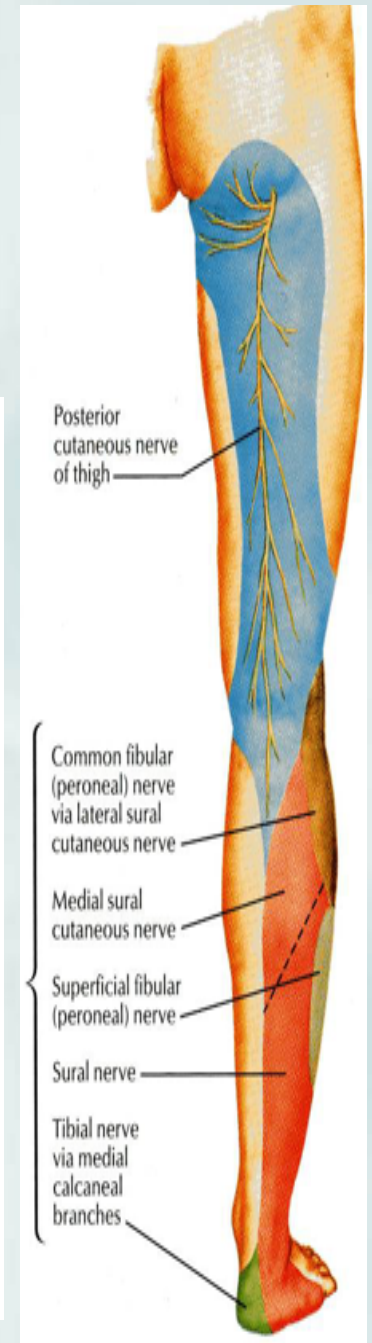
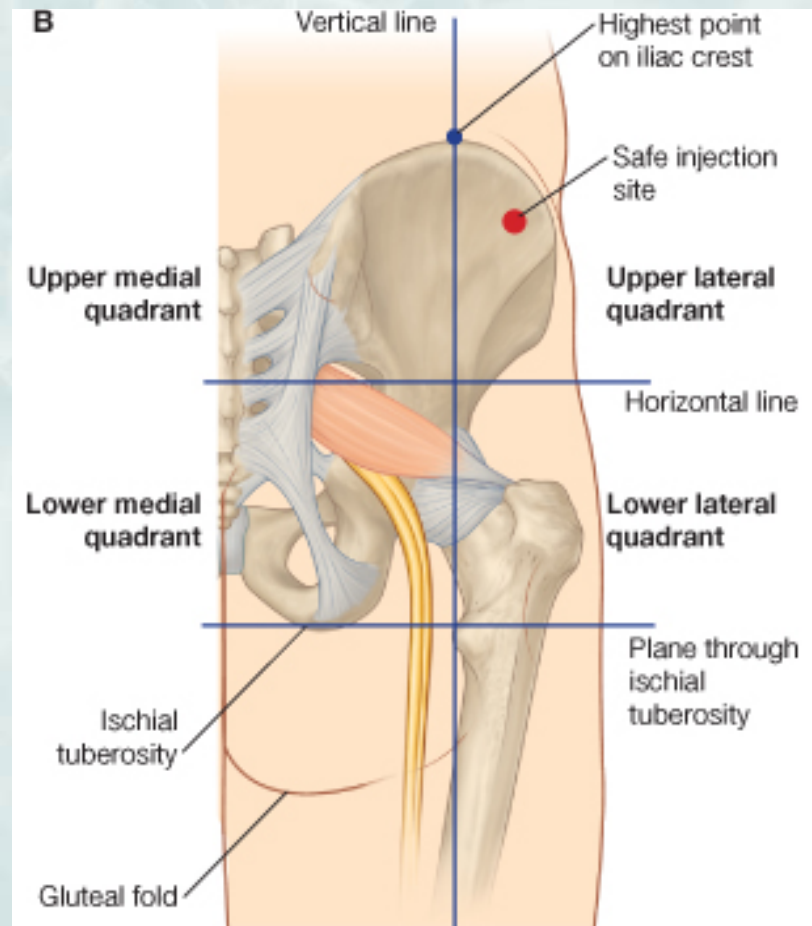


GLUTEAL REGION & BACK OF THIGH



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

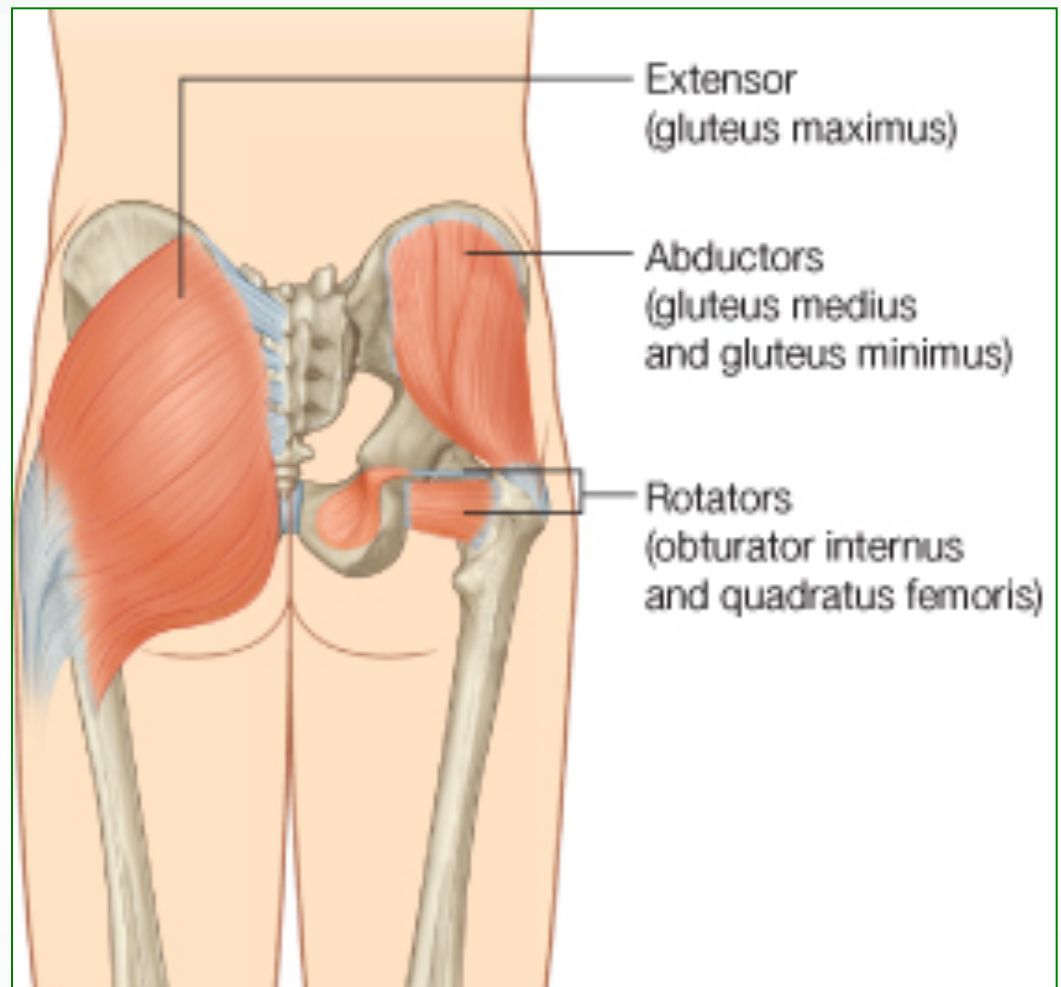
• I - Muscles:

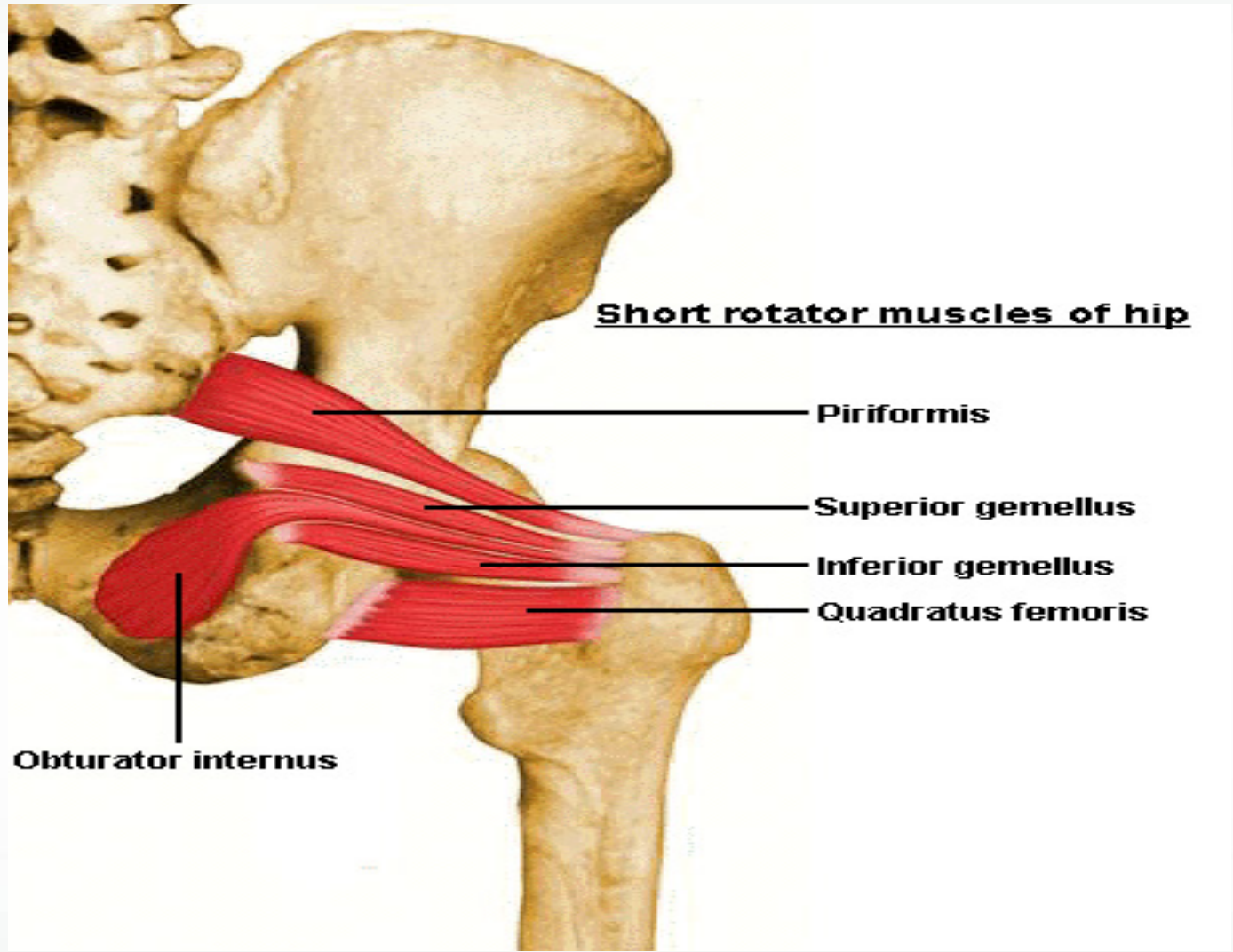
A- GLUTEI:

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.



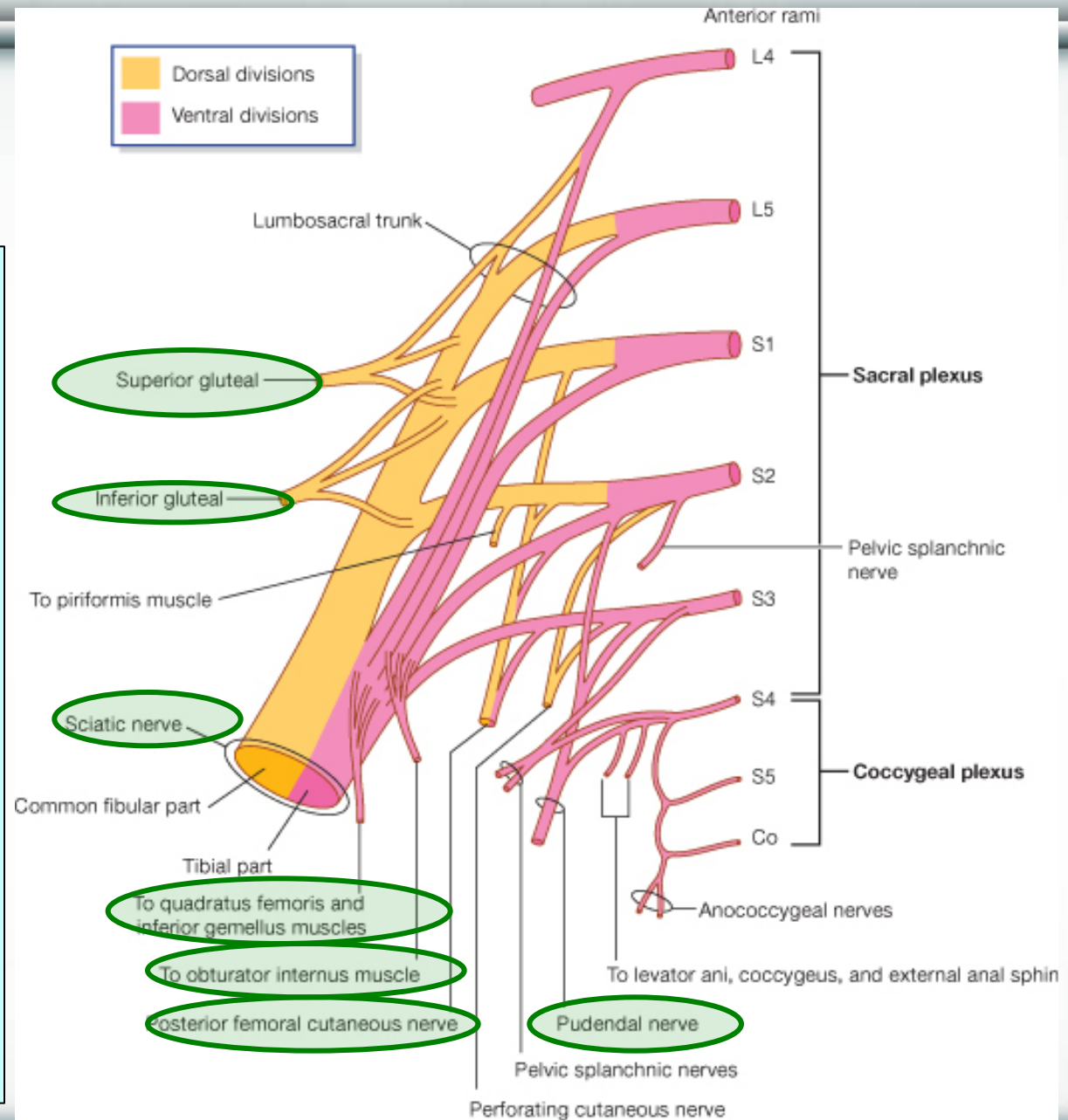


CONTENTS

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.

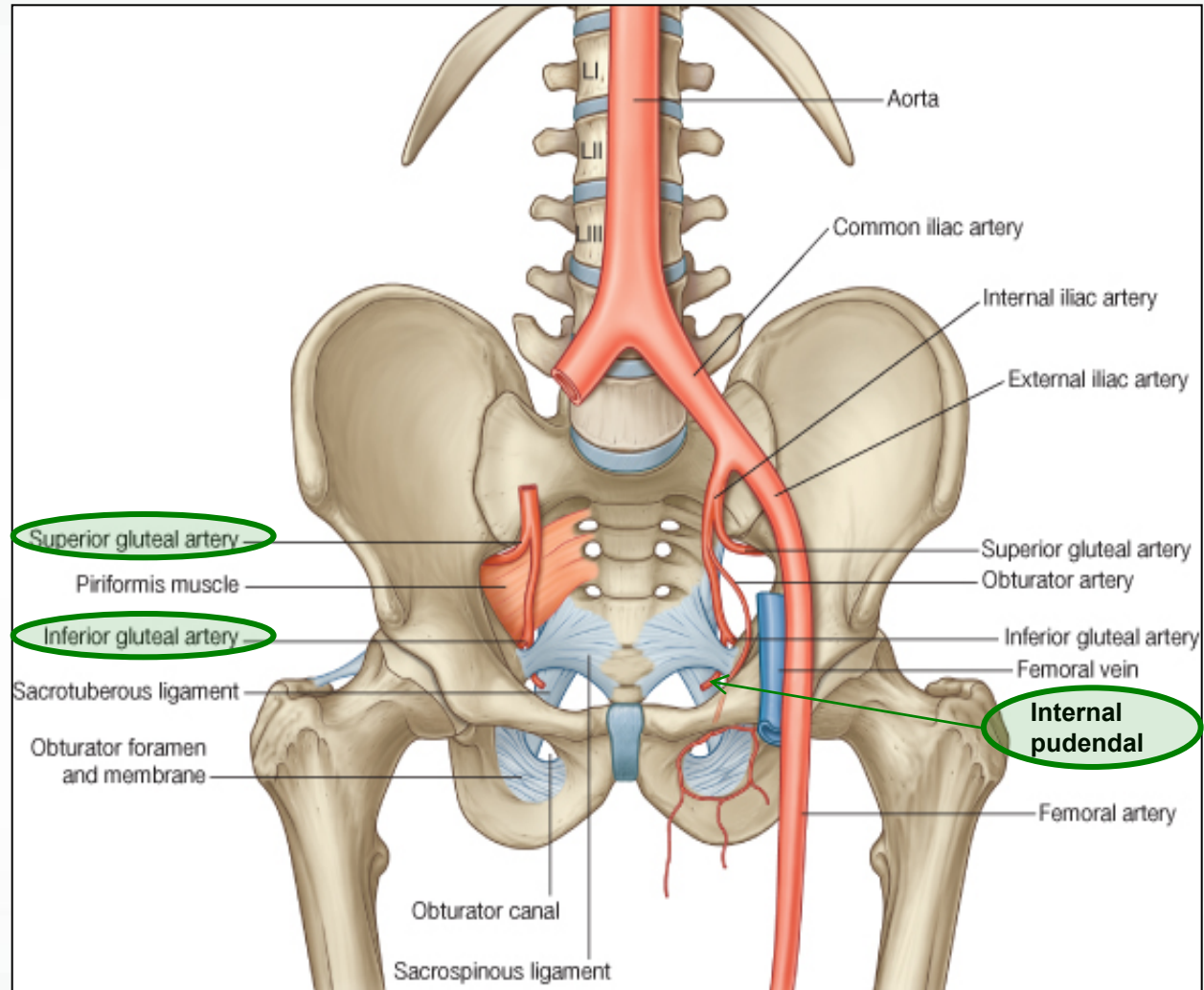


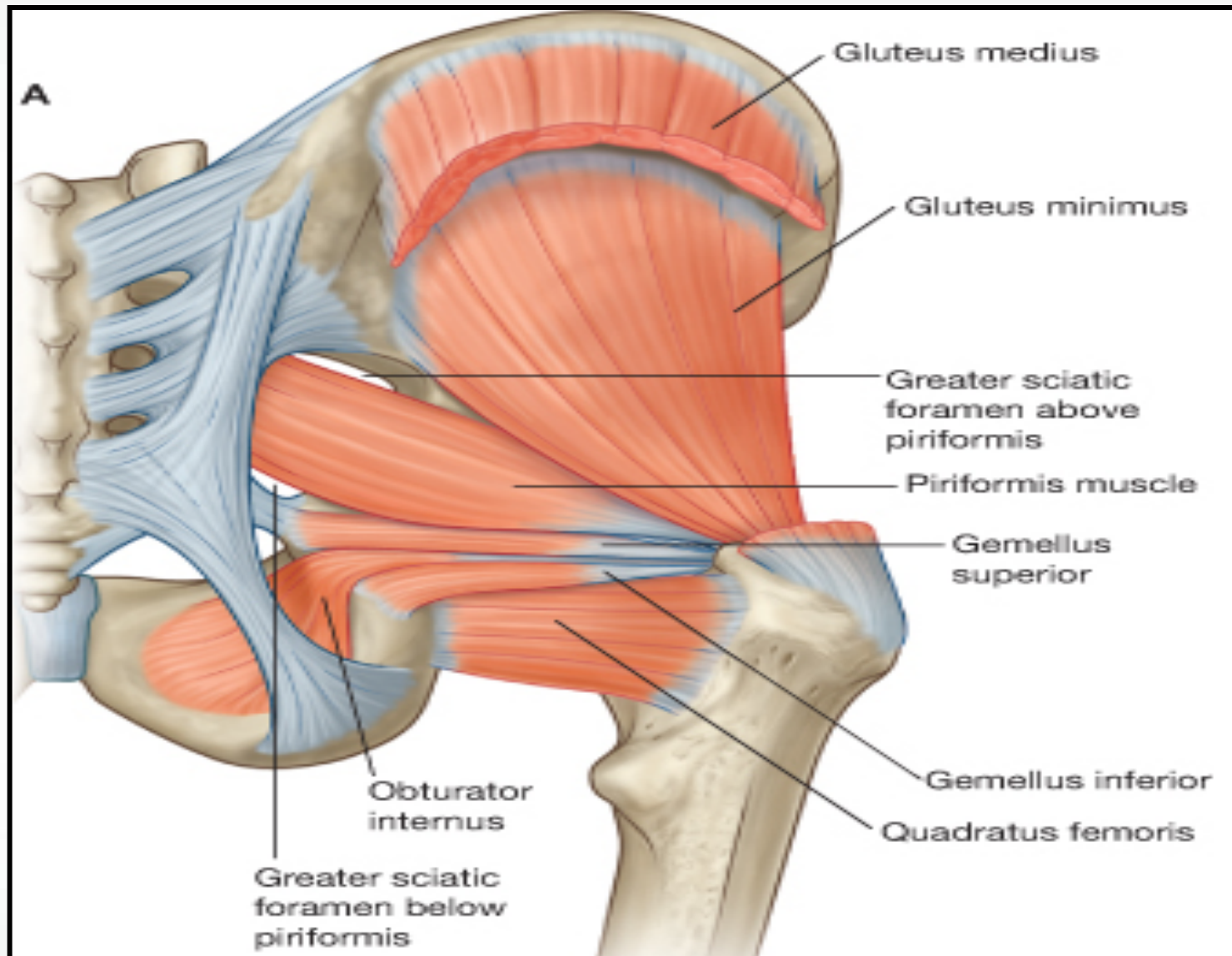
CONTENTS

III - VESSELS:

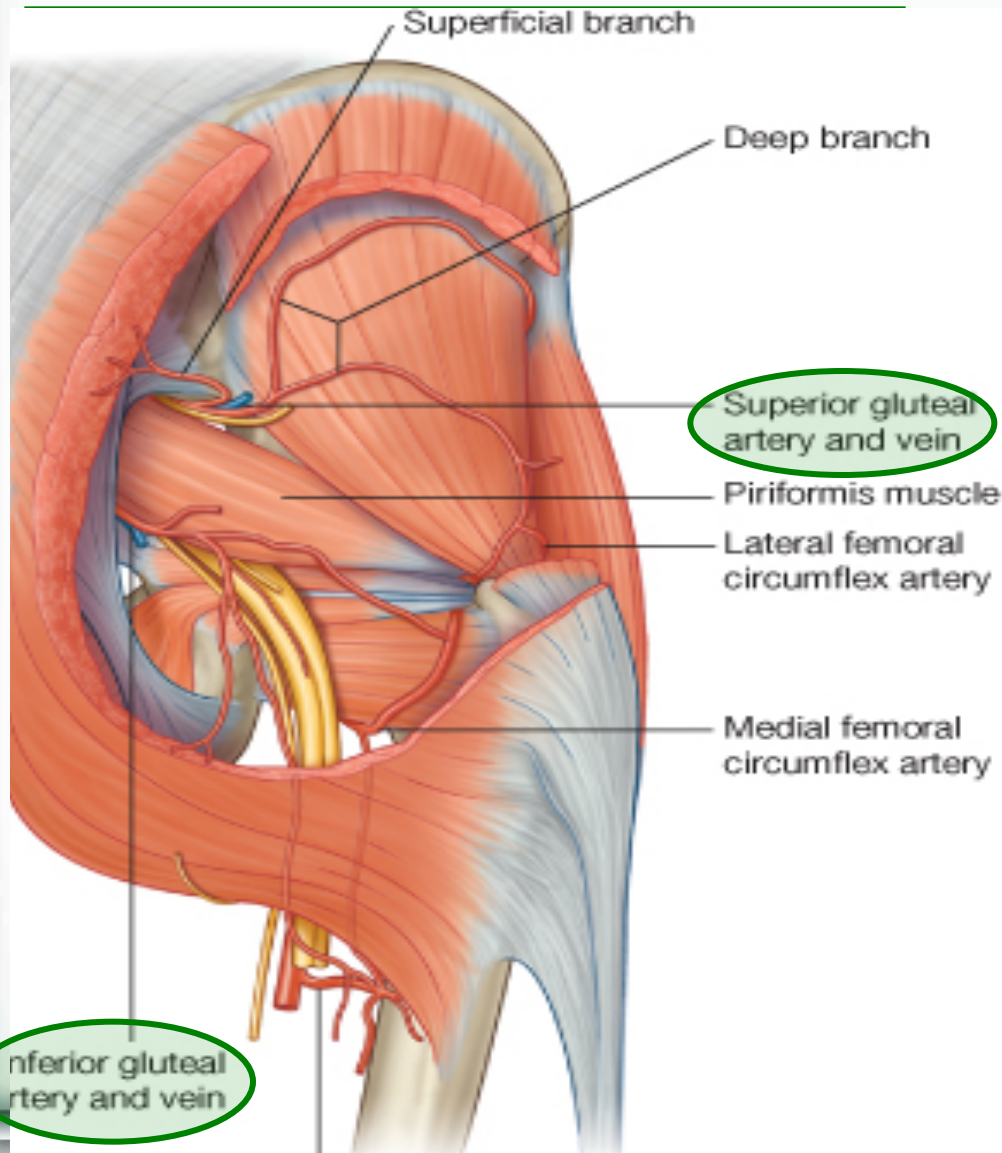
(all from internal iliac vessels):

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.

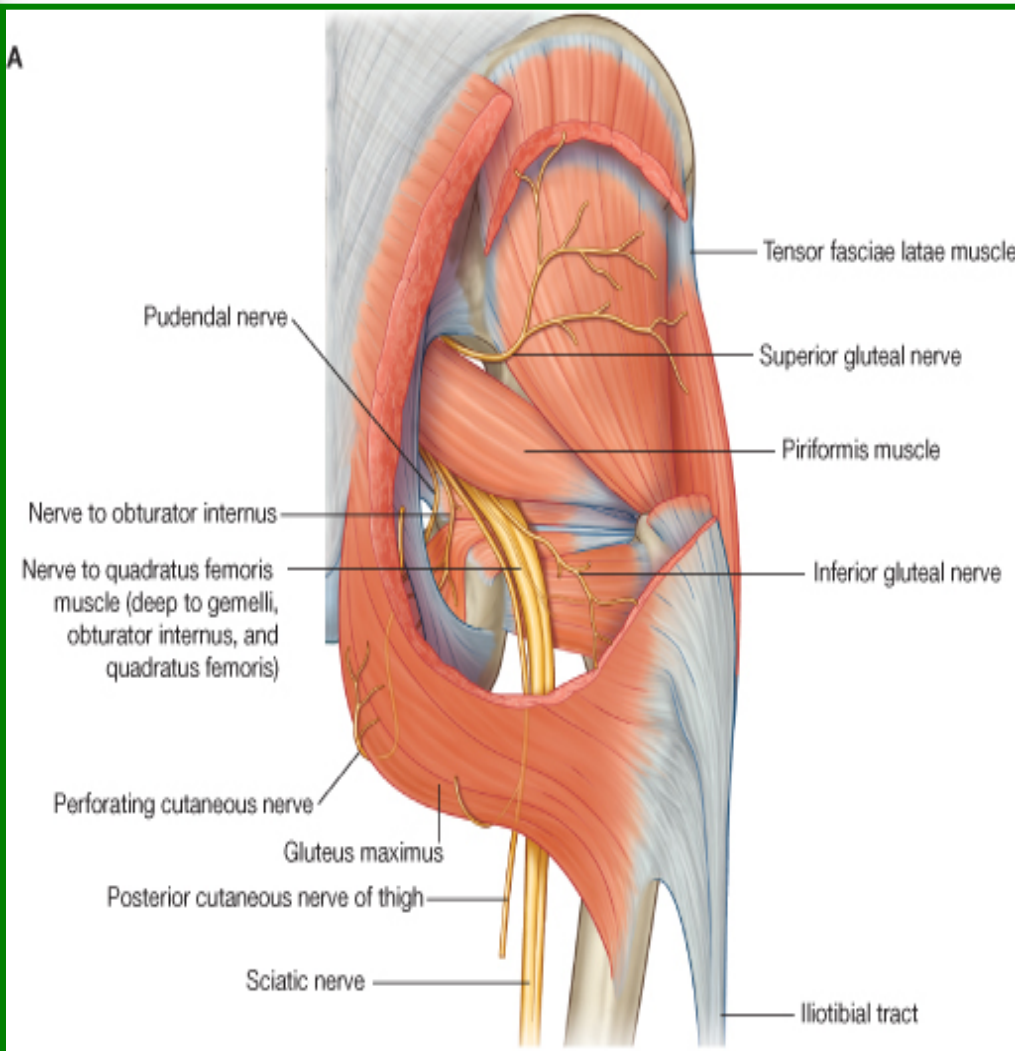
• Nerve to quadratus femoris.

• 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:**

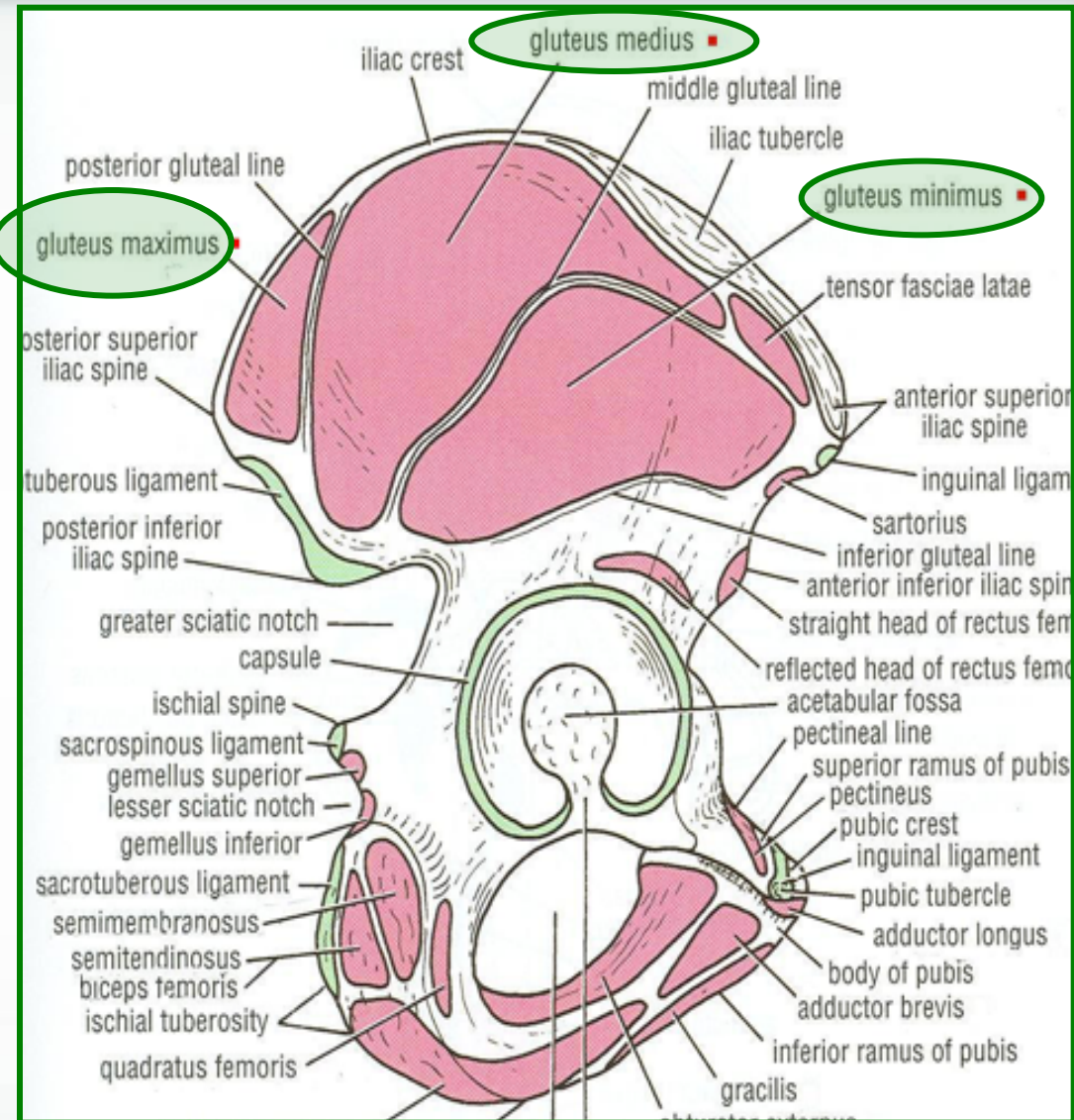
- Middle part of the gluteal surface of ilium.

- **Gluteus maximus:**

- Posterior part of the gluteal surface of ilium.

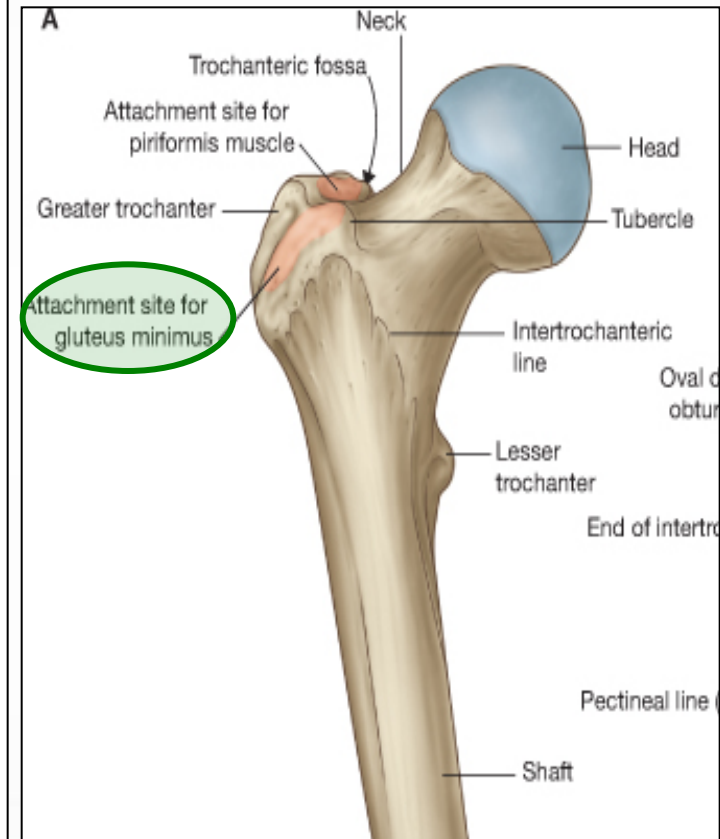
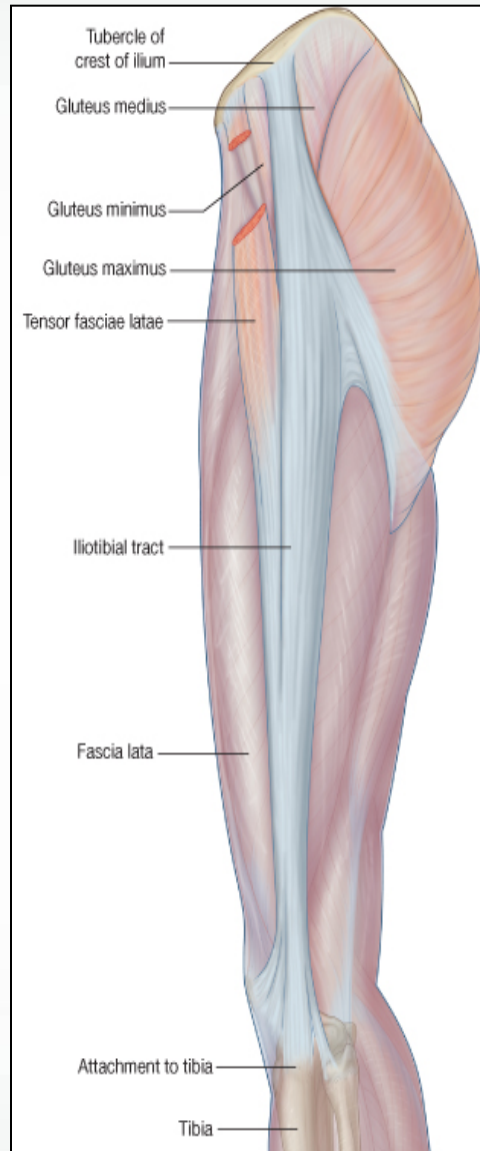
Main origin of gluteus maximus:

Back of sacrum & coccyx & back of Sacrotuberous ligament.

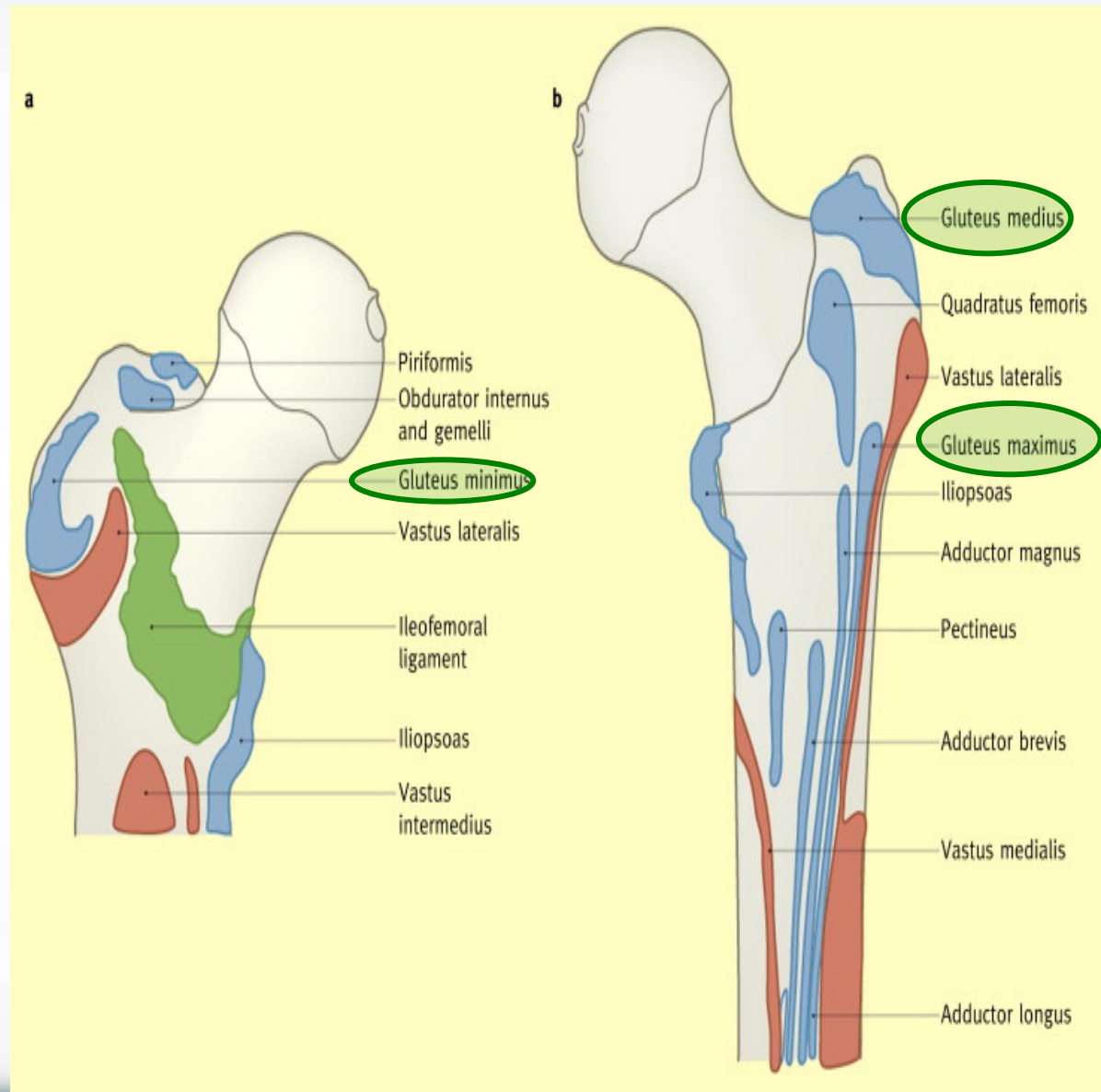


Glutei

- **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.



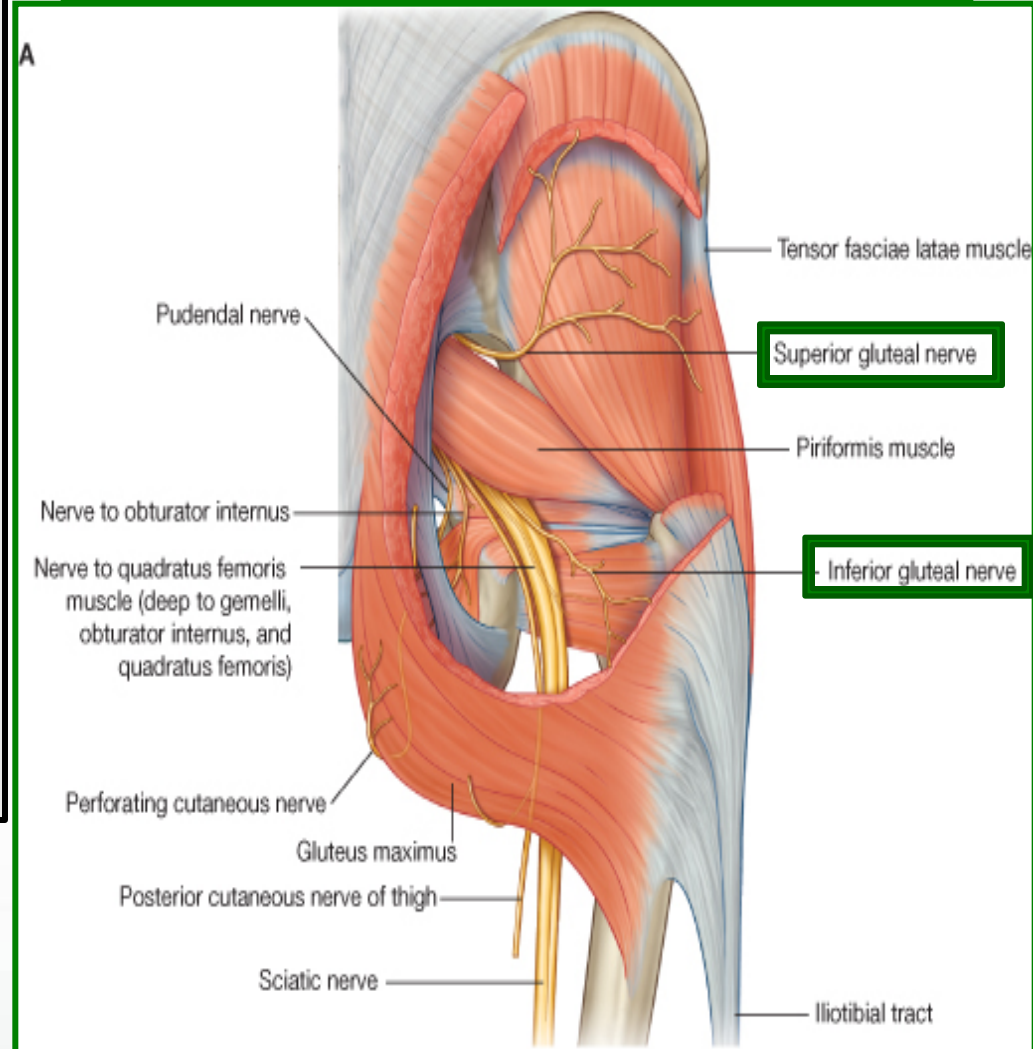
Glutei Muscles



NERVE SUPPLY & ACTION of Gluti muscles

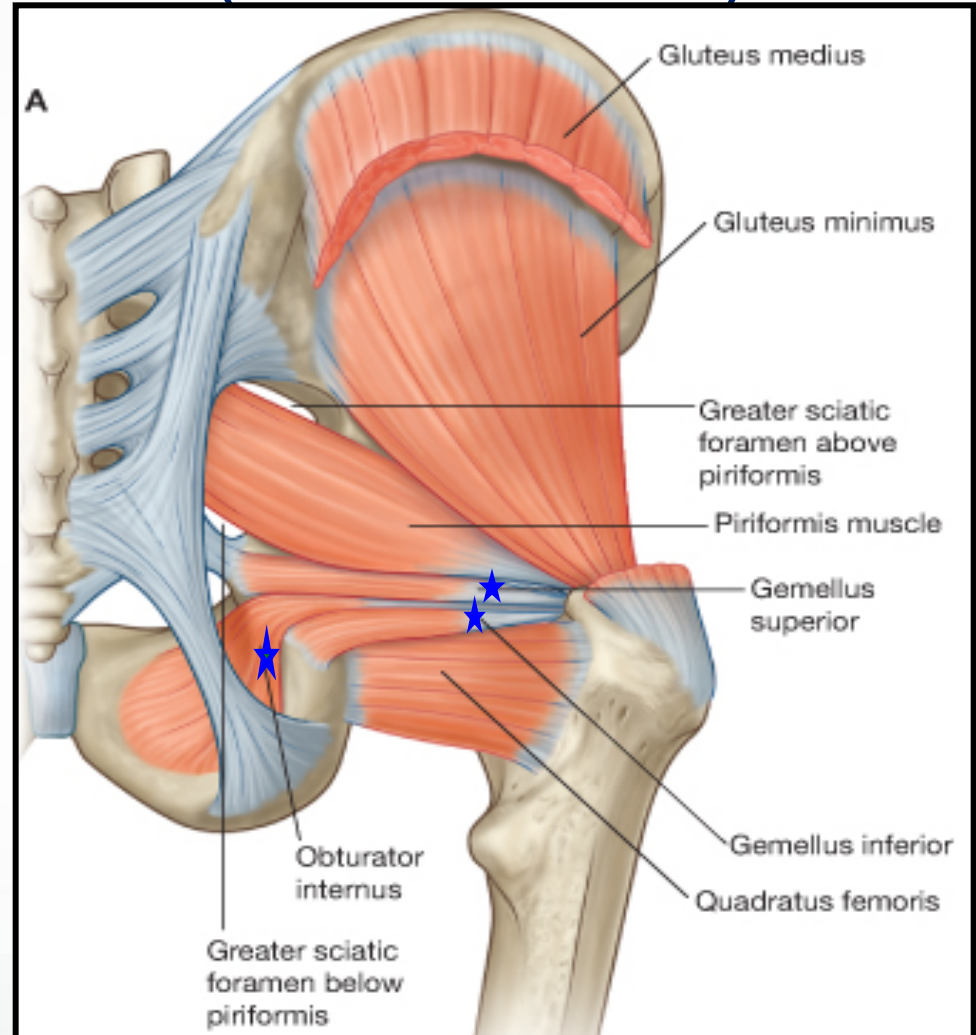
- **Gluteus medius & minimus:**
- **Nerve supply:**
- Superior gluteal nerve.
- **Action:**
- abduction & medial rotation of hip joint.

- **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.



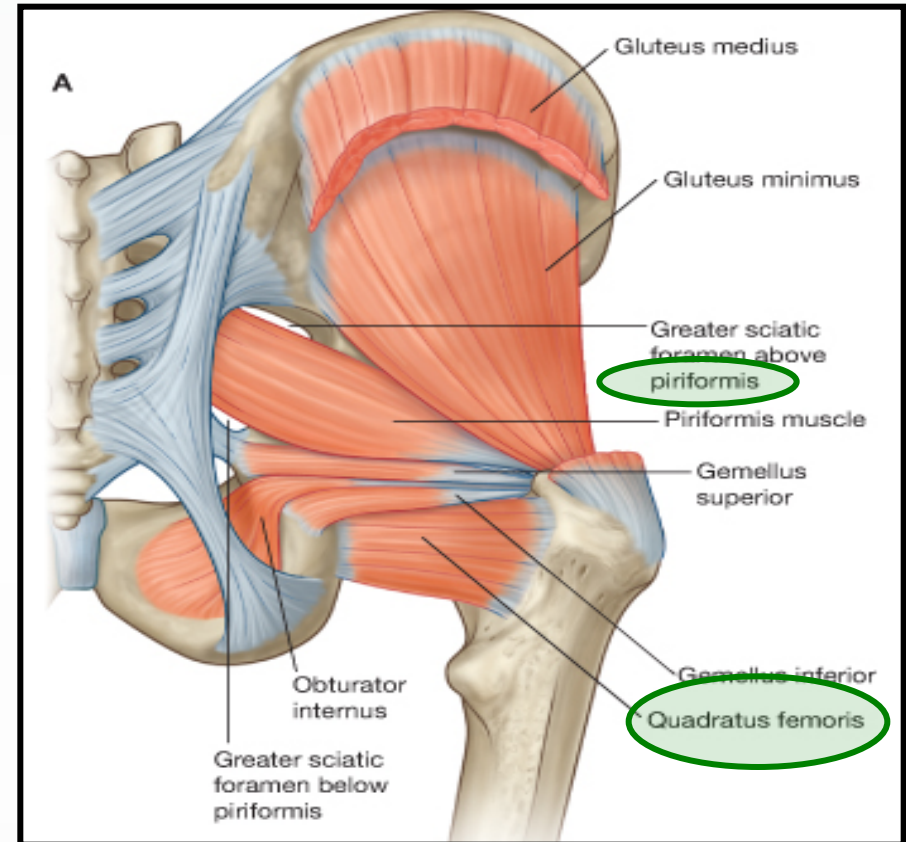
- **Obturator Internus:**
- **Origin:**
- Inner surface of the side wall of the pelvis.
- **Insertion:**
- Into the medial surface of the greater trochanter.
- **Nerve supply:**
- Nerve to obturator internus.
- **Superior & Inferior Gemelli:**
- **Origin:**
- **Superior gemellus;**
- upper part of lesser 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**

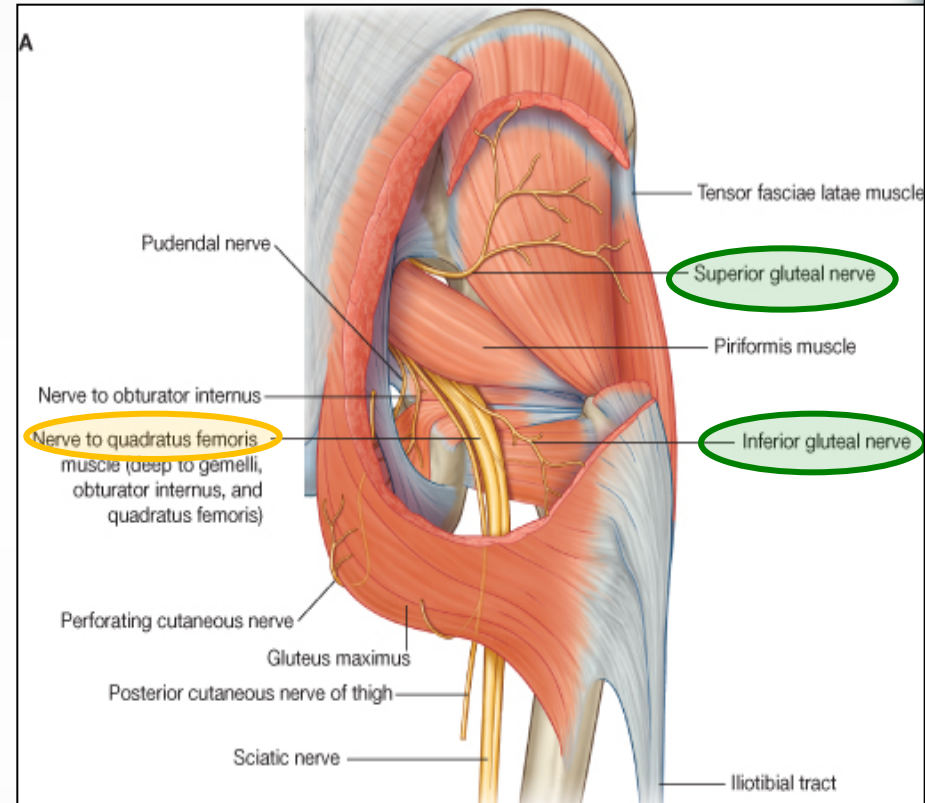
INFERIOR GLUTEAL N. :

- **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 :

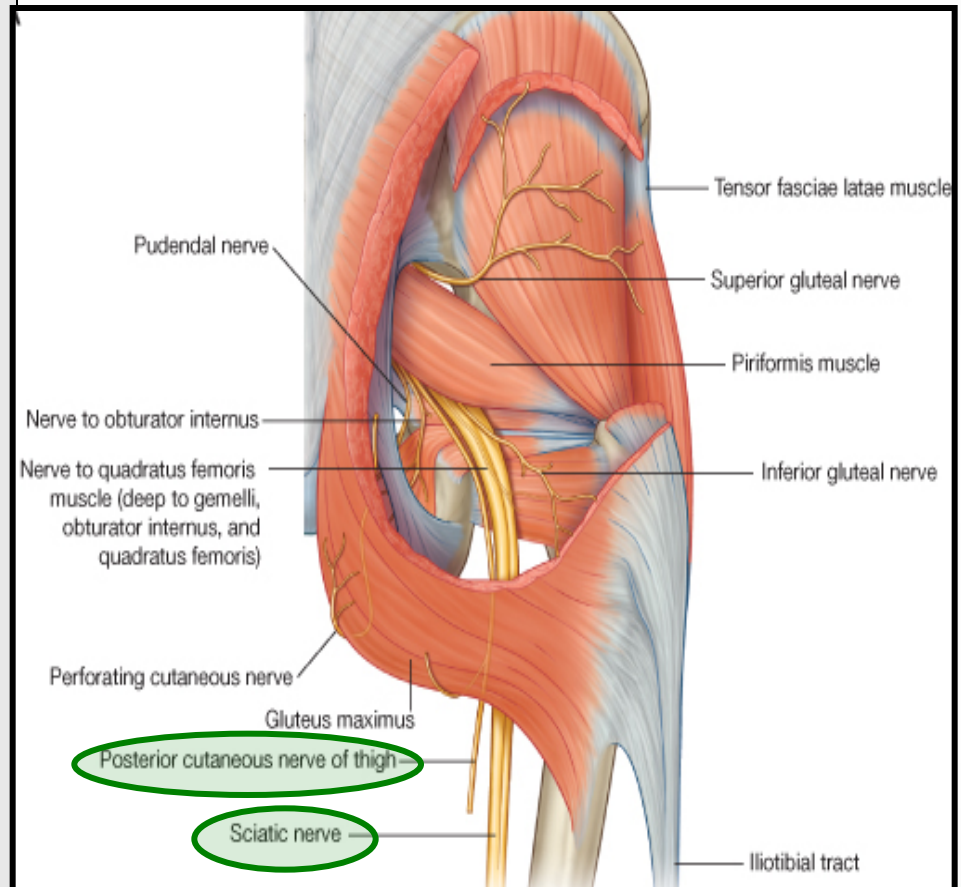
Course:

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

Branches:

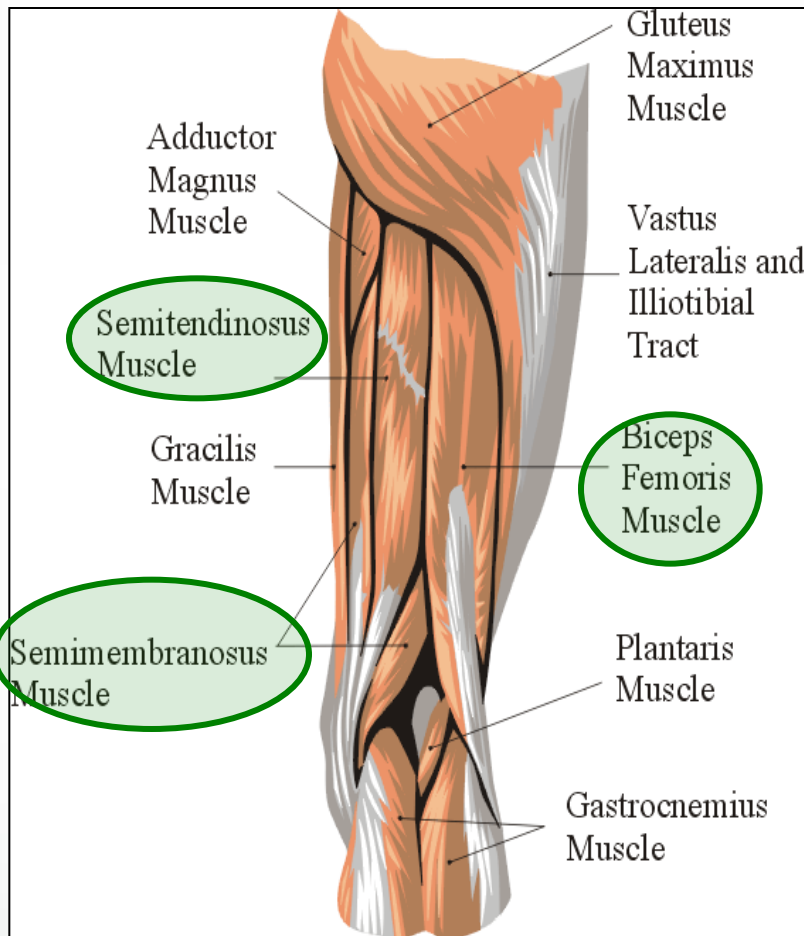
- **No branches** in gluteal region,
- **Divides into *tibial* & *common peroneal* nerves**, in the lower third of back of thigh.

NERVES



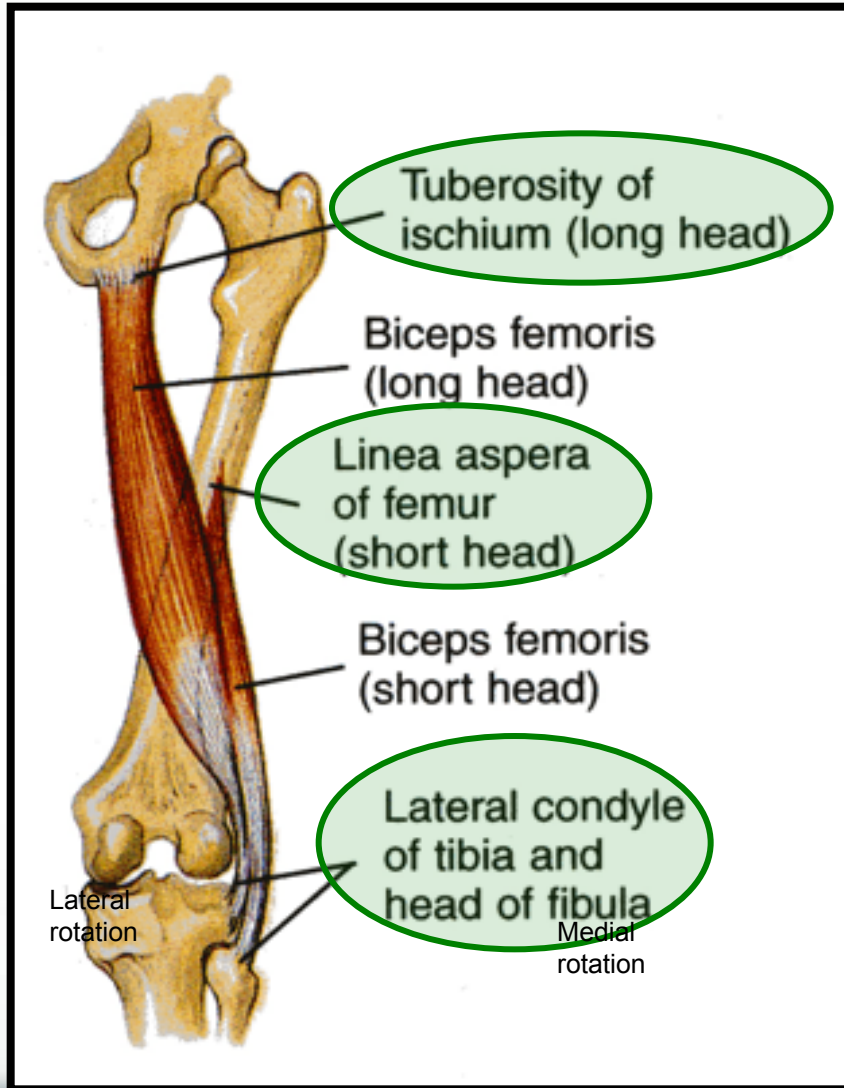
POSTERIOR COMPARTMENT OF THE THIGH

CONTENTS



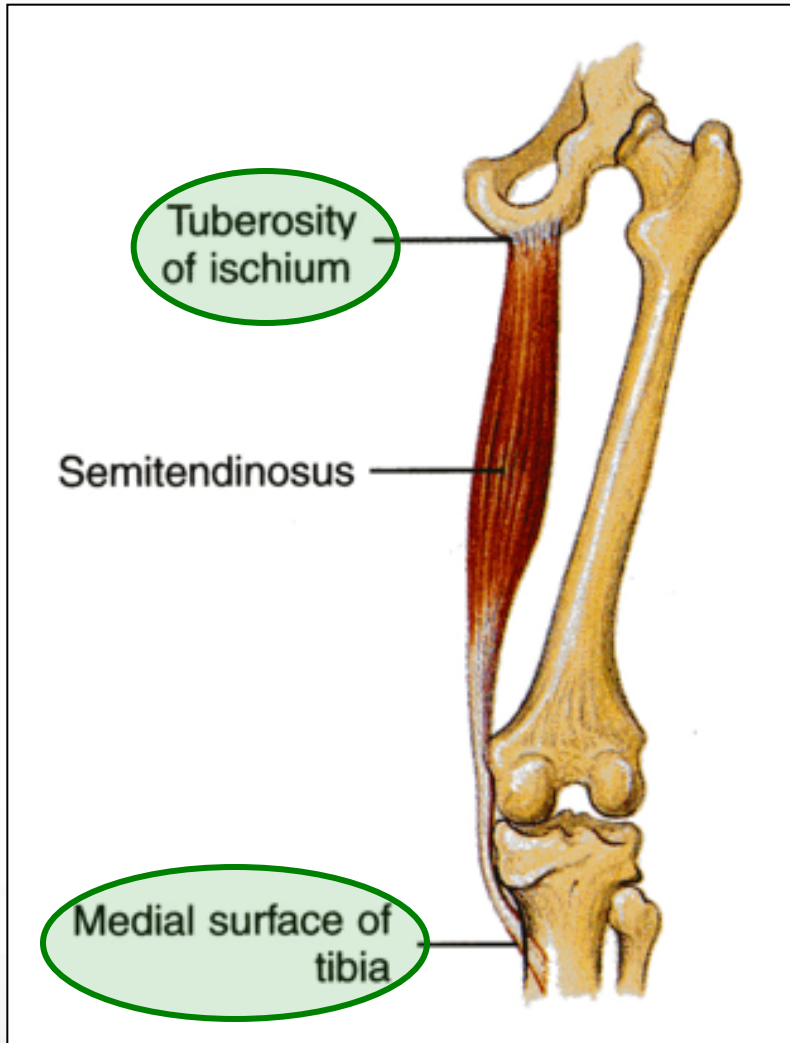
- **Muscles:**
- **Hamstring muscles:**
- Biceps femoris.
- Semitendinosus.
- Semimembranosus.
- Ischial part of adductor magnus.
- **Blood supply:**
- Branches of the profunda femoris artery.
- **Nerve supply:**
- Sciatic nerve.

Biceps Femoris :



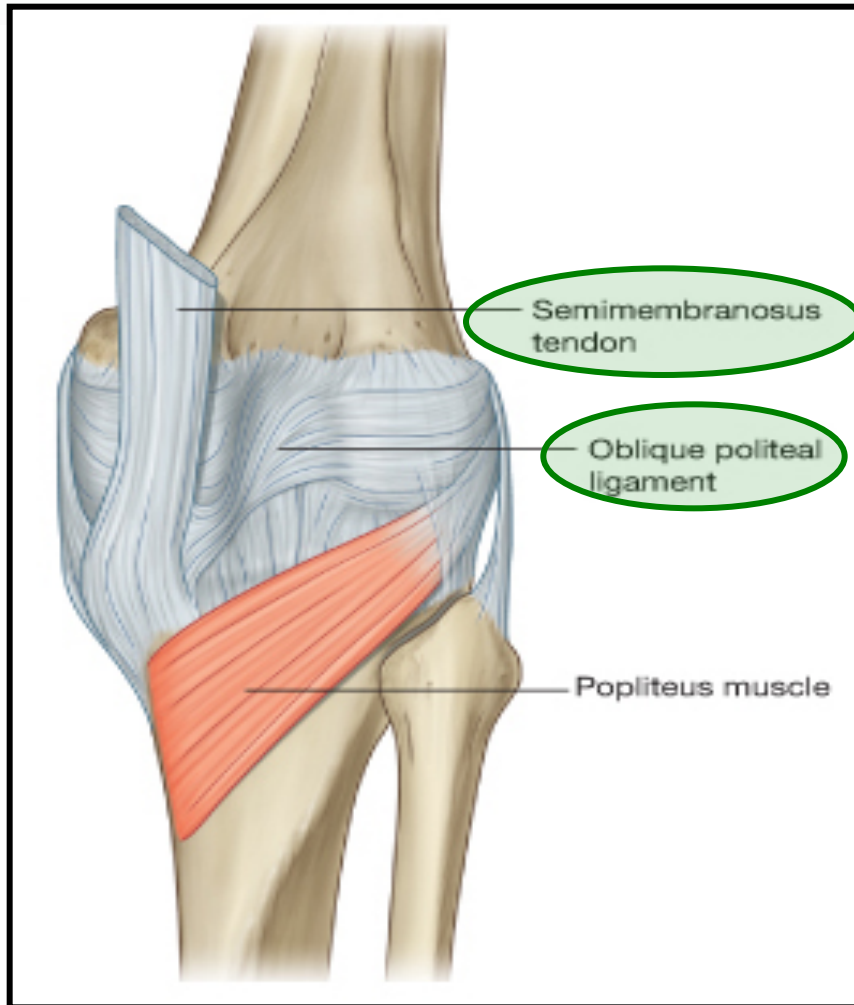
- **Origin:**
 - The long head from the *ischial tuberosity*.
 - The short head from the *linea aspera* .
- **Insertion:**
- Mainly into the *head of the fibula*.
- **Nerve supply:**
- The long head is supplied by the *tibial part of sciatic*;
- The short head is supplied by the *common peroneal part 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.

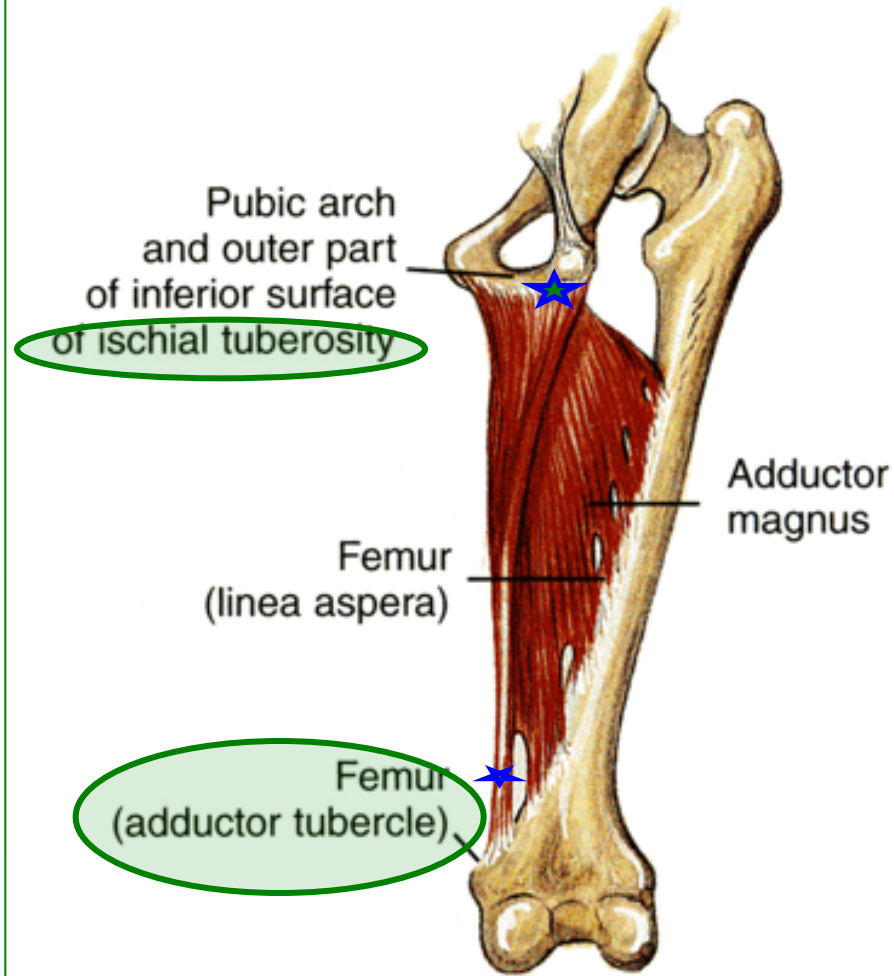
Nerve supply:

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

Action:

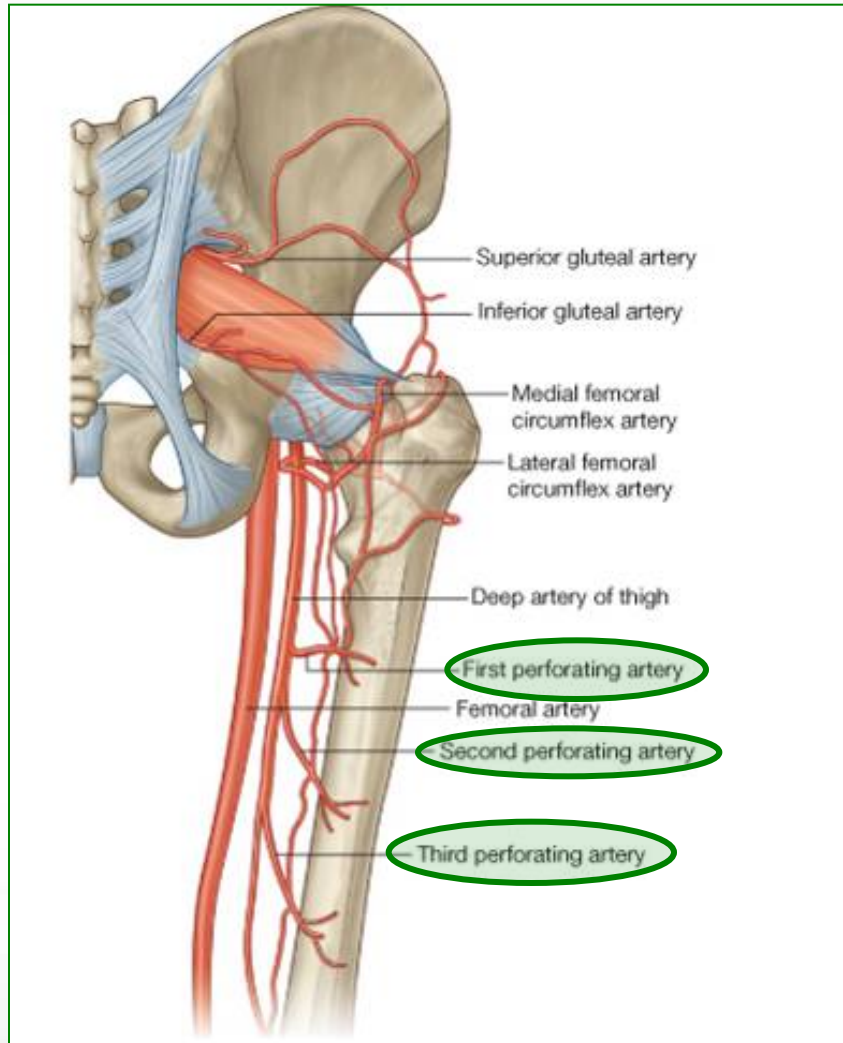
- Flexes and medially rotates the leg at the knee joint;
- Extends the thigh at the hip.

ADDUCTOR MAGNUS (HAMSTRING PART)



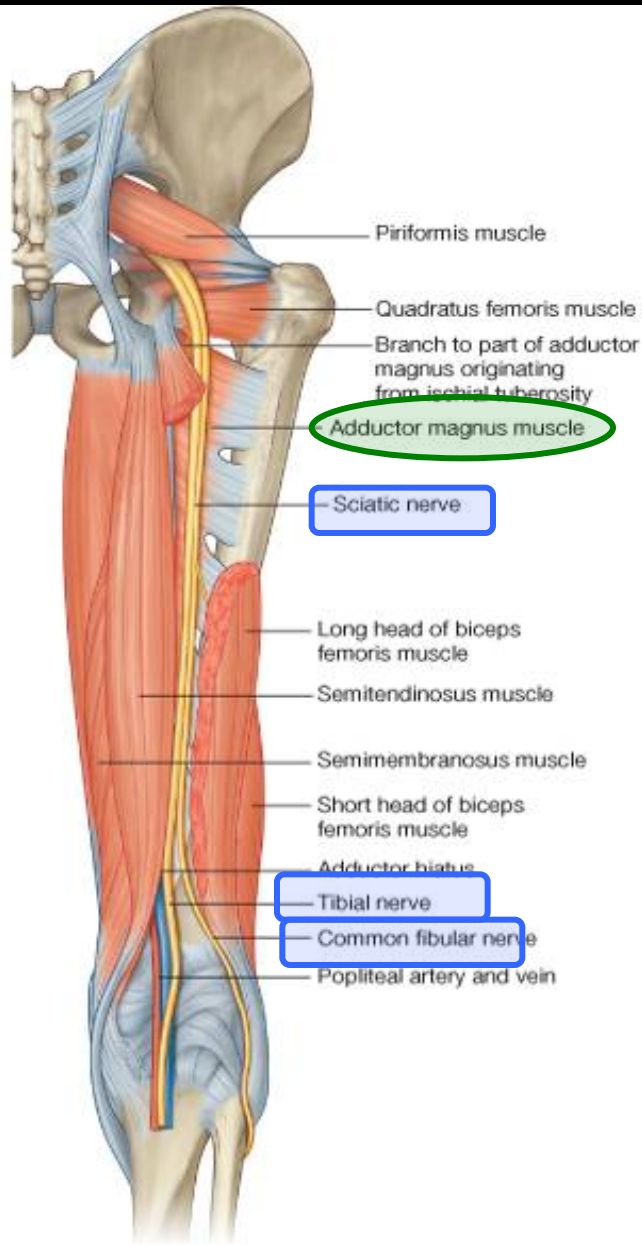
- **Origin:**
- Ischial ramus and **ischial tuberosity**
- **Insertion:**
- **Adductor tubercle** of the **medial condyle** of the **femur**.
- **Nerve supply:**
- **The tibial** portion of the **sciatic**.
- **Action:**
- Extends the thigh at the hip joint.

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**.