

**The University Of Jordan  
Faculty Of Medicine**



[https://quizlet.com/user/raya\\_alweshah/folders/  
lower-limb-muscles?i=28wm1m&x=1xqt](https://quizlet.com/user/raya_alweshah/folders/lower-limb-muscles?i=28wm1m&x=1xqt)

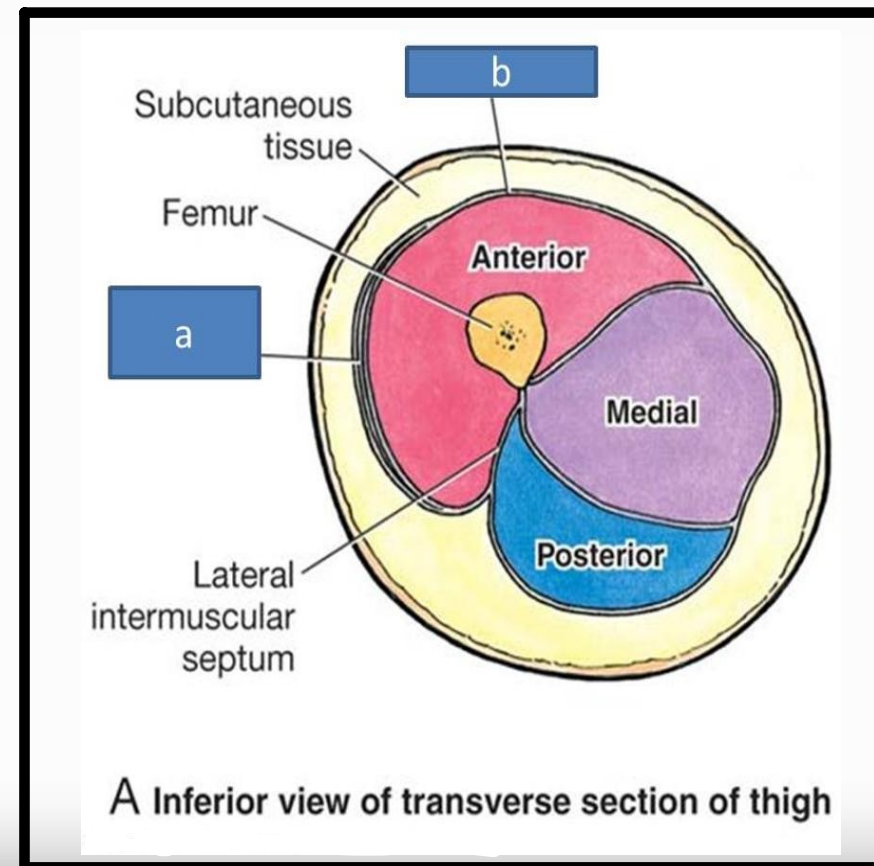
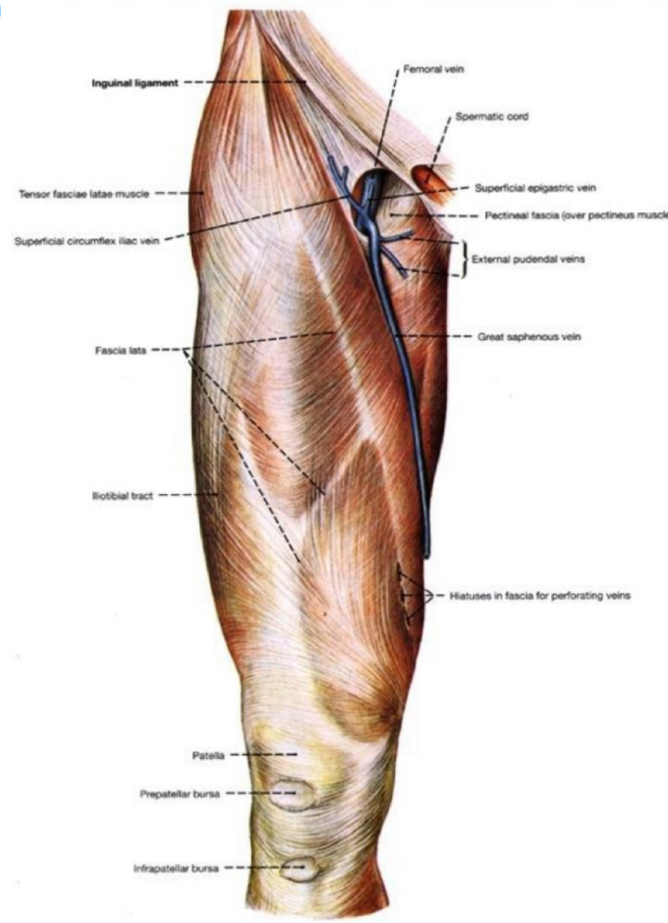
## **MUSCLES OF THE LOWER LIMB**

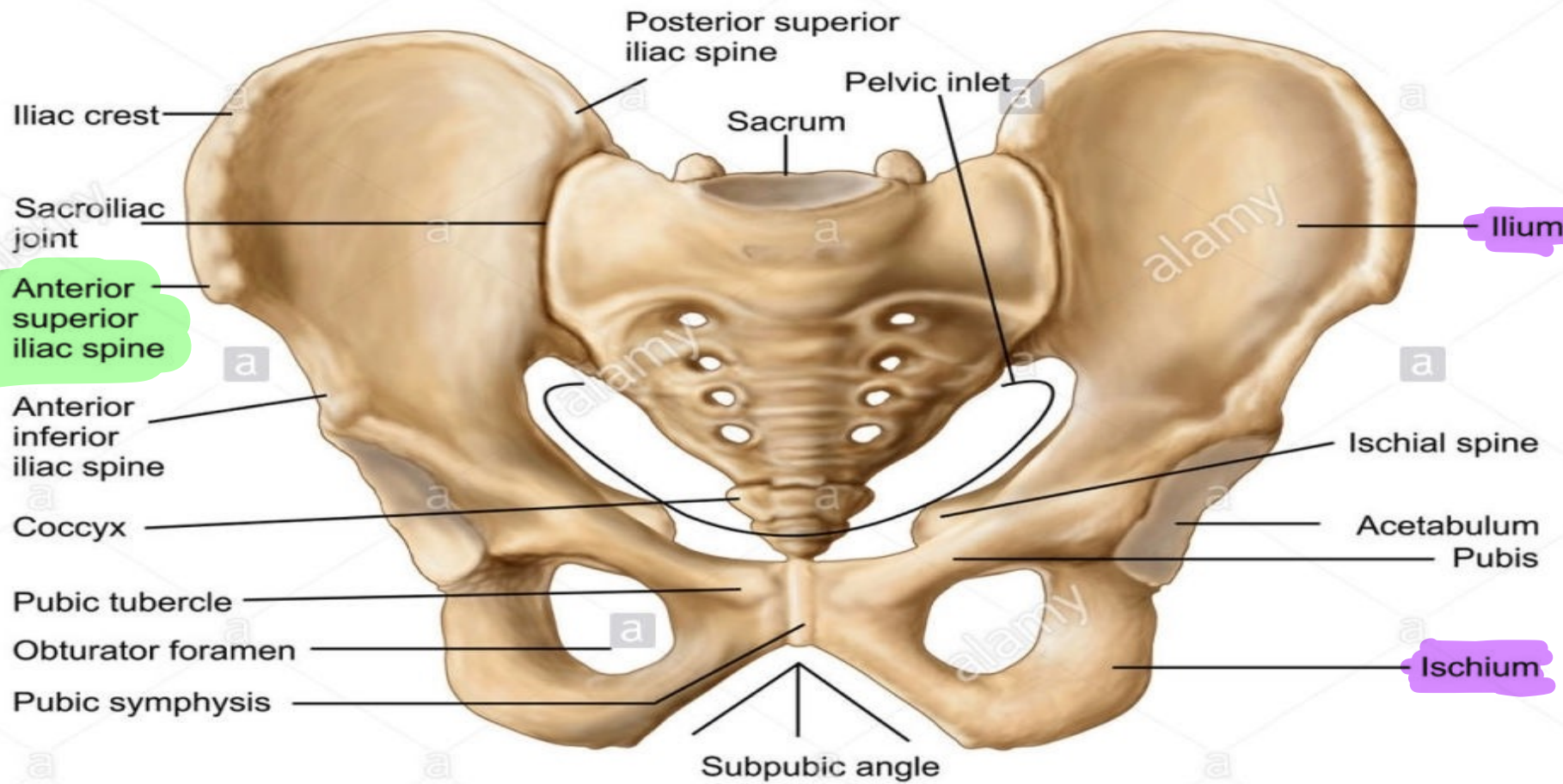
**Dr. Ahmed Salman**

Associate Prof. of Anatomy. The University Of Jordan

# Thigh

The thigh is divided into three compartments, **anterior**, **medial** and **posterior**





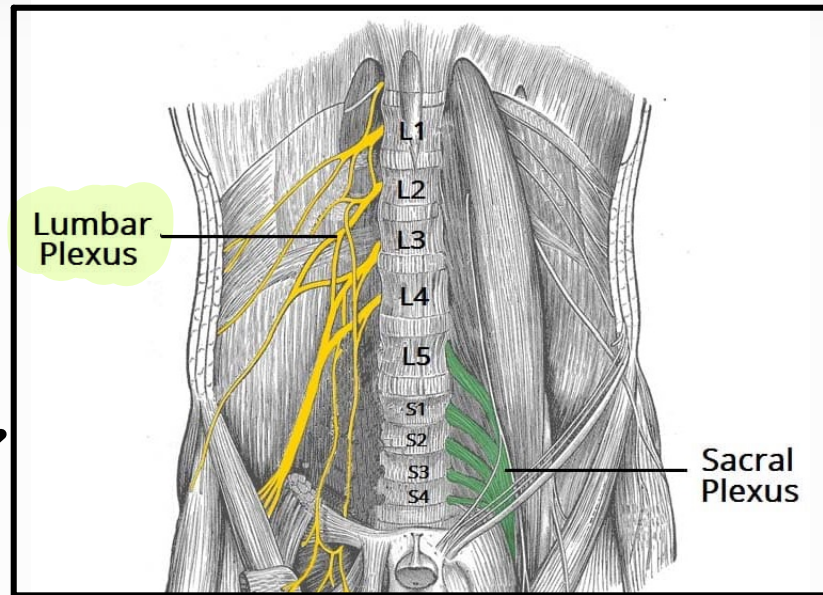
## Anterior Compartment of the Thigh

### I-Muscles

1- Iliopsoas

2- Quadriceps femoris

3- Sartorius

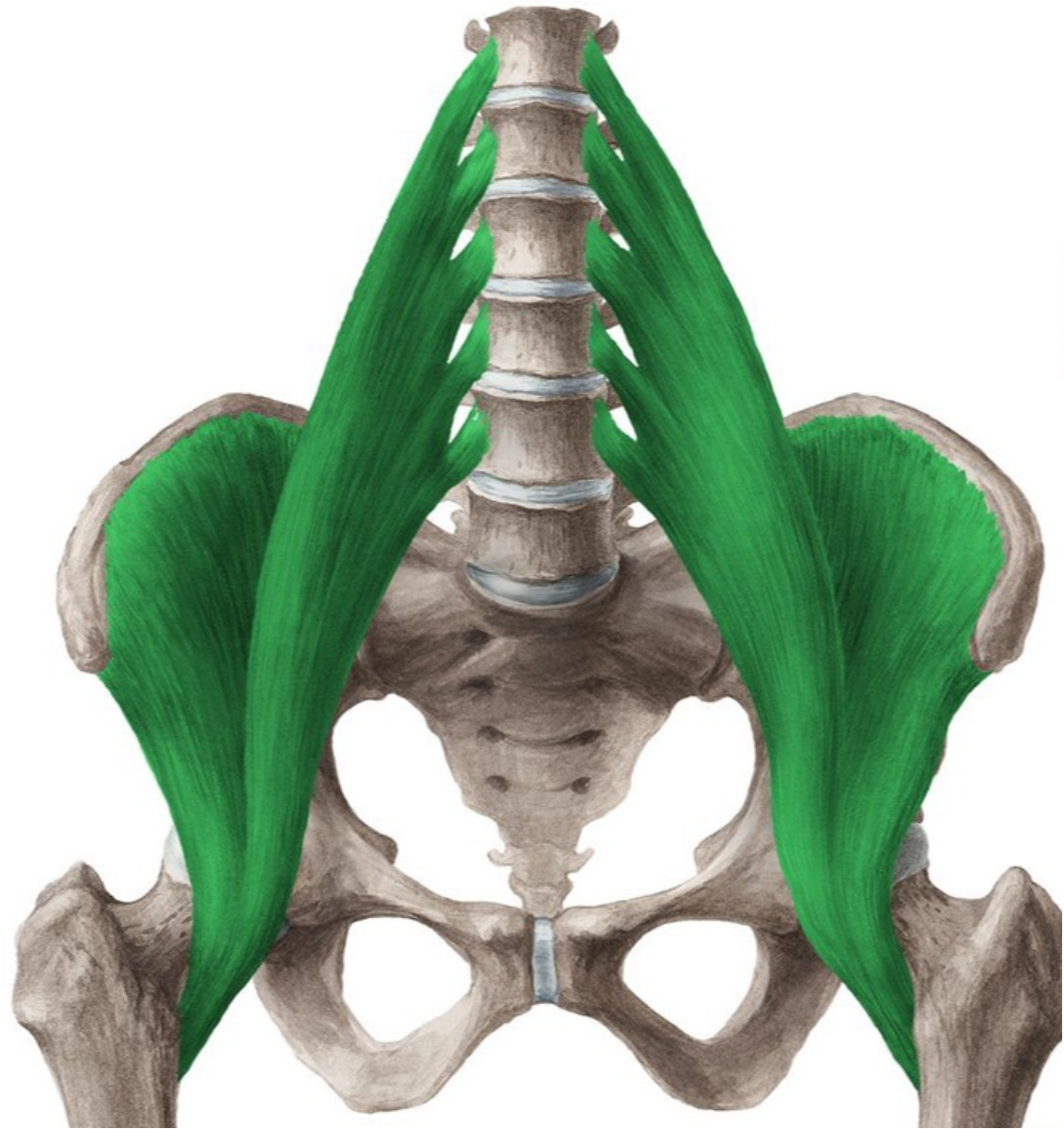


All are innervated by the **(FEMORAL nerve)**

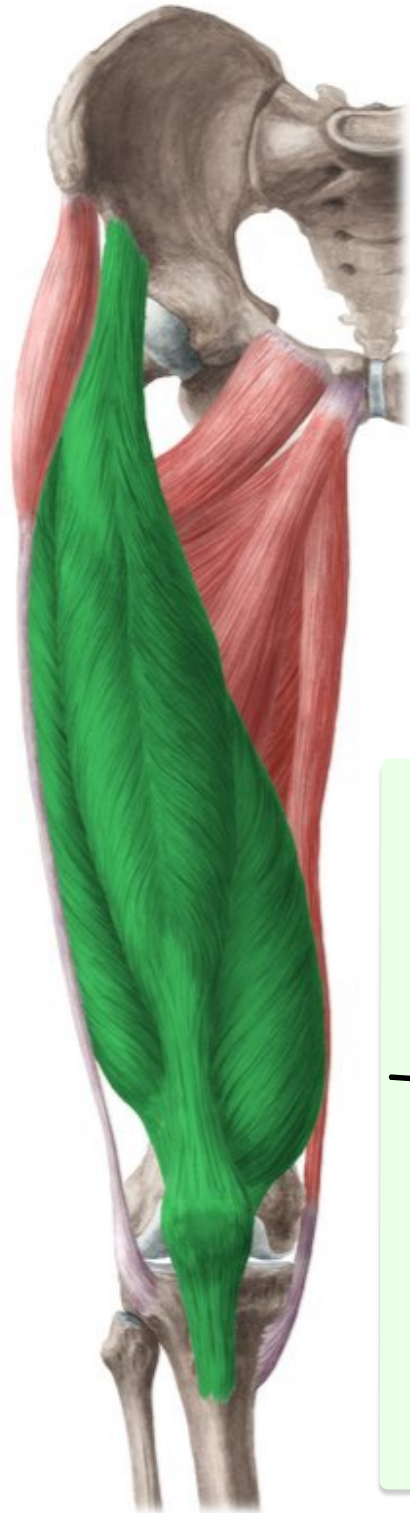
**EXCEPT**

**(Psoas Major by L1,2,3)**

*The spinal nerve of lumbar (1 - 2 - 3)*



Iliopsoas



Quadriceps femoris



Sartorius

Main flexion for the hip joint and the thigh

When testing for inflammation in the appendix of the psoas major muscle, one method is the psoas major sign test when the patient has a pain upon flexion of the trunk, suggesting irritation in the inflamed area.

## 1-Iliopsoas

### ✓ Origin

Iliacus : iliac fossa

Psoas Major : T12-L5 vertebrae

### ✓ Insertion : lesser trochanter of femur

### ✓ Action : Flexes the thigh 2. (Psoas major) Flexes trunk on thigh if thigh is fixed.

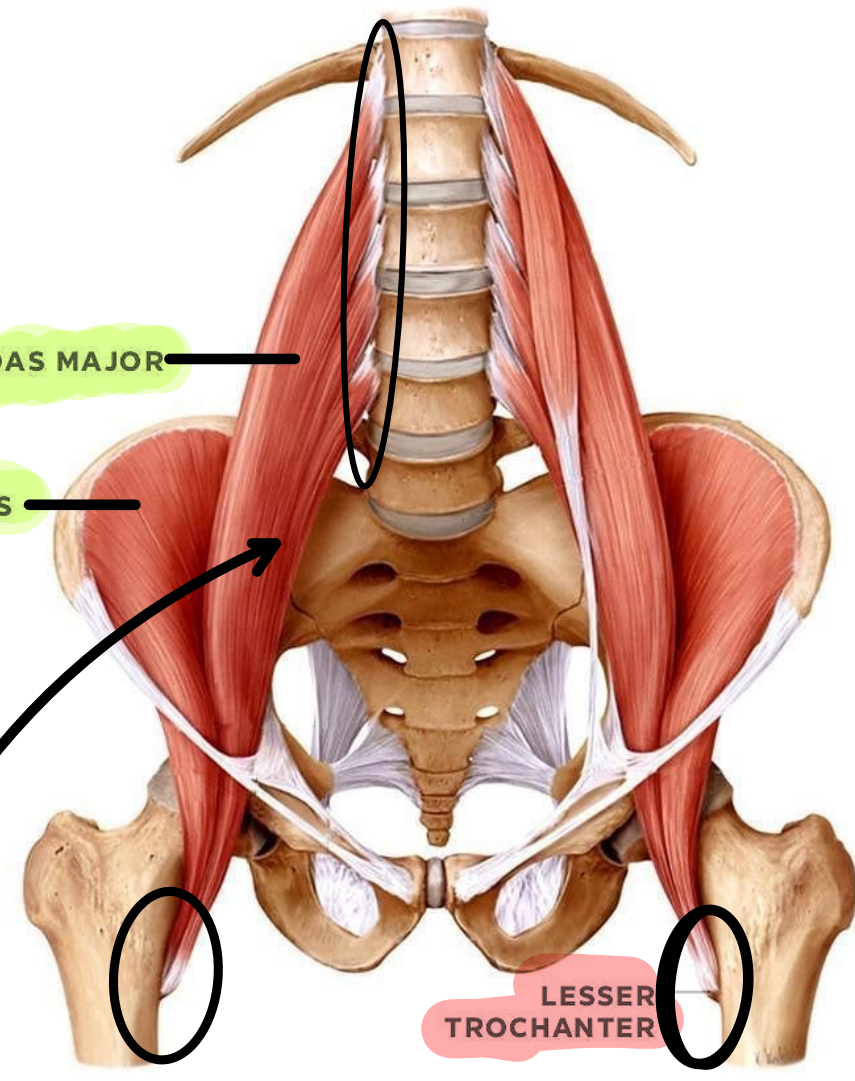
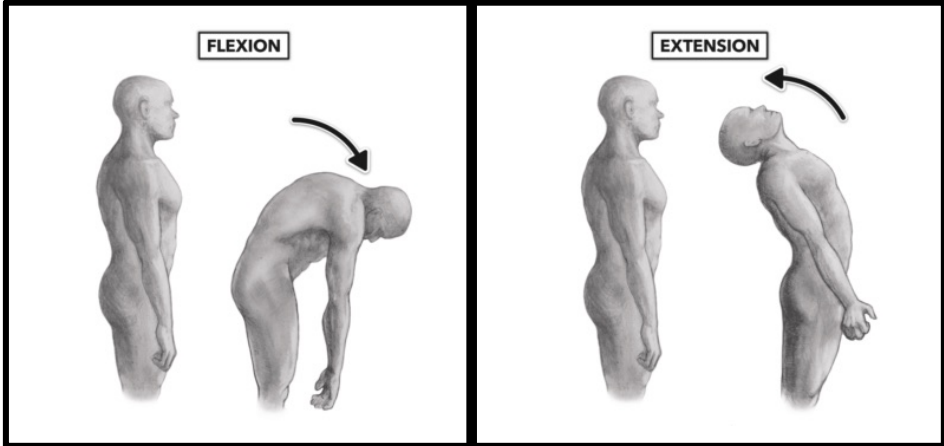
Hip Joint

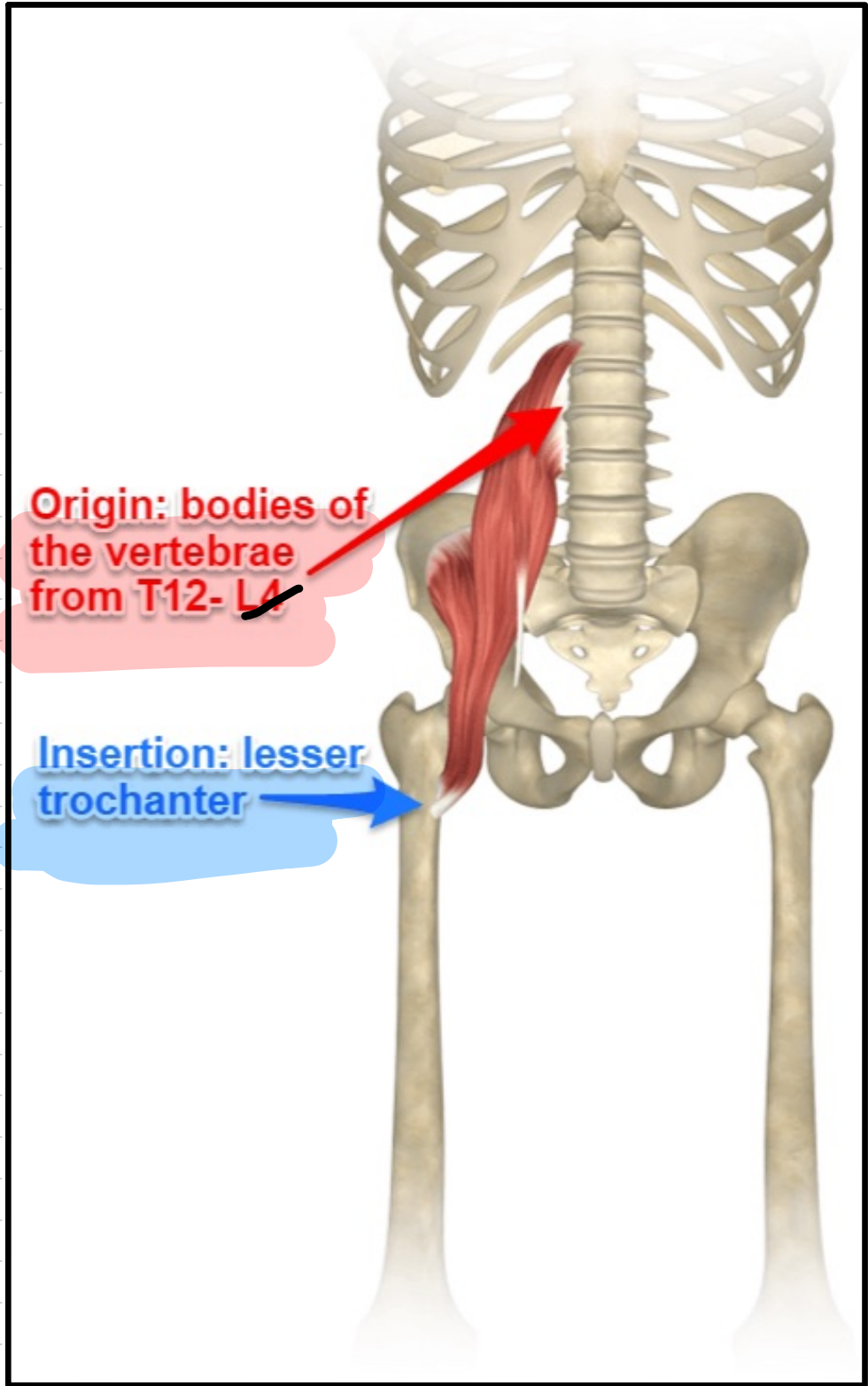
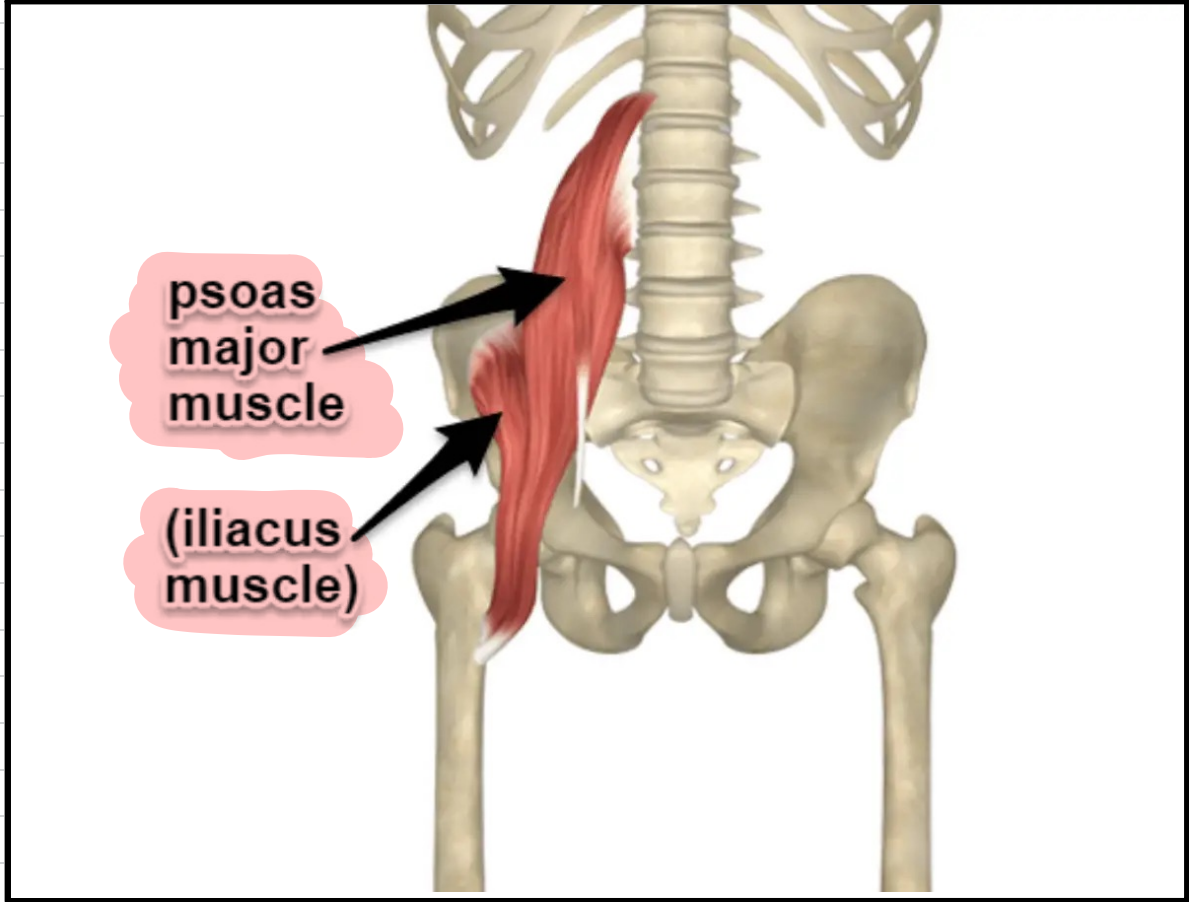
PSOAS MAJOR

ILLIACUS

LESSER TROCHANTER

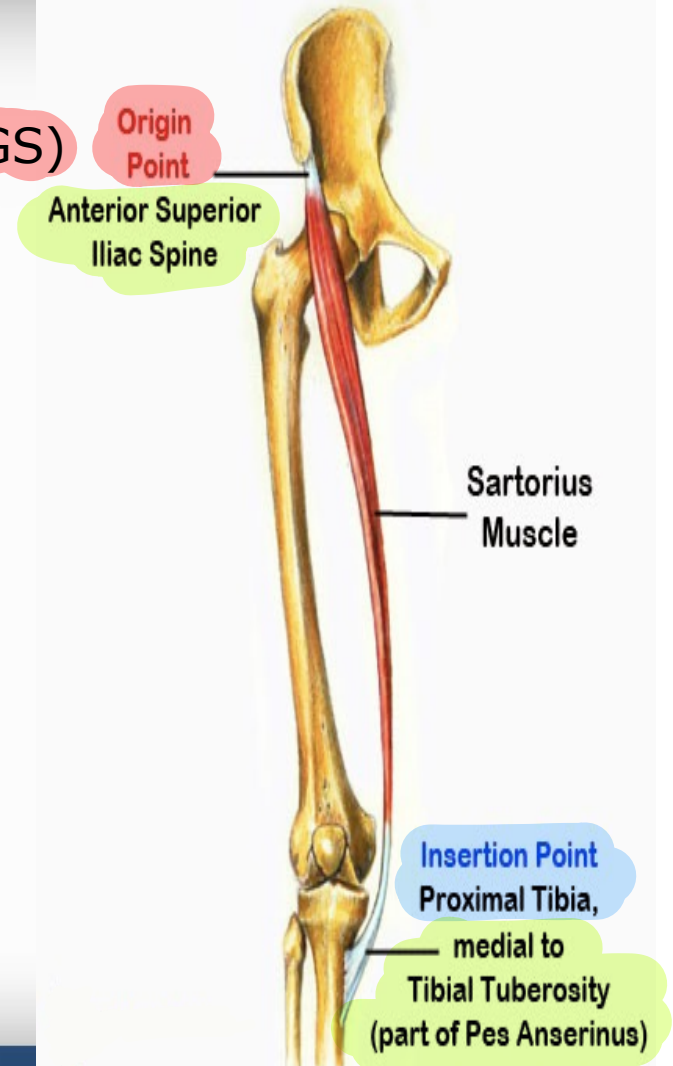
The origin will move and the insertion will be fixed



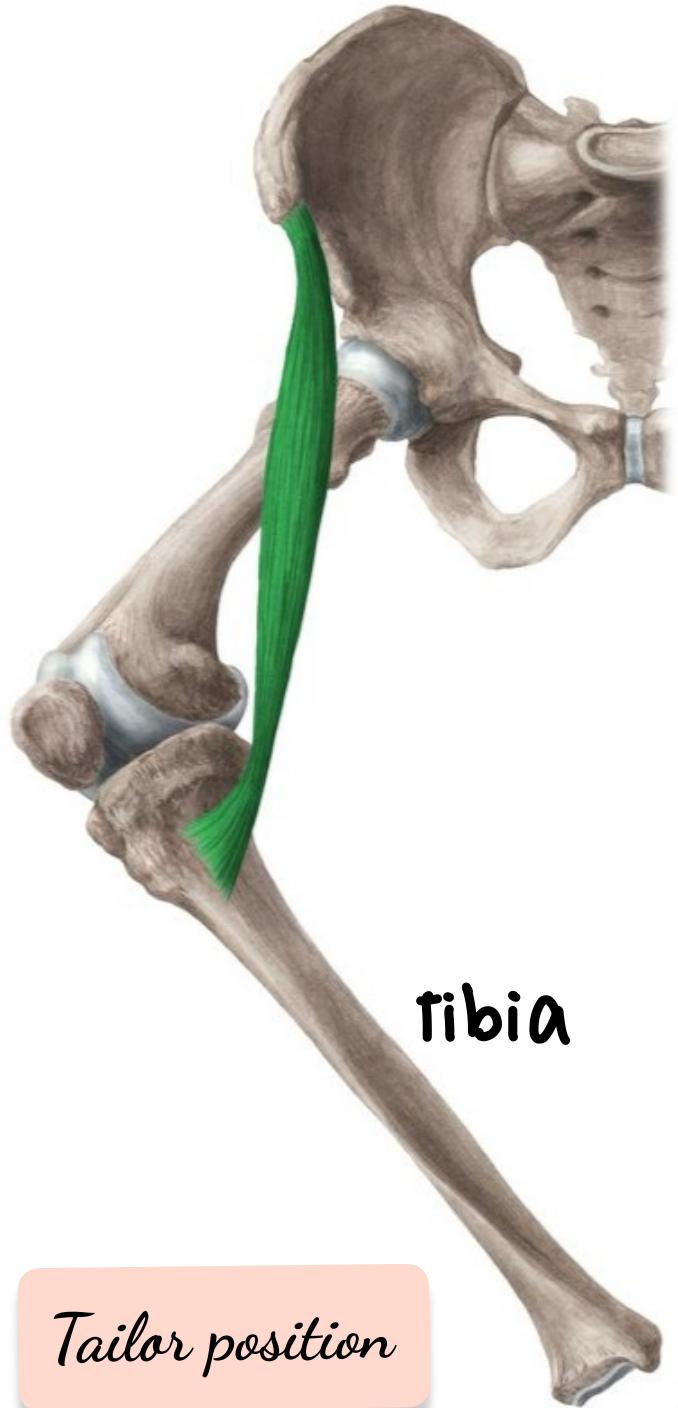


## 2-Sartorius

- ✓ **Origin:** anterior superior iliac spine
- ✓ **Insertion:** Upper medial surface of shaft of tibia (SGS)
- ✓ **Action:** Tailor position  
Flexes, abduct, laterally rotates the thigh  
Flexes and medially rotates the knee

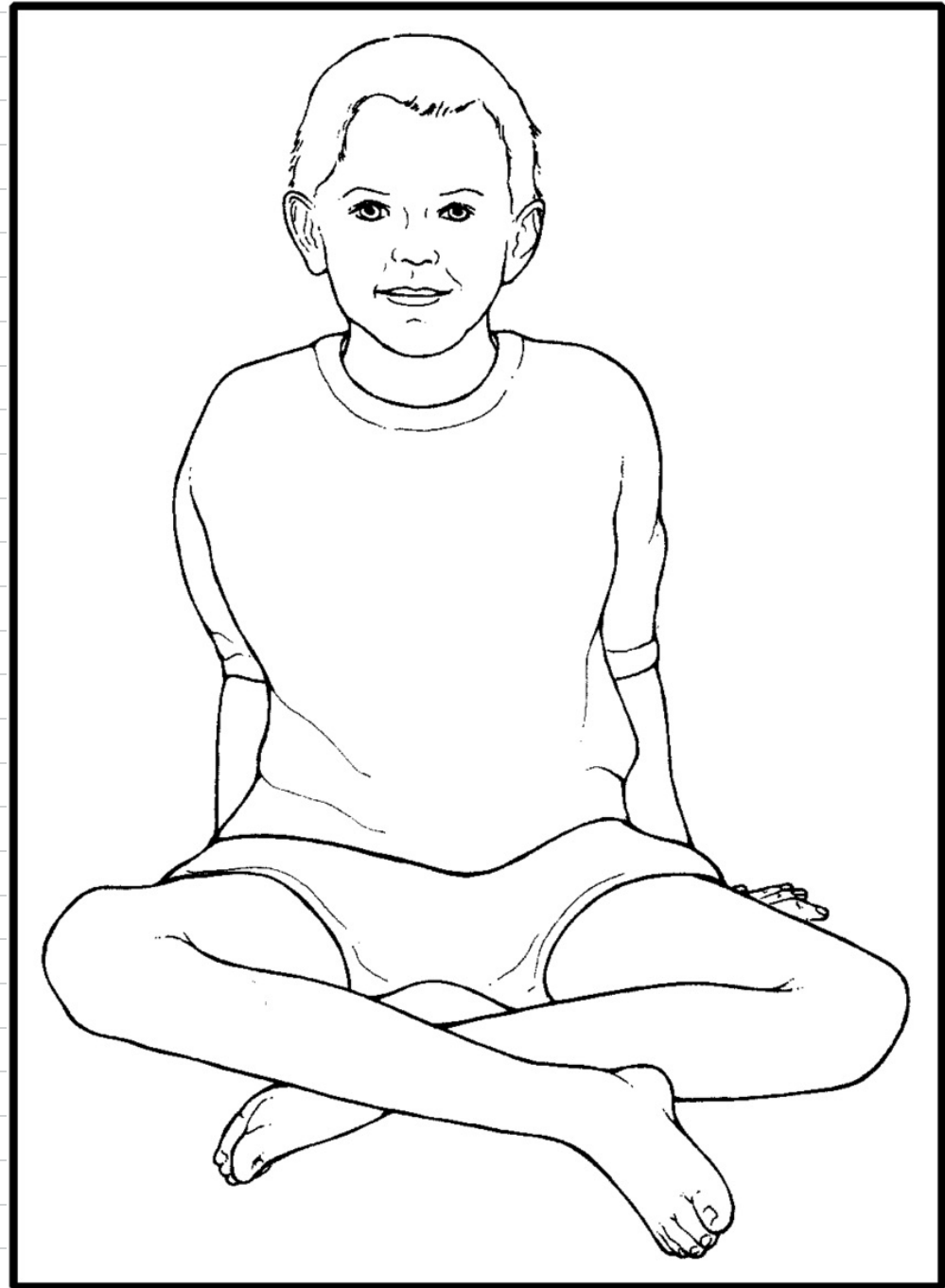






tibia

*Tailor position*



The posterior muscle of the thigh will be Flexor  
The anterior muscle of the thigh will be extensor

في اختلافات  
ثلاثة =

### 3-Quadriceps femoris

Has four head with different origin and same insertion

1. Rectus femoris

2. Vastus intermedius

3. Vastus lateralis

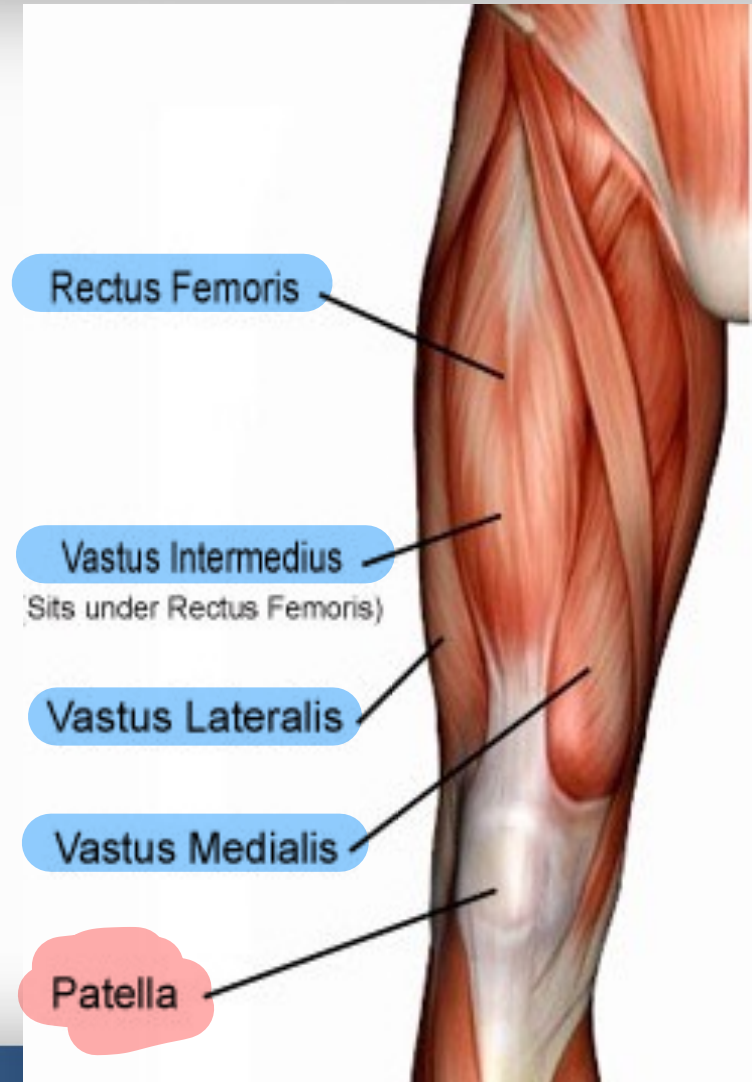
4. Vastus medialis

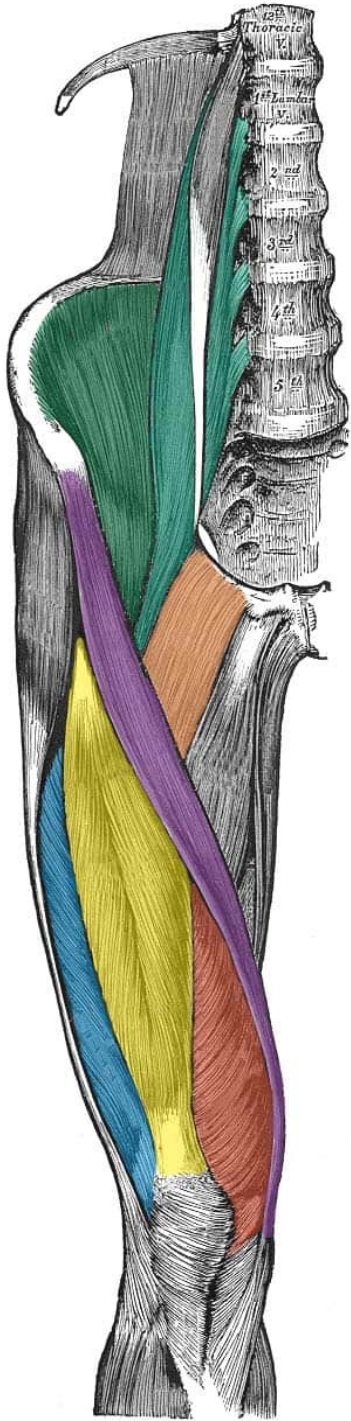
Anterior surface

✓ **Insertion :** patella and tibia tuberosity via the patellar ligament

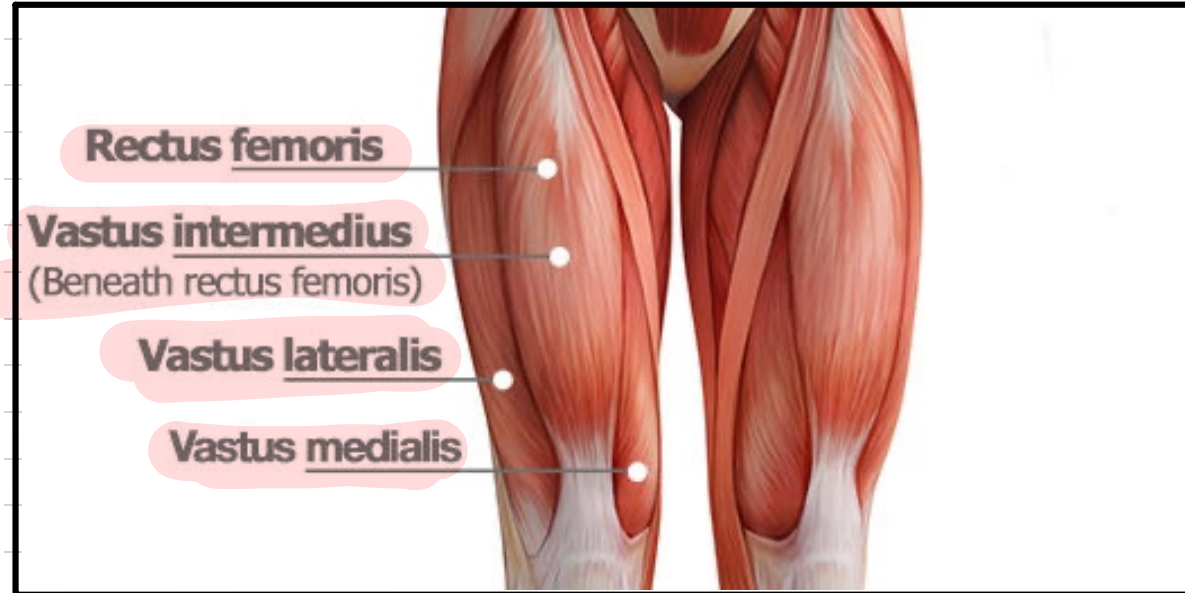
✓ **Action :** extends knee.  
(rectus femoris) flexes thigh also.

The main extension for the knee \ leg





-  Psoas major
-  Iliacus
-  Rectus femoris
-  Vastus medialis
-  Vastus lateralis
-  Sartorius
-  Pectineus



## Medial Compartment of the Thigh (Adductors)

### I. Muscles *Adduction for the thigh*

1. Adductor longus *Long*

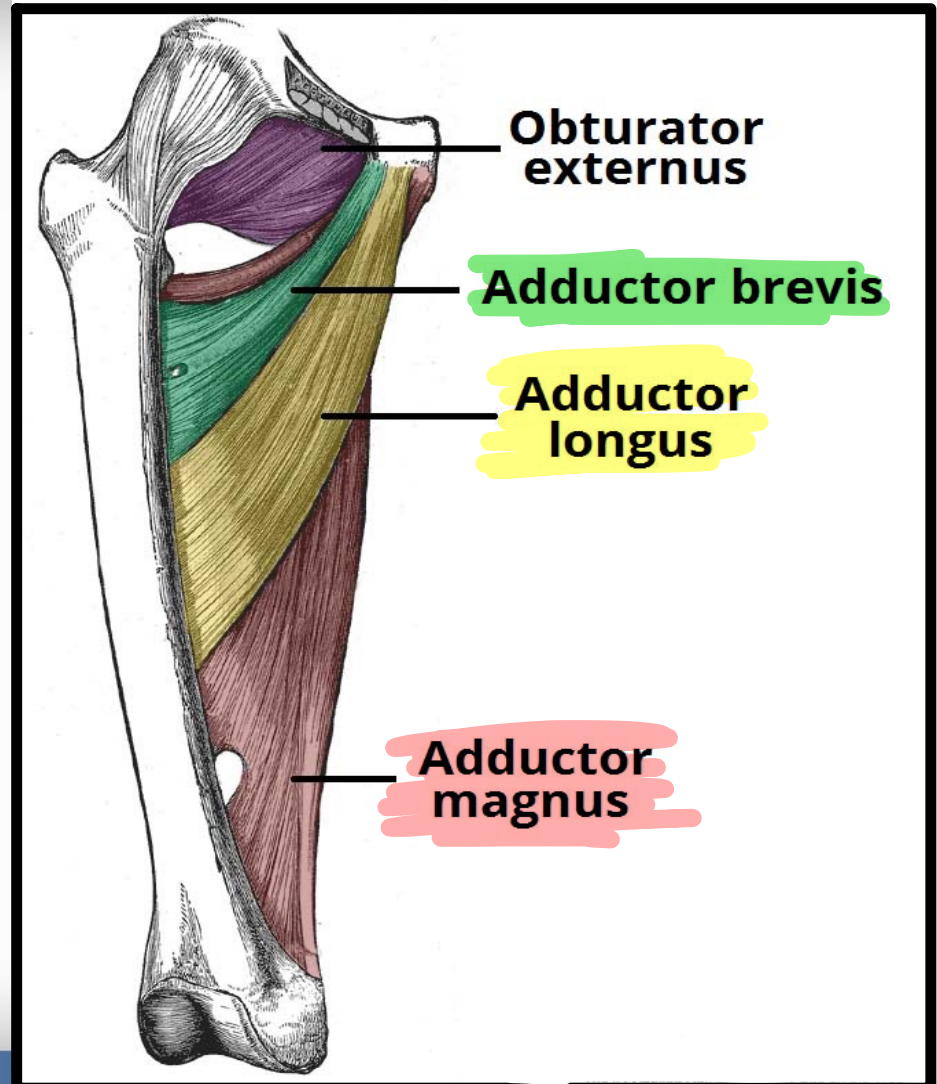
2. Adductor brevis *Short*

3. Adductor magnus (pubic head)

4. Gracilis *Long*  *Long and bulky*

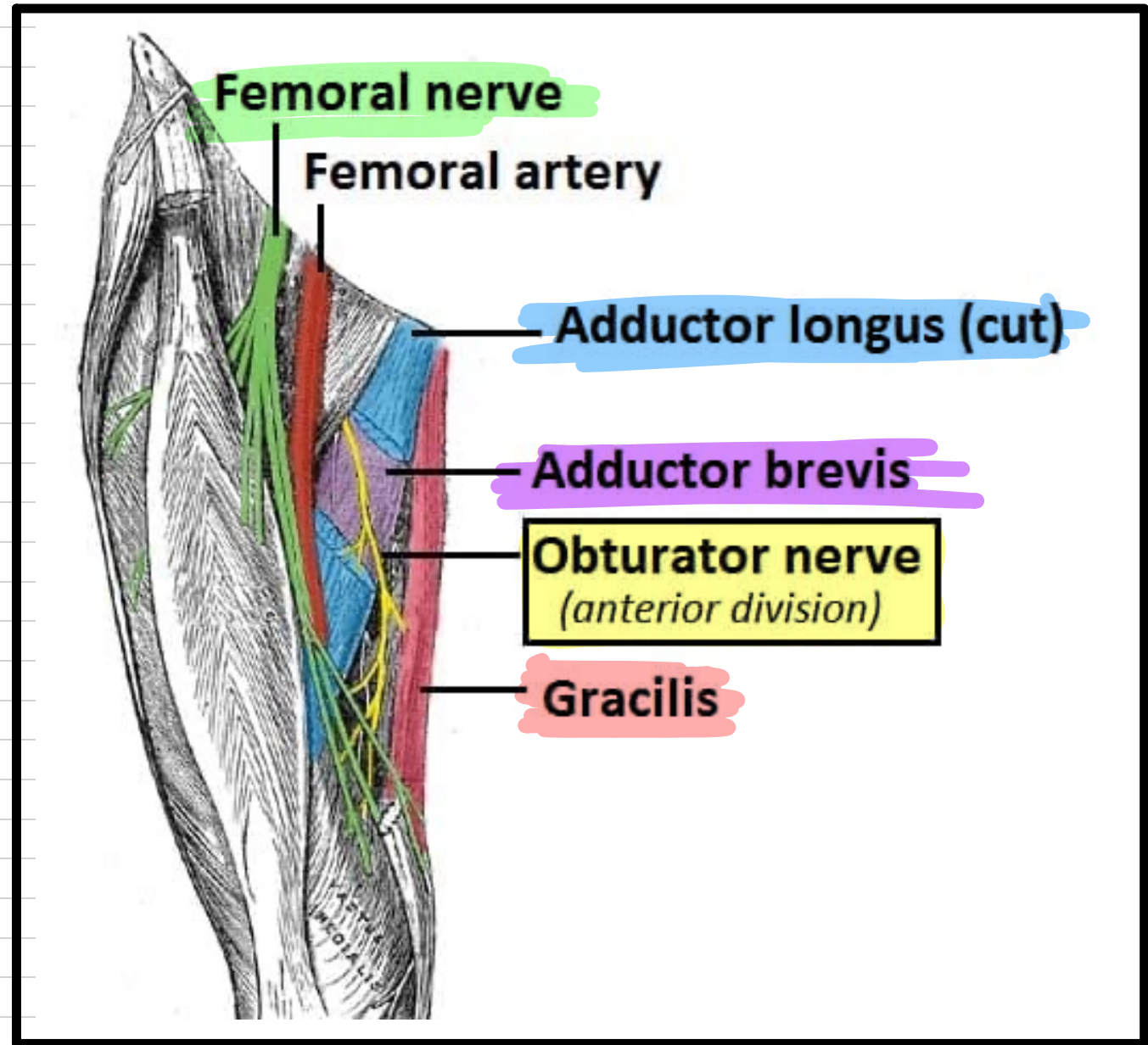
*This muscle has two part one posterior and the other is medial  
one : it's origin is the ischial bone and the other is the pubic bone*

All are innervated by the  
(OBTURATOR nerve)





*Gracilis*

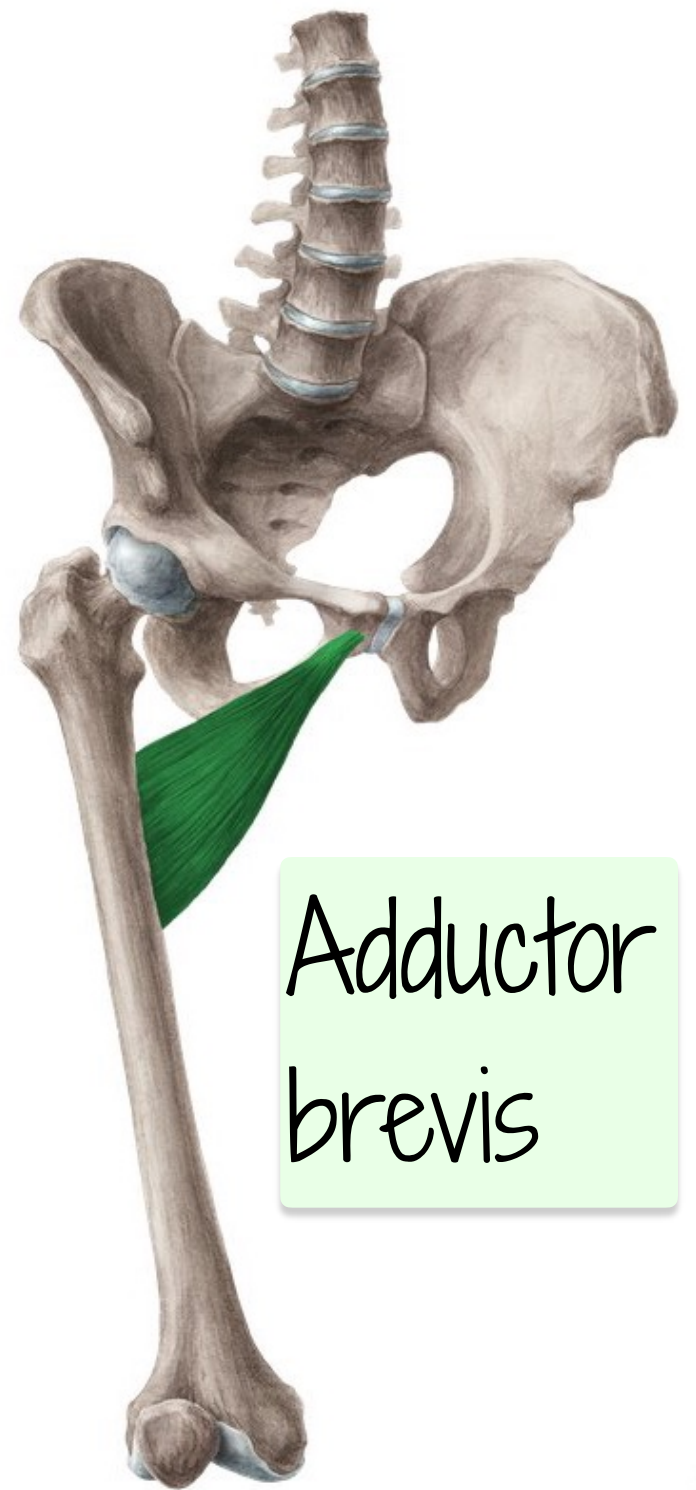




Adductor longus



Adductor magnus (pubic head)

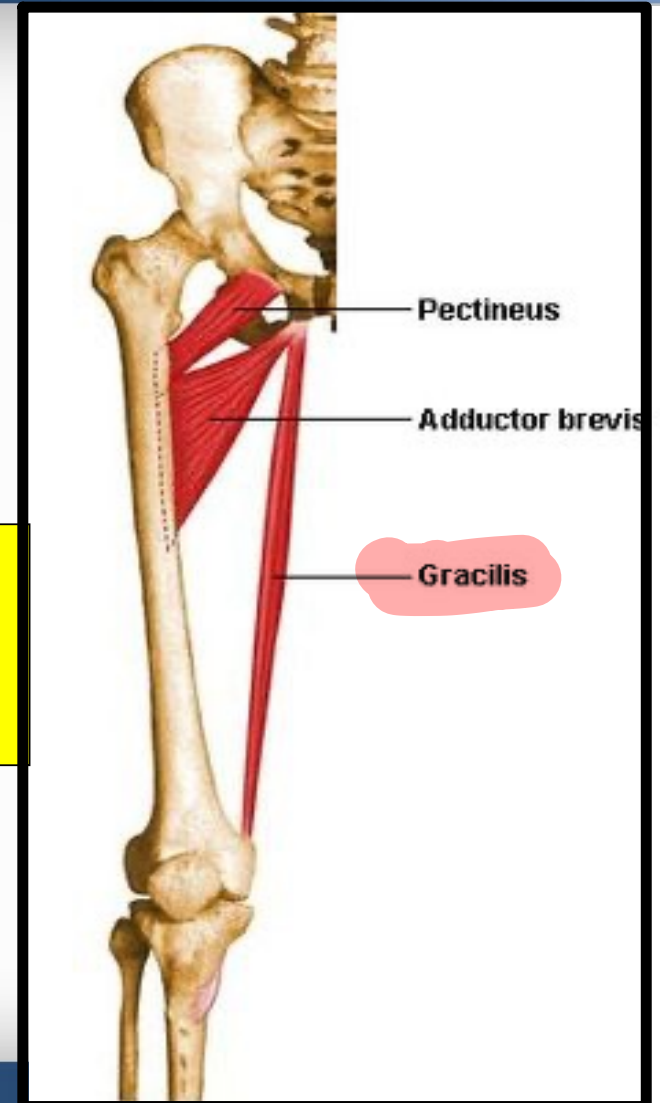
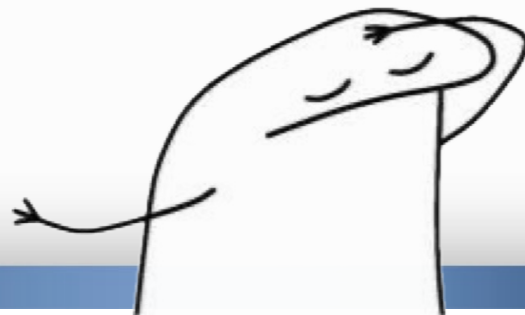


Adductor brevis

# Muscles of the Medial Compartment of the Thigh

Action : Adductors : adducts thigh

( Gracilis Adducts thigh , flexes and medial, rotates the leg )



Supply all the posterior muscle of the thigh and leg and the foot

Sciatic nerve

The largest nerve in the body

Common fibular

Tibial nerve

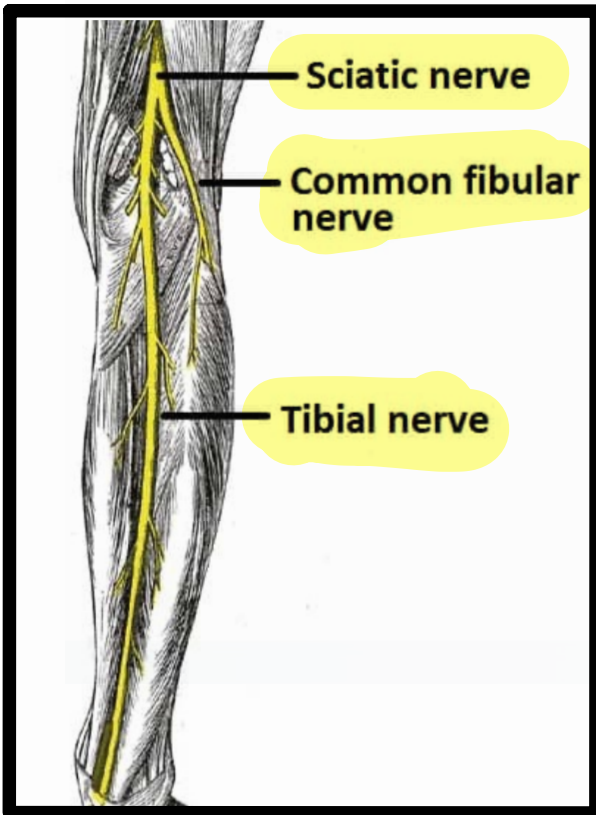
Common peroneal

Medial

Lateral

Superficial peroneal

Deep peroneal





## Posterior Compartment of thigh - Hamstring

a group of three muscles that run along the back of the thigh from the hip to just below the knee

lateral

1. Biceps femoris (long and short heads)
2. Semitendinosus
3. Semimembranosus
4. Adductor Magnus (Ischial head)

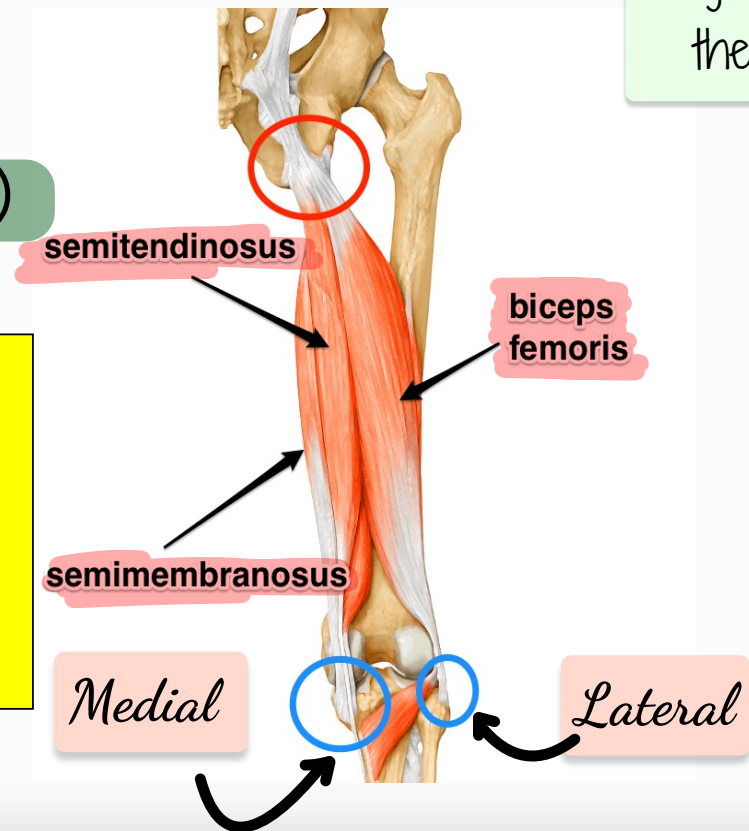
M.



All are innervated by Tibial branch of Sciatic nerve.

**EXCEPT**

Short head of biceps femoris by common peroneal branch of Sciatic nerve



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*It doesn't have an  
Origin to the hip joint*

**Action :**

All are Extends the hip (**EXCEPT** short head of Biceps ) and flexes  
the knee

Lateral muscle rotate the knee laterally

Medial muscle rotate the knee medially

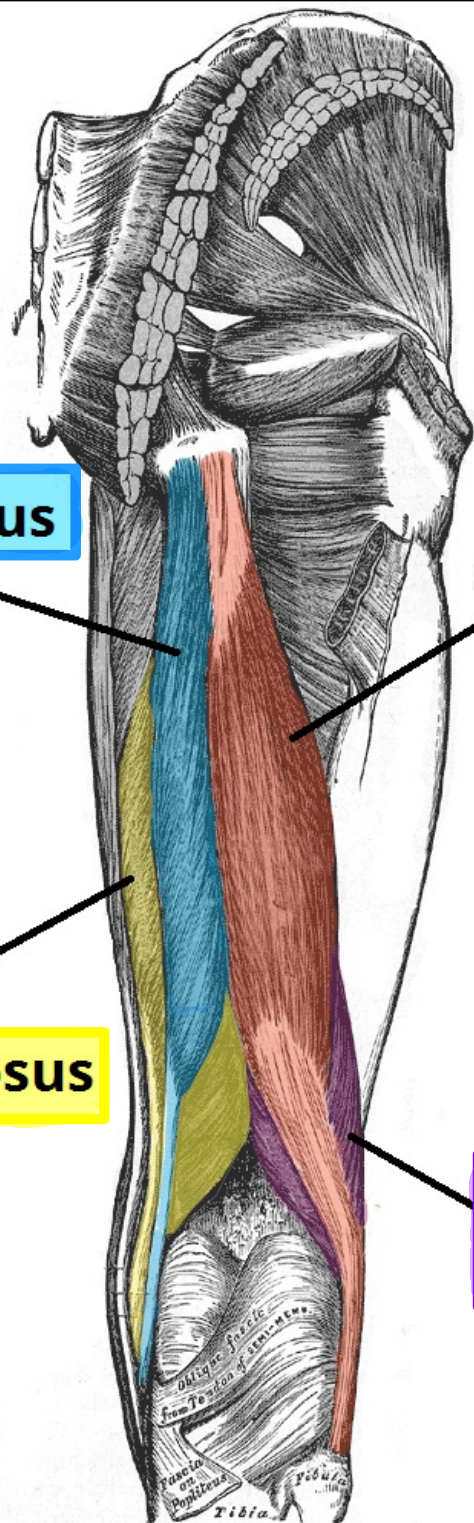


**Semitendinosus**

**Biceps femoris  
(long head)**

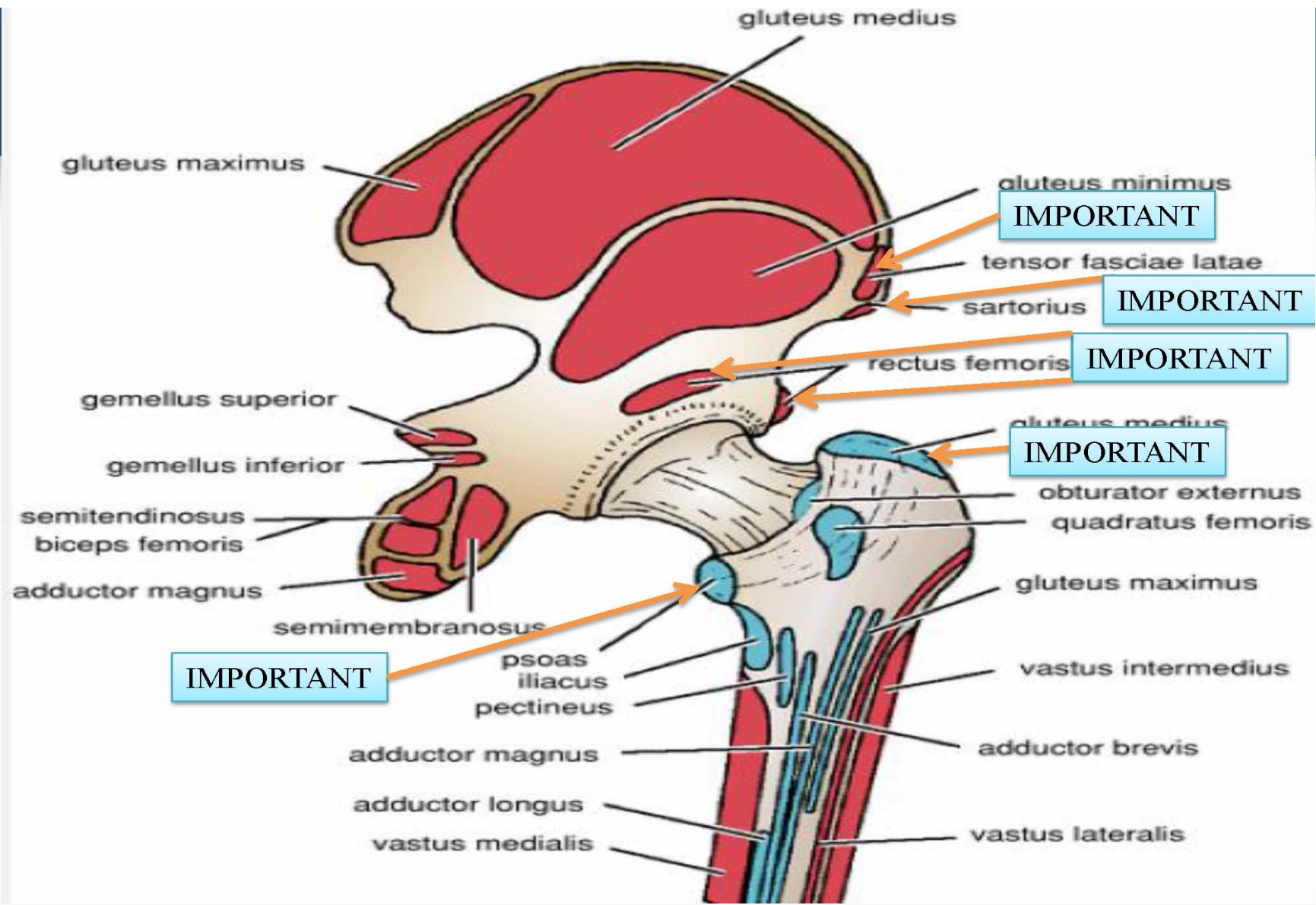
**Semimembranosus**

**Biceps femoris  
(short head)**



## Thigh compartments

	<b>ANTERIOR COMPARTMENT</b>	<b>MEDIAL COMPARTMENT</b>	<b>POSTERIOR COMPARTMENT</b>
<b>MUSCLES</b>	Quadriceps + Iliopsoas , Sartorius	Adductors + Gracilis	Hamstrings
<b>MOVEMENT (Mainly)</b>	Flexion of thigh Extension of leg	Adduction of thigh	Extension of thigh Flexion of leg
<b>Motor NERVE Supply</b>	Femoral n.	Obturator N.	Sciatic n.



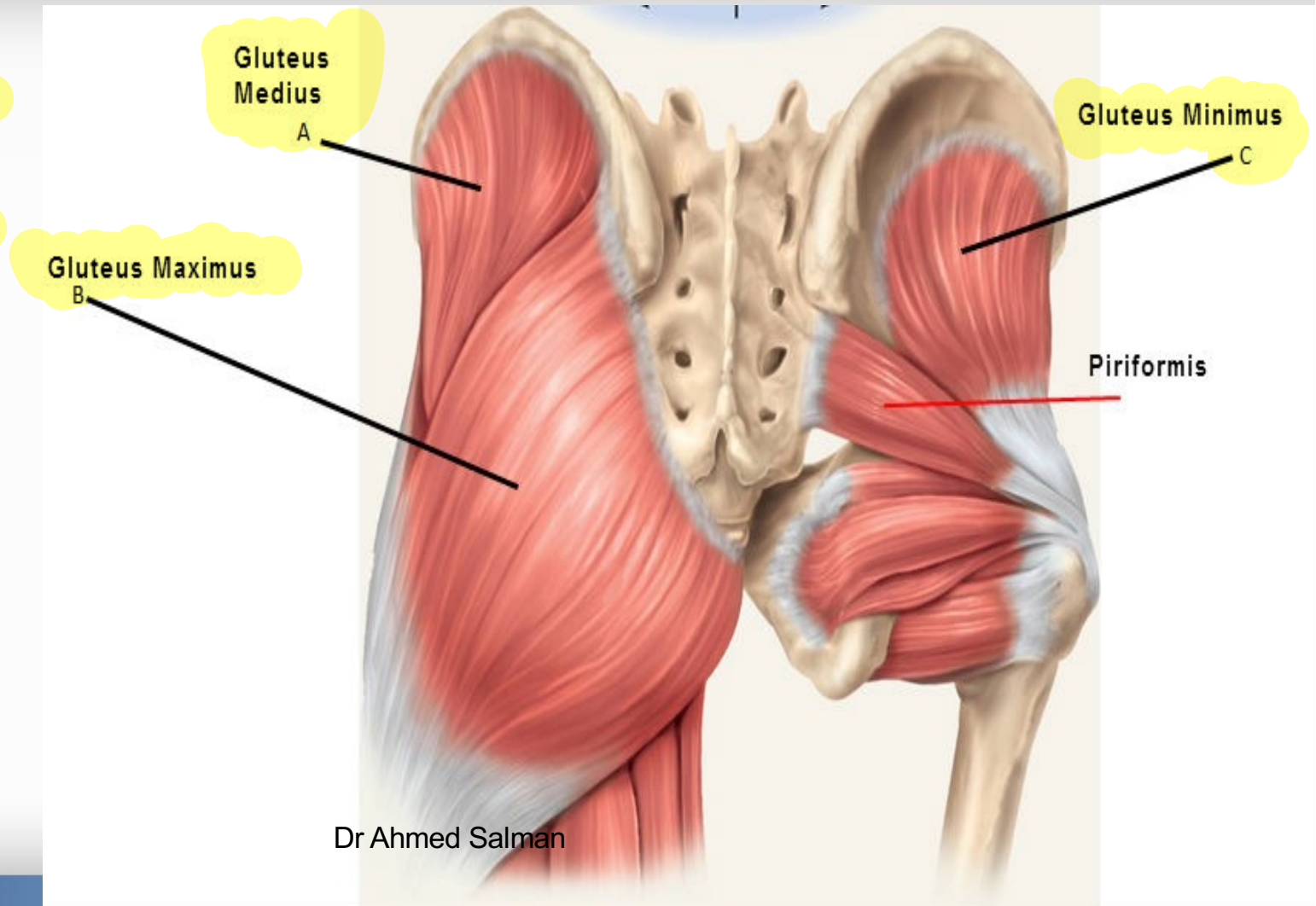
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# Gluteal Region

## I- Muscles

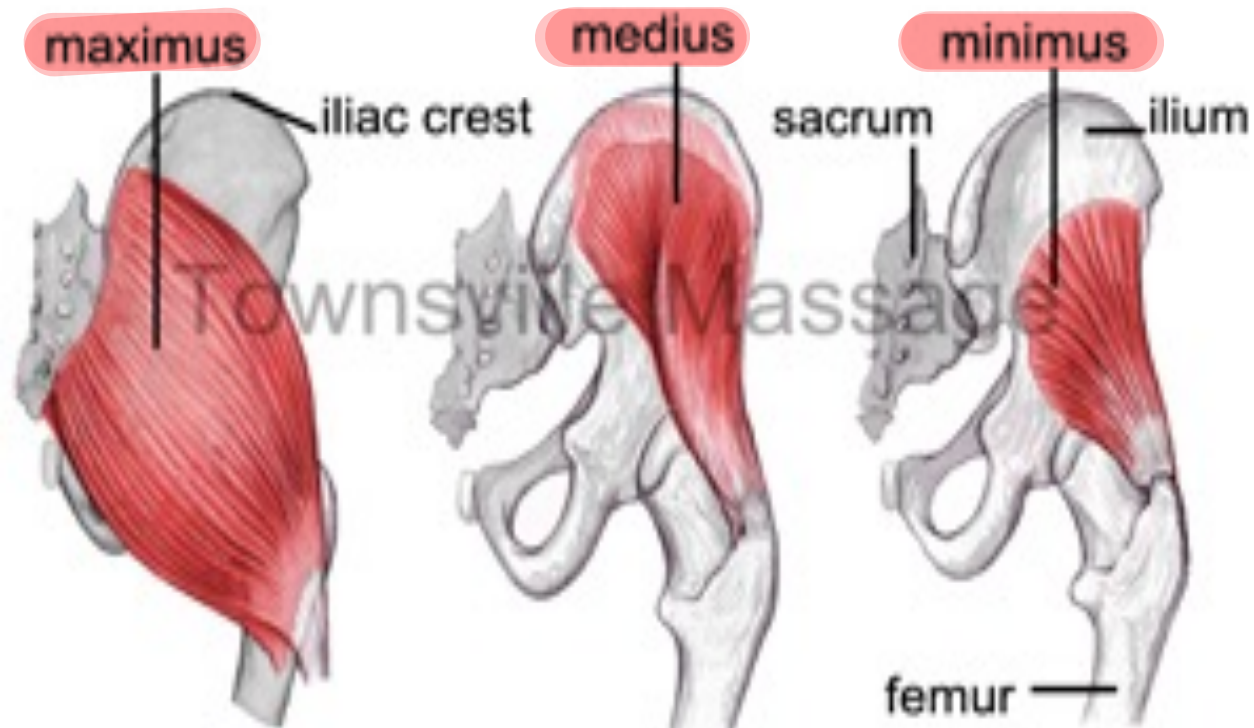
1. Gluteus maximus
2. Gluteus medius
3. Gluteus minimus

*Superficial Muscle*



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# Gluteal Muscles



All are innervated by the Superior gluteal nerve \*

**EXCEPT**

Gluteal maximus by inferior gluteal nerve \*

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A.

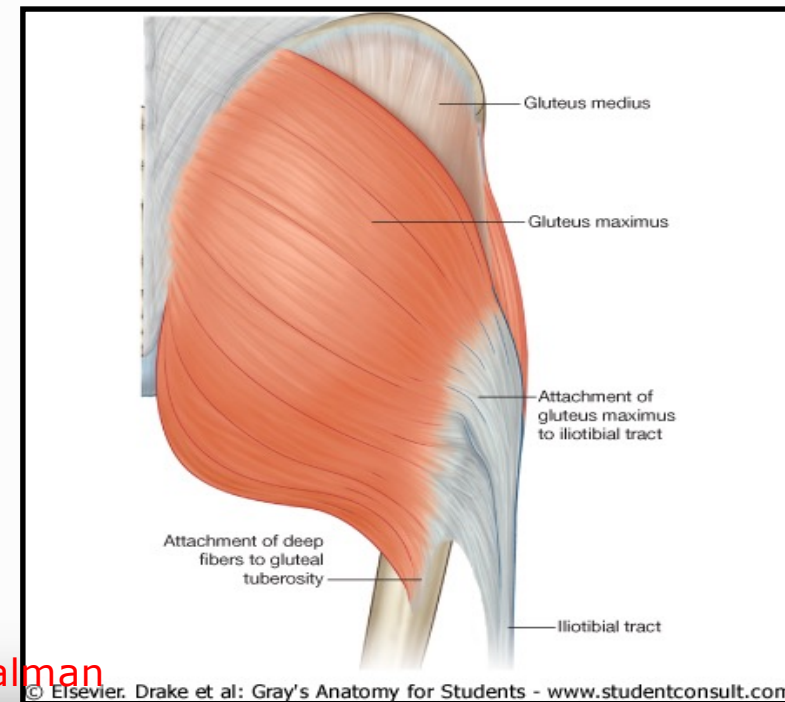
## Gluteus maximus

### ✓ Nerve Supply:

Inferior gluteal nerve

### ✓ Action :

Extends and lateral rotation of thigh.



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B.

# Gluteus medius and minimus

C.

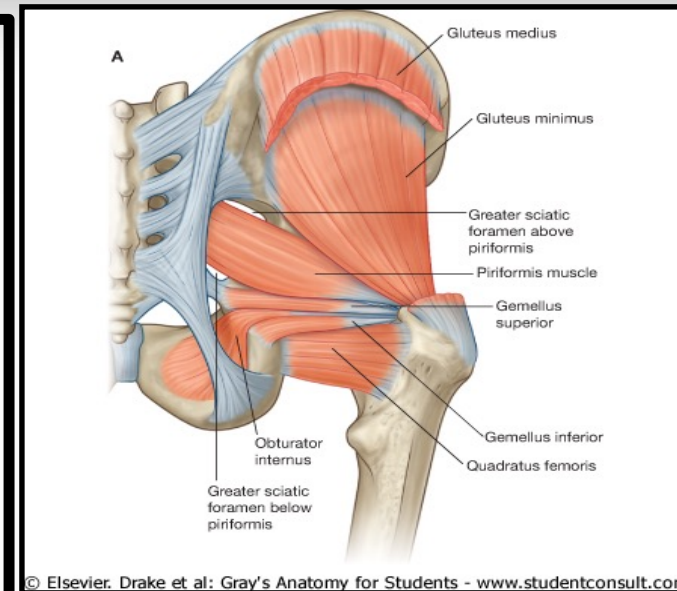
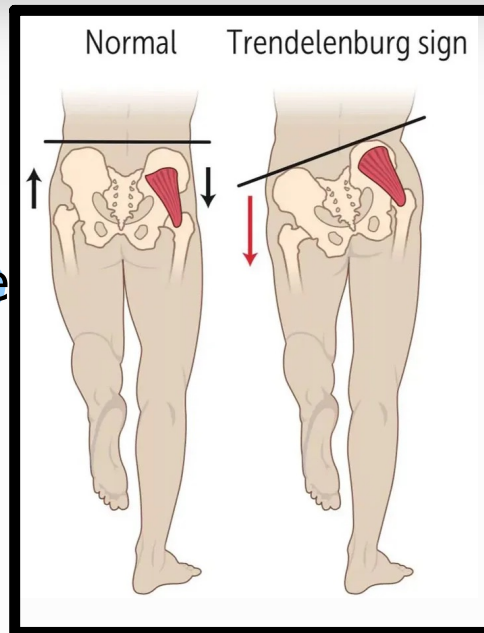
✓ **Nerve supply :**

Superior gluteal nerve

✓ **Action :**

❖ Abduction

❖ Prevent tilting of the pelvis when the opposite limb is raised

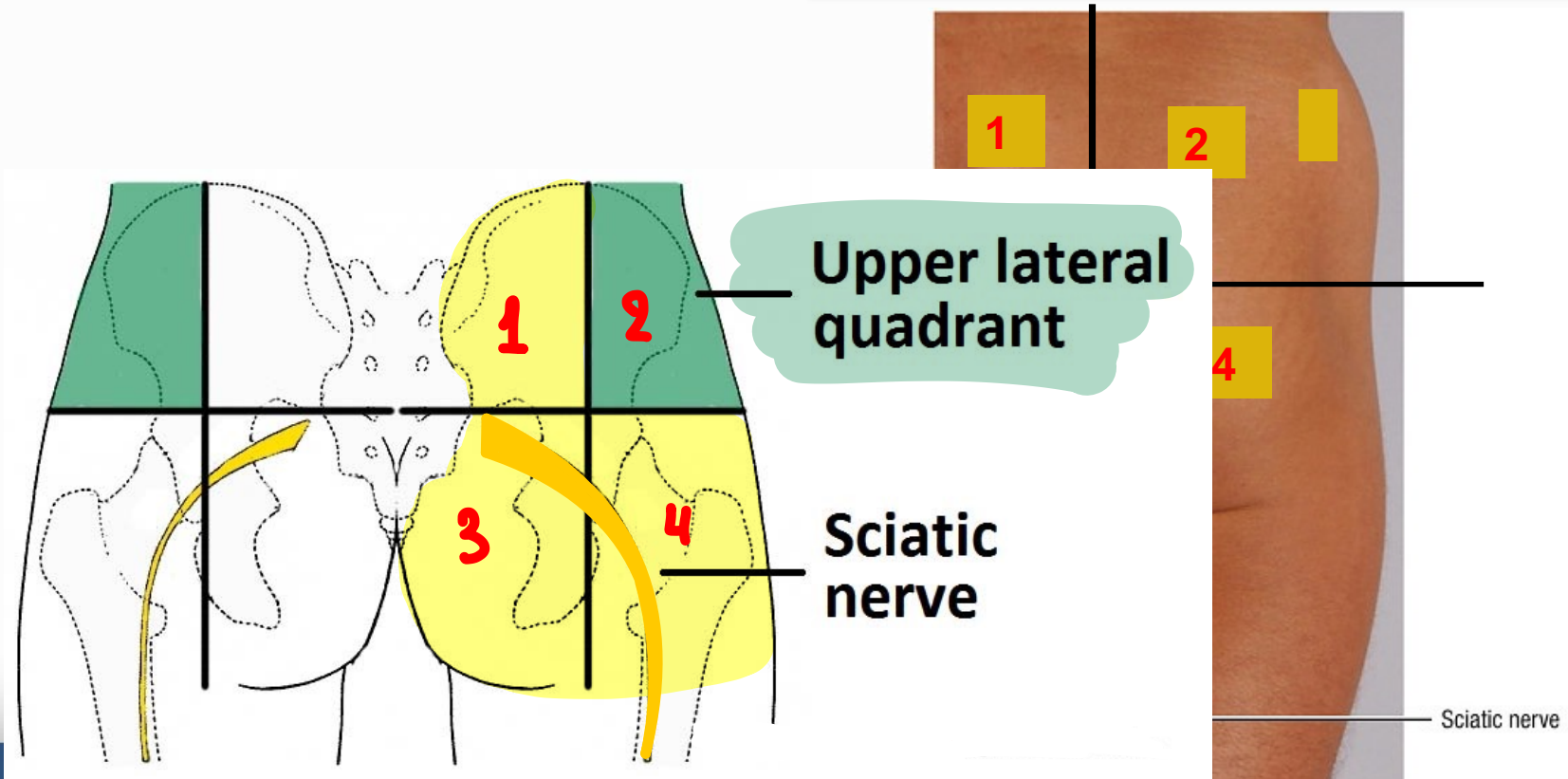


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# CLINICAL ANATOMY

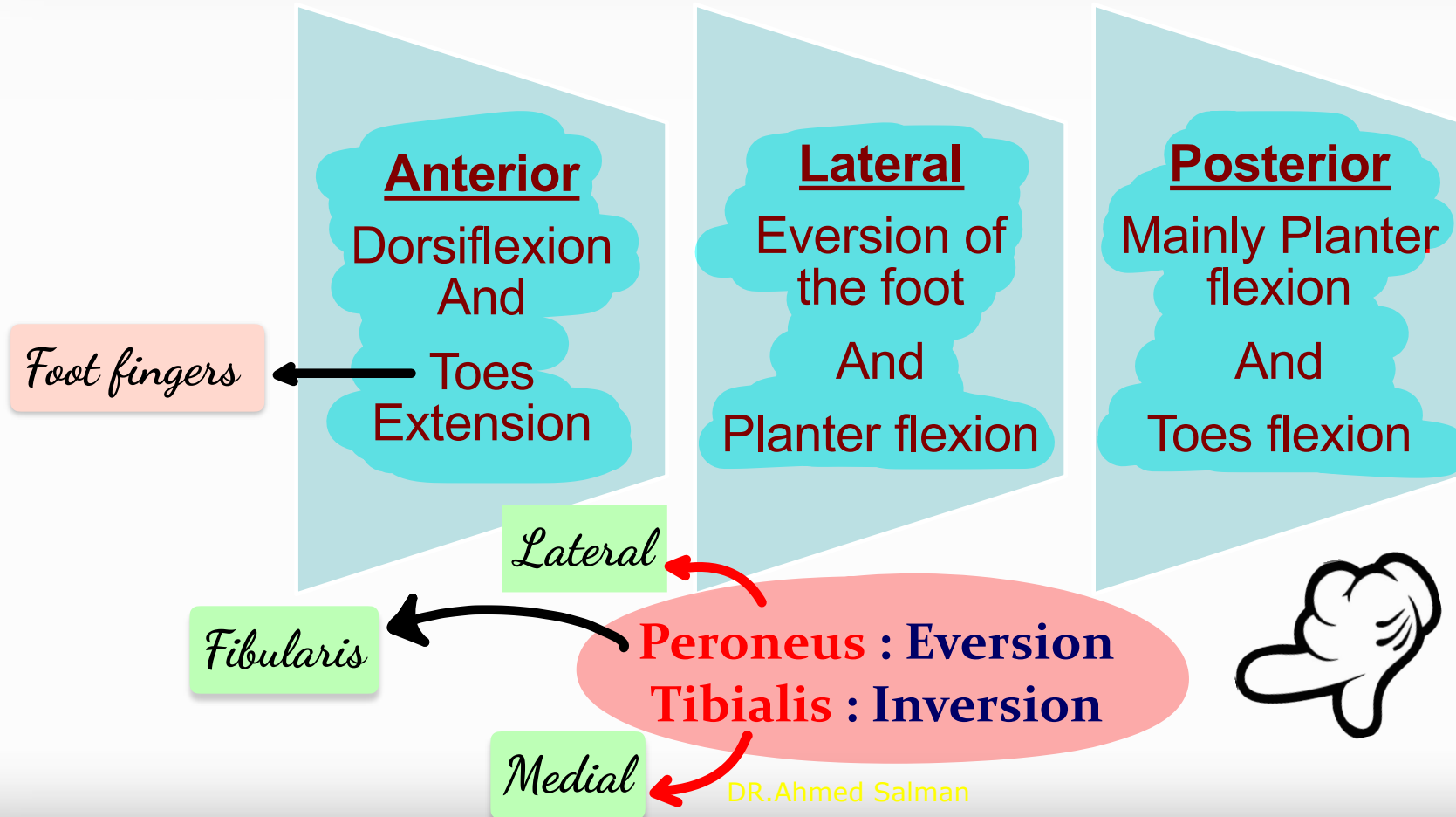
- I.M (Intramuscular injection)  
Which the most suitable quadrangle for IM injection?

*If you want to give a intramuscular injection for a baby : The most suitable muscle is in the thigh = on the quadriceps femorus muscle*



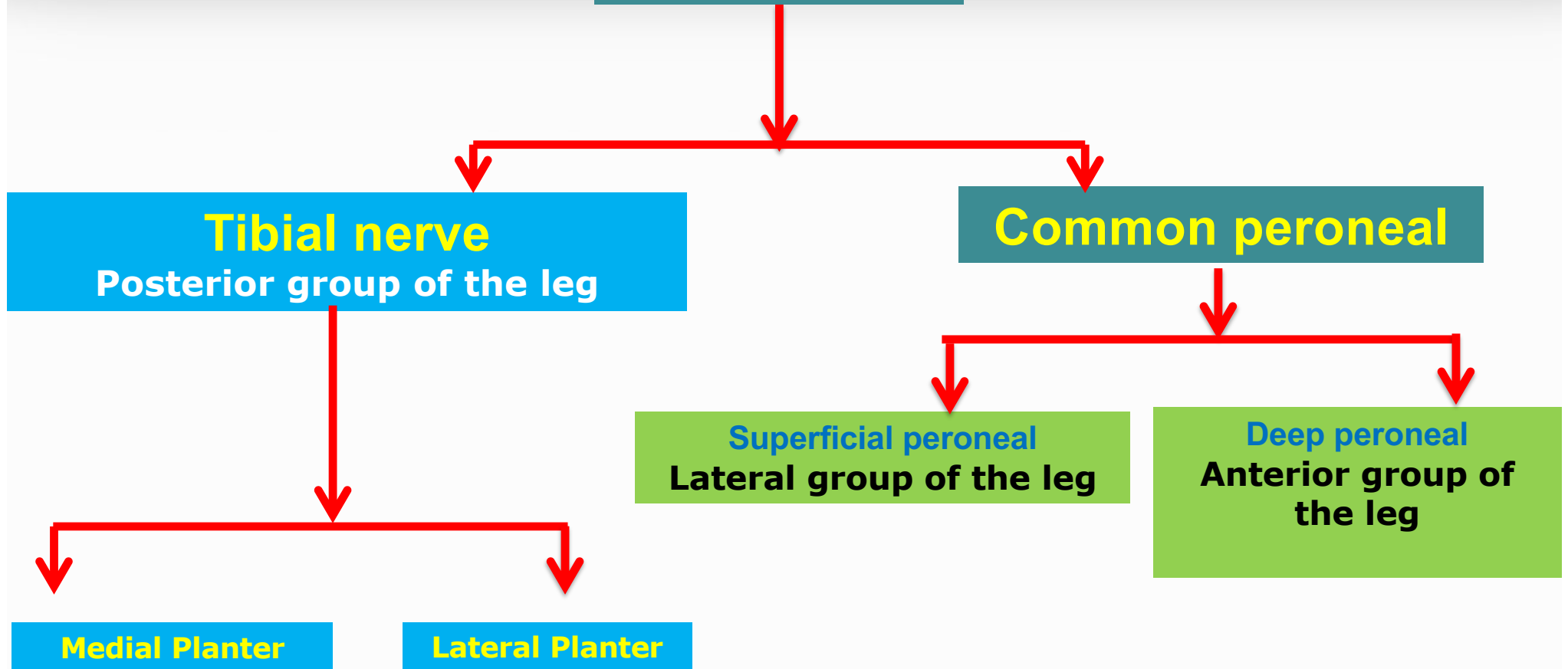
The posterior muscle of the thigh will be Flixor  
The anterior muscle of the thigh will be extensor

## The leg is divided into



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**Sciatic nerve**



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# Muscles of Anterior Compartment

1. Tibialis anterior
2. Extensor hallucis longus
3. Extensor digitorum longus
4. Peroneus tertius

*The big toe*

All are innervated by  
(Deep fibular nerve)

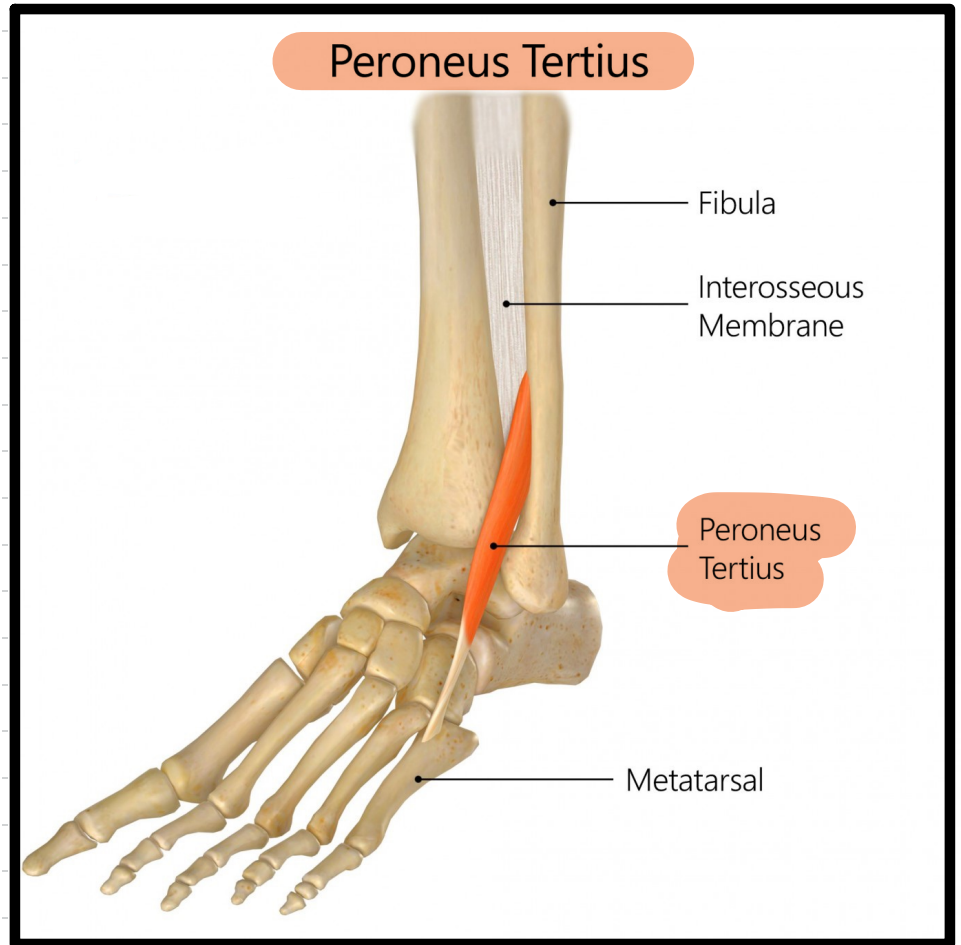
*Small*



Extensor  
hallucis  
longus

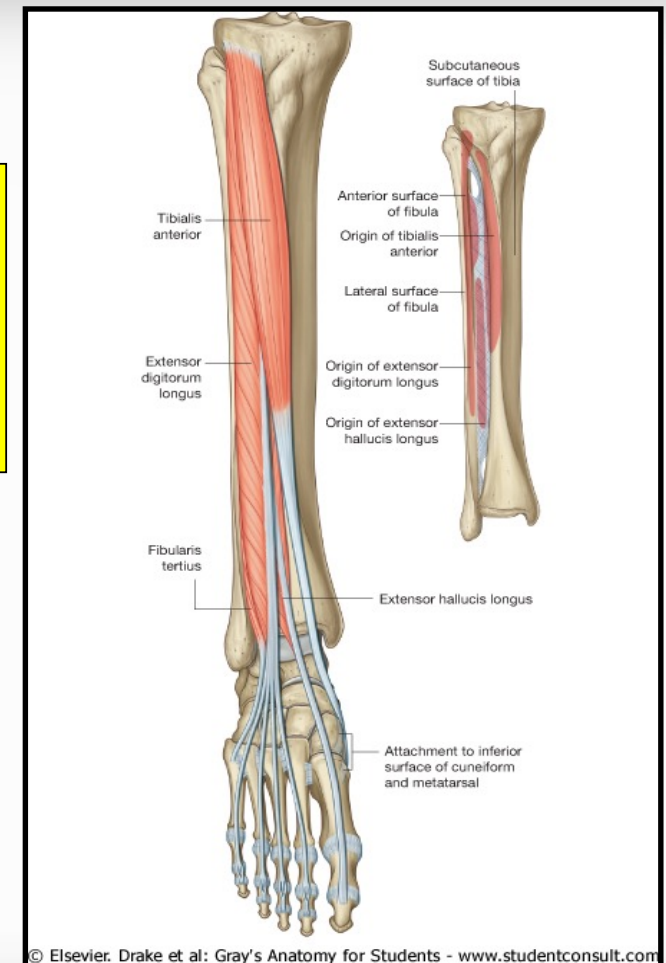
Extensor  
digitorum  
longus

Tibialis anterior



## Muscles of Anterior Compartment

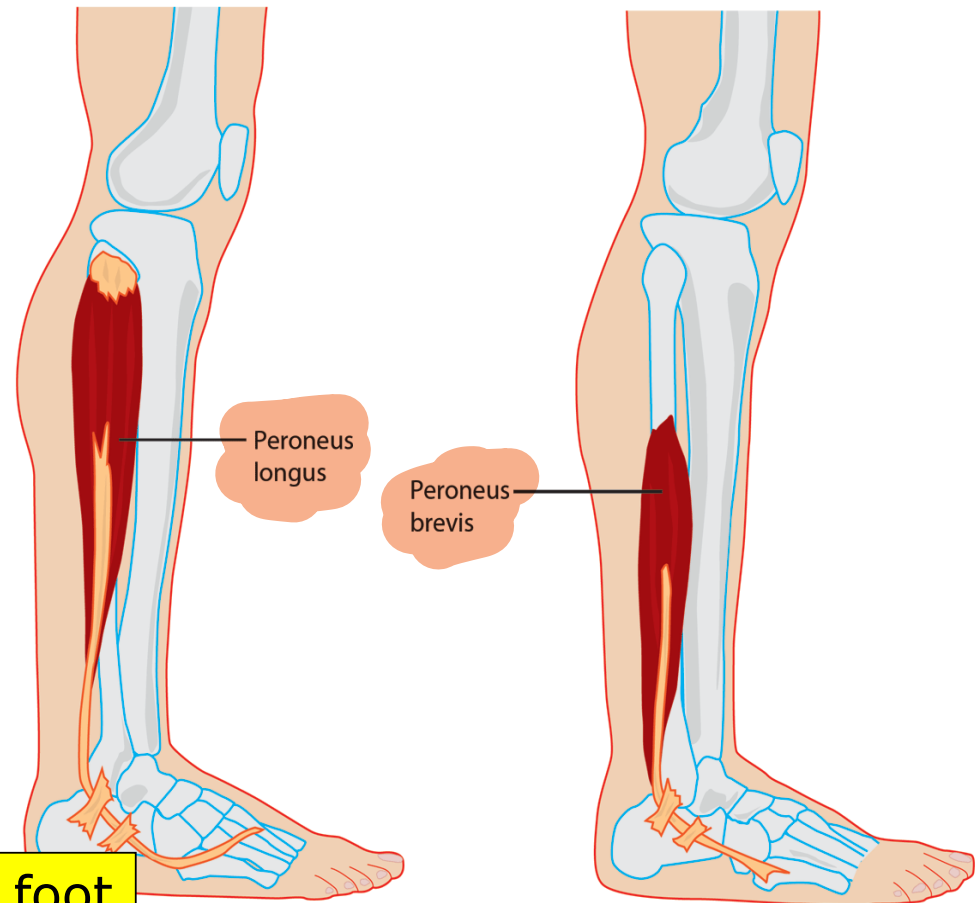
**Action:** All dorsiflexion of the foot Plus  
**Hallucis :** Extends big toe  
**Dgitorum :** Extends four toes  
**Tibialis :** inversion of the foot  
**Peroneus :** eversion of the foot



# Lateral Compartment

1. Fibularis (peroneus) longus
2. Fibularis (peroneus) brevis

All are innervated by  
(the Superficial fibular nerve)



Action : plantarflexion and eversion of foot



# Posterior Compartment

## Superficial

1. Gastrocnemius
2. Soleus
3. Plantaris

## Deep

1. Popliteus
2. Tibialis Posterior
3. Flexor digitorum longus
4. Flexor hallucis longus

All are innervated by the (tibial nerve)

Gastrocnemius

Soleus

Plantaris



## Superficial group

**Origin :**

*Gastrocnemius (2 heads)*

*Soleus*

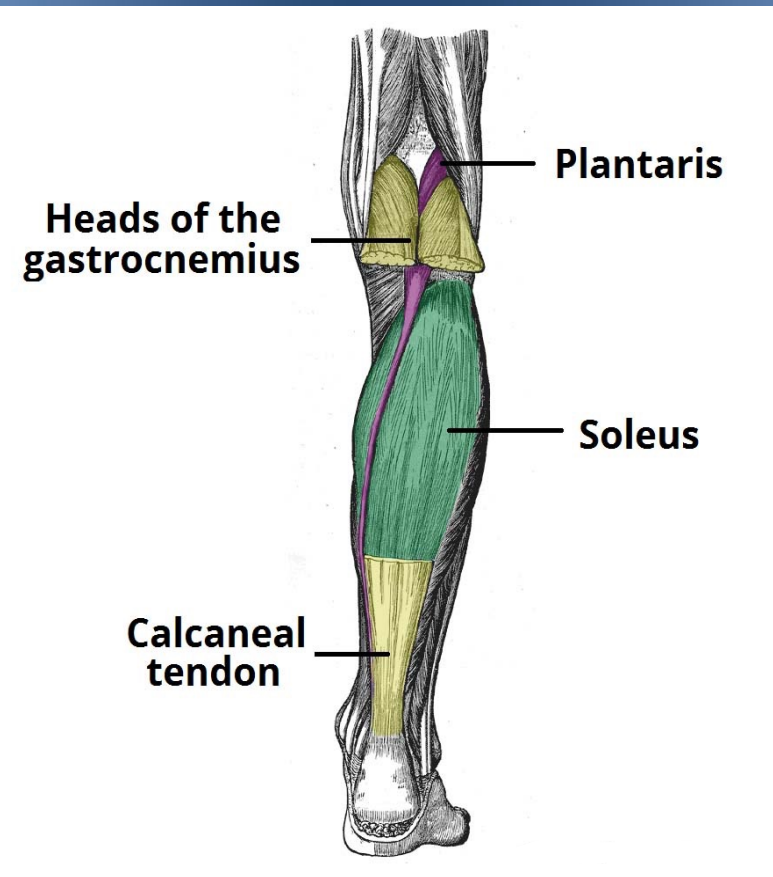
*Plantaris*

**Insertion :** tendo calcaneus

into of Calcaneus bone of the foot



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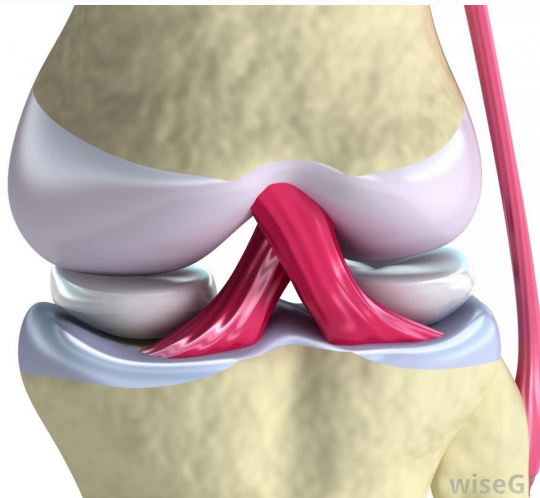
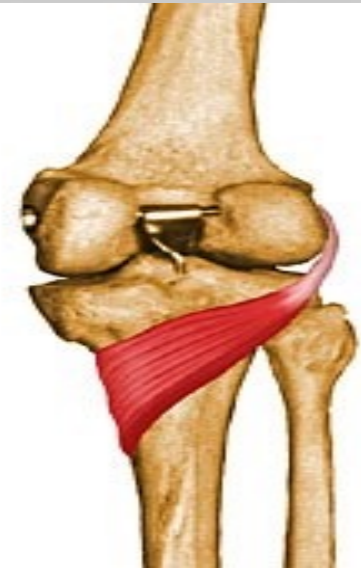


**Action :** Plantarflex foot, weak knee flexion

# Deep Group

## 1- Popliteus

**Action**: Flex and unlock the knee.



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Posterior

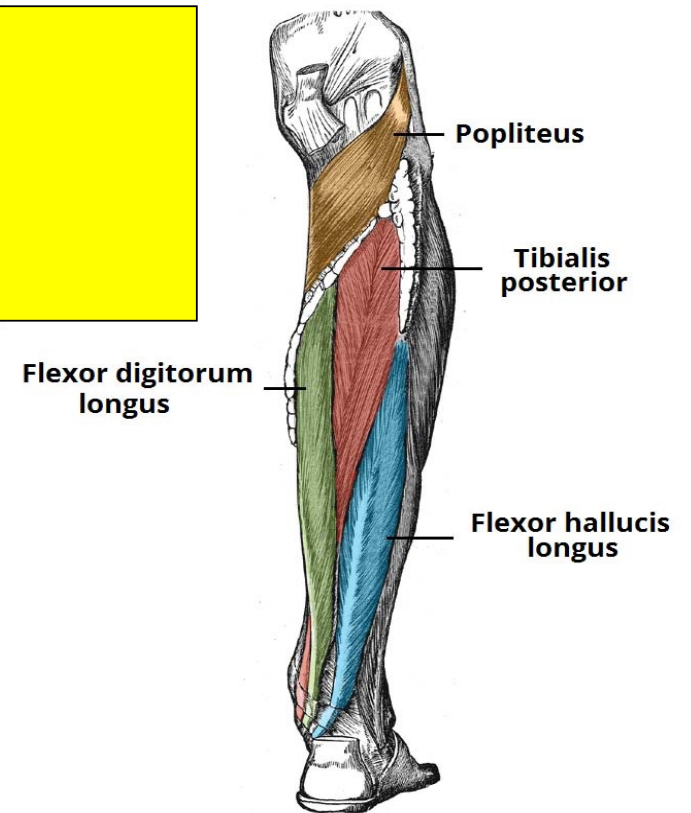
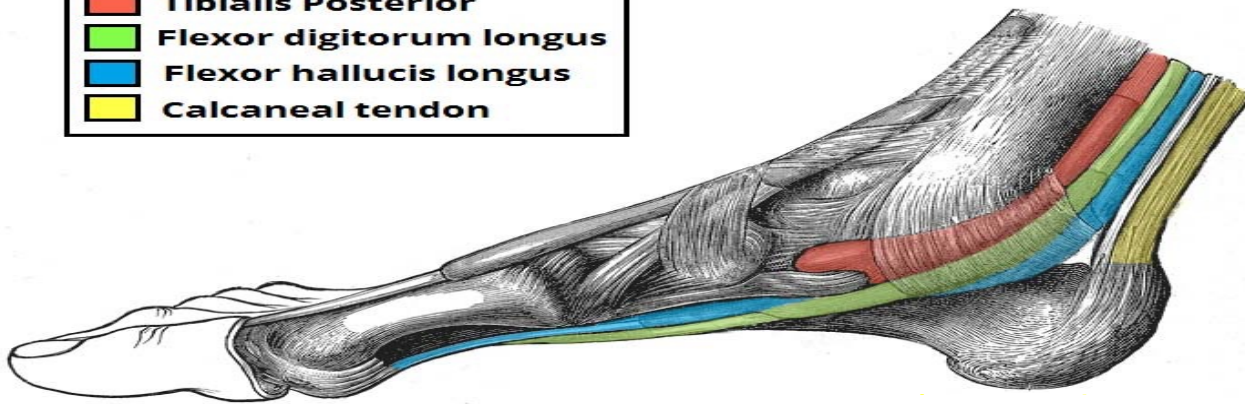
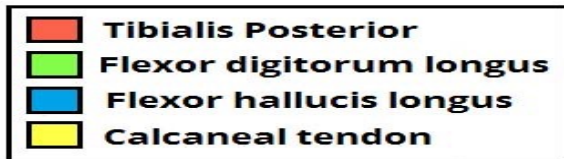
1-Flexor digitorum longus

2-Flexor hallucis longus

3- Tibialis posterior

**Action :** All Plantarflexion of the foot **plus**

- **Flexor digitorum longus** : flexes the toes
- **Flexor hallucis longus** : flexes big toe
- **Tibialis posterior** : inversion of foot







**Thank  
You!!!**