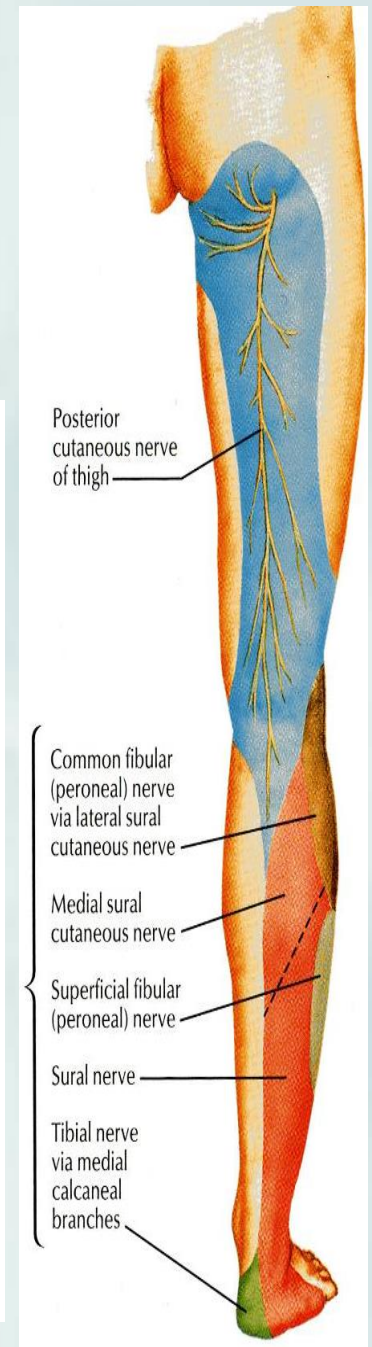
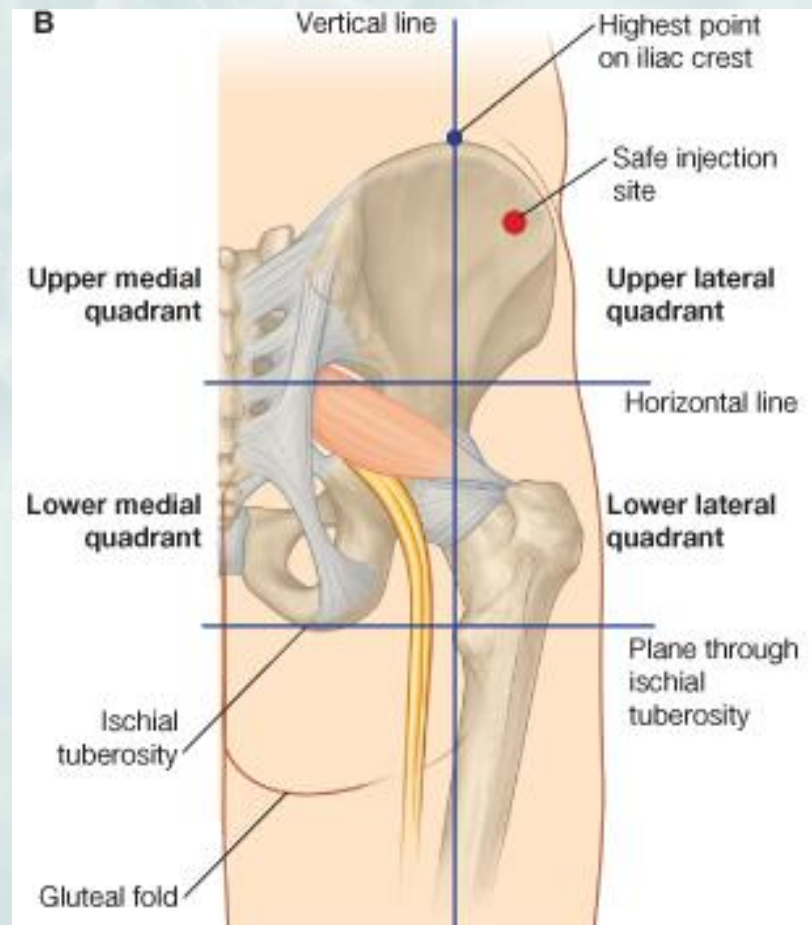


# GLUTEAL REGION & BACK OF THIGH



# 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.**

# CONTENTS

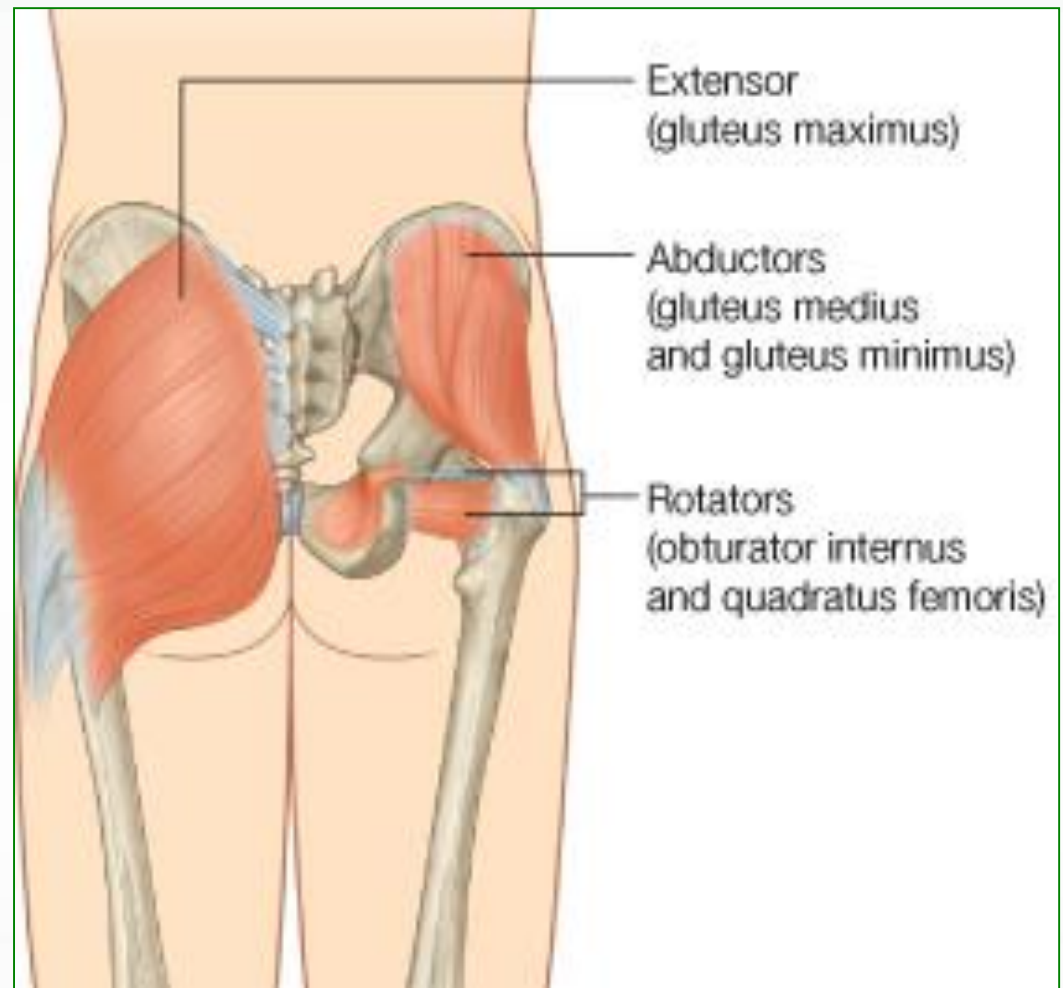
## • I - Muscles:

### 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.

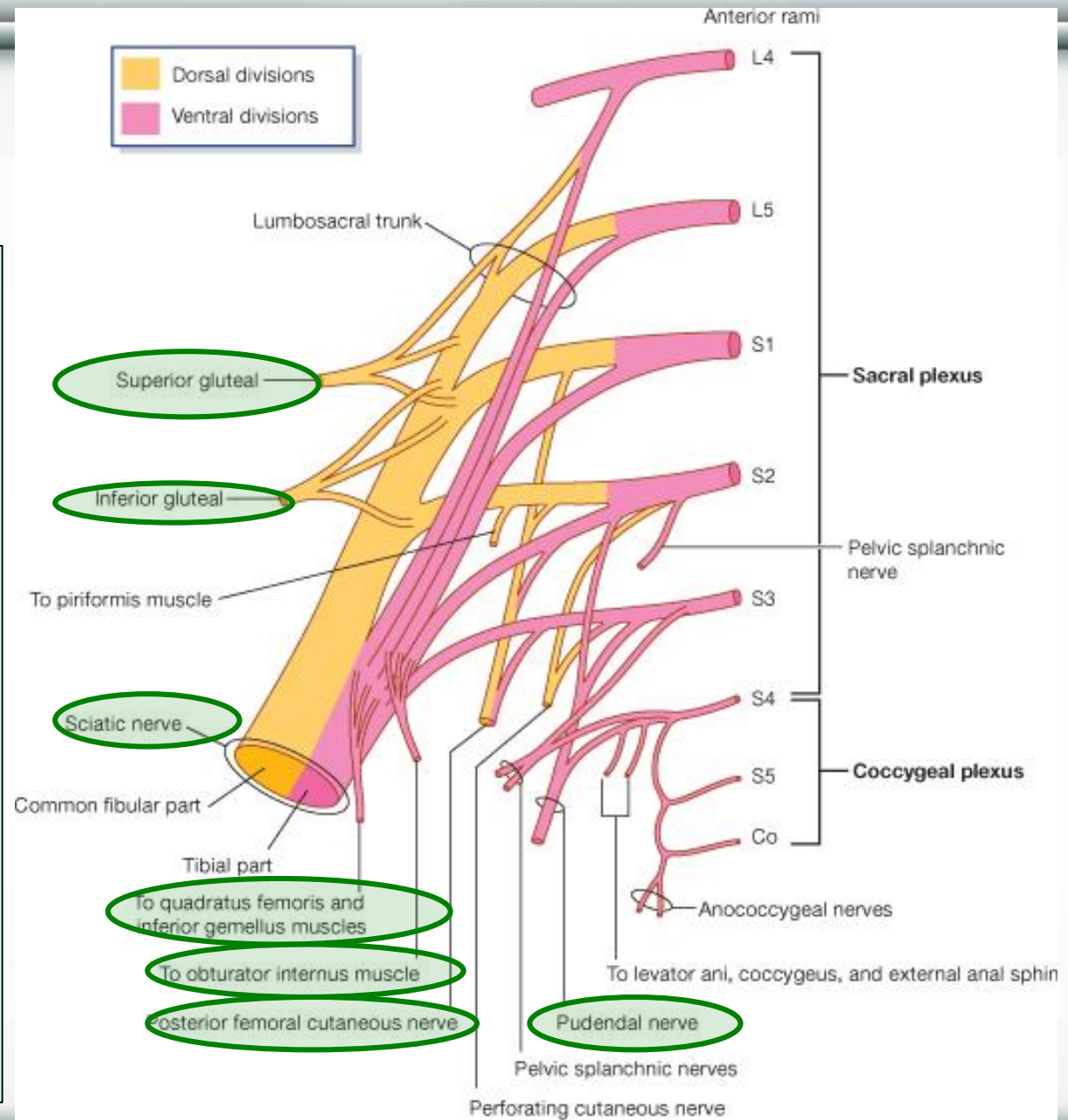


# CONTENTS

## 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.

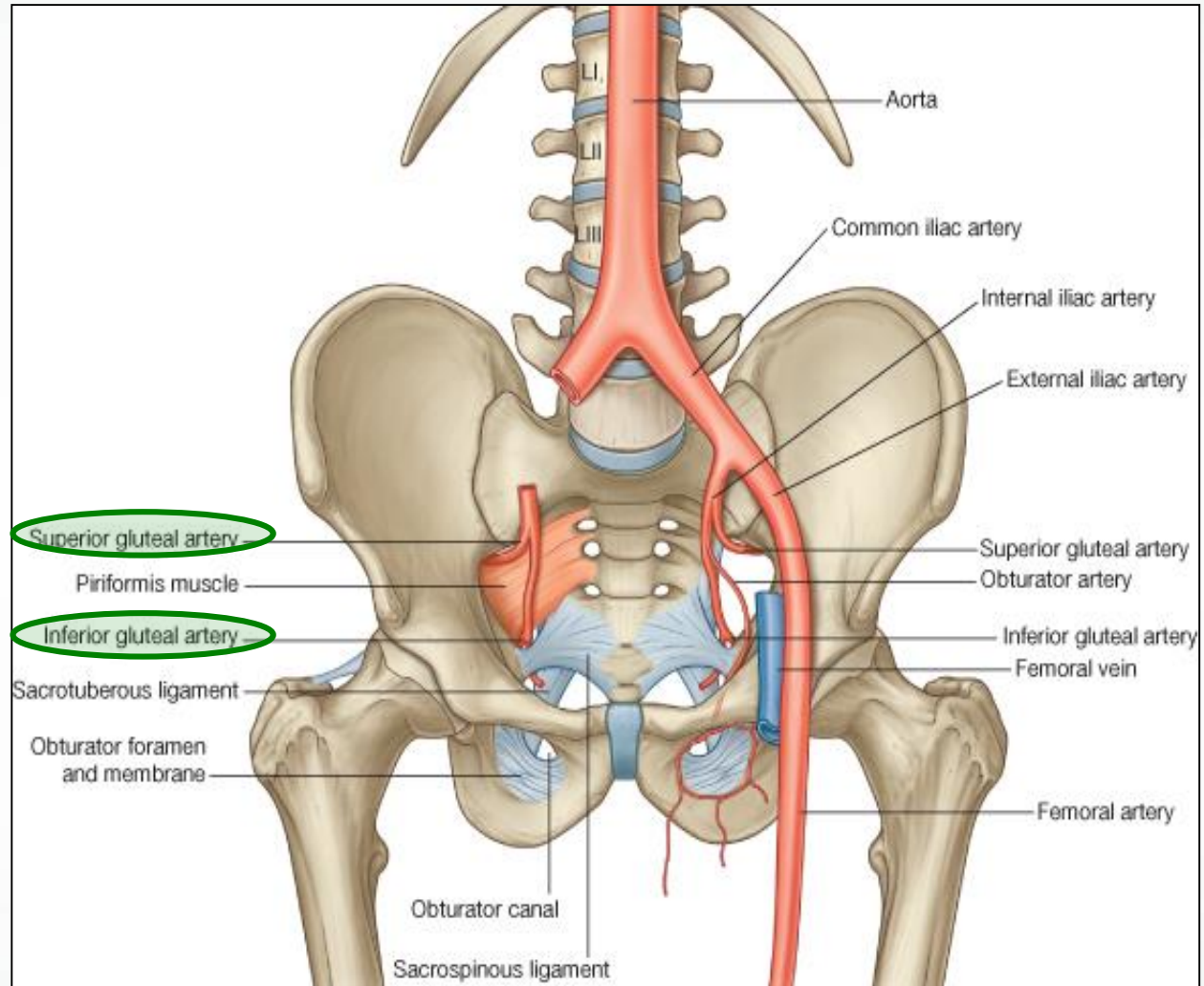


# CONTENTS

## III - VESSELS:

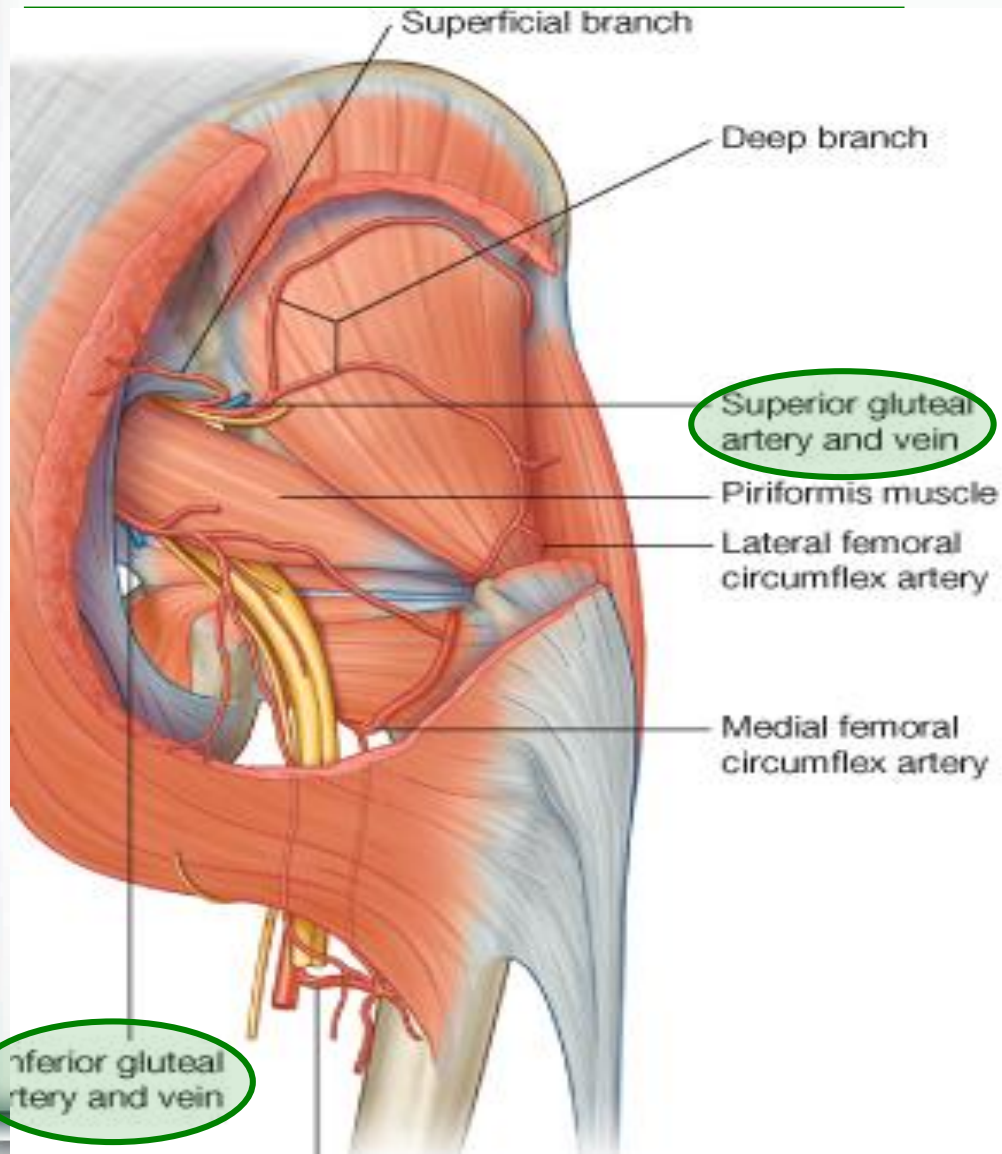
(all from internal iliac vessels):

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





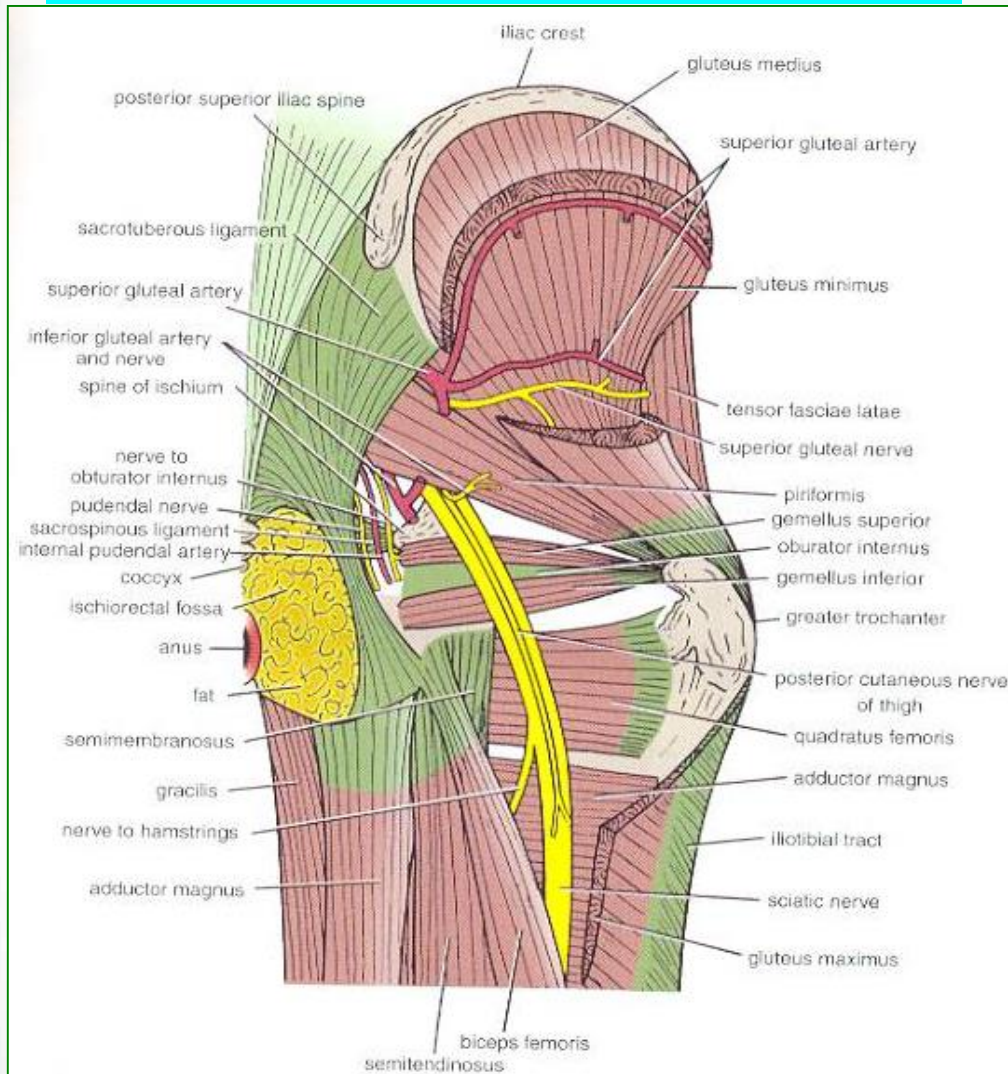
# Greater sciatic foramen



➤ 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:**

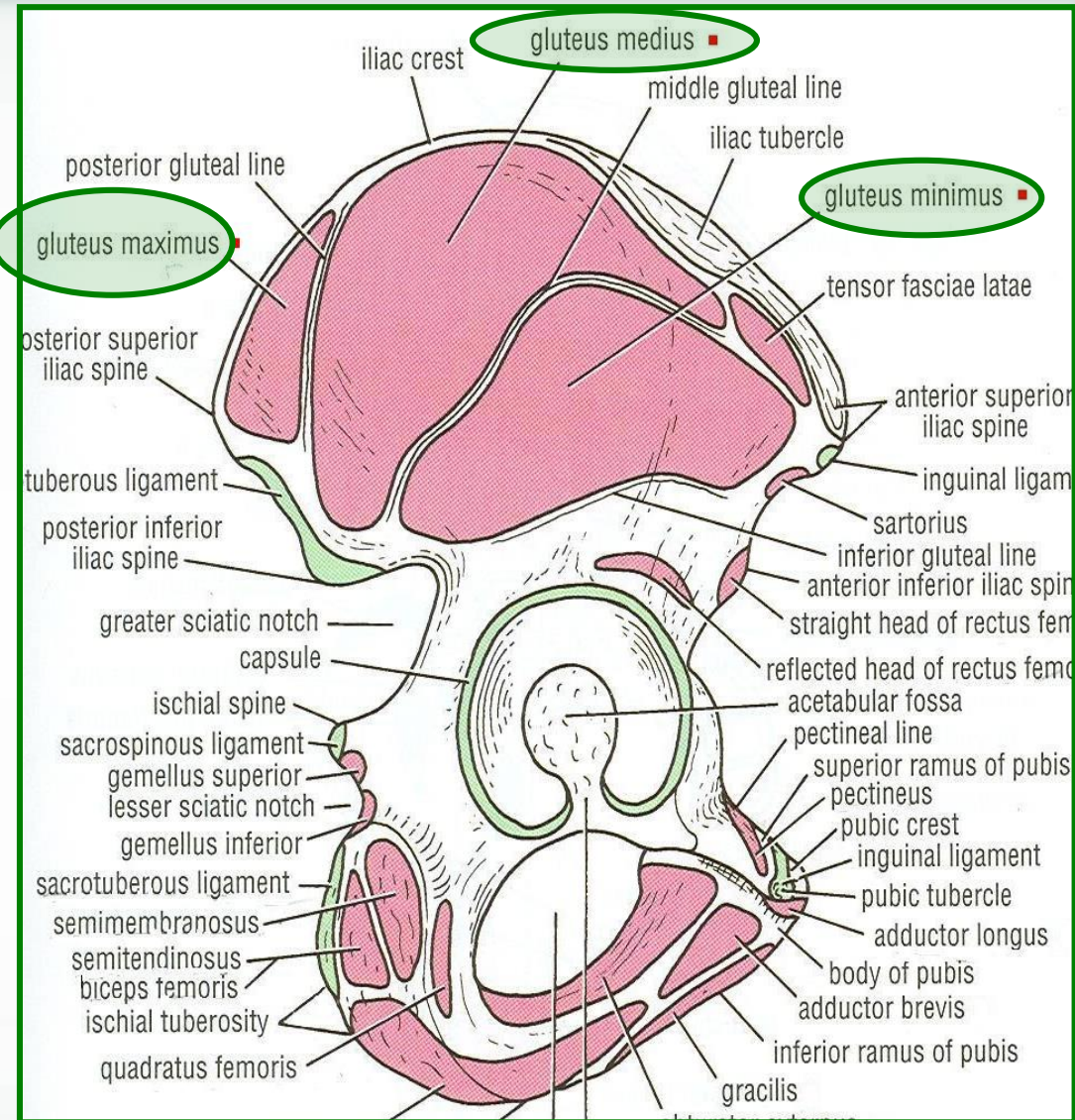
- Middle part of the gluteal surface of ilium.

- **Gluteus maximus:**

- Posterior part of the gluteal surface of ilium.

**Main origin of gluteus maximus:**

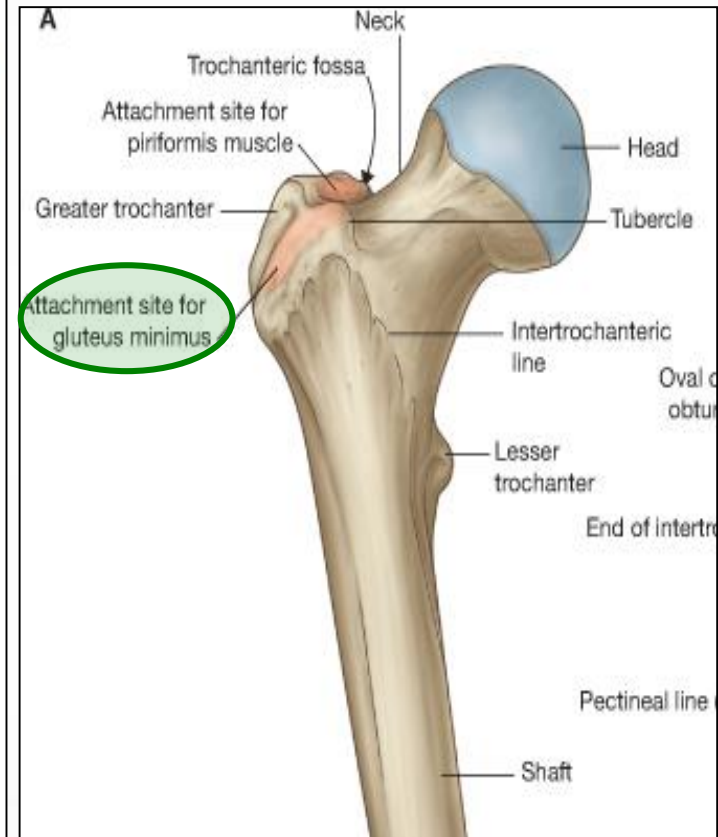
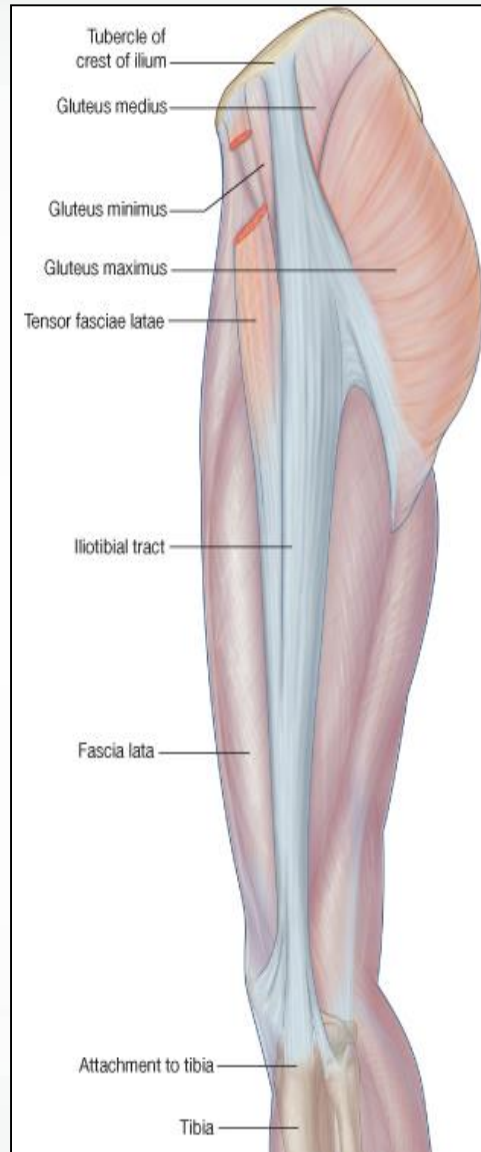
Back of sacrum & coccyx & back of Sacrotuberous ligament.





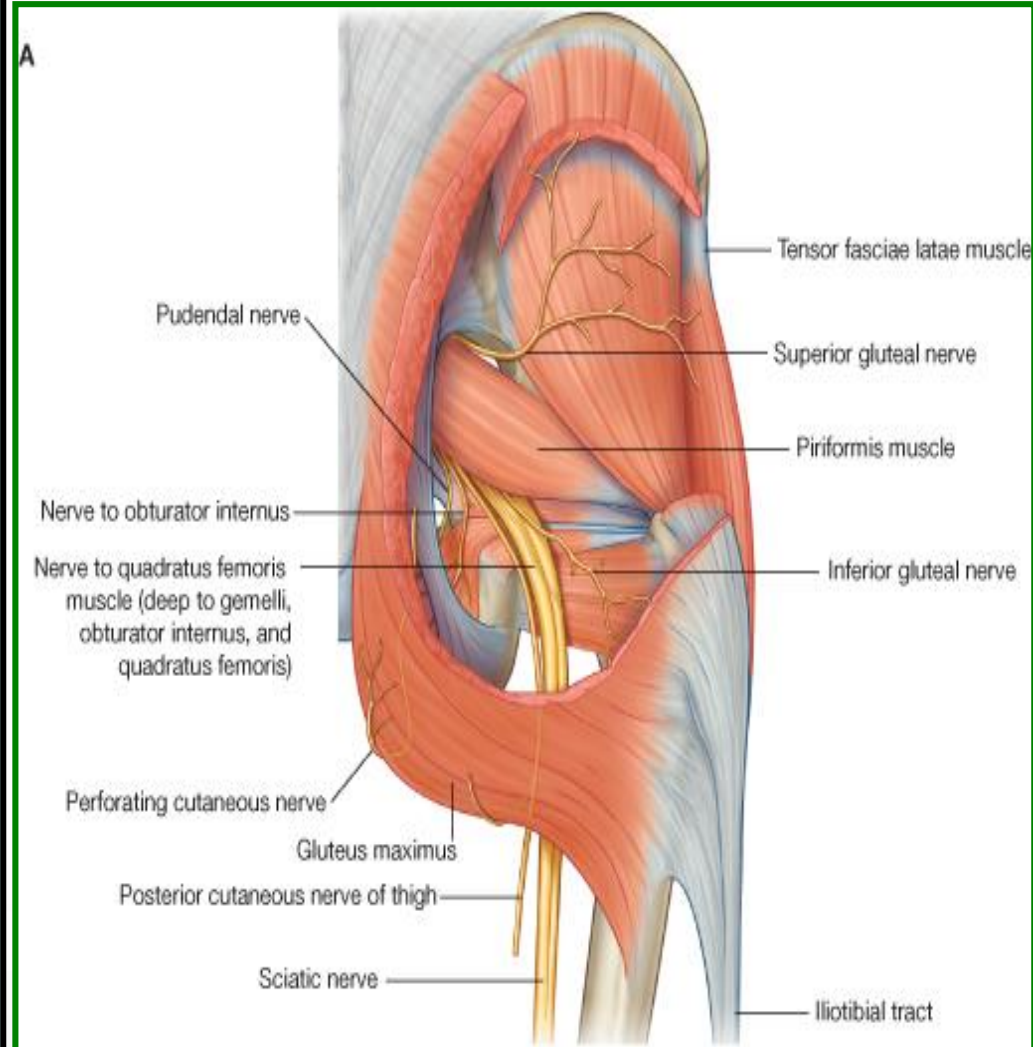
# Glutei

- **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:**

- Side wall of the pelvis.

- **Insertion:**

- Greater trochanter.

- **Nerve supply:**

- Nerve to obturator internus.

- **Superior & Inferior Gemelli:**

- **Origin:**

- Upper and lower part of lesser sciatic notch respectively.

- **Insertion:**

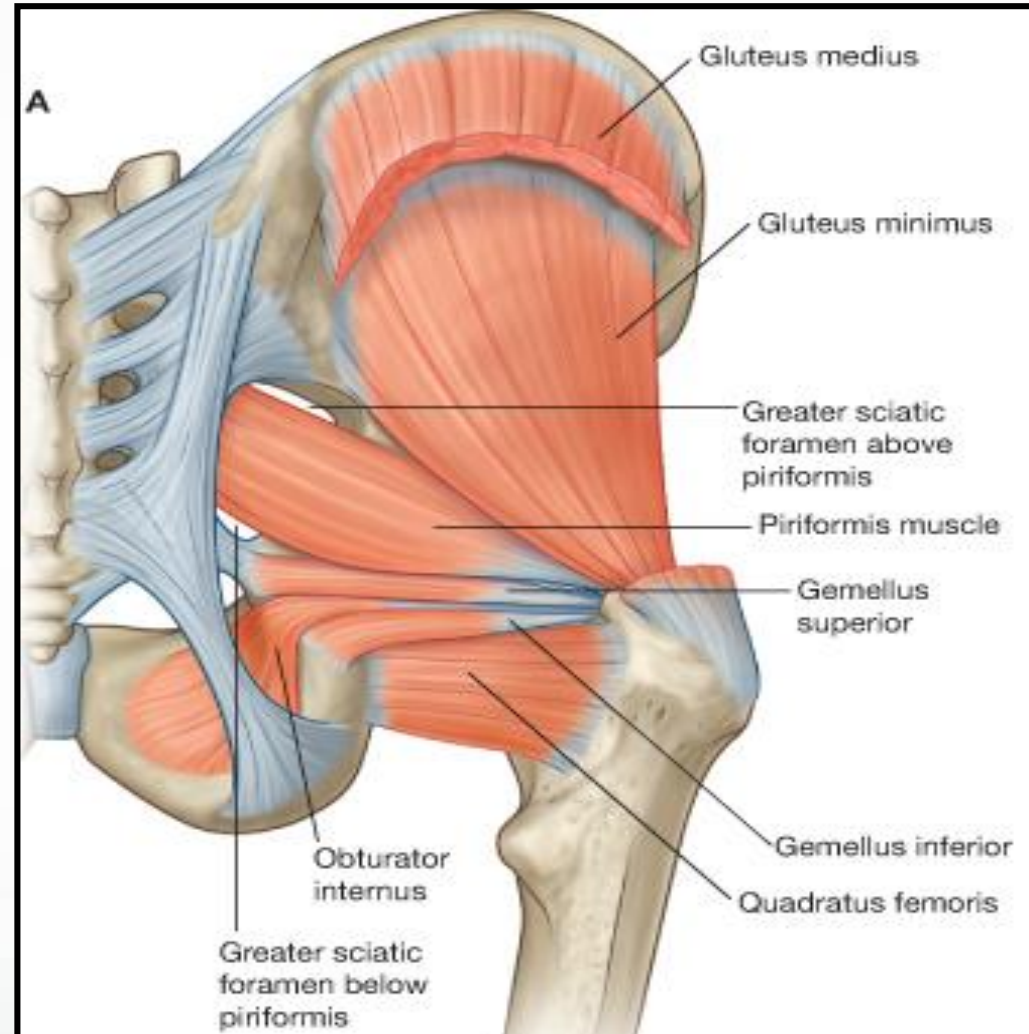
- Into **tendon of obturator internus.**

- **Nerve supply:**

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

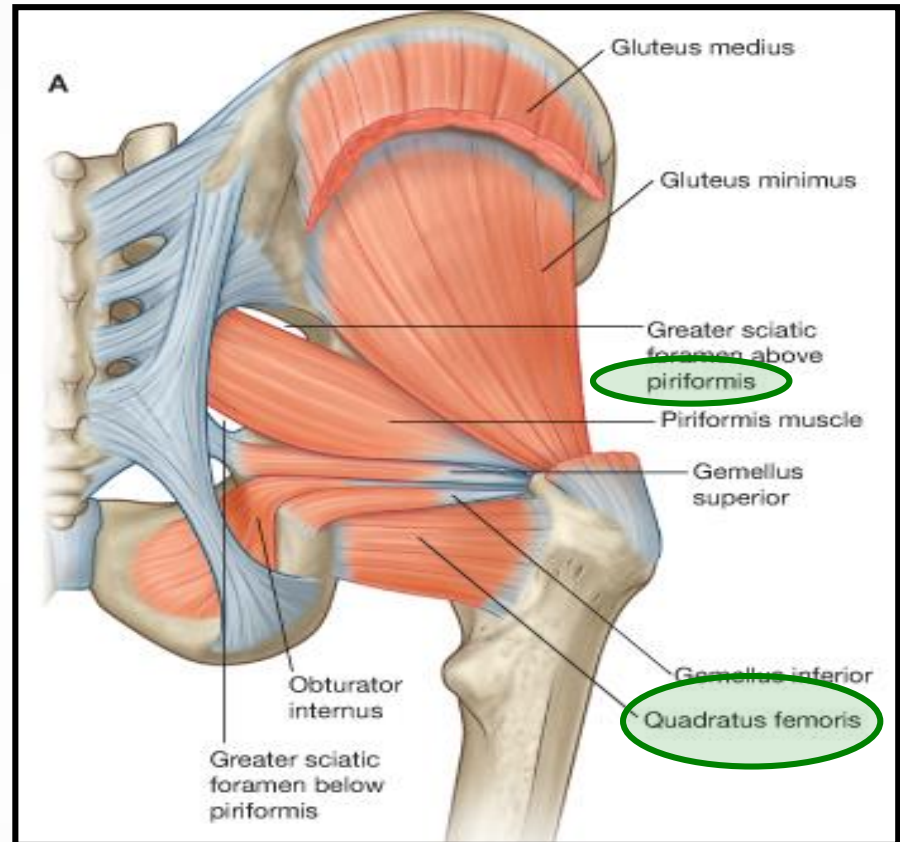
- **Inferior gemellus:** nerve to quadratus femoris.

## Small muscles



- **Piriformis:**
- **Origin:**
- Pelvic surface of middle 3 sacral vertebrae.
- **Insertion:**
- Greater trochanter.
- **Nerve supply:**
- Anterior rami of S1,2.
- **Quadratus femoris:**
- **Origin:**
- Ischial tuberosity.
- **Insertion:**
- Quadrate tubercle.
- **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.
- **Branches:**
- 1. Muscular to gluteus medius, minimus & tensor fasciae lata muscle.
- 2. Articular to hip joint.

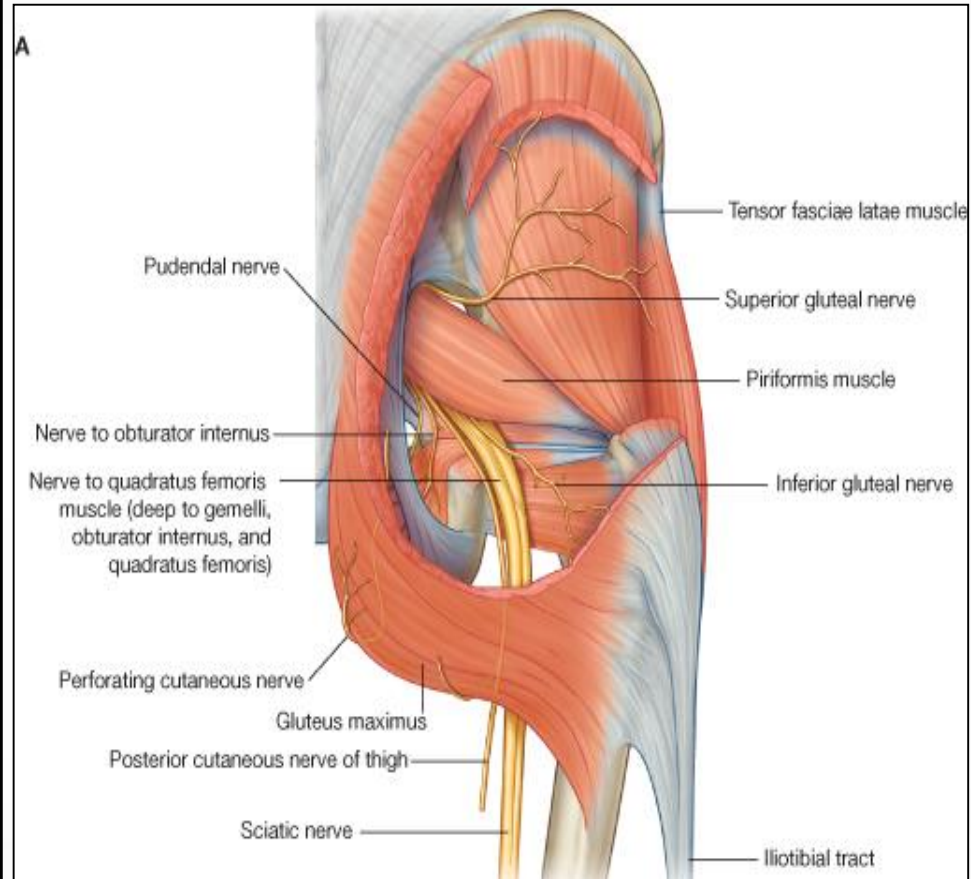
## INFERIOR GLUTEAL NERVE:

- **Course:**
- passes through **GSF**, below piriformis.
- **Branches:** 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



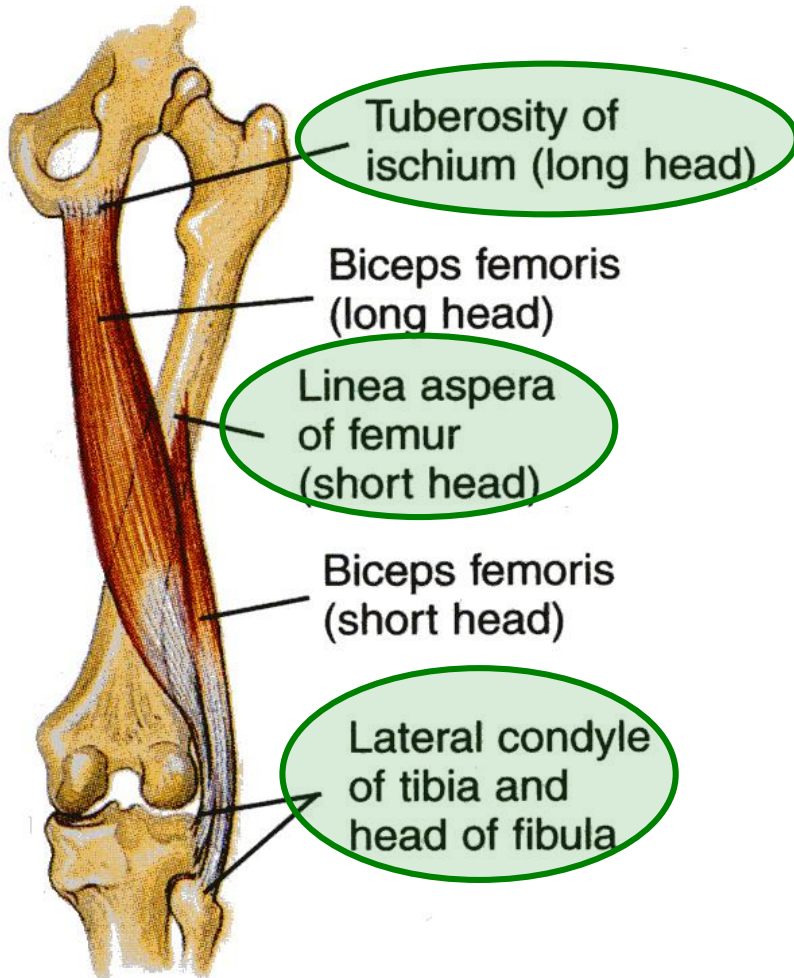
# POSTERIOR COMPARTMENT OF THE THIGH

## CONTENTS



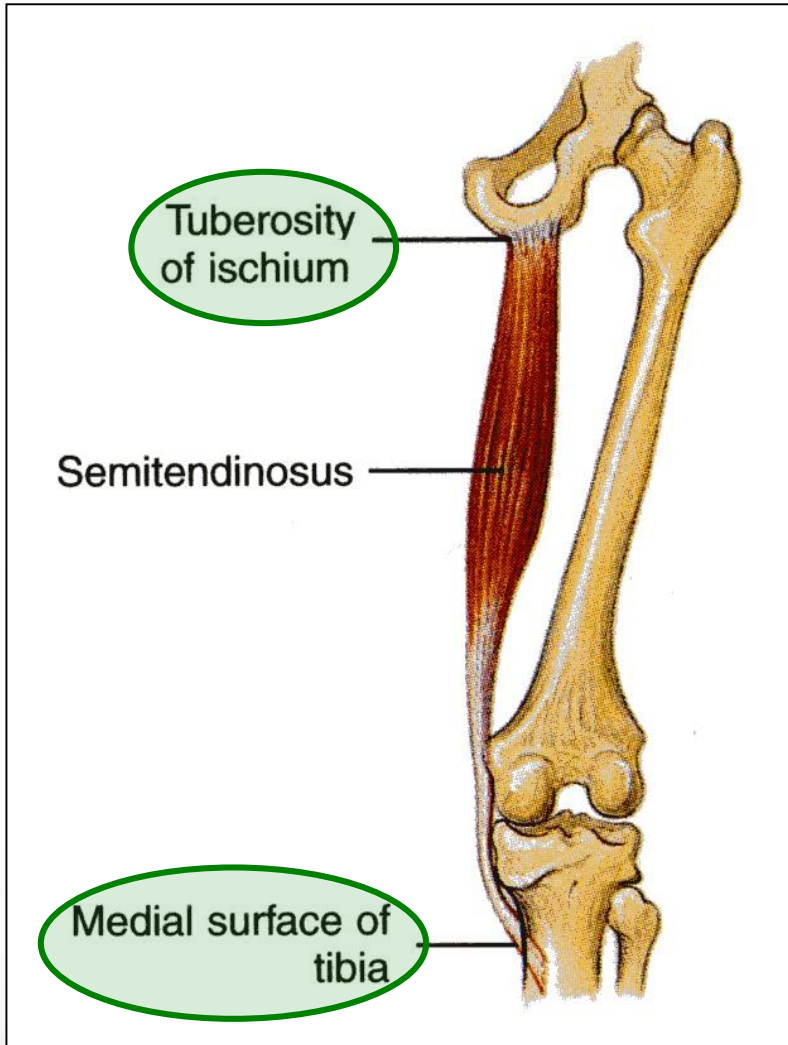
- **Muscles:**
- Hamstring muscles:
- Biceps femoris.
- Semitendinosus.
- Semimembranosus.
- Ischial part of adductor magnus.
- **Blood supply:**
- Branches of the profunda femoris artery.
- **Nerve supply:**
- Sciatic nerve.

# MUSCLES



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

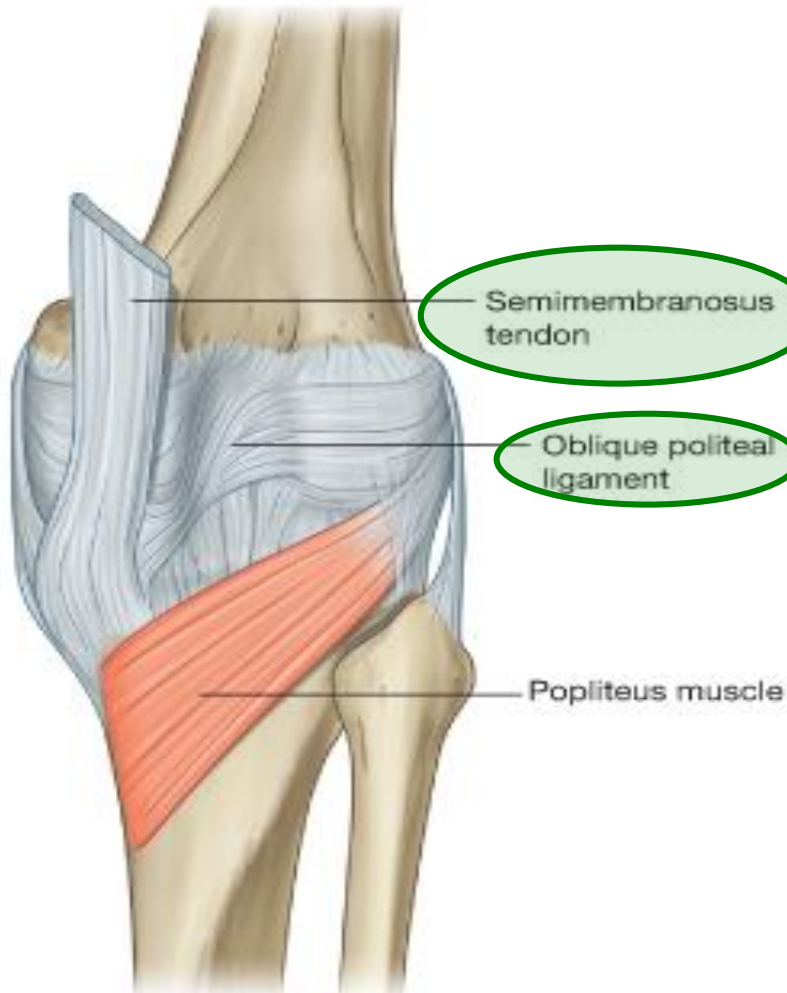
# SEMITENDINOSUS



- **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.

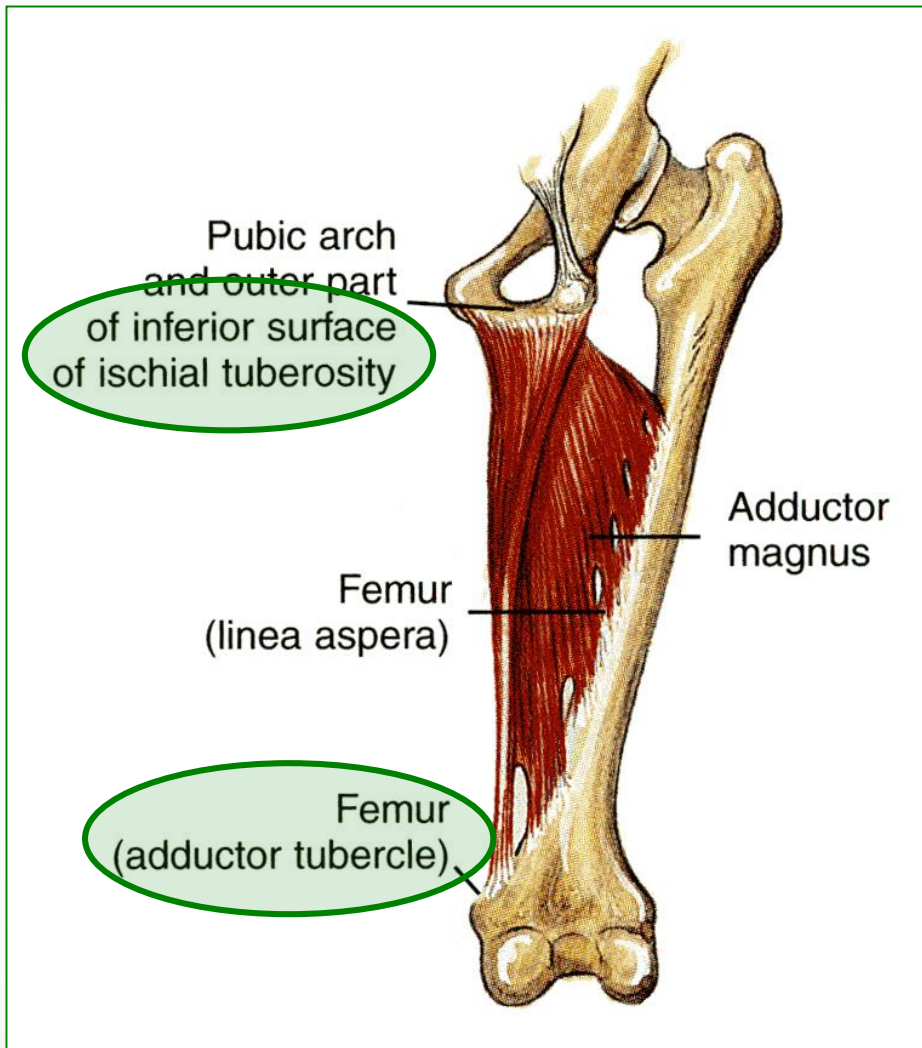
## **Nerve supply**

- Tibial part 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.

# 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 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**.