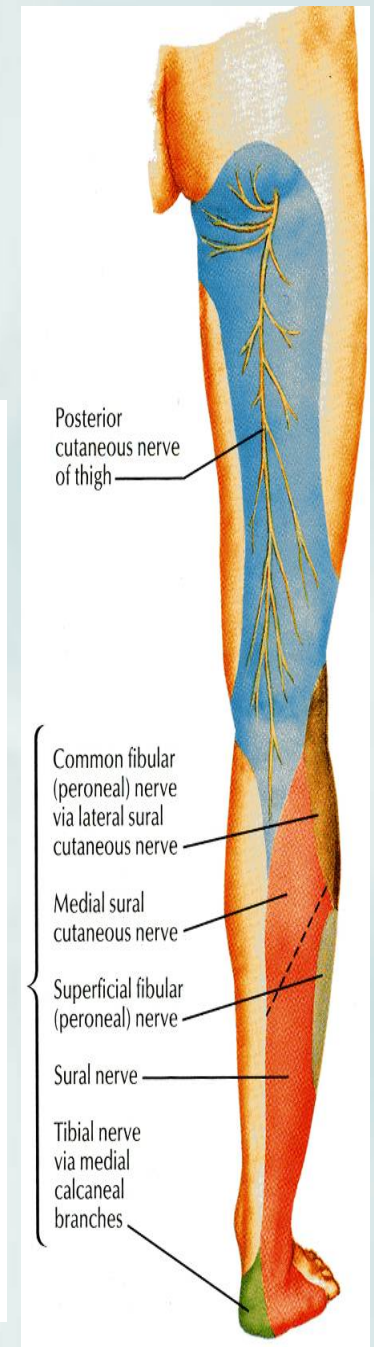
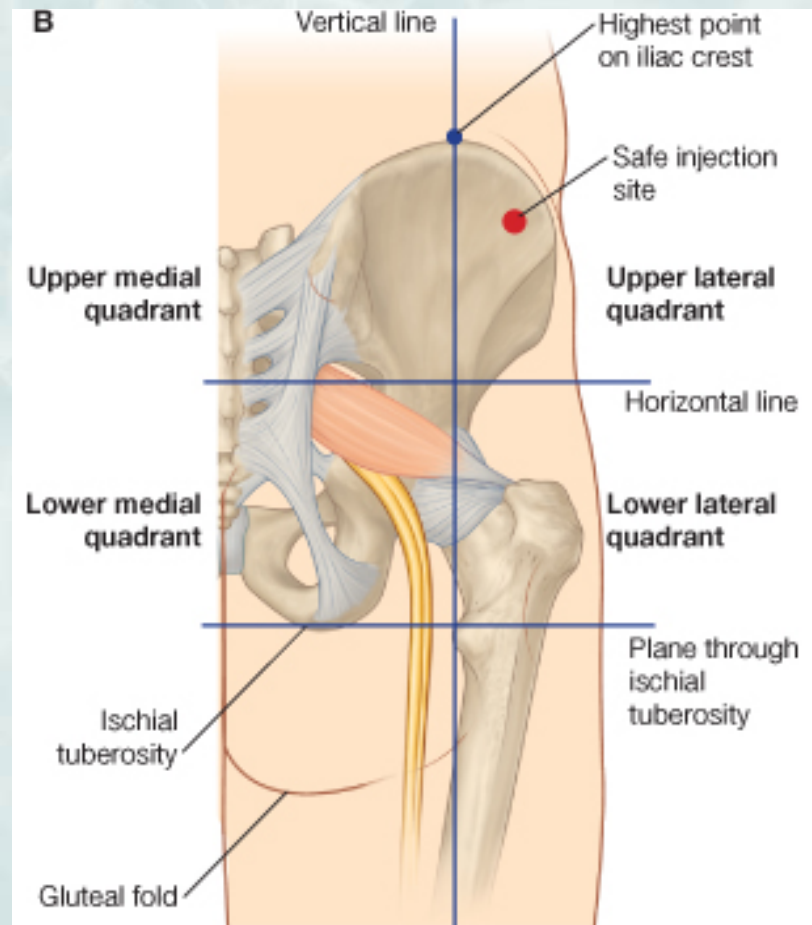


# GLUTEAL REGION, BACK OF THIGH & POPLITEAL FOSSA



# OBJECTIVES

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

# CONTENTS

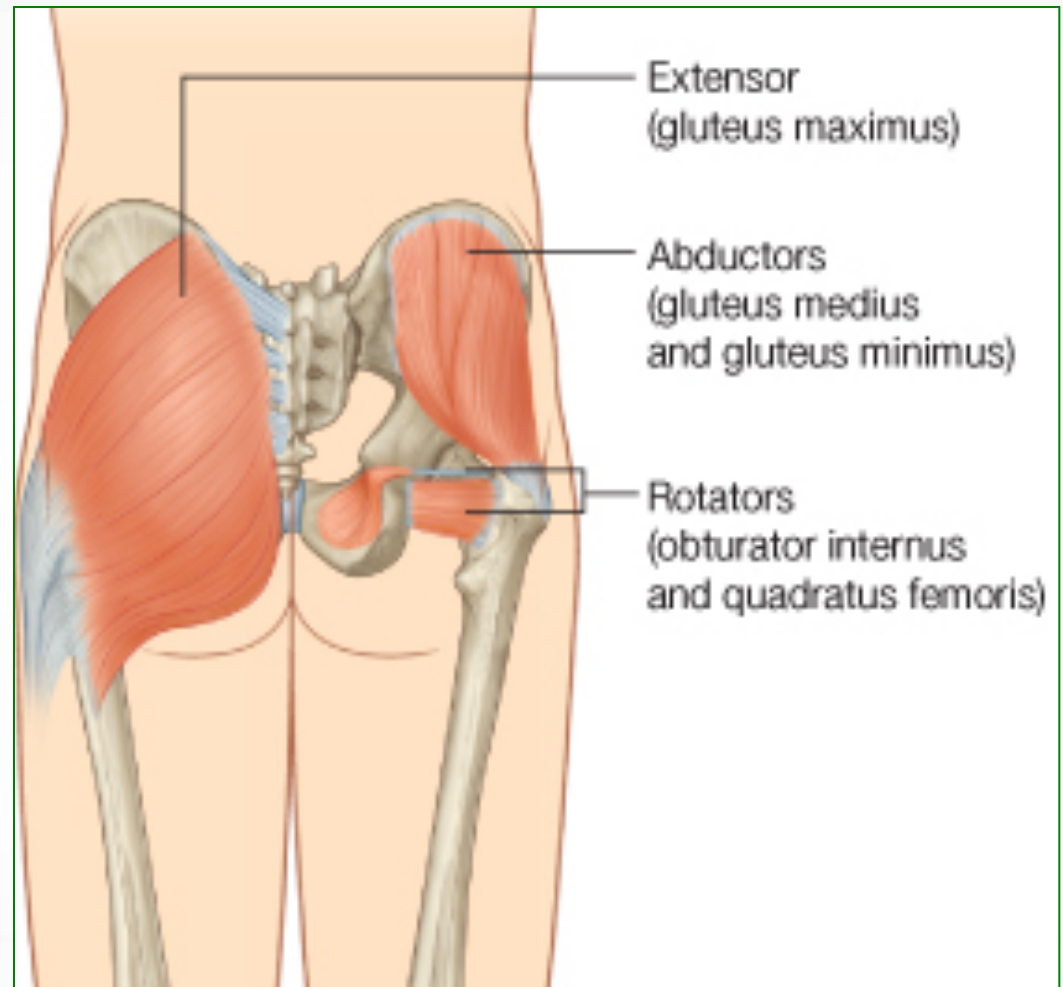
- **I - Muscles:**

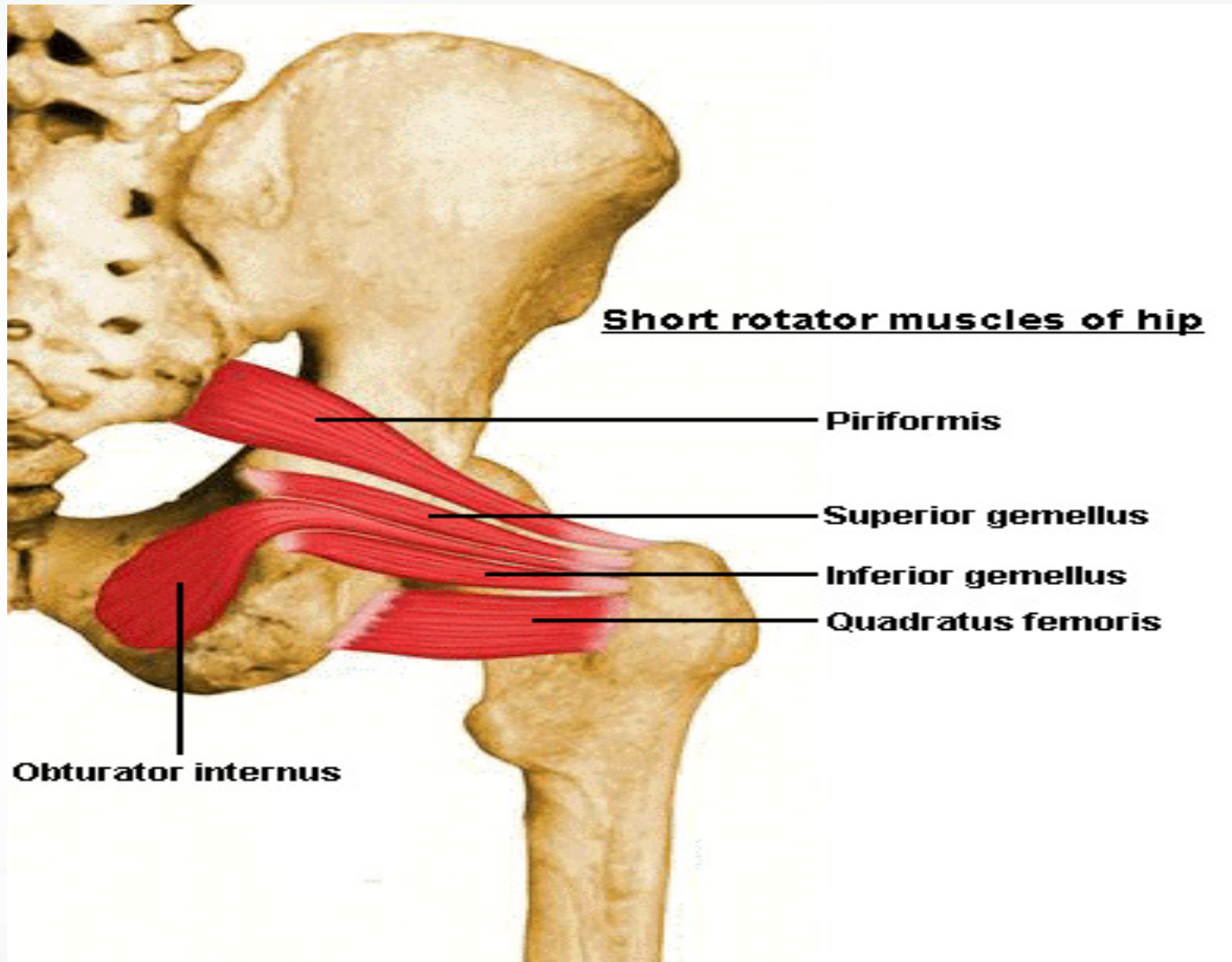
**A- GLUTEI:**

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

**B- GROUP OF SMALL MUSCLES (lateral rotators) :**

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



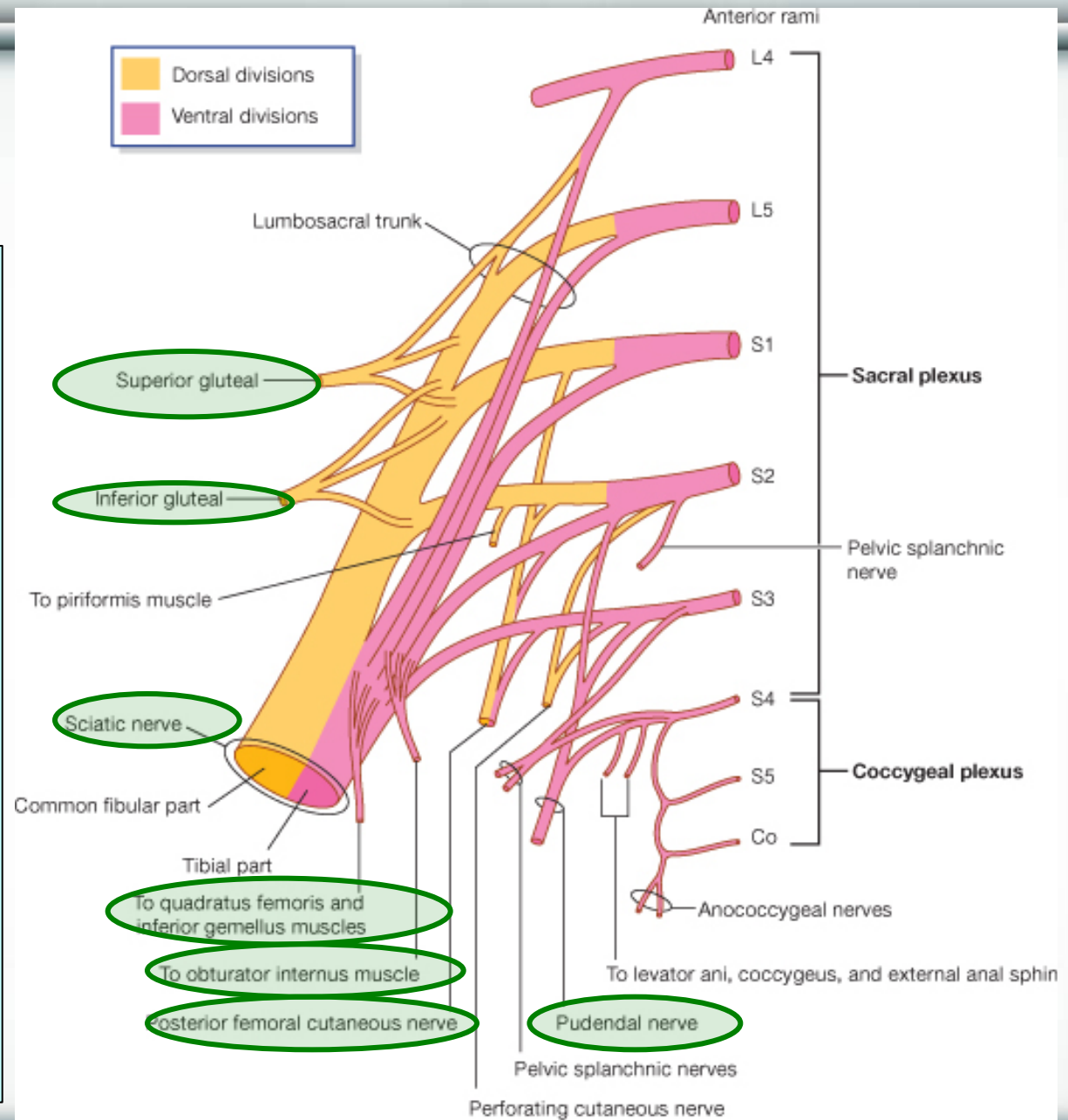


# CONTENTS

## 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.

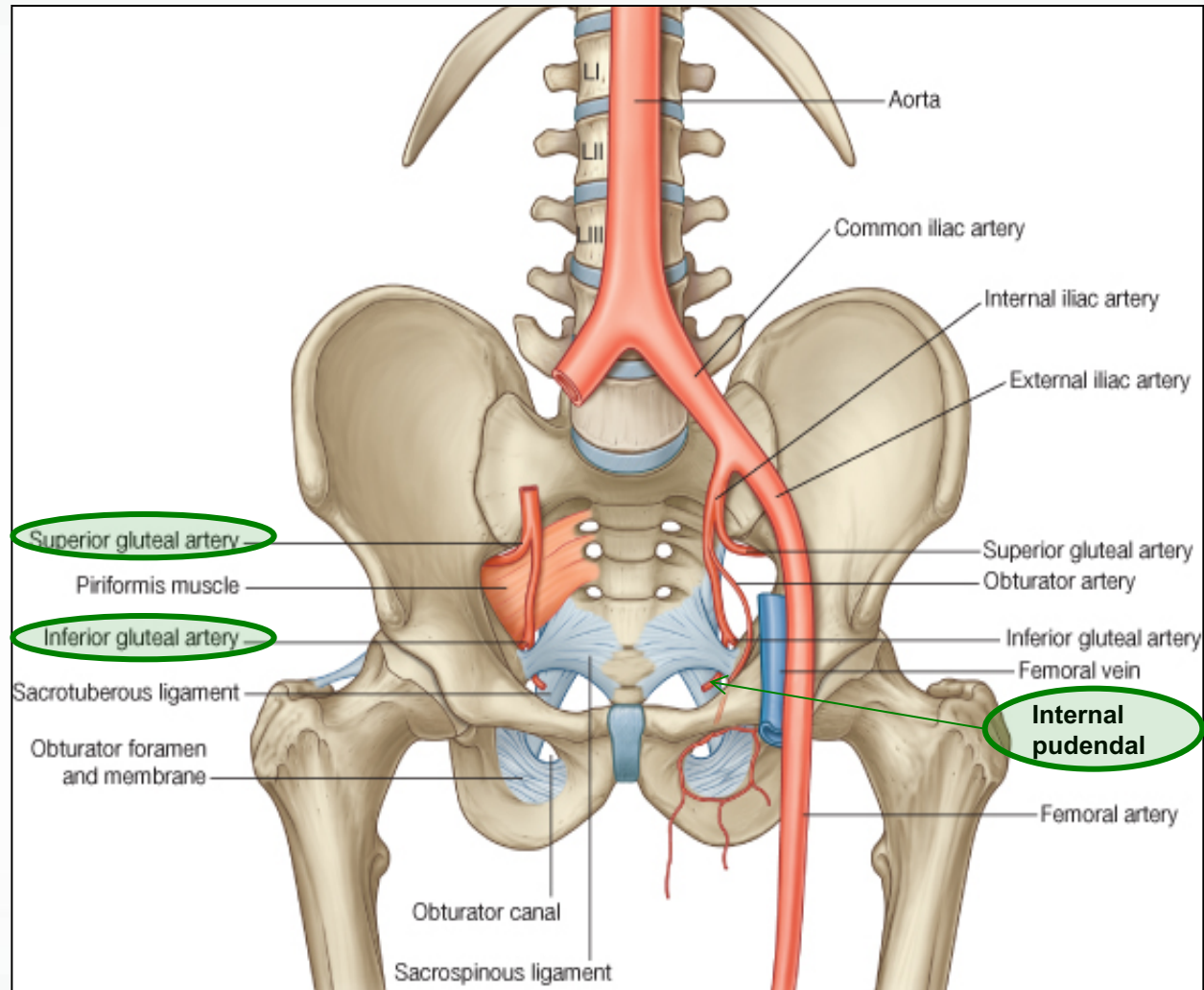


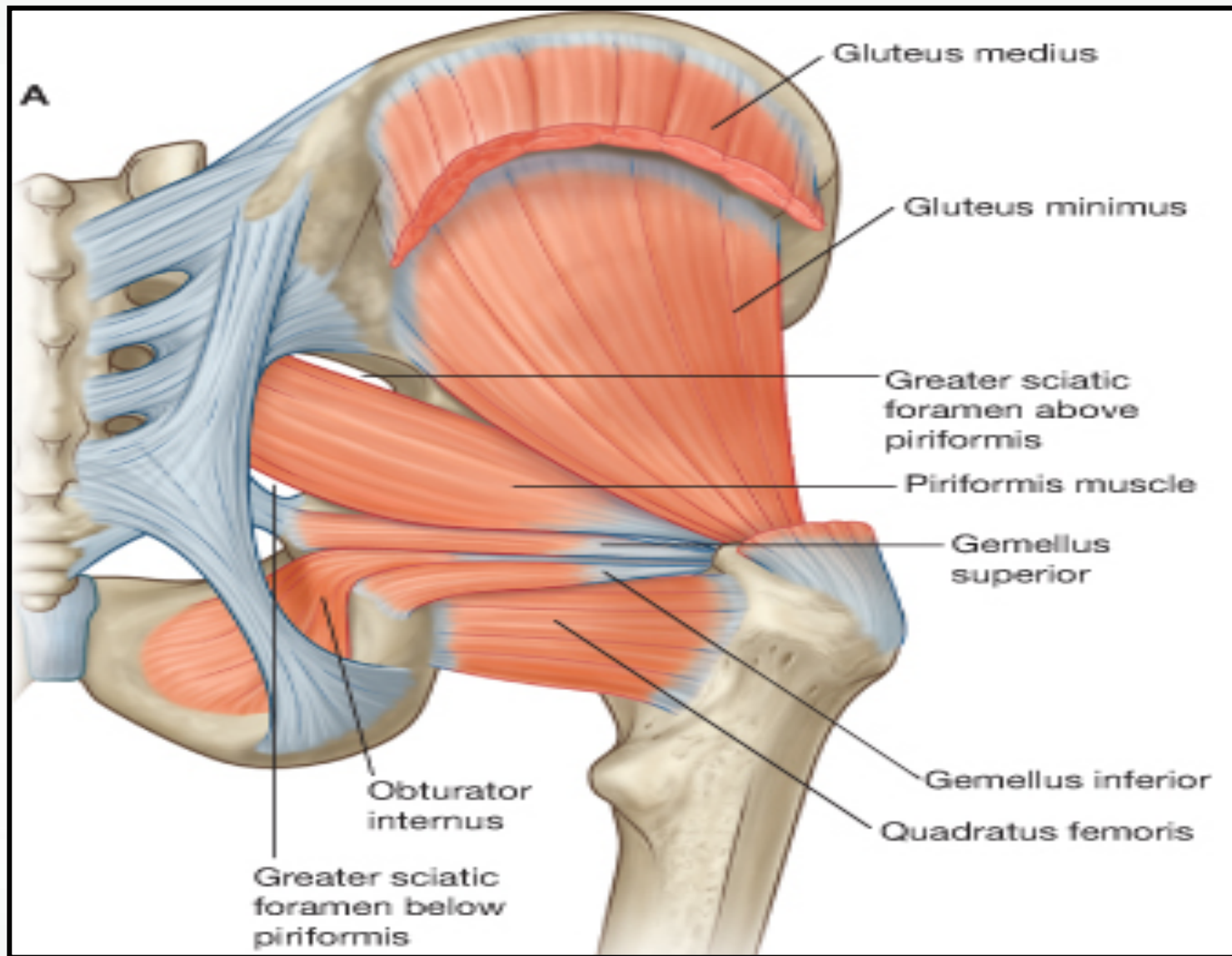
# CONTENTS

## III - VESSELS:

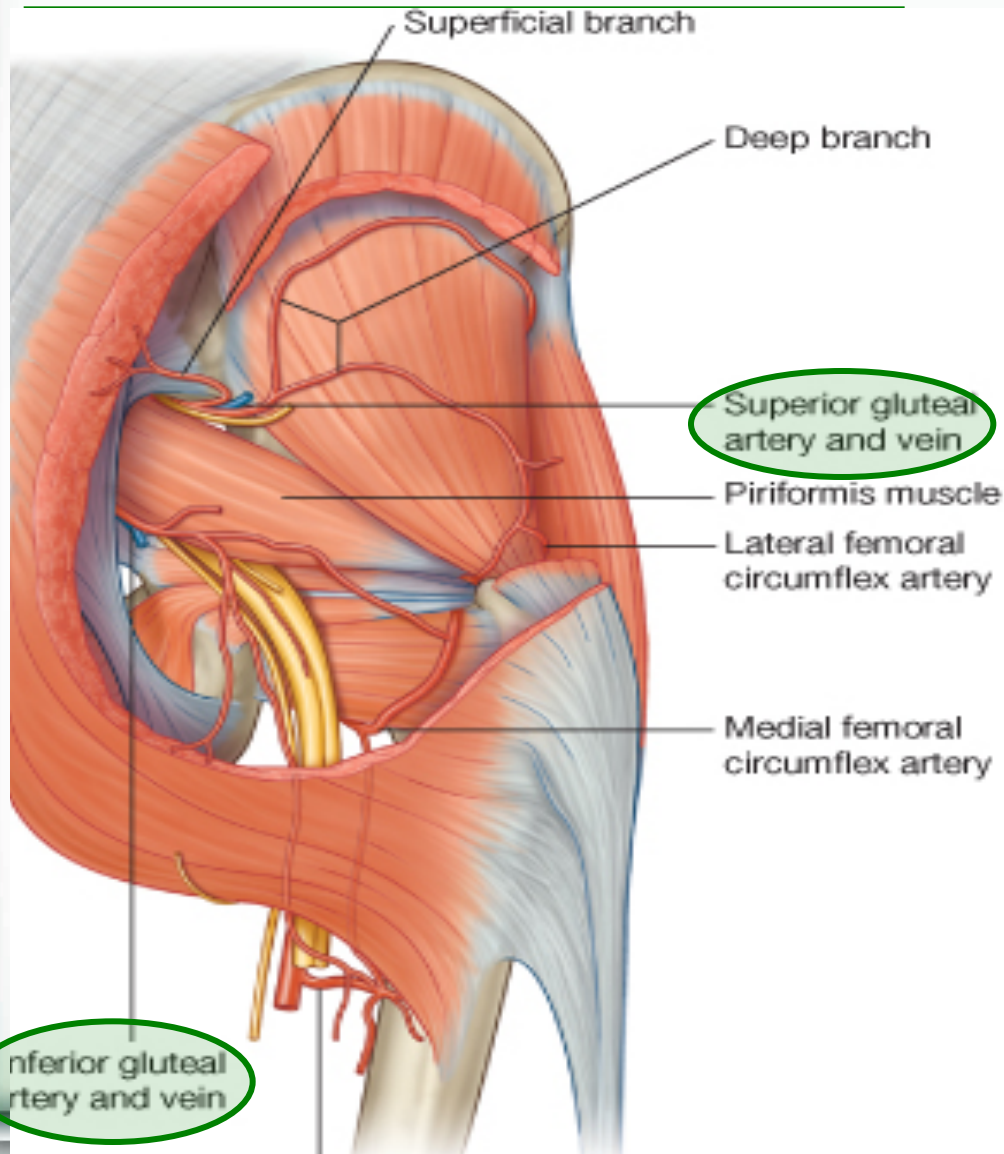
(all from internal iliac vessels):

1. Superior gluteal
2. Inferior gluteal
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.

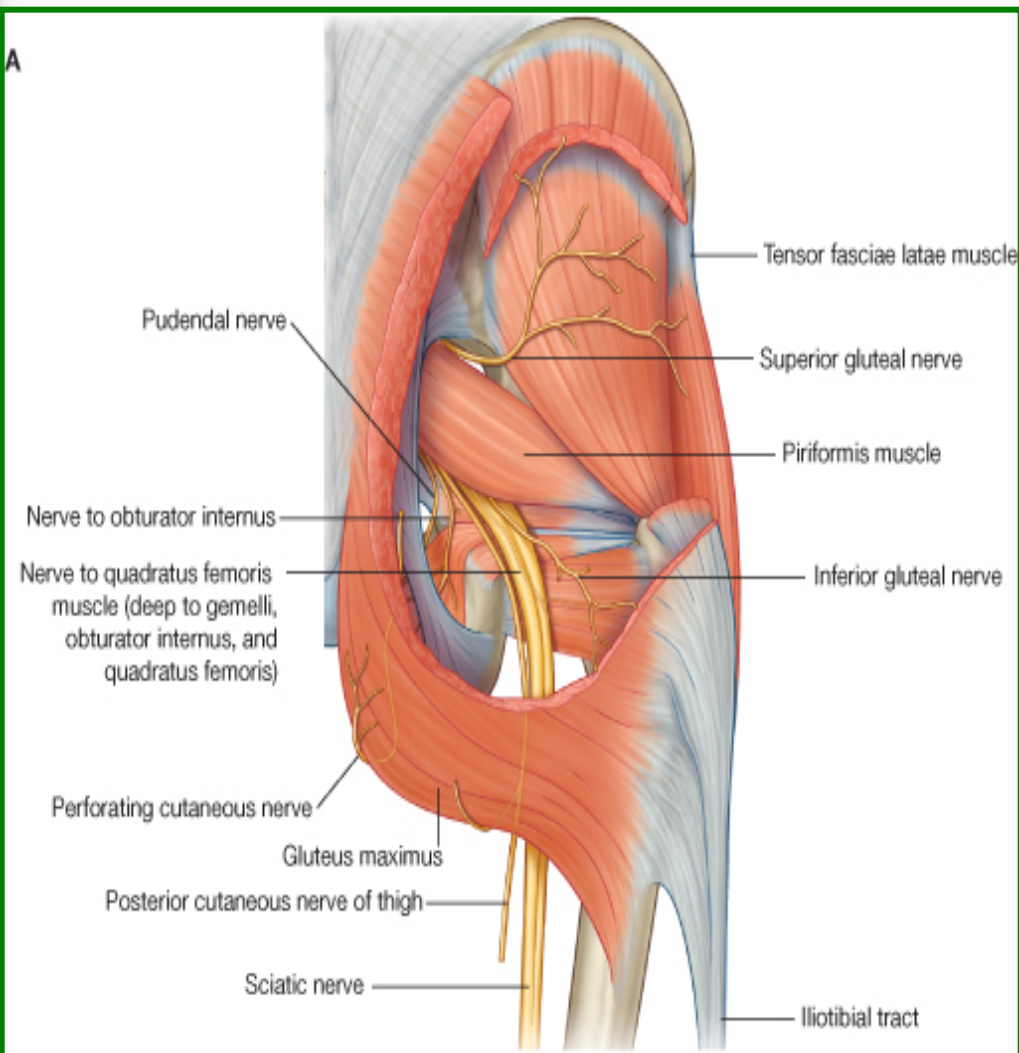
• Nerve to obturator internus.

• 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:**

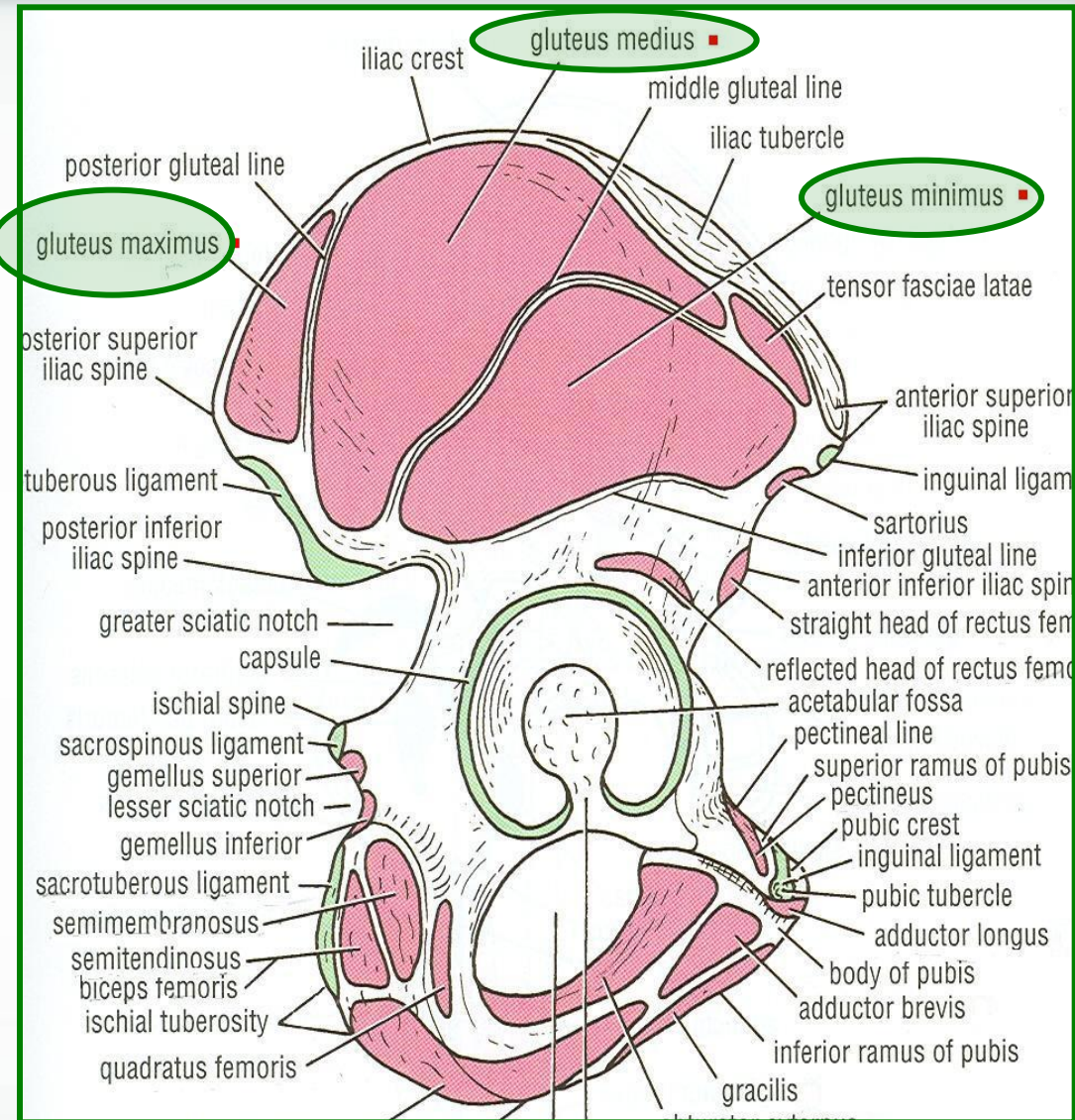
- Middle part of the gluteal surface of ilium.

- **Gluteus maximus:**

- Posterior part of the gluteal surface of ilium.

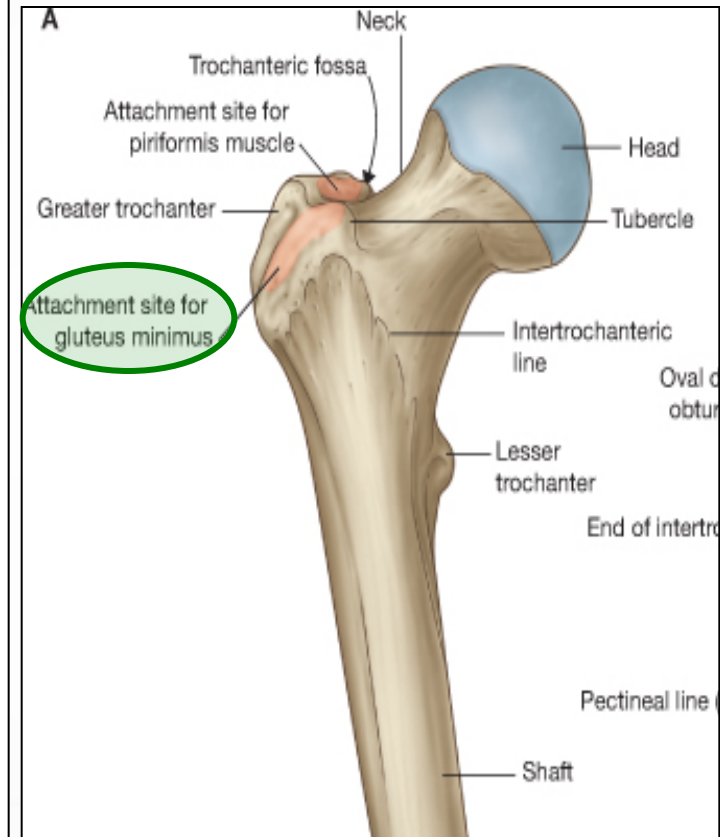
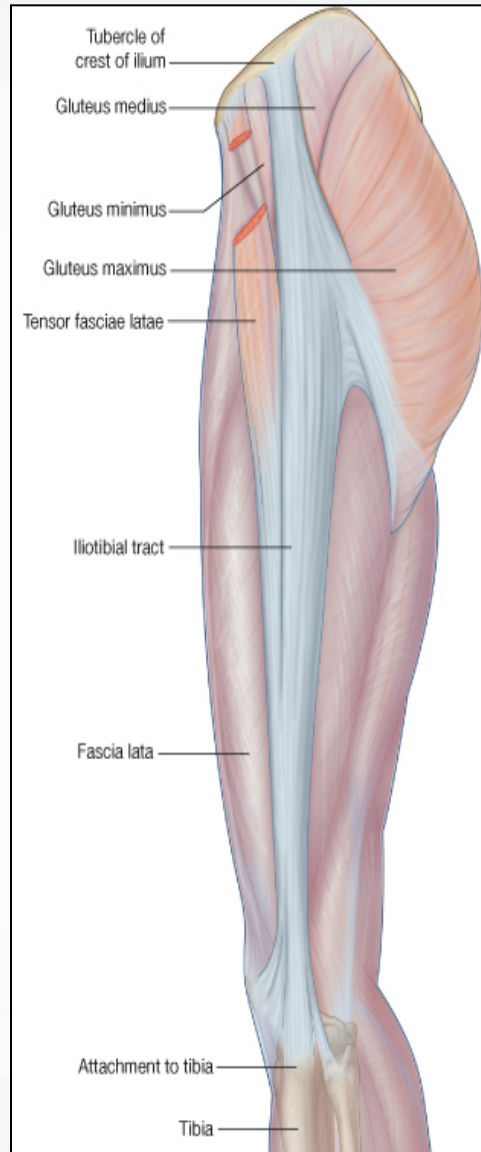
**Main origin of gluteus maximus:**

Back of sacrum & coccyx & back of Sacrotuberous ligament.

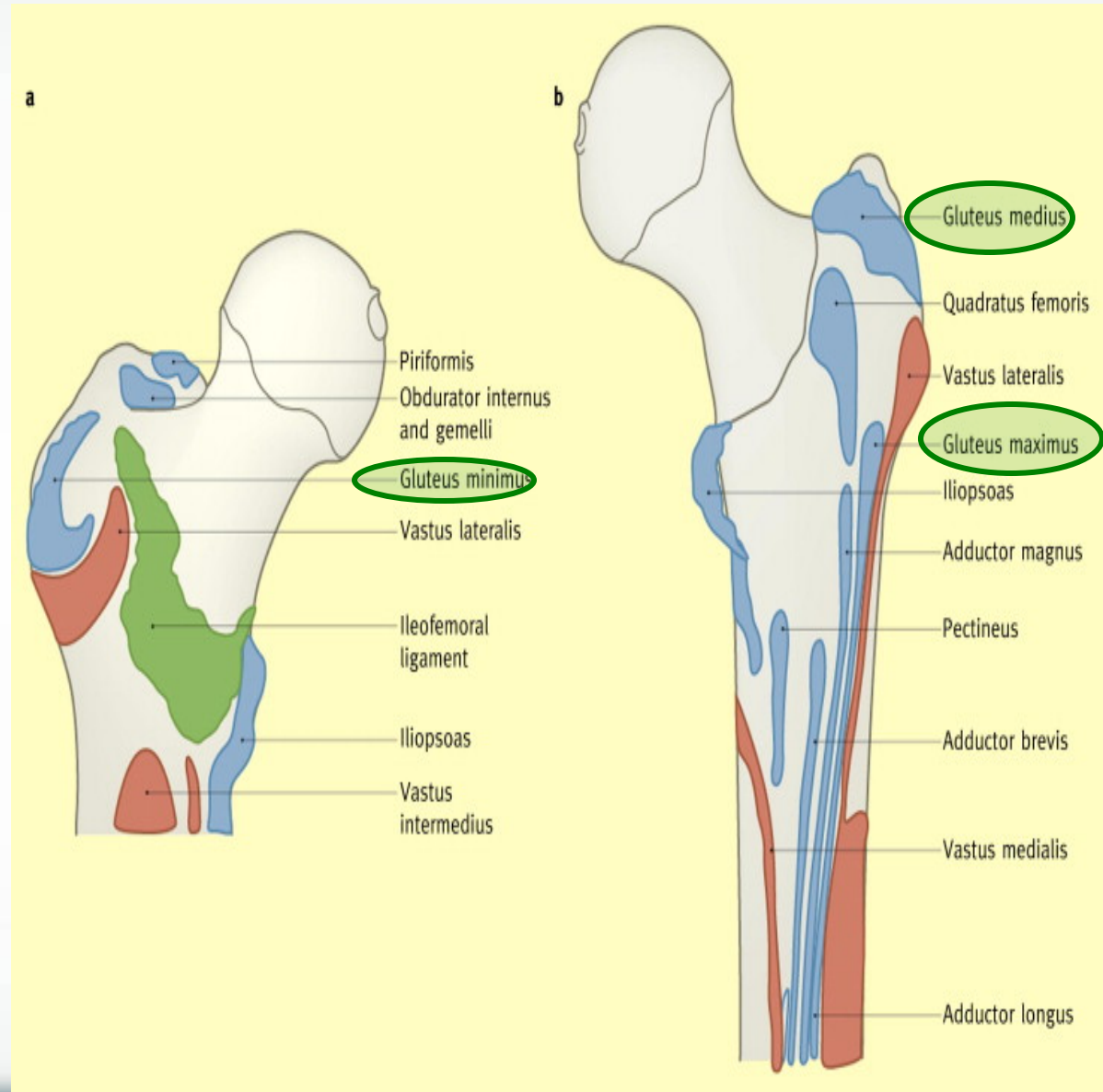


# Glutei

- **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.

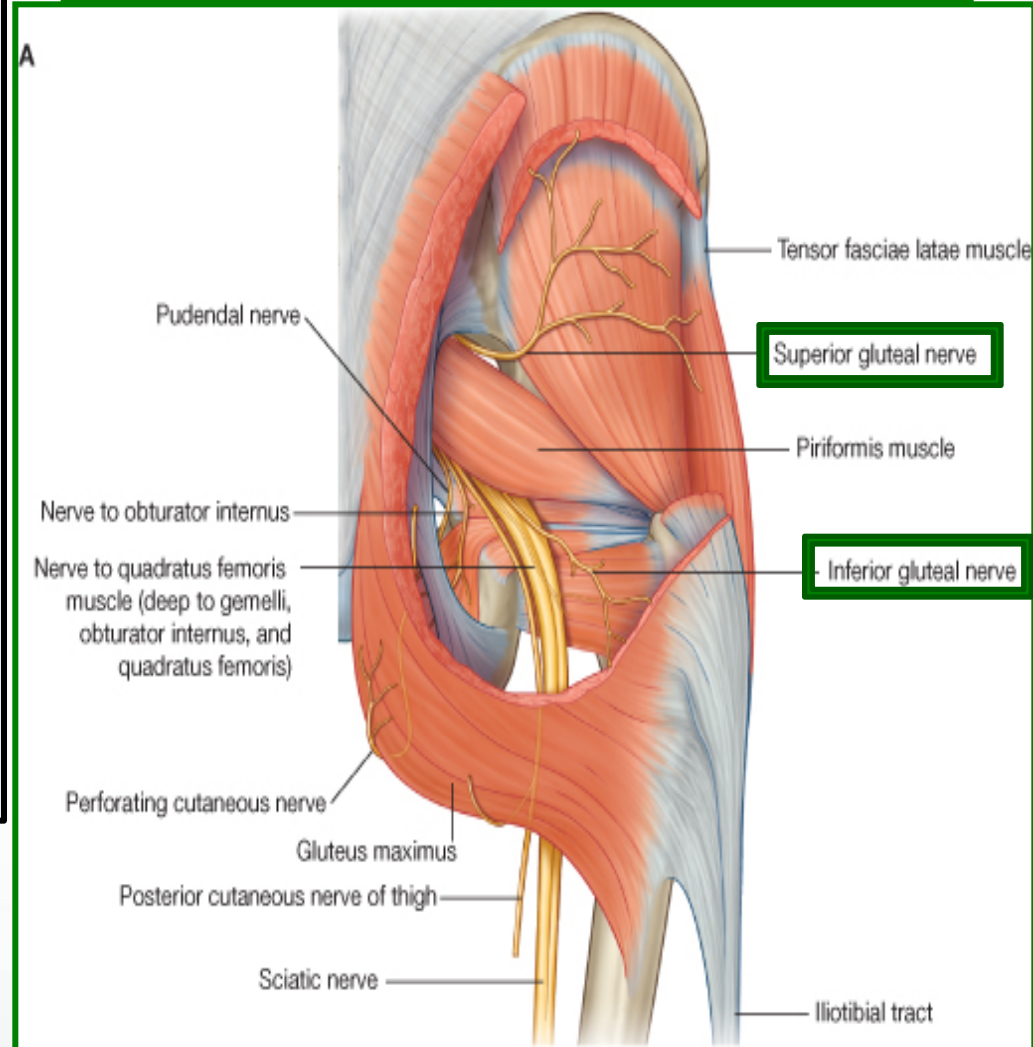


# Glutei Muscles



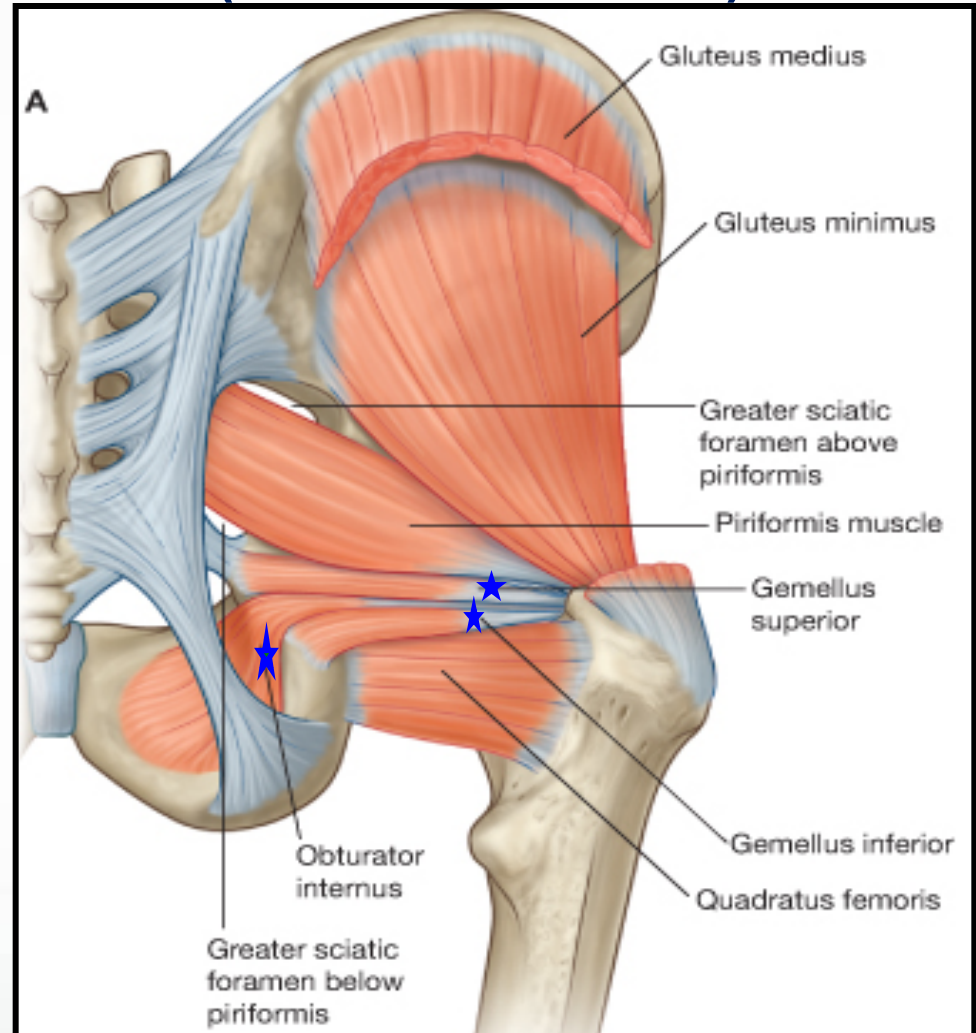
# NERVE SUPPLY & ACTION of Gluti muscles

- **Gluteus medius & minimus:**
- **Nerve supply:**
- Superior gluteal nerve.
- **Action:**
- abduction & medial rotation of hip joint.
  
- **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 tibia during standing.



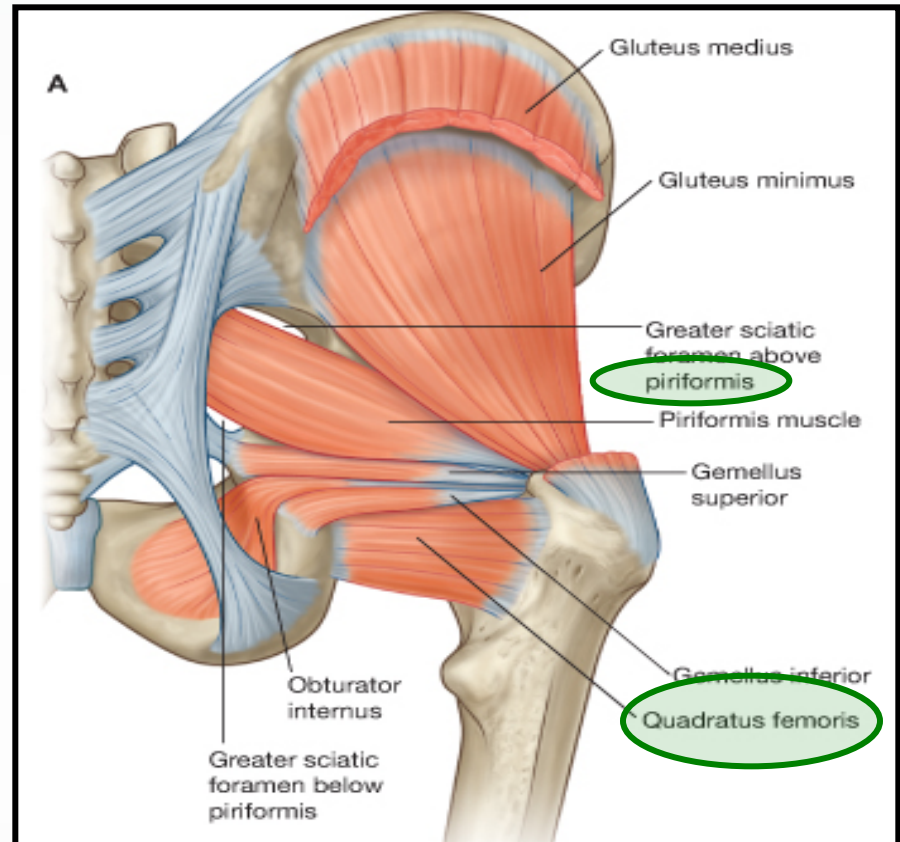
- **Obturator Internus:**
- **Origin:**
- Inner surface of the side wall of the pelvis.
- **Insertion:**
- Into the medial surface of the greater trochanter.
- **Nerve supply:**
- Nerve to obturator internus.
- **Superior & Inferior Gemelli:**
- **Origin:**
- **Superior gemellus;**
- upper part of lesser sciatic notch.
- **Inferior gemellus:**
- lower part of lesser sciatic notch.
- **Insertion:**
- Upper & lower parts into **tendon of obturator internus.**
- **Nerve supply:**
- **Superior gemellus:** nerve to **obturator internus**
- **Inferior gemellus:** nerve to **quadratus femoris.**

## Small muscles (Lateral Rotators)



- **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 N. :

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

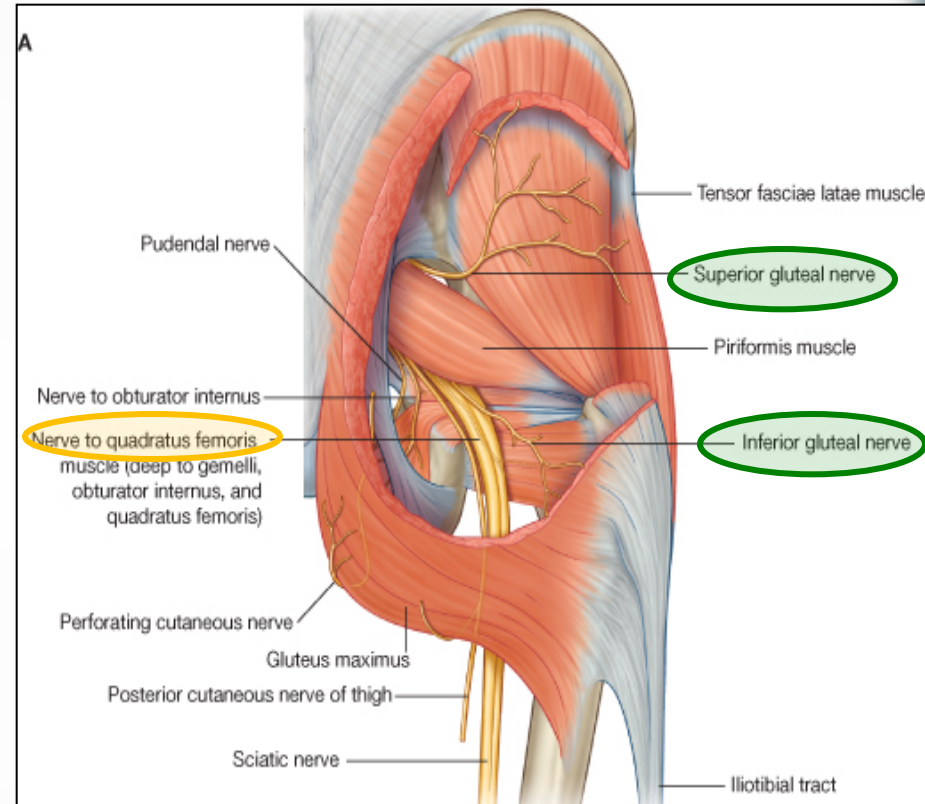
## INFERIOR GLUTEAL N. :

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

## NERVE TO QUADRATUS FEMORIS N. :

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

# NERVES





## POSTERIOR CUTANEOUS NERVE OF 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 :

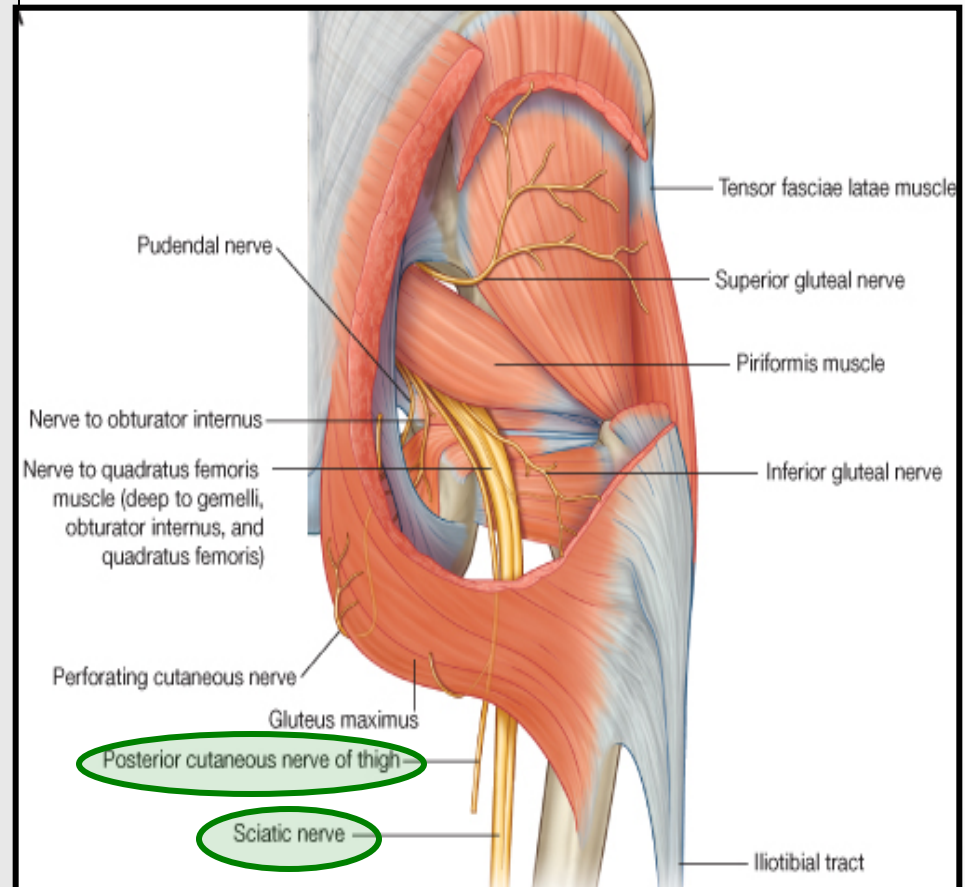
### Course:

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

### Branches:

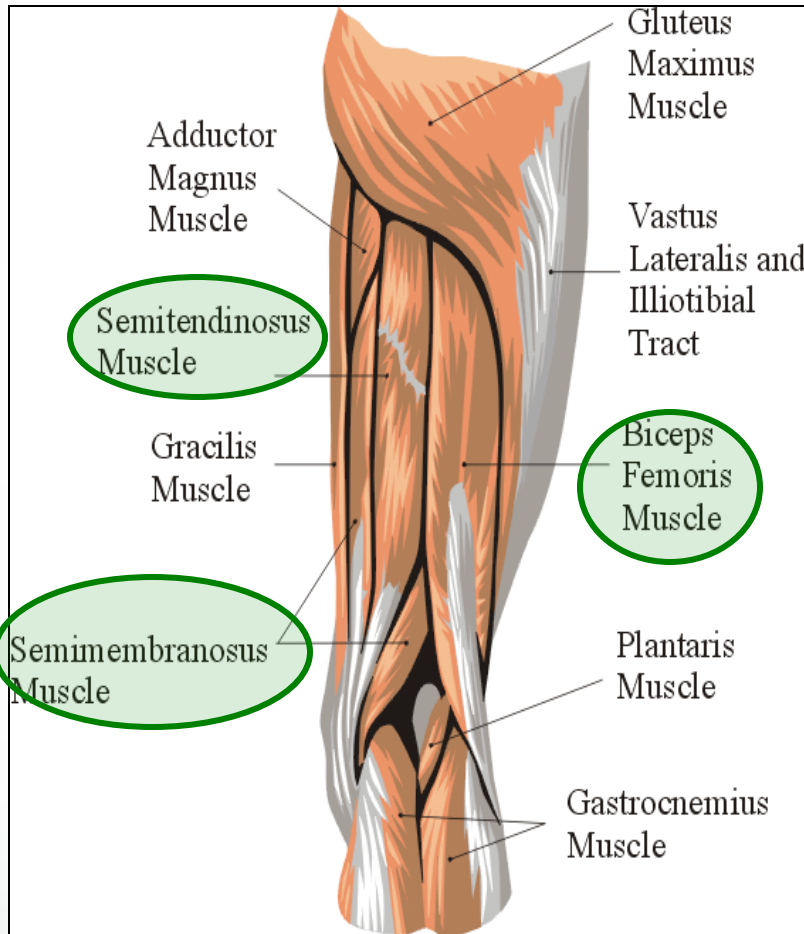
- No branches in gluteal region,
- Divides into **tibial** & **common peroneal nerves**, in the middle of back of thigh

## NERVES



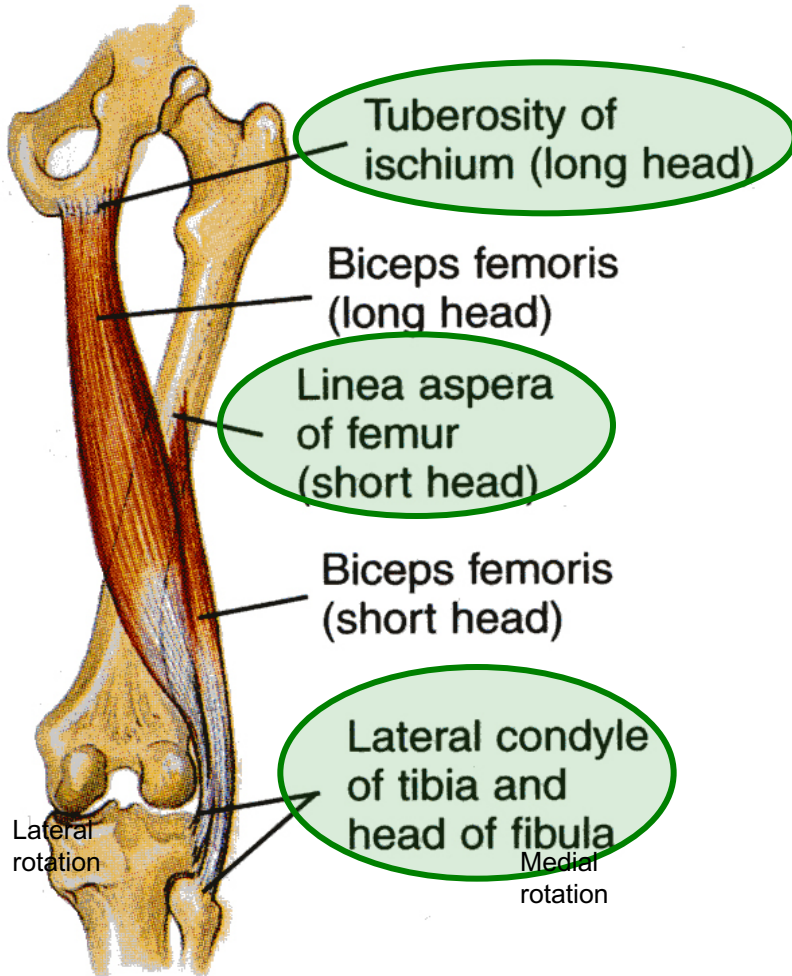
# POSTERIOR COMPARTMENT OF THE THIGH

## CONTENTS



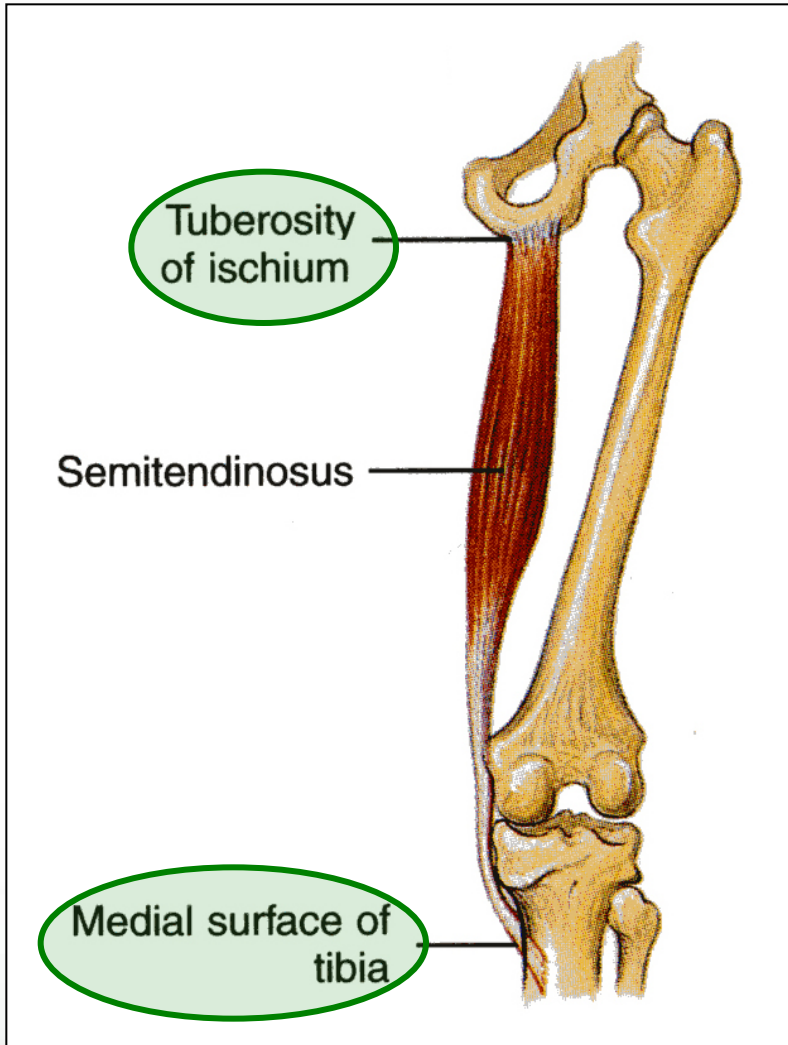
- **Muscles:**
- **Hamstring muscles:**
- Biceps femoris.
- Semitendinosus.
- Semimembranosus.
- Ischial part of adductor magnus.
- **Blood supply:**
- Branches of the profunda femoris artery.
- **Nerve supply:**
- Sciatic nerve.

# Biceps Femoris :



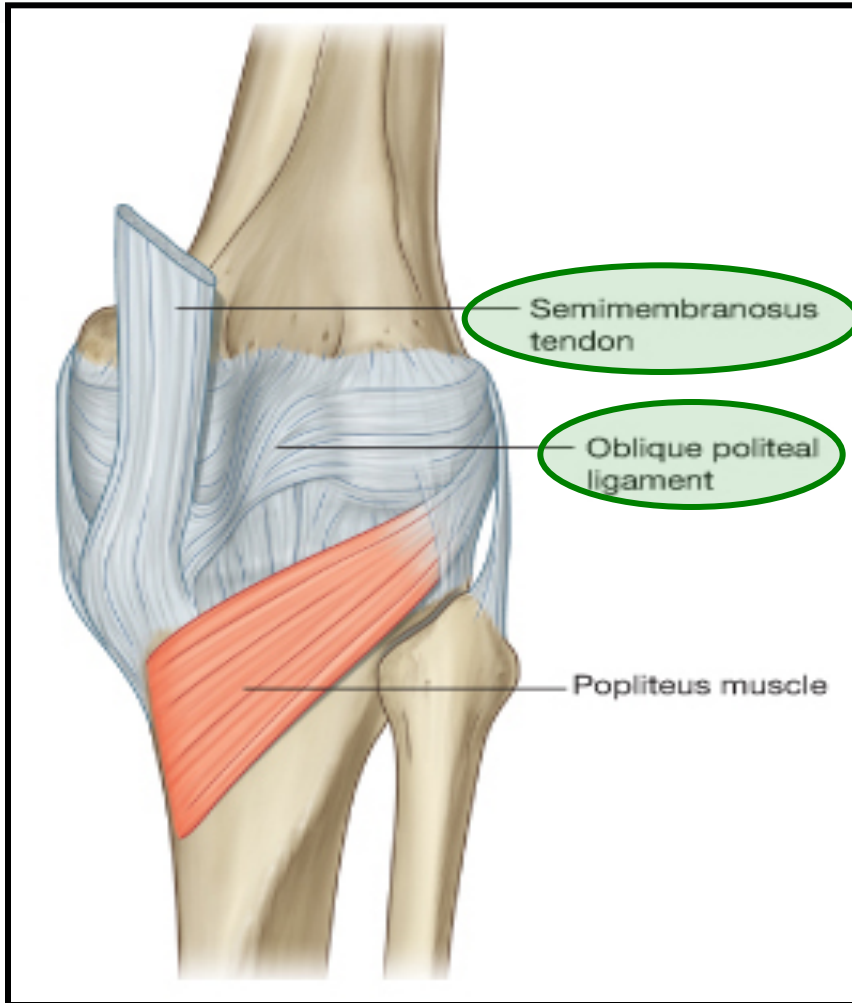
- **Origin:**
  - The long head from the *ischial tuberosity*.
  - The short head from the *linea aspera* .
- **Insertion:**
- Mainly into the *head of the fibula*.
- **Nerve supply:**
- The long head is supplied by the *tibial part of sciatic*;
- The short head is supplied by the *common peroneal part of the sciatic*.
- **Action :**
- *Flexion of knee.*
- *Lateral rotation of flexed leg.*
- **Long head:** *extends 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.

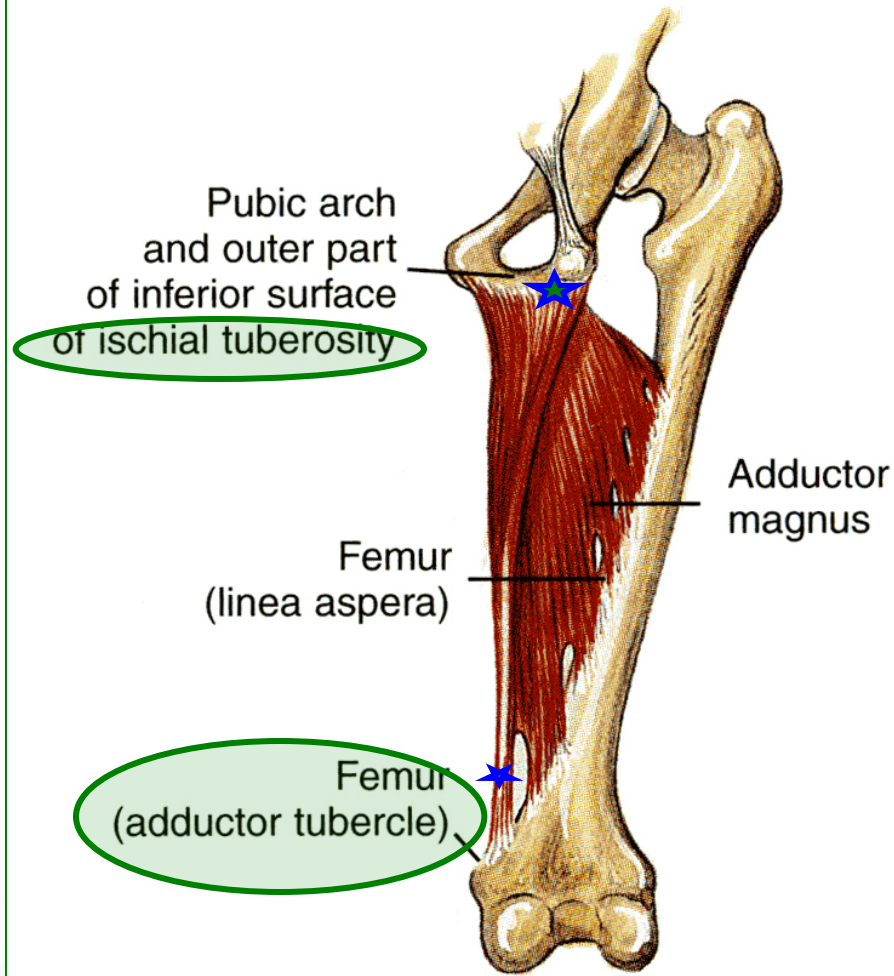
## **Nerve supply:**

- **Tibial** portion of the **sciatic nerve**.

## **Action:**

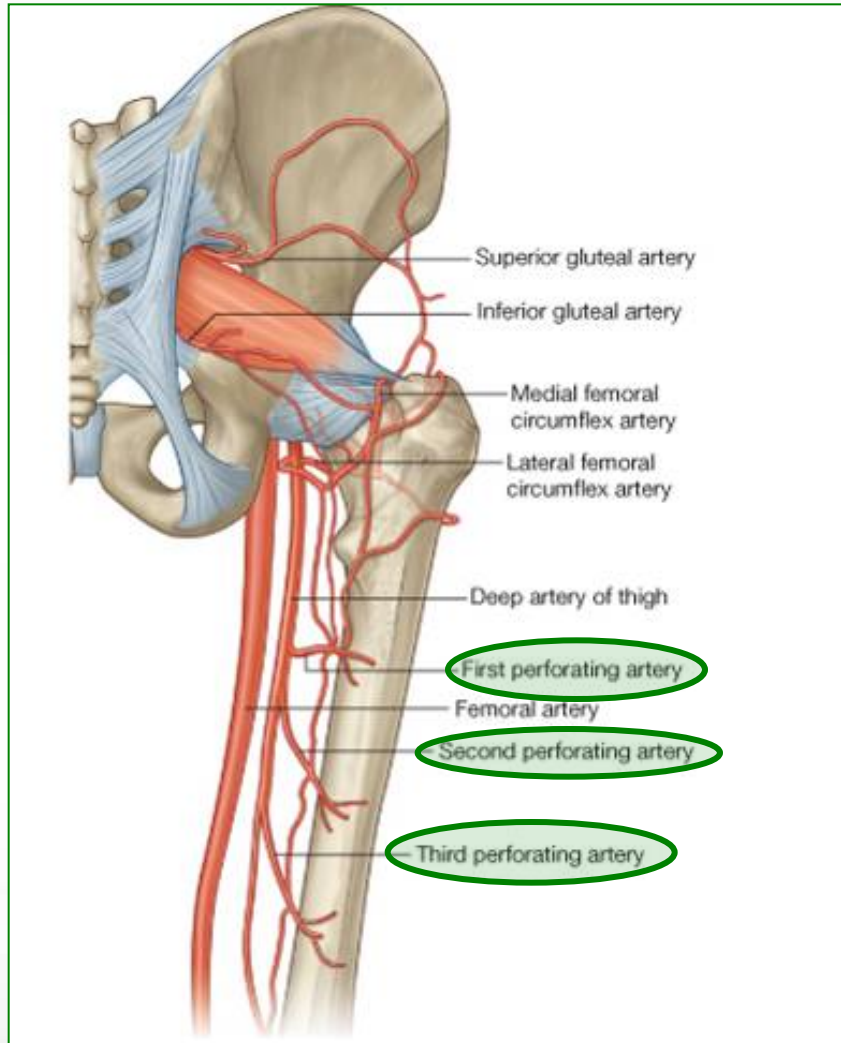
- Flexes and medially rotates the leg at the knee joint;
- Extends the thigh at the hip.

# ADDUCTOR MAGNUS (HAMSTRING PART)



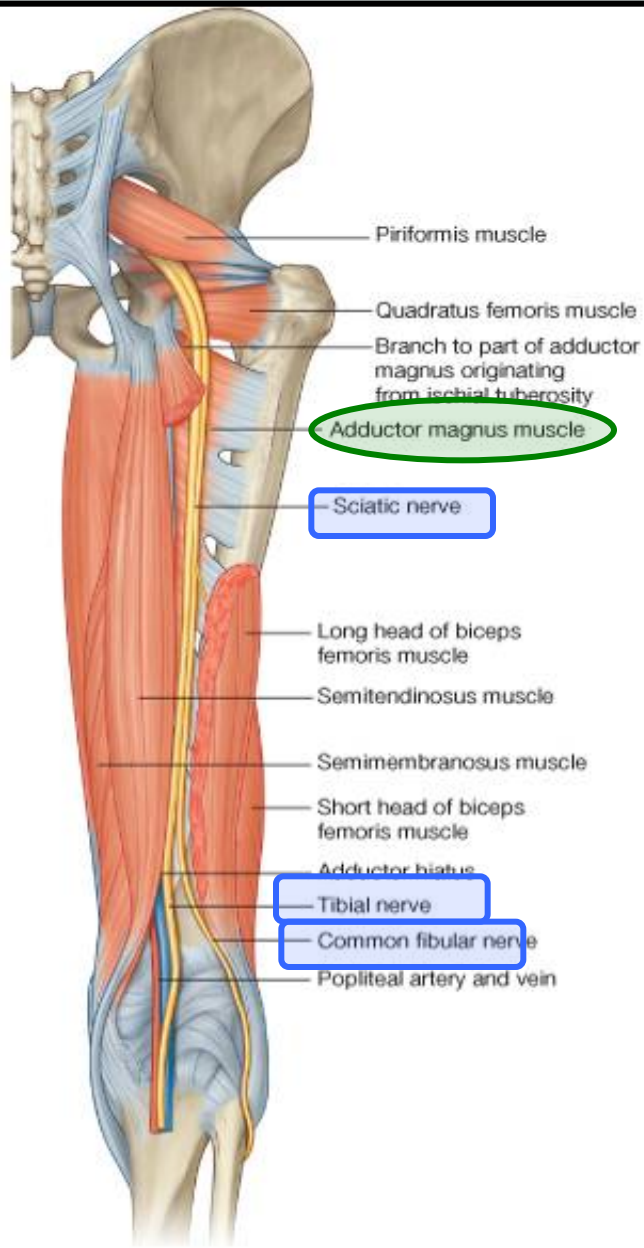
- **Origin:**
- Ischial ramus and **ischial tuberosity**
- **Insertion:**
- **Adductor tubercle** of the **medial condyle** of the **femur**.
- **Nerve supply:**
- **The tibial** portion of the **sciatic**.
- **Action:**
- Extends the thigh at the hip joint.

## BLOOD SUPPLY



- The **four perforating branches** of the **profunda femoris artery** (**deep artery of thigh**) 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 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**.