

# Gluteal Region and Back of the Thigh

Anatomy Team 434

## Color Index:

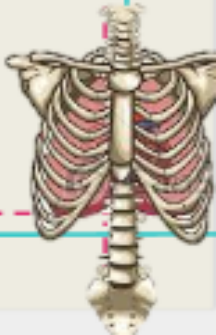
- **Important Points**
- Helping notes
- **Explanation**

If you have any complaint or suggestion please don't hesitate to contact us on:  
[AnatomyTeam434@gmail.com](mailto:AnatomyTeam434@gmail.com)

# OBJECTIVES

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- **Contents of gluteal region:**
- **Groups of Glutei muscles and small muscles (Lateral Rotators).**
- **Nerves & vessels.**
- **Foramina and structures passing through them as:**
  - 1-Greater Sciatic Foramen.**
  - 2-Lesser Sciatic Foramen.**
- **Back of thigh : Hamstring muscles.**

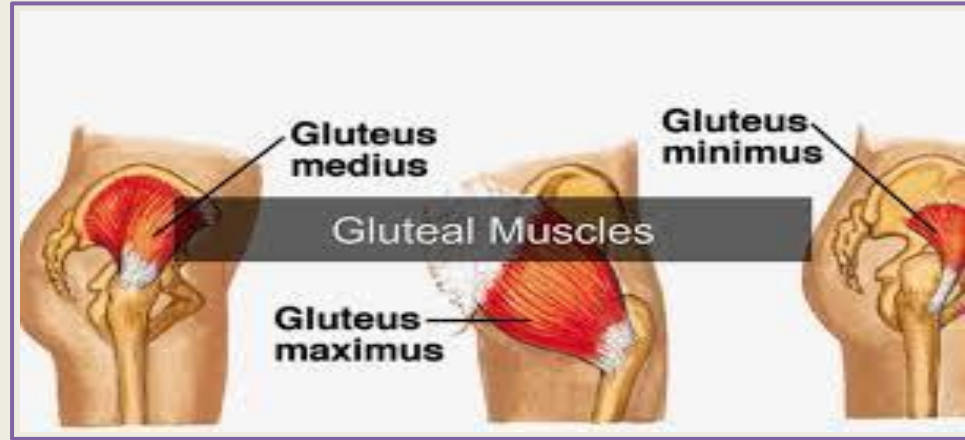


# CONTENTS OF GLUTEAL REGION

## Muscles

### 1- Glutei muscles (3):

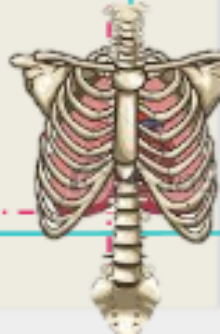
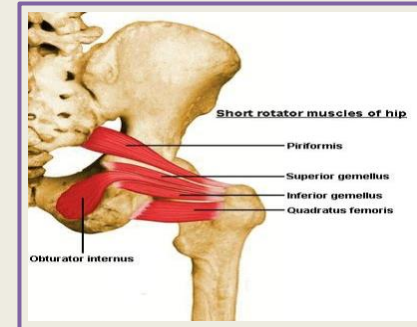
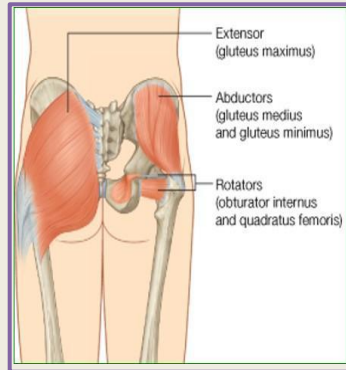
- Gluteus maximus. (extensor)
- Gluteus minimus. (abductor)
- Gluteus medius. (abductor)



### 2- Group of small muscles (lateral rotators) (5):

from superior to inferior:

- Piriformis.
- Superior gemellus.
- Obturator internus.
- Inferior gemellus.
- Quadratus femoris.

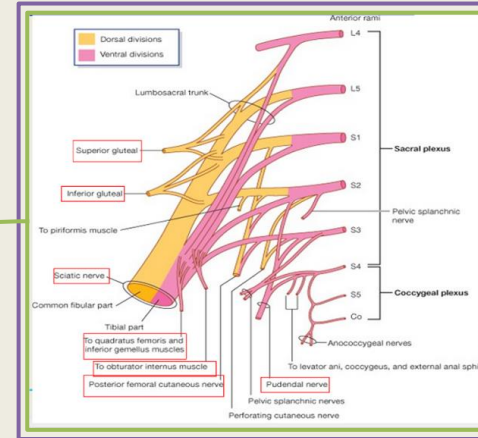


# CONTENTS OF GLUTEAL REGION (CONT.)

## Nerves

(all from **SACRAL PLEXUS**):

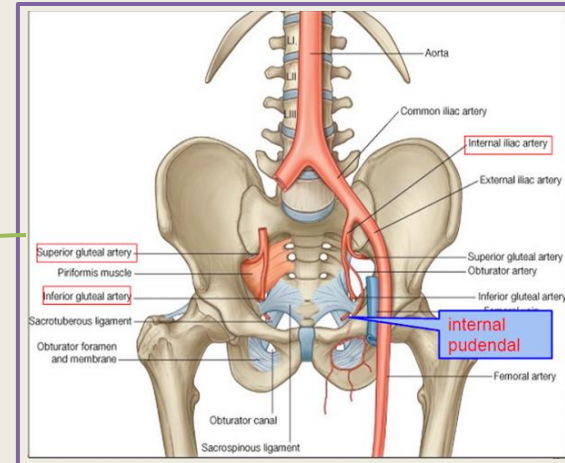
- Sciatic N.
- Superior gluteal N.
- Inferior gluteal N.
- Posterior cutaneous N. of thigh.
- N. to obturator internus.
- N. to quadratus femoris.
- Pudendal N.



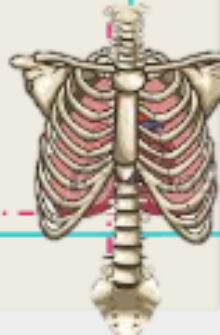
## Vessels

(all from **INTERNAL ILIAC VESSELS**):

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



Sciatic nerve is the largest nerve in the body.



# Greater sciatic foramen

Structures passing through Greater foramen:

-piriformis muscle.

Above piriformis M.:

-superior gluteal nerve & vessels.

Below piriformis M.:

-inferior gluteal nerves & vessels.

-sciatic N.

-nerve to quadratus femoris.

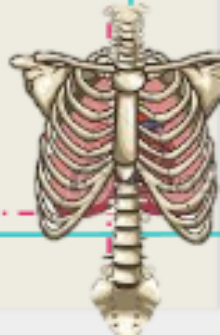
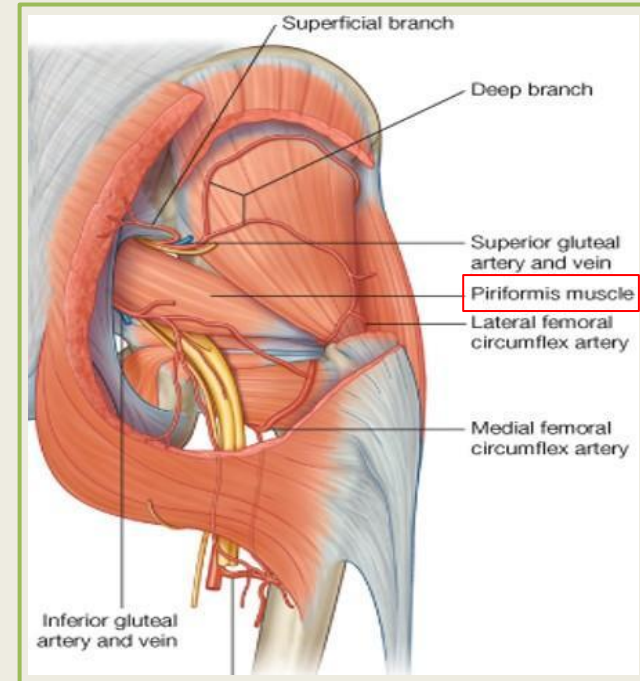
-posterior cutaneous nerve of thigh.

-internal pudendal vessels

-nerve to obturator internus.

-pudendal N.

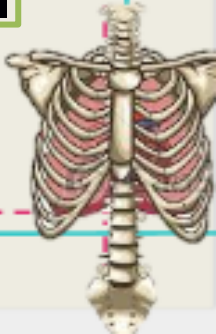
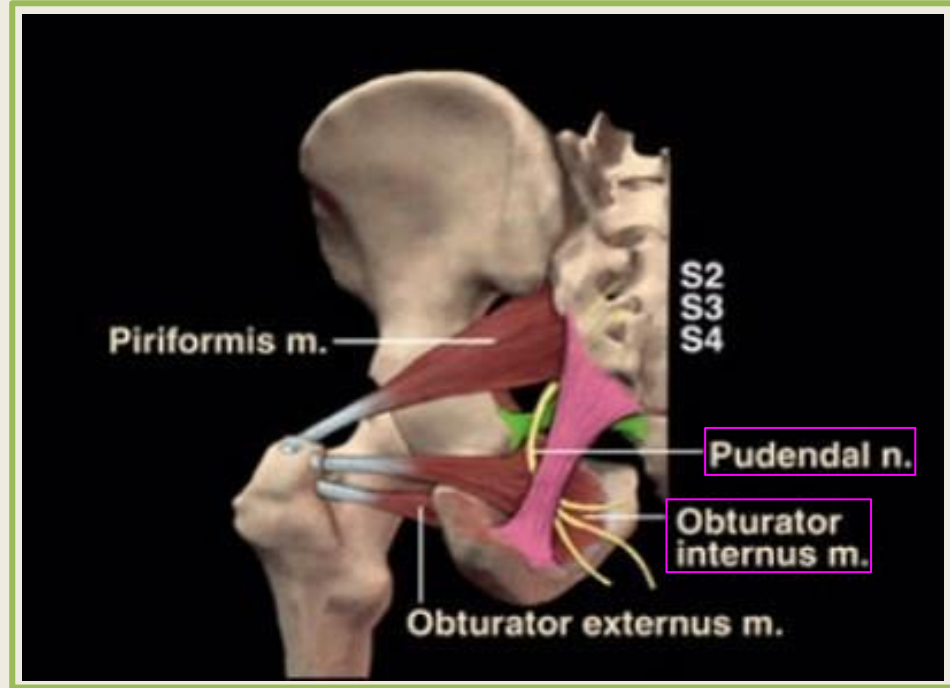
Found in the lesser sciatic foramen



# Lesser sciatic foramen

Structures passing through  
Lesser sciatic foramen:

- internal pudendal vessels
- nerve to obturator internus.
- pudendal N.
- tendon of obturator internus.



# Glutei Muscles (origins)

## Origin of glutei muscles:

- **gluteus minimus:**

**Anterior** part of the gluteal surface of ilium.

- **gluteus medius:**

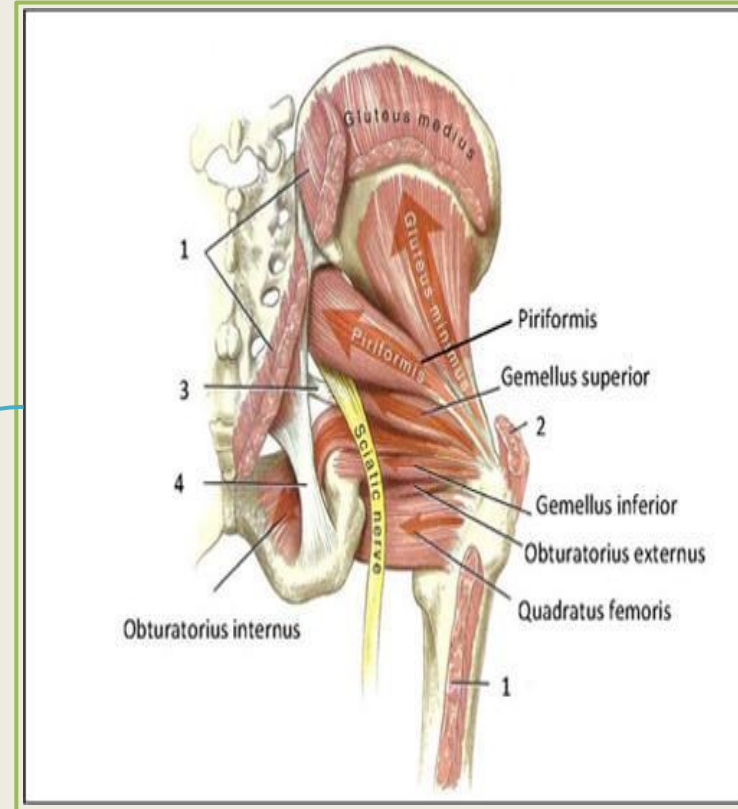
**Middle** part of the gluteal surface of ilium.

- **gluteus maximus:**

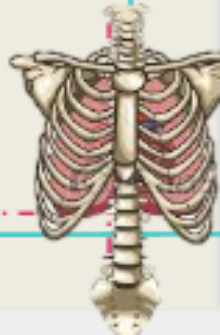
**Posterior** part of the gluteal surface of ilium,

## Main origin:

Back of sacrum & coccyx & back of Sacrotuberous ligament



Iliotibial tract is a thickened deep fascia of the lateral thigh and is inserted on the tibia.



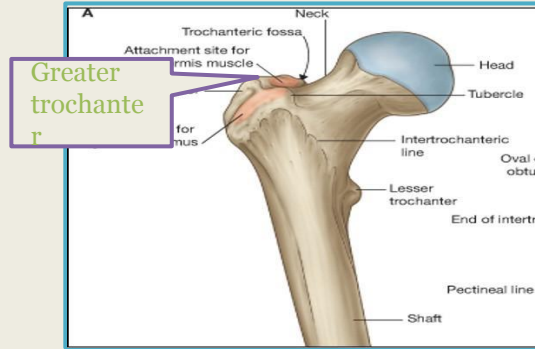
# Glutei muscles (insertions)

## Insertions of Glutei muscles

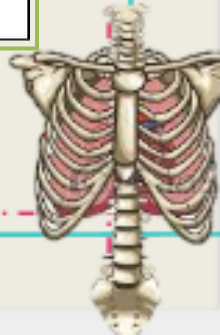
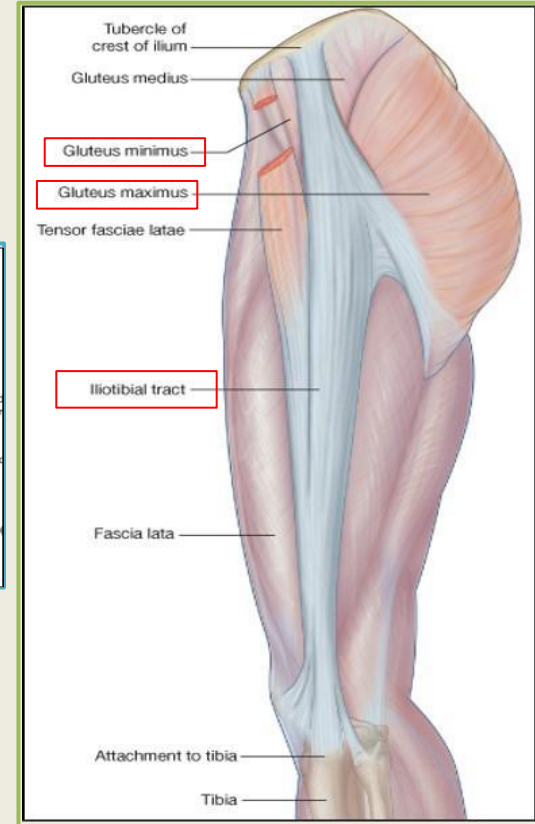
**Gluteus minimus:**  
anterior surface of the  
greater trochanter of femur.

**Gluteus medius:**  
lateral surface of the  
greater trochanter.

**Gluteus maximus:**  
Main insertion: iliotibial tract  
other insertion: gluteal tuberosity of  
the femur



Tibial tract is  
a thickened  
deep fascia of  
the lateral  
thigh and is  
inserted on  
the tibia.





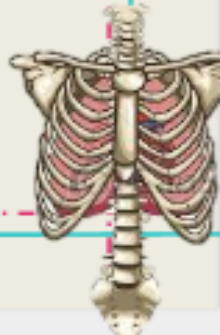
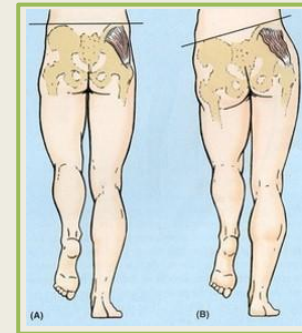
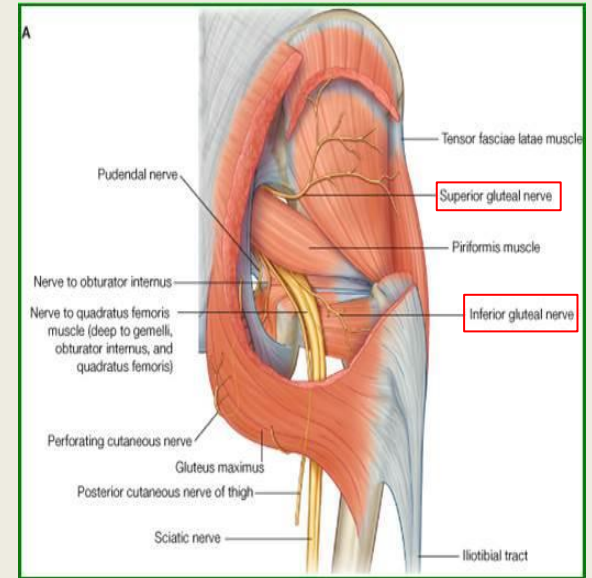
# Glutei Muscles (NERVE SUPPLY & ACTION)

## Gluteus minimus & medius

- **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 tibia during standing.



# Small muscles (Lateral Rotators)

## 1-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.

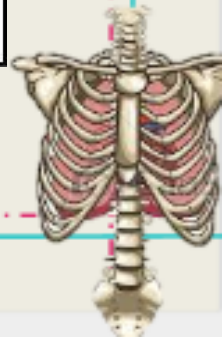
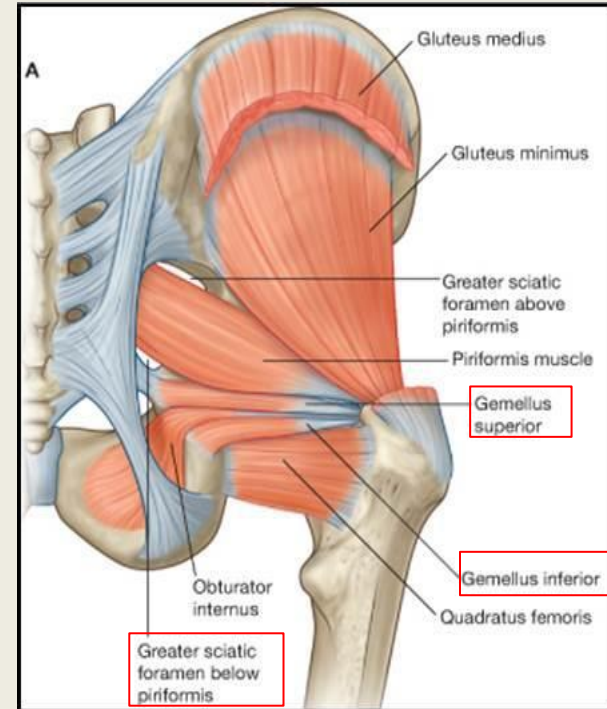
## -Superior & Inferior Gemelli:

- **Origin:**

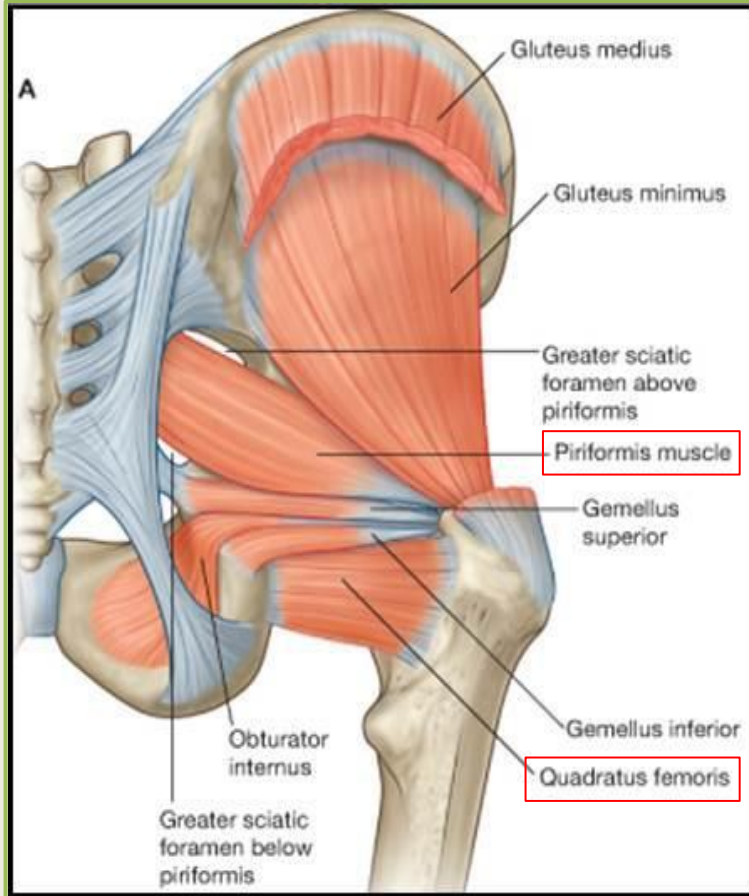
1-**Superior gemellus:** upper part of **lesser sciatic notch.**

2-**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)



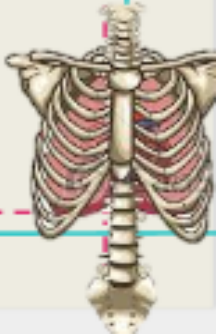
## 4- Piriformis:

- Origin:** Pelvic surface of middle 3 sacral vertebrae.
- Insertion:** It passes through greater sciatic foramen to be inserted into the upper border of the greater trochanter.
- Nerve supply:** Anterior rami of **S1,S2**.

## 5- Quadratus femoris:

- Origin:**
- Lateral border of the ischial tuberosity.**
- Insertion:**
- Quadrate tubercle & intertrochanteric crest.**
- Nerve supply:**
- Nerve to quadratus femoris.**

All of these 5 muscles have the same **action** which is **(lateral rotation of the hip joint)** so they control the movement of the hip joint.



# Nerves Supply

## SUPERIOR GLUTEAL

### •Course:

Passes through GSF, above piriformis (only N above piriformis), then between gluteus medius & minimus

### •Branches:

1. Muscular to gluteus medius, minimus & tensor fasciae lata
2. Articular to hip joint.

## INFERIOR GLUTEAL

### •Course:

passes through GSF, below piriformis, then deep to gluteus maximus

### •Branches:

muscular to gluteus maximus.

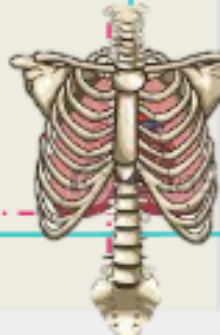
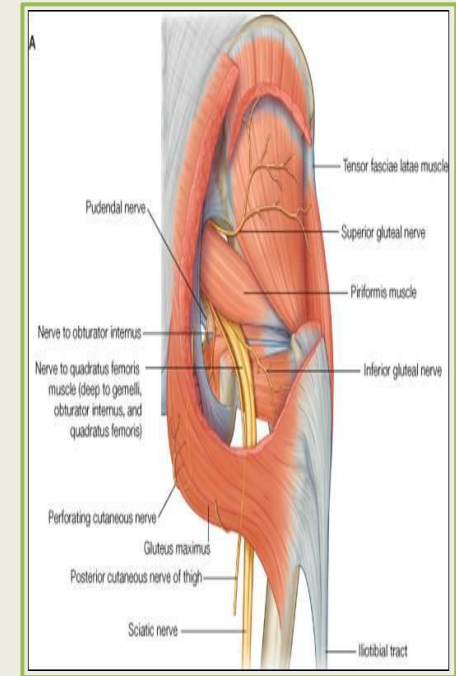
## NERVE TO QUADRATUS FEMORIS

### •Course:

passes through GSF, below piriformis

### •Branches:

1. Muscular to quadratus femoris & inferior gemellus
2. Articular to hip joint



Sciatic nerve doesn't have branches in the gluteal region, but it divides in the middle of back thigh and give me two parts (tibial and common personal).

# Nerves Supply

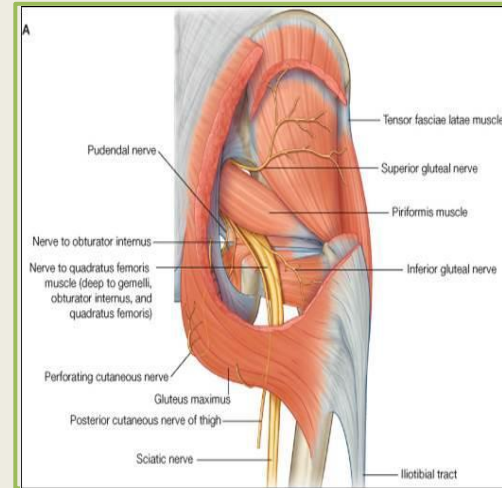
## POSTERIOR CUTANEOUS NERVE Of THIGH

### 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:

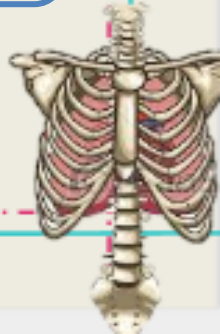
passes through **GSF**, **below** piriformis, then **superficial to:** ischial spine, superior gemellus, tendon of obturator internus, inferior gemellus, quadratus femoris & adductor magnus.

### Branches:

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

Helpful video

[Posterior  
Cutaneous  
Nerve Of  
The Thigh](#)



# POSTERIOR COMPARTMENT OF THE THIGH

## Muscles

### Hamstring muscles "العضلات الخنزيرية"

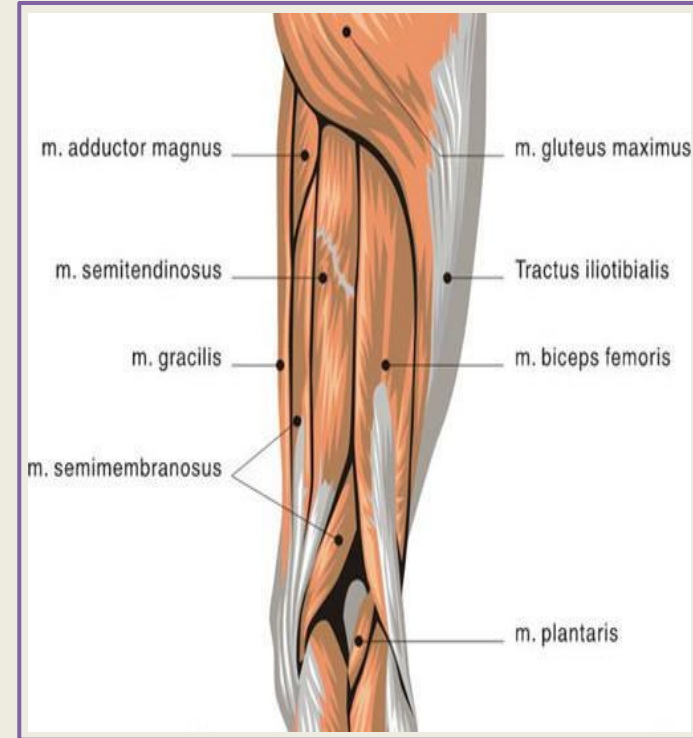
- ١ biceps femoris.
- ٢ semitendinosus.
- ٣ semimembranosus.
- ٤ ischial part of adductor magnus.

## Nerves

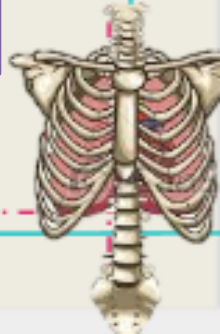
Sciatic nerve (tibial & common peroneal)

## Blood supply

Branches of profunda femoris artery



- Semimembranosus muscle is under semitendinosus muscle.
- All the muscles attached to (ischial tuberosity) does Extension of the hip joint.



# Biceps Femoris

## 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

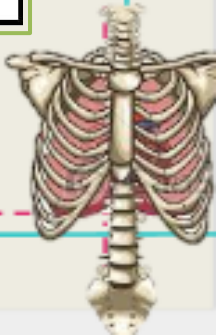
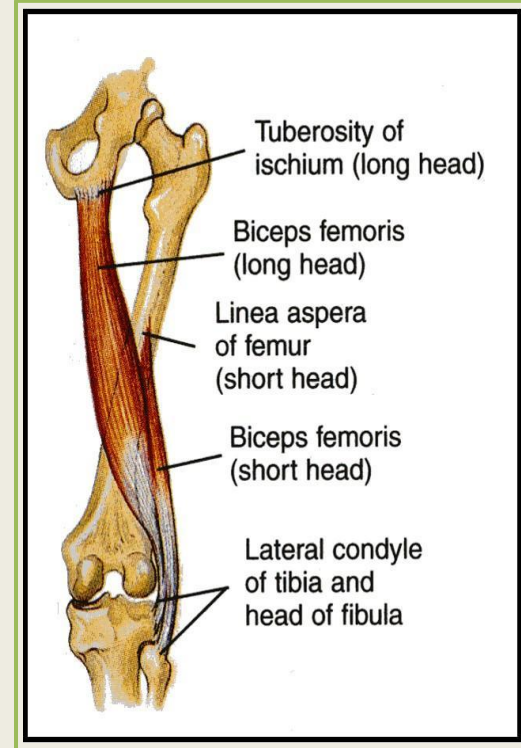
- Flexion of knee.**
- Lateral rotation** of flexed leg.
- Long head:** extends hip (any muscle attached to the ischial tuberosity will extend the Hip joint).

## Origin

- The long head** from the ischial tuberosity.
- The short head** from the linea aspera.

## Insertion

- Mainly into the head of the fibula.



# SEMITENDINOSUS

## Origin

Ischial tuberosity

## Insertion

Upper part of the medial surface of the shaft of the tibia ,with the **(SGS)**

## Action

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

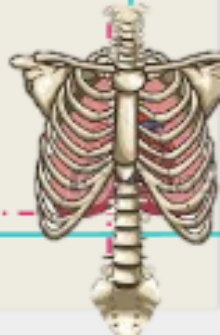
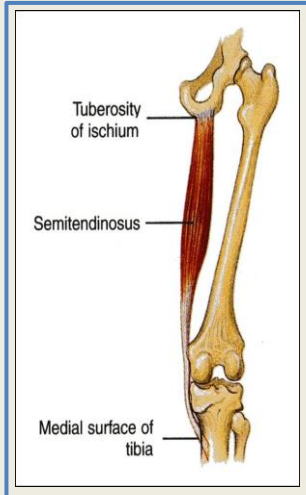
## Nerve supply

**Tibial** portion of the **sciatic**.

(SGS): Sartorius - Gracilis - Semitendinosus.

## What are the SGS?

They are the muscles that are inserted in the medial surface of the shaft of Tibia, which are: **gracialis + semitendinosus + sartorius**





# SEMIMEMBRANOSUS

## Origin

Ischial tuberosity.

## Insertion

Posterior surface of the medial condyle of the tibia.

## Nerve supply

Tibial portion of the sciatic nerve.

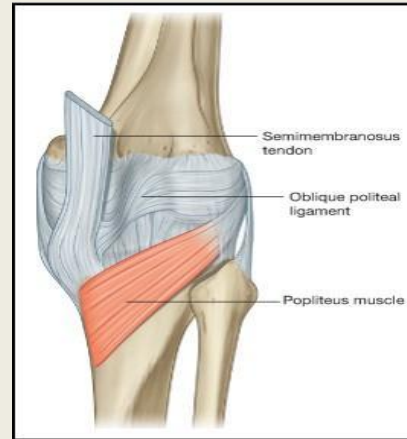
## Action

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

## Important notes

**It forms the oblique popliteal ligament, which reinforces the capsule on the back of the knee joint.**

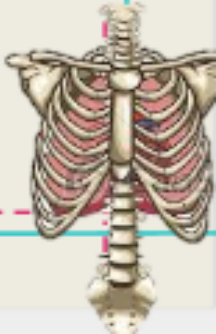
**Semimembranosus is situated under semitendinosus.**



## Important question

What muscle reinforce the capsule of the back knee joint ?

**SEMIMEMBRANOSUS**



# ADDUCTOR MAGNUS (HAMSTRING PART)

## Origin

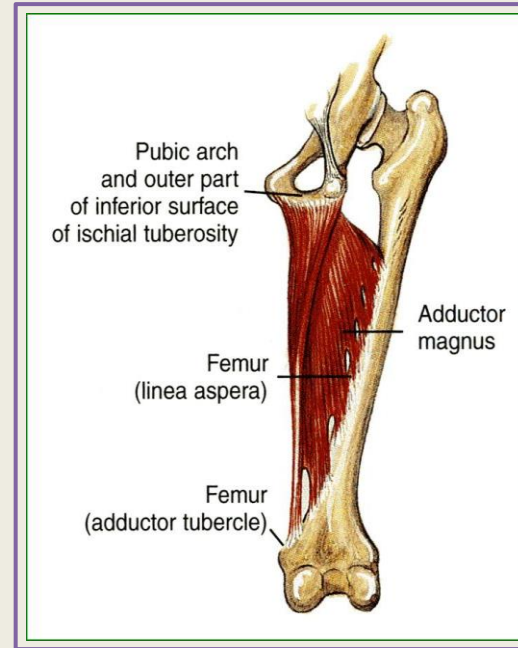
Ischial ramus  
and ischial  
tuberosity

## Insertion

Adductor  
tubercle of the  
medial condyle  
of the femur.

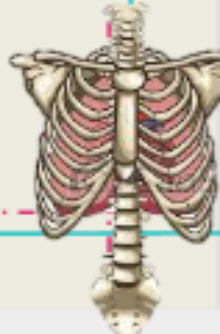
## Nerve supply

The tibial  
portion of the  
sciatic.



## Action

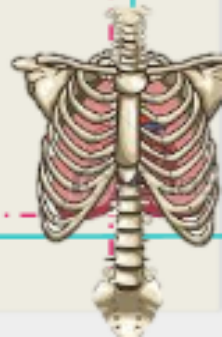
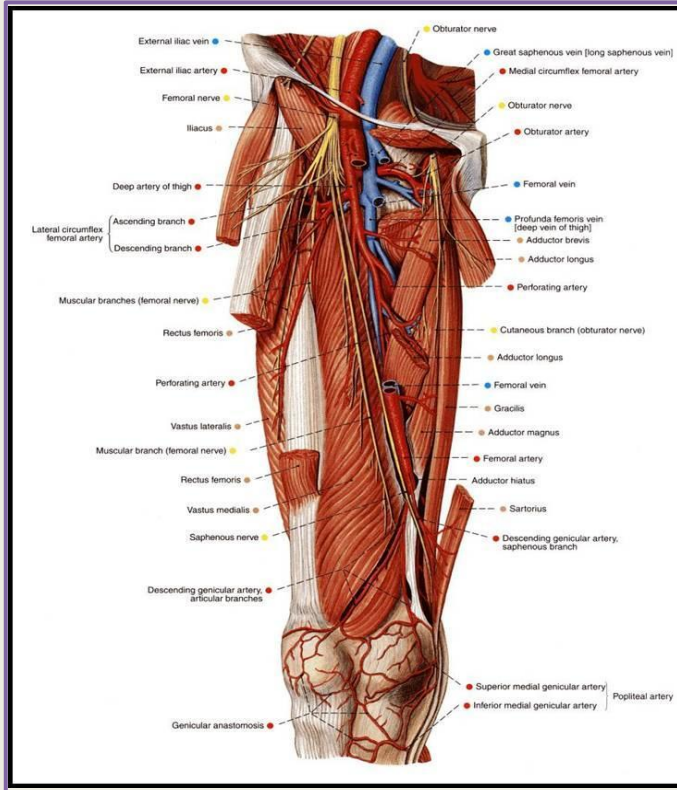
Extends the thigh at the hip joint.



# BLOOD SUPPLY

The **four perforating** (المتغلغلة) **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

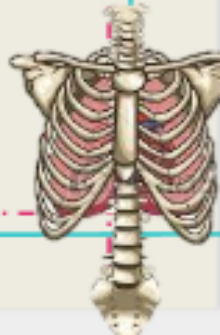
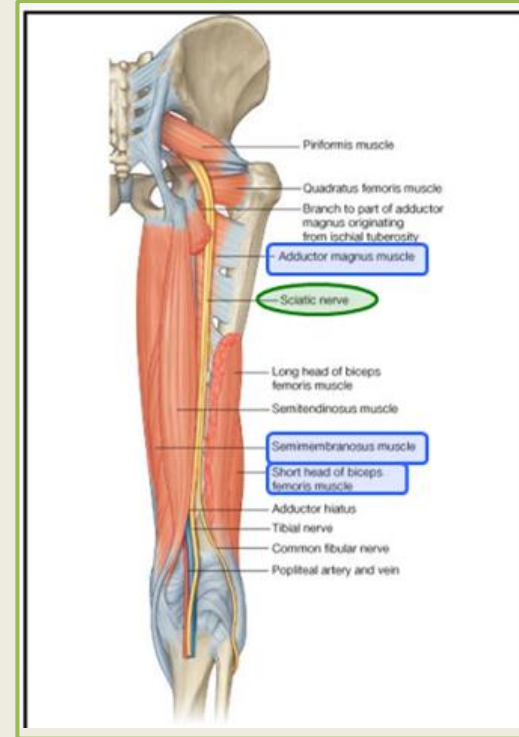


# Nerves Supply

## Sciatic Nerve

The sciatic nerve, 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 the tibial and common peroneal nerves.

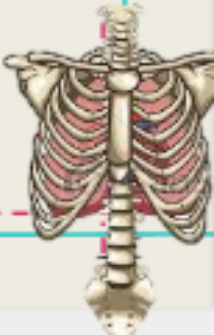


# More Explanation

- I hope these are very helpful videos and both are less than 10 minutes:

[gluteal region and back of thigh \(1\)](#)

[gluteal region and back of thigh \(2\)](#)





- Piriformis muscle passes through the LSF.

True.  
False.  
Inferior gluteal nerve supply the Gluteus maximus.

True.  
False.  
Which of these nerves if it injured you will lose the  
duction of the hip joint:

Inferior gluteal nerve.  
Nerve to obturator Internus  
Superior gluteal nerve.  
Nerve to quadratus femoris  
Inferior gluteal nerve gives articular branch to hip joints.  
True.  
False

Which of the posterior compartment of thigh supplied by  
Common peroneal part of the sciatic:  
Short head of biceps femoris.  
Long head of biceps femoris.  
Semitendinosus.  
Semimembranosus.

6- If the Patient has got injury in the right superior gluteal  
nerve he will:

A-Unable to standing.  
B-Unable to do lateral rotation.  
C-Limp in his right side.  
D-Limp in his left side.

7- Piriformis muscle supplied by:

A-Nerve to obturator Internus.  
B-Nerve to Piriformis.  
C-Anterior rami of S1,2  
D-Nerve to quadratus femoris.

8- If you flex the knee joint Which tendon of these muscles will  
be prominent in the lateral side of the knee joint:

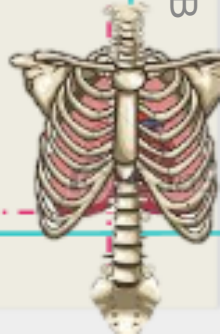
A-Semitendinosus.  
B-Biceps femoris.  
C-Semimembranosus  
D-Adductor magnus.

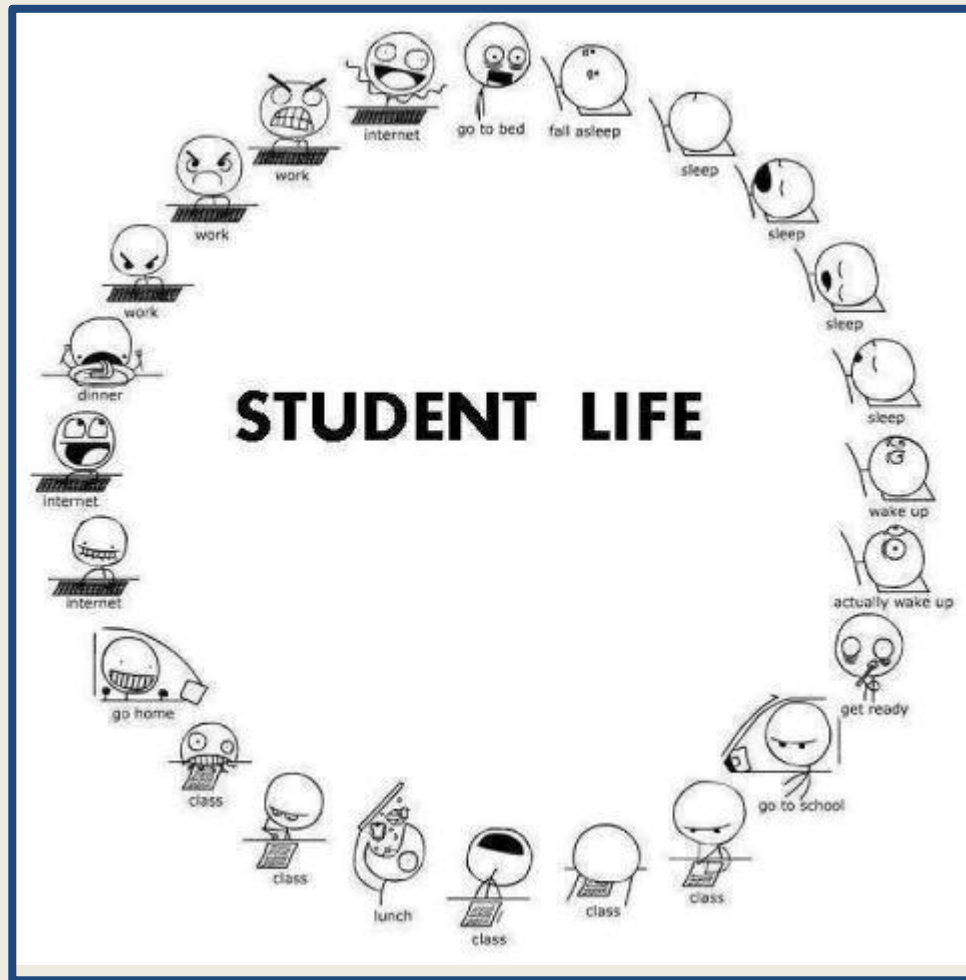
9- Adductor Magnus can't flex the knee joint.

A-True.  
B-False.

10- Sciatic nerve according to its course it become superficial to  
Adductor Magnus on its anterior aspect.

A-True.  
B-False.





GOOD  
LUCK

Done By Anatomy Team 434 ..

