



الجامعة الهاشمية  
The Hashemite University



# General Anatomy

## Lecture 12: Muscles of Lower Limb

*Done by : Jana I. Salah*

**Dr. Ashraf Ramzy**

**Professor of Anatomy & Embryology**

**ash-ramzy@hotmail.com**

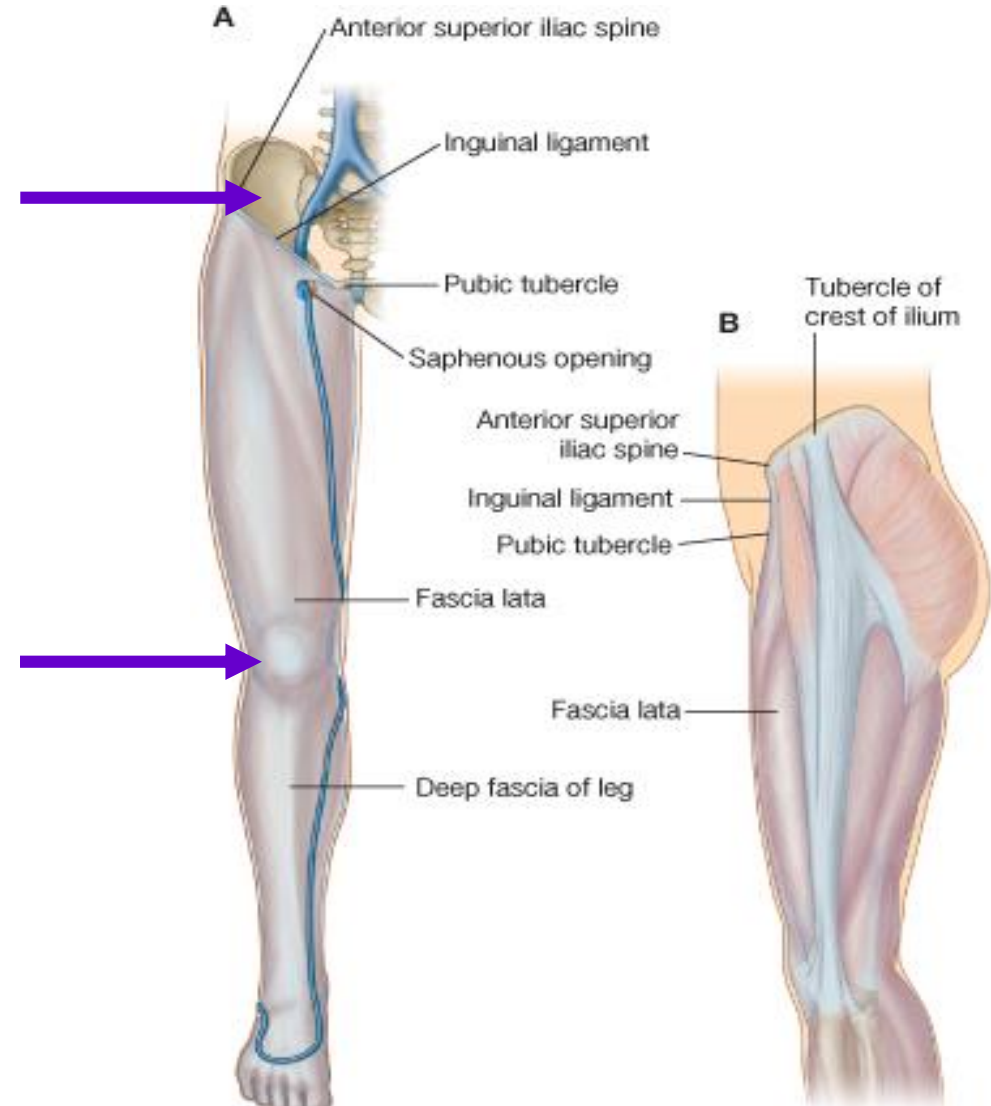
# Parts of Lower Limb

## \* The thigh:

**Extends from hip to knee.**

## \* Formed of 3 compartments:

- 1. Anterior (extensor) compartment.**
- 2. Medial (adductor) compartment.**
- 3. Posterior (flexor) compartment.**



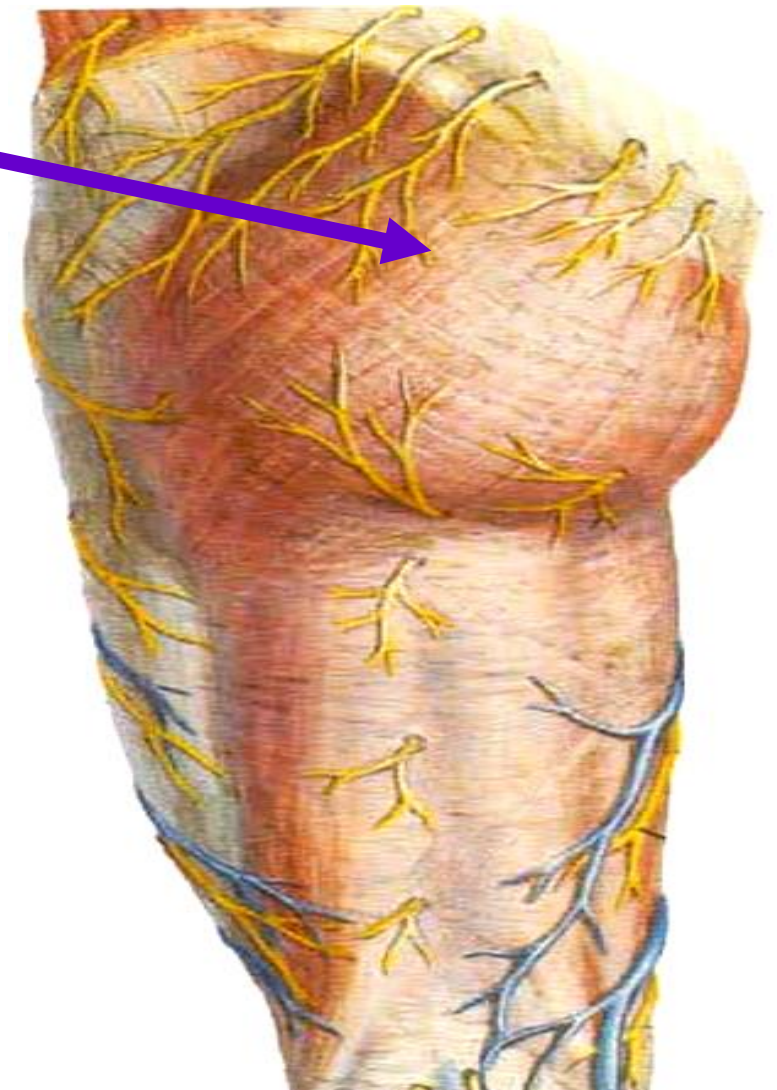
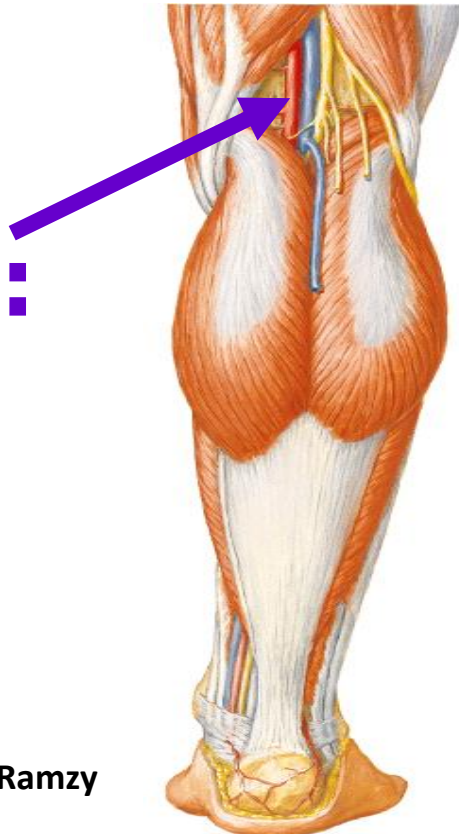
# Parts of Lower Limb (cont)

- \* **Gluteal Region:**

- \* **The region that covers the sides and back of the pelvis.**

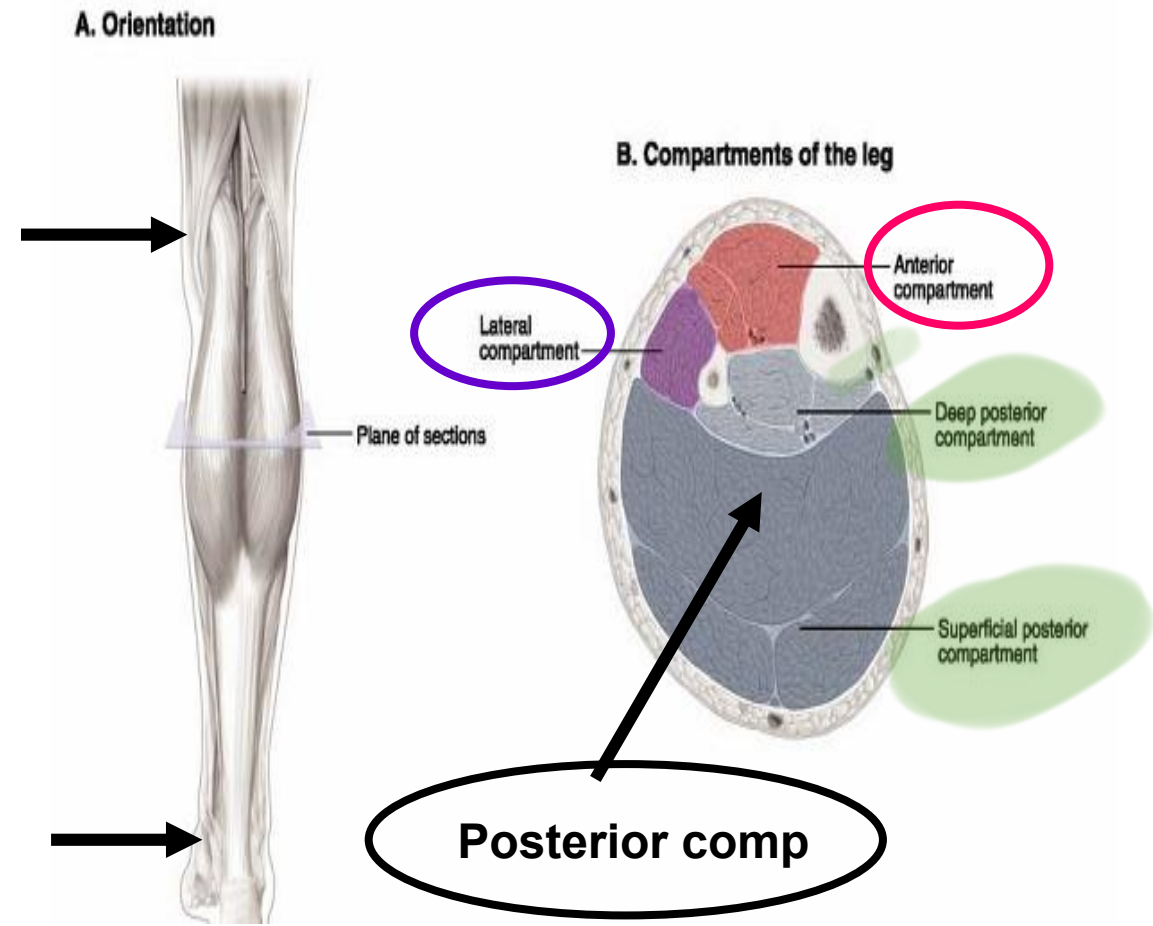
- \* **Popliteal Fossa:**

- \* **Lies on the back of the knee joint.**



# Parts of Lower Limb (cont)

- \* **The leg :**
- \* **Extends from knee to ankle.**
- \* **Formed of 3 compartments:**
  - 1. Anterior (extensor) compartment.**
  - 2. Posterior (flexor) compartment.**
  - 3. Lateral (peroneal) compartment.**



# Parts of Lower Limb (cont)

- \* **The foot :**
- \* **Extends from heel to toes.**
- \* **Divided into → dorsum of foot & sole of foot (plantar surface).**



# **A. Muscles of Front of Thigh**



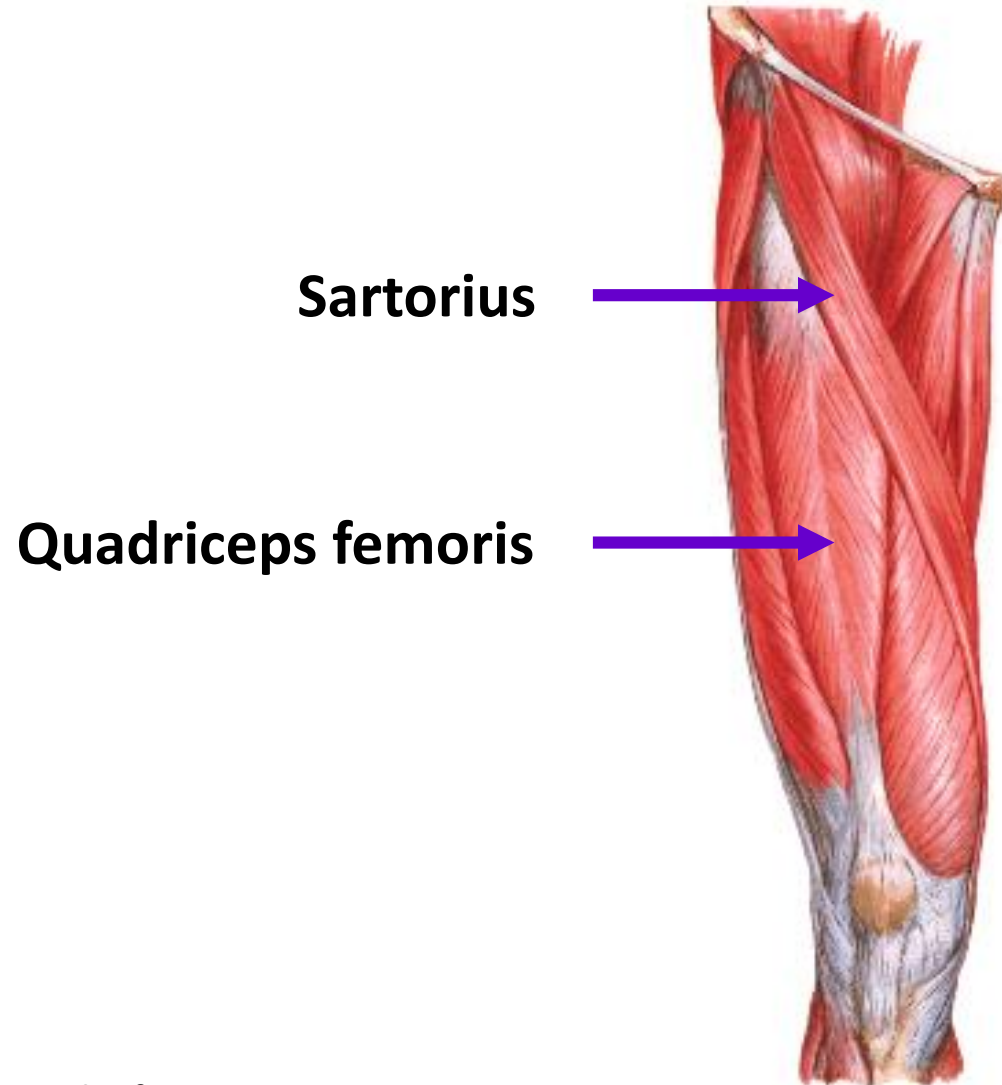
# Muscles of front of thigh (Extensor Group)

\* They include 2 main muscles:

1. Sartorius.

2. Quadriceps femoris.

\* The 2 muscles are supplied by Femoral nerve.



# 1. Sartorius

- \* It is a strap-like muscle with parallel fibers representing the longest muscle in the body.
- \* **Origin** : ASIS.
- \* **Insertion**: upper end of tibia.
- \* **Nerve supply**: Femoral nerve.
- \* **Action**:
  - \* On hip → flexion, abduction & lat. rotation ( tailor's position = cross leg position).
  - \* On knee → flexion.



Sartorius

(D)



## 2. Quadriceps Femoris

\* **It has 4 heads:**

1. Rectus femoris. المتوسطة والأساسية

2. Vastus lateralis.

3. Vastus medialis.

4. Vastus intermedius. تحت 1

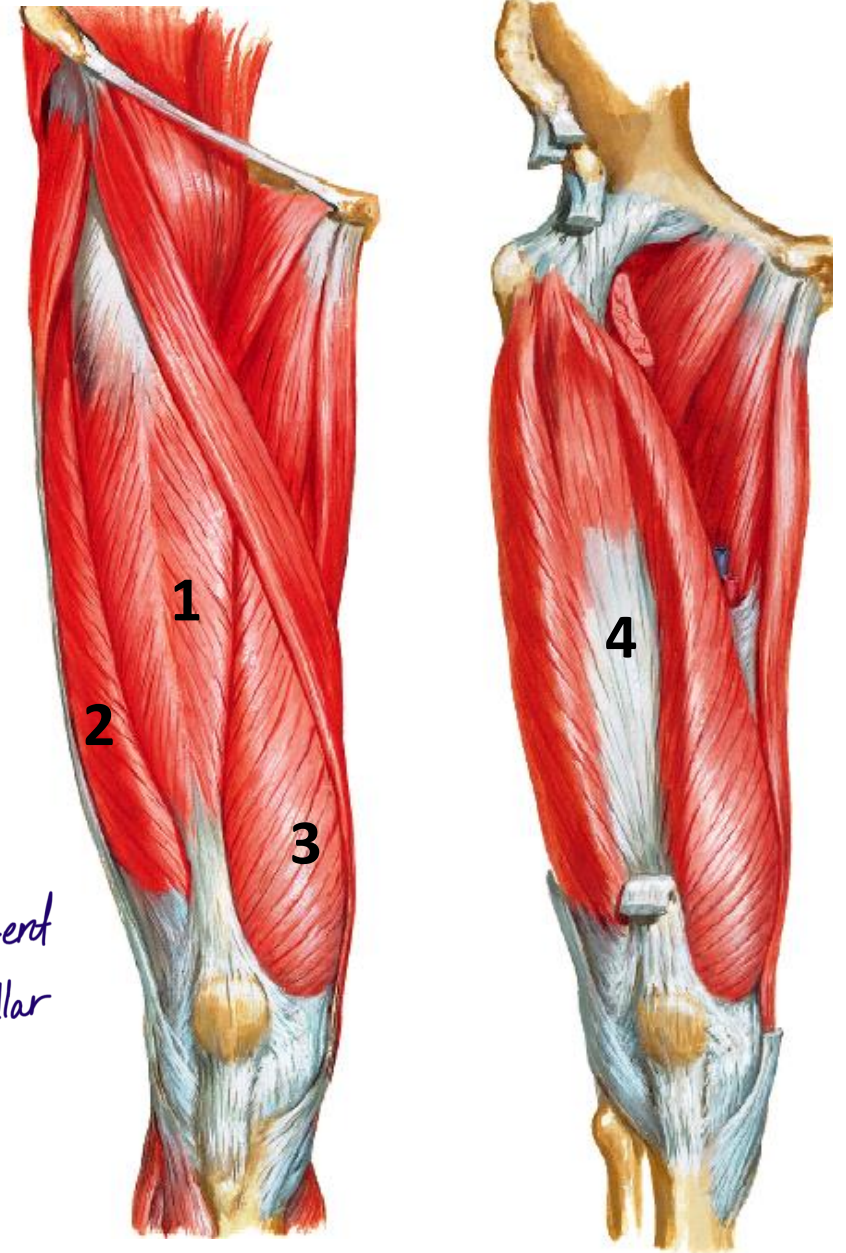
\* **Origin:** Rectus femoris takes origin from hip bone & the 3 vasti take origin from femur.

\* **Insertion:** They form a common tendon that encloses the patella & gets inserted into tibial tuberosity.

\* **Nerve supply:** Femoral nerve.

\* **Action:** Extension of knee.

← Ligament patellar



# **B. Muscles of Medial Side of Thigh**

# Muscles of Medial Side of Thigh (Adductor Group)

\* They include 5 muscles:

1. Pectineus.

2. Gracilis.

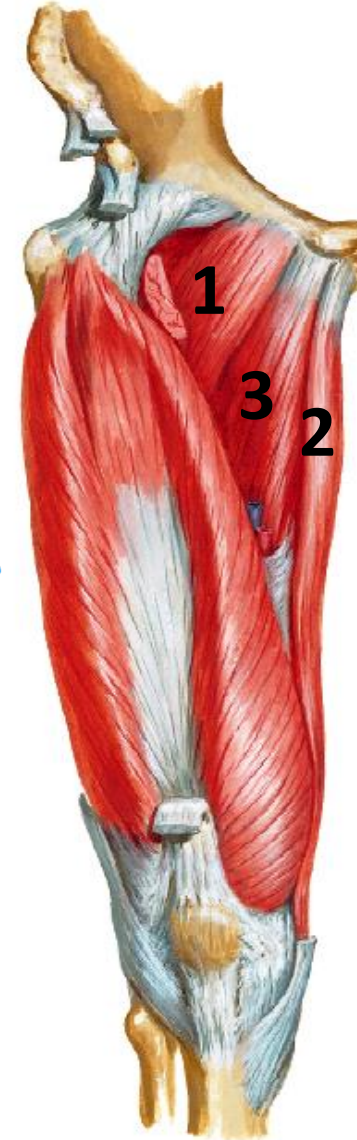
3. Adductor longus.

4. Adductor brevis. بتعجبی تعداد 3 کا انہا بجز، منہا

5. Adductor magnus: posteriorly  
formed of 2 parts:

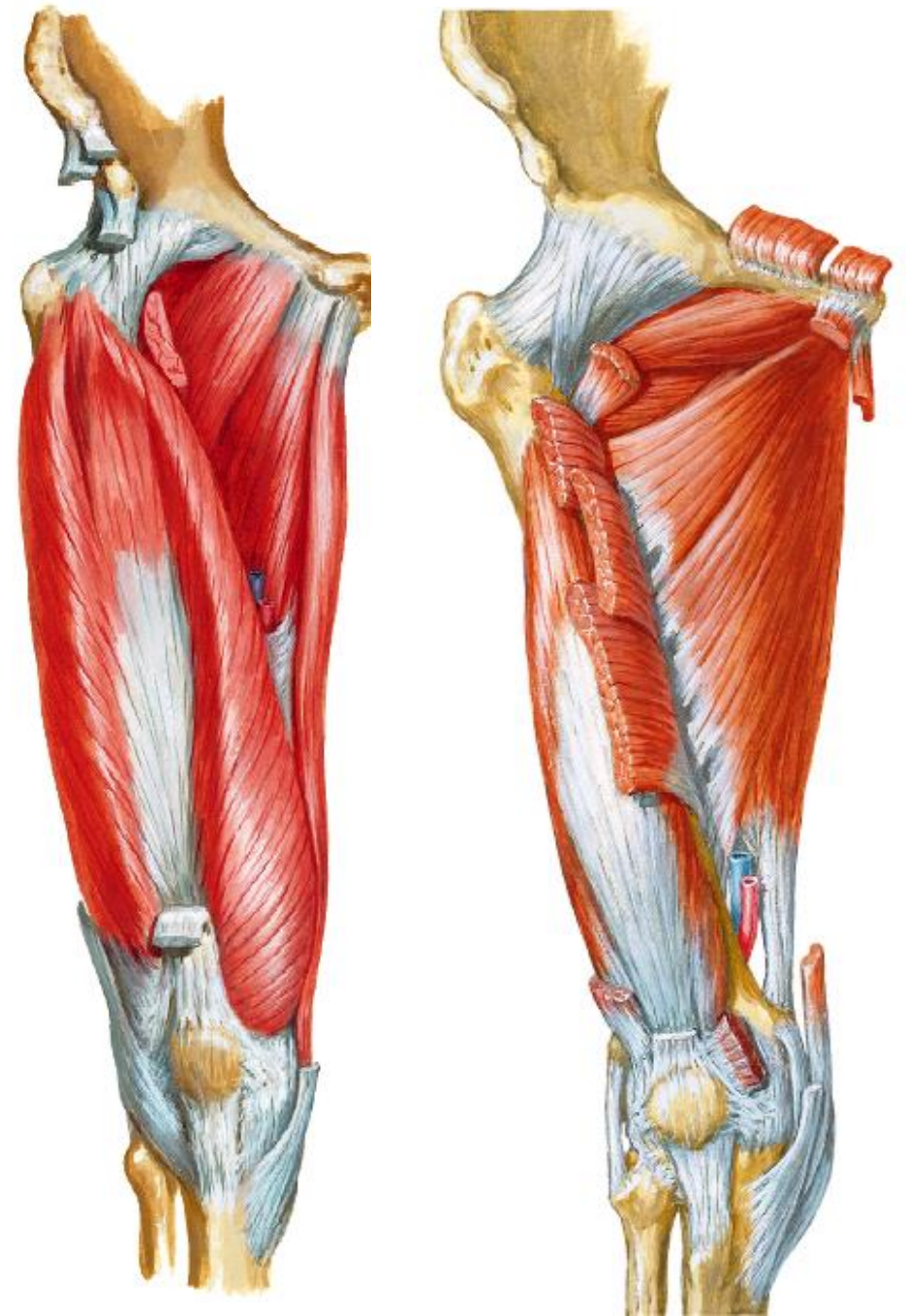
a. pubic part.

b. ischial part.





- \* **Origin:** from hip bone.
- \* **Insertion:** in femur except Gracilis → inserted in Tibia.
- \* **Nerve supply:** Obturator nerve except:
  - a. Pectineus → femoral N.
  - b. Ischial part of adductor magnus → sciatic nerve.
- \* **Action:** Adduction of hip (thigh) except Ischial part of adductor magnus → extension of hip.



# **C. Muscles of Gluteal Region**



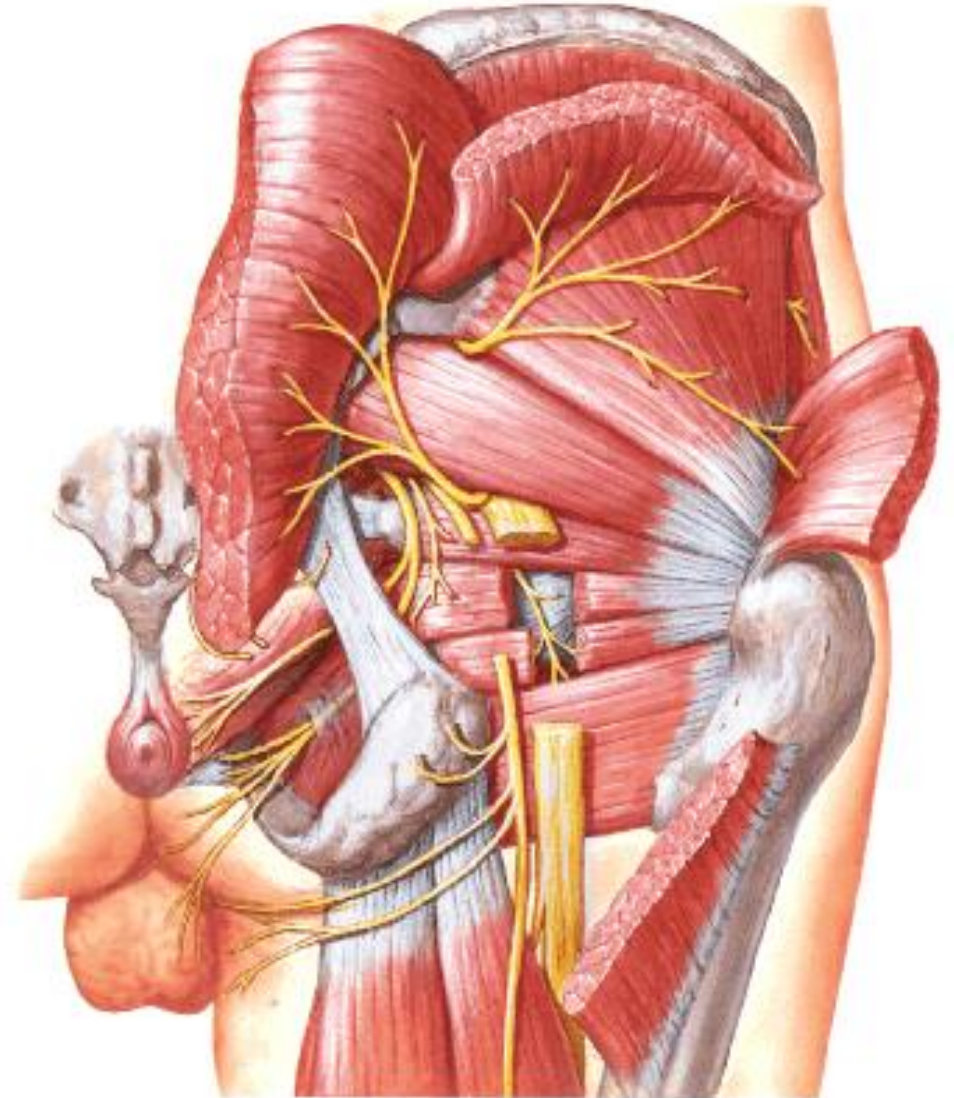
# Muscles of Gluteal Region



**\* They include 2 groups of muscles:**

**A. Three Gluteii muscles.**

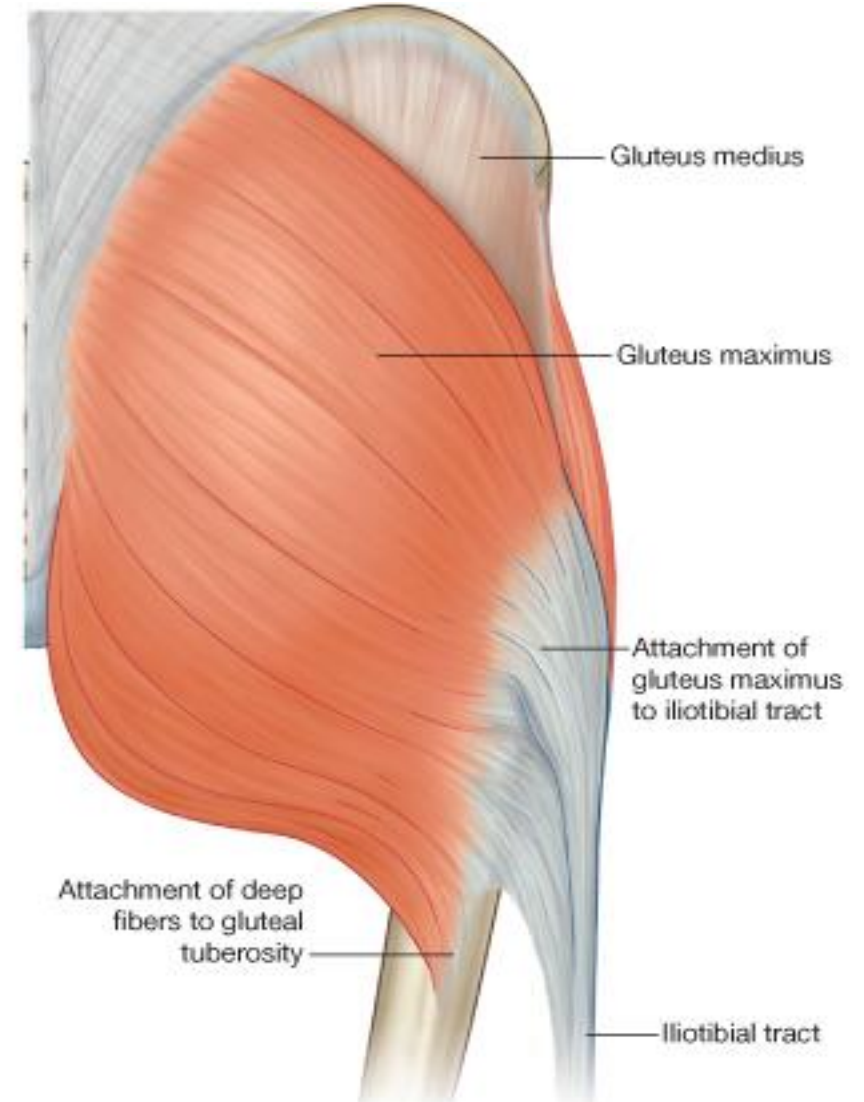
**B. Six short lateral rotators of hip joint.**



# A. Three glutei muscles

## 1. Gluteus maximus:

- \* **Origin** → Gluteal surface of ilium + Back of sacrum.
- \* **Insertion** → gluteal tuberosity *of femur*
- \* **Nerve supply** → inferior gluteal nerve.
- \* **Action** → Main extensor of hip.

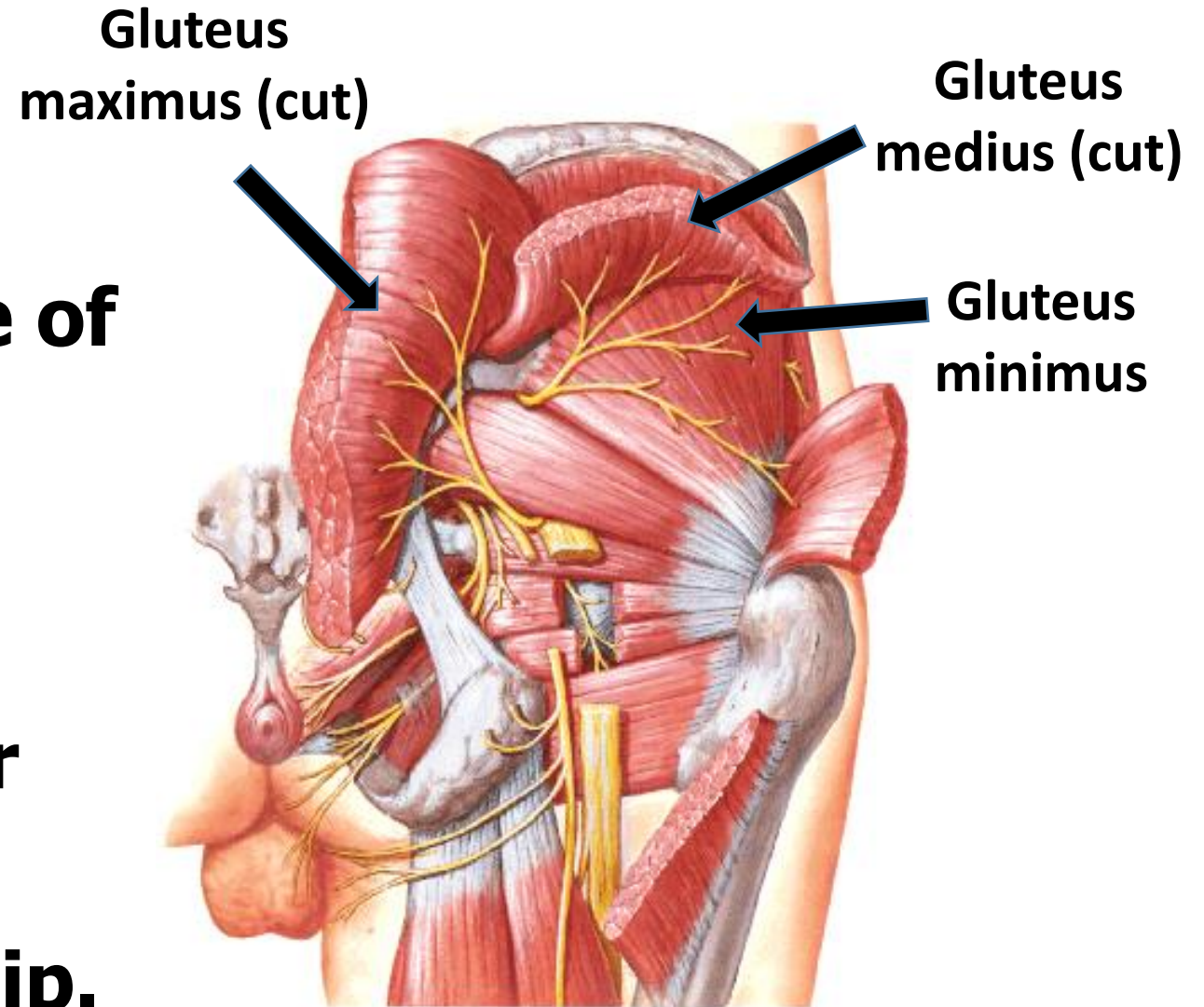


# A. Three glutei muscles (contd)

## 2. Gluteus medius:

## 3. Gluteus minimus:

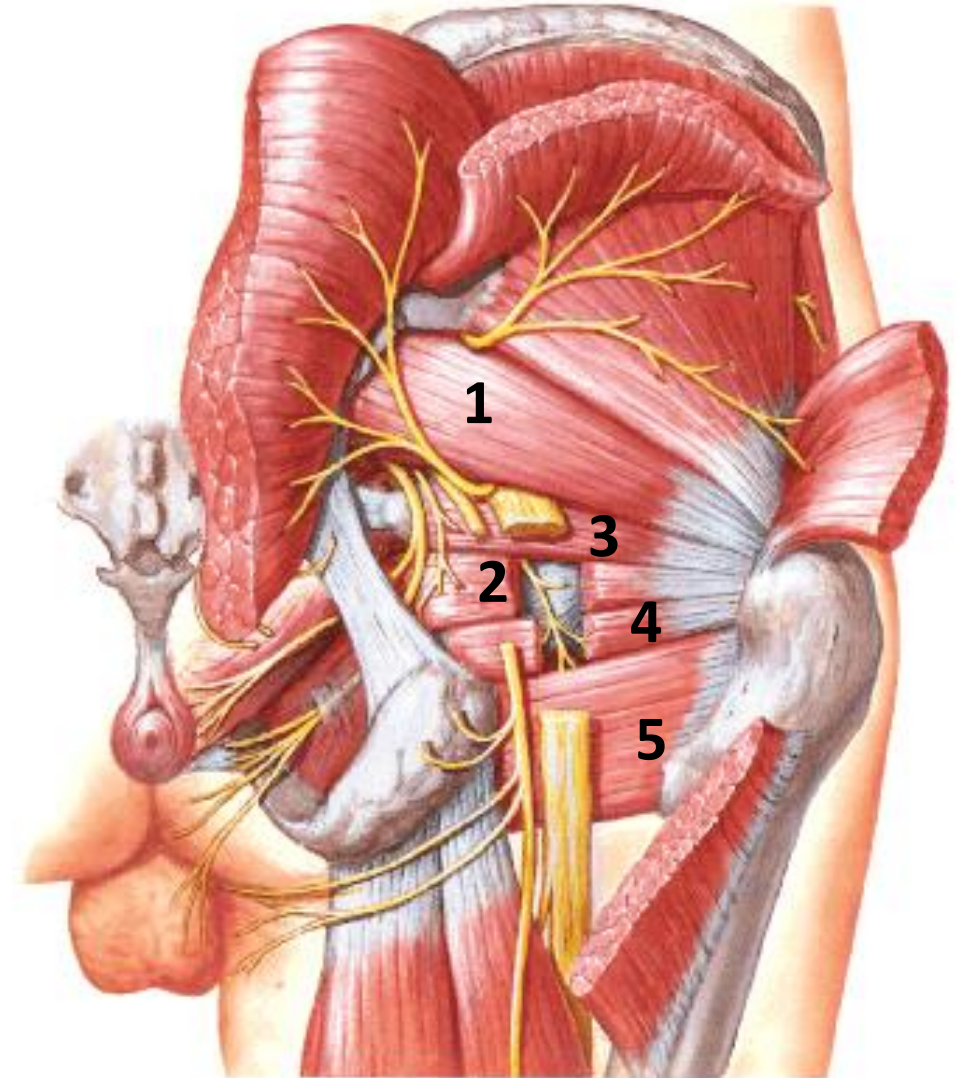
- \* **Origin** → Gluteal surface of ilium.
- \* **Insertion** → greater trochanter of femur.
- \* **Nerve supply** → superior gluteal nerve.
- \* **Action** → Abduction of hip.





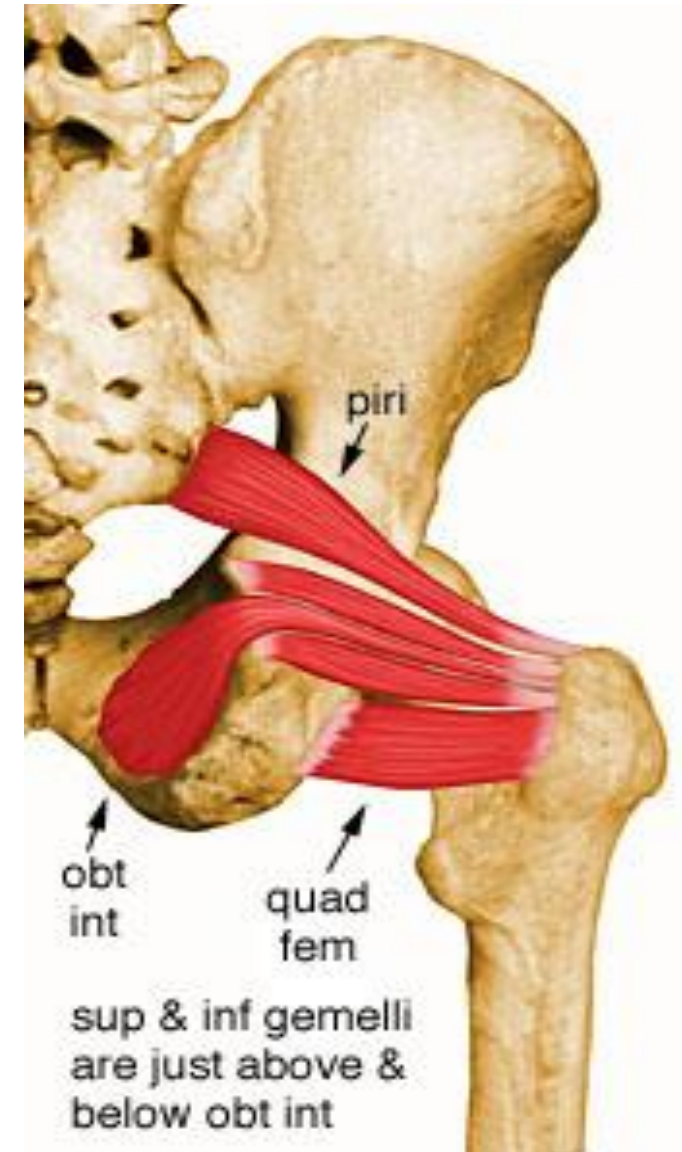
## B. Six Short Lateral rotators of Hip

1. **Piriformis.** *زبي الكمشري*  
*piriform in shape*
2. **Obturator internus.**
3. **Superior gemellus.**
4. **Inferior gemellus.**
5. **Quadratus femoris.**
6. **Obturator externus.**



## B. Six Short Lateral rotators of Hip (contd)

- \* **Origin:** from hip bone except piriformis → takes origin from sacrum.
- \* **Insertion:** into greater trochanter of femur.
- \* **Nerve supply:** branches of sacral plexus. → شبكة
- \* **Action:** lateral rotation of hip.





# D. Muscles of Back of Thigh

Dr Ashraf Ramzy

بعض الكتف يعتبر الـ

adductor magnus

من

# Muscles of Back of thigh

\* They include:

1. Semitendinosus.
2. Semimembranosus.
3. Biceps femoris.

زہا بیٹھا tendon کبیر

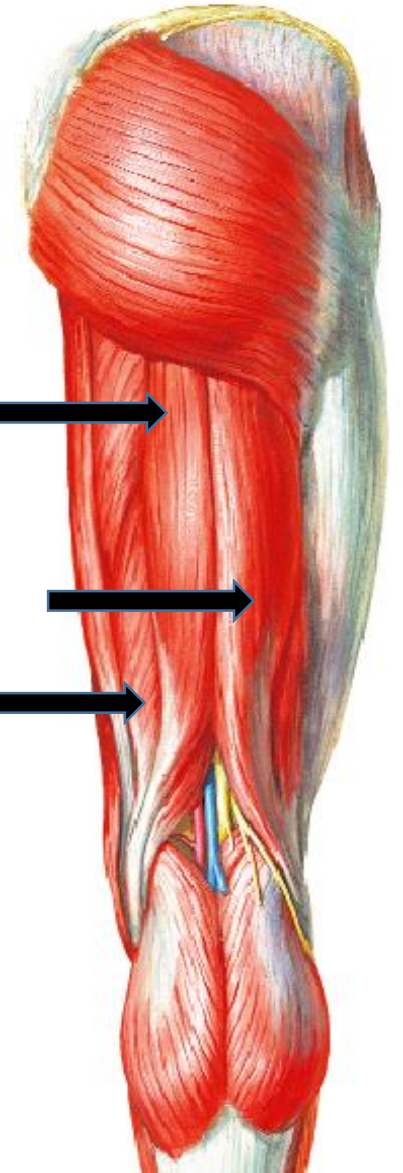
Medially posteriorly

Semitendinosus

Biceps femoris

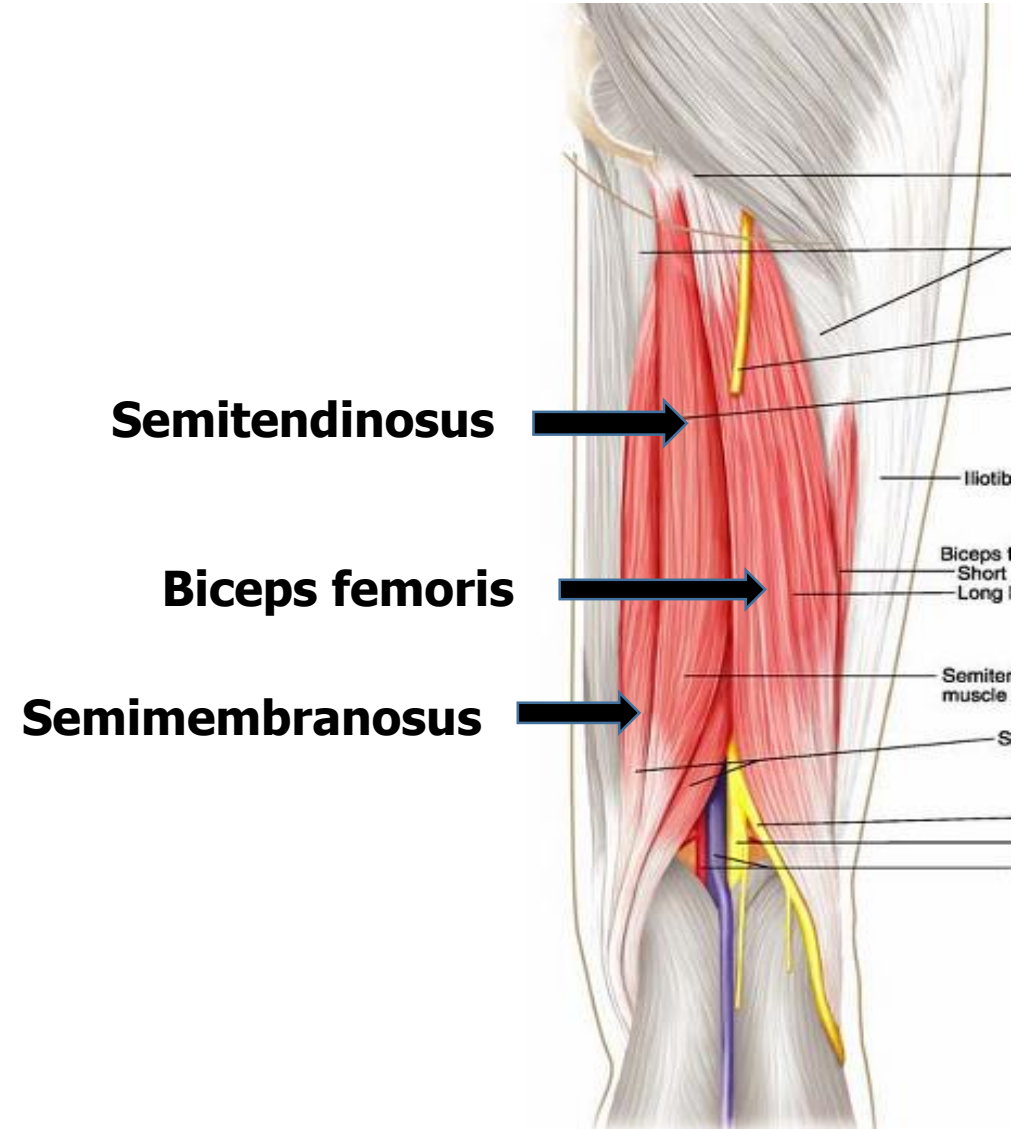
Semimembranosus

laterally  
POSTeriorly



# Muscles of Back of thigh (contd)

- \*Origin:** from ischial tuberosity of hip bone except short head of biceps → takes origin from linea aspera of femur.
- \* Insertion:** Upper end of tibia except biceps → upper end of fibula.
- \* Nerve supply:** Sciatic N.
- \* Action:**
  1. Extension of hip.
  2. Flexion & rotation of knee.



# **E. Muscles of Front of Leg**

# Muscles of Front of Leg (extensors)

\* They include:

1. **Tibialis anterior.**

2. **Extensor hallucis longus.**

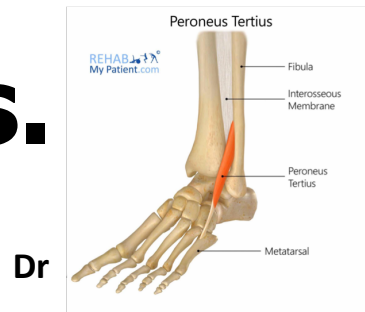
big toe  
↓  
N. tibialis

3. **Extensor digitorum longus.**

Latissimus  
↓  
N. tibialis  
Fingers

4. **Peroneus Tertius.**

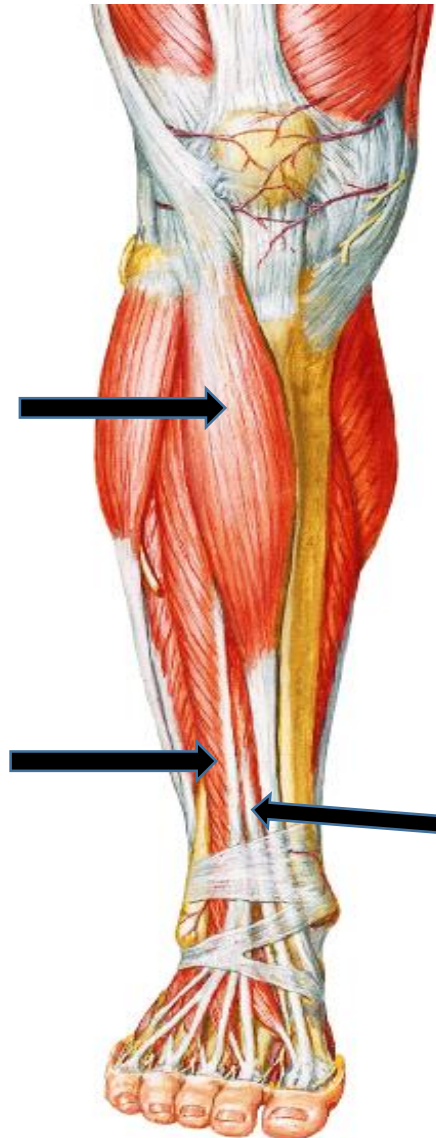
related to fibula ↪



Tibialis anterior

Extensor digitorum longus

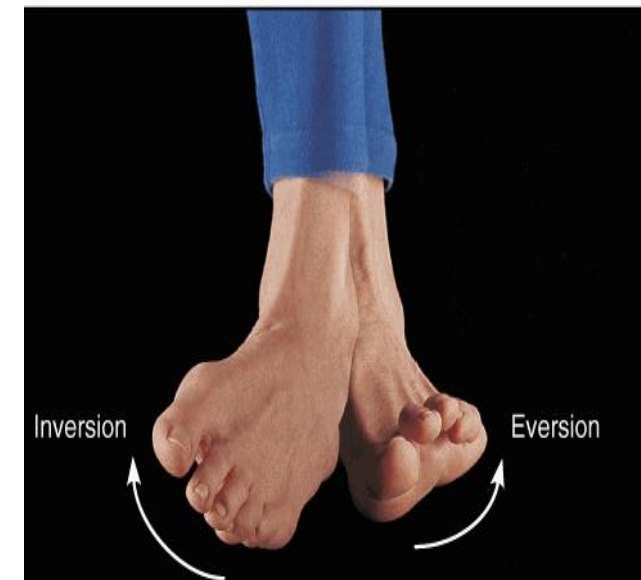
Extensor hallucis longus





# Muscles of Front of leg (contd)

- \* **Origin:** from front of tibia & fibula
- \* **Insertion:** Bones of foot.
- \* **Nerve supply:** Anterior tibial N.
- \* **Action:**
  1. All muscles → **Extension (dorsiflexion)** of ankle joint.
  2. Extensor hallucis longus → **extension of big toe.**
  3. Extensor digitorum longus → **extension of lateral 4 toes.**
  4. **Tibialis anterior** → **inversion of foot.**



# **F. Muscles of Lateral Side of Leg**

# Muscles of Lateral side of Leg

\* They include:

1. **Peroneus longus.**
2. **Peroneus brevis.**

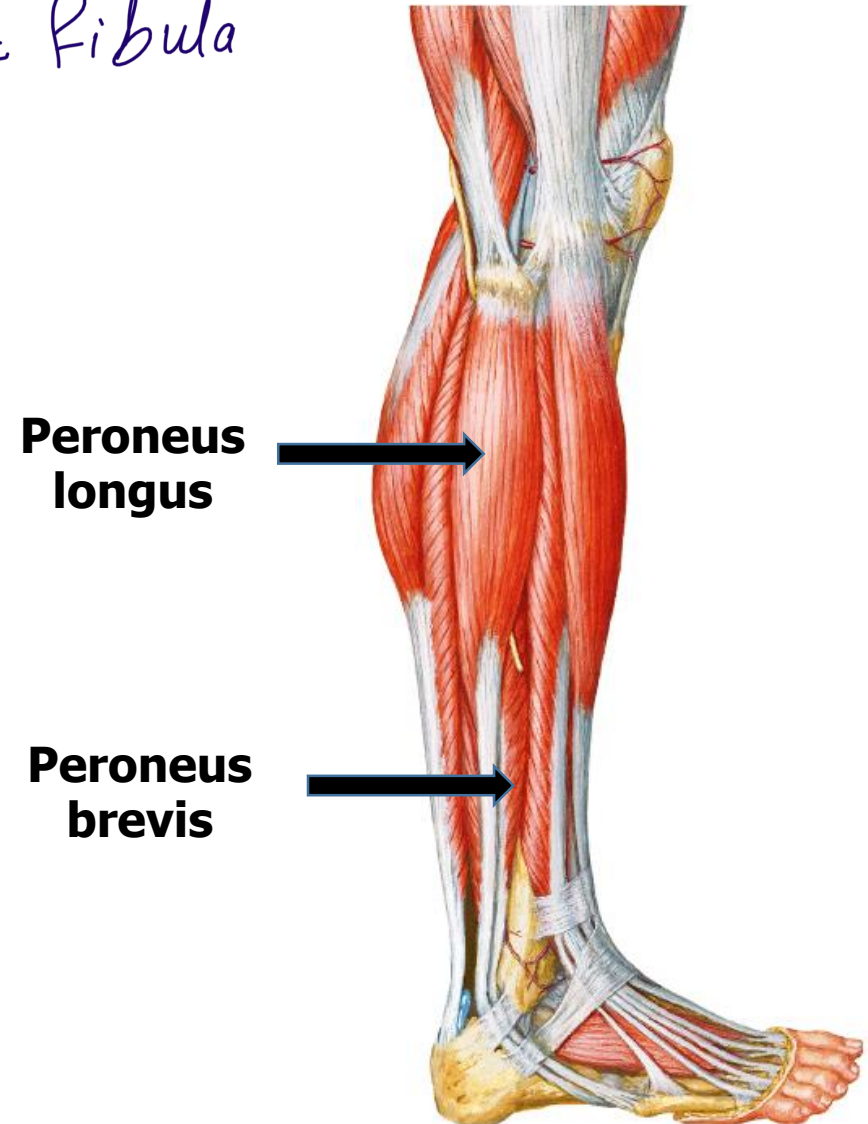
\* **Origin:** lateral surface of fibula.

\* **Insertion:** Bones of foot.

\* **Nerve supply:**  
**Superficial Peroneal N.**

\* **Action:** **Eversion of foot.**

*peroneus = Fibula*



# **G. Muscles of Back of Leg**

# Muscles of Back of Leg

\* They include:

## A. Superficial Group:

1. Gastrocnemius.
2. Soleus.
3. Plantaris. *صغيرة*
4. Popliteus.

*بسرهم  
layers  
برفیه*

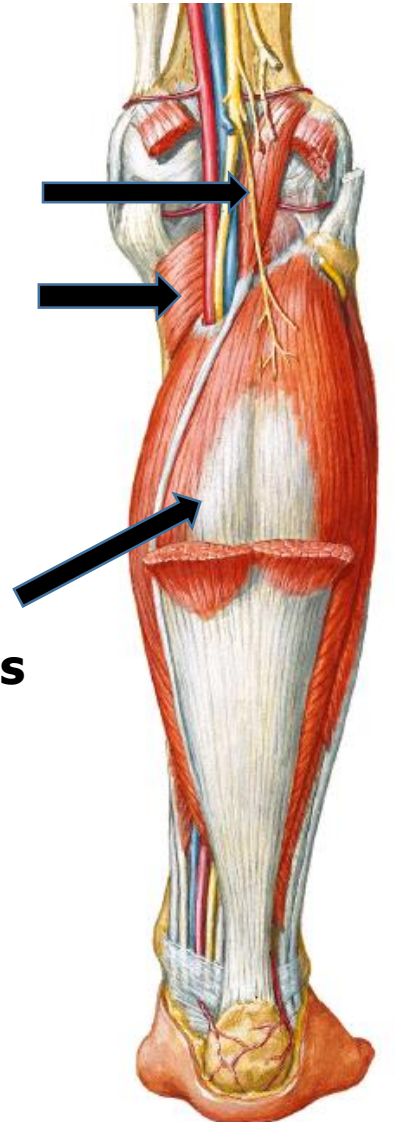


Gastro-  
cnemius

Plantaris

Popliteus

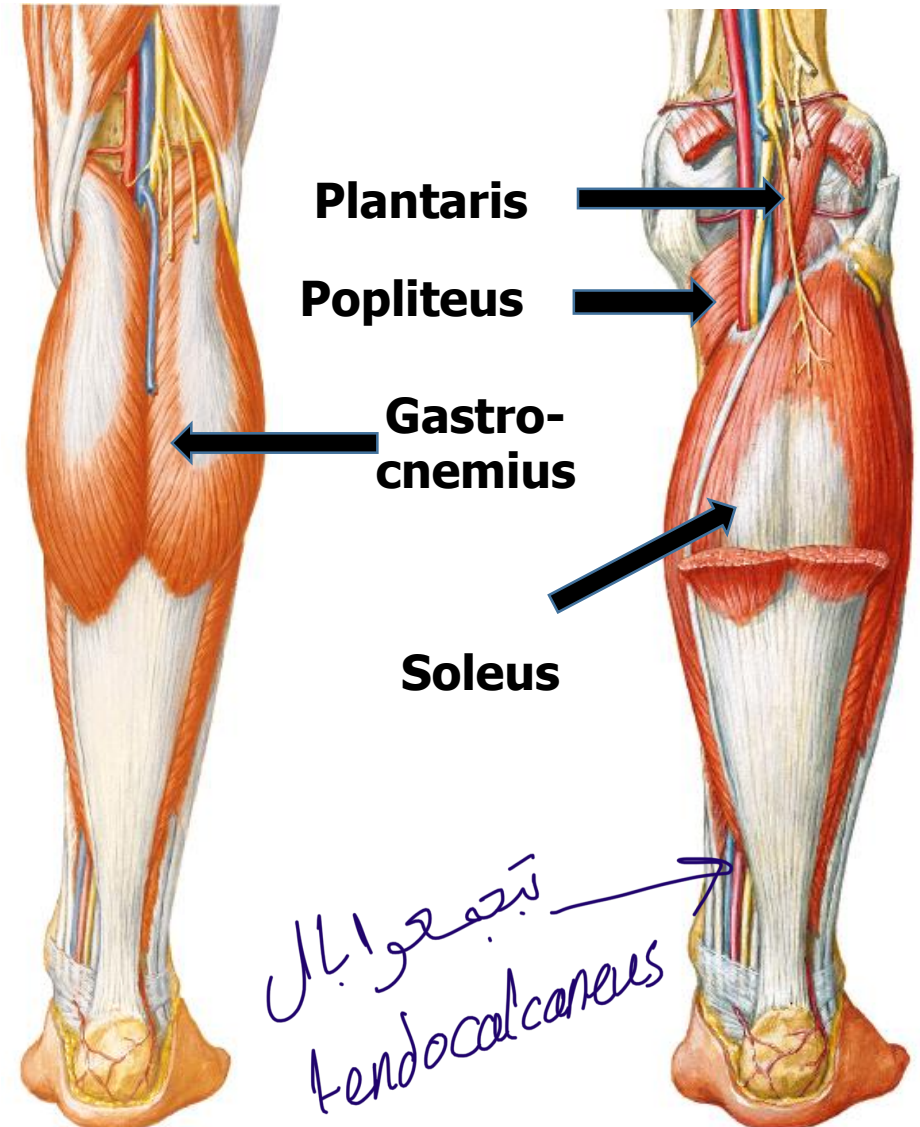
Soleus





# A. Superficial Group

- \* **Origin:** from femur except soleus which takes origin from back of tibia & fibula.
- \* **Insertion:** Back of calcaneus except Popliteus which is inserted in upper end of tibia.
- \* **Nerve supply:** Tibial N. post.
- \* **Action:** Plantar flexion of foot except Popliteus which helps in rotation of knee.



## B. Deep Group

\* **Includes:**

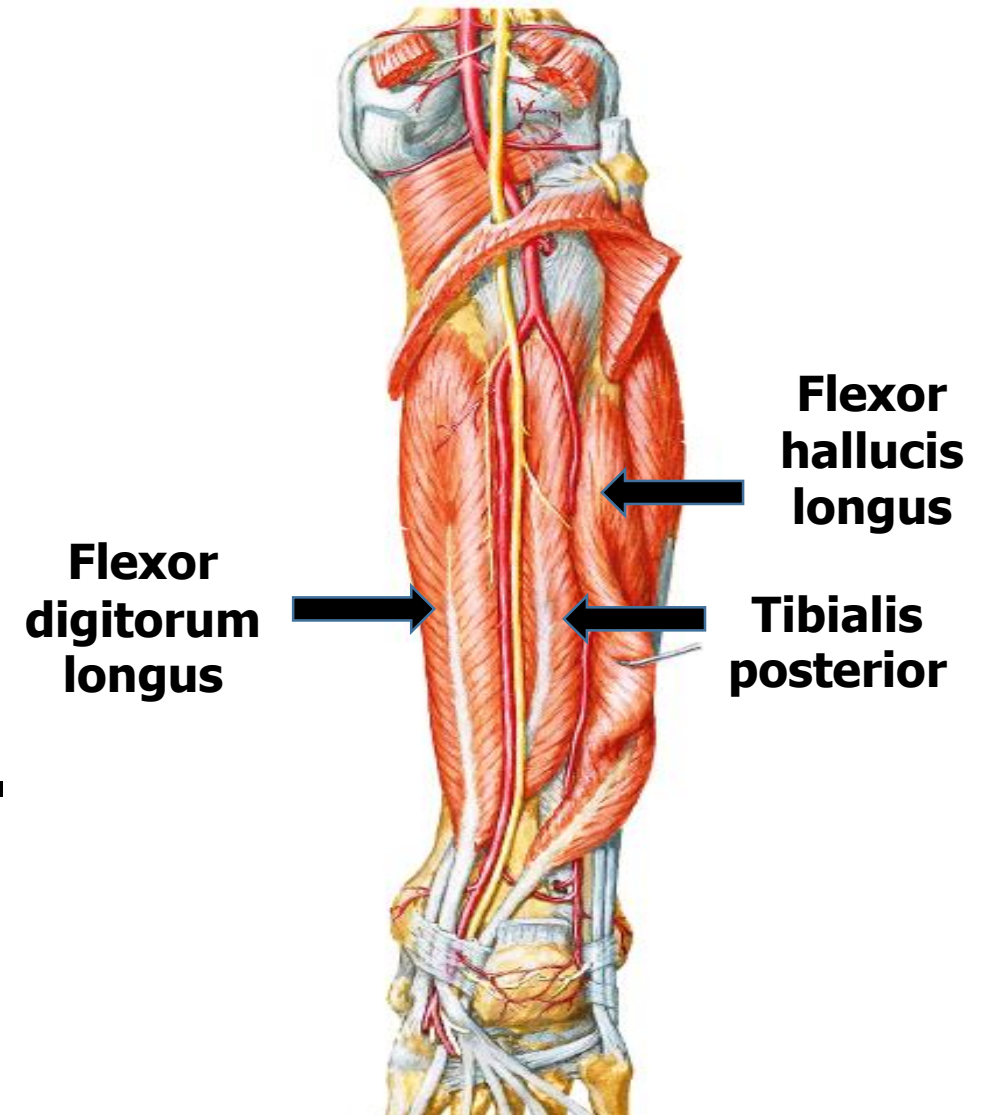
1. Flexor hallucis longus.
2. Flexor digitorum longus.
3. Tibialis posterior.

\* **Origin:** from back of tibia & fibula.

\* **Insertion:** Bones of foot.

\* **Nerve supply:** Posterior Tibial N.

\* **Action:** Plantar flexion of foot & flexion of toes.



THANK  
YOU