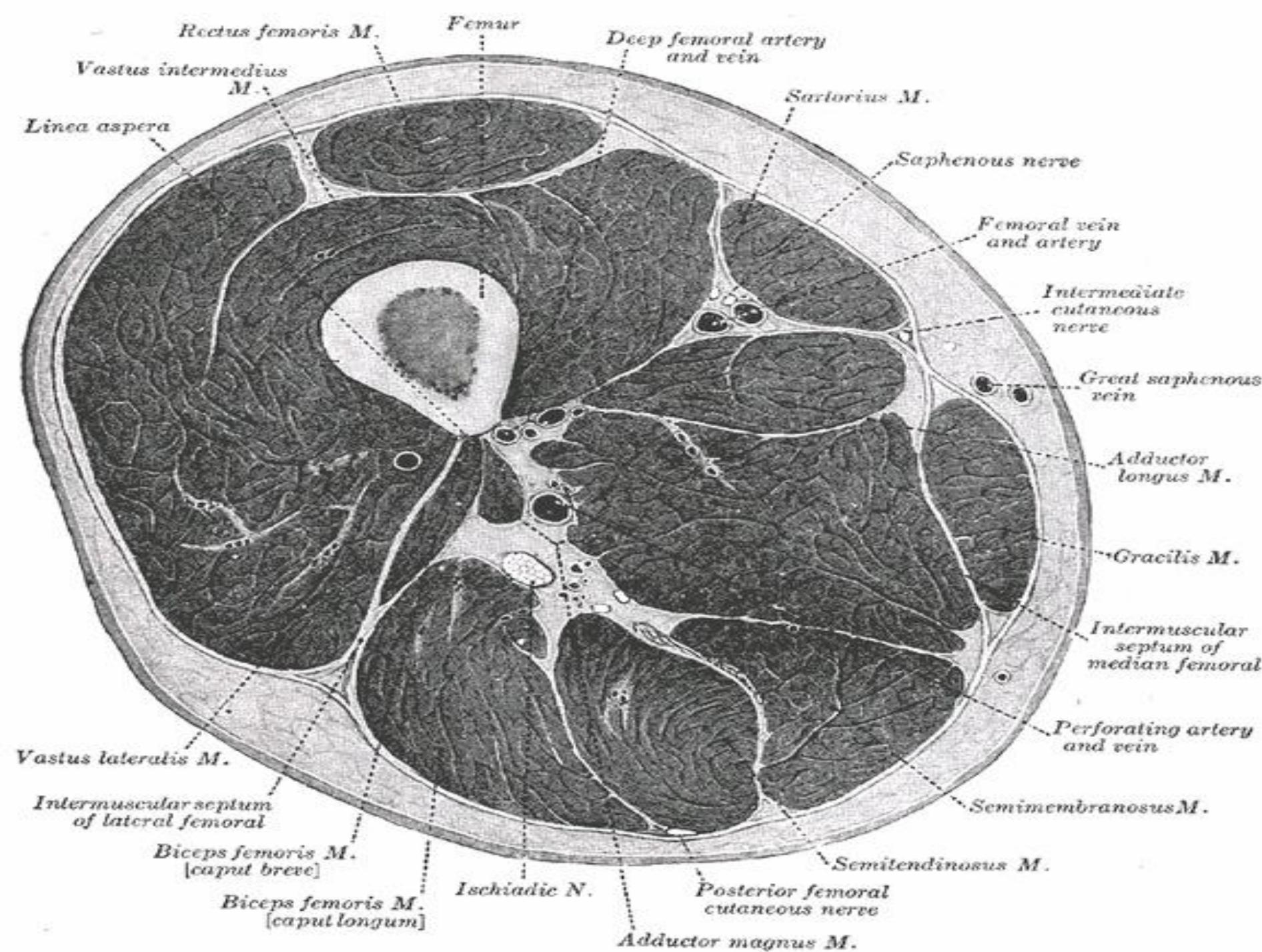
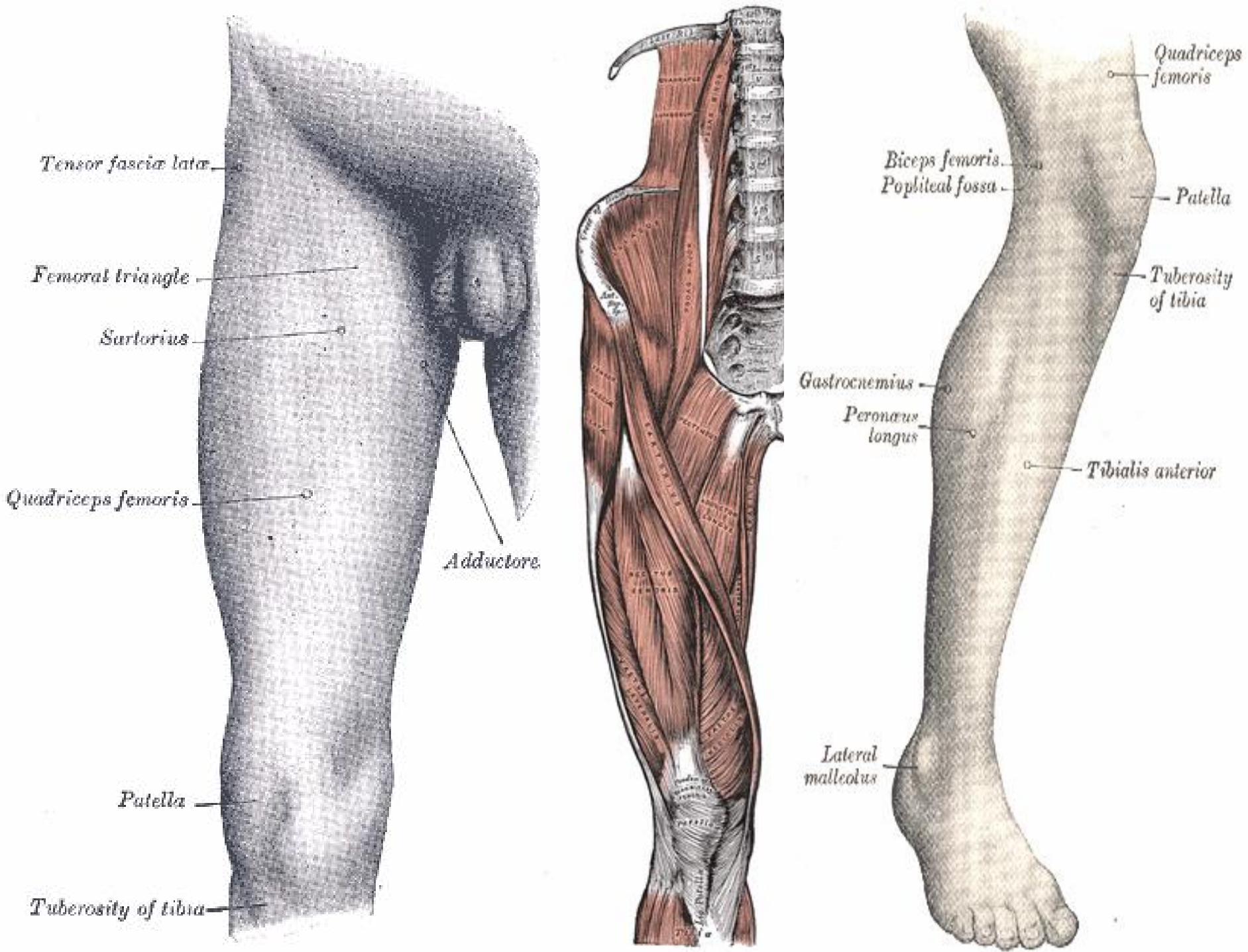


Muscles that Move the Inferior Appendages

Danil Hammoudi.MD

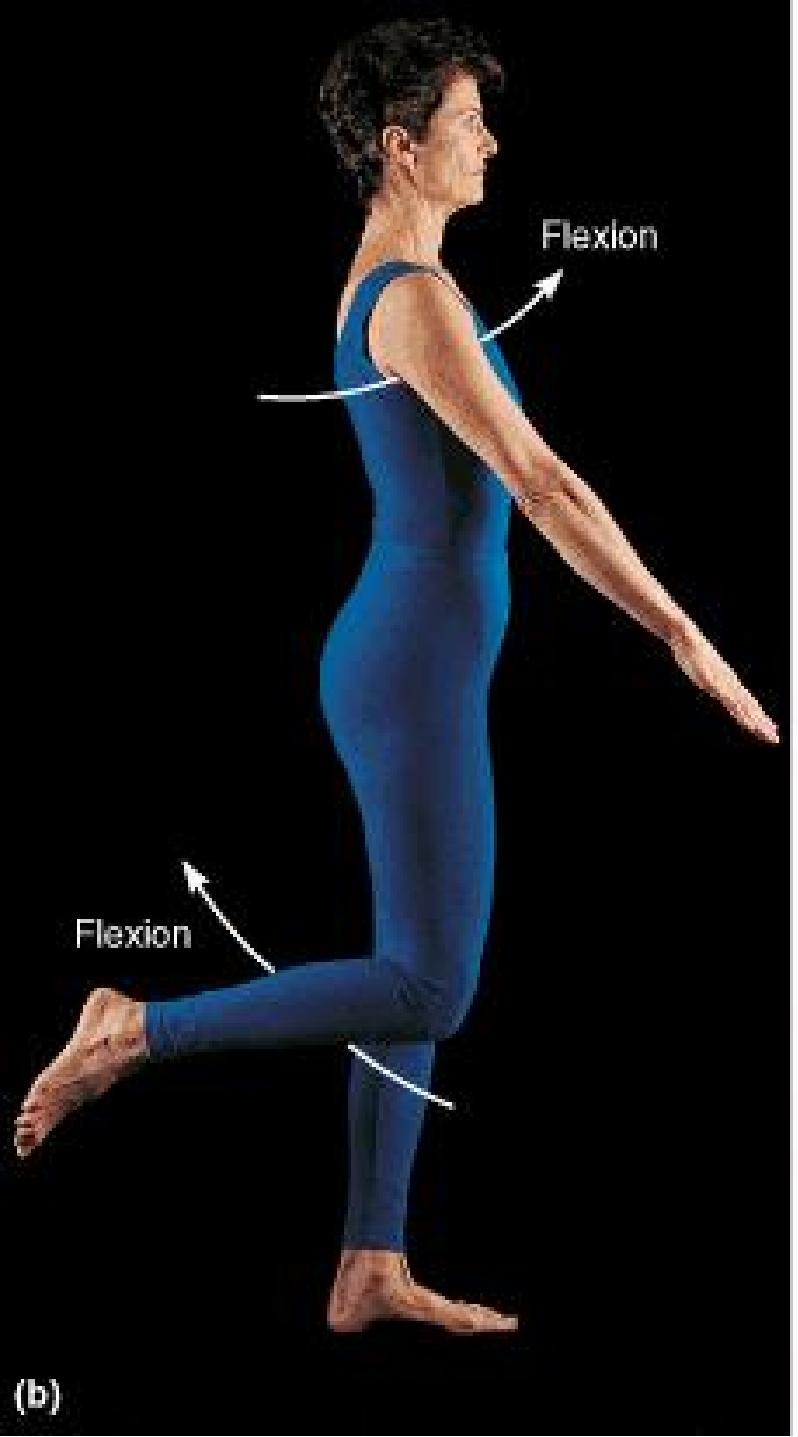




“thigh” refers to that part of the body between the hip and the knee.
The single bone in the thigh is called the femur.

“leg” refers to that part of the body between the knee and the ankle.

“foot” refers to that part of the body distal to the ankle.



(b)



Rotation



Abduction

Adduction



Circumduction

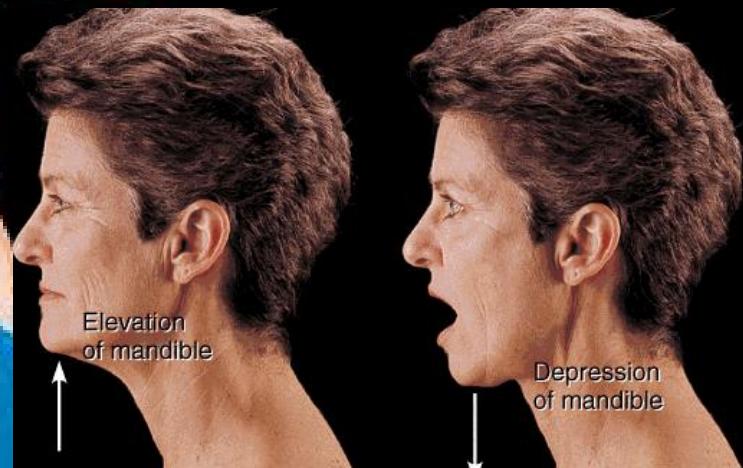
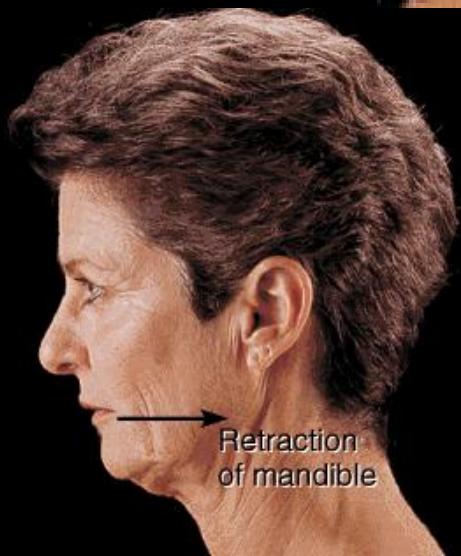
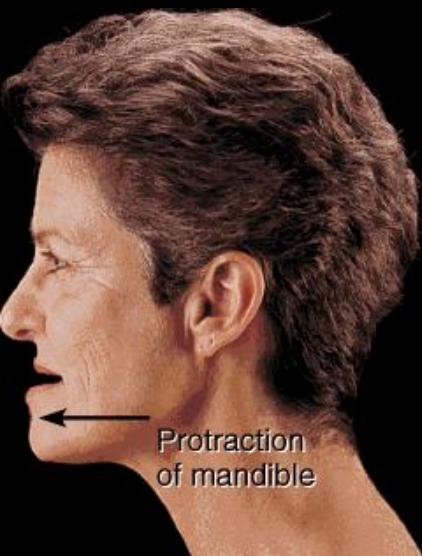
(f)



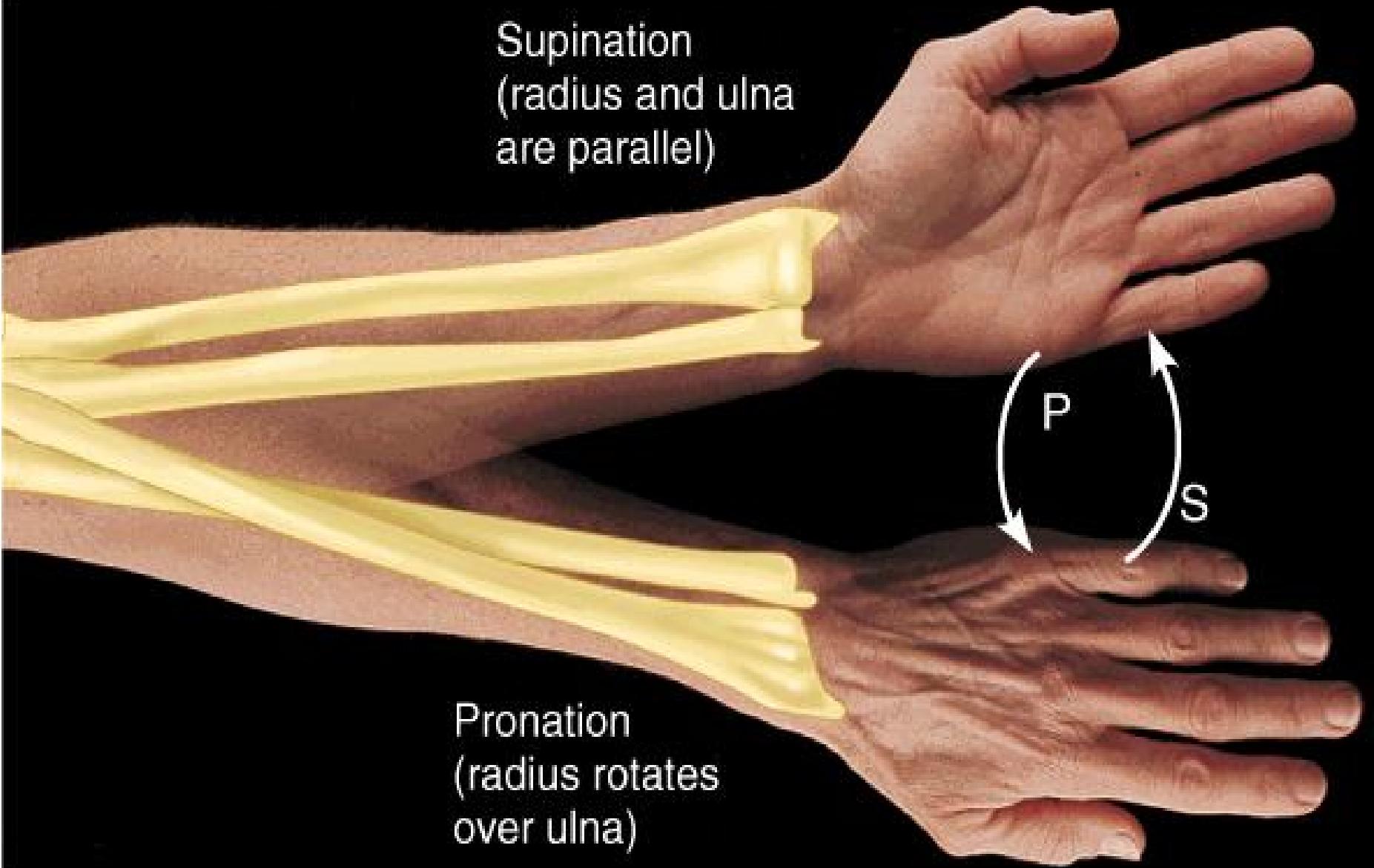
Hyperextension

Extension

Flexion



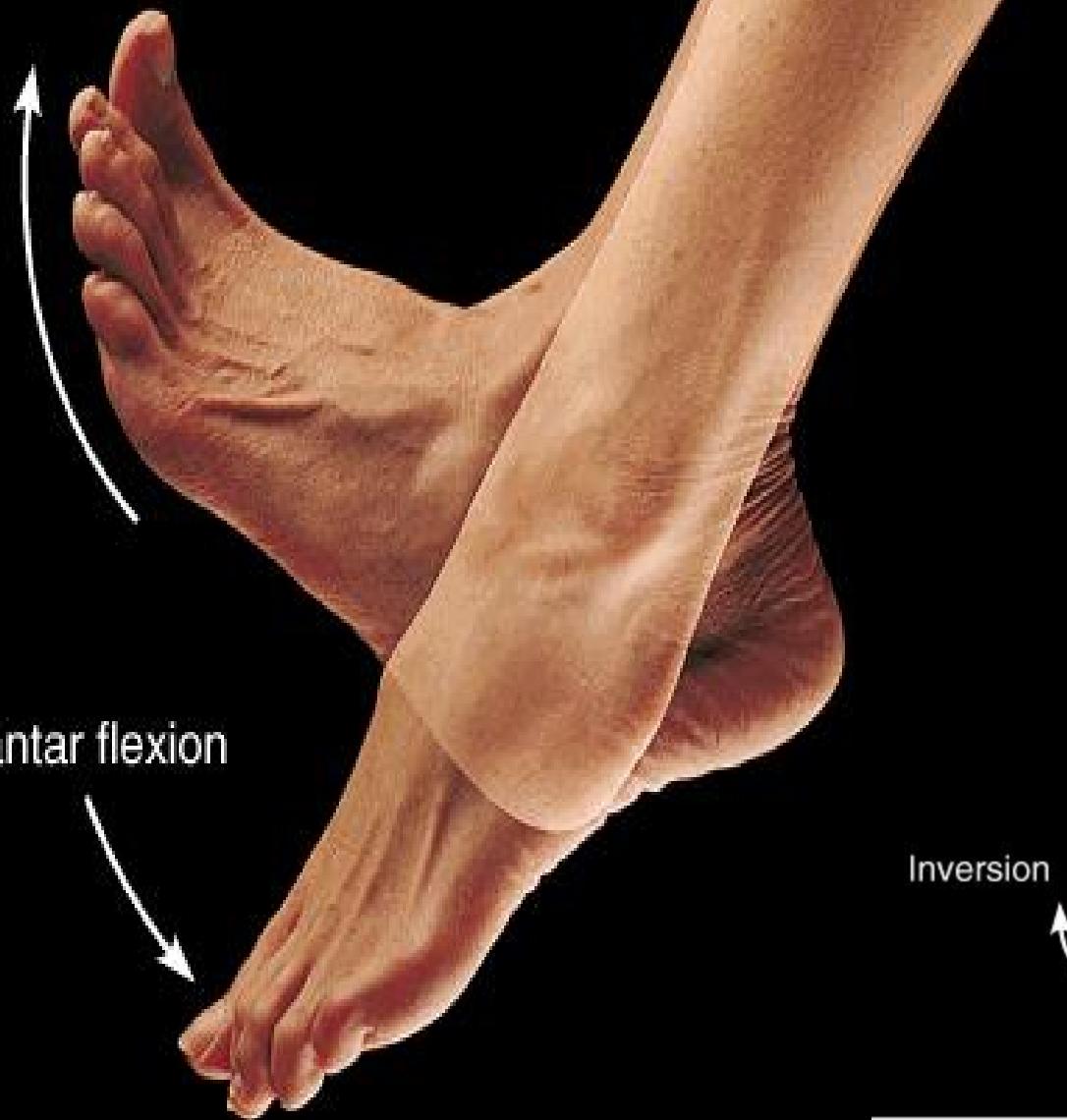
Supination
(radius and ulna
are parallel)



Pronation
(radius rotates
over ulna)

(a) Supination (S) and pronation (P)

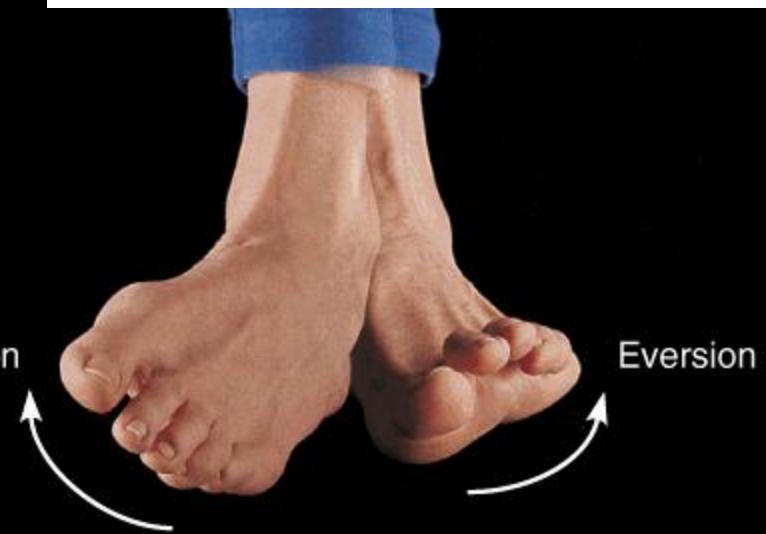
Dorsiflexion



Plantar flexion

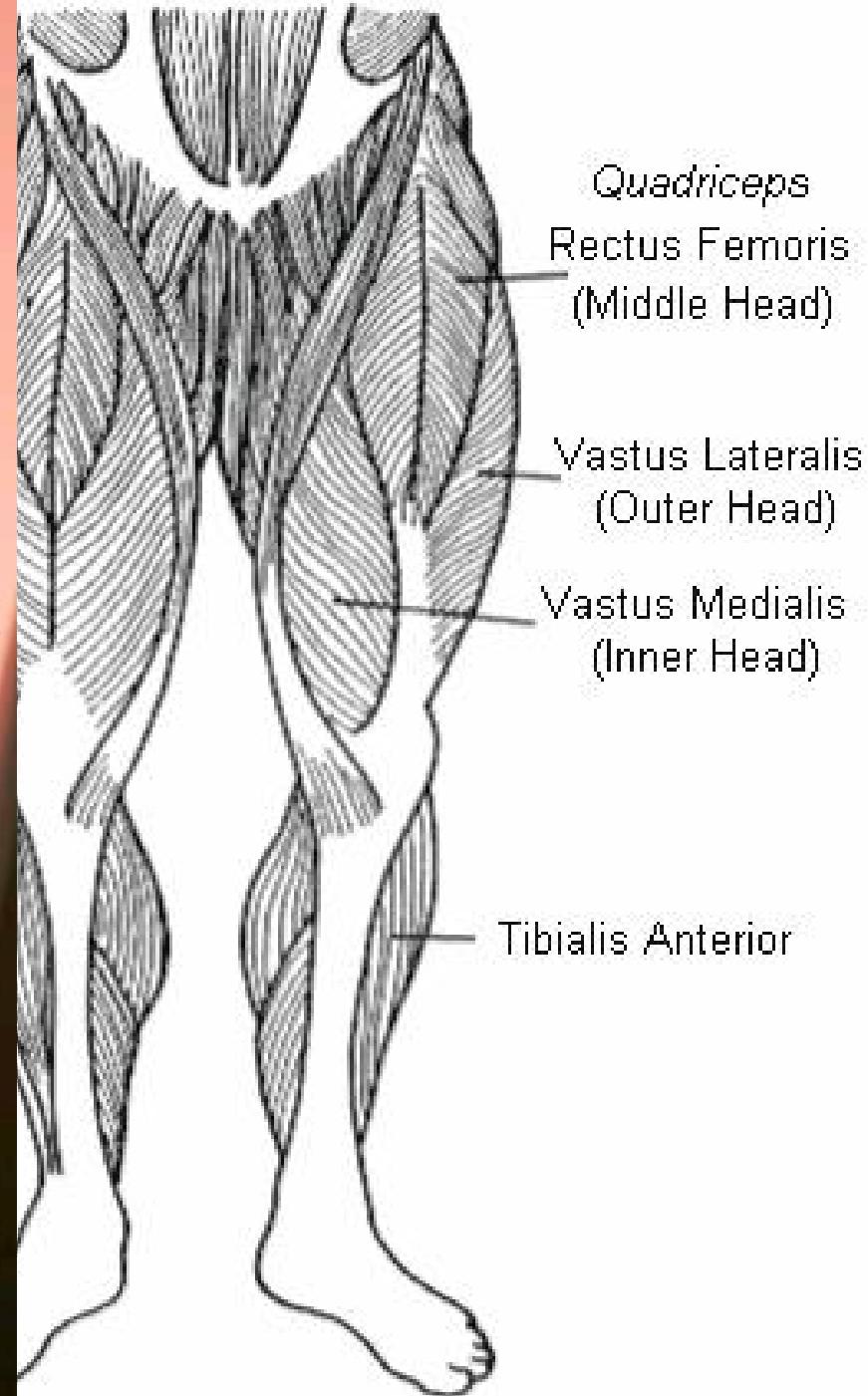


Inversion



Eversion

Inversion and eversion



Quadriceps

Rectus Femoris
(Middle Head)

Vastus Lateralis
(Outer Head)

Vastus Medialis
(Inner Head)

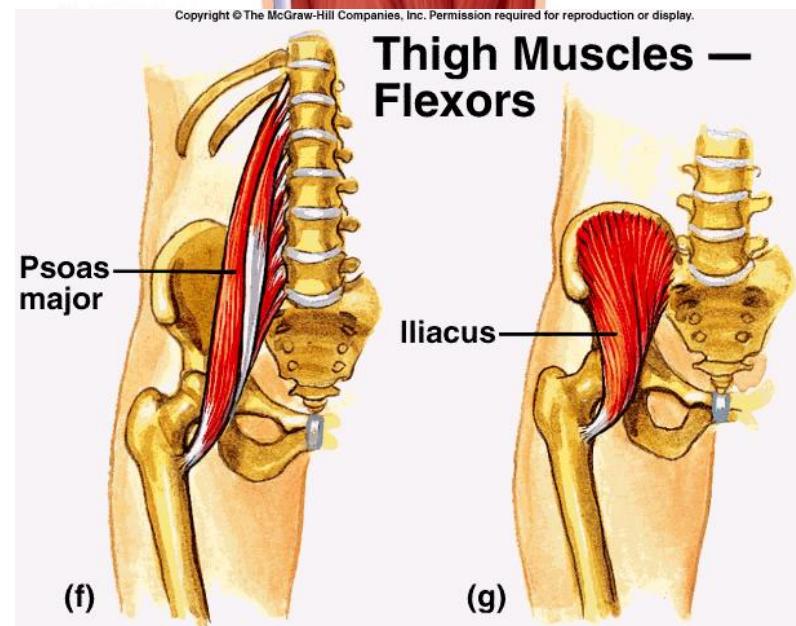
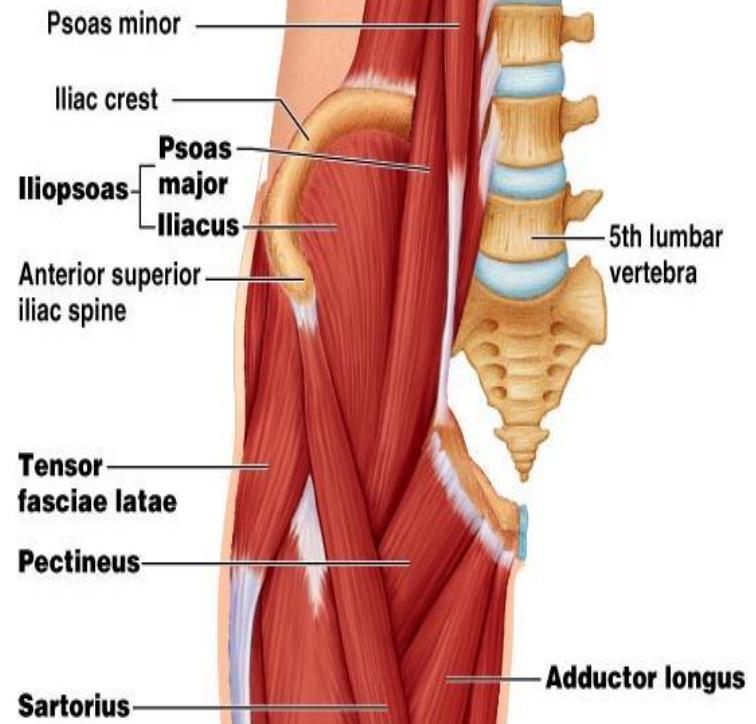
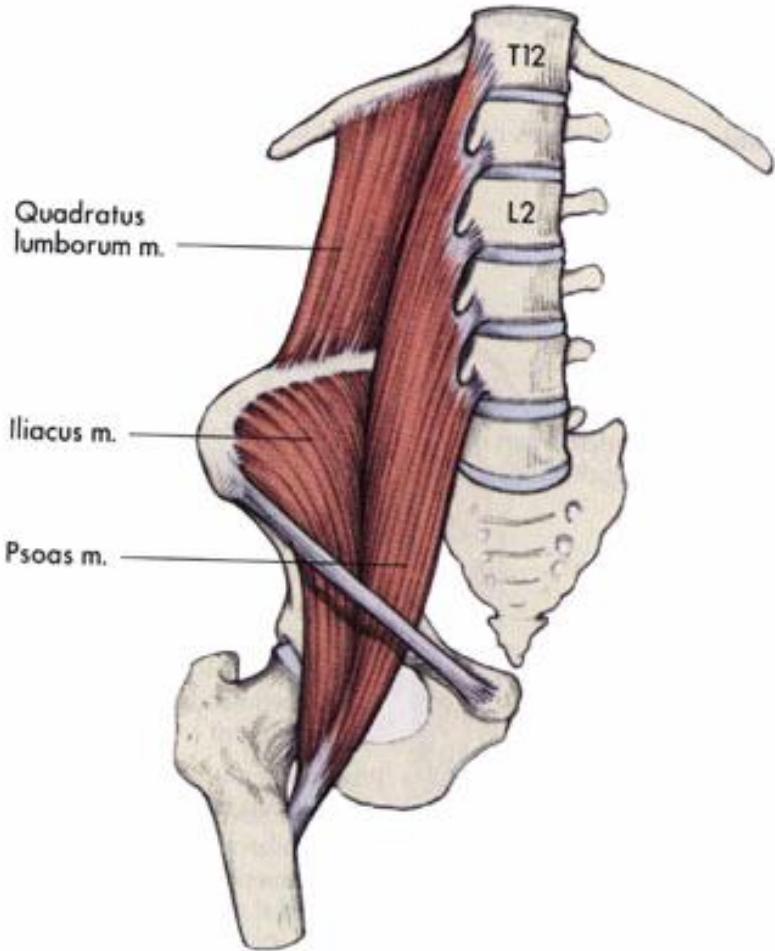
Tibialis Anterior

Muscles that move the thigh

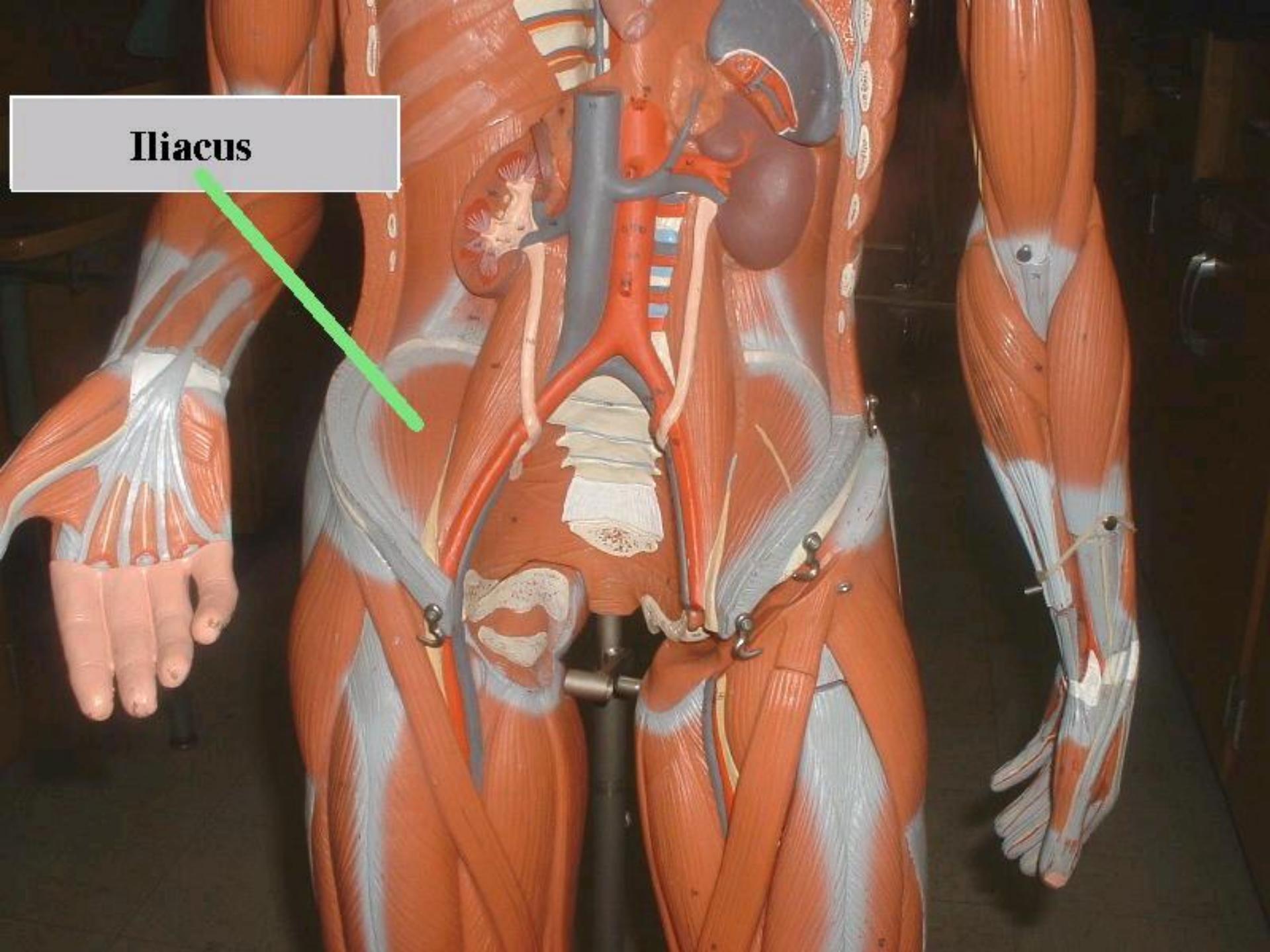
- **Iliacus.** The primary action of this muscle is to flex the thigh.
- **Psoas major.** The primary action of this muscle is to flex the thigh.
- **Sartorius.** Notice the way this muscle wraps from the lateral surface of the hip to the medial surface of the knee. As this muscle contracts, the thigh flexes and rotates.
- **Adductor magnus.** As the name implies, this muscle adducts the thigh.
- **Adductor longus.** The primary action of this muscle is to adduct the thigh.
- **Gracilis.** This muscle also adducts the thigh.
- **Tensor fascia latae.** This muscle flexes and abducts the thigh. This muscle inserts onto an aponeurosis called the **iliotibial tract**, which is part of the fascia that covers the thigh muscles (the fascia lata).
- **Gluteus maximus.** This muscle extends the thigh.
- **Gluteus medius*.** This muscle abducts the thigh. It originates on the lateral surface of the ilium, and it inserts on the greater trochanter of the femur.

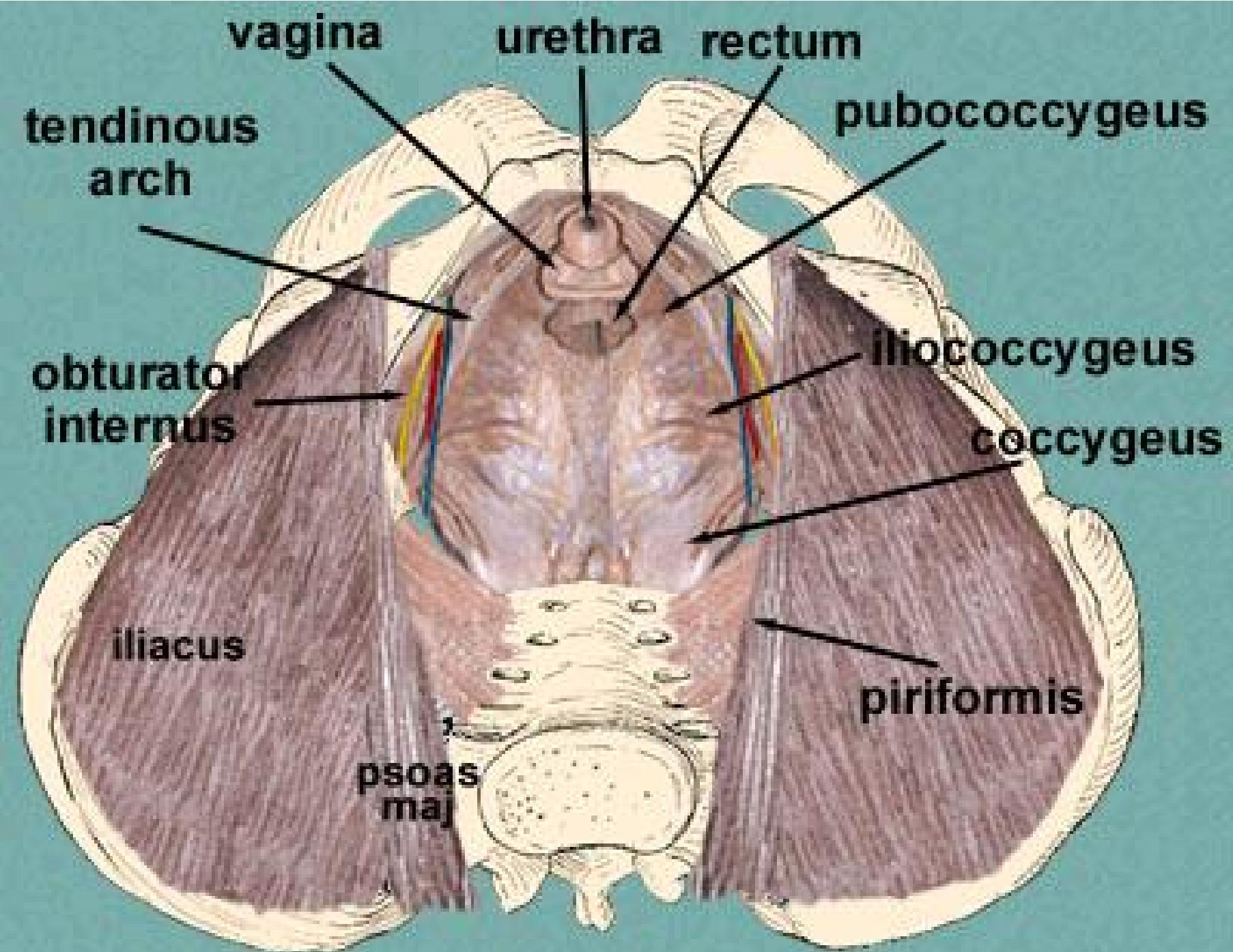
Iliacus

The primary action of this muscle is to
flex the thigh [Flexes medially rotates
 hip]



Iliacus





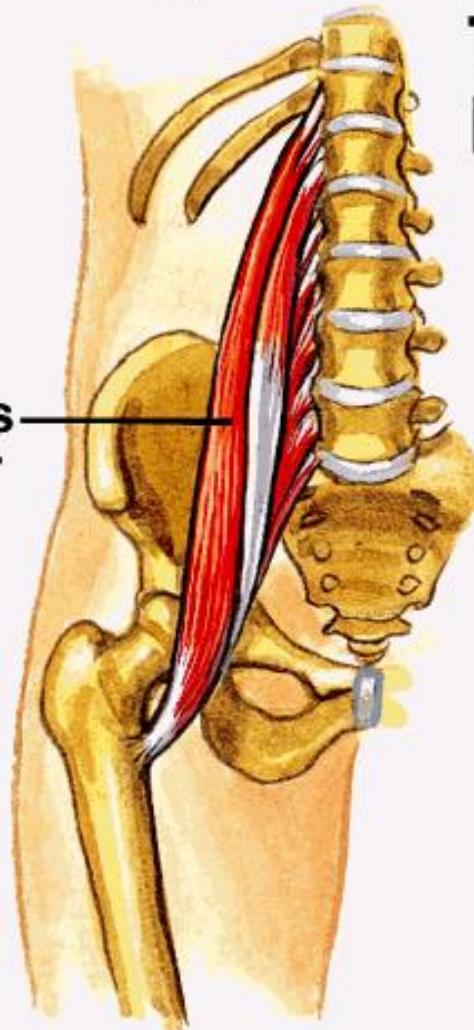
- The primary action of this muscle is to flex the thigh [Flexes and laterally rotates hip]

Psoas major..

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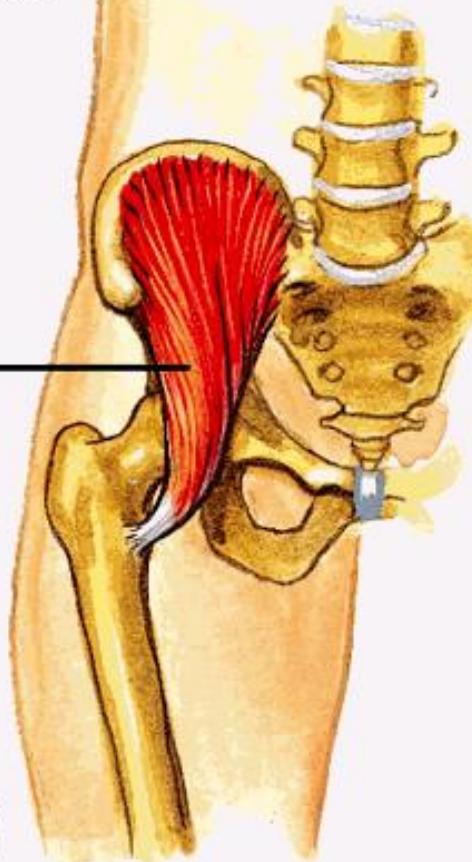
Thigh Muscles — Flexors

Psoas
major

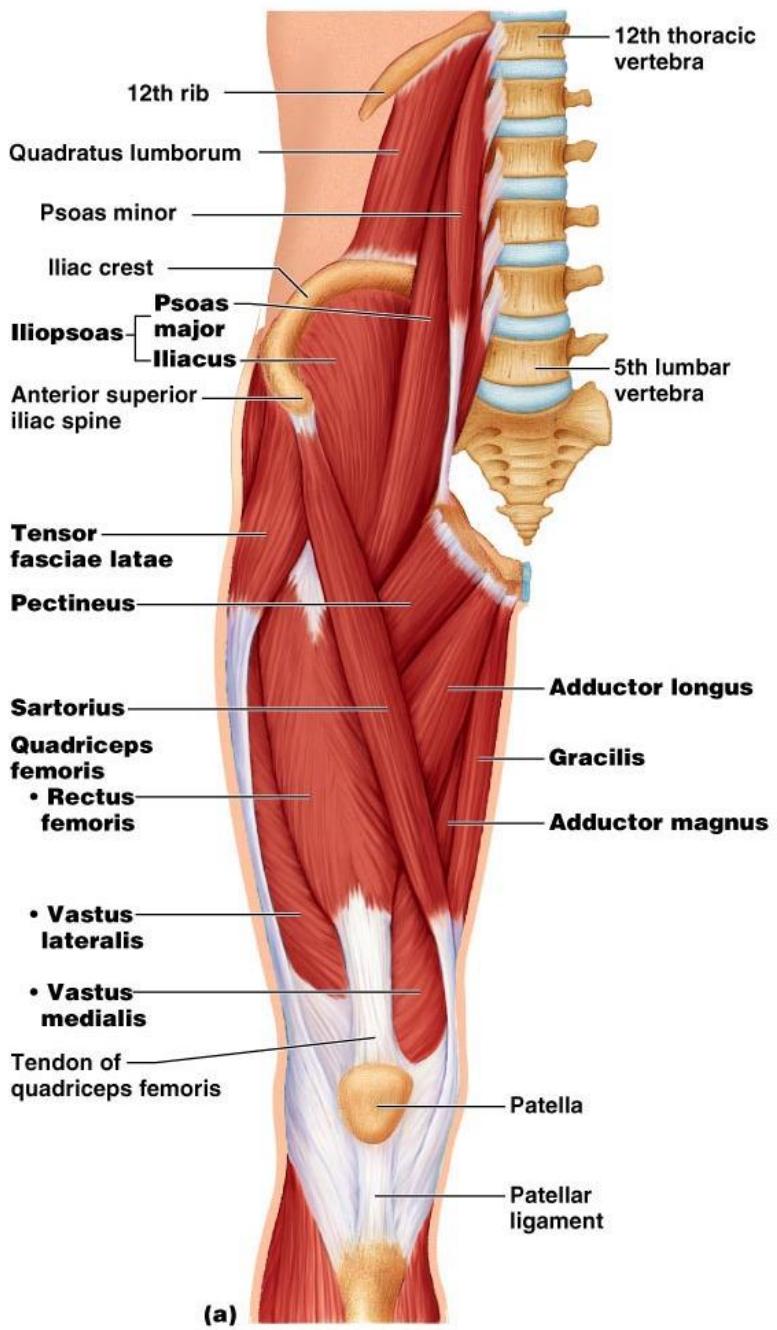
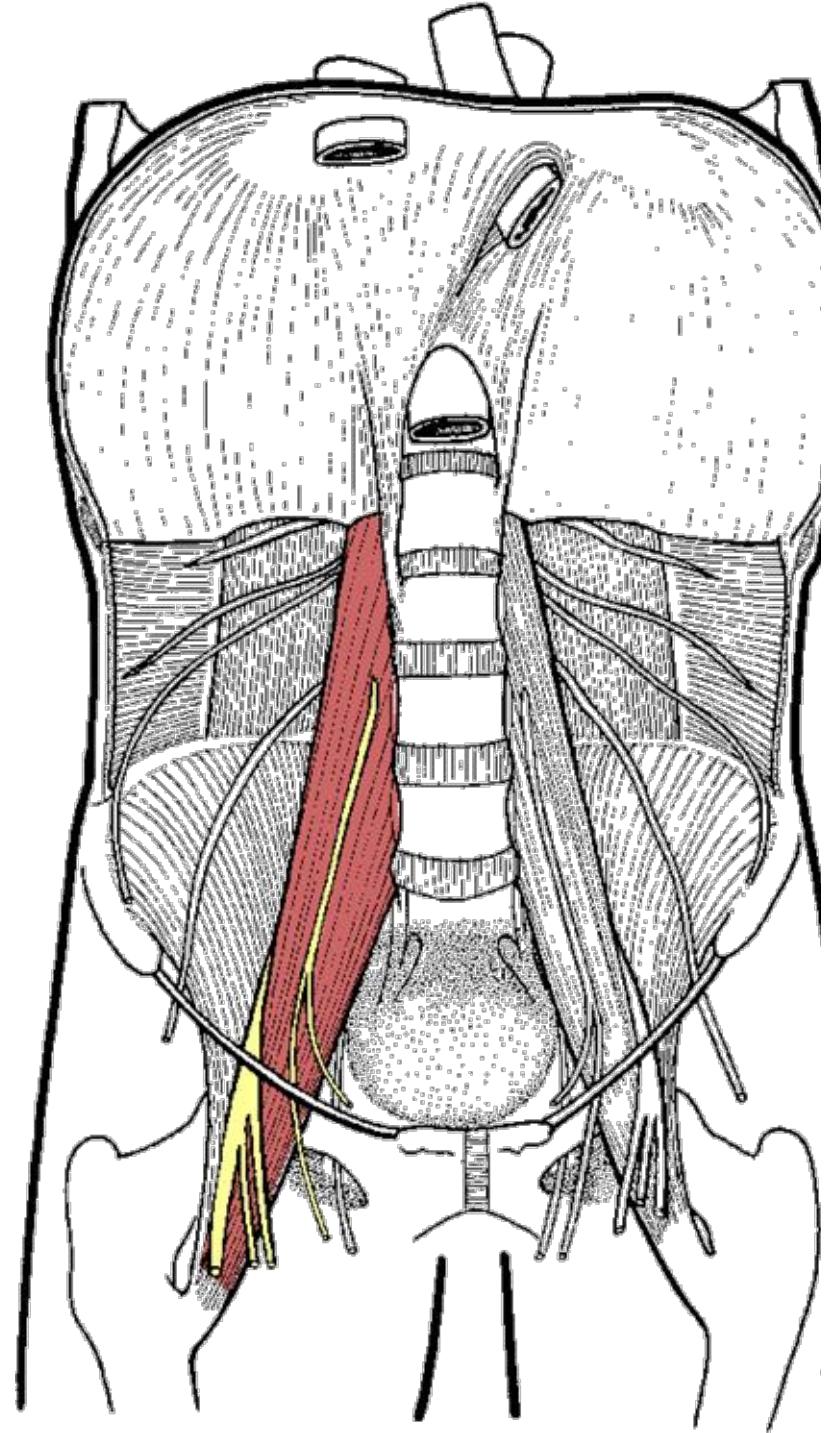


(f)

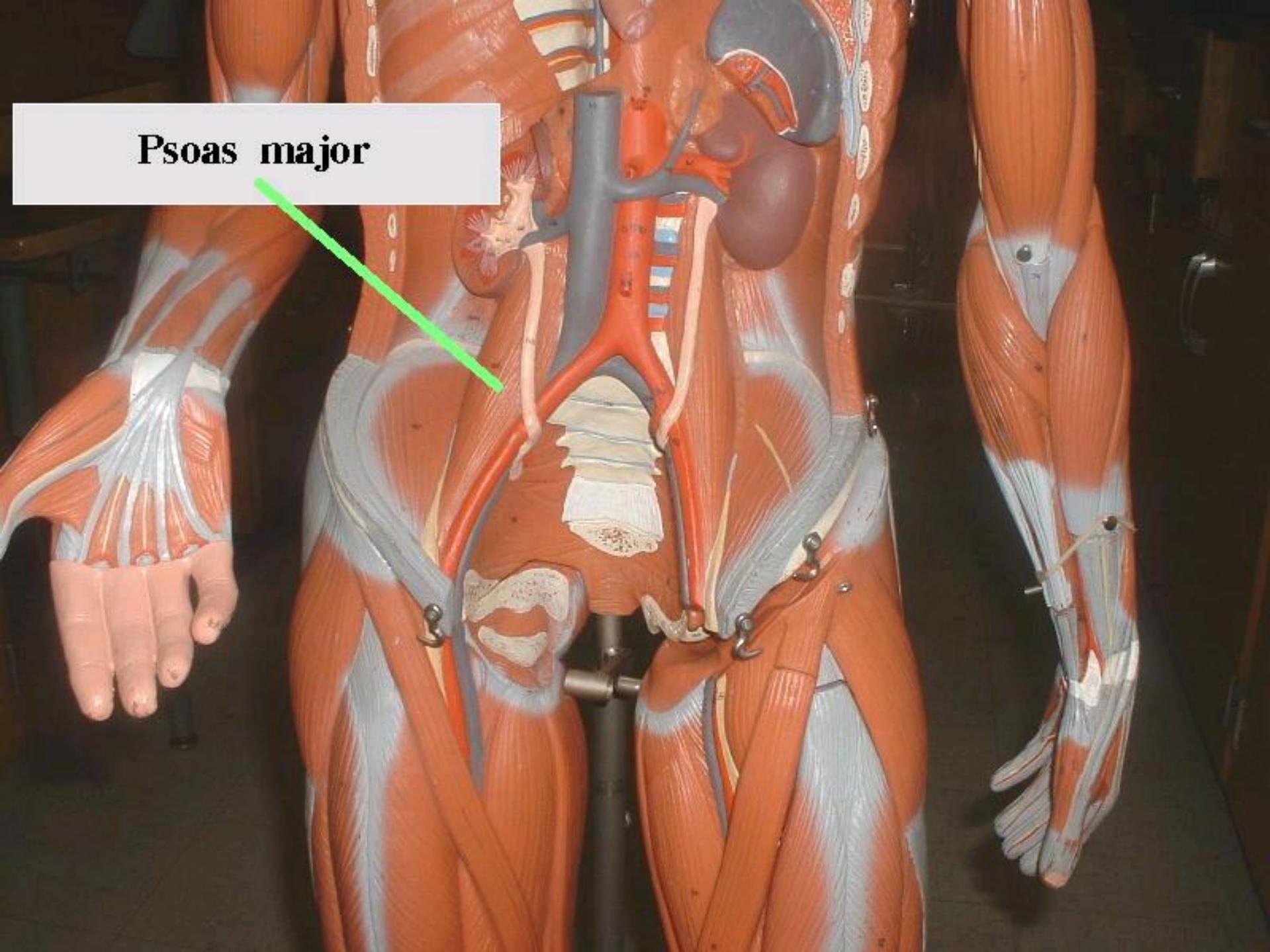
Iliacus



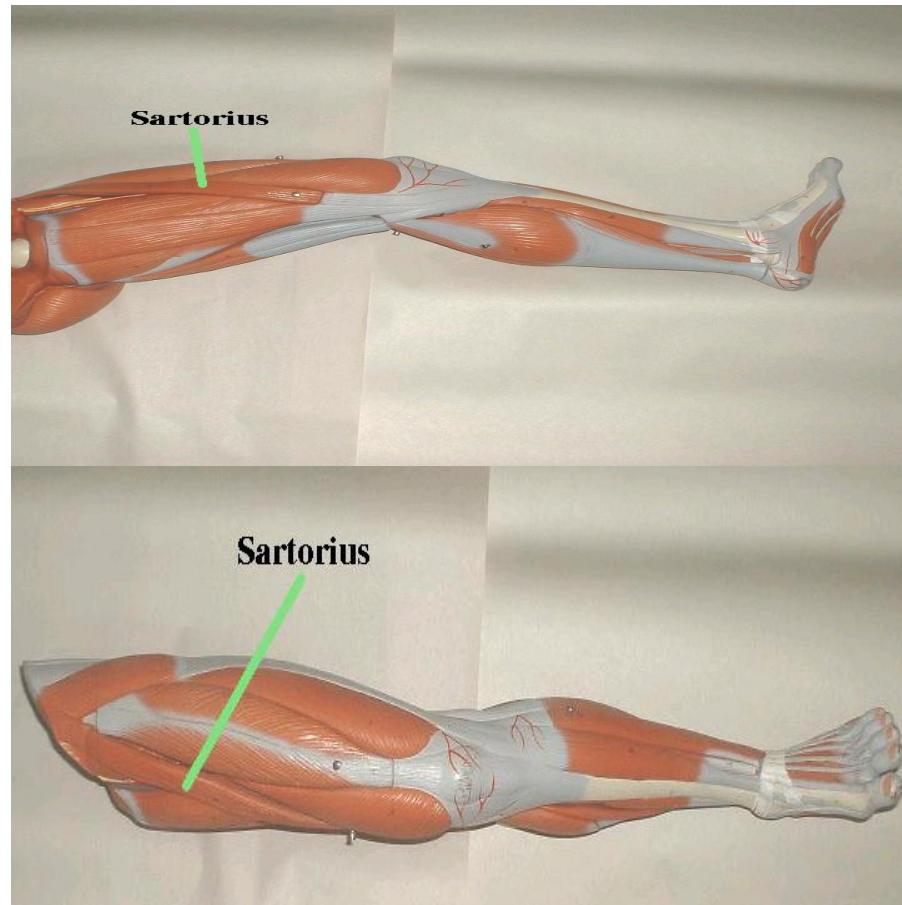
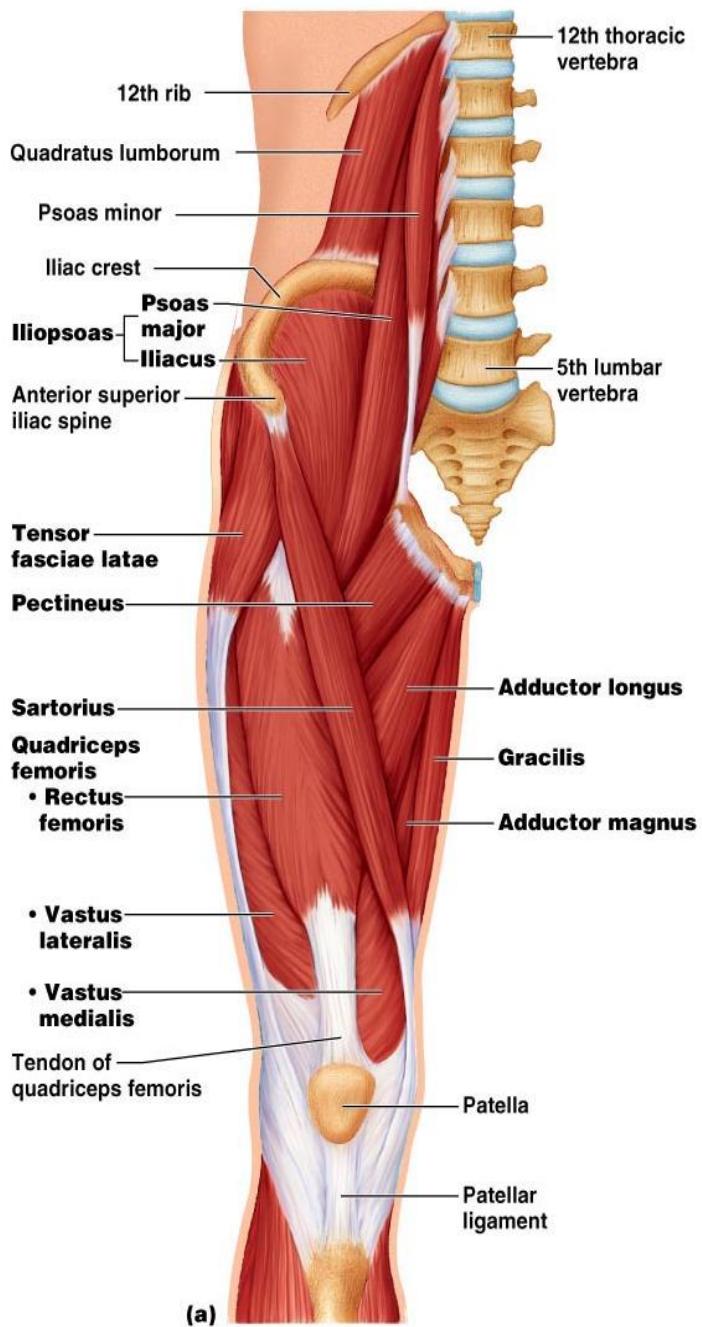
(g)



Psoas major



Sartorius.



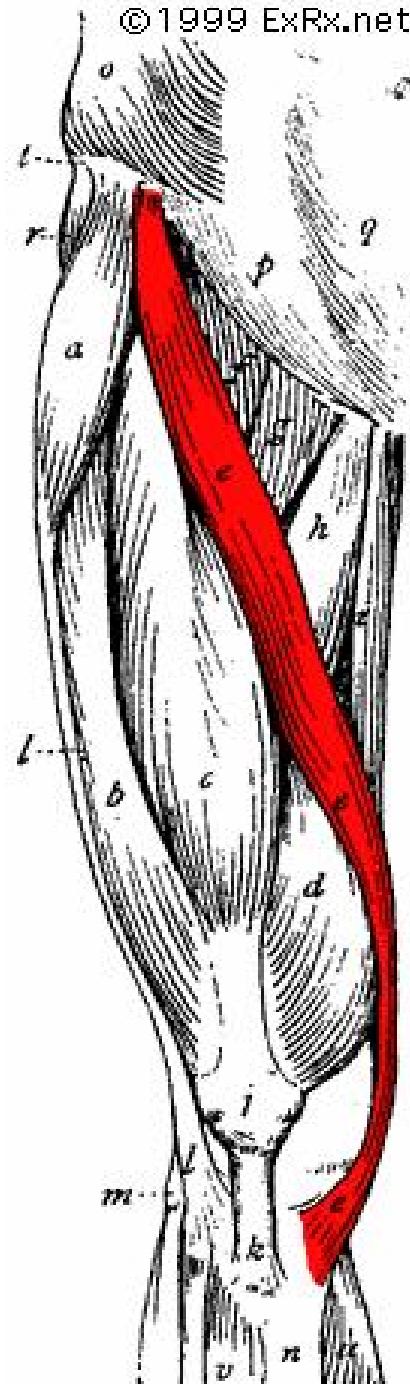
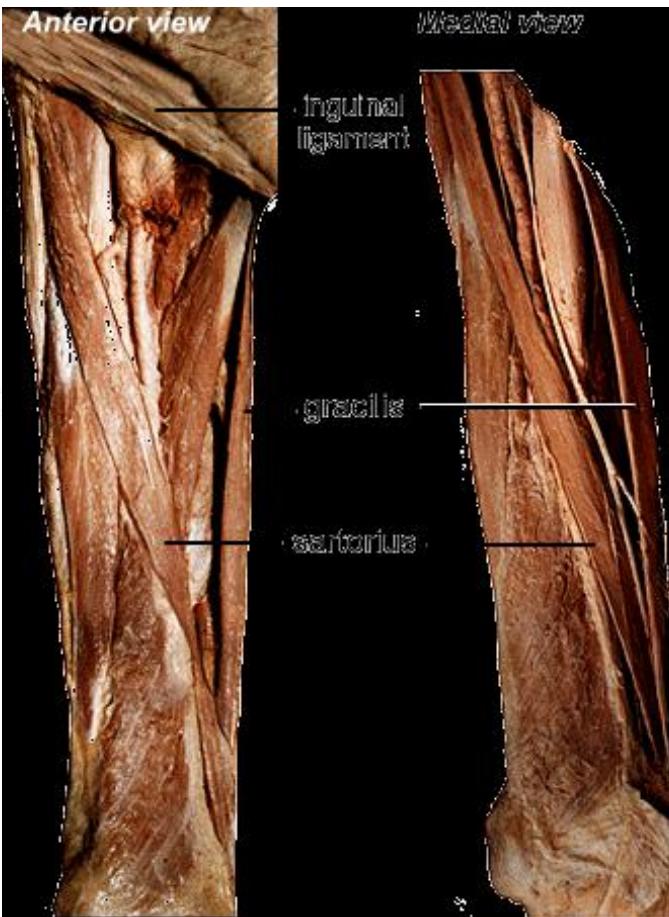
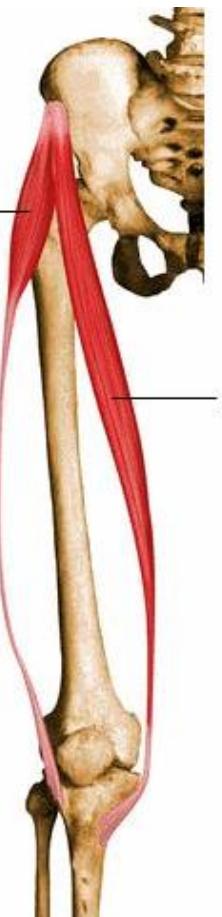
As this muscle contracts, the thigh flexes and rotates [knee and tigh flexors]

Movement

Hip: Flexion ,Abduction ,External Rotation
 Knee: Flexion

Other Names

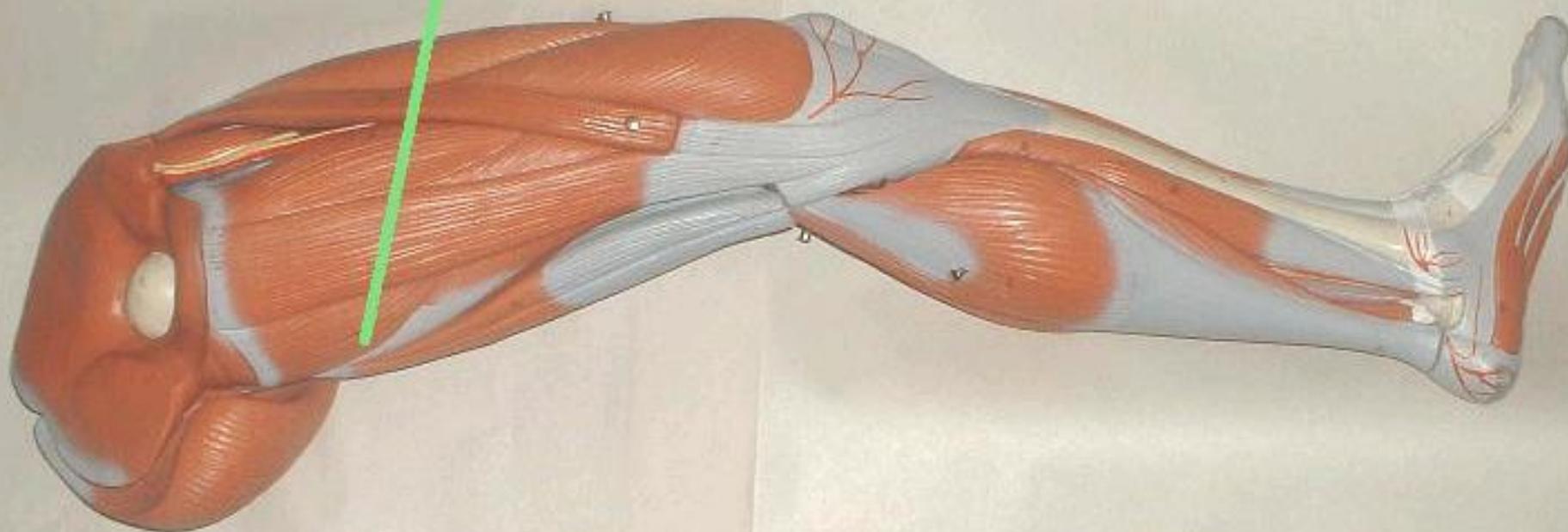
Thigh (Inner)
 Tailor's muscle
 Longest muscle in body



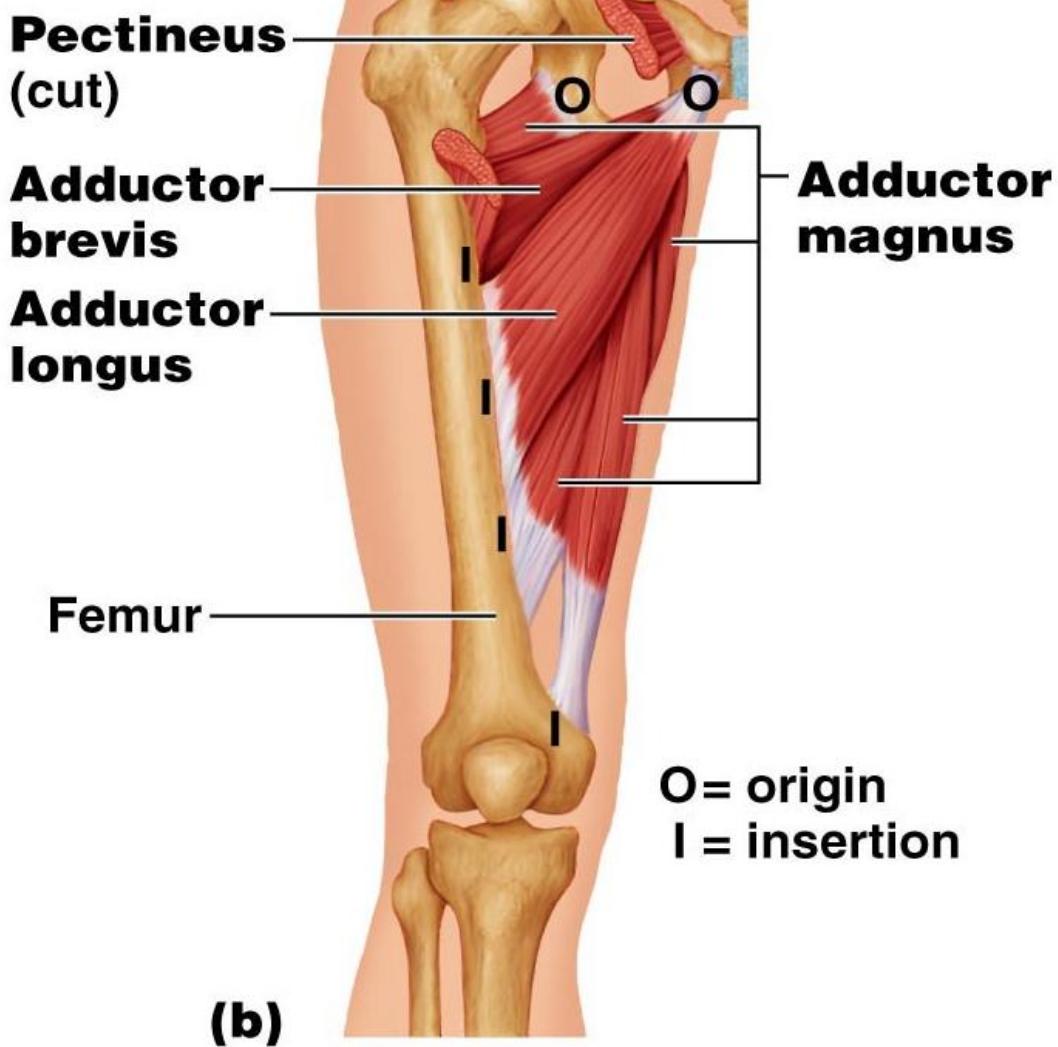
Adductor magnus.

- As the name implies, this muscle adducts the thigh

Adductor magnus



Muscles— Adductors

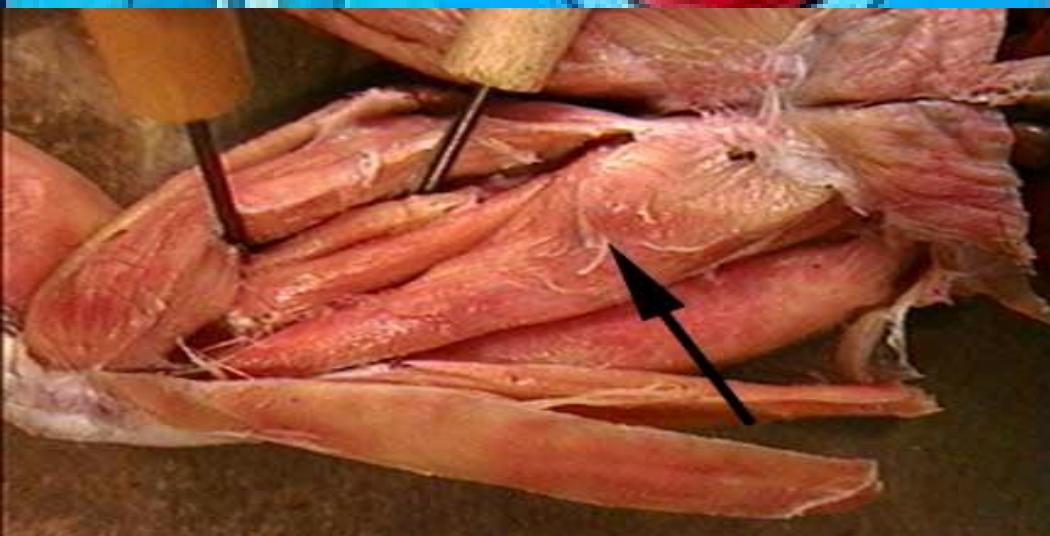
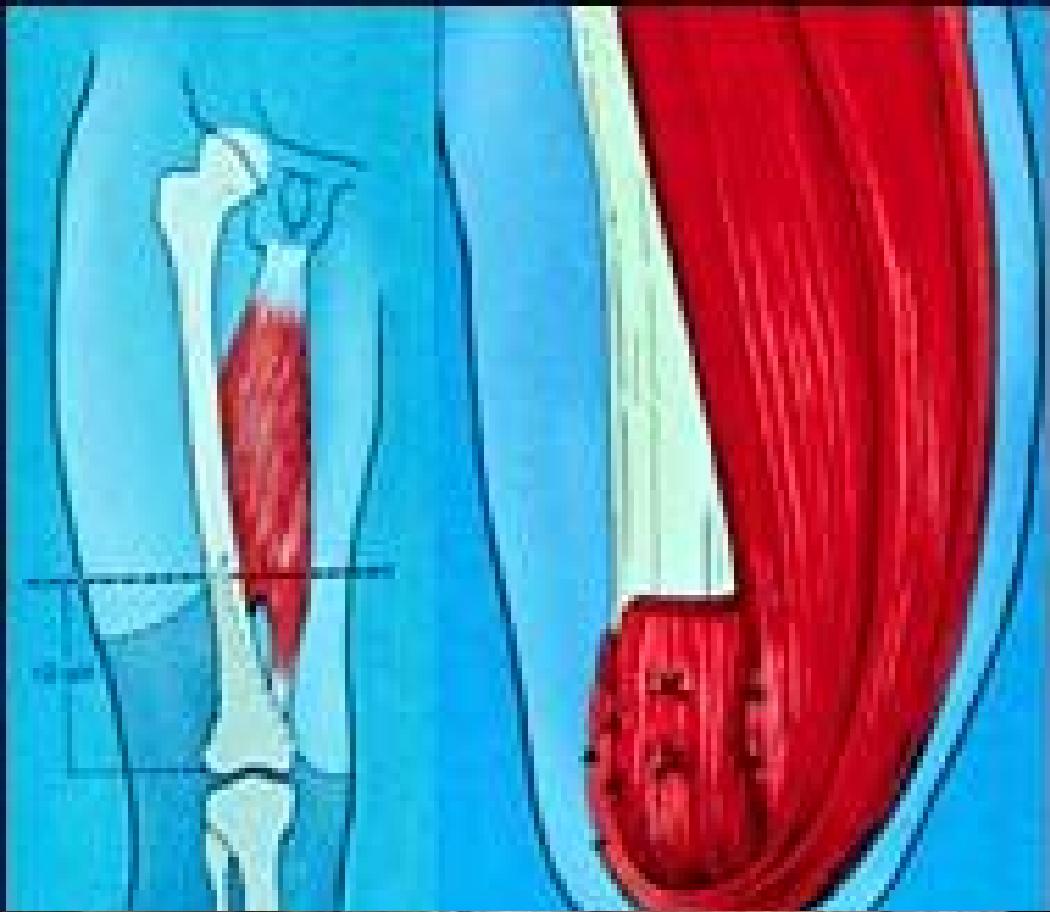
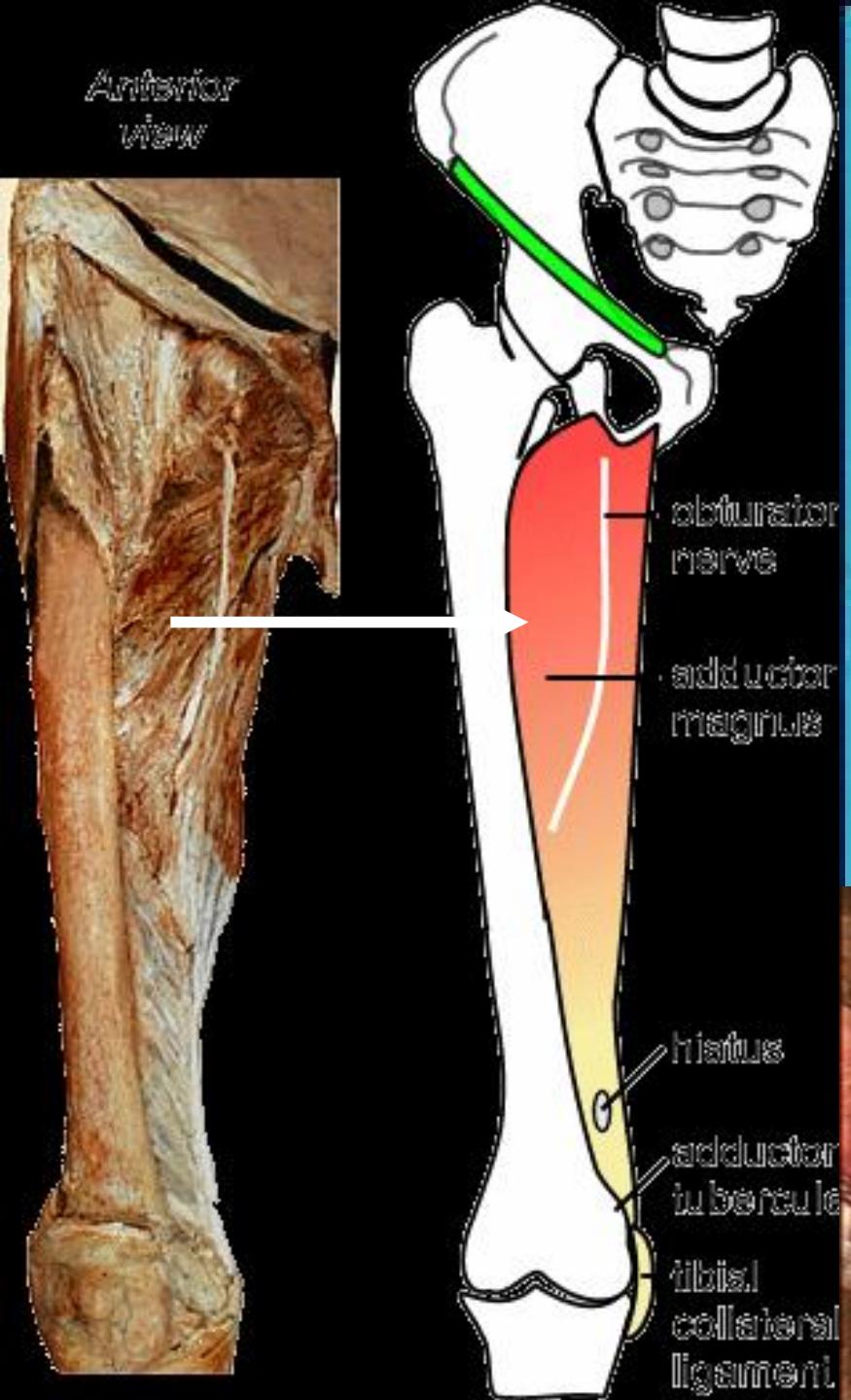


—Adductor
magnus

—Adductor
longus

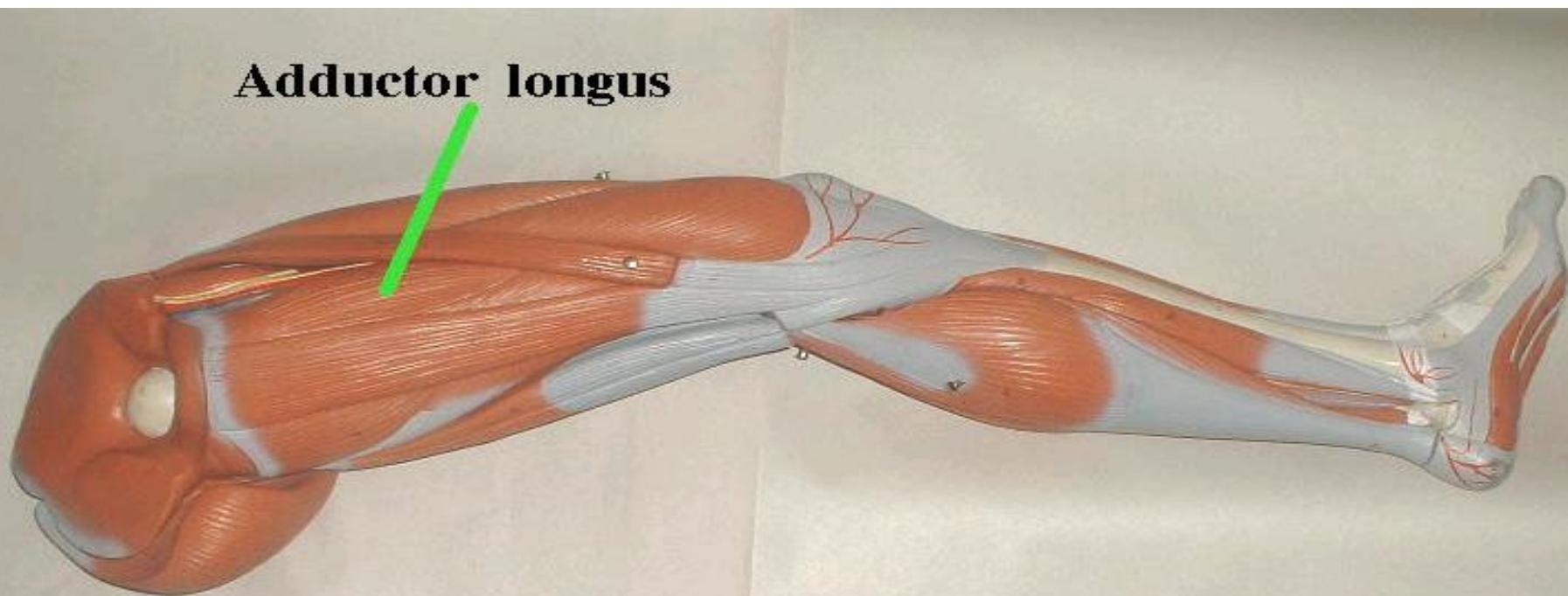


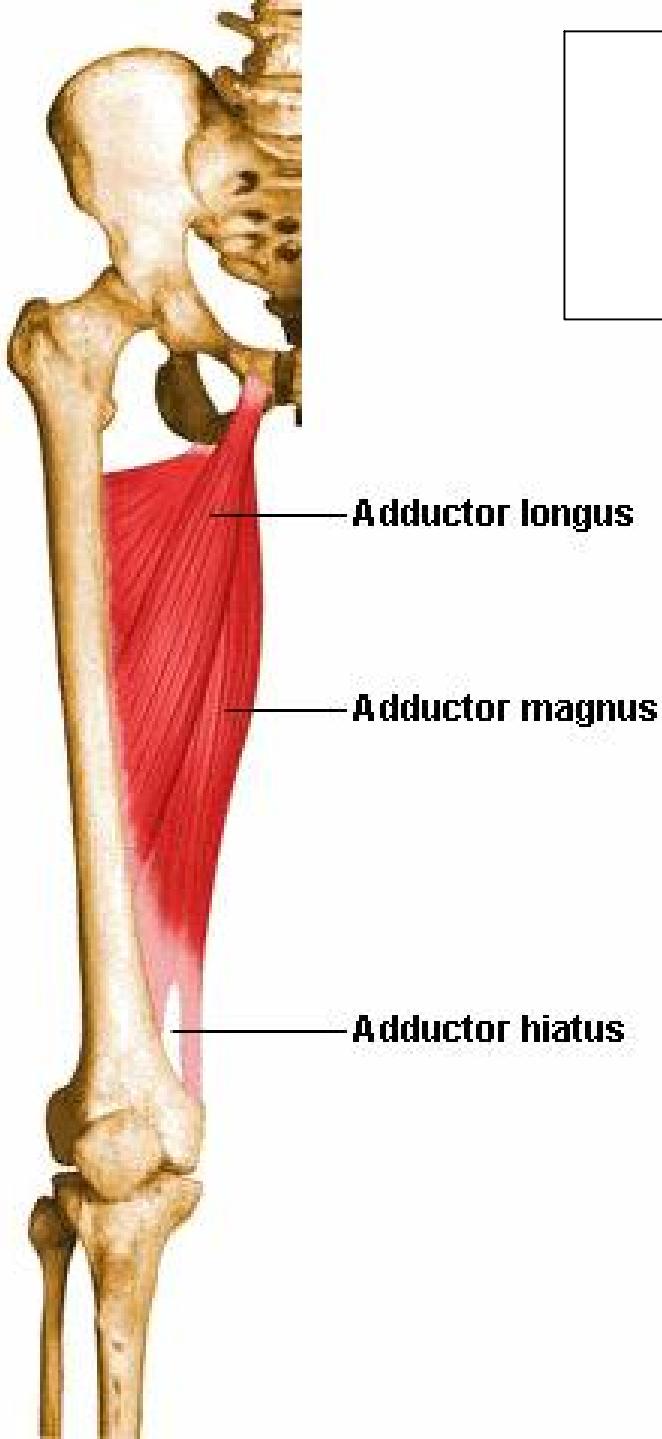
Anterior
view



Adductor longus.

- The primary action of this muscle is to adduct the thigh





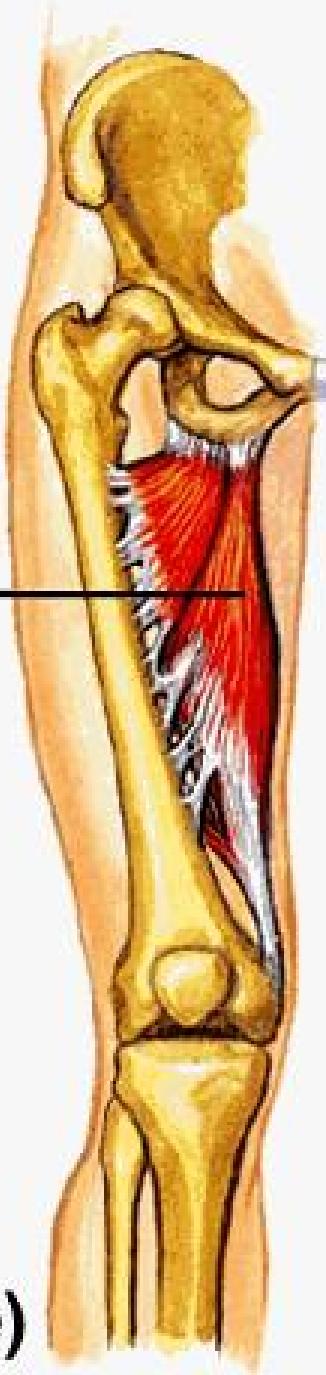
(d)

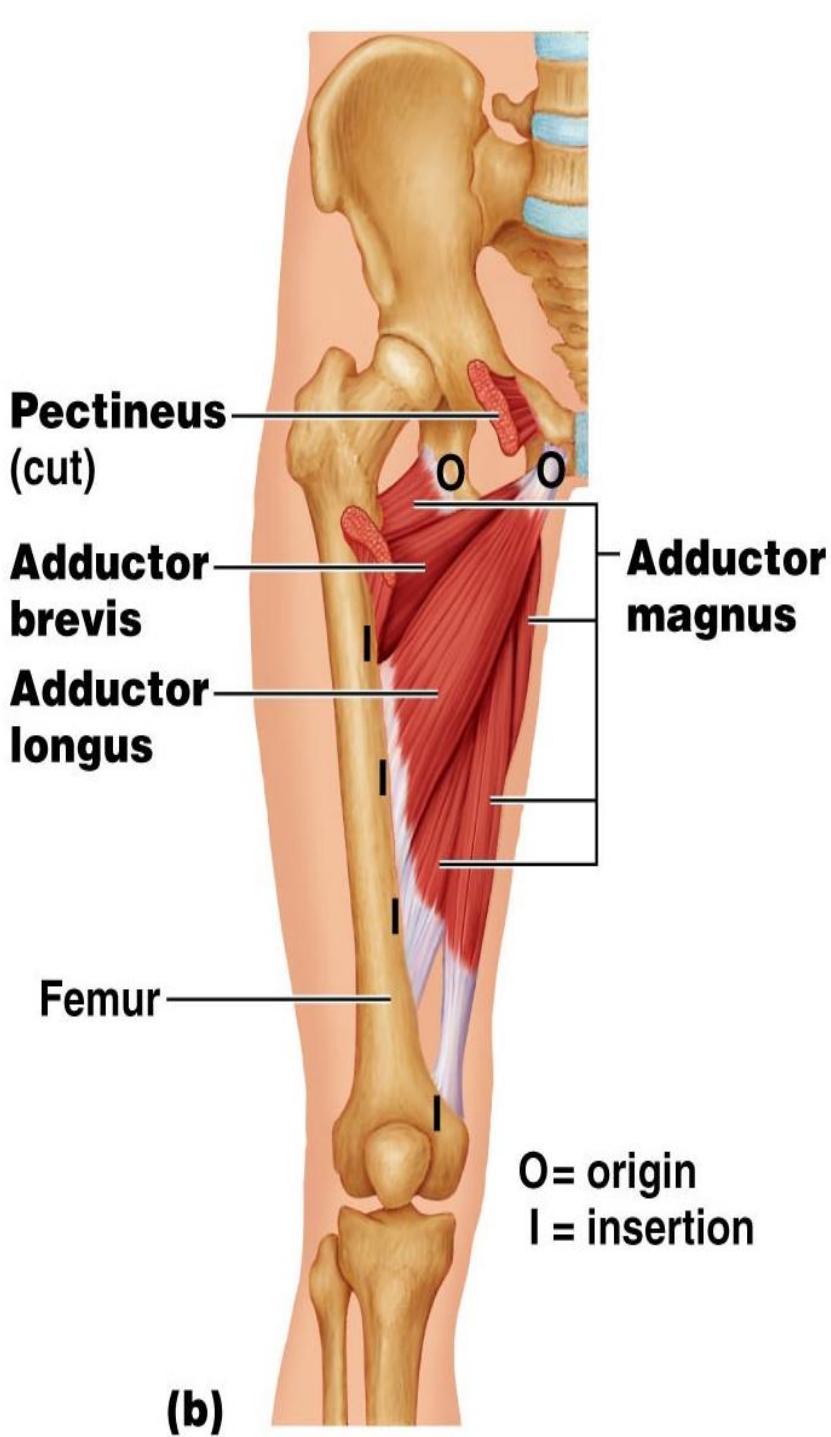
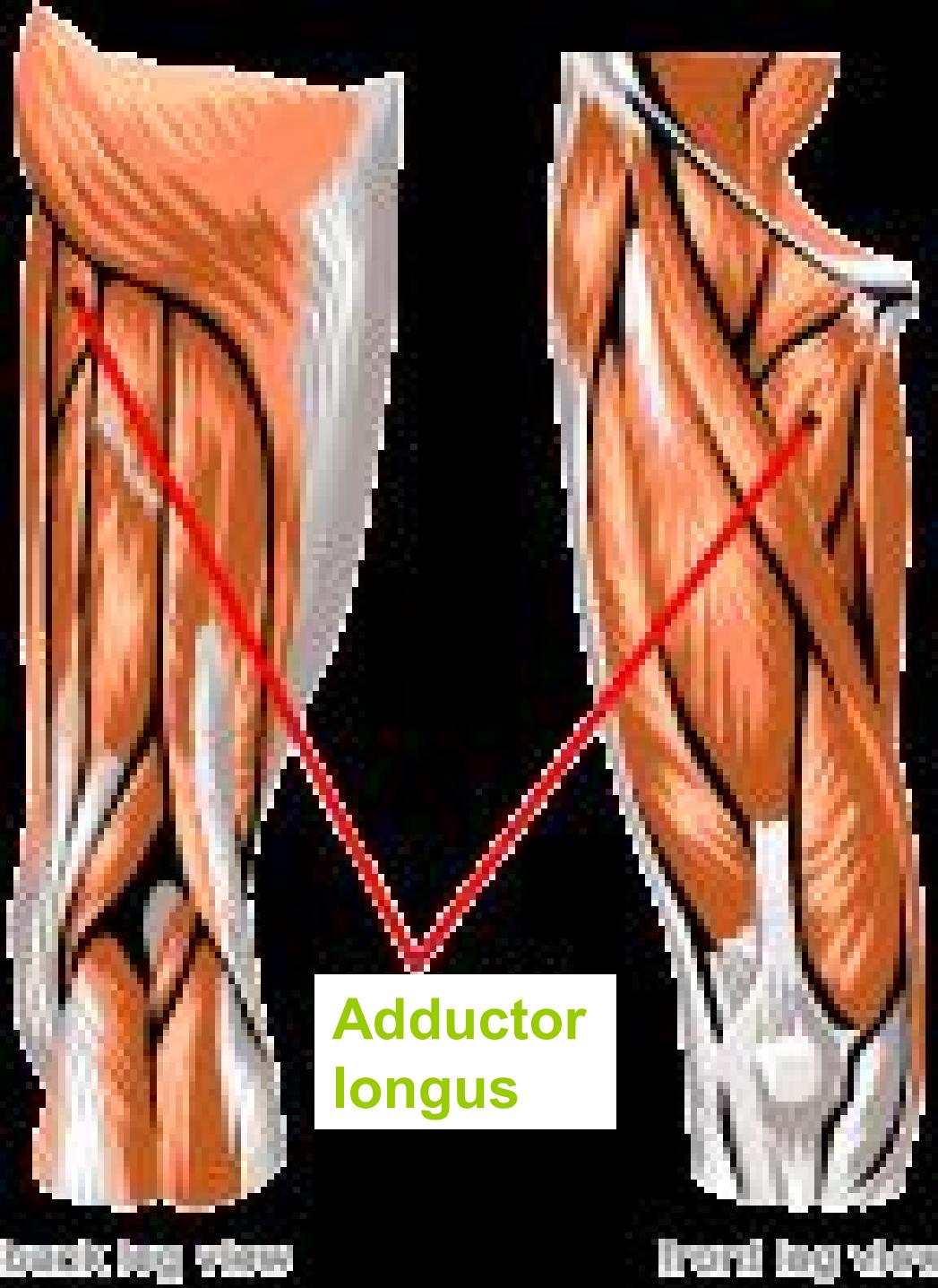


**Adductor
magnus**

**Adductor
longus**

(e)

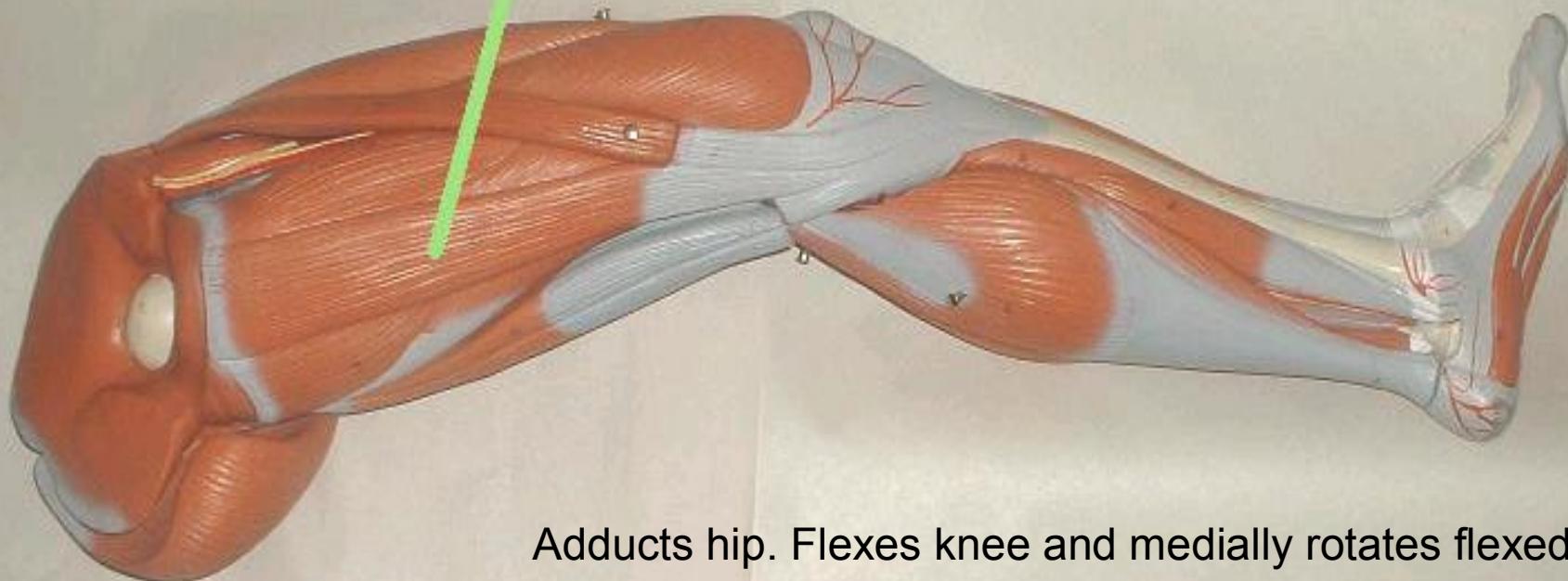




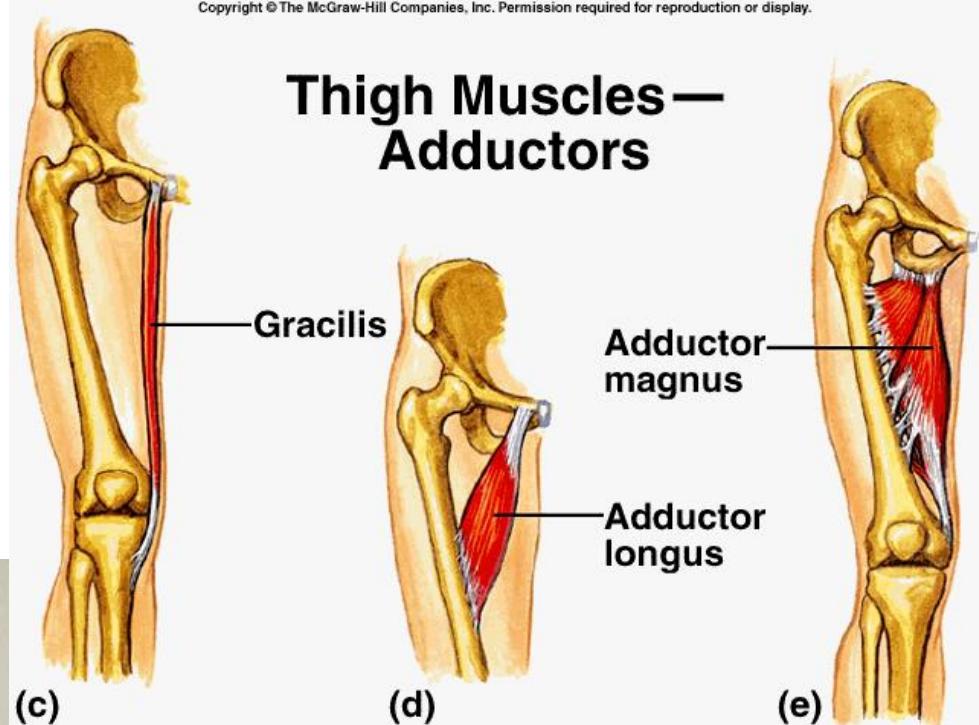
Gracilis.

- This muscle also adducts the thigh

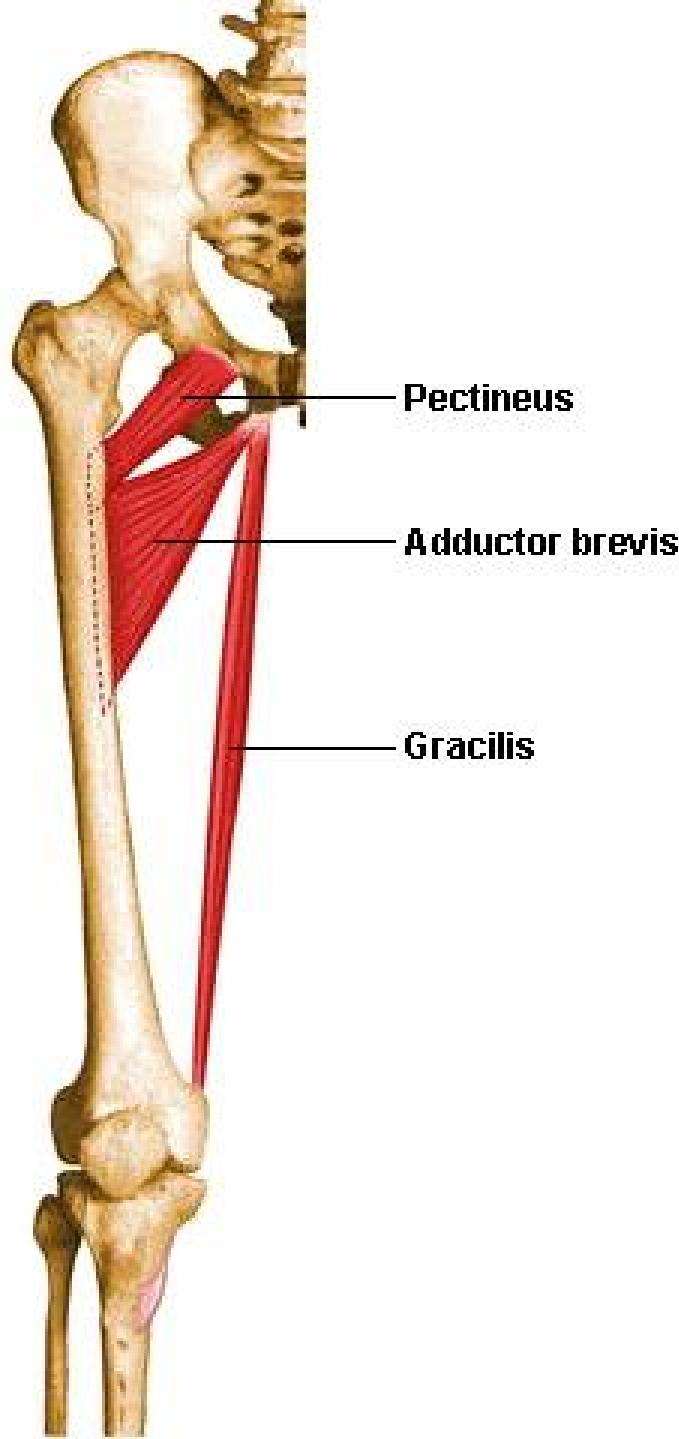
Gracilis



Thigh Muscles— Adductors



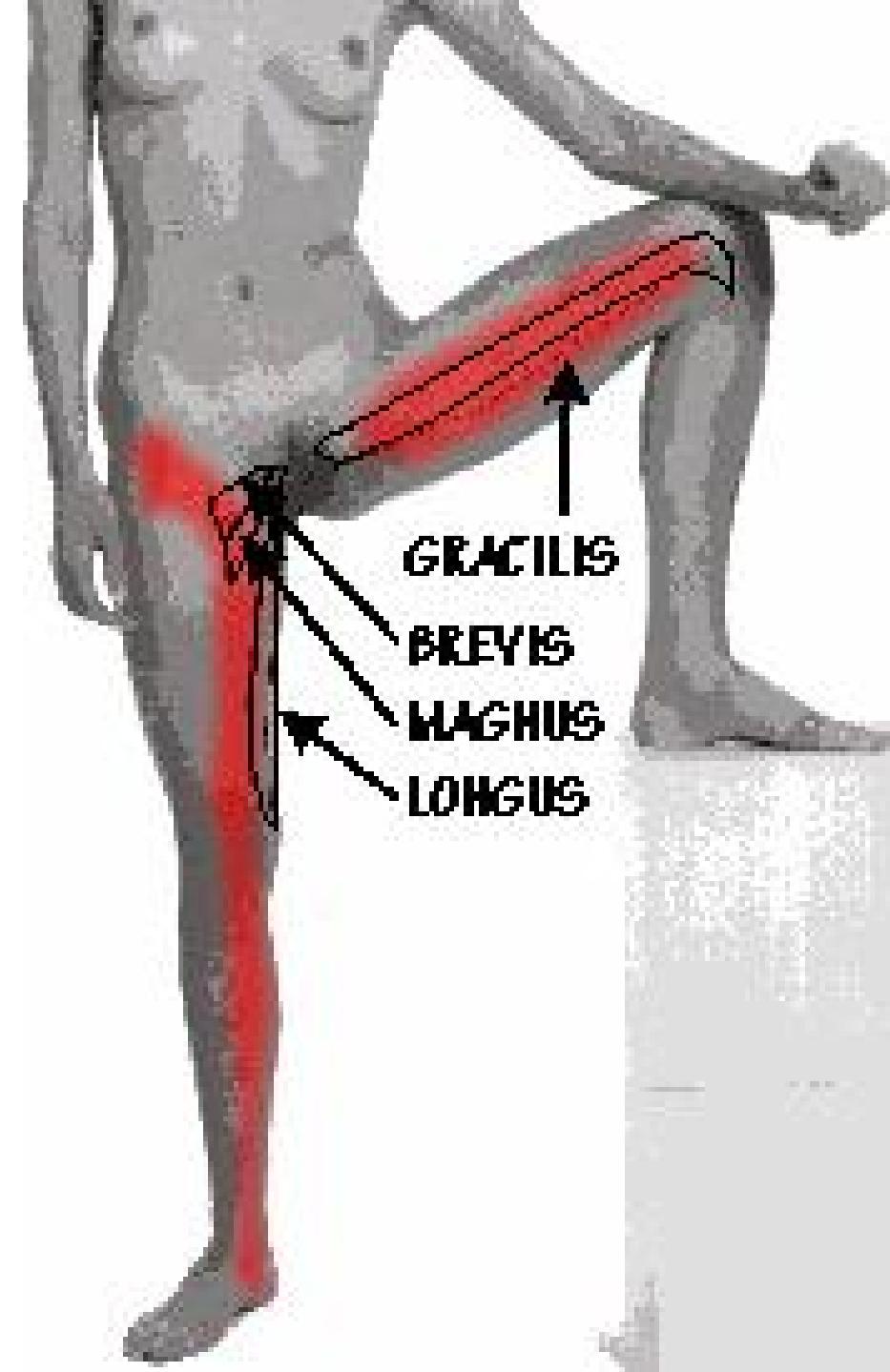
Adducts hip. Flexes knee and medially rotates flexed knee



Pectineus

Adductor brevis

Gracilis



GRACILIS

BREVIS

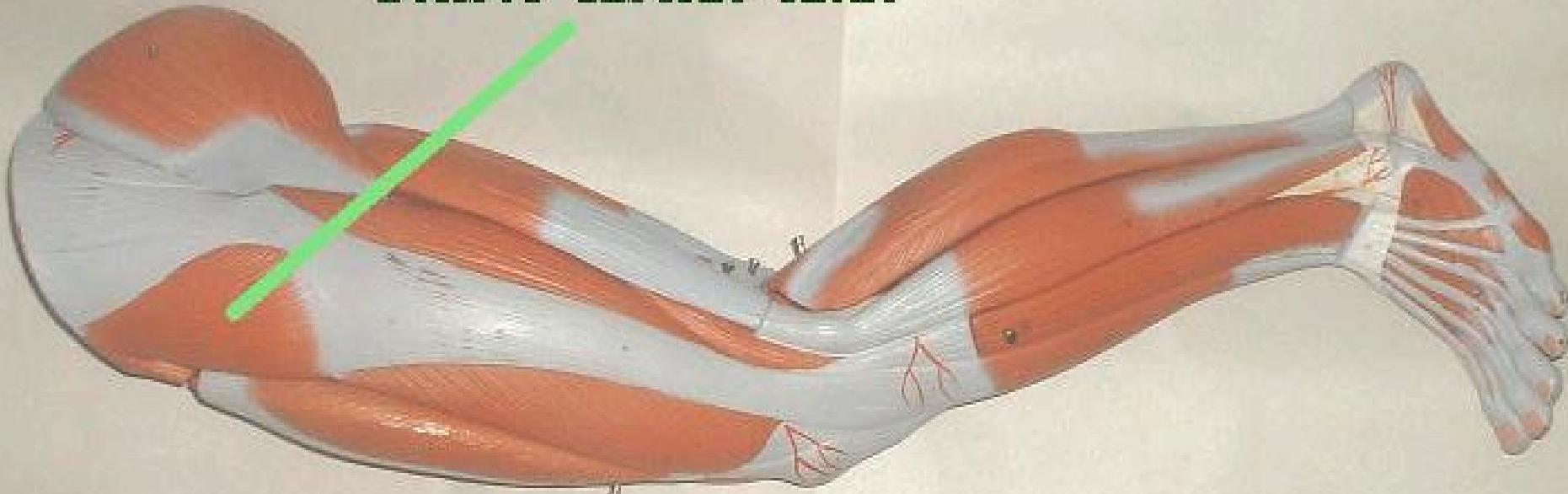
MAGNUS

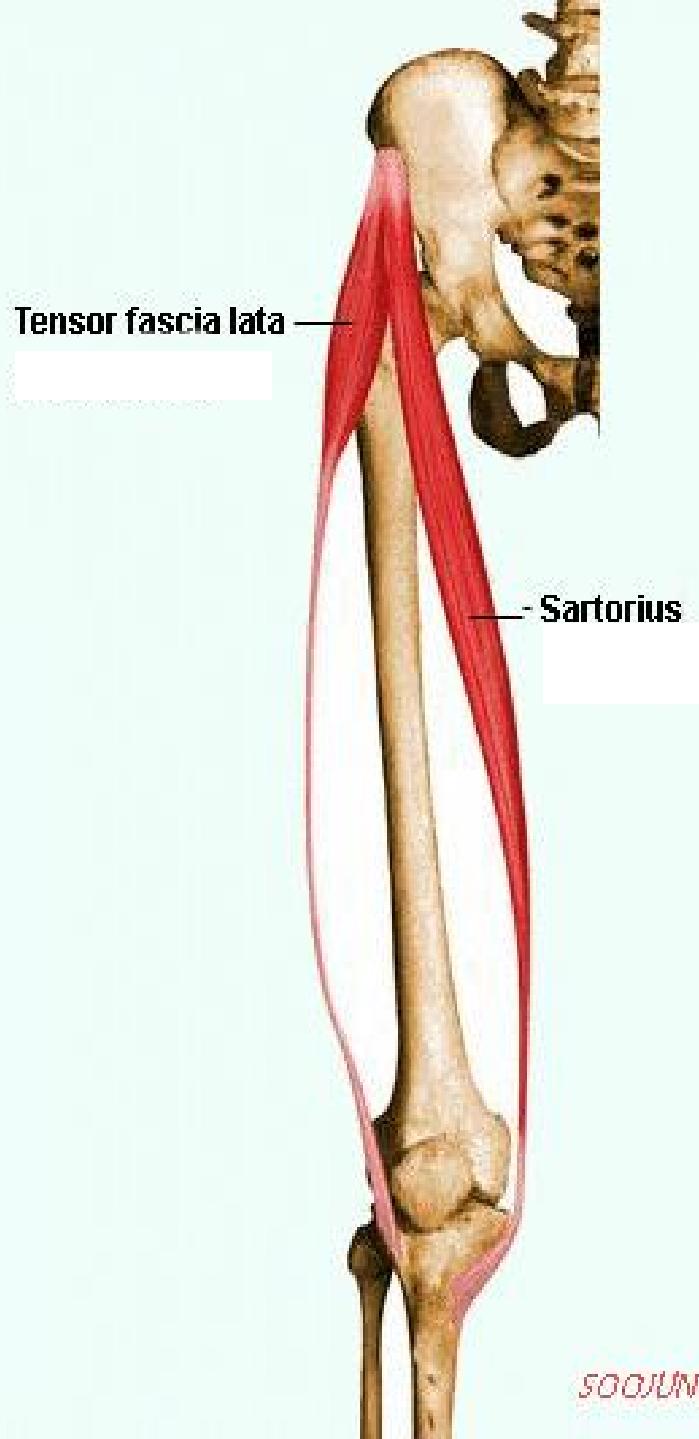
LONGUS

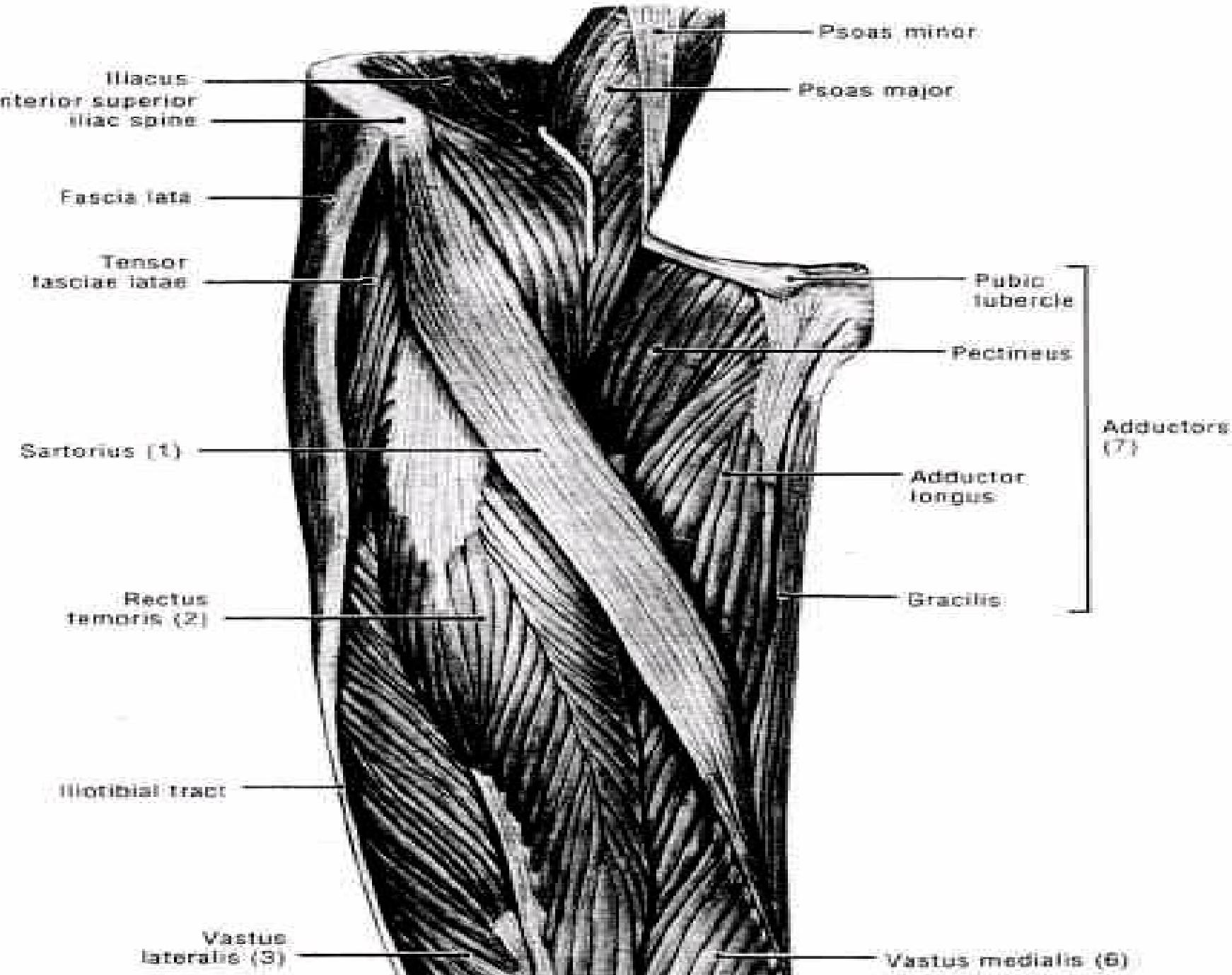
Tensor fascia latae.

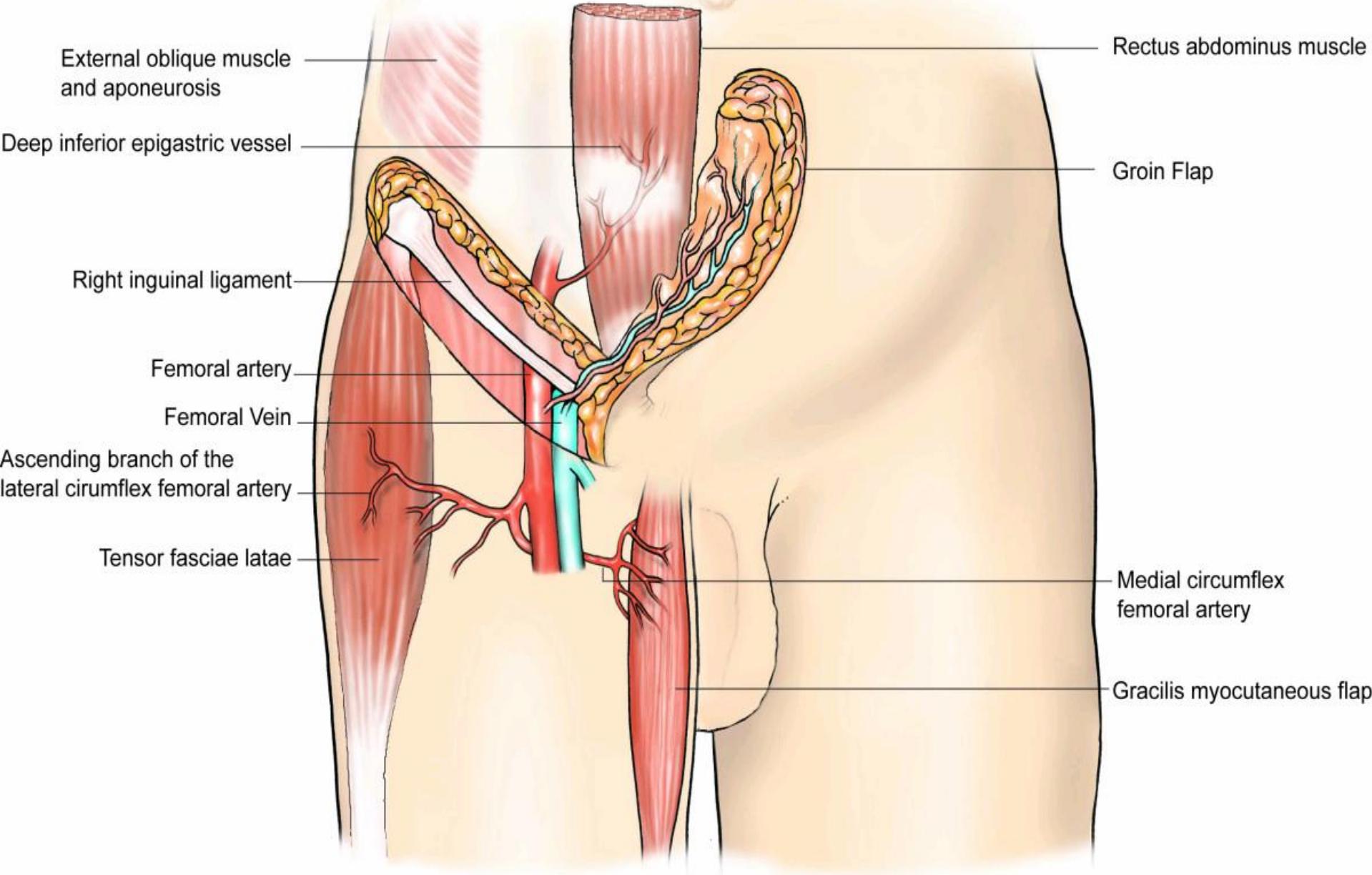
- This muscle flexes and abducts the thigh.
- This muscle inserts onto an aponeurosis called the **iliotibial tract**, which is part of the fascia that covers the thigh muscles (the fascia lata).

Tensor fasciae latae



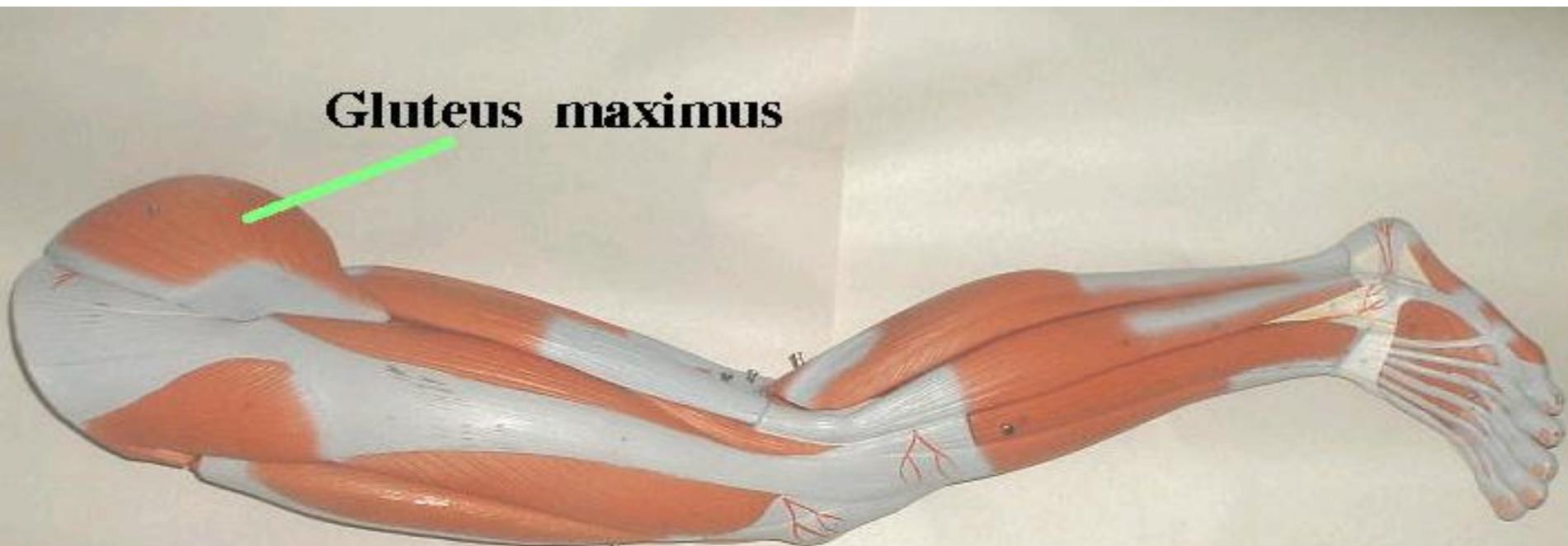




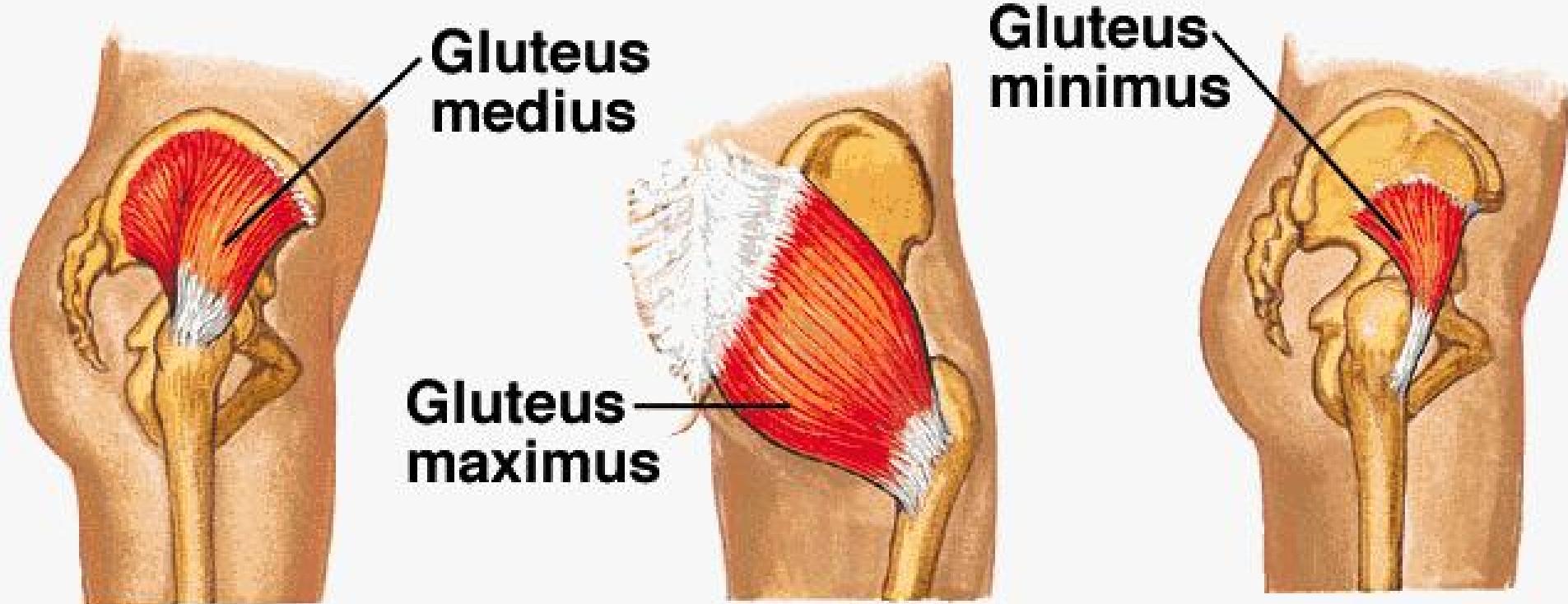


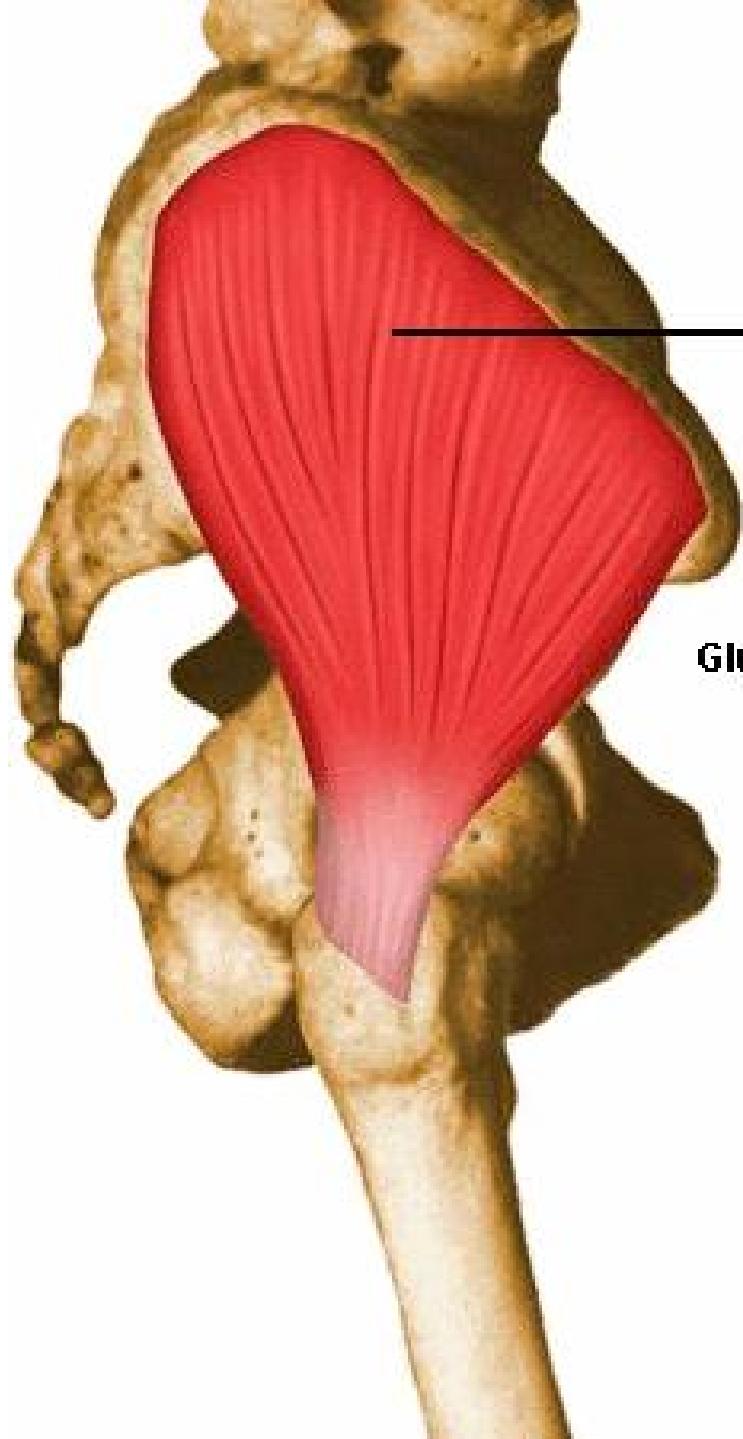
Gluteus maximus

- This muscle extends the thigh.

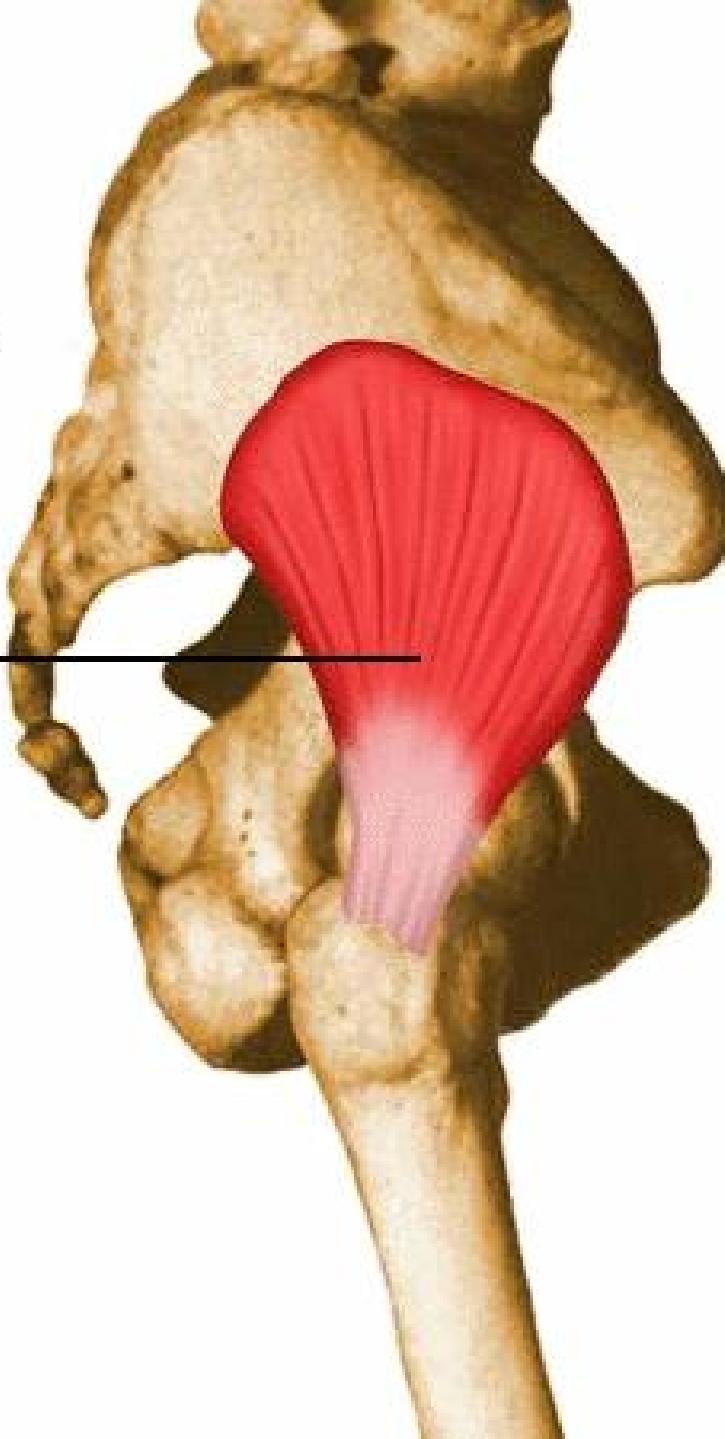


Gluteal Muscles

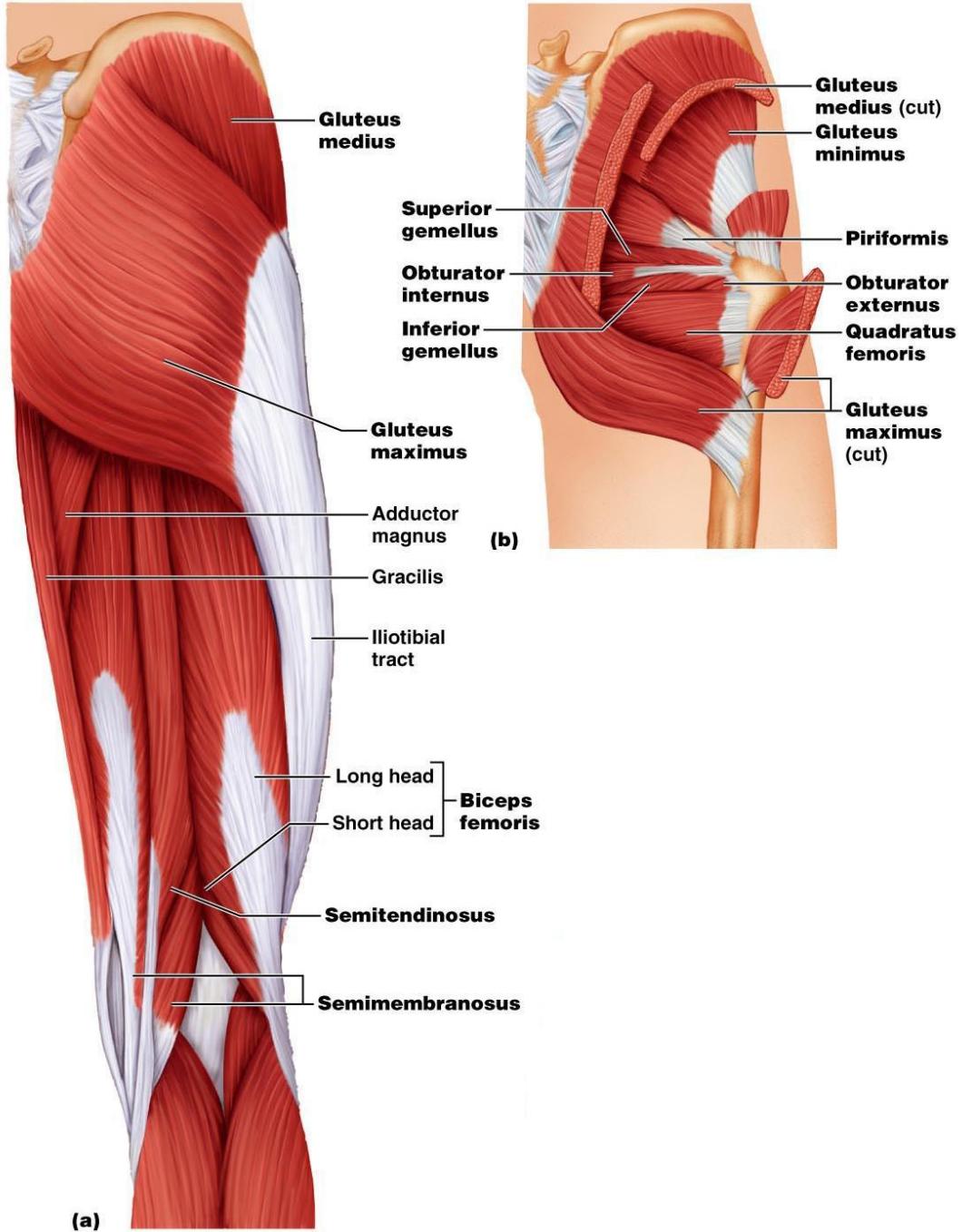
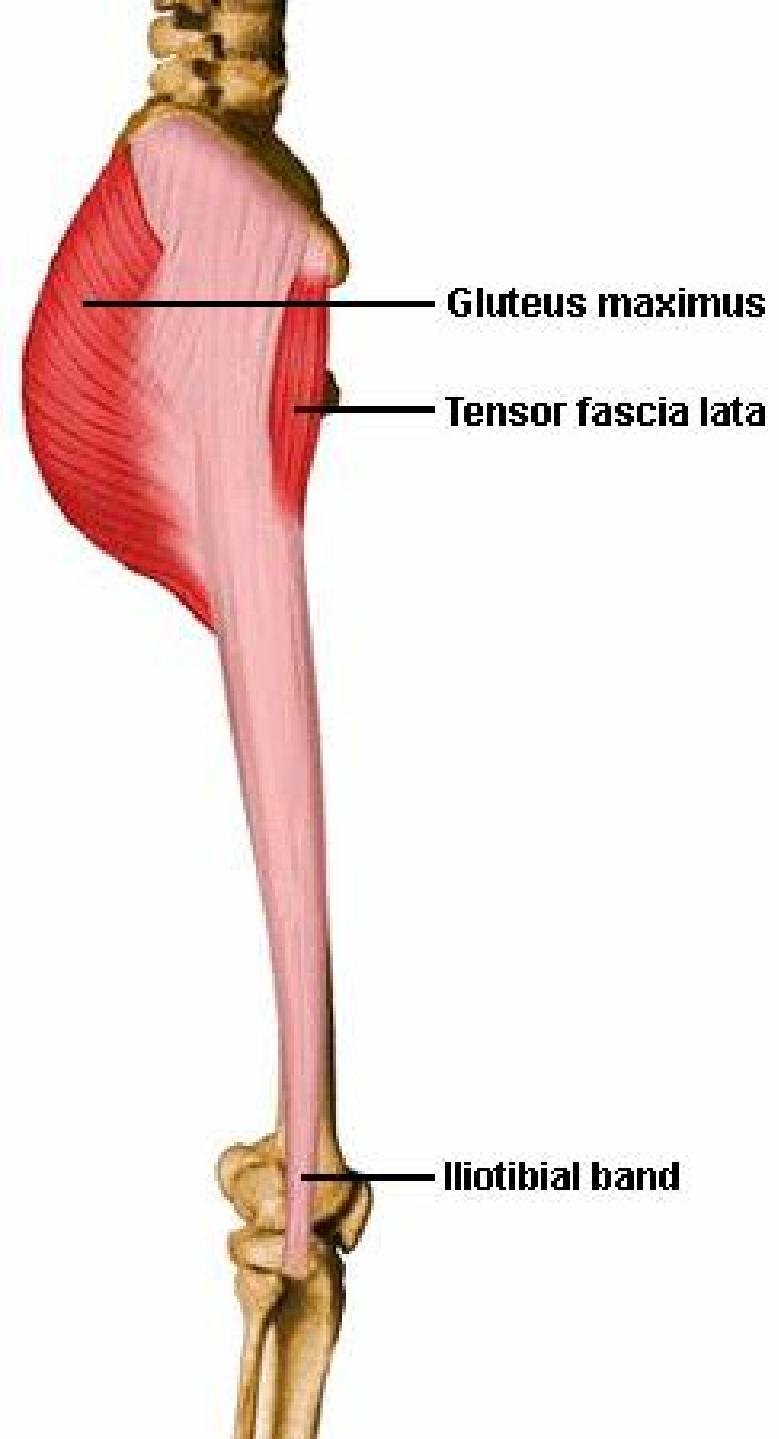


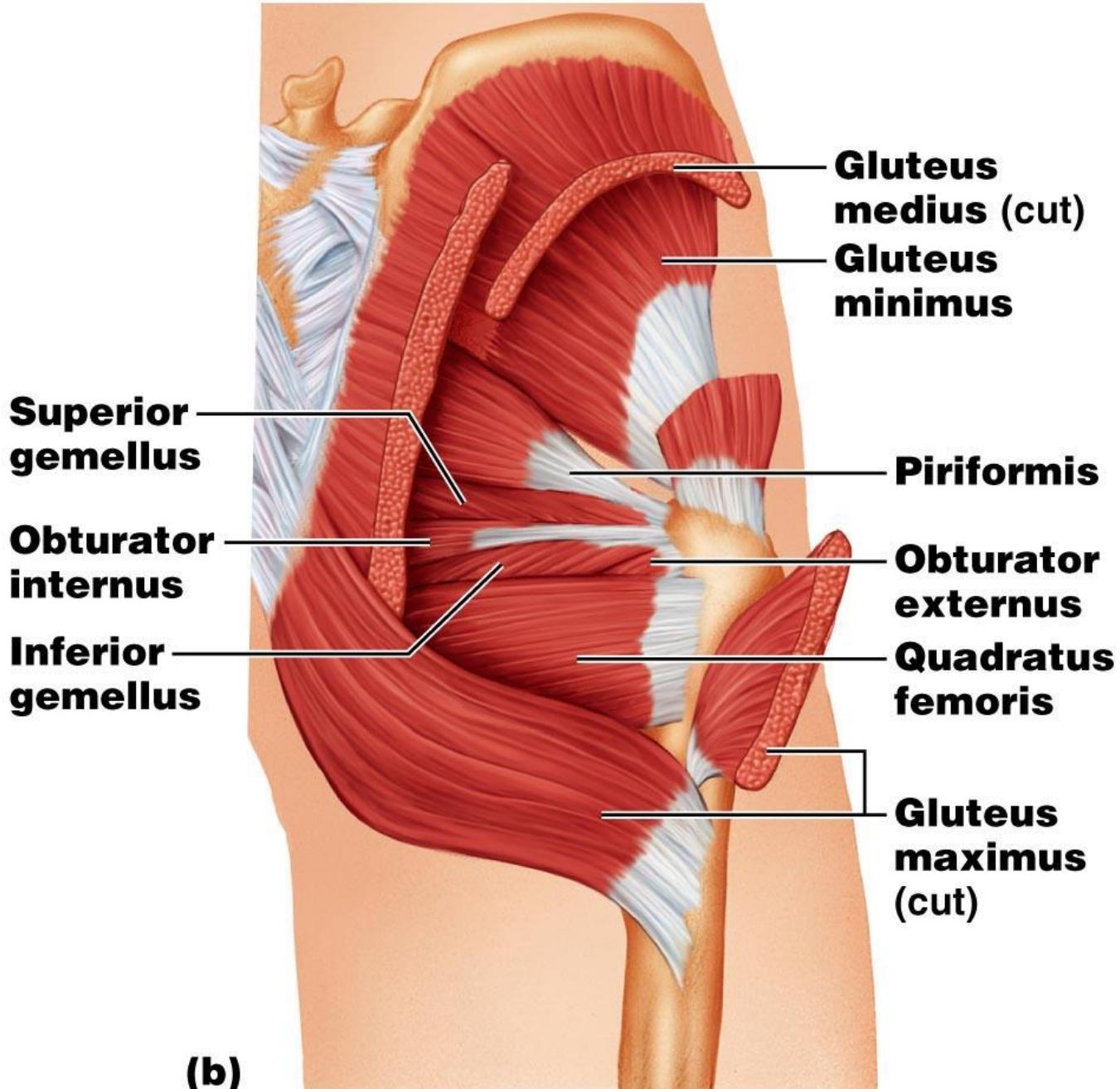


Gluteus medius



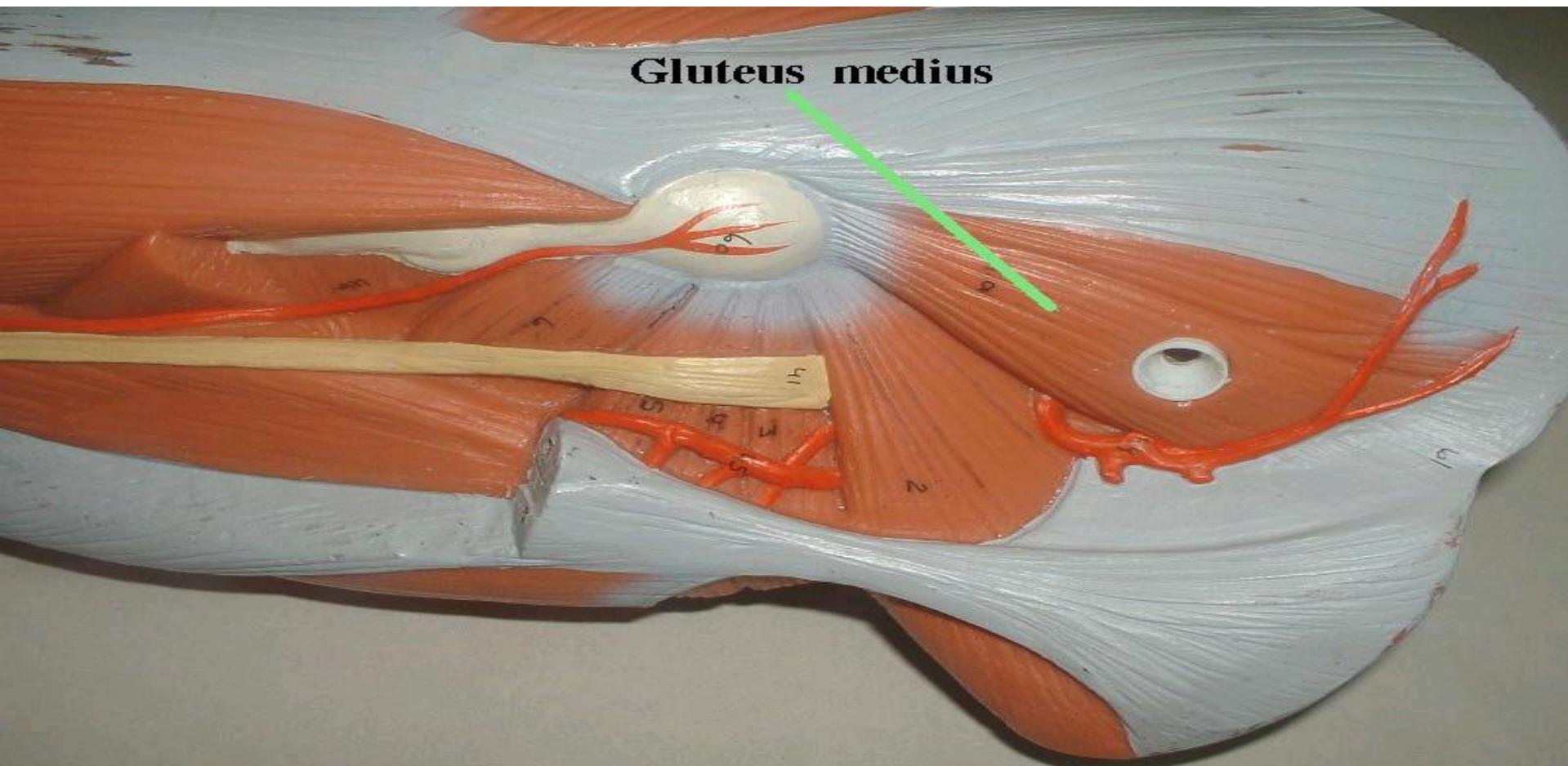
Gluteus minimus

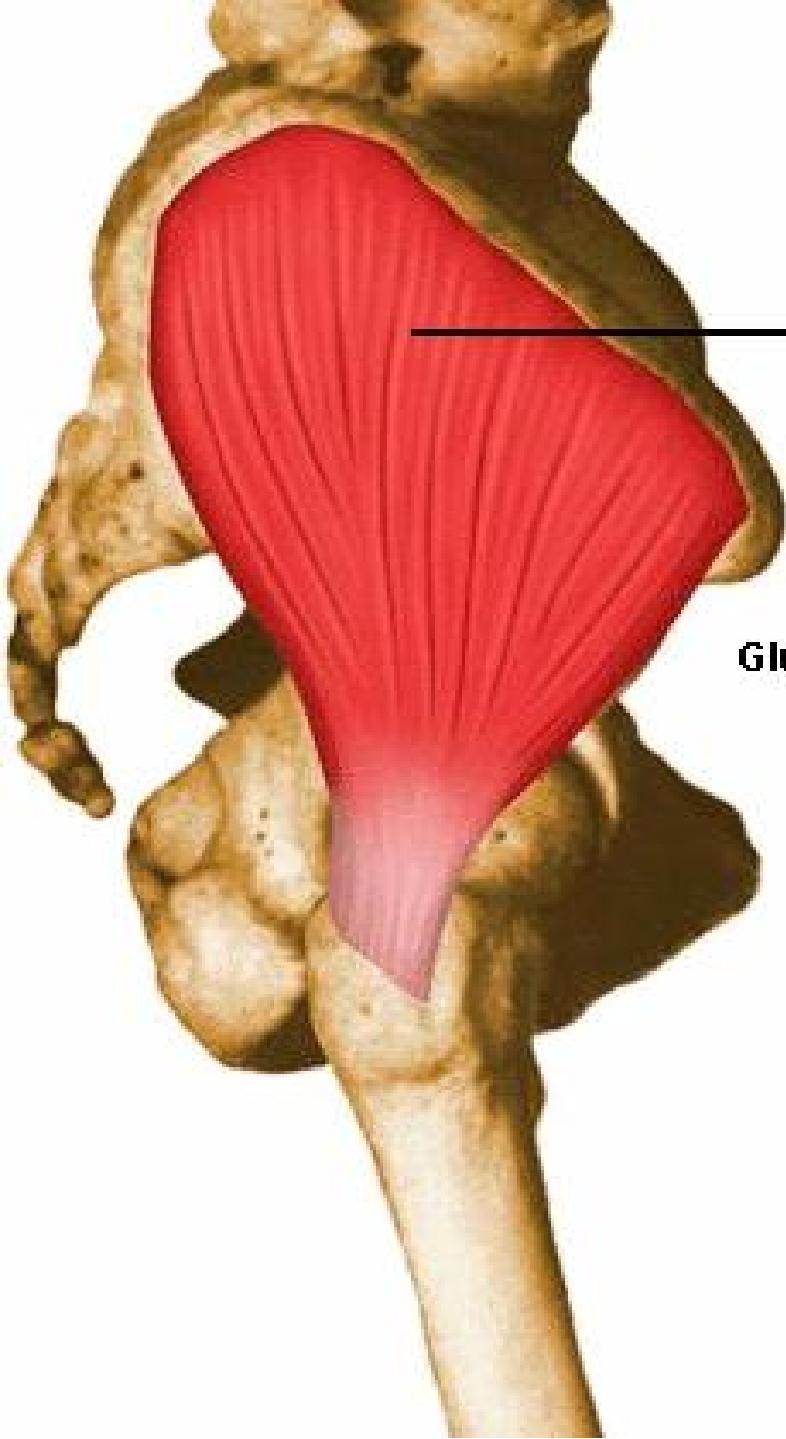




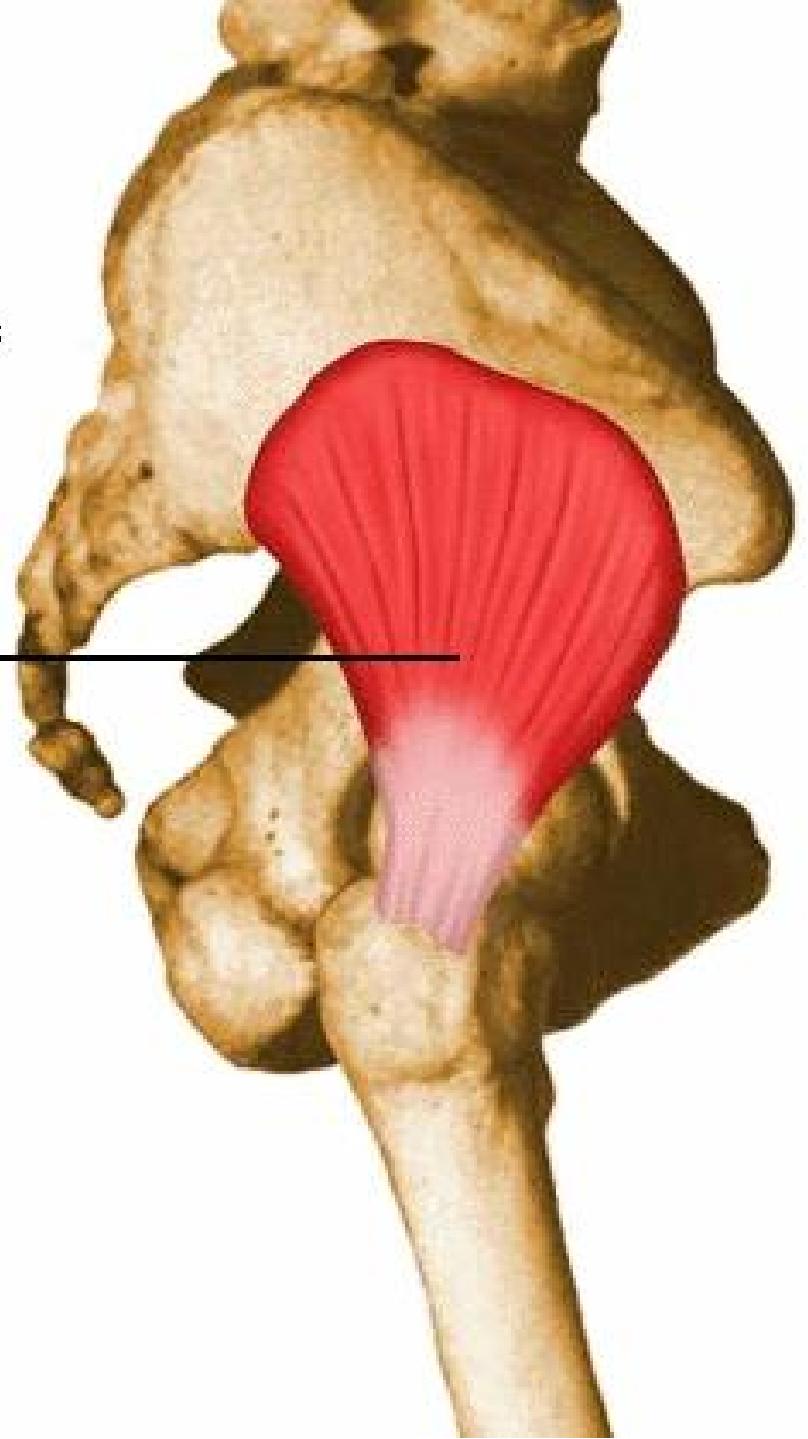
- This muscle abducts the thigh.
- It originates on the lateral surface of the ilium,
- it inserts on the greater trochanter of the femur.

Gluteus medius*.

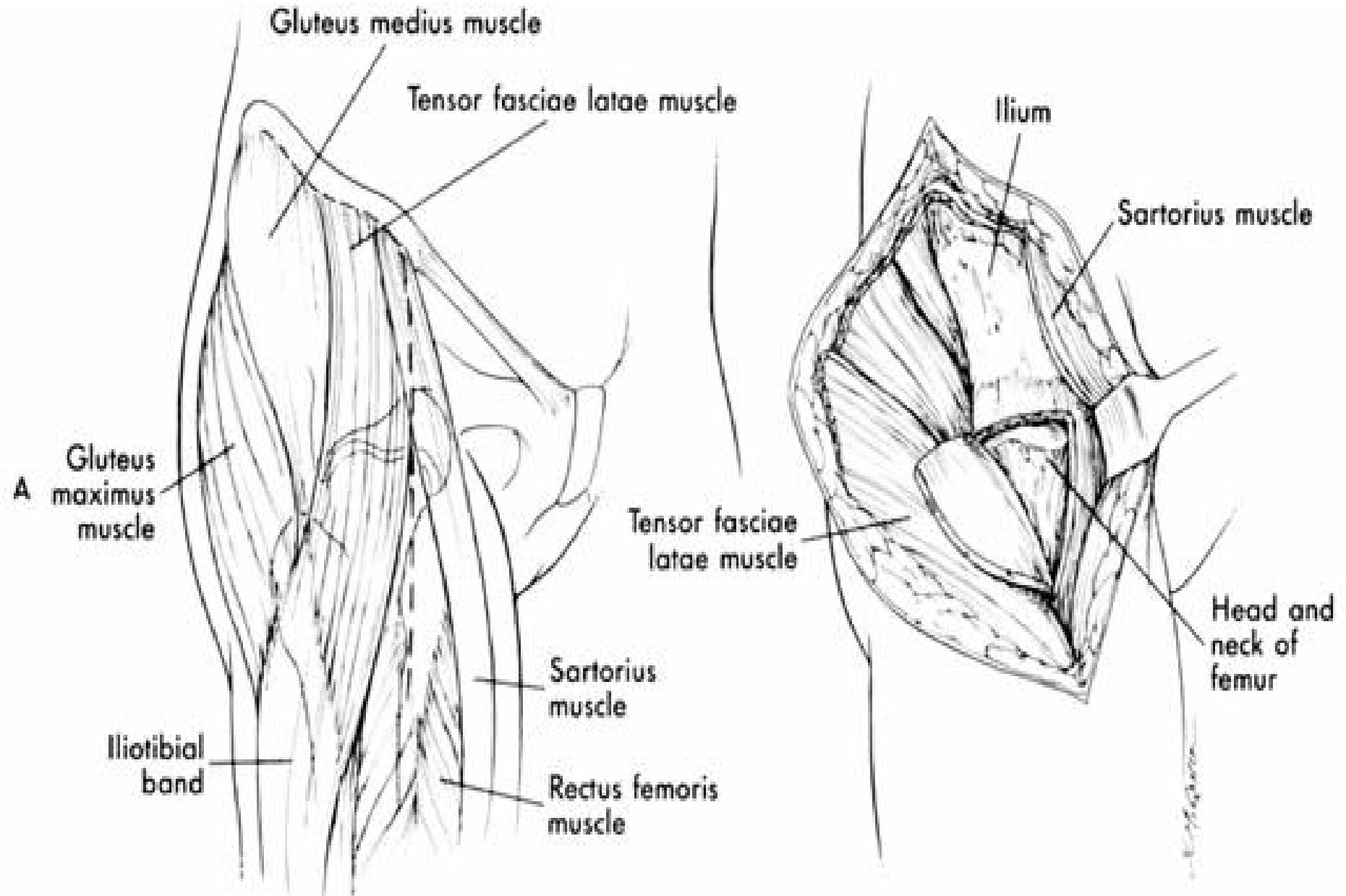


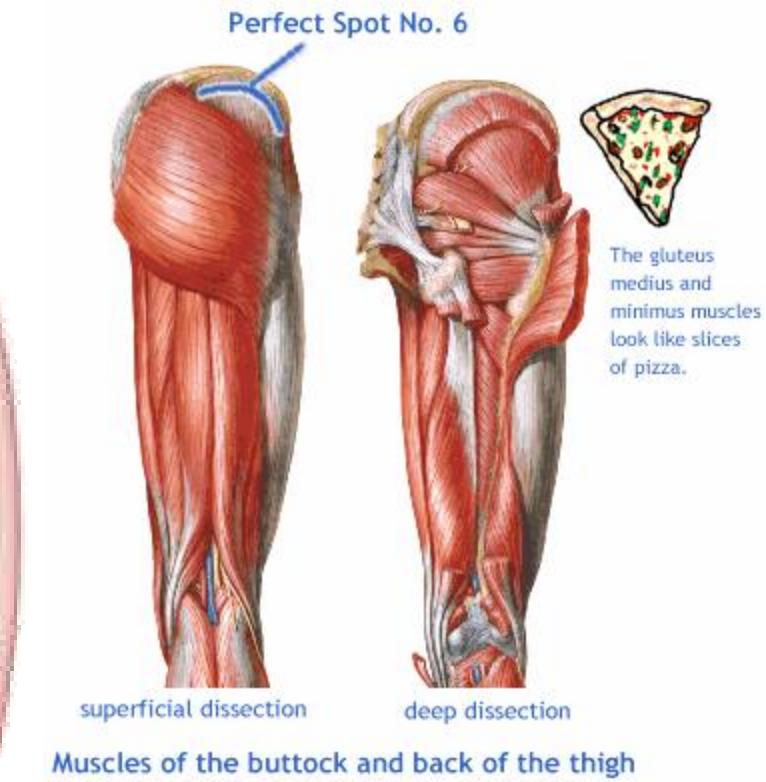


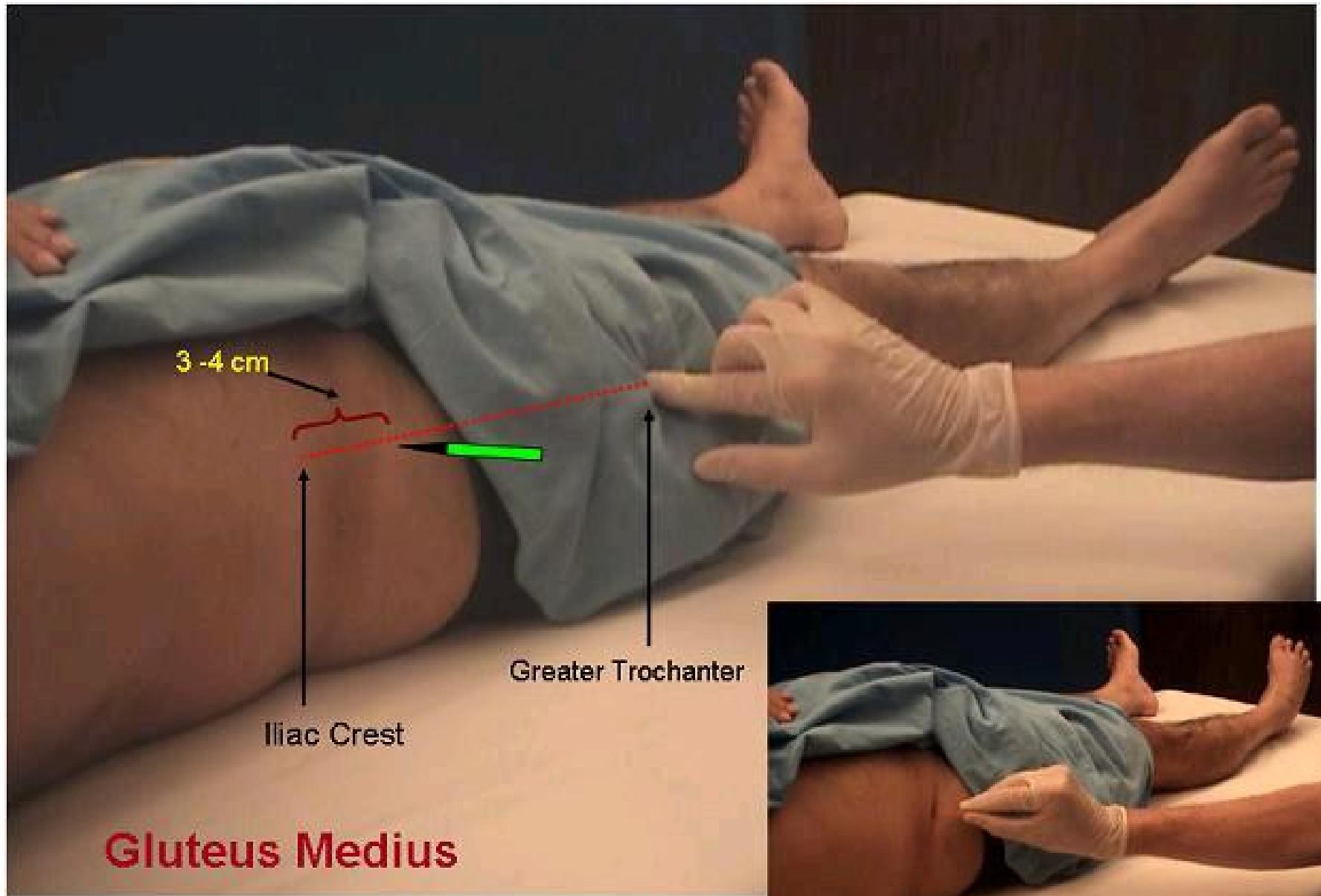
Gluteus medius

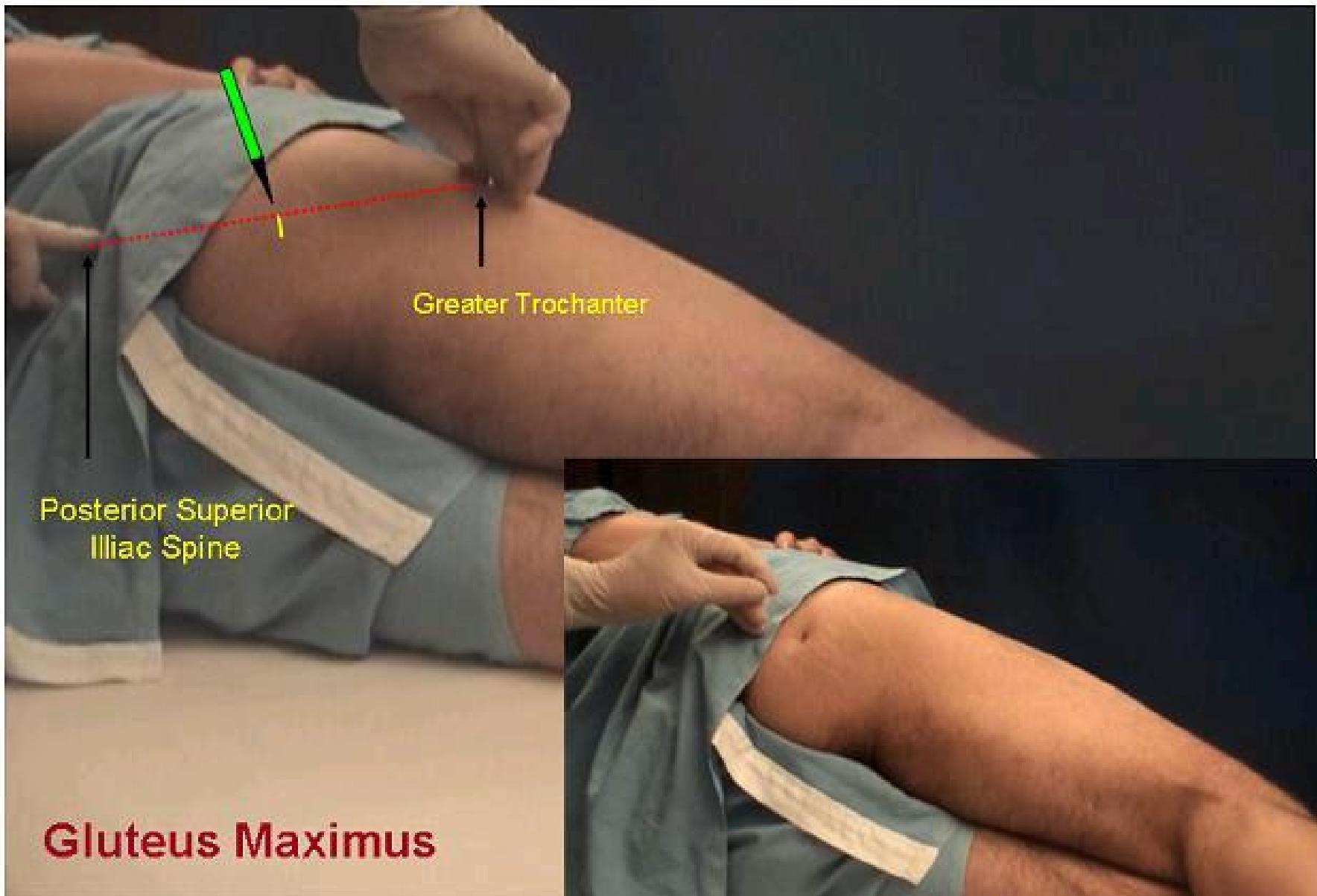


Gluteus minimus









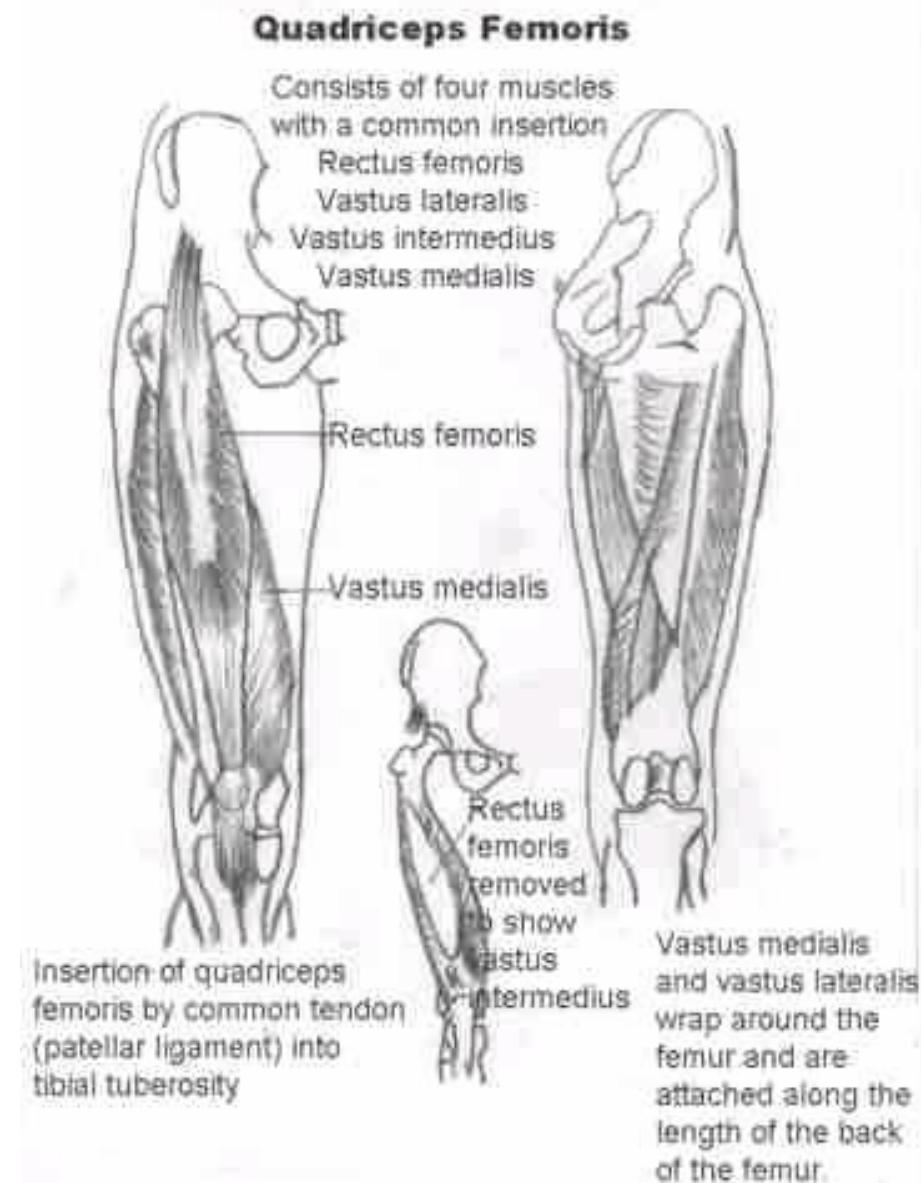
Quadriceps femoris=Knee Extenders

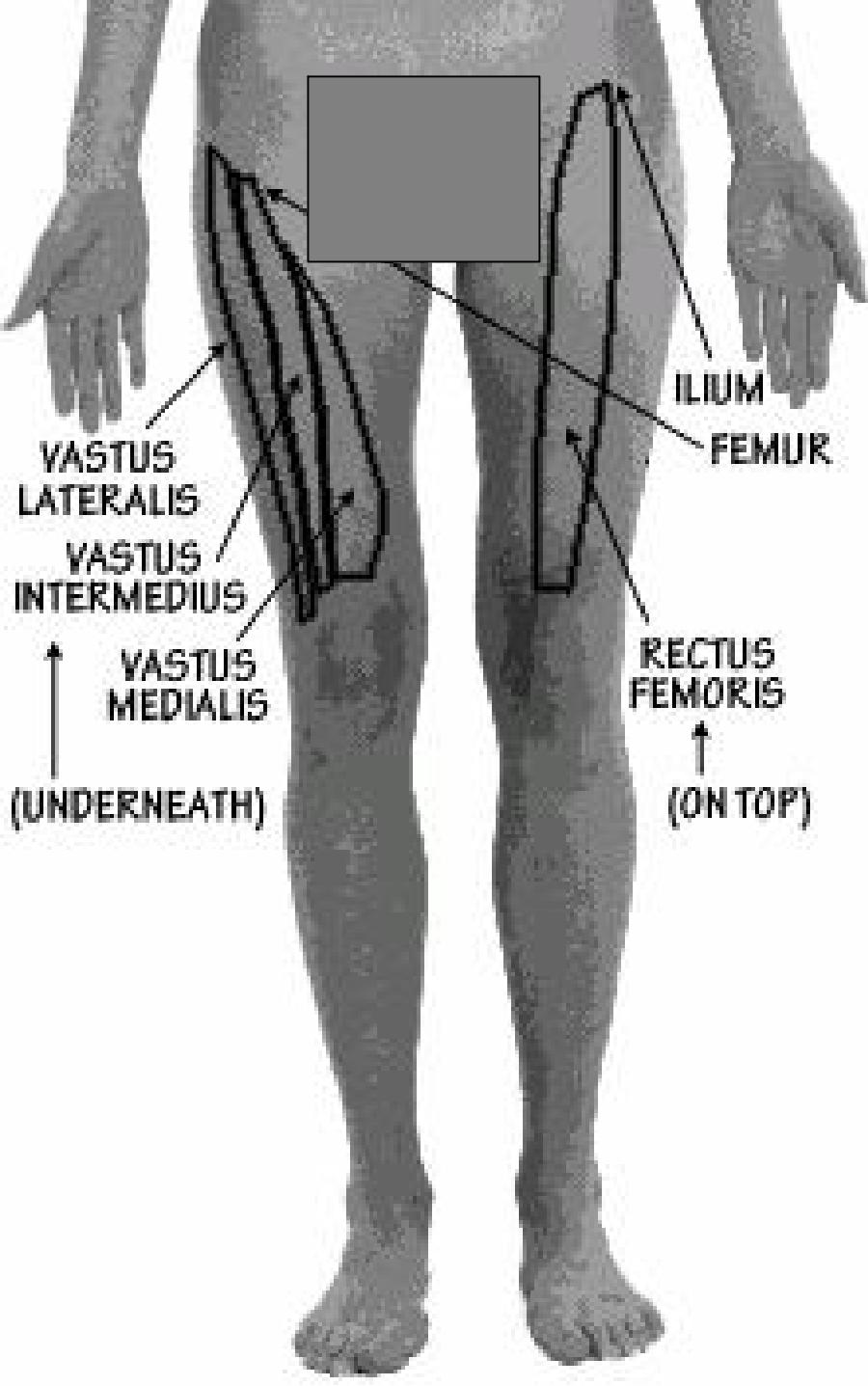
- **Rectus femoris***. This muscle extends the leg. It originates on the ilium and inserts on the patella. Pulling the patella pulls the tibial tuberosity via the patellar ligament.
- **Vastus lateralis**. This muscle extends the leg.
- **Vastus medialis**. This muscle extends the leg.
- **Vastus intermedius**. This muscle extends the leg.

Hamstring: . Thigh Extenders and Knee Flexors

- **Biceps femoris***. This muscle flexes the leg. It originates on the ischial tuberosity and the linea aspera. It inserts on the head of the fibula and next to the lateral condyle of the tibia.
- **Semitendinosus**. The primary action of this muscle is to flex the leg.
- **Semimembranosus**. This muscle also flexes the leg.

Muscles that move the leg





VASTUS
LATERALIS

VASTUS
INTERMEDIUS

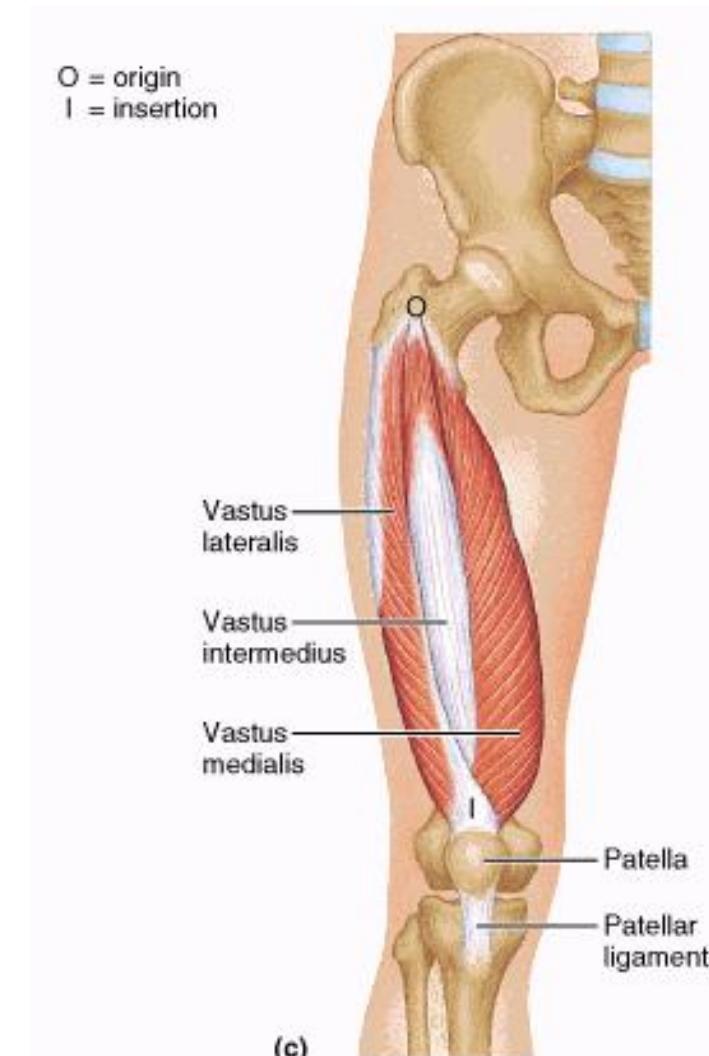
VASTUS
MEDIALIS
(UNDERNEATH)

ILIUM
FEMUR

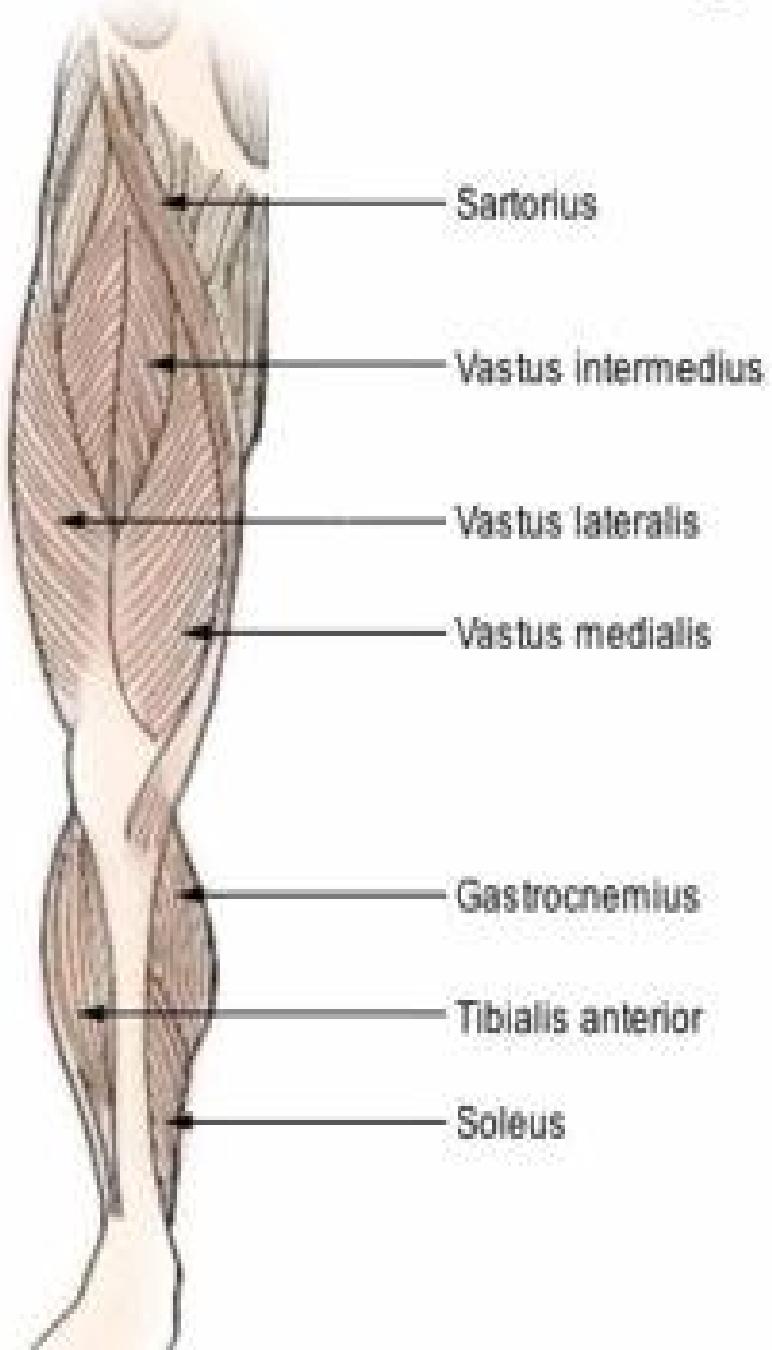
RECTUS
FEMORIS
(ON TOP)

- The **quadriceps femoris** (**quadriceps extensor**, or **quads**) includes the four remaining muscles on the front of the thigh. It is the great extensor muscle of the leg, forming a large fleshy mass which covers the front and sides of the femur.
- It is subdivided into separate portions, which have received distinctive names.
- One occupying the middle of the thigh, and connected above with the ilium, is called from its straight course the **rectus femoris**.
- The other three lie in immediate connection with the body of the femur, which they cover from the trochanters to the condyles:
 - The portion on the *lateral side* of the femur is termed the *vastus lateralis*.**
 - The portion covering the *medial side* is termed the *vastus medialis*.**
 - The portion in *front* is termed the *vastus intermedius*.**

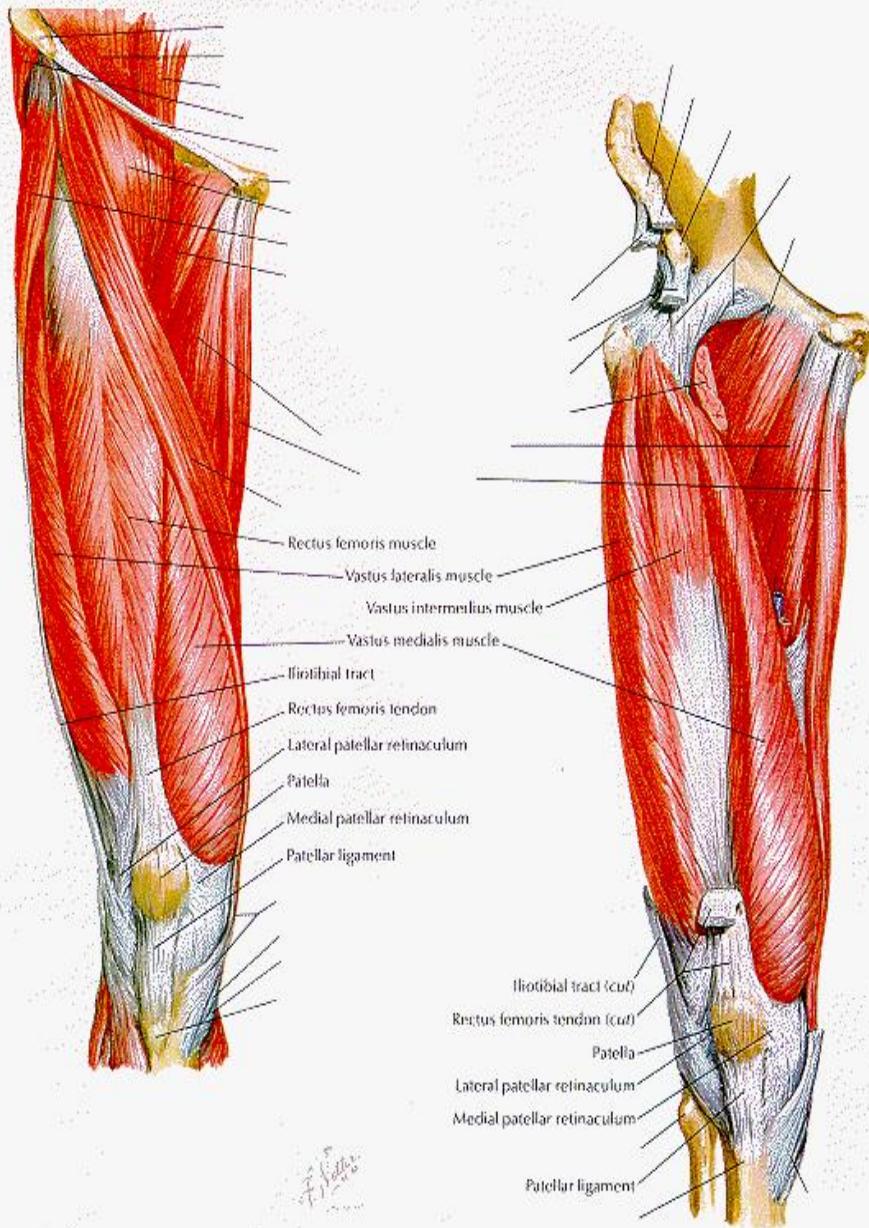
Quadriceps femoris



Muscles of the Lower Extremity



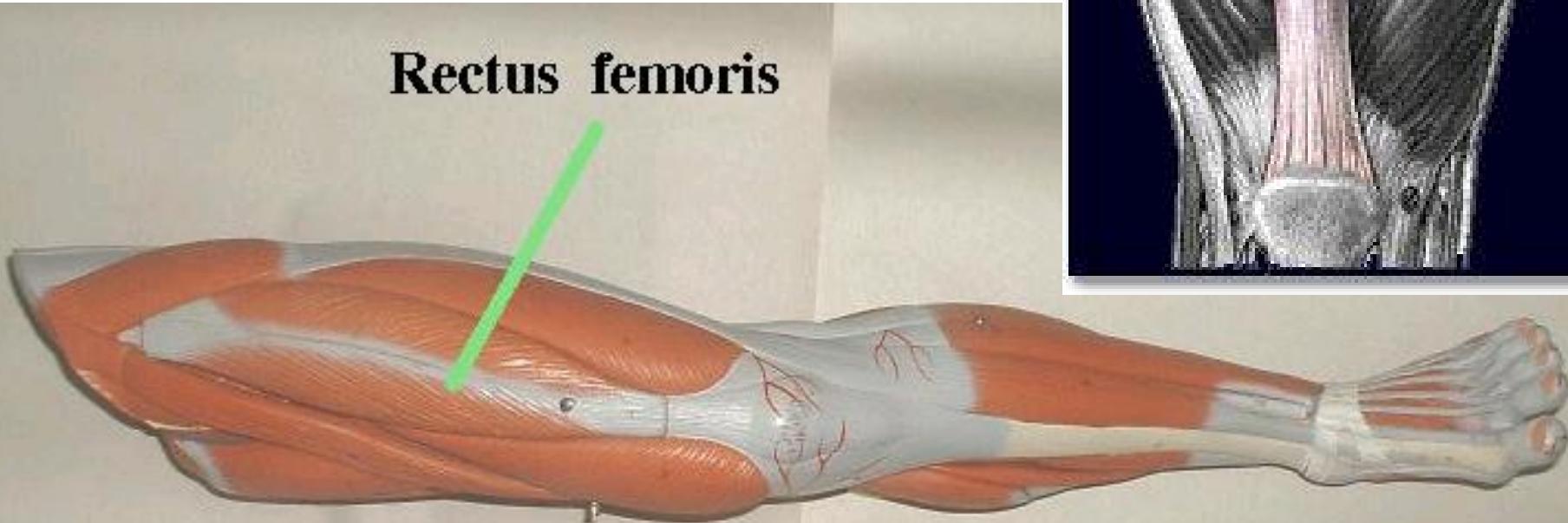
Muscles of Thigh: Anterior Views



Rectus femoris*.

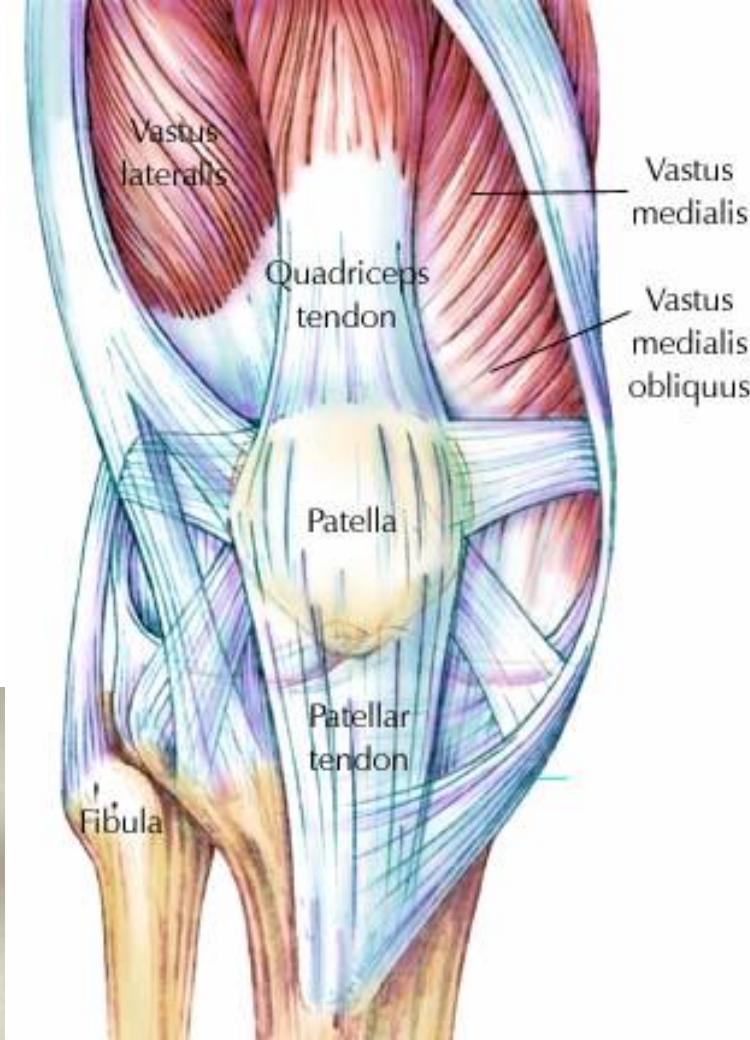
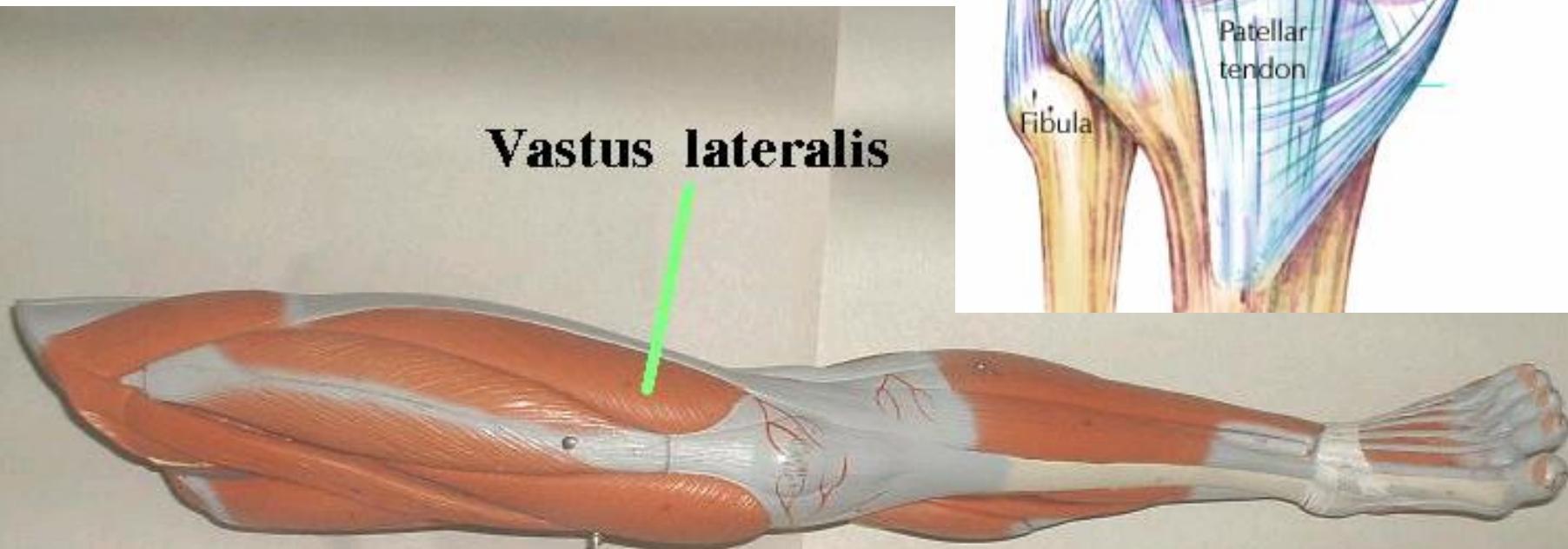
- This muscle extends the leg.
- It originates on the ilium and inserts on the patella.
- Pulling the patella pulls the tibial tuberosity via the patellar ligament.

Rectus femoris



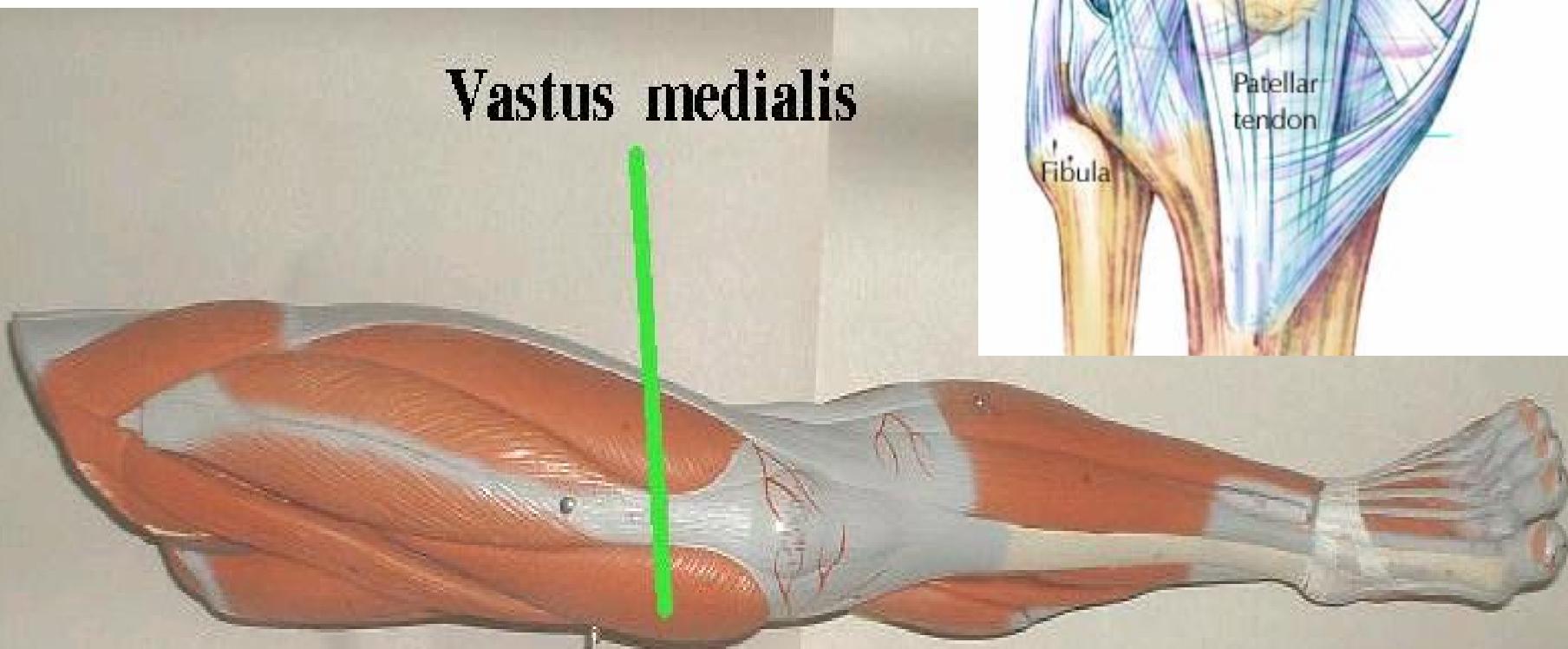
Vastus lateralis.

- This muscle extends the leg



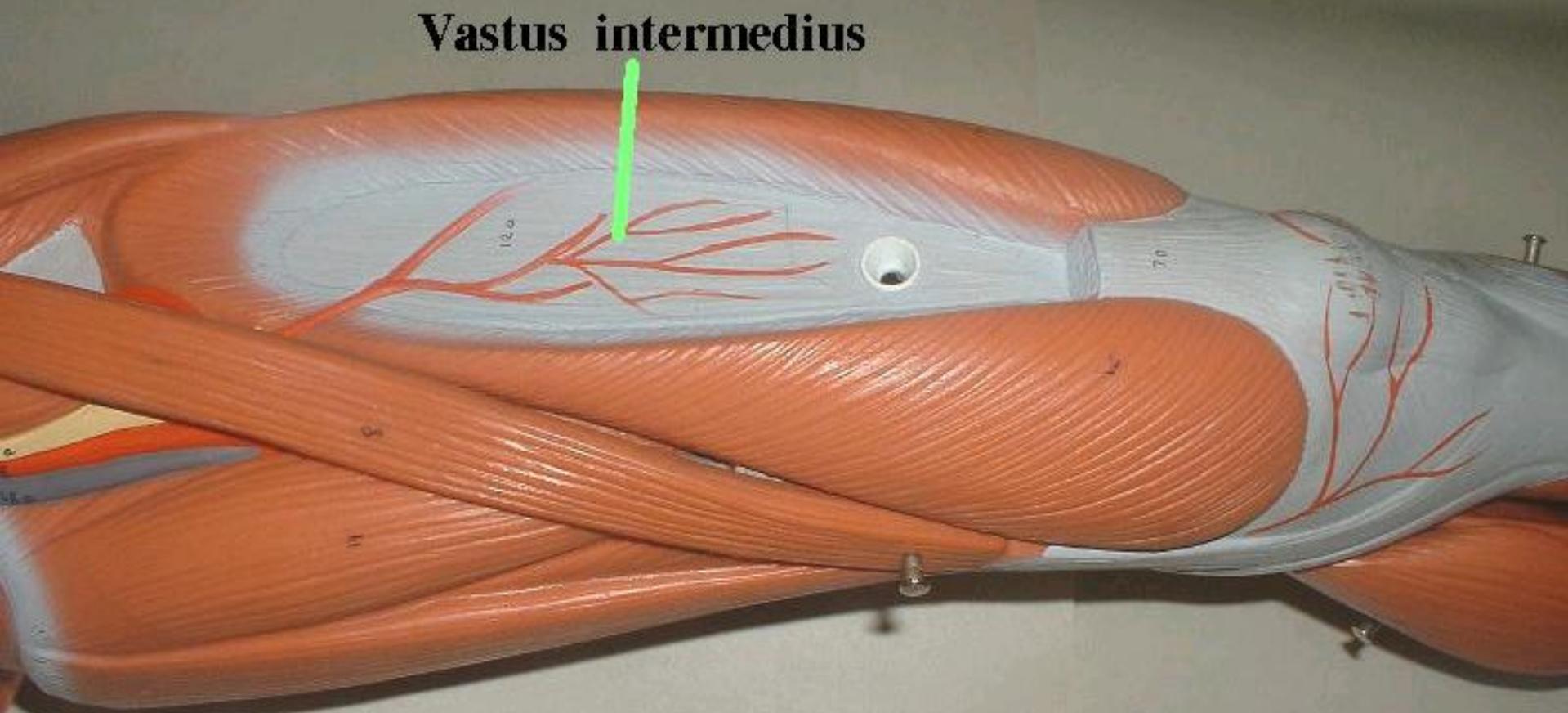
Vastus medialis

- This muscle extends the leg.



- This muscle extends the leg

Vastus intermedius



Hamstrings

Thigh Extenders and Knee Flexors

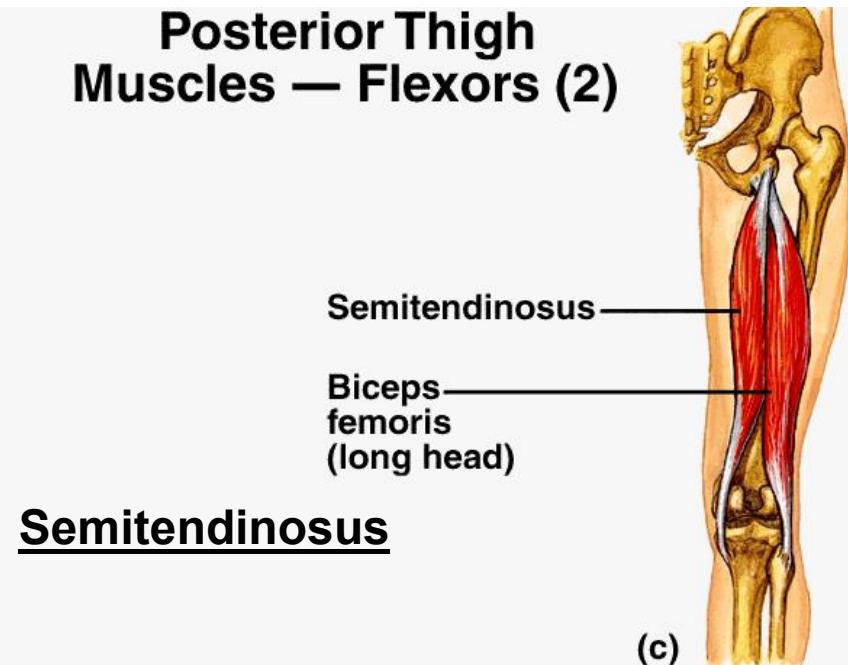


**Posterior Thigh
Muscles — Flexors**

Semimembranosus
Biceps femoris
(short head)

Biceps femoris:

**Posterior Thigh
Muscles — Flexors (2)**



Semitendinosus

^(c)
**Posterior Thigh
Muscles — Flexors (1)**



Semimembranosus
Biceps femoris
(short head)

Semimembranosus

"Hamstrings"
(posterior thigh)

Lateral
Hamstring (LH)

Medial
Hamstring (MH)



more
superficial

Muscles that Extend the Leg (Quadriceps Femoris)

anterior

rectus
femoris

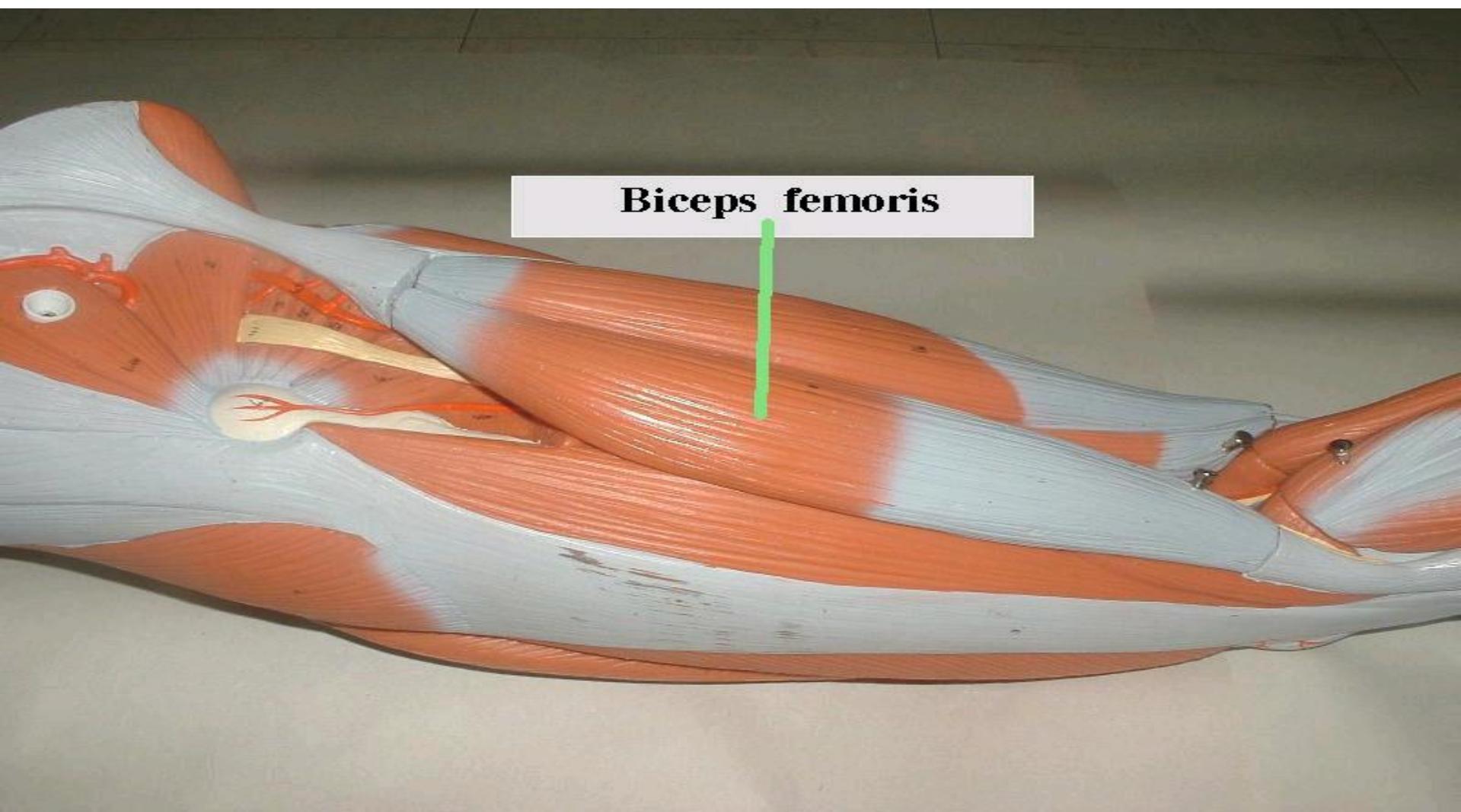
vastus
lateralis(VL)

vastus
medialis



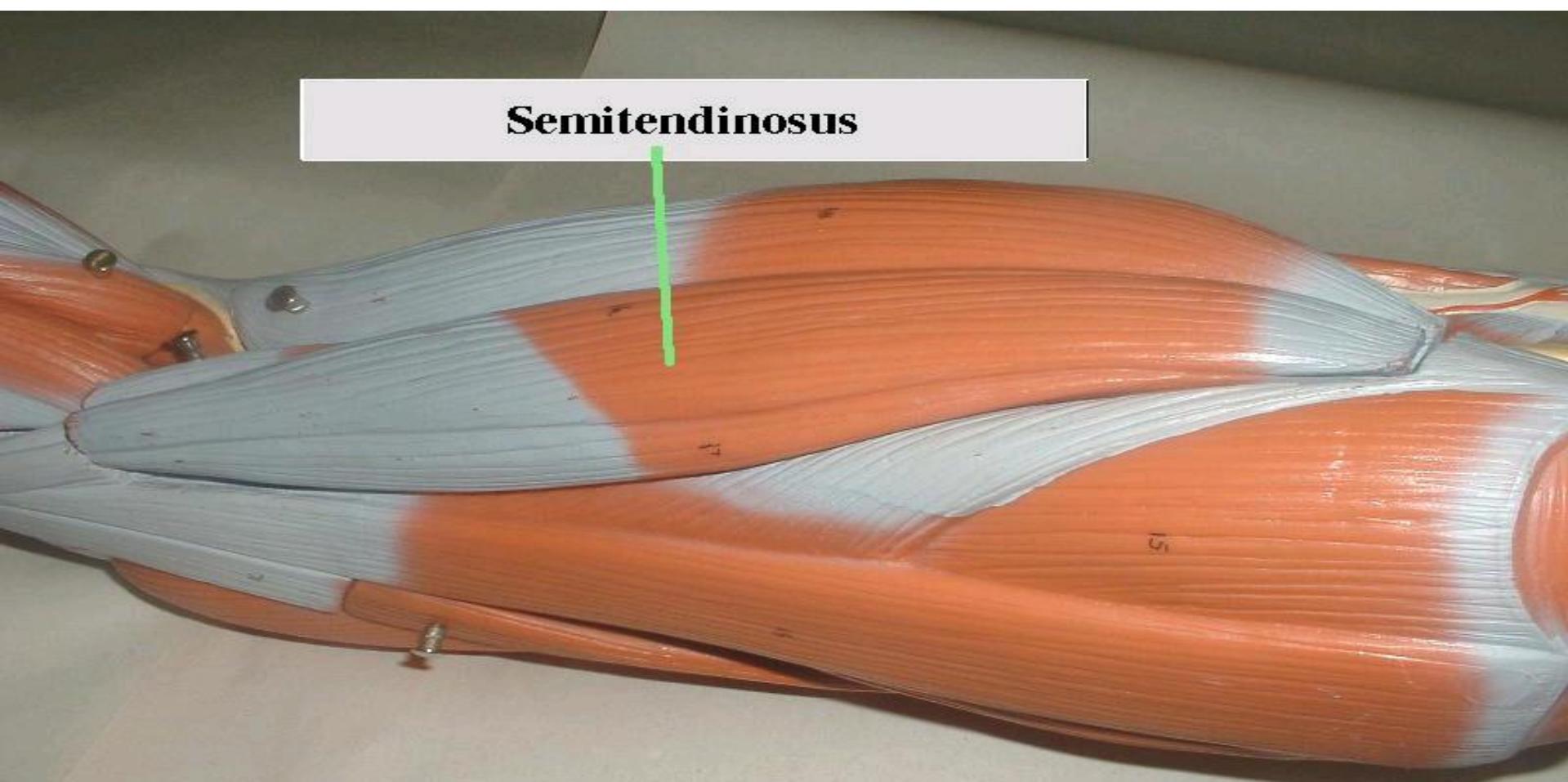
- This muscle flexes the leg.
- It originates on the ischial tuberosity and the linea aspera.
- It inserts on the head of the fibula and next to the lateral condyle of the tibia.

Biceps femoris



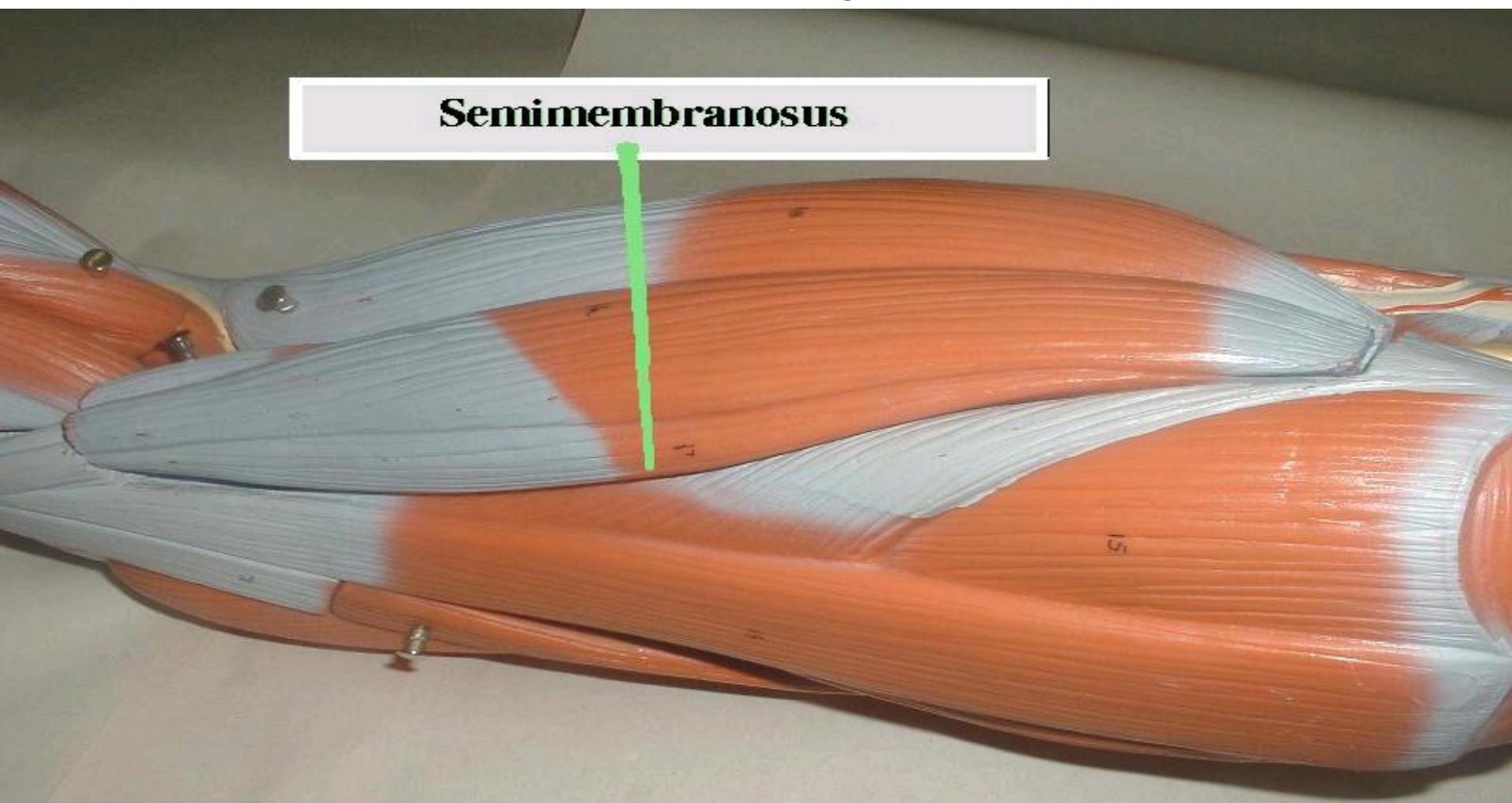
Semitendinosus

- The primary action of this muscle is to flex the leg.



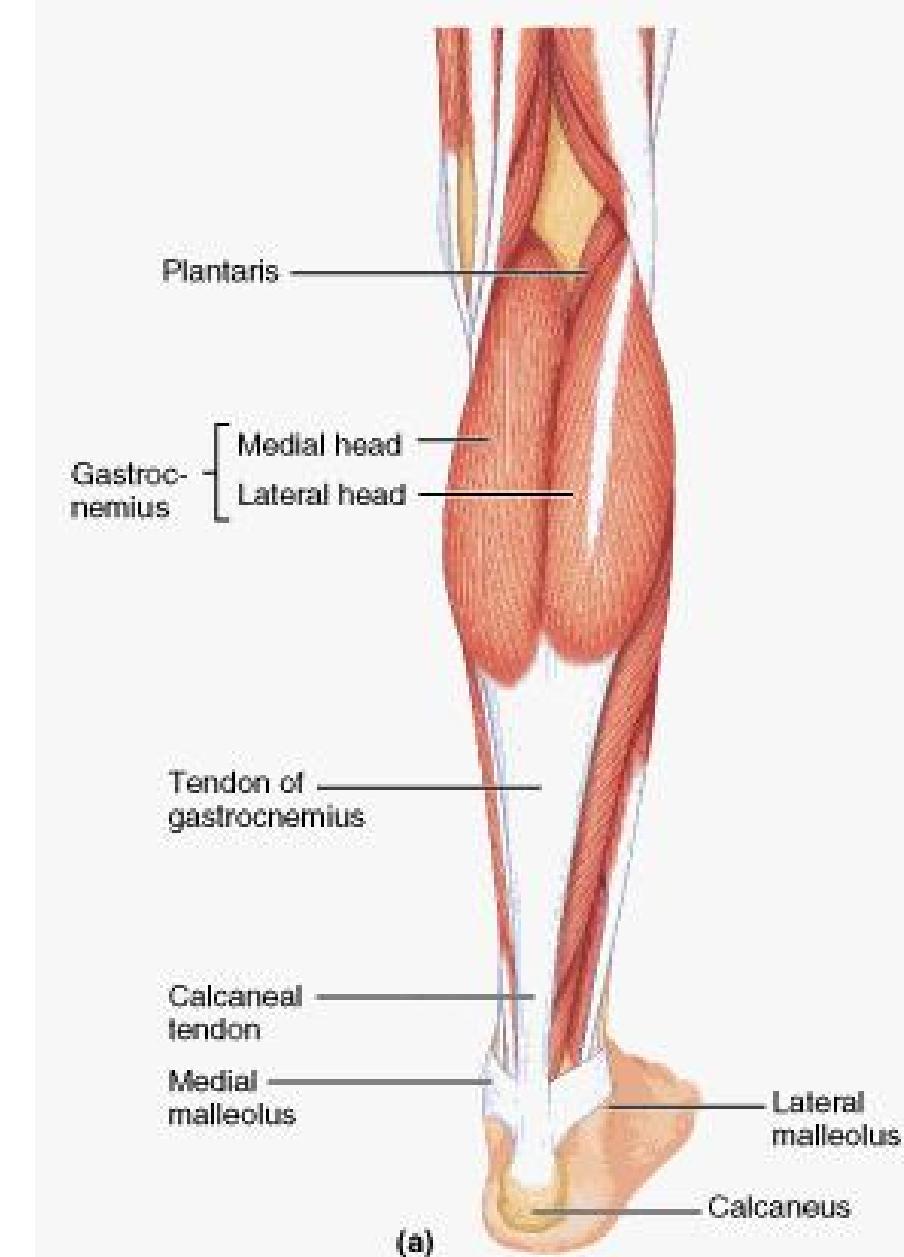
Semimembranosus

- . This muscle also flexes the leg.



Muscles that move the foot

- Muscles that flex and extend the foot are generally located on the leg.
- However, the words “flexion” and “extension” are not used when describing movement of the foot.
- Rather, flexion of the foot is called **dorsiflexion**, and extension of the foot is called **plantar flexion**.



Muscles that move the foot

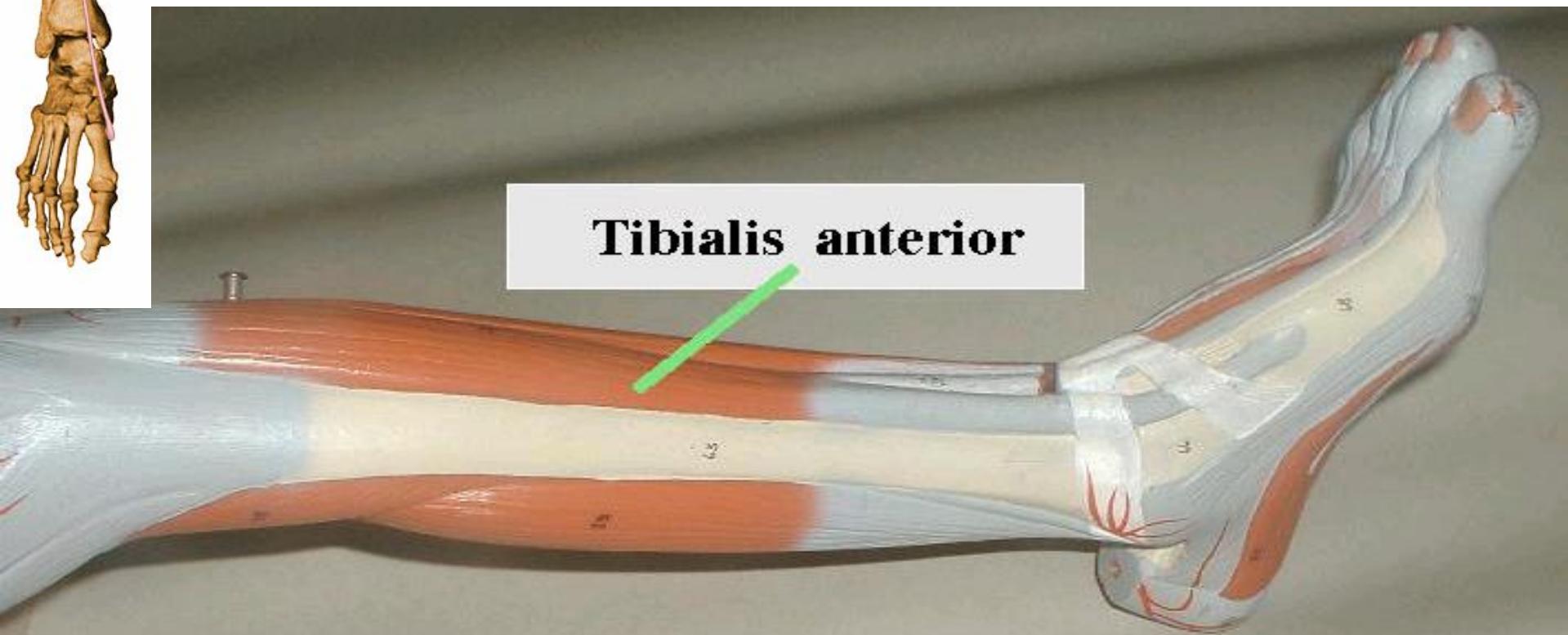
- **Tibialis anterior.** The primary action of this muscle is dorsiflexion.
- **Gastrocnemius***. The primary action of this muscle is plantar flexion. This muscle originates from the medial and lateral condyles of the femur, and it inserts on the calcaneus. The tendon that connects the gastrocnemius to the calcaneus is called the
- **calcaneal tendon** (also known as the “Achilles tendon”).

- **Soleus.** The primary action of this muscle is plantar flexion. This muscle also inserts onto the calcaneus via the calcaneal tendon.

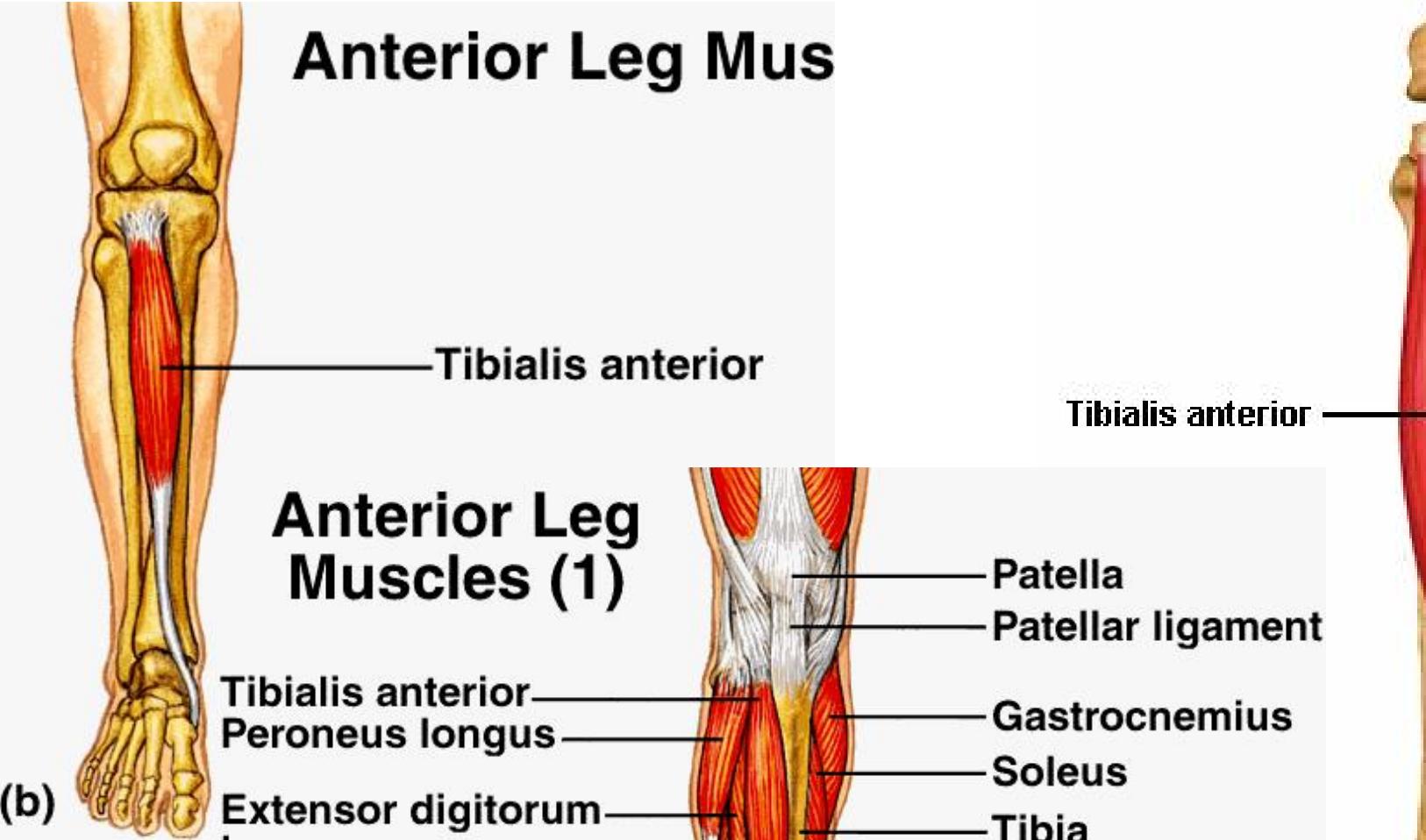


Tibialis anterior

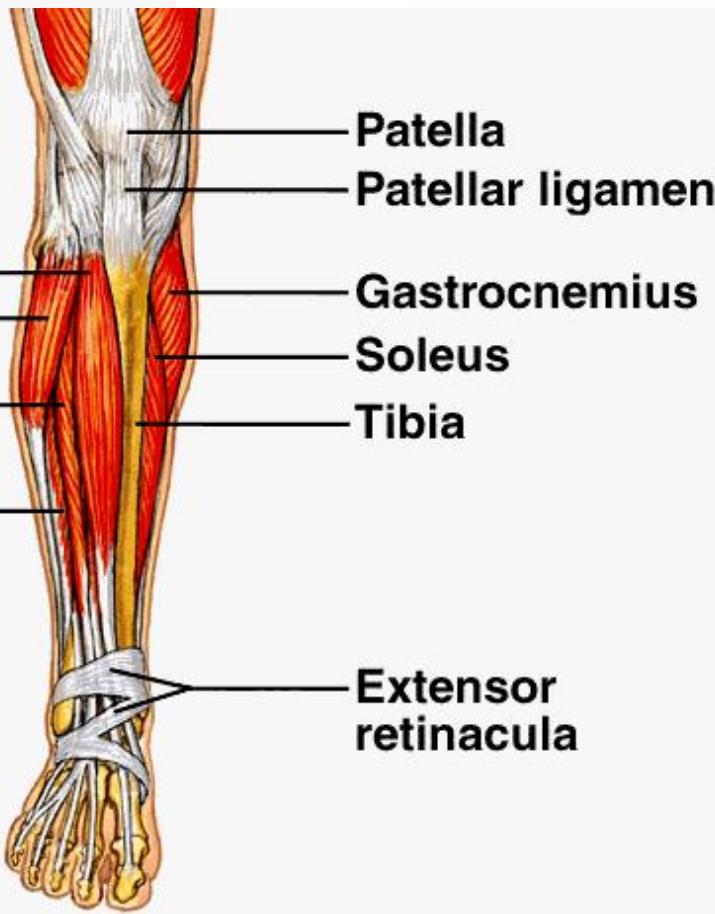
- . The primary action of this muscle is Dorsiflexor of ankle and invertor of foot



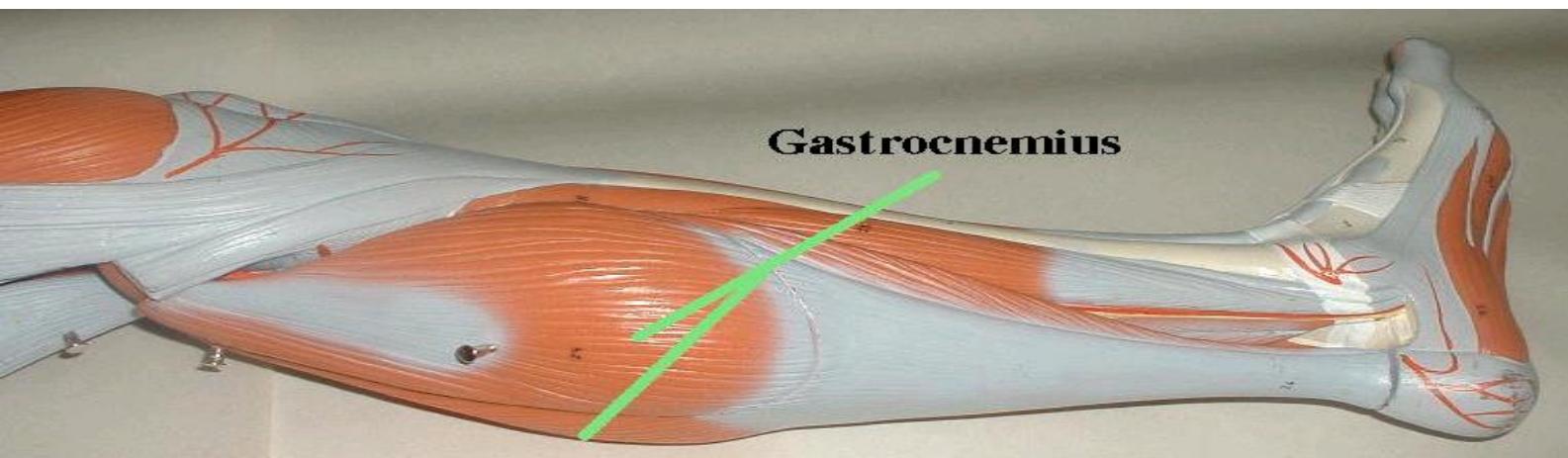
Anterior Leg Mus



(a)



Gastrocnemius*.

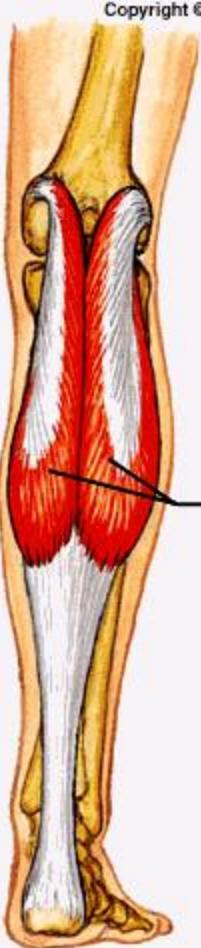


- primary action of this muscle is plantar flexion.
- inserts on the calcaneus.[The two heads unite into a broad aponeurosis which eventually unites with the deep tendon of the soleus to form the Achilles tendon, inserting on the middle 1/3 of the posterior calcaneal surface
- The tendon that connects the gastrocnemius to the calcaneus is called the **calcaneal tendon** (also known as the “Achilles tendon”).

originates **Medial head** from posterior nonarticular surface of medial femoral condyle; **Lateral head** from lateral surface of femoral lateral condyle

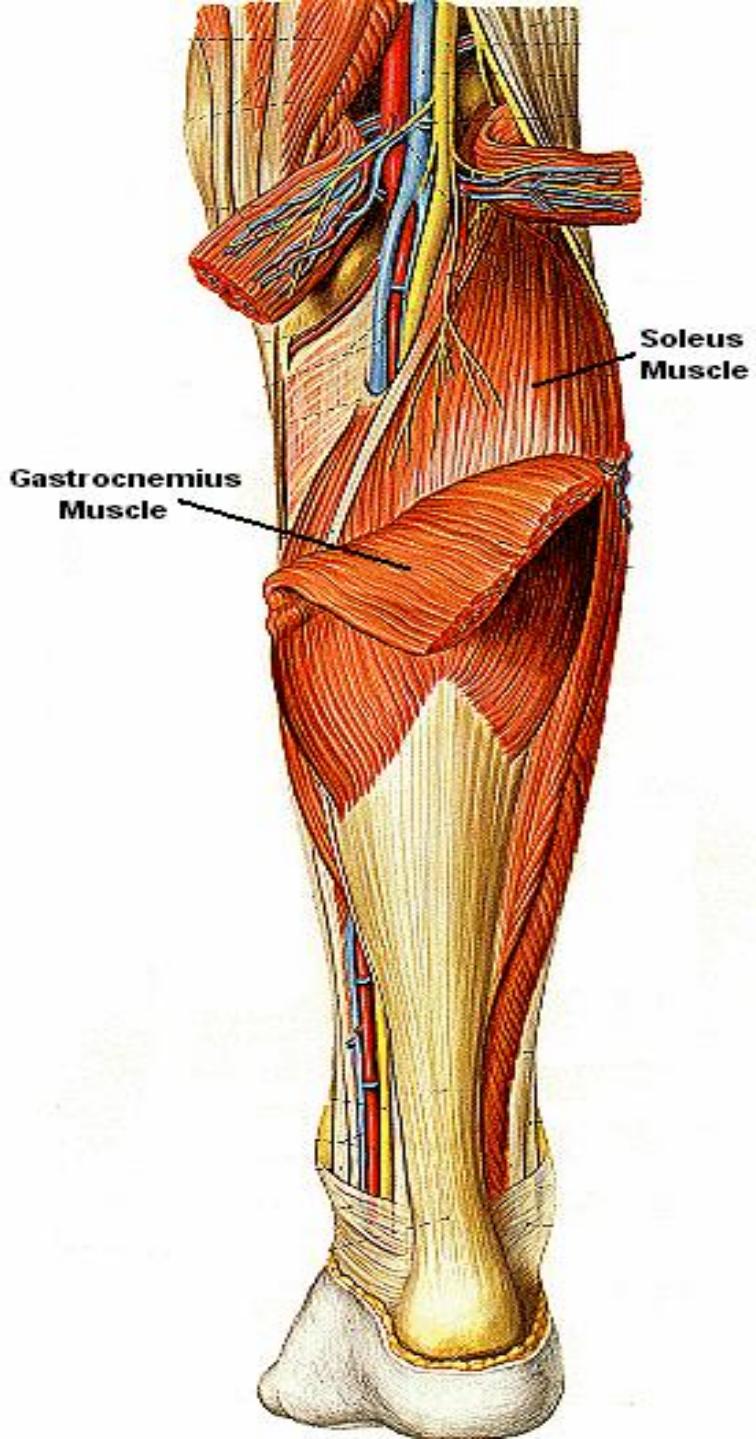


Posterior Leg Muscles



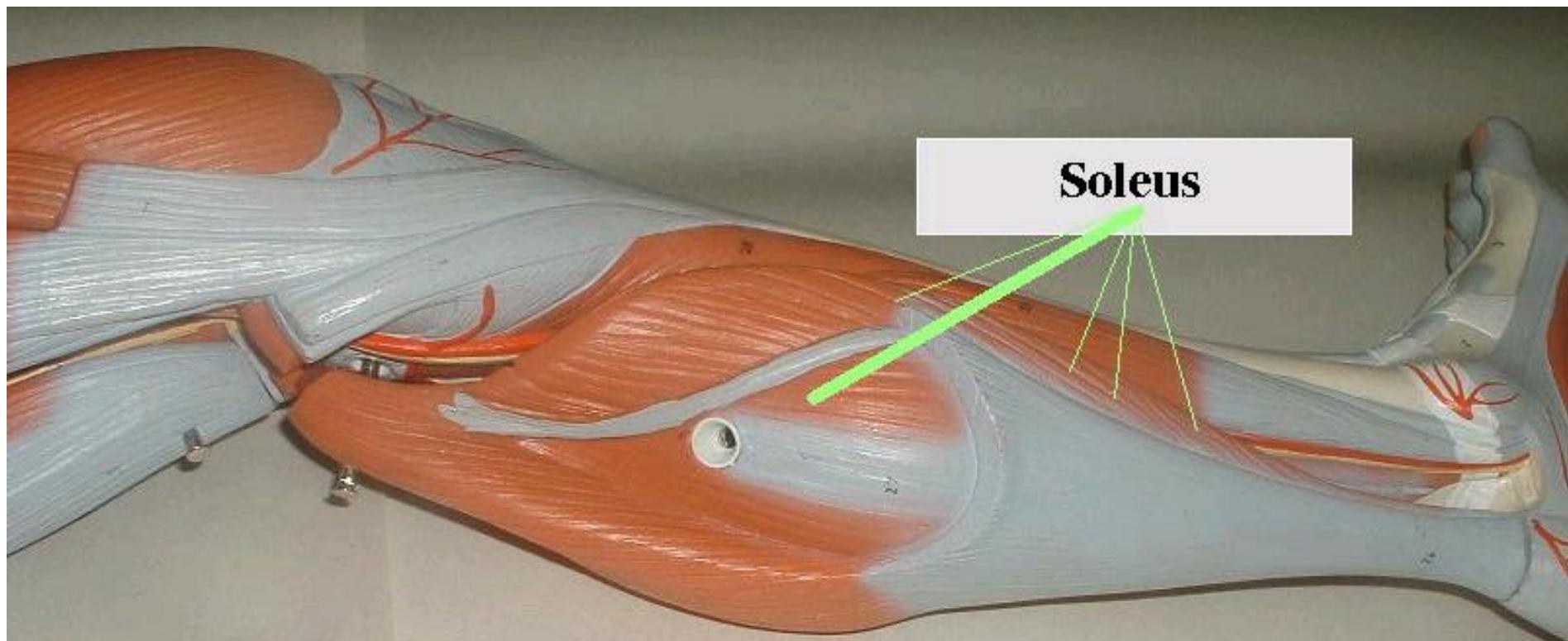
(b)

Gastrocnemius

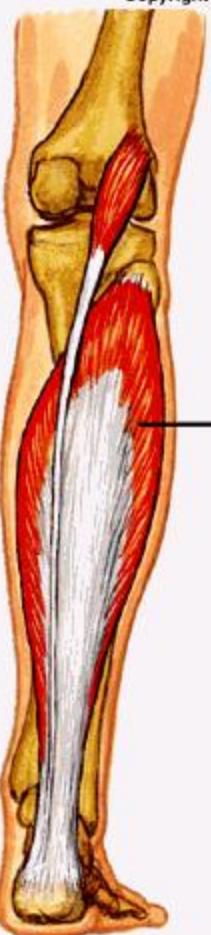


Soleus.

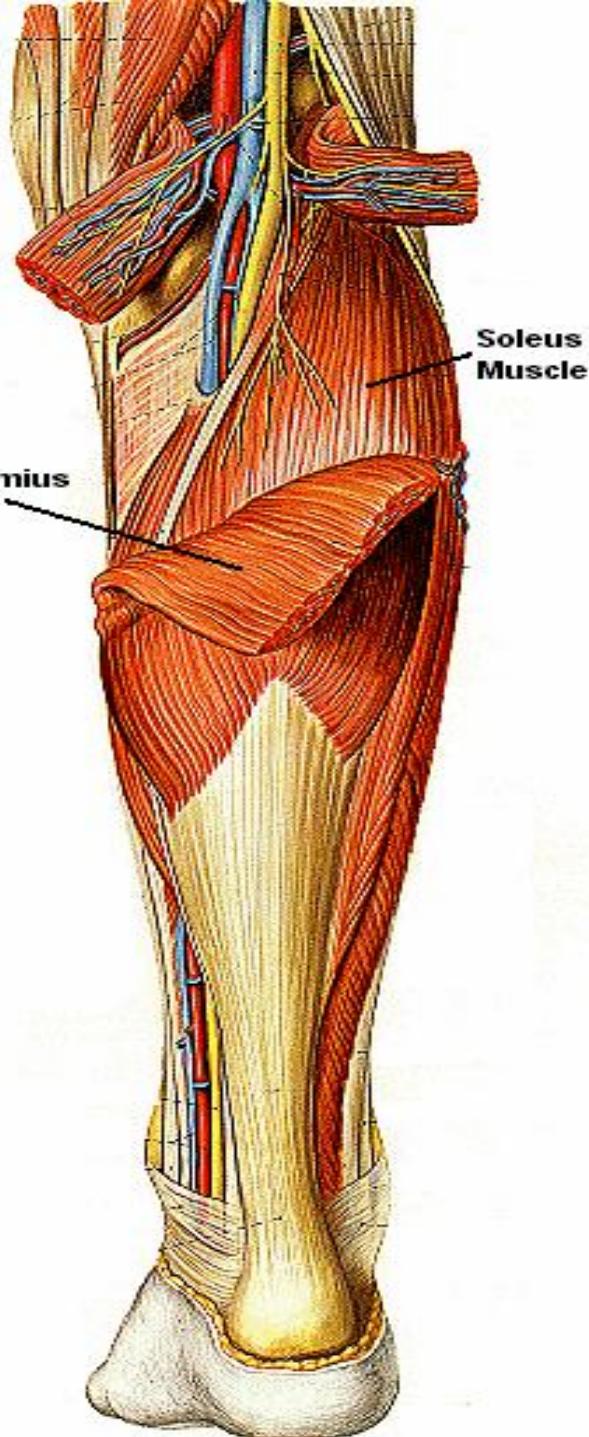
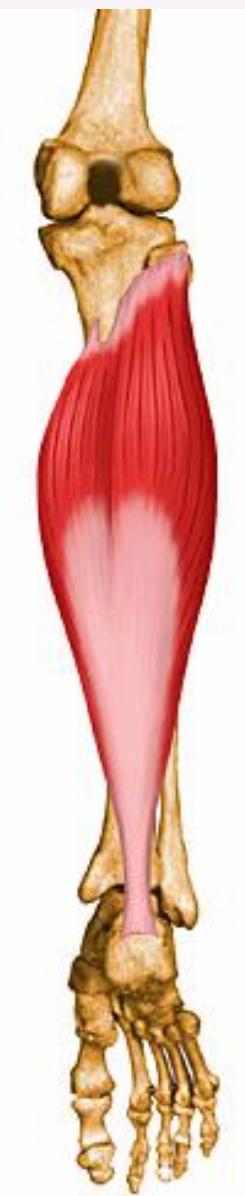
- The primary action of this muscle is plantar flexion. This muscle also inserts onto the calcaneus via the calcaneal tendon



Posterior Leg Muscles



(c)



http://www.lhup.edu/yingram/jennifer/webpage/hip_motions.htm