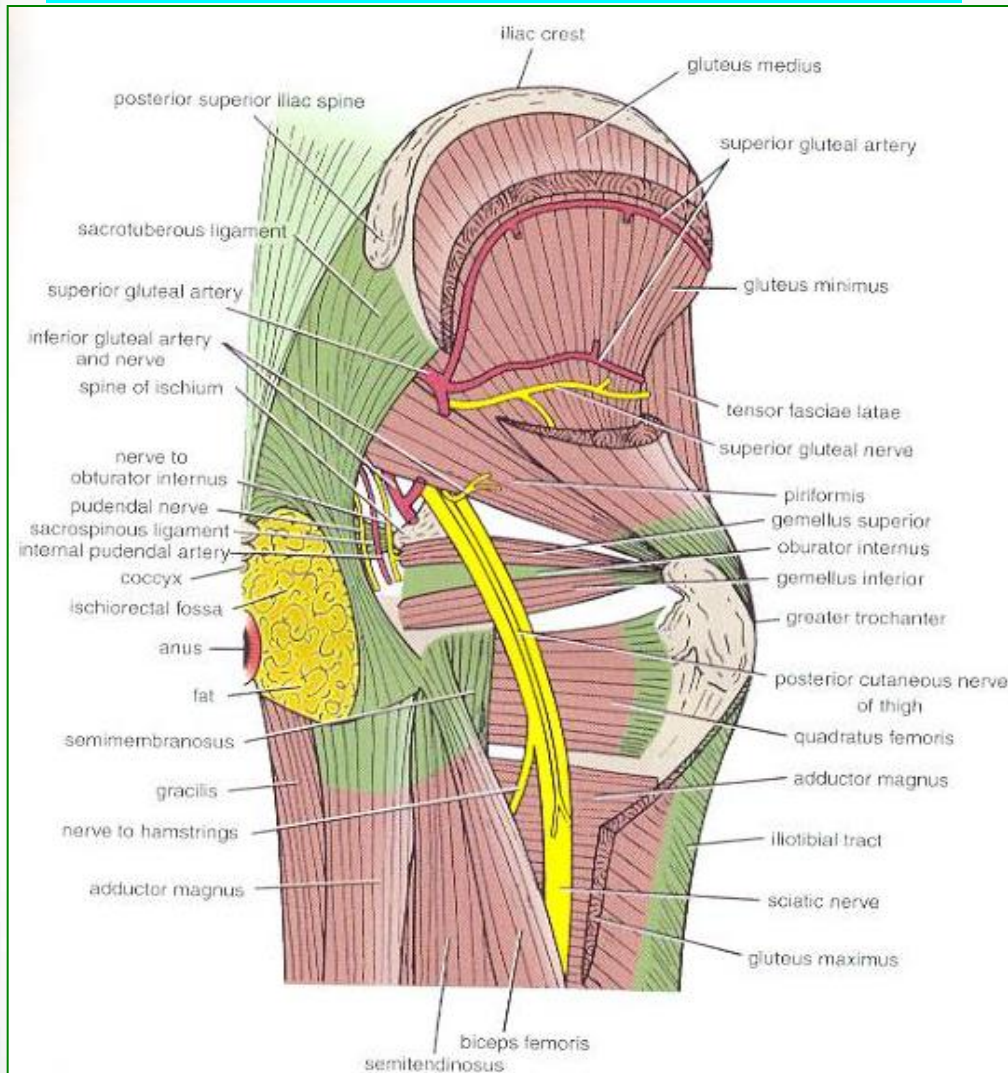
Greater sciatic foramen



➤ Greater sciatic notch of hip bone is transformed into foramen by sacrotuberous & sacrospinous ligaments.

- Structures passing through Greater sciatic foramen :
- Piriformis muscle.
- Above piriformis:
- Superior gluteal nerves & vessels.
- Below piriformis:
- Inferior gluteal nerves & vessels.
- Sciatic nerve.
- Posterior cutaneous nerve of thigh.
- Nerve to quadratus femoris.
- Nerve to obturator internus.
- Pudendal N.
- Internal pudendal vessels.

Lesser sciatic foramen



➤ Lesser sciatic notch of hip bone is transformed into foramen by Sacrotuberous & sacrospinous ligaments.

• *Structures passing through Lesser sciatic foramen :*

1. Tendon of obturator internus.
2. Nerve to obturator internus.
3. Pudendal nerve.
4. Internal pudendal vessels.

Glutei Muscles

- **ORIGINS:**

- **Gluteus minimus:**

- Anterior part of the gluteal surface of ilium

- **Gluteus medius:**

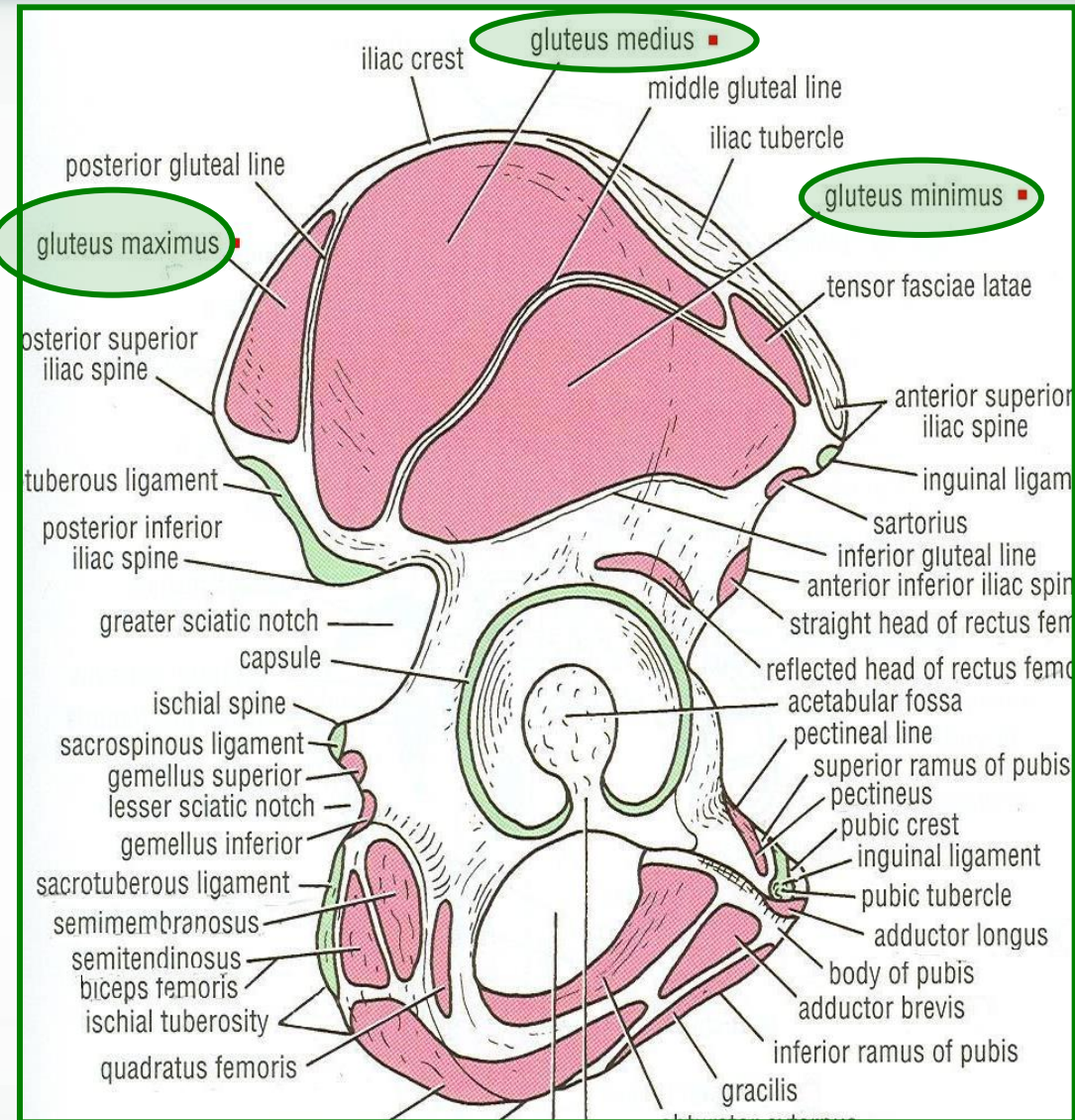
- Middle part of the gluteal surface of ilium.

- **Gluteus maximus:**

- Posterior part of the gluteal surface of ilium.

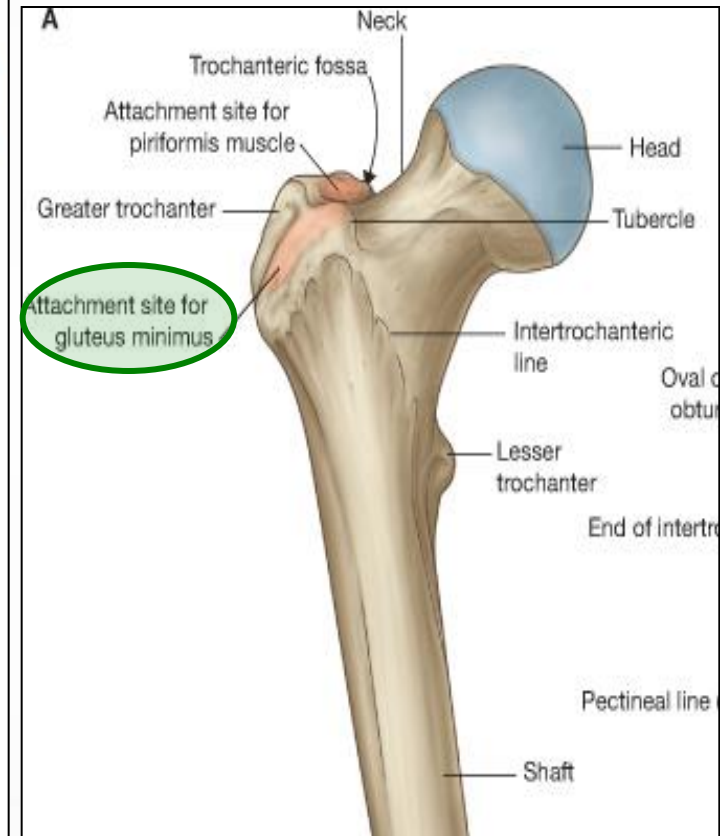
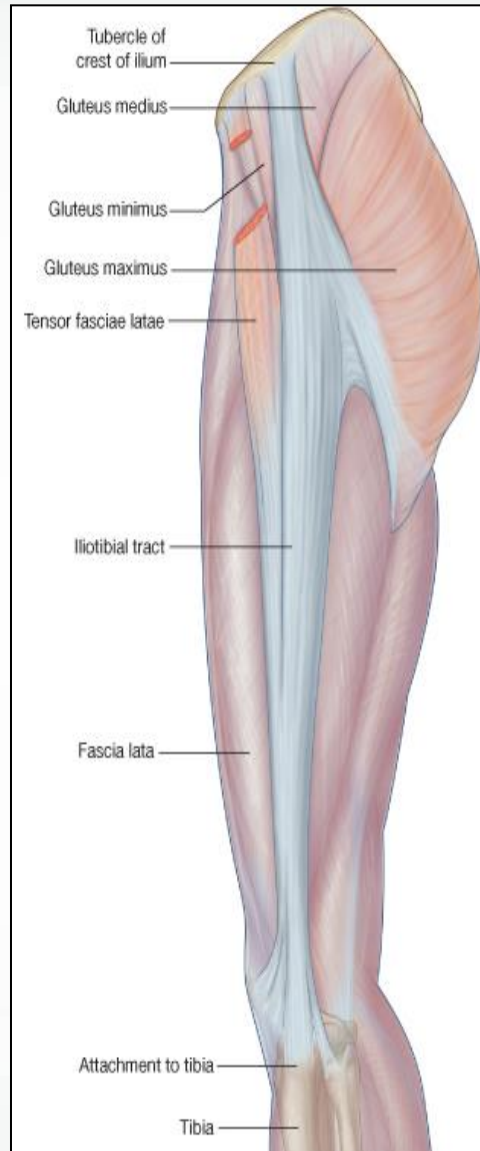
Main origin of gluteus maximus:

Back of sacrum & coccyx & back of Sacrotuberous ligament.



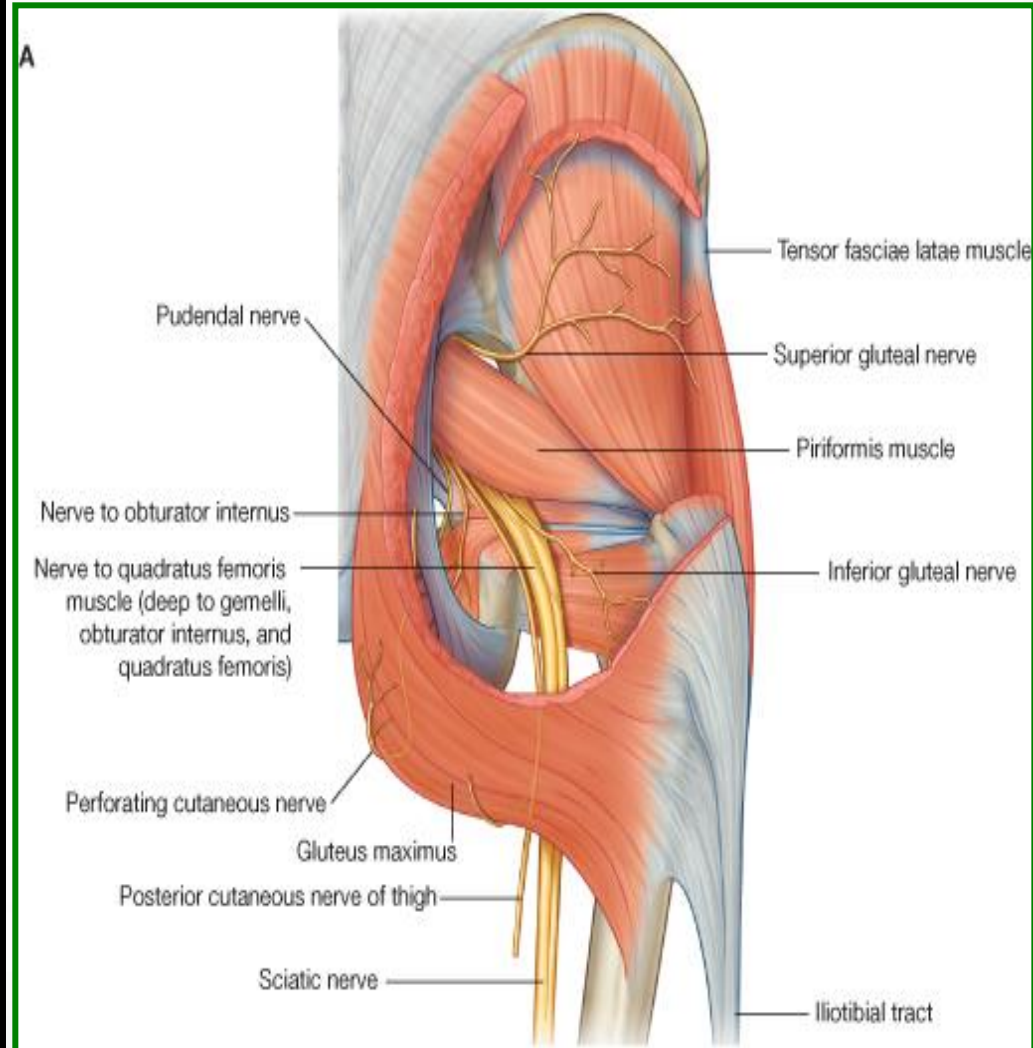
Glutei

- **Insertion:**
- **Gluteus minimus:** anterior surface of the greater trochanter
- **Gluteus medius:** lateral surface of the greater trochanter
- **Gluteus maximus:**
 1. **Main insertion:** iliotibial tract
 2. **Other insertion:** gluteal tuberosity of the femur.



NERVE SUPPLY & ACTION

- **Gluteus medius & minimus:**
- **Nerve supply:**
- Superior gluteal nerve.
- **Action:**
- Abduction & Medial rotation of hip joint.
- Also they prevent tilt of the pelvis on raising the other limb from ground.
- **Gluteus maximus:**
- **Nerve supply:**
- Inferior gluteal nerve.
- **Action:**
- Extension & lateral rotation of the hip joint.
- Through its attachment to iliotibial tract, it stabilizes the femur on the tibia during standing.



- **Obturator Internus:**

- **Origin:**

- Inner surface and side wall of the pelvis.

- **Insertion:**

- Into **the medial surface** of the greater trochanter.

- **Nerve supply:**

- Nerve to obturator internus.

- **Superior & Inferior Gemelli:**

- **Origin:**

- **Superior gemellus;**

- upper part of lesser sciatic notch.

- **Inferior gemellus:**

- lower part of lesser sciatic notch.

- **Insertion:**

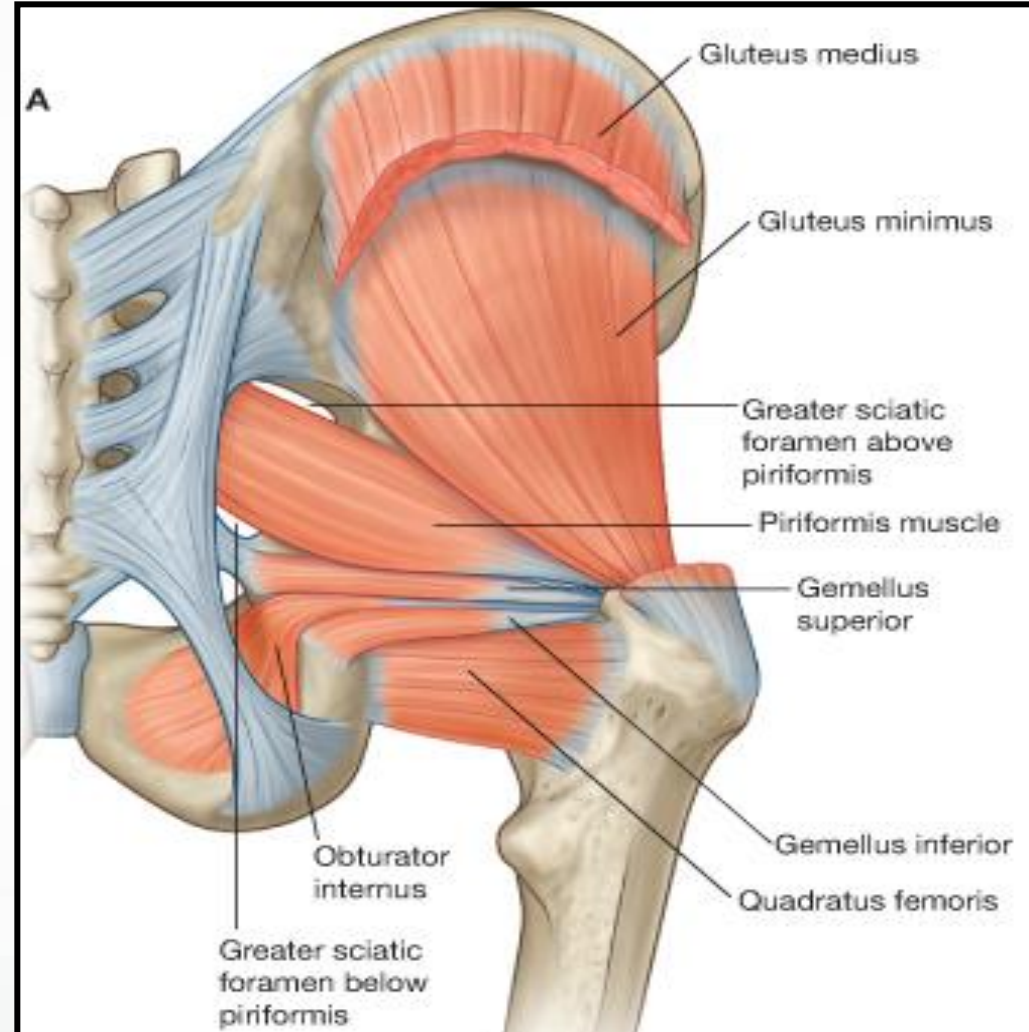
- Into **tendon of obturator internus.**

- **Nerve supply:**

- **Superior gemellus:** nerve to obturator internus.

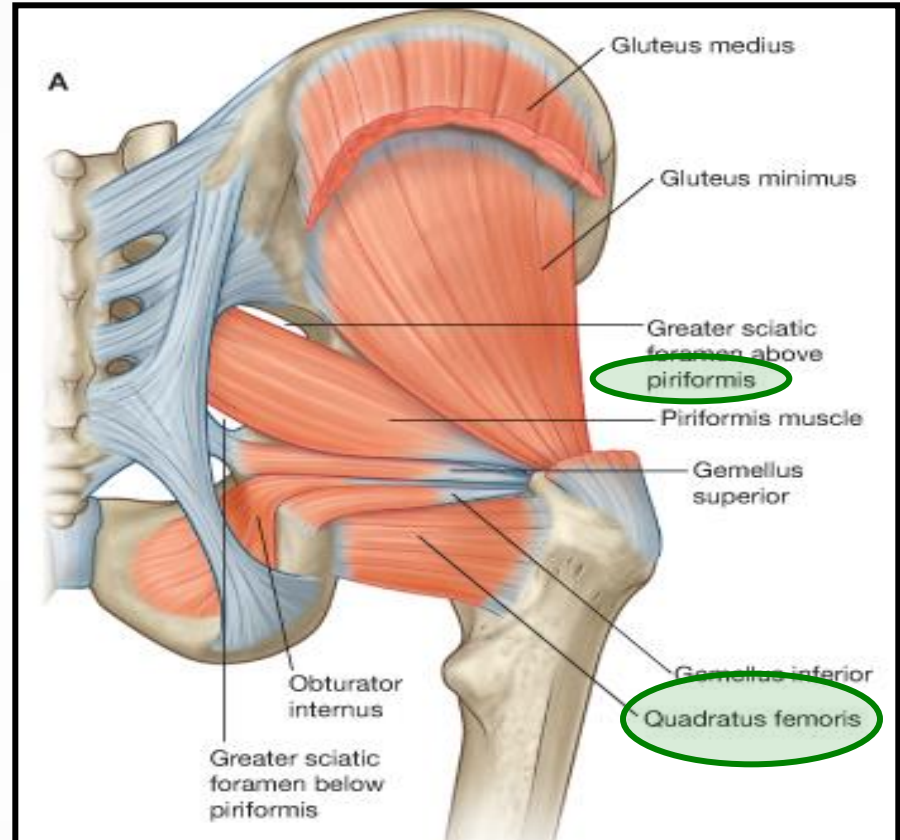
- **Inferior gemellus:** nerve to quadratus femoris.

Small muscles



- **Piriformis:**
- **Origin:**
- Pelvic surface of middle 3 sacral vertebrae.
- **Insertion:**
- It passes out of the pelvis through **GSF** to be inserted into the *upper border* of the greater trochanter.
- **Nerve supply:**
- **Anterior rami of S1,2.**
- **Quadratus femoris:**
- **Origin:**
- Lateral border of the ischial tuberosity.
- **Insertion:**
- Quadrate tubercle & intertrochanteric crest.
- **Nerve supply:**
- Nerve to quadratus femoris.

Small muscles



**Action: all have SIMILAR ACTION:
Lateral rotation of the hip joint.
Control movement of the hip joint.**

SUPERIOR GLUTEAL NERVE:

- **Course:**
- Passes through **GSF**, **above** piriformis, then **between** *gluteus medius & minimus*.
- **Branches:**
- 1. Muscular to gluteus medius, minimus & tensor fasciae lata muscle.
- 2. Articular to hip joint.

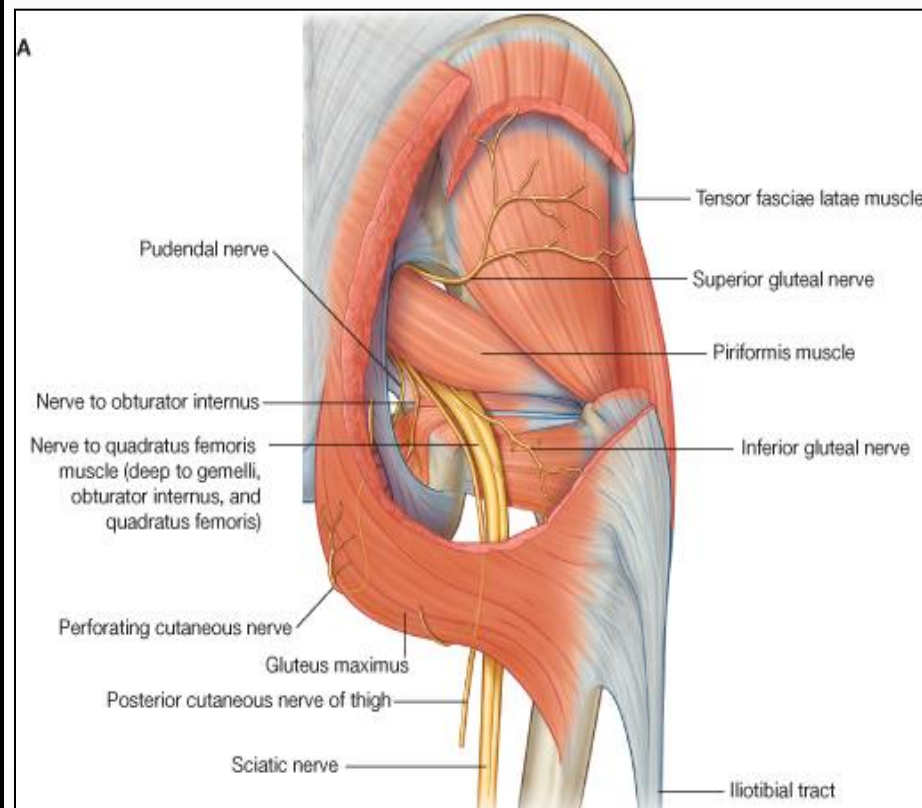
INFERIOR GLUTEAL NERVE:

- **Course:**
- passes through **GSF**, **below** piriformis, then **deep to** *gluteus maximus*.
- **Branches:** muscular to gluteus maximus.

NERVE TO QUADRATUS FEMORIS:

- **Course:**
- passes through **GSF**, **below** piriformis.
- **Branches:**
- 1. Muscular to quadratus femoris & inferior gemellus.
- 2. Articular to hip joint.

NERVES



POSTERIOR CUTANEOUS NERVE OF THE THIGH

Course:

Passes through **GSF**, below piriformis, then descends deep to deep fascia.

Branches:

Cutaneous branches to: gluteal region, back of scrotum (labium majus) back of thigh & upper part of back of leg.

SCIATIC:

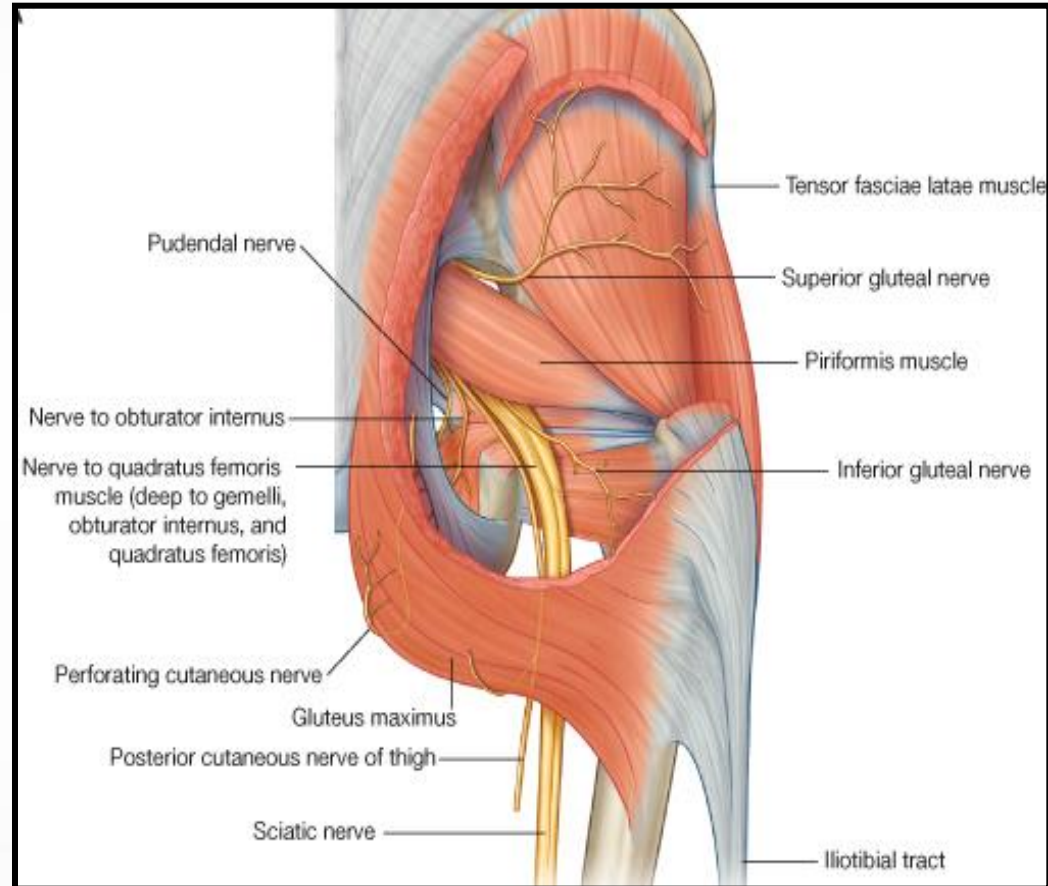
Course:

passes through **GSF**, below piriformis, then **superficial to**: ischial spine, superior gemellus, tendon of obturator internus, inferior gemellus, quadratus femoris & adductor magnus.

Branches:

No branches in gluteal region, divides into tibial & common peroneal nerves, in the middle of back of thigh

NERVES



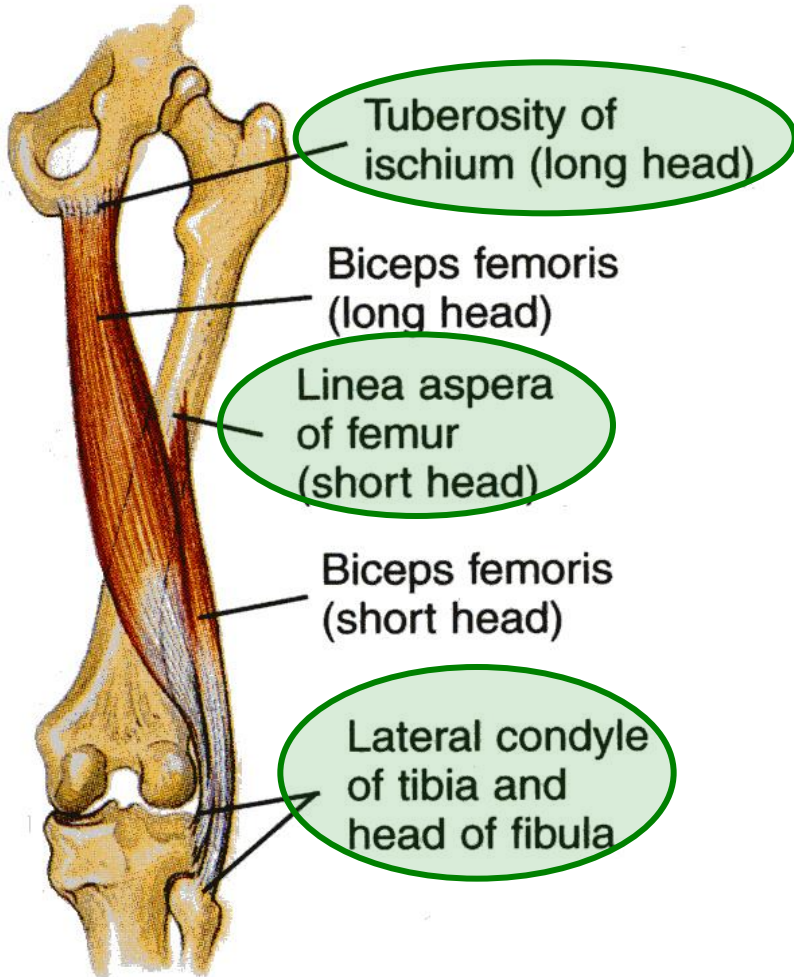
POSTERIOR COMPARTMENT OF THE THIGH

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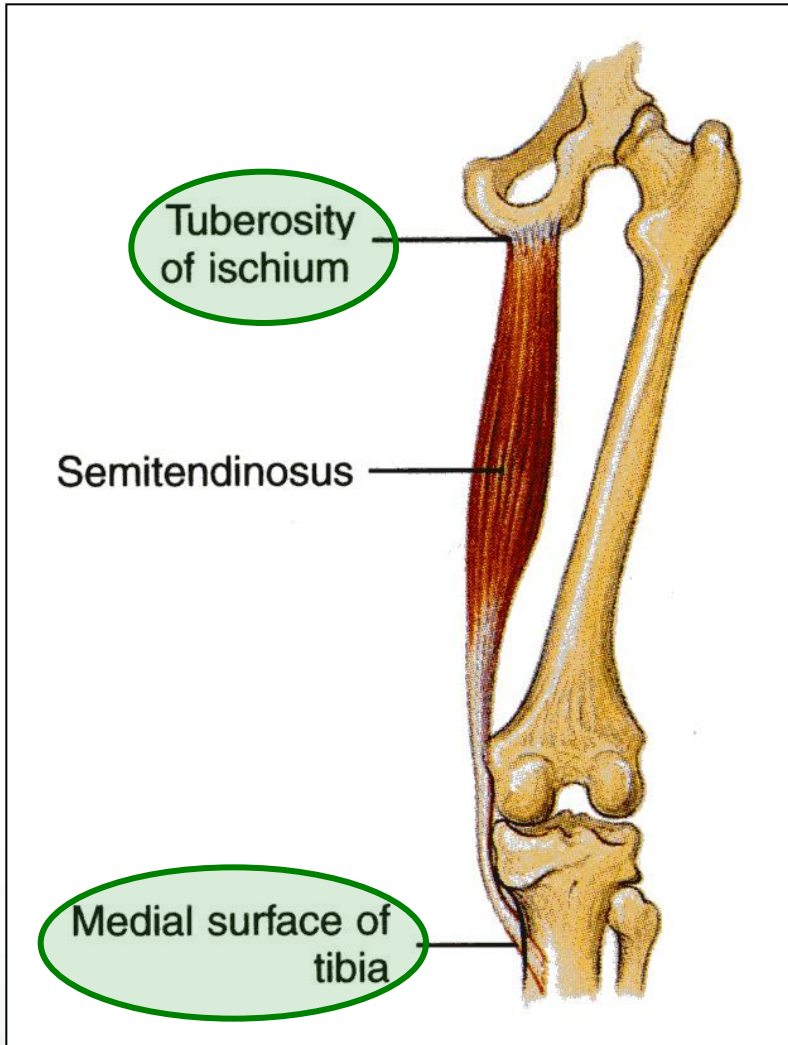
- **Muscles:**
- Hamstring muscles:
- Biceps femoris.
- Semitendinosus.
- Semimembranosus.
- Ischial part of adductor magnus.
- **Blood supply:**
- Branches of the profunda femoris artery.
- **Nerve supply:**
- Sciatic nerve.

MUSCLES



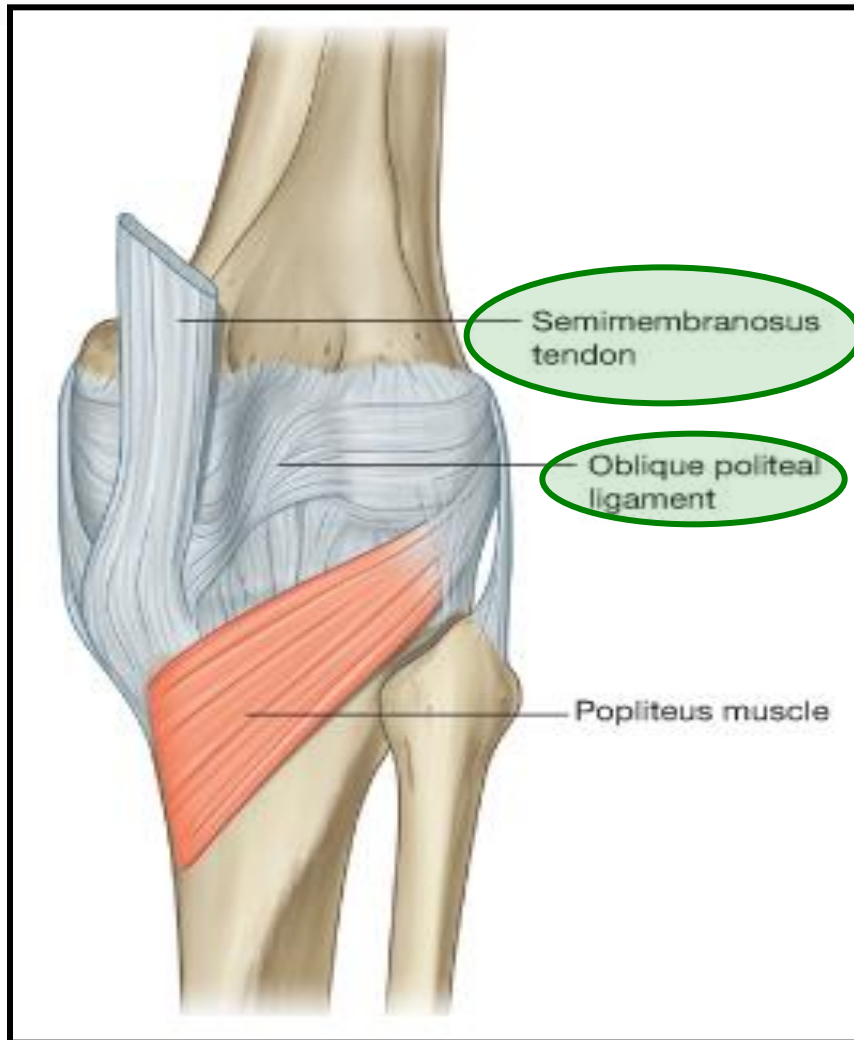
- Biceps Femoris,
- **Origin:**
 - **Long head** from the *ischial tuberosity*.
 - **Short head** from *the linea aspera*
- **Insertion:**
- Into the *head of the fibula*.
- **Nerve supply:**
- **Long head** is supplied by the **tibial part of the sciatic**;
- **Short head** is supplied by the **common peroneal part of the sciatic**.
- **Action**
- Flexion of knee.
- Lateral rotation of flexed leg.
- Long head: extends the hip.

SEMITENDINOSUS



- **Origin:**
 - Ischial tuberosity.
 - **Insertion:**
 - Upper part of the medial surface of the shaft of the tibia (**SGS**).
- Nerve supply:**
- Tibial portion of the sciatic.
- Action**
- Flexes and medially rotates the leg at the knee joint.
 - Extends the thigh at the hip joint.

SEMIMEMBRANOSUS



- **Origin:**
- Ischial tuberosity.
- **Insertion:**
- Posterior surface of the medial condyle of the tibia.
- It forms the **oblique popliteal ligament**, which reinforces the capsule on the back of the knee joint.

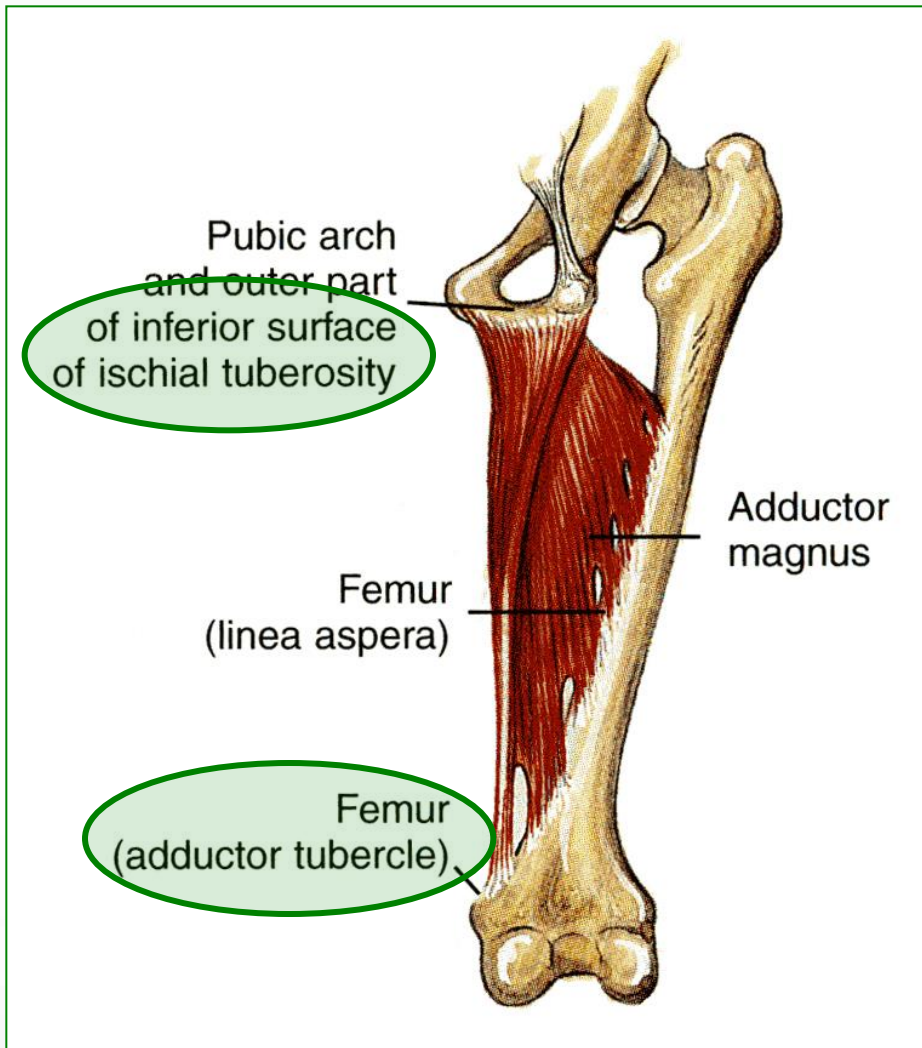
Nerve supply

- Tibial portion of the sciatic nerve.

Action

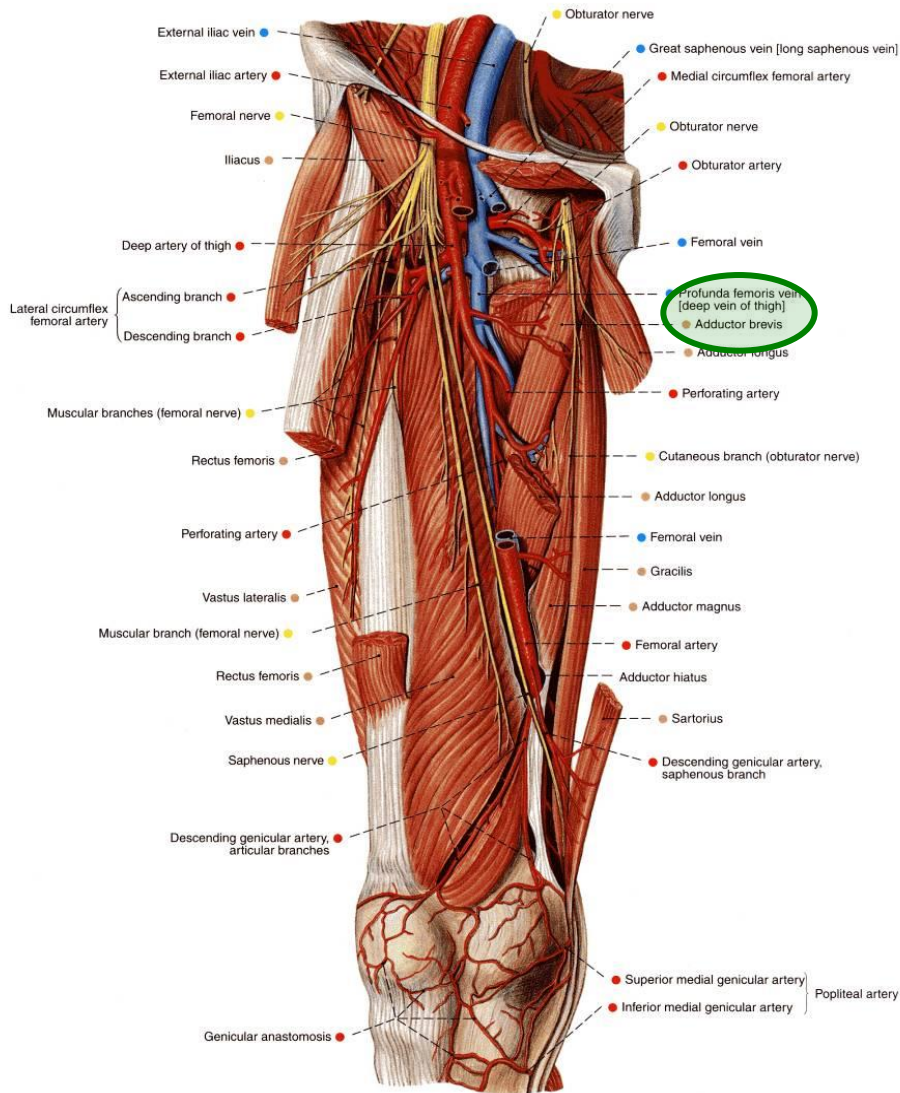
- Flexes and medially rotates the leg at the knee joint;
- Extends the thigh at the hip.

ADDUCTOR MAGNUS (HAMSTRING PART)



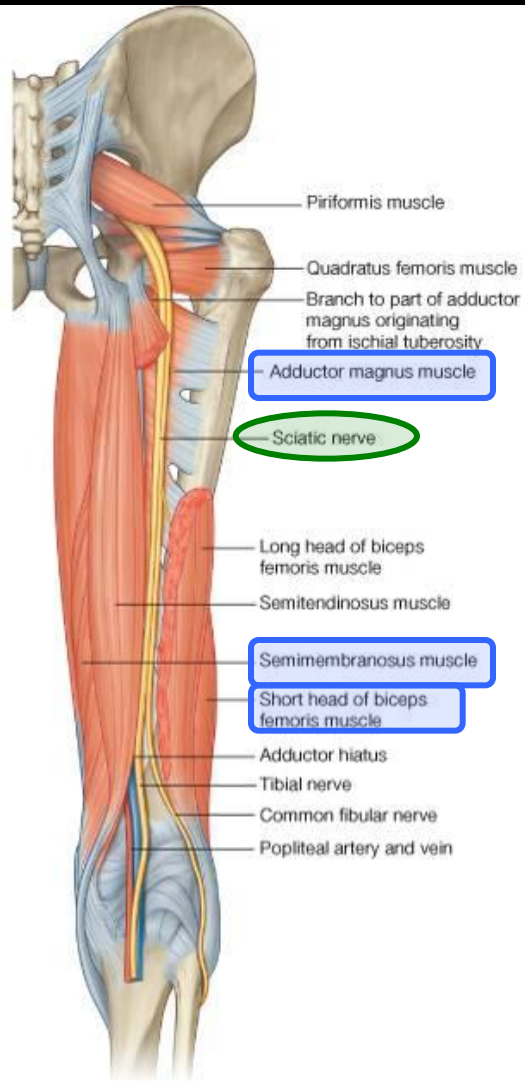
- **Origin:**
- Ischial ramus and ischial tuberosity.
- **Insertion:**
- Adductor tubercle of the medial condyle of the femur.
- **Nerve supply:**
- Tibial portion of sciatic.
- **Action:**
- Extends the thigh at the hip joint.

BLOOD SUPPLY



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

NERVE SUPPLY



- **Sciatic Nerve**
- The **sciatic nerve**, is a branch of the sacral plexus (L4 and 5; S1, 2, and 3), leaves the gluteal region as it descends in the midline of the thigh.
- It is overlapped posteriorly by the adjacent margins of the biceps femoris and semimembranosus muscles.
- It lies on the posterior aspect of the adductor magnus.
- In the lower third of the thigh it ends by dividing into **tibial** and **common peroneal nerves**.