

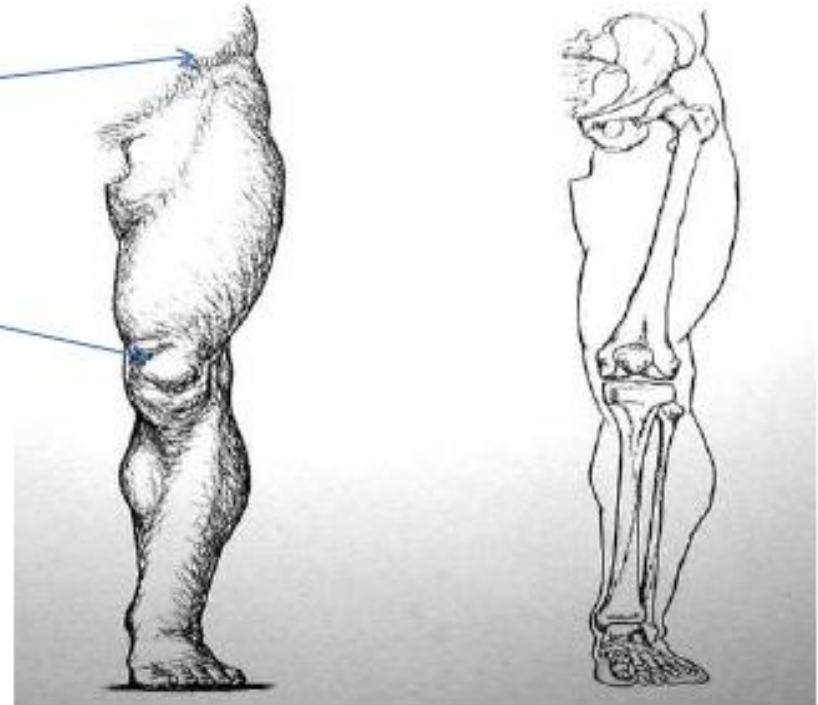
ANTERIOR COMPARTMENT OF THIGH

DR NAJMA ATTAULLAH
LECTURER ANATOMY KGMC

Anatomy of the thigh

- The thigh is the area between the pelvis and the knee.

- The single bone in the thigh (femur).



Fascial compartments of the thigh

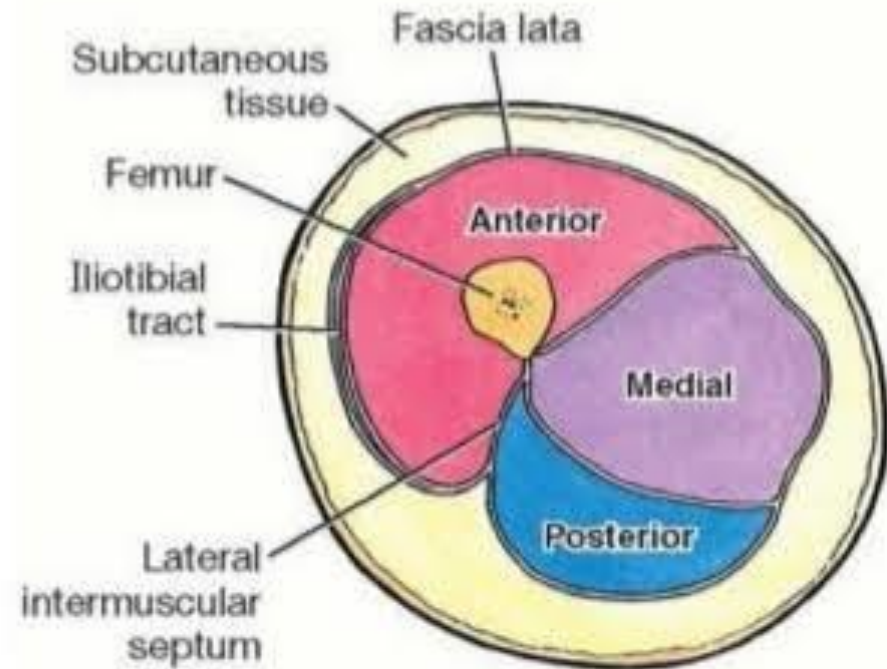
The thigh is divided into 3 compartments by the three fascial intermuscular septa (medial, posterior and lateral) that arise from the deep aspect of the fascia lata and attach to the linea aspera of the posterior surface of the femur

Three fascial compartments of the thigh:

Anterior; containing the quadriceps muscle and the femoral nerve

Medial; containing the adductor muscles and the obturator nerve

Posterior; containing the hamstring muscles and the sciatic nerve



A Inferior view of transverse section of thigh

Anatomy of the thigh

- The anterior compartment muscles of the thigh flex the femur at the hip and extend the leg at the knee.
- The posterior compartment muscles of the thigh extend the thigh and flex the leg.
- The medial compartment muscles all adduct the thigh.

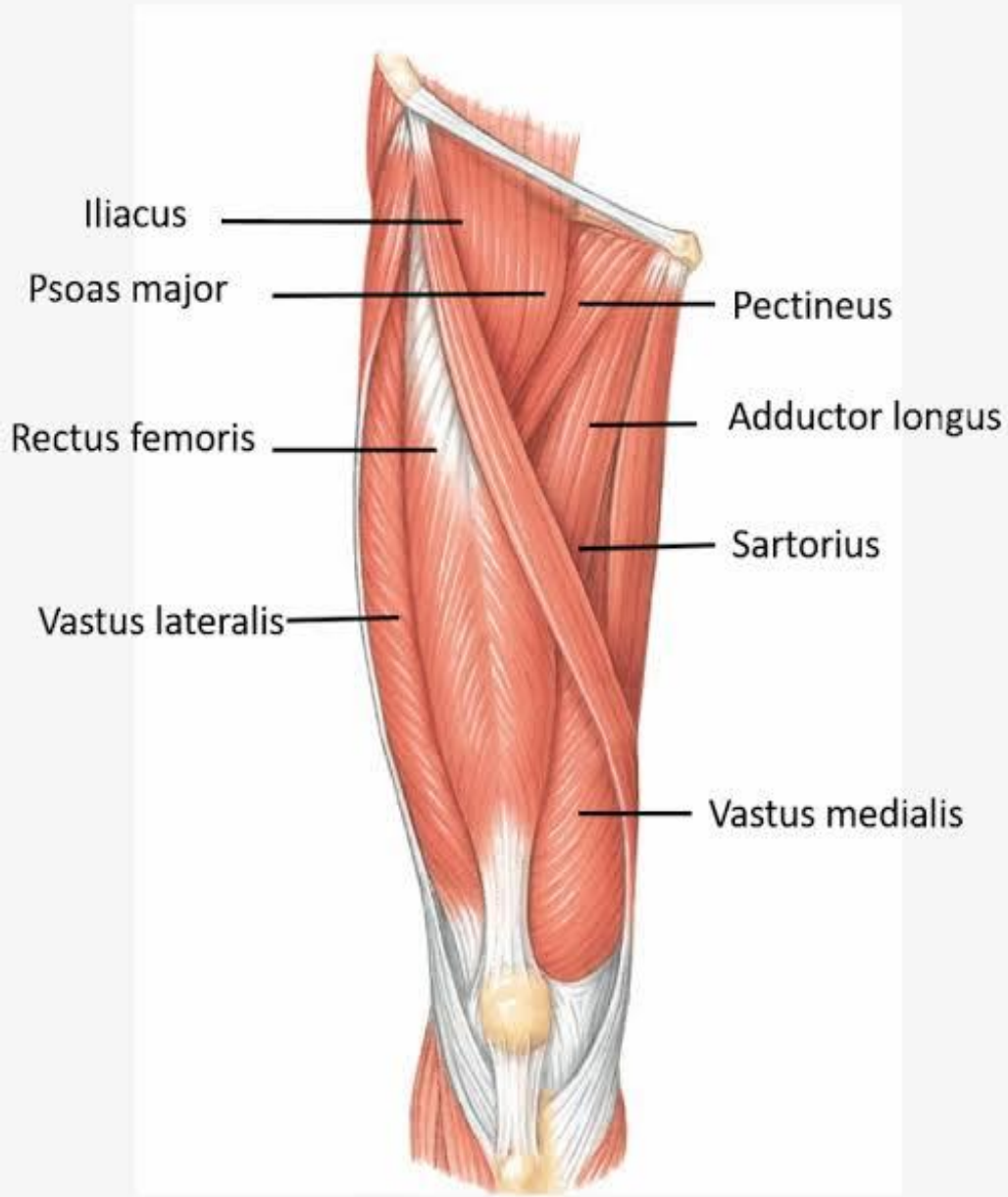
Anatomy of the thigh

- The anterior compartment of the thigh is homologous to the posterior compartment of the arm.
- The posterior compartment of the thigh is homologous to the anterior compartment of the arm.

MUSCLES OF ANTERIOR COMPARTMENT

- 1. SARTORIUS
- 2. ILIACUS
- 3. PSOAS
- 4. PECTINEUS

- 5. QUADRICEPS FEMORIS
 - a. Rectus femoris
 - b. vastus medialis
 - c. vastus lateralis
 - d. vastus intermedius



Anterior Compartment of Thigh

Contains the:

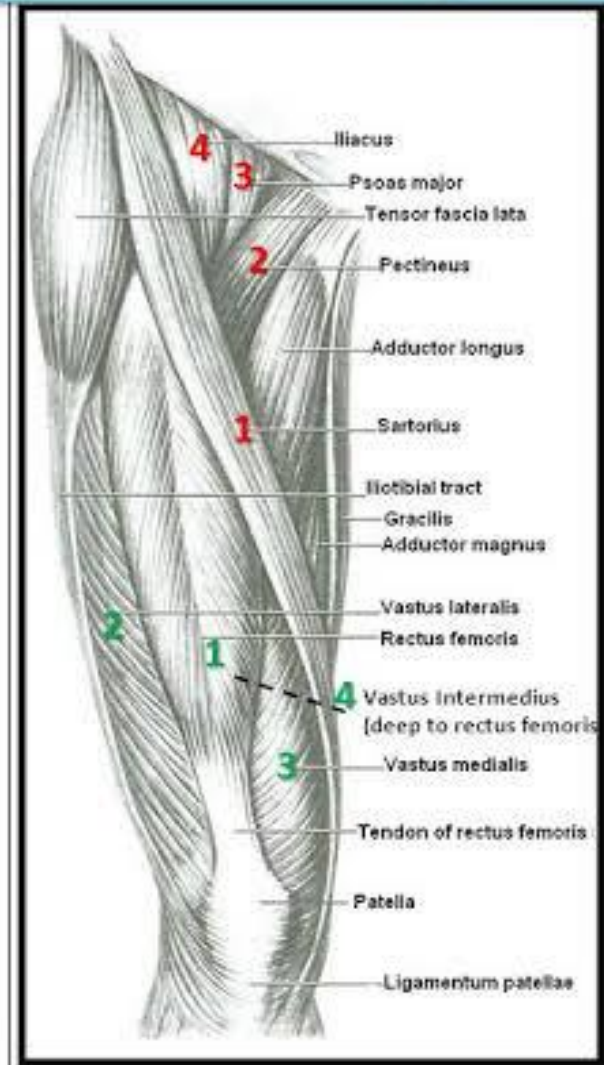
❑ Flexor of the hip:

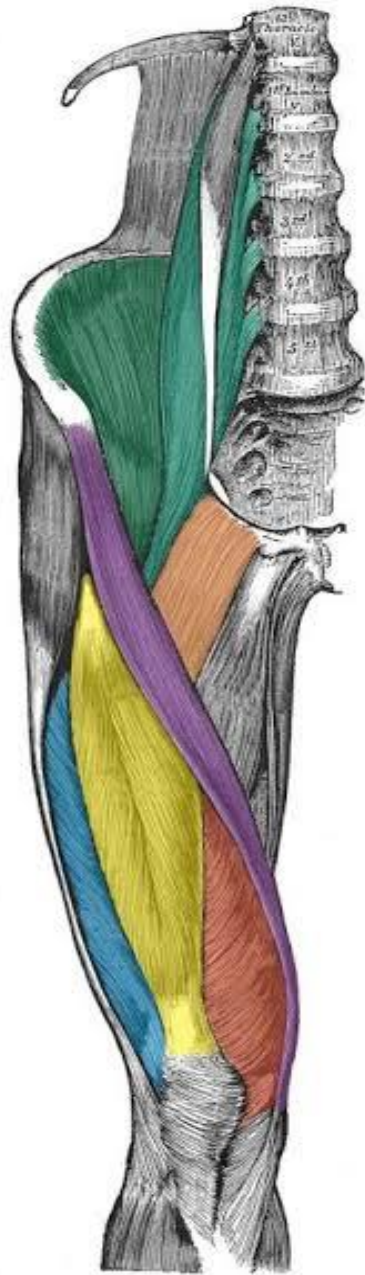
1. Sartorius
2. Pectineus
3. psoas major
4. Iliacus








❑ Extensors of knee (Quadriceps femoris):

1. Rectus femoris
2. Vastus lateralis
3. Vastus medialis
4. Vastus intermedius (deep to rectus femoris)

❖ **Nerve supply:** Femoral nerve

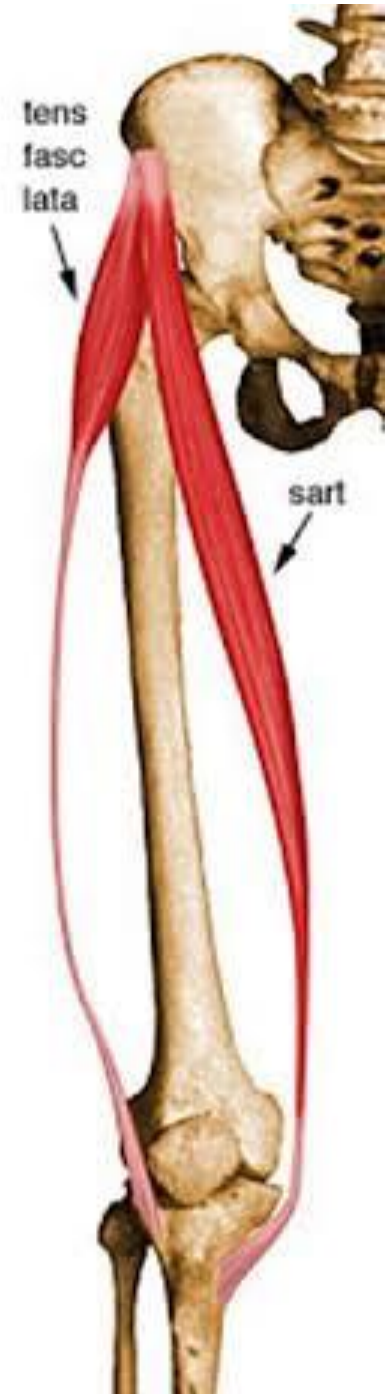




- | | |
|---|-------------------------|
|  | Psoas major |
|  | Iliacus |
|  | Rectus femoris |
|  | Vastus medialis |
|  | Vastus lateralis |
|  | Sartorius |
|  | Pectineus |

Sartorius

- **Origin** Anterior superior iliac spine
- **Insertion** Superior aspect of the medial surface of the tibial shaft near the tibial tuberosity
- **Action** Flexes and laterally rotates the hip joint and flexes the knee
- **Innervation** Femoral nerve

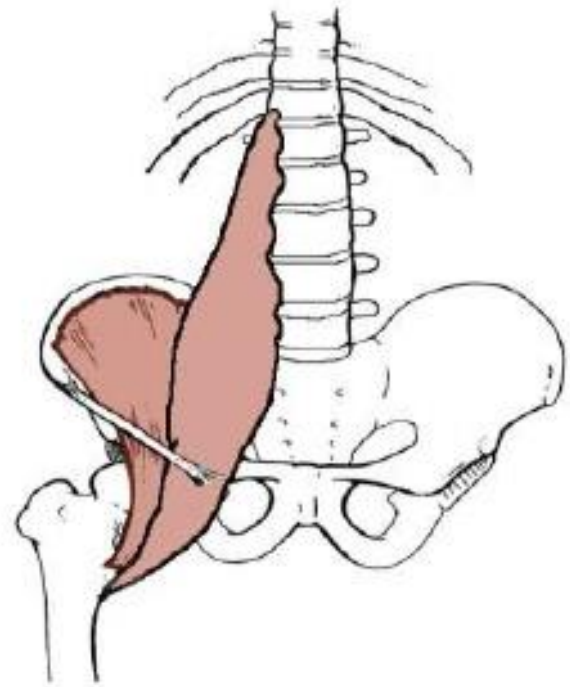


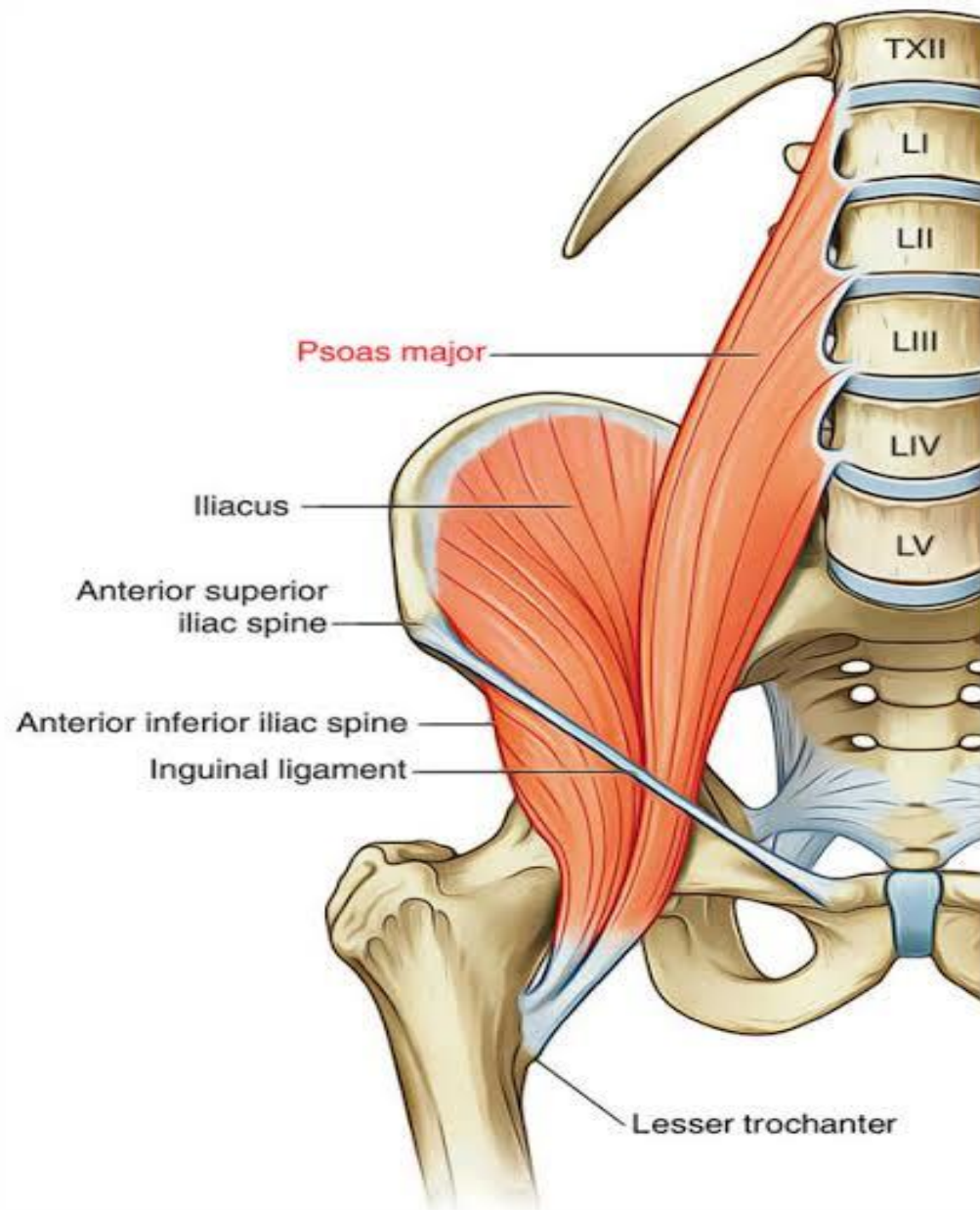
Anterior View

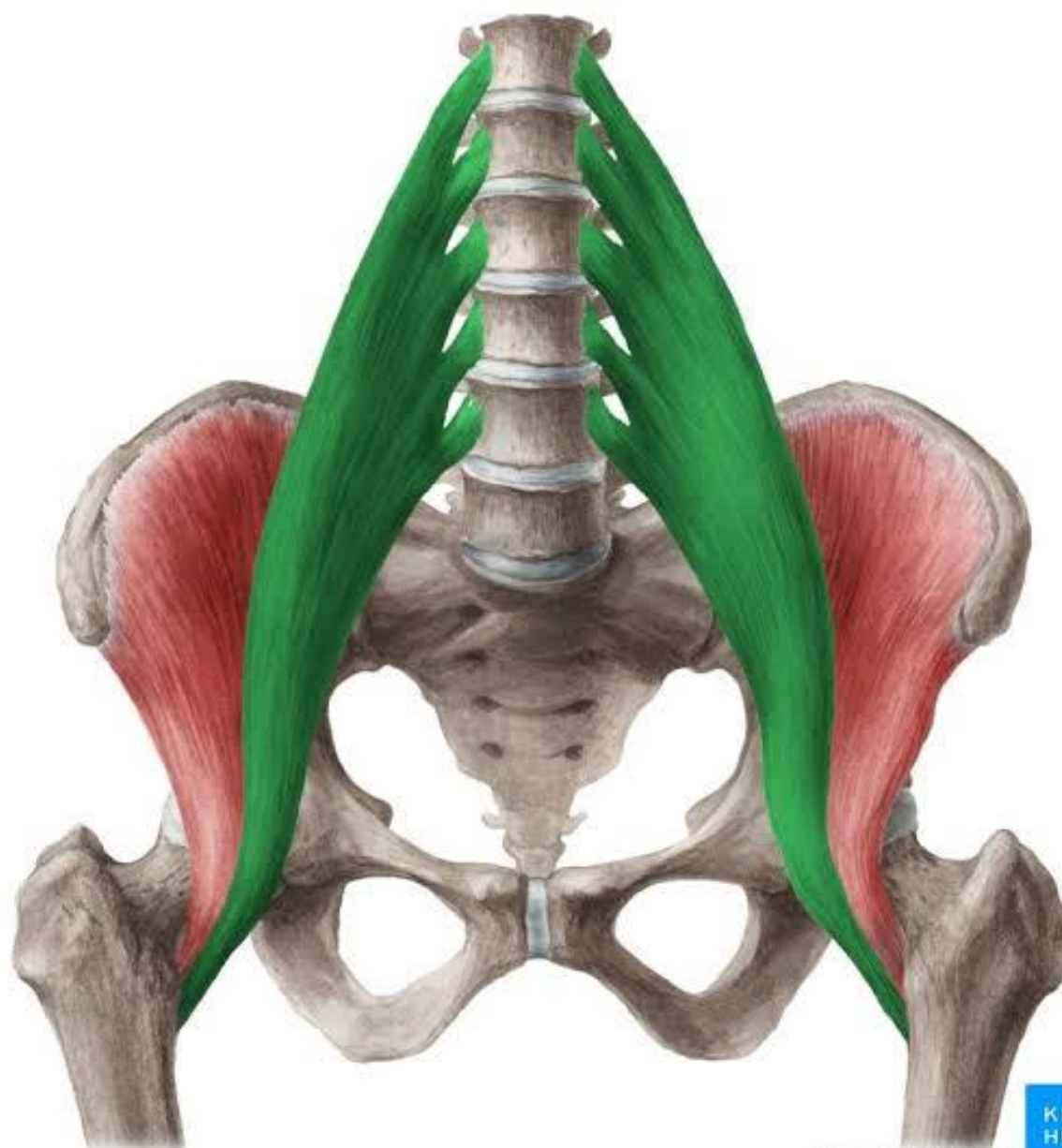


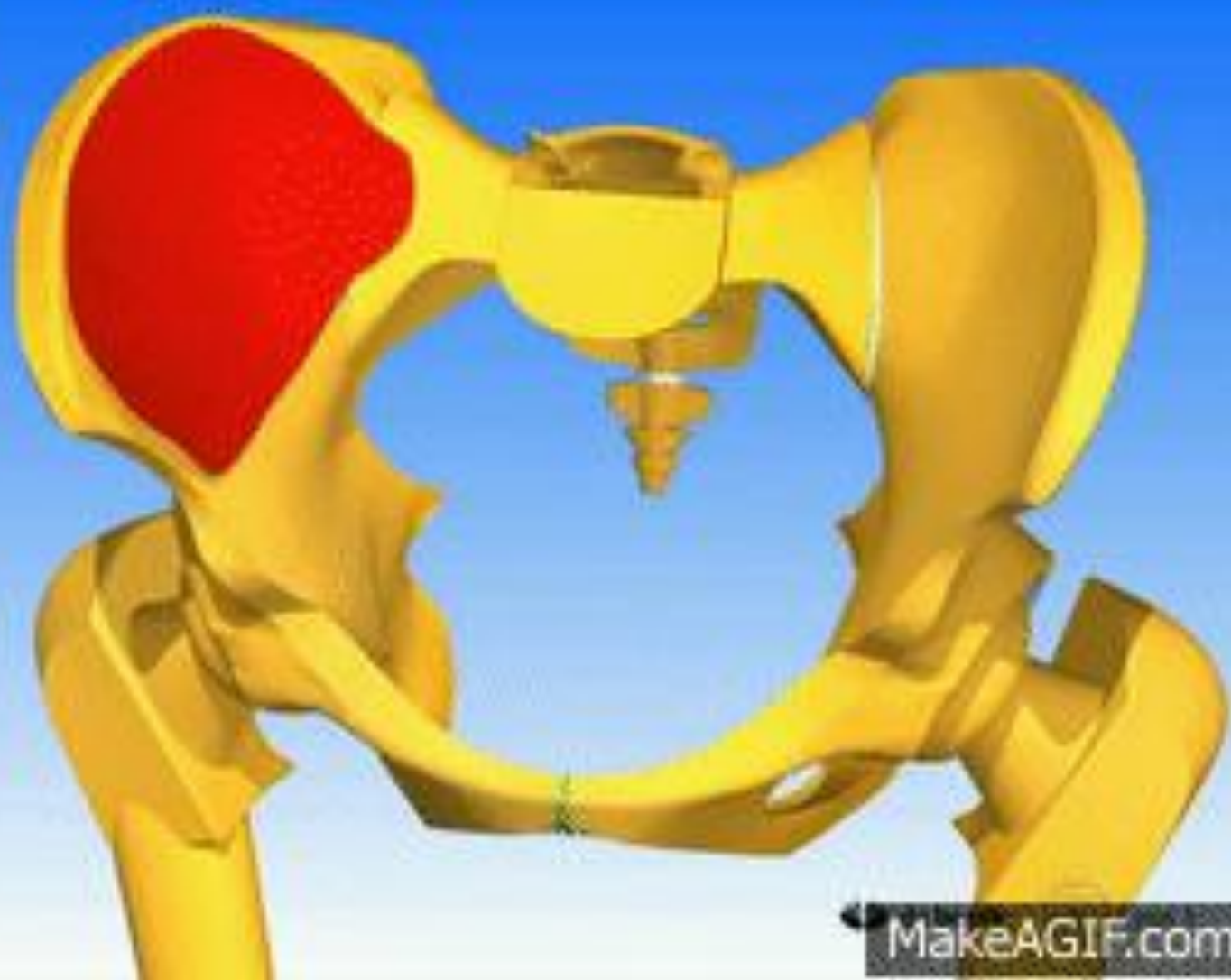
Anterior Compartment

- **Iliopsoas**
 - **Origin** - Iliac crest, sacrum, lumbar vertebrae
 - **Insertion** – lesser trochanter
 - **Action** – *flexor of thigh*
 - **Innervation** – femoral nerve



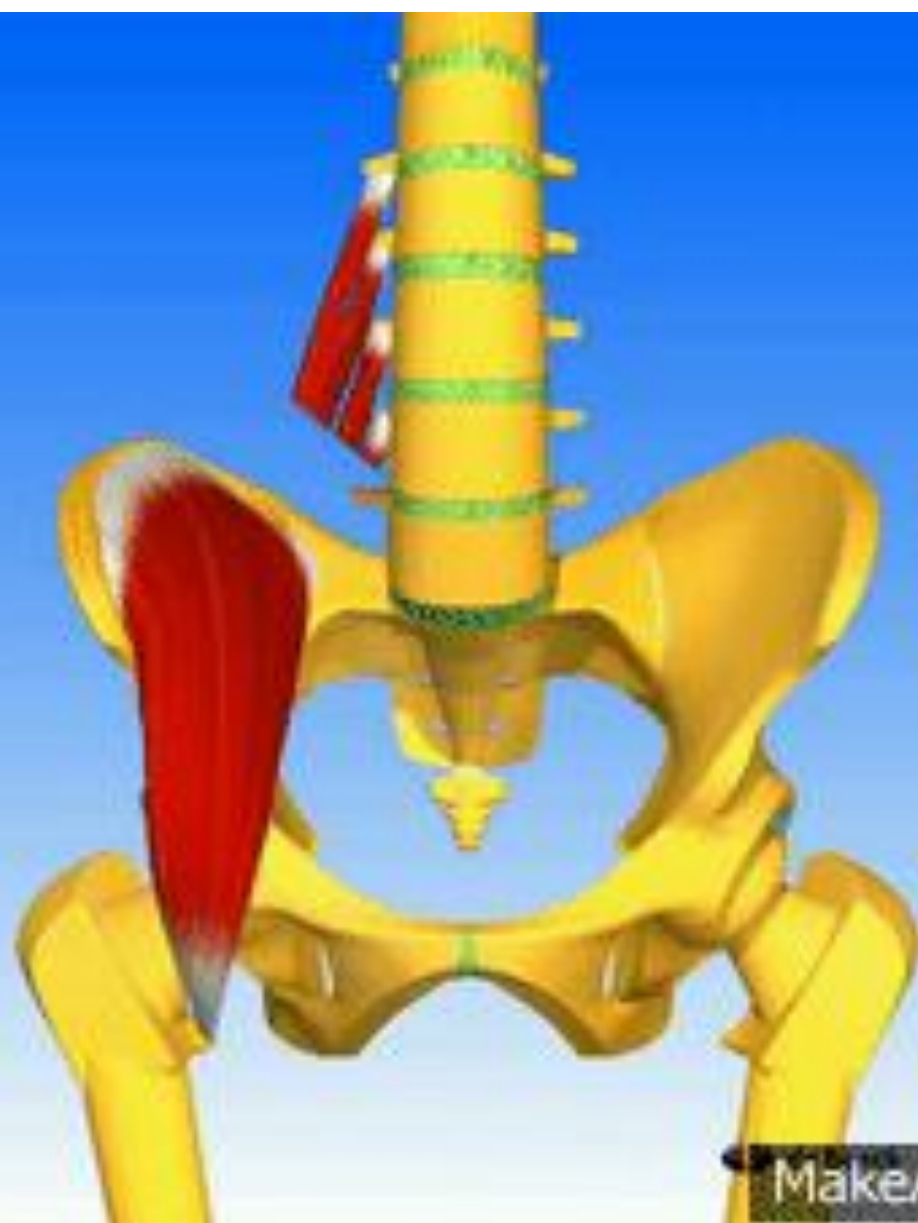






L'iliaque

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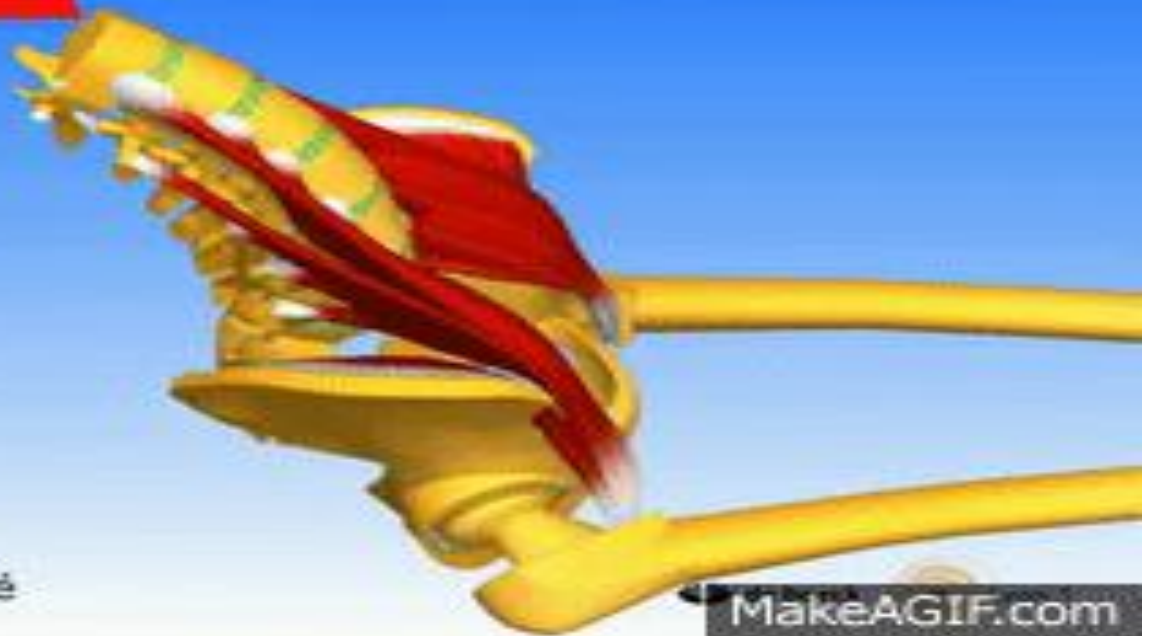


Le psoas

MakeAGIF.com



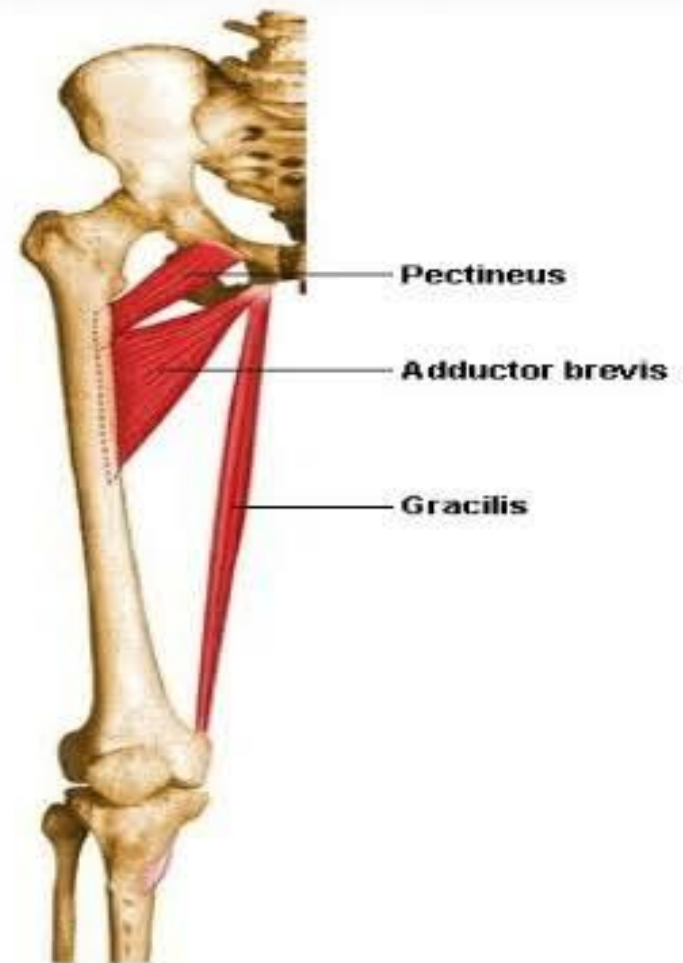
Flexion de la cuisse
sur le bassin,
sujet debout



Flexion du bassin
sur la cuisse,
sujet allongé, bassin fixé

Pectineus

- **Origin** : superior ramus of pubis
- **Insertion** : pectineal line of femur, between lesser trochanter and linea aspera
- **Action** : flexes and adducts thigh at hip joint
- **Nerve** : femoral nerve



Anterolateral View



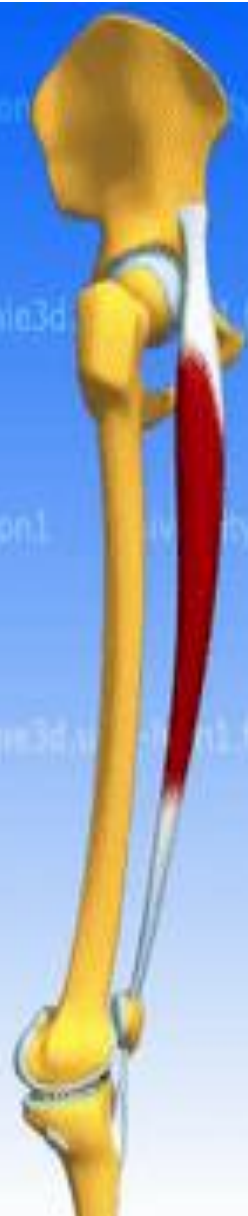
Rectus Femoris

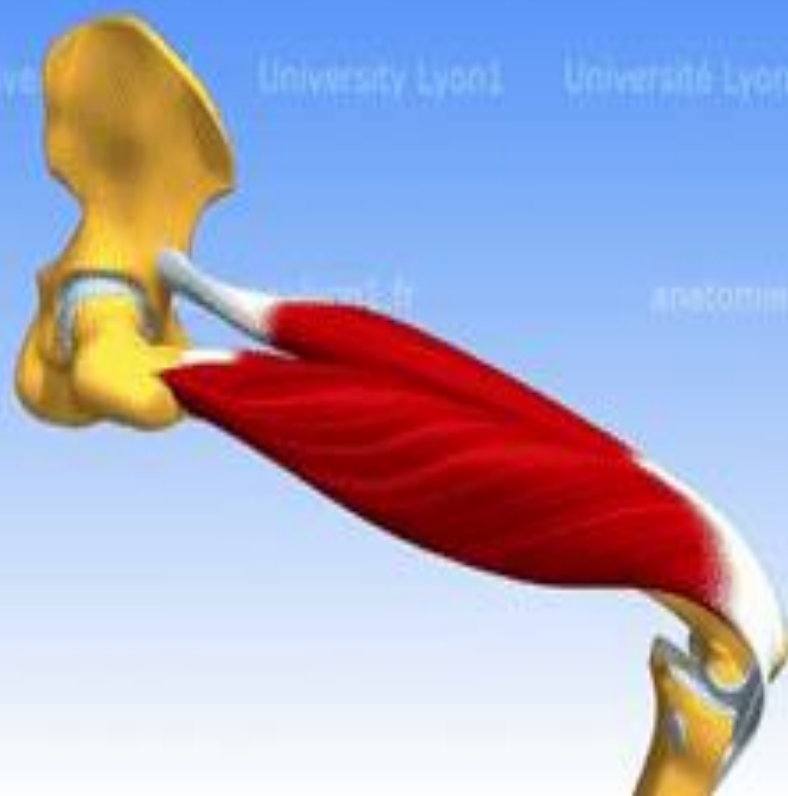
- **Origin** anterior inferior iliac spine
- **Insertion** Base of patella to form the more central portion of the quadriceps femoris tendon
- **Action** Extends the knee & flexes the hip
- **Innervation** femoral nerve





The rectus femoris is the hip flexor



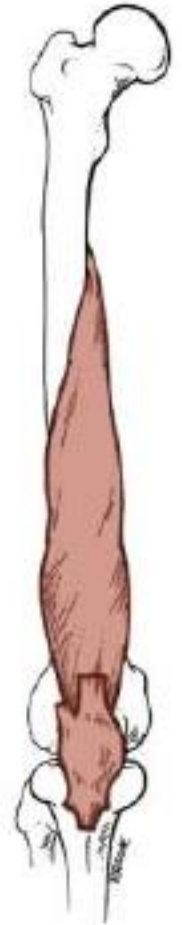
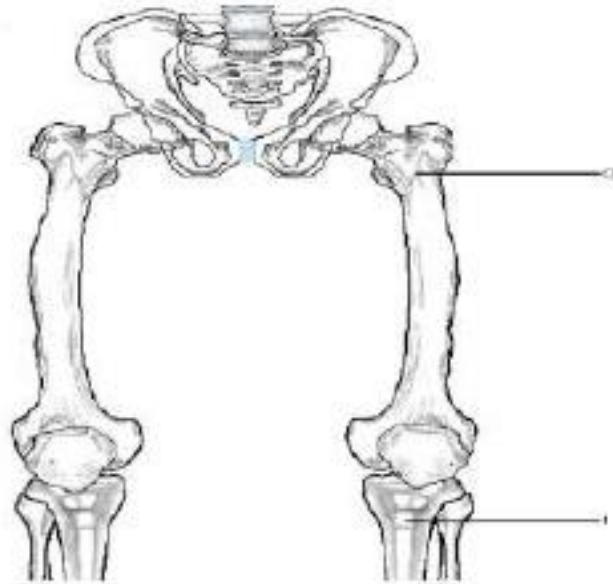


The quadriceps is the
knee extensor

Anterior Compartment

Quadriceps femoris muscle: Vastus Medialis

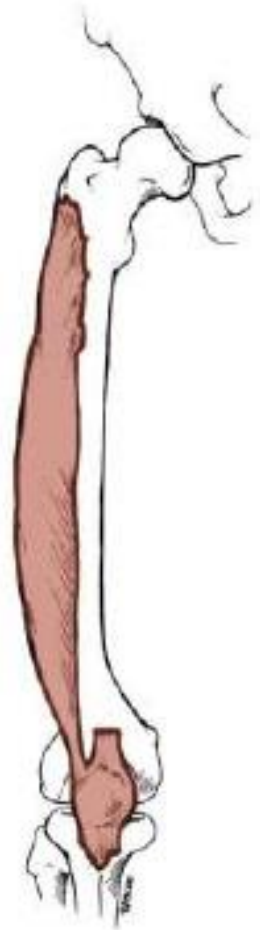
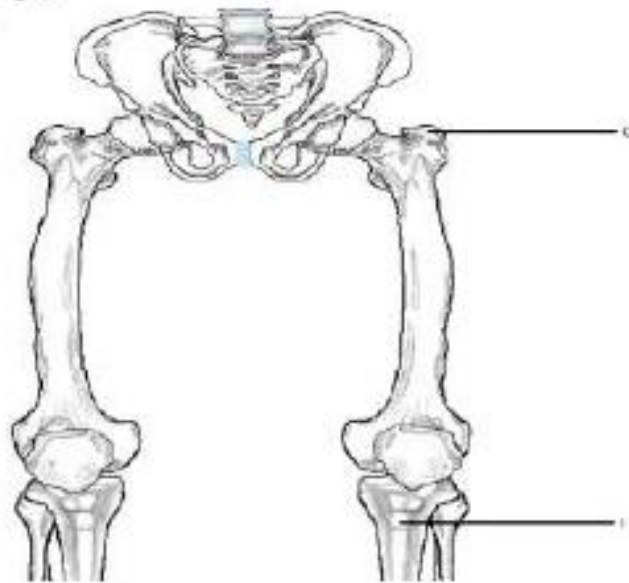
- **Origin:** Intertrochanteric line
- **Insertion:** Tibial tuberosity via patellar ligament, part of quadriceps femoris
- **Action:** Extend leg at knee
- **Innervation:** Femoral nerve



Anterior Compartment

Quadriceps femoris muscle: Vastus Lateralis

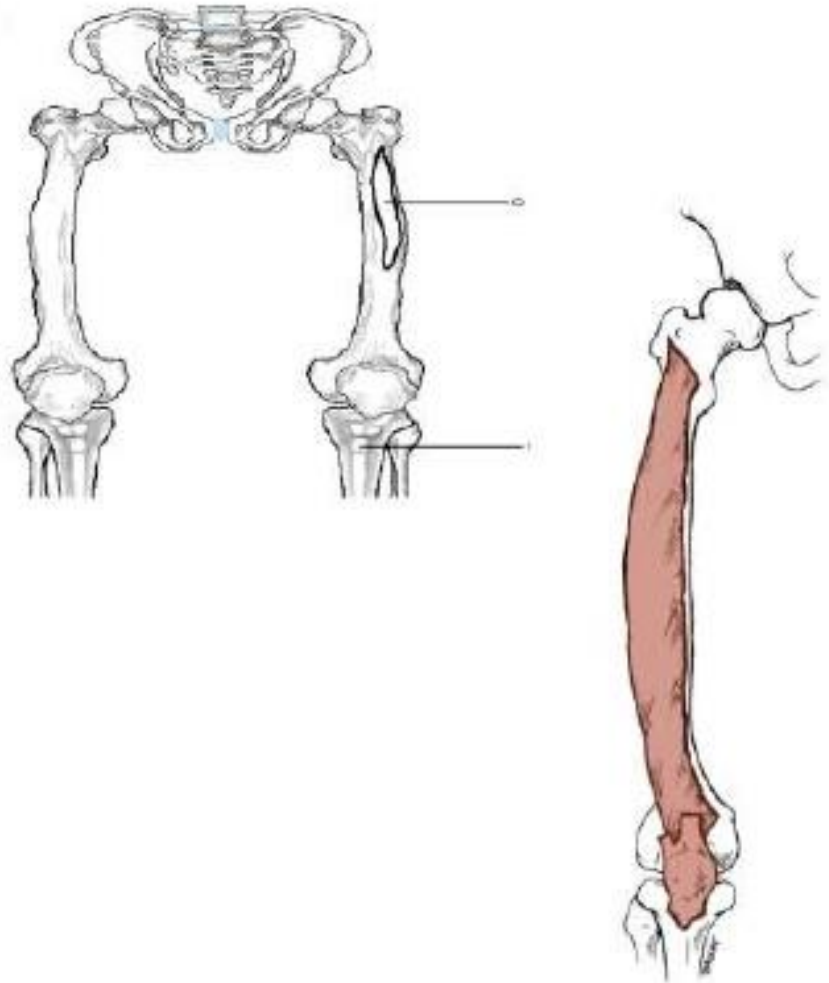
- **Origin:** Greater trochanter
- **Insertion:** Tibial tuberosity via patellar ligament, part of quadriceps femoris
- **Action:** Extend leg at knee
- **Innervation:** Femoral nerve



Anterior Compartment

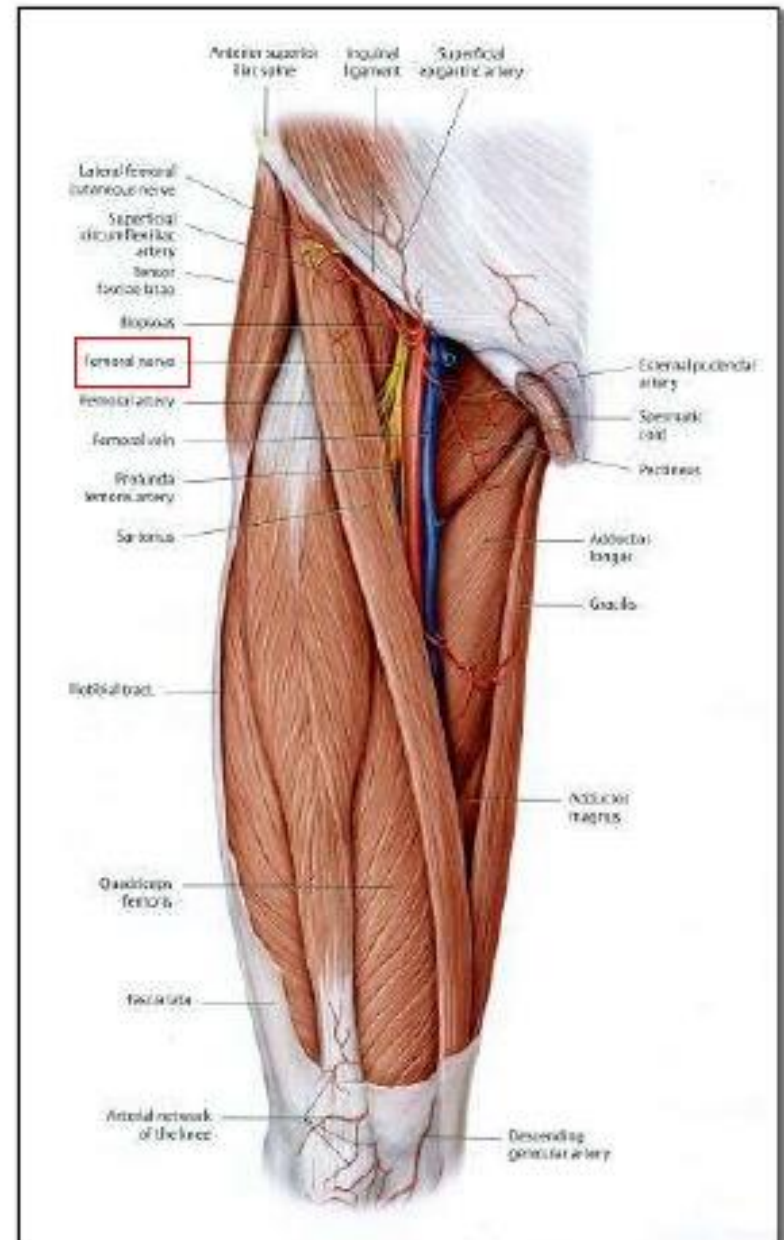
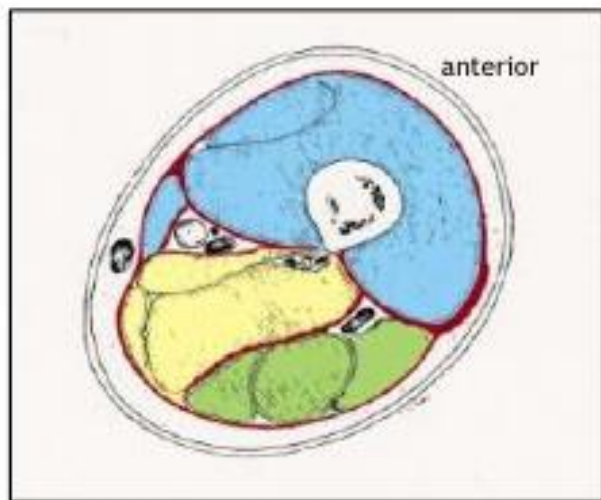
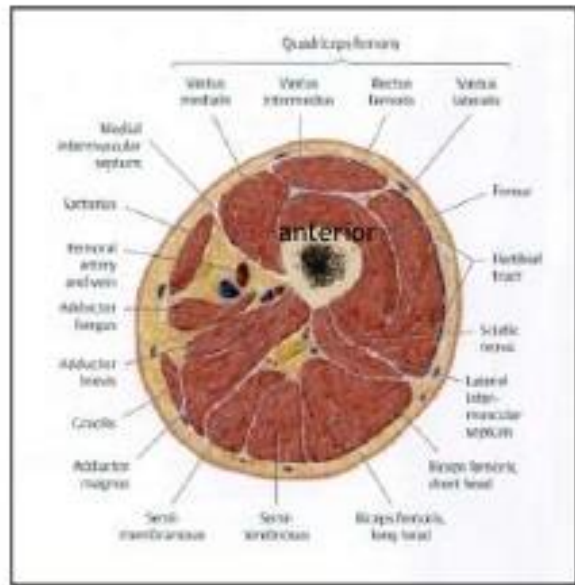
Quadriceps femoris muscle: Vastus Intermedius

- **Origin:** Anterolateral surface of femur
- **Insertion:** Tibial tuberosity via patellar ligament, part of quadriceps femoris
- **Action:** Extend leg at knee
- **Innervation:** Femoral nerve



Anterior (extensor) compartment of the thigh

Innervation: Femoral Nerve



Anterior surface of thigh

Femoral Triangle:

Borders:

Superior:

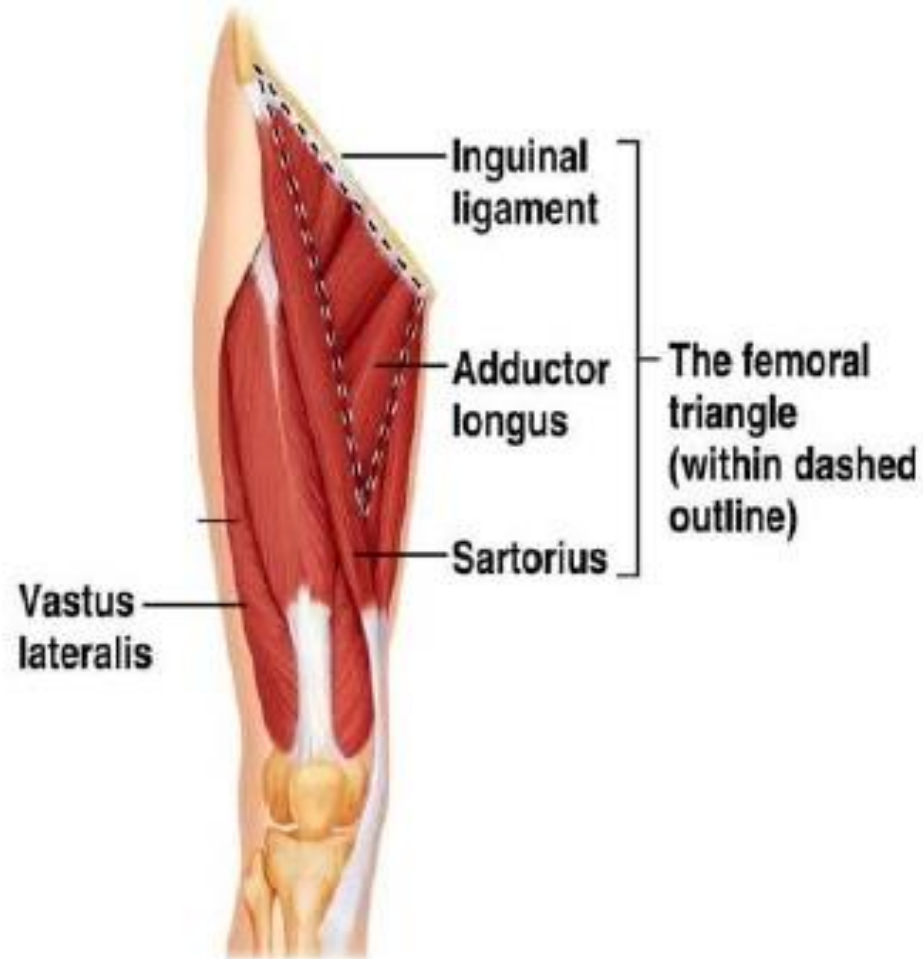
Inguinal Ligament

Medially:

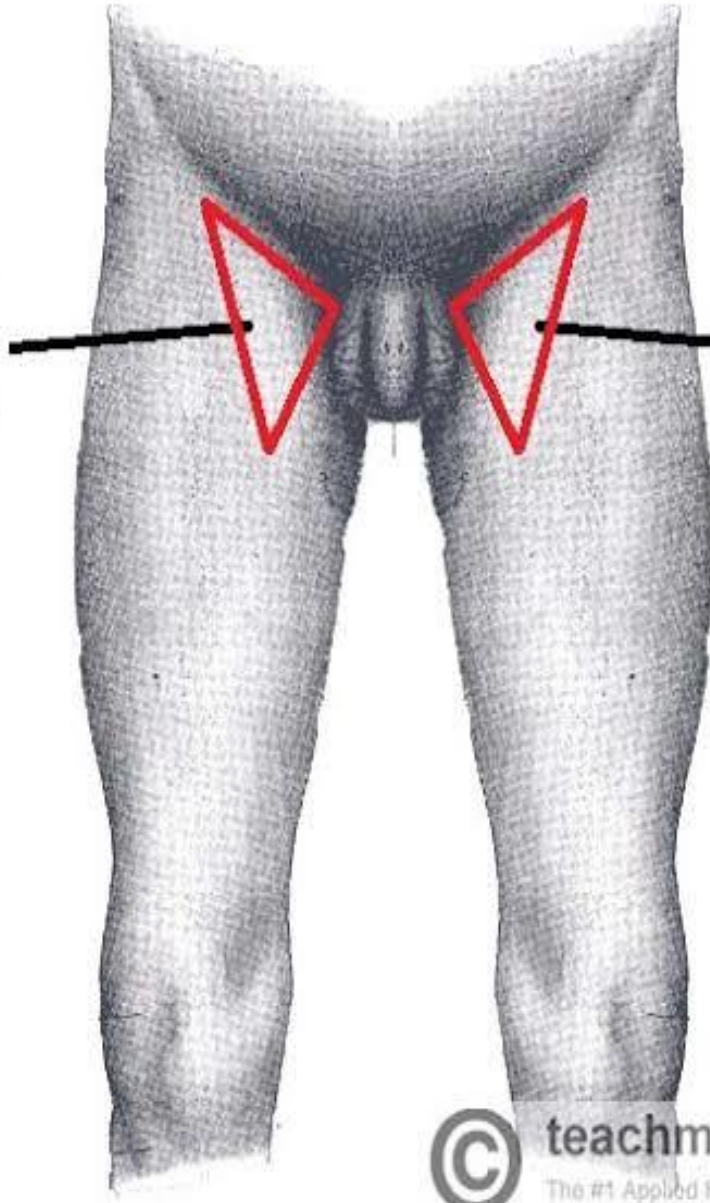
Adductor Longus Muscle

Laterally:

Sartorius Muscle



Femoral
Triangle

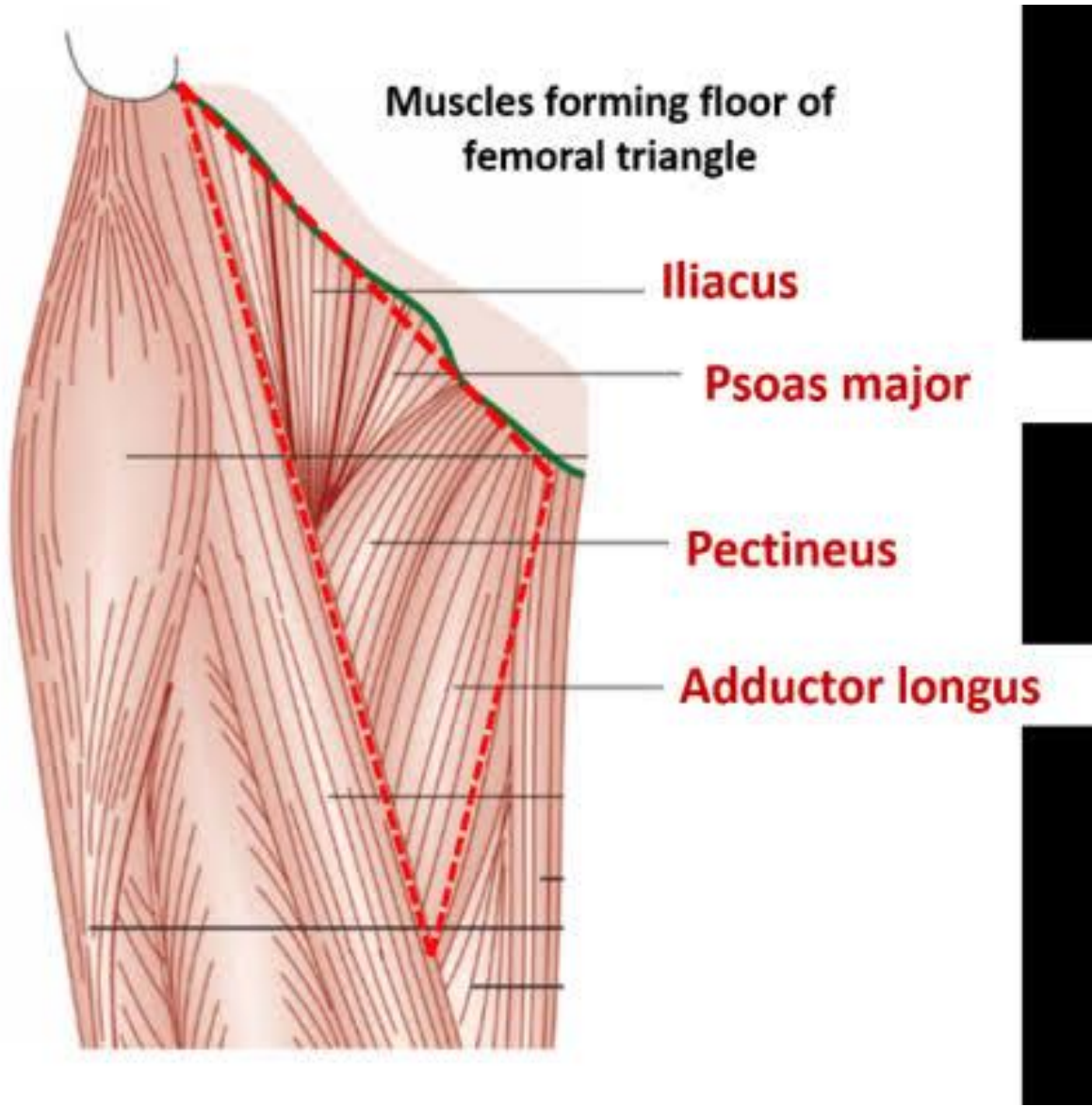


Femoral
Triangle



teachmeanatomy

The #1 Applied Human Anatomy Site on the Web.



SITE:

- Upper third of front of thigh

BOUNDARIES:

- Base:** inguinal ligament
- Lateral:** medial border of sartorius
- Medial:** medial border of adductor longus

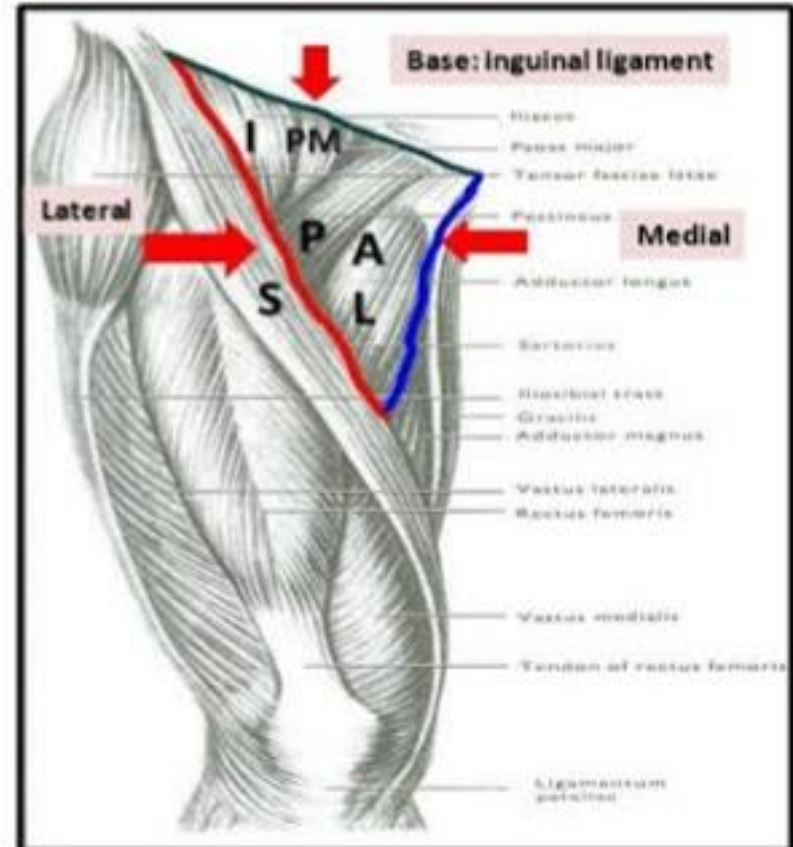
ROOF:

- Skin
- Fasciae: superficial & deep

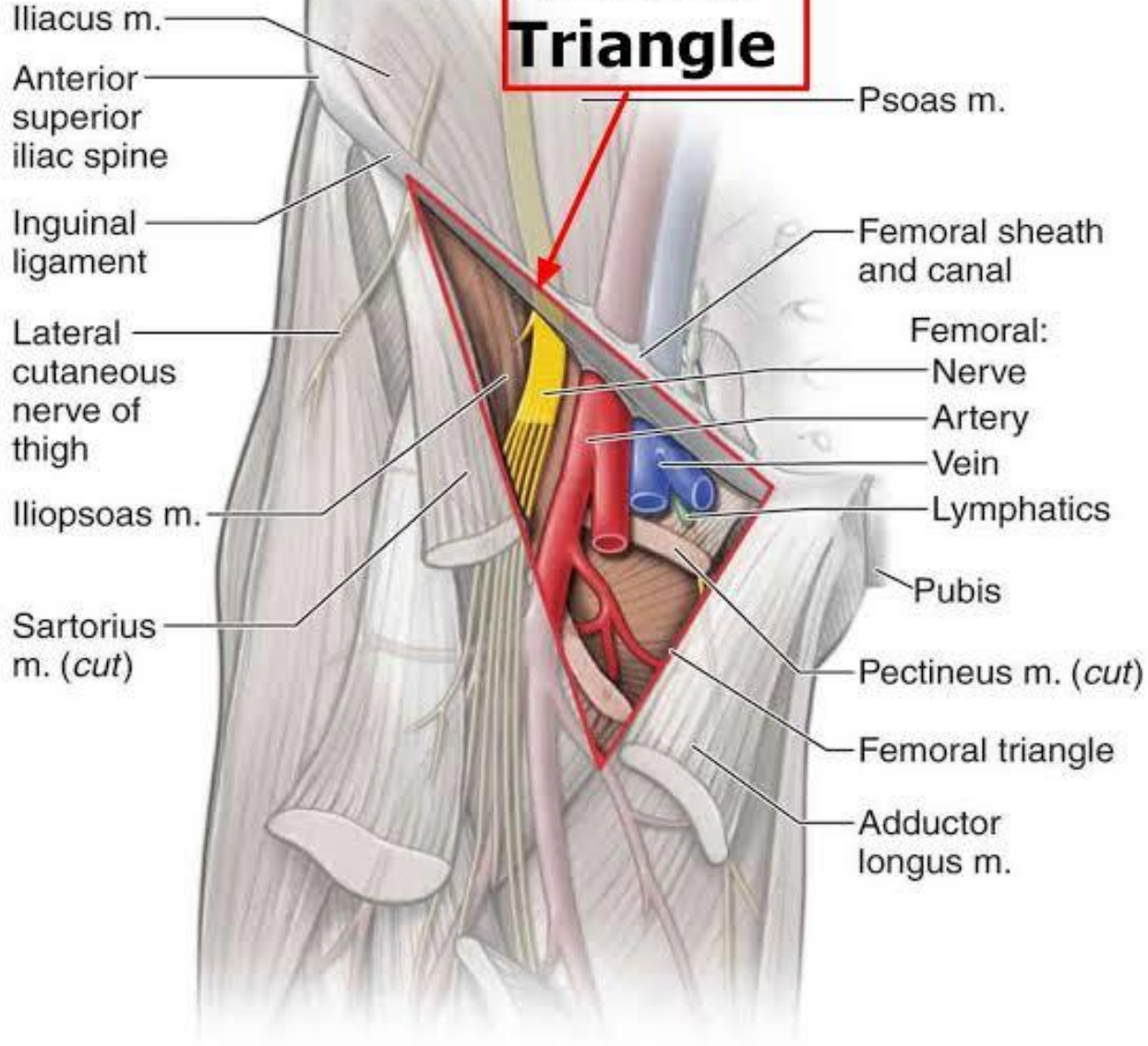
FLOOR: *From medial to lateral*

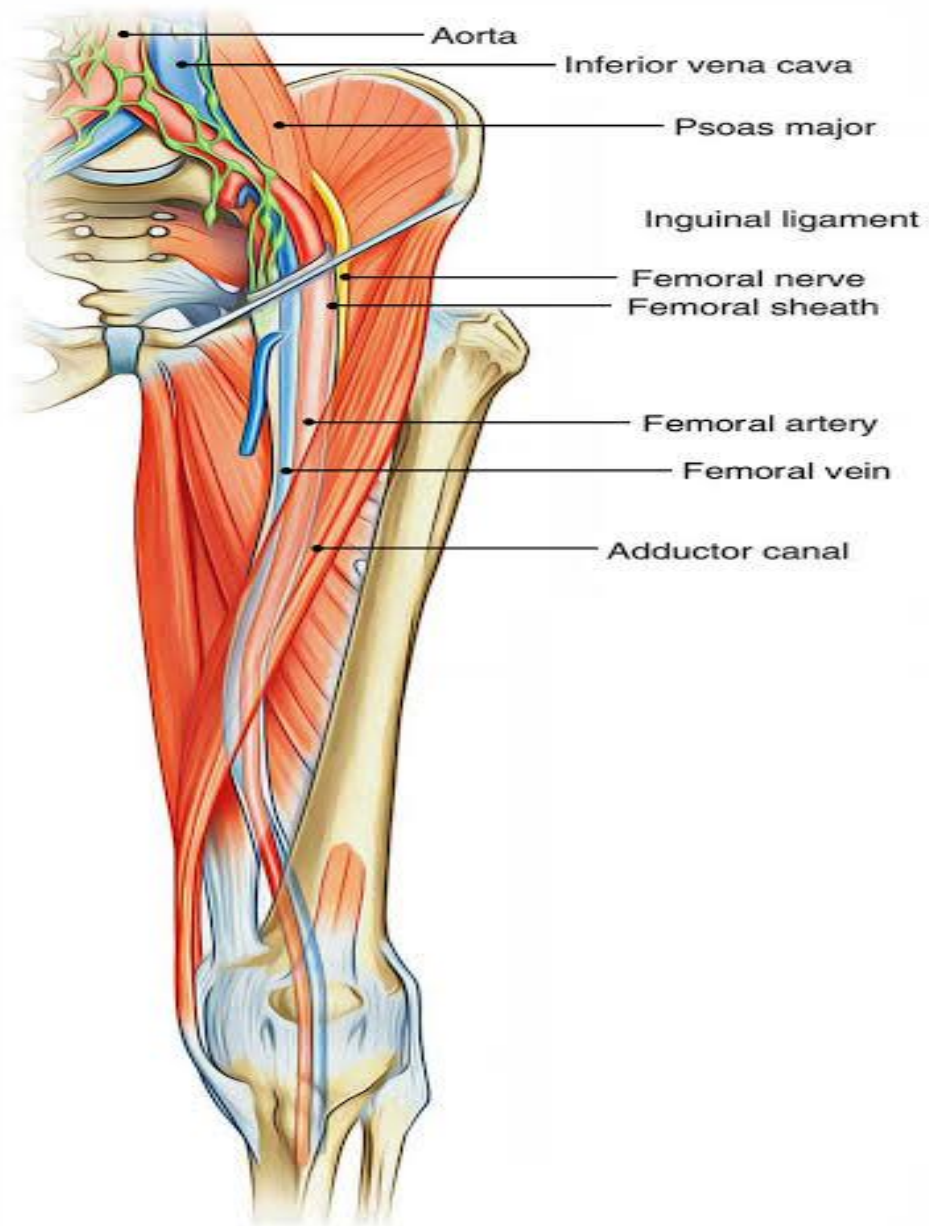
- Adductor longus
- Pectineus
- Psoas major
- Iliacus

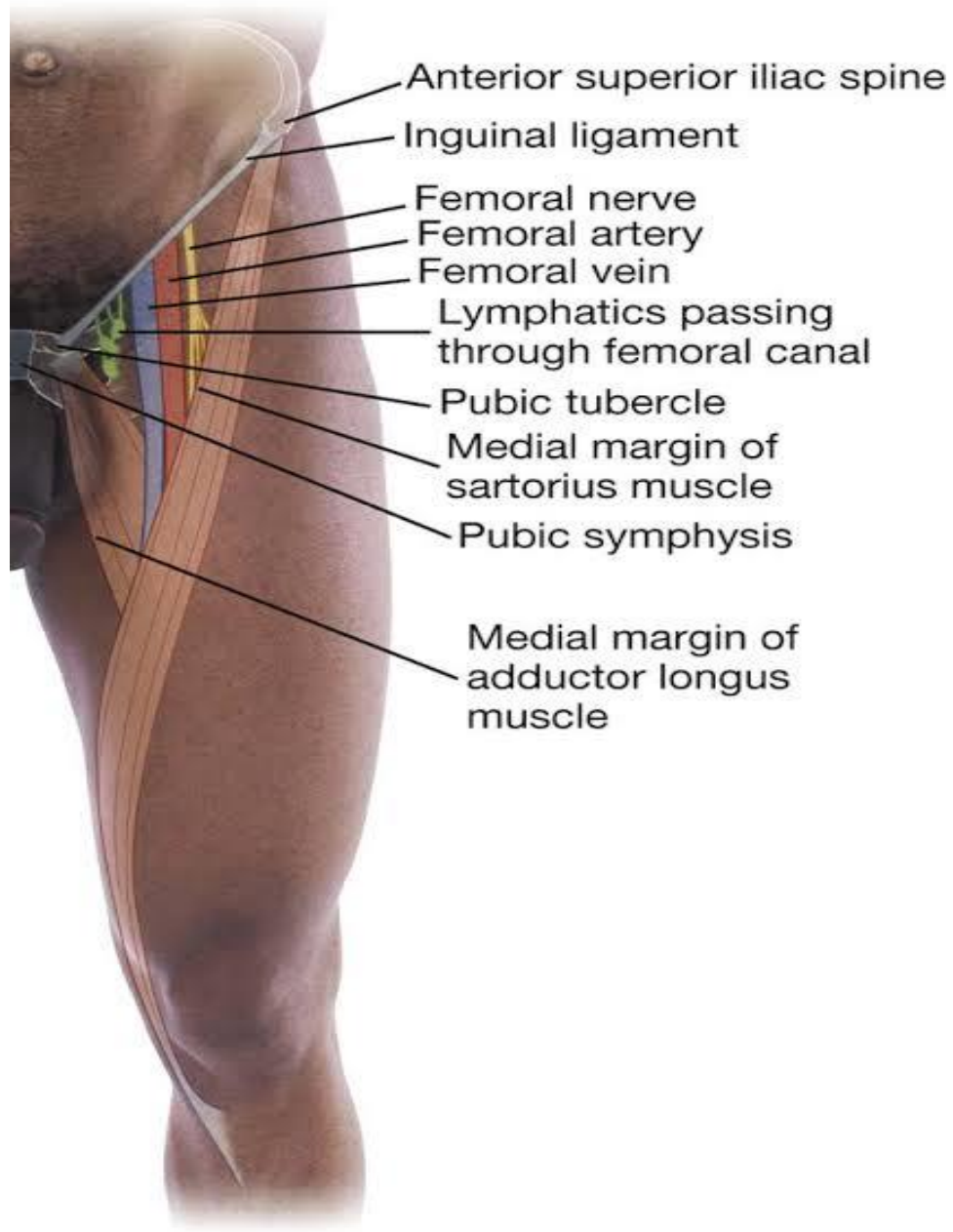
FEMORAL TRIANGLE



Femoral Triangle





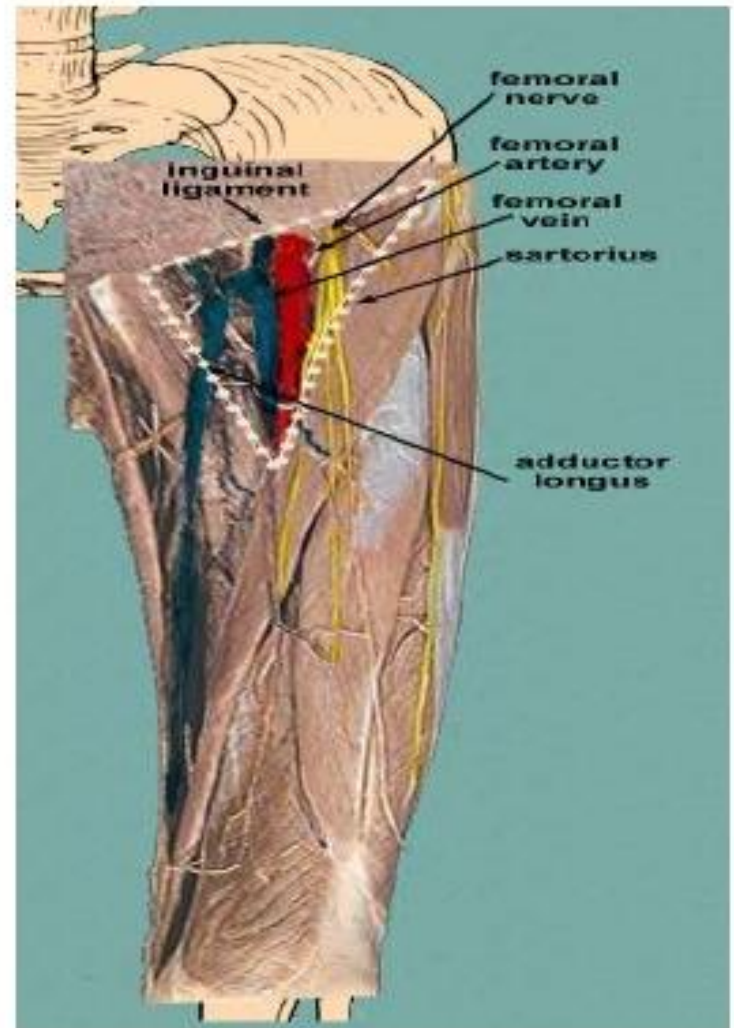


Anterior surface of thigh

Femoral Triangle:

Contents (lateral to medial):

Femoral Nerve
Femoral Artery
Femoral Vein
Lymphatics



Anterior surface of thigh

Adductor Canal:

Borders:

Lateral:

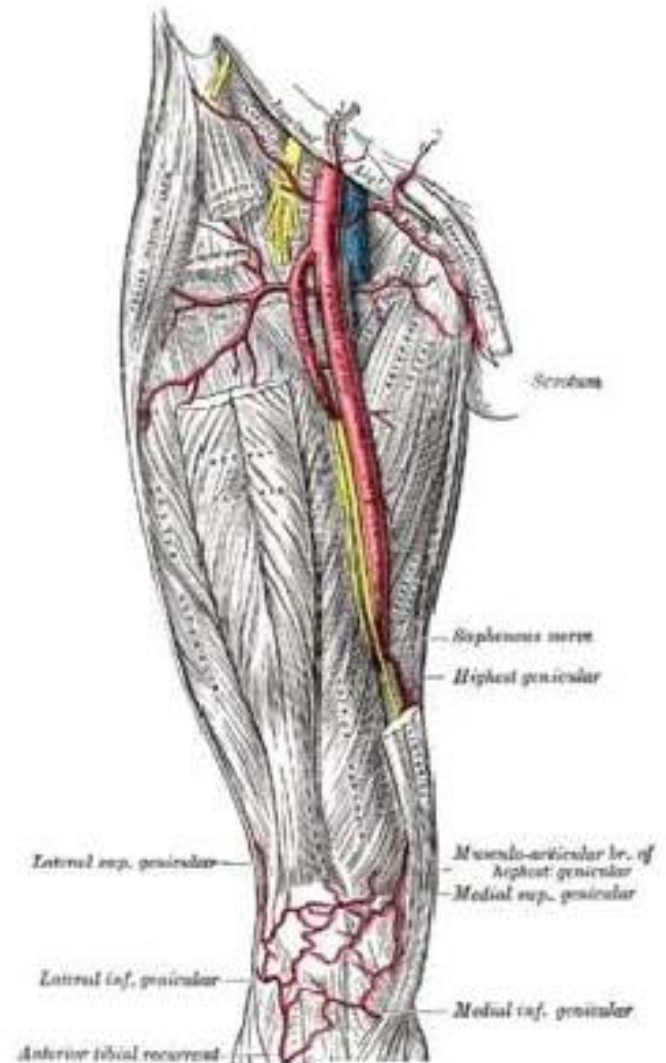
Vastus medialis muscle.

Posterior:

Adductor longus and magnus.

Anteromedial:

Sartorius muscle.

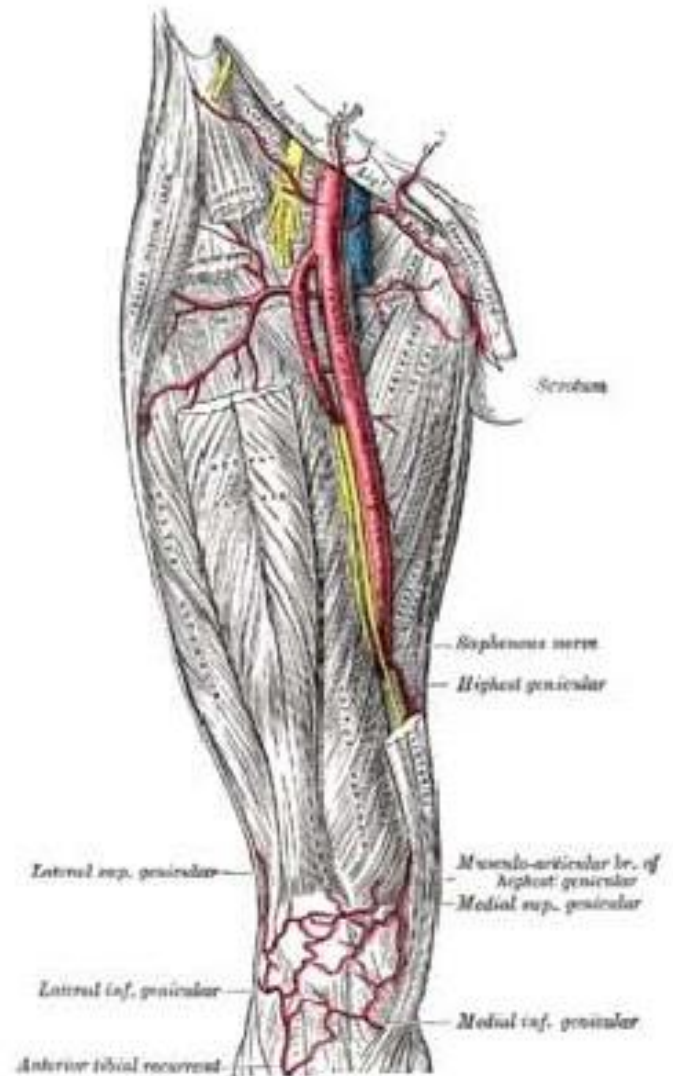


Anterior surface of thigh

Adductor Canal:

Contents:

- Saphenous nerve:
Termination of femoral nerve.
- Nerve to vastus medialis.
- Terminal part of obturator nerve.
- Terminal parts of femoral artery and vein.
- Deep lymph vessels.



Anterior Compartment

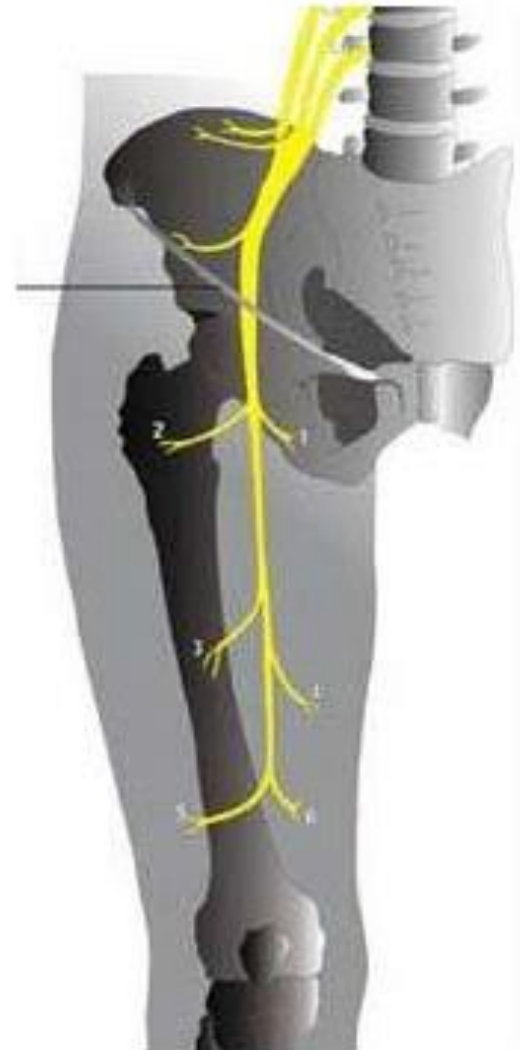
- **Innervation:**

Femoral Nerve:

- **Action:**

Hip flexion.

Knee extension.

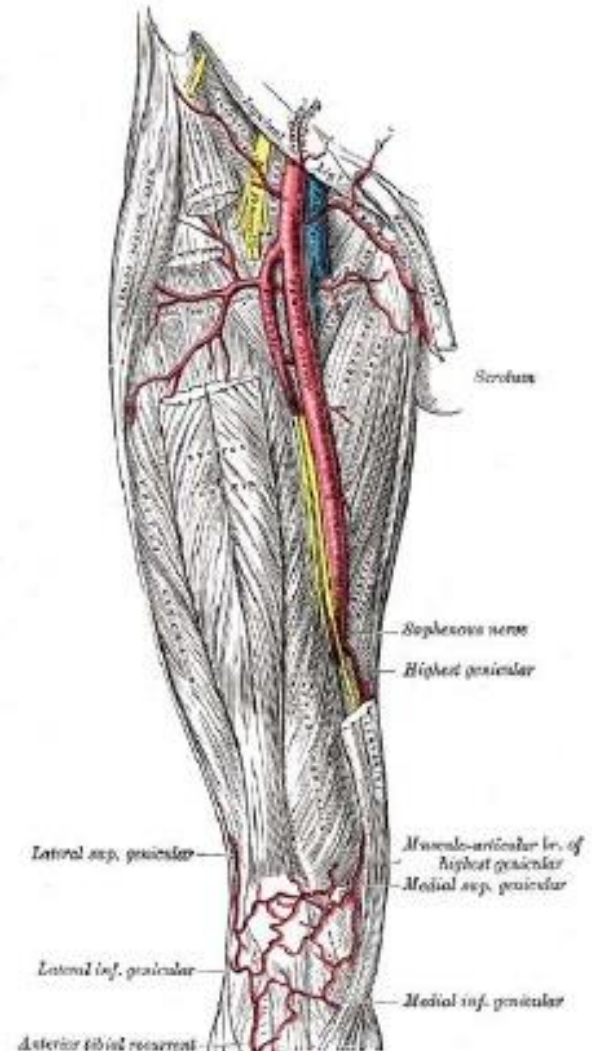


Anterior Compartment

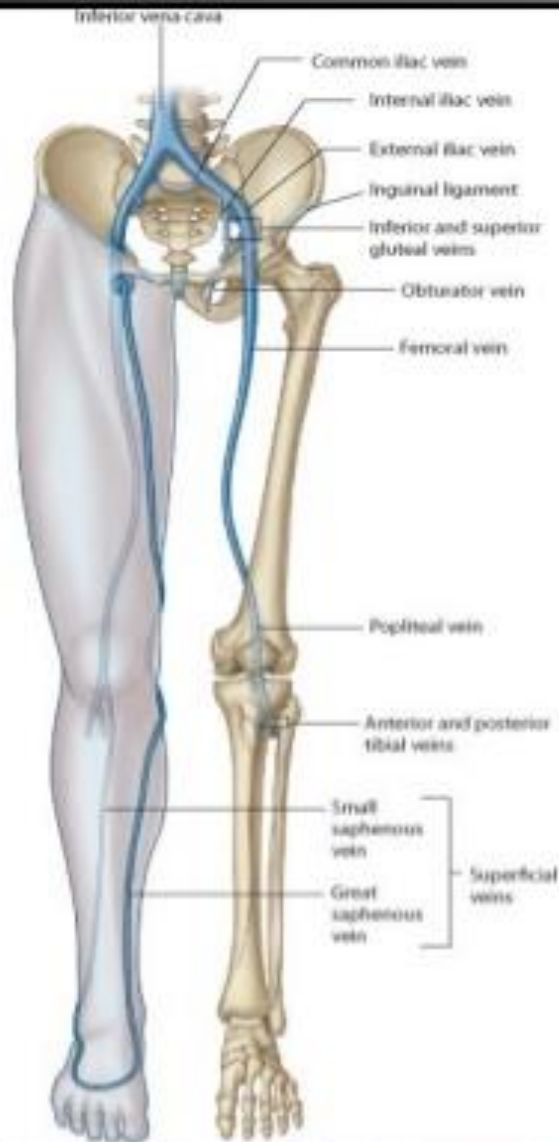
Blood Supply:

Femoral Artery:

- Superficial circumflex iliac.
- Superficial epigastric.
- Superficial external pudendal.
- Deep external pudendal.
- Descending genicular.**
- Deep femoral (profunda femoris)**
- Lateral femoral circumflex.**
- Medial femoral circumflex.**



Veins



- ▶ **Deep Veins:** Mostly share names of arteries

- Ultimately empty into Inferior Vena Cava

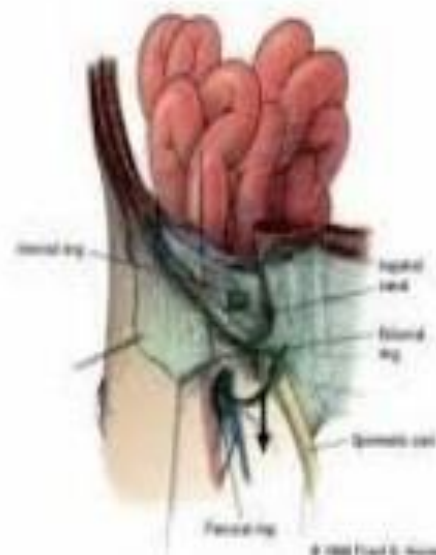
- Plantar
- Tibial
- Fibular
- Popliteal
- Femoral
- External/internal iliac
- Common iliac

- ▶ **Superficial Veins**

- Dorsal venous arch (foot)
- Great saphenous (empties into femoral)
- Small saphenous (empties into popliteal)

Femoral hernia

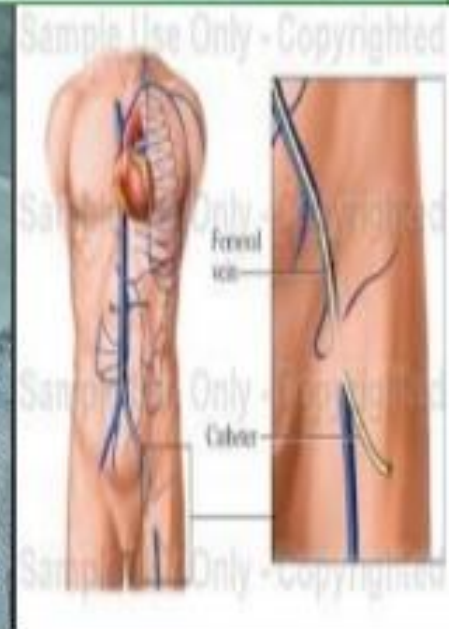
- ▶ A **femoral hernia** is when abd. Contents pass through a naturally occurring weakness called the femoral canal



Femoral
Hernia

Femoral Vein – Access

- ▶ One of the most common methods to gain central venous access in emergent situations is via femoral vein cannulation.
- ▶ Emergency venous access during CPR



Angiography



