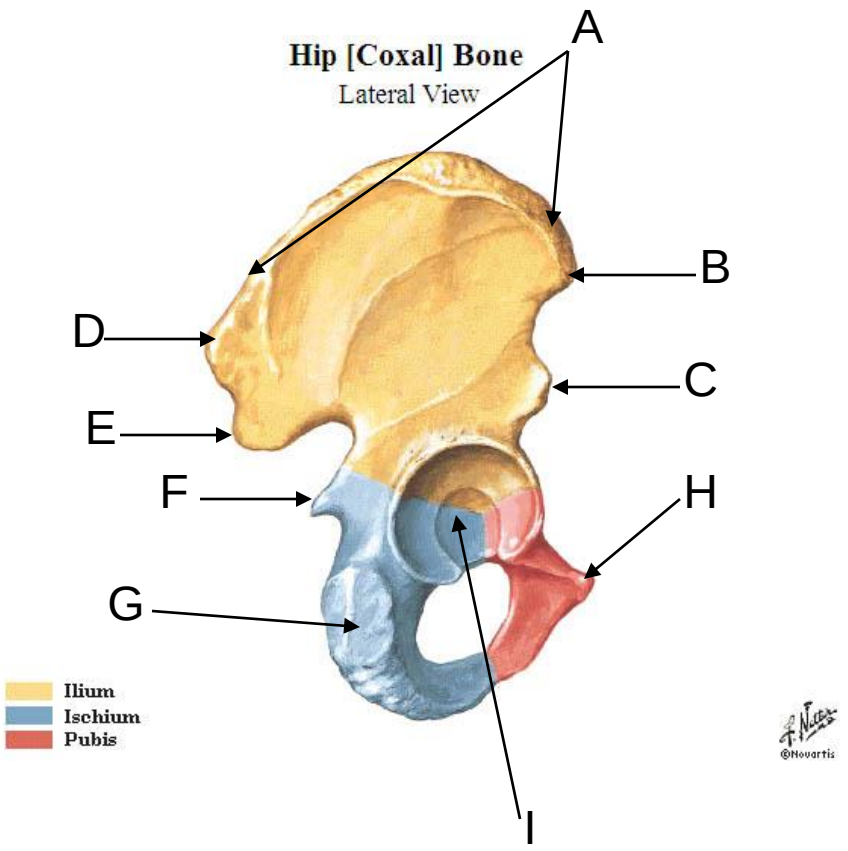
Anatomy and Physiology II

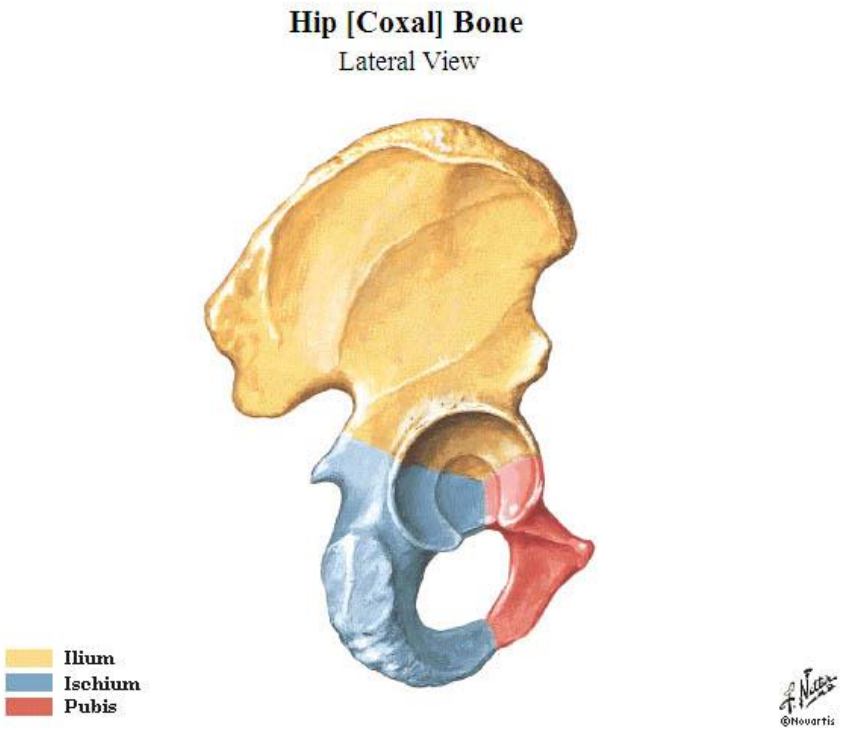
Pelvis

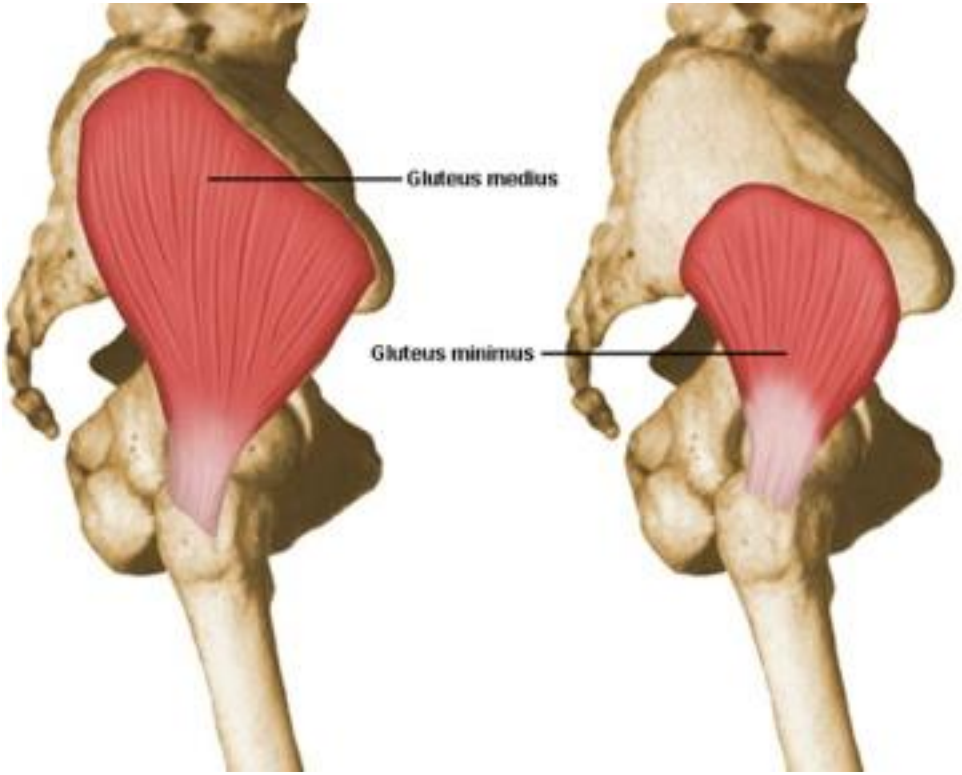
Review

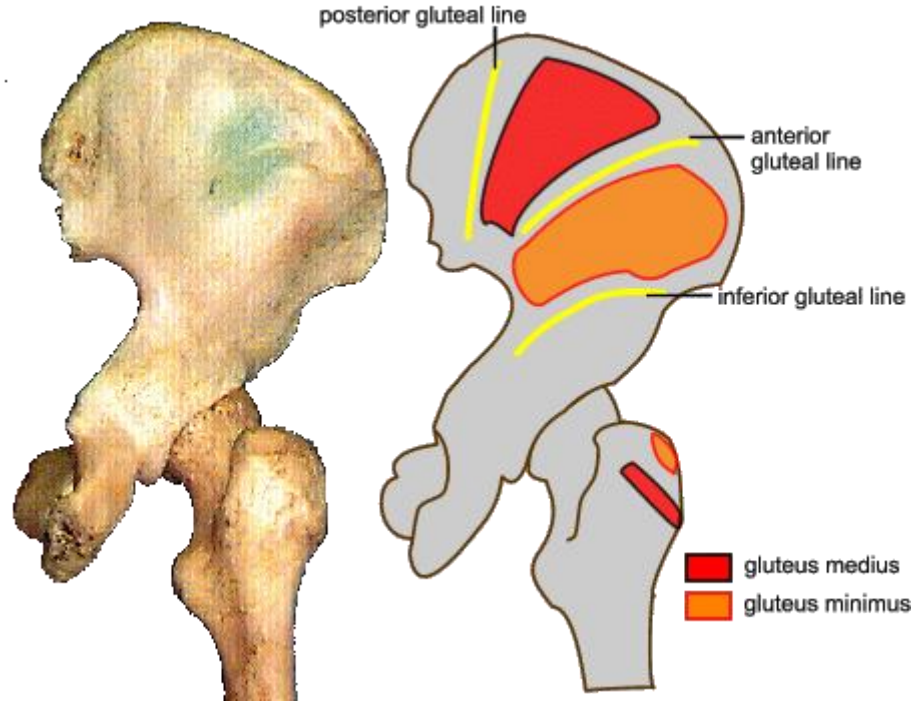
- Is this a view of the medial or lateral coxal bone?
  - Lateral
- Which bone is white/yellow, which is blue, and which is red
  - Ilium
  - Ishcium
  - Pubis
- Name the following structures



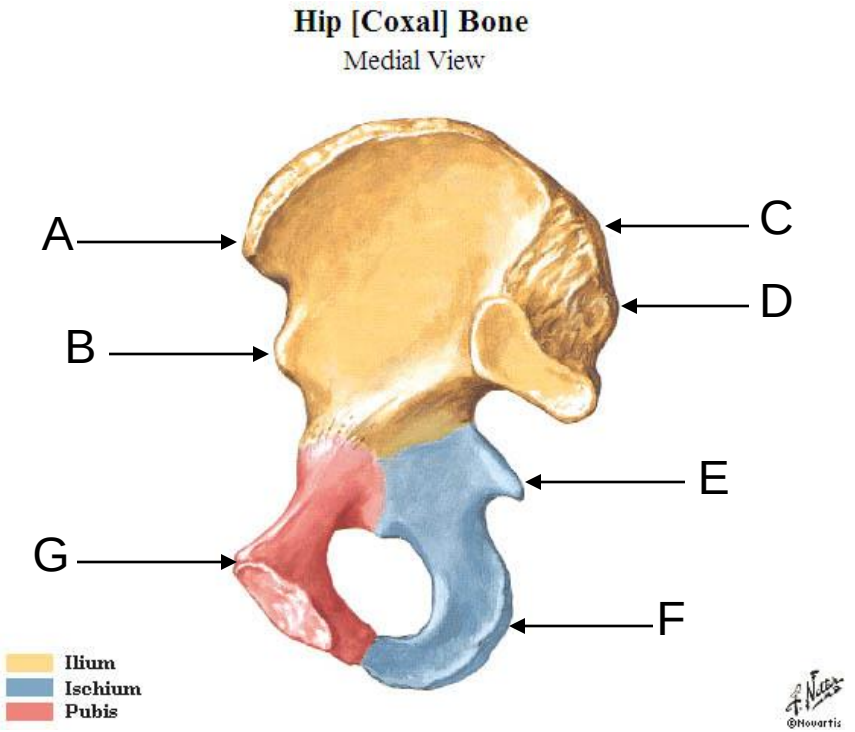
- What muscle has its pelvic attachment between the posterior and anterior gluteal lines?
  - Gluteus medius
- What muscle has its pelvic attachment between the anterior and inferior gluteal lines?
  - Gluteus minimus
- Where do these muscles insert on the femur?
  - The greater trochanter
- What is there primary action?
  - Abduction
- Which is deep and which is superficial?
  - Gluteus minimus is deep to gluteus medius



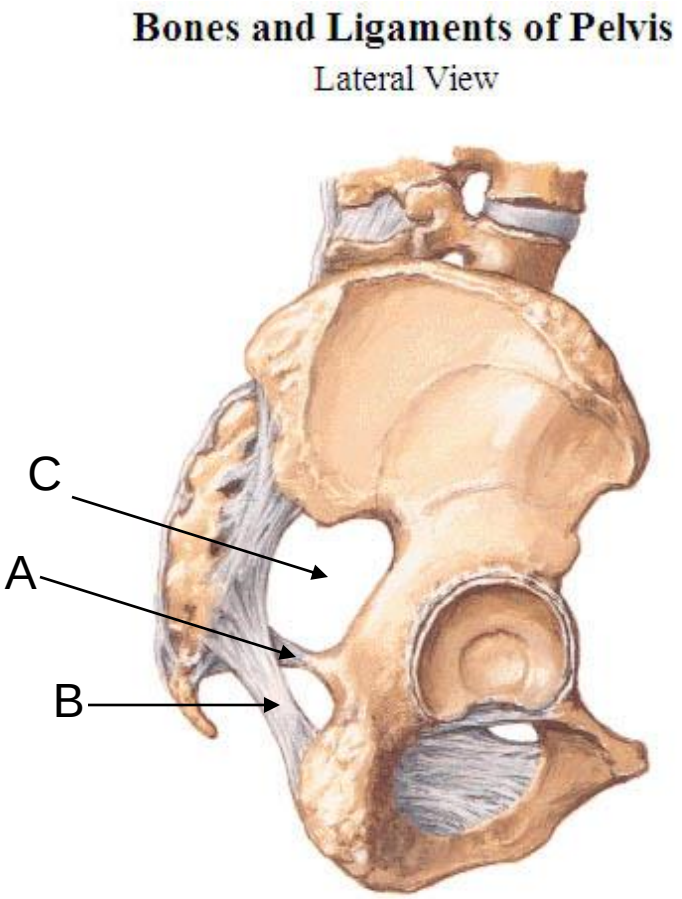

Gluteus medius
Gluteus minimus


posterior gluteal line
anterior
gluteal line
inferior gluteal line
gluteus medius
gluteus minimus

- Which view of the coxal bone is this?
  - Medial view
- Identify the following landmarks?



- Name the following ligaments
  - A
  - B
- What notch or foramen is indicated by C



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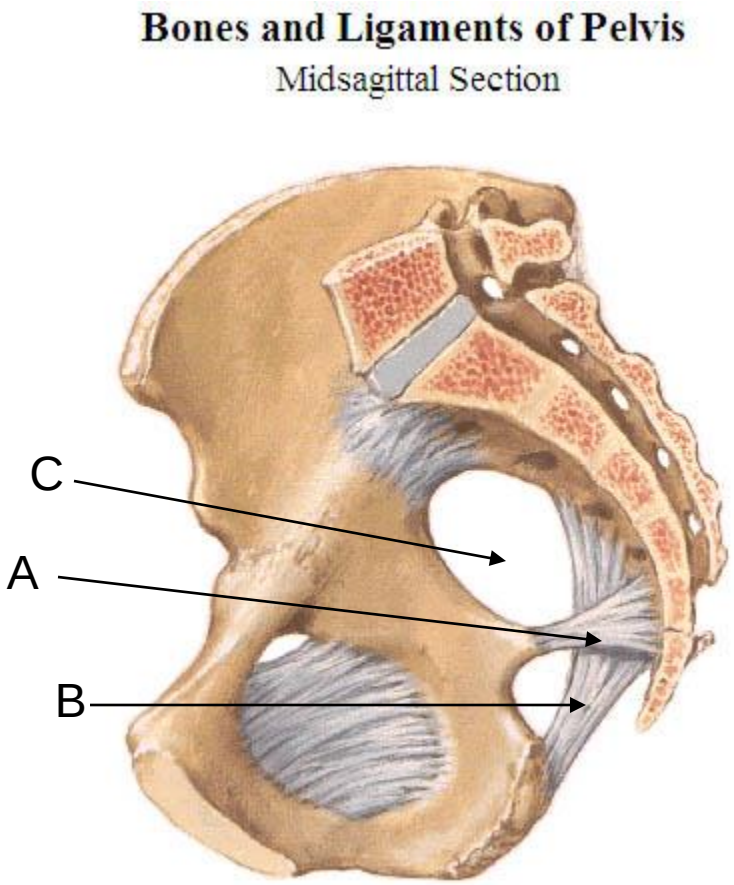
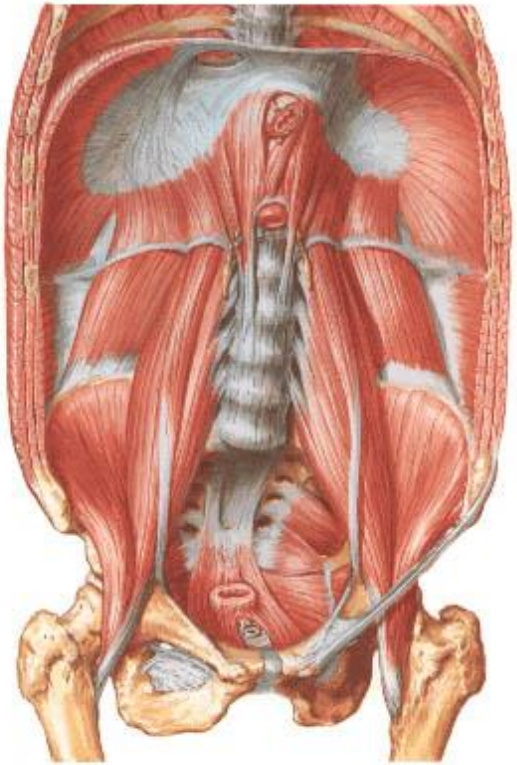
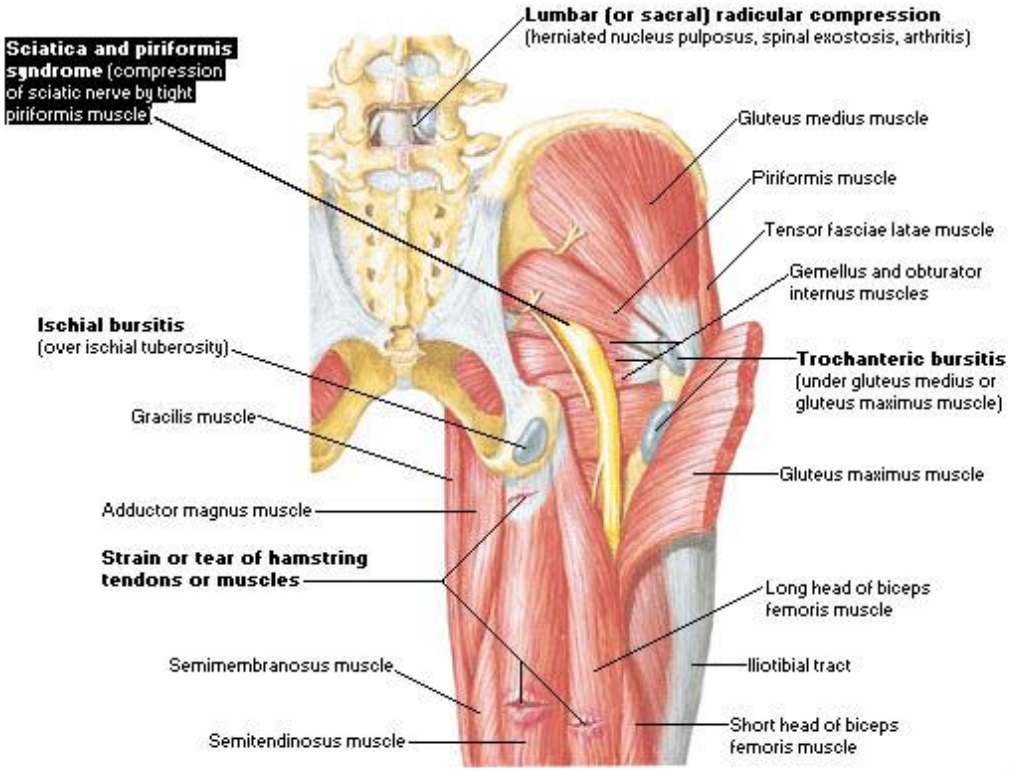


Posterior Abdominal Wall

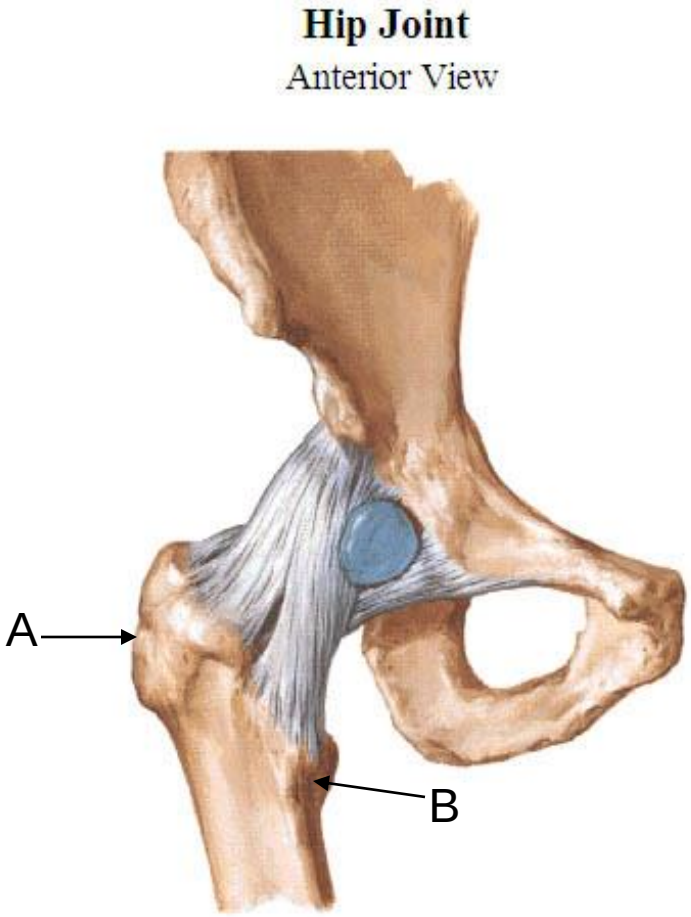
Internal View



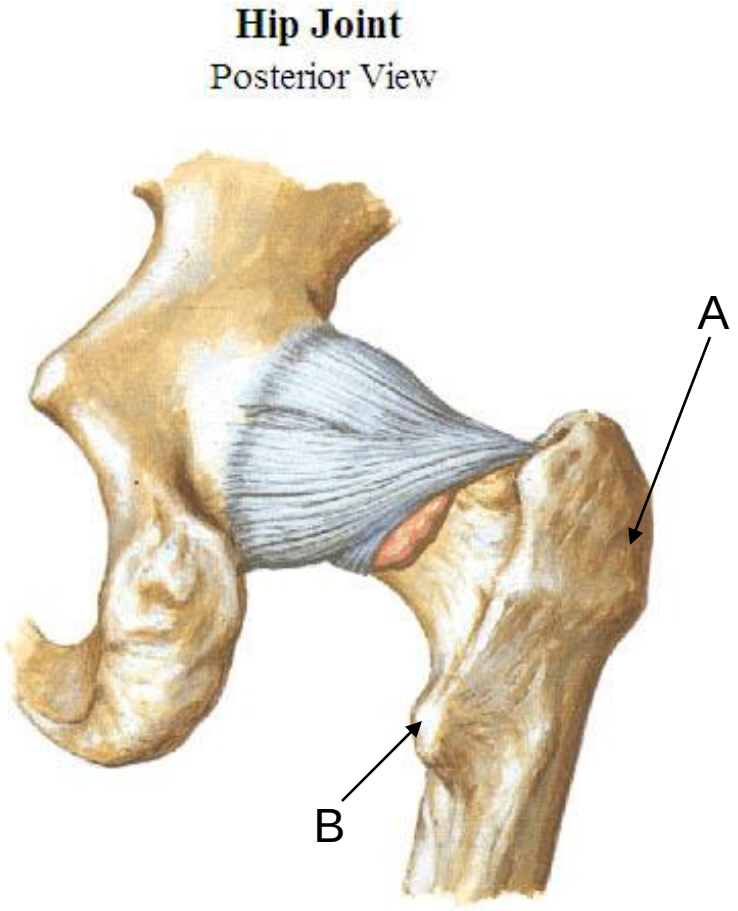
Differential Diagnosis of Hip, Buttock, and Back Pain



- Identify the following landmarks
  - A
  - B



- Identify the following landmarks
  - A
  - B
- What muscles attach to A
  - Abductors (G. Medius, G. Minimus)
  - Lateral Hip Rotators
    - We are responsible for the piriformis
- What muscle/s attach to B?
  - iliopsoas

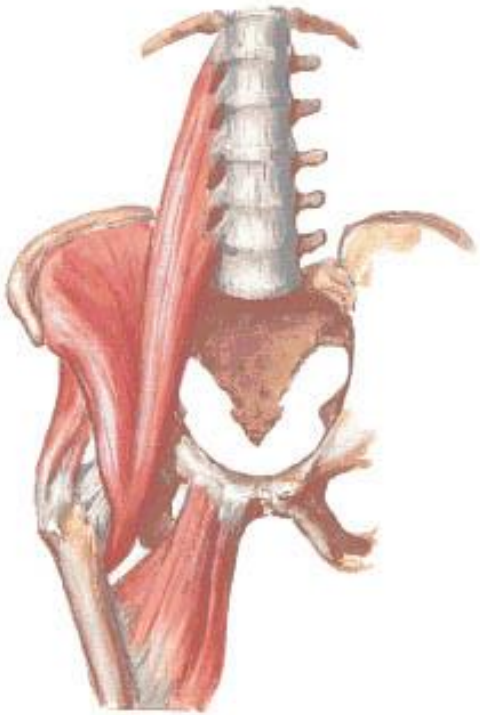


Muscles of Hip and Thigh

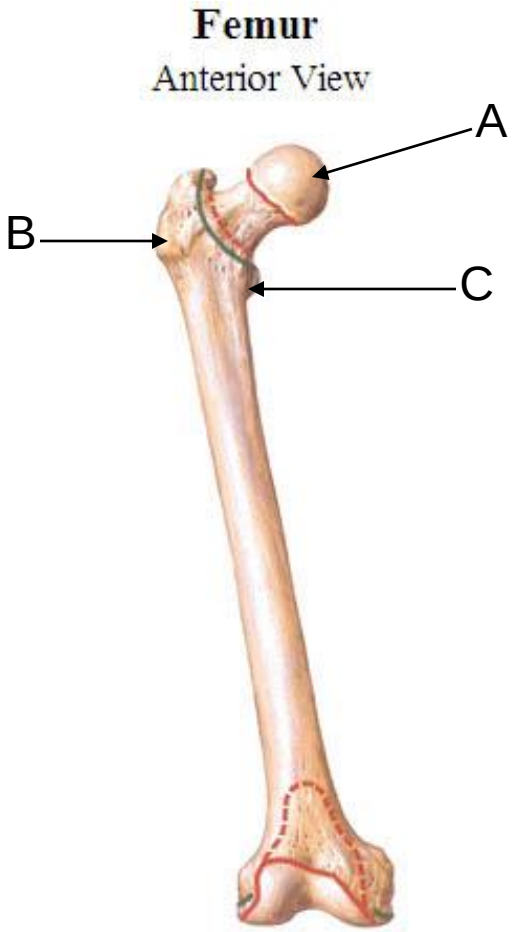
Posterior View - Deeper Dissection

Psoas and Iliacus Muscles

Action



- Which view is this (anterior or posterior)?
  - Anterior
- Identify the following landmarks



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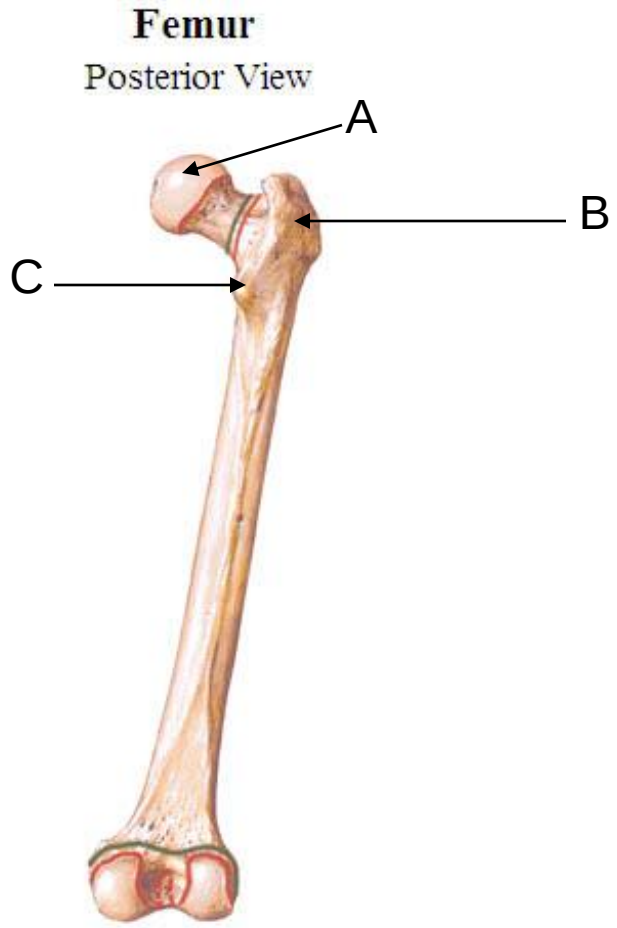
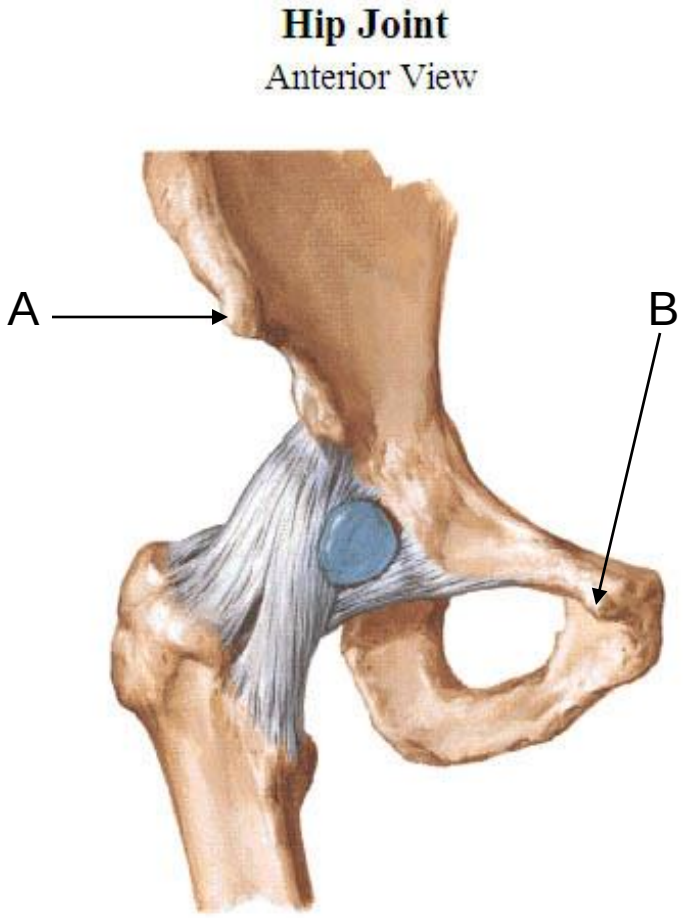
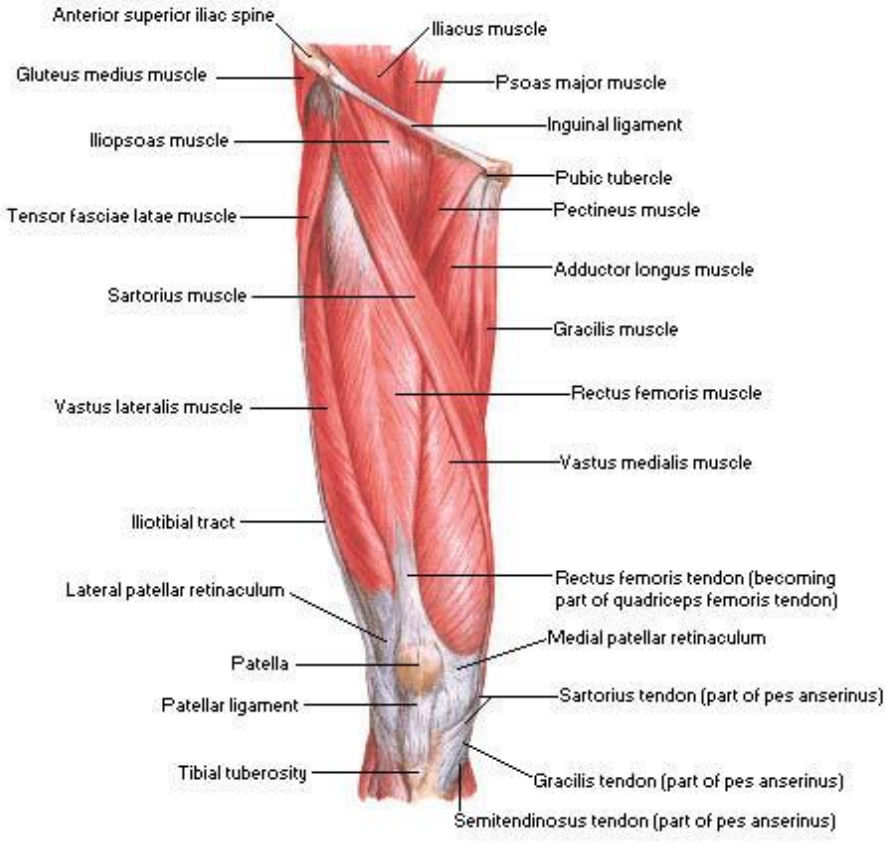


- Identify the following landmarks?
  - A
  - B
- What ligament joins these two bony landmarks?
  - Inguinal ligament



Muscles of Thigh

Anterior View - Superficial Dissection



Anatomy & Physiology II

Hip Muscles

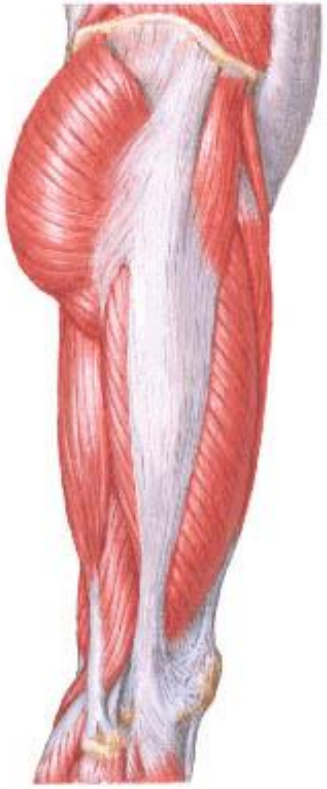
Review

Gluteus Maximus

Post. Iliac crest, sacrum, coccyx – gluteal tuberosity of femur, ITB

Muscles of Hip and Thigh

Lateral View



Muscles of Hip and Thigh

Posterior View - Superficial Dissection

Gluteus Medius

Lateral surface of ilium (between post. and ant. gluteal line) – Greater trochanter

Muscles of Hip and Thigh

Posterior View - Deeper Dissection

Gluteus Minimus

Lateral surface of ilium (between ant. and inf. gluteal line) – Greater trochanter

Muscles of Hip and Thigh

Posterior View - Deeper Dissection

Piriformis

Anterior surface of sacrum – Greater trochanter

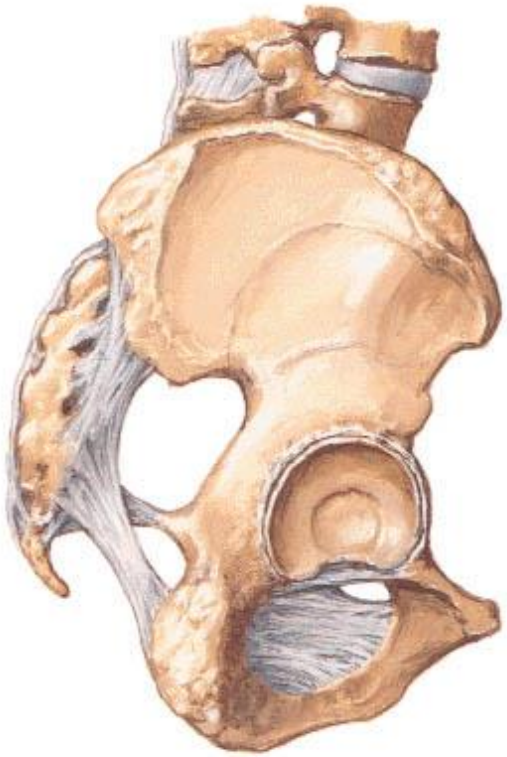
Muscles of Hip and Thigh

Posterior View - Deeper Dissection

Greater Sciatic Foramen

Bones and Ligaments of Pelvis

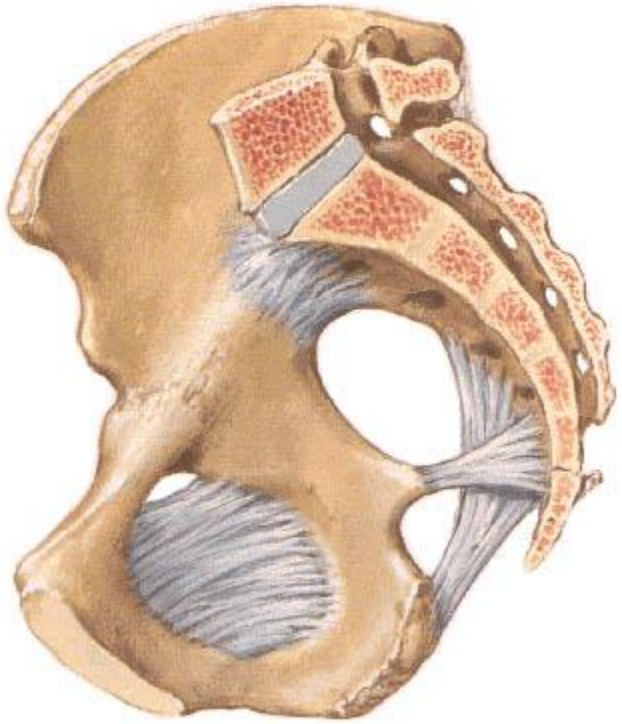
Lateral View



Greater Sciatic Foramen

Bones and Ligaments of Pelvis

Midsagittal Section

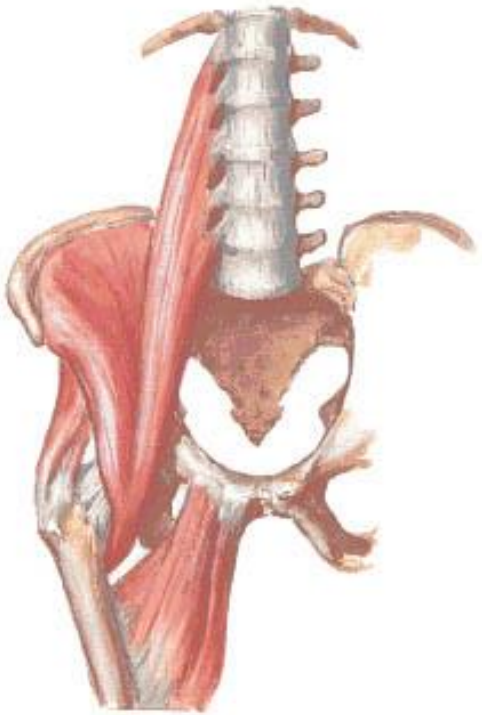


Iliopsoas

Will Recover with Muscles of Trunk

Psoas and Iliacus Muscles

Action



Anatomy & Physiology II

Thigh

Bones

- Review landmarks of coxal bone and proximal femur
- Adding
  - Patella
  - Femur
    - Trochlear groove
    - Medial and Lateral Condyle
  - Tibia (proximal)
    - Tibial tuberosity
    - Medial and Lateral Condyle
  - Fibula (proximal)
    - Head of fibula

Femur

Anterior View

Femur

Posterior View

Tibia and Fibula of Right Leg

Anterior View

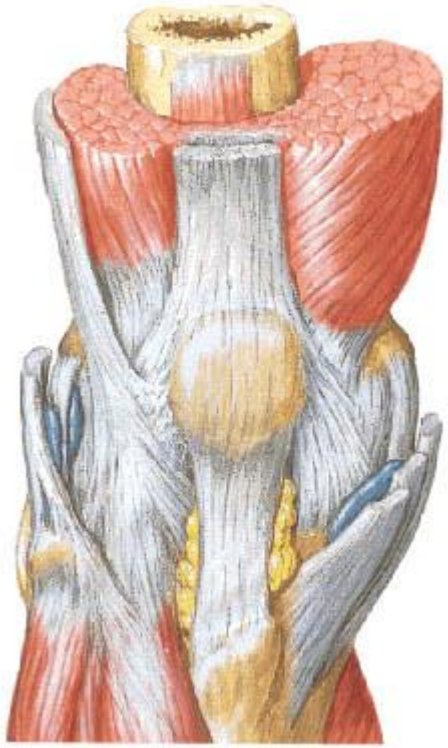
- Knee
  - Ligaments
    - Lateral collateral ligament (fibular collateral lig.)
    - Medial collateral ligament (tibial collateral lig.)
    - Anterior cruciate ligament
    - Posterior cruciate ligament
    - Patellar ligament
  - Menisci
    - Medial and Lateral Menisci
  - Other Structures related to the Knee
    - Iliotibial Band (Tract)
    - Pes anserinus (includes the tendons of sartorius m., gracilis m. and semitendinosus m. – Sgt.)
    - Biceps femoris tendon

Knee

Parasagittal Section - Lateral to Midline of Knee

Knee in Extension

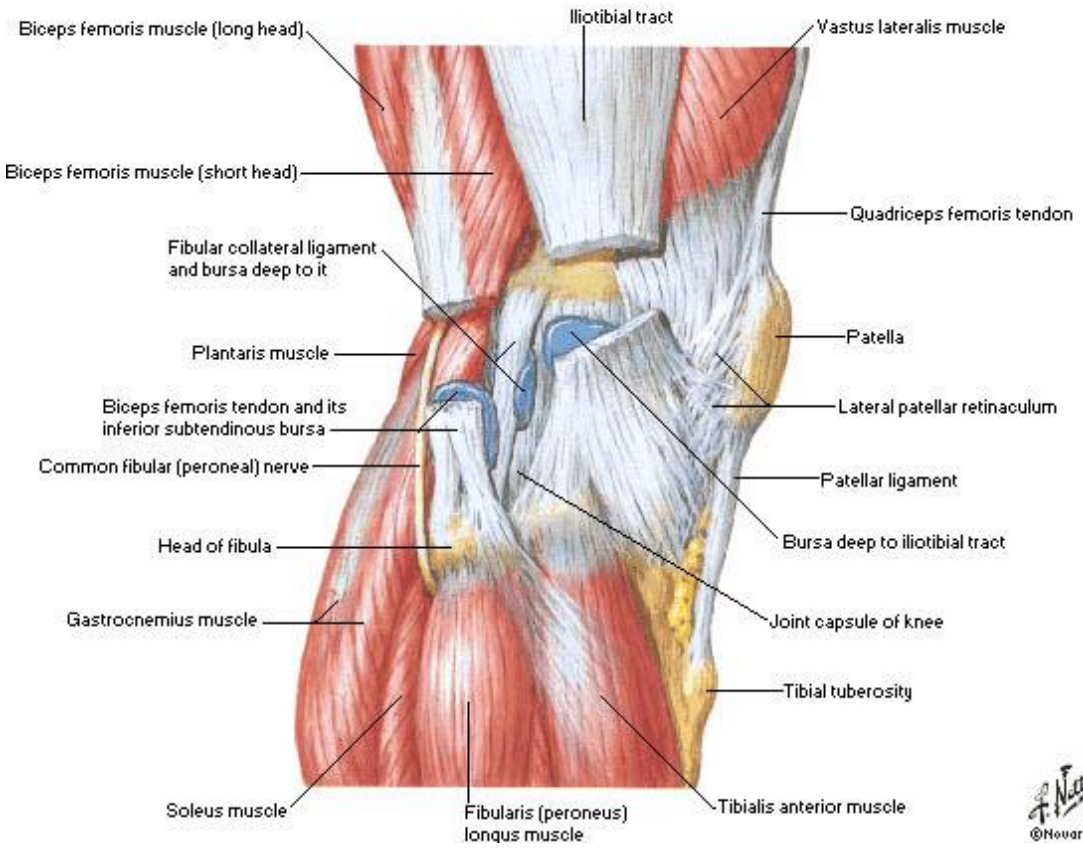
Anterior View



Right Knee

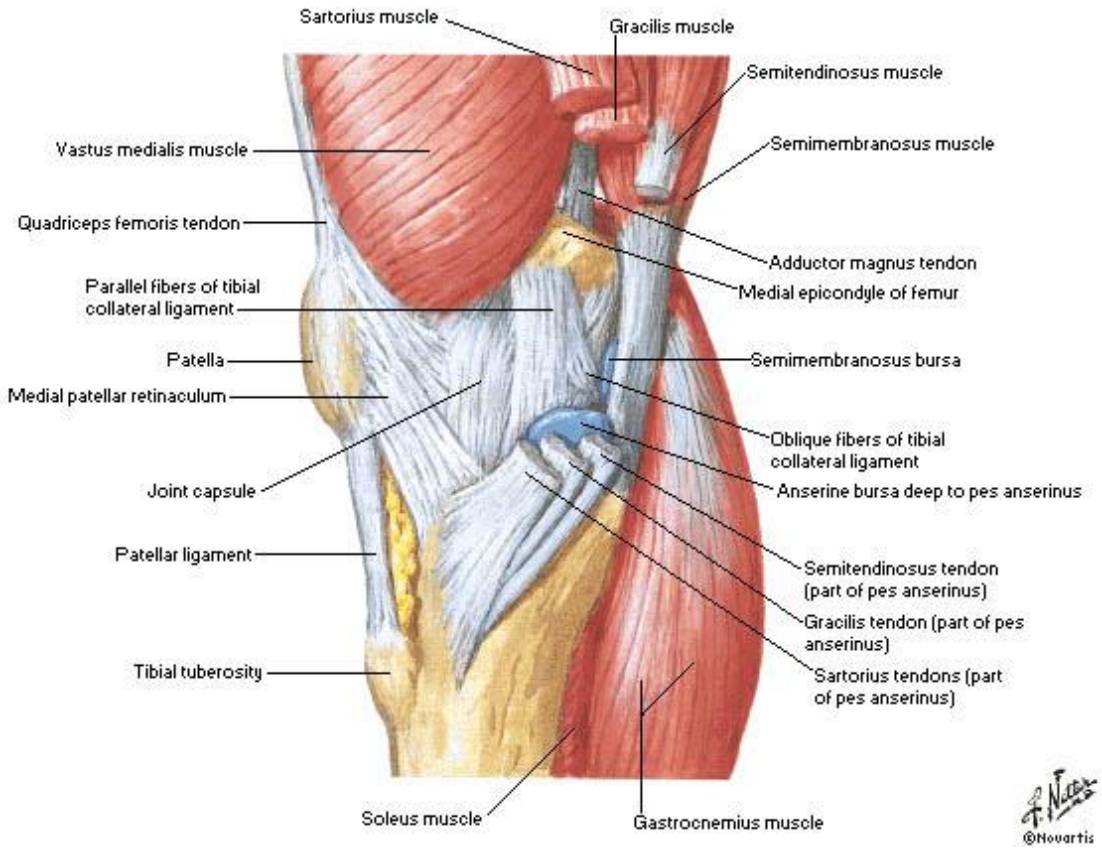
Knee

Lateral View



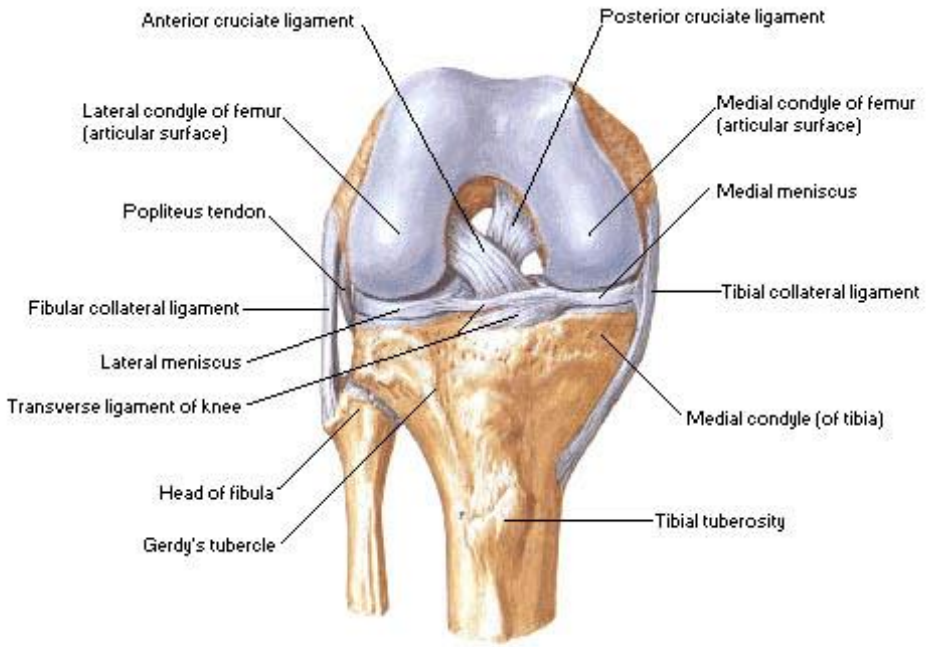
Knee

Medial View



Knee - Cruciate and Collateral Ligaments

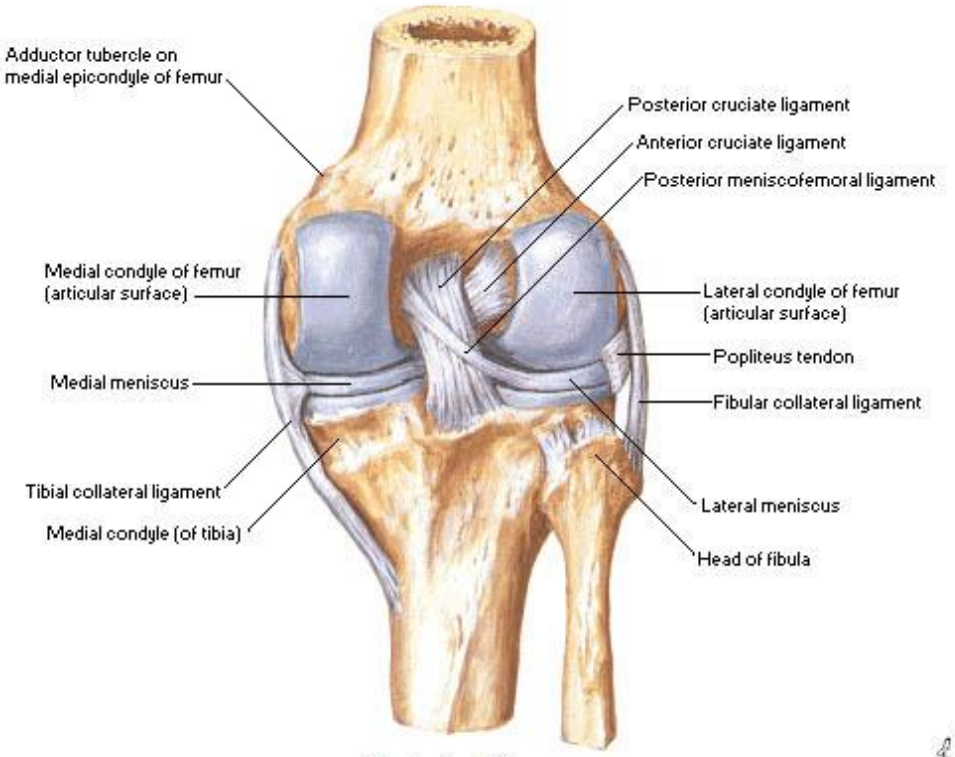
Right Knee in Flexion



Anterior View

Knee - Cruciate and Collateral Ligaments

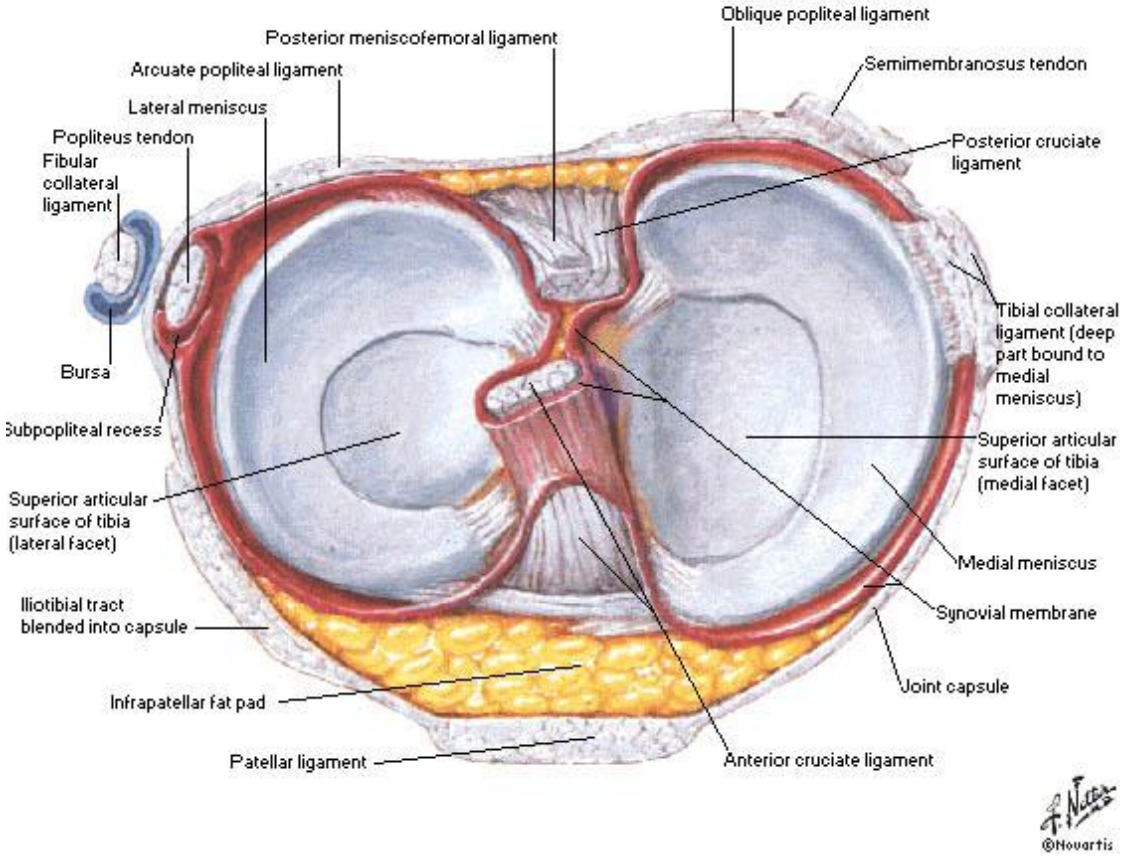
Right Knee in Extension



Posterior View

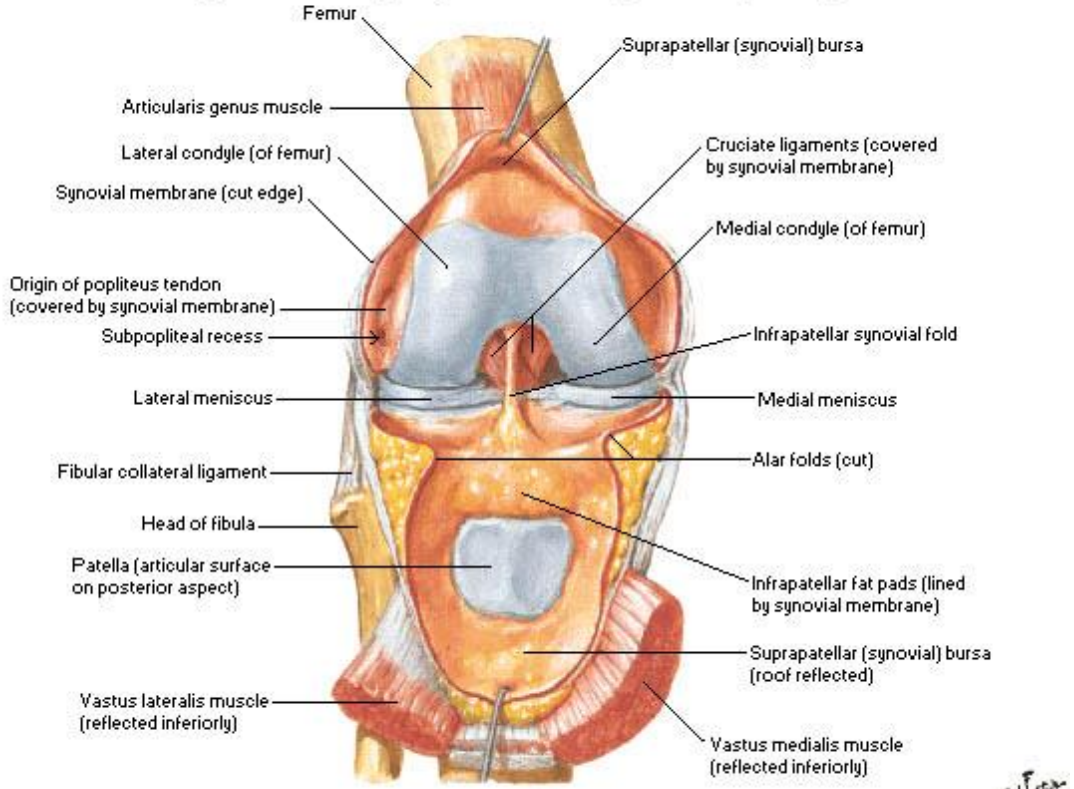
Knee - Interior

Superior View



Knee

Right Knee Slightly in Flexion [Joint Opened]

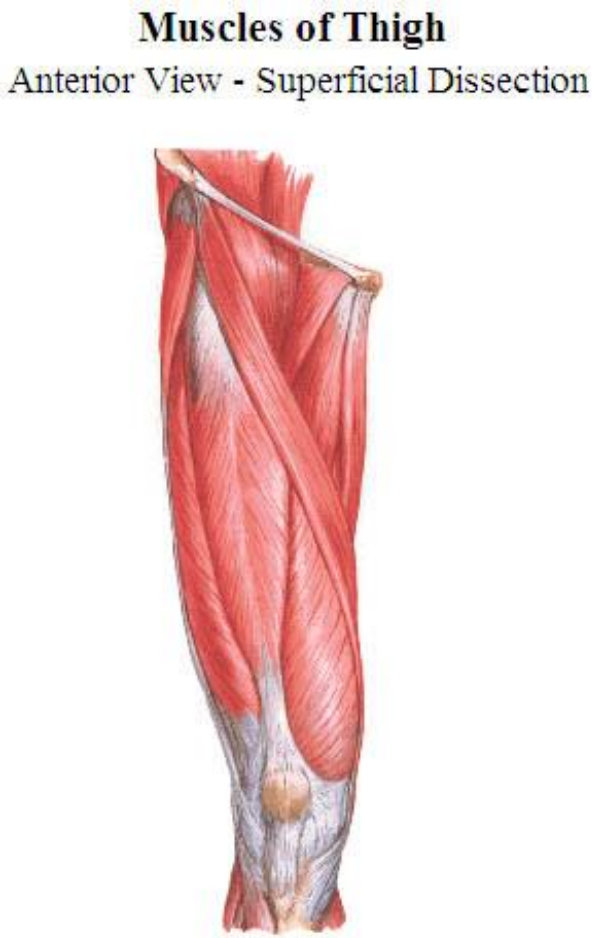


Anterior View

- Anterior Cruciate Ligament
  - Anterior on the tibia
  - Prevents anterior shear of tibia and hyperextension
- Posterior Cruciate Ligament
  - Posterior on the tibia
  - Prevents posterior shear of tibia
- Medial (Tibial) Collateral Ligament
  - Reinforces the medial knee and prevents valgus strain
- Medial (Fibular) Collateral Ligament
  - Reinforces the lateral knee and prevents varus strain
- Menisci
  - Fibrocartilage pads that lie between the femoral and tibial surfaces
    - Act as cushions
    - Conform to the changing shape of the joint as it moves
    - Provides lateral stability to the joint

Quadriceps Muscles

- Rectus femoris
  - AIIS – tibial tuberosity
  - Extends Knee, Flexes Hip
- Vastus lateralis, intermedius, medialis
  - Linea aspera – tibial tuberosity
  - Extends Knee



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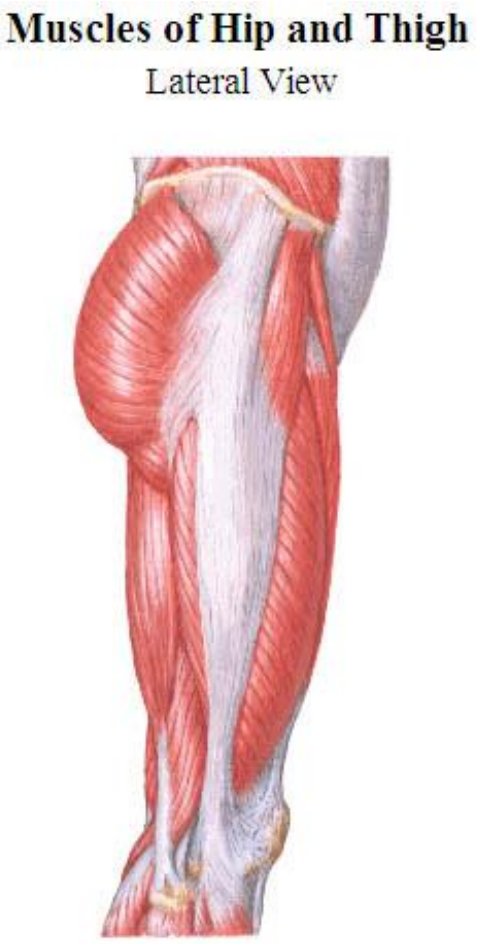
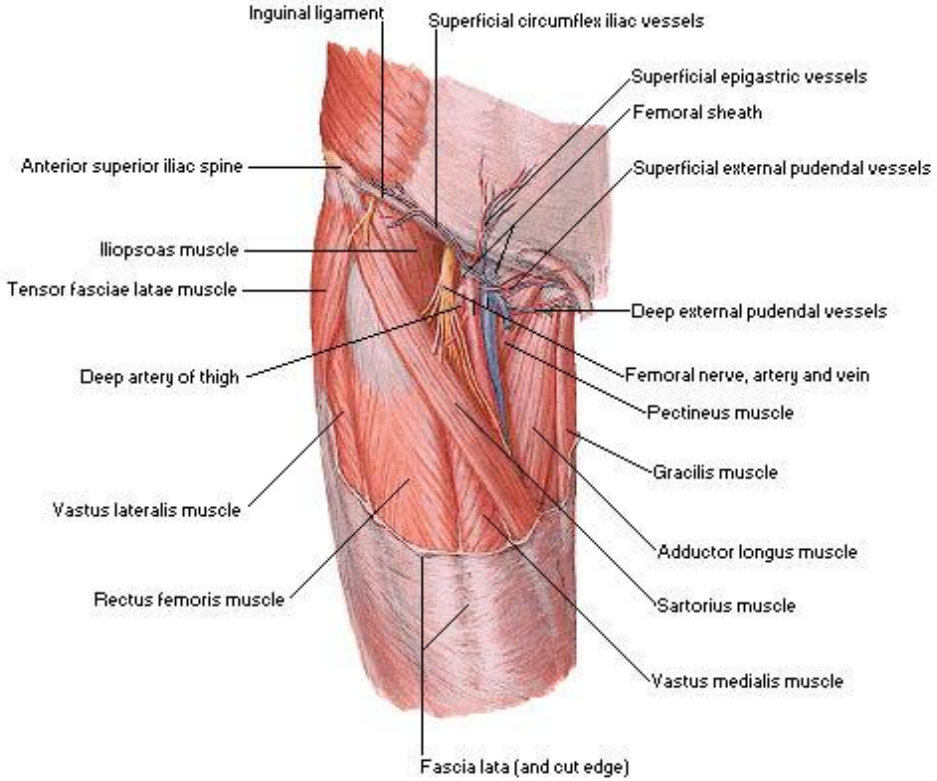
Tensor Fascial Lata (TFL) and Iliotibial Band

- TFL
  - ASIS (and anterior iliac crest) – ITB
- Iliotibial Band (ITB)
  - The ITB is a thickening of the fascial lata (fascial covering of the thigh
  - The ITB has proximal attachments to the lateral iliac crest and lateral hip muscles
  - Itcrosses the knee and attaches to the lateral condyle of the tibia
  - Both the TFL and Gluteus maximus attach to the ITB



Arteries and Nerves of Thigh

Superficial Anterior View



Hamstrings

- Three muscles
  - All (except short head of biceps femoris) have proximal attachment to the ischial tuberosity
  - One lateral muscle (with two heads)
    - Biceps femoris
      - Long head
        - » Ischial tuberosity
      - Short head
        - » Linea aspera
      - Both have distal attachment to head of the fibula and lateral tibial condyle
    - Semitendonosus
      - Ischial tuberosity – anterior medial proximal tibia (part of pes anserinus)
    - Semimebranosus
      - Ischial tuberosity – posterior surface of medial tibial condyle
  - All flex the knee and extend the hip *(and posteriorly tilt the pelvis)*

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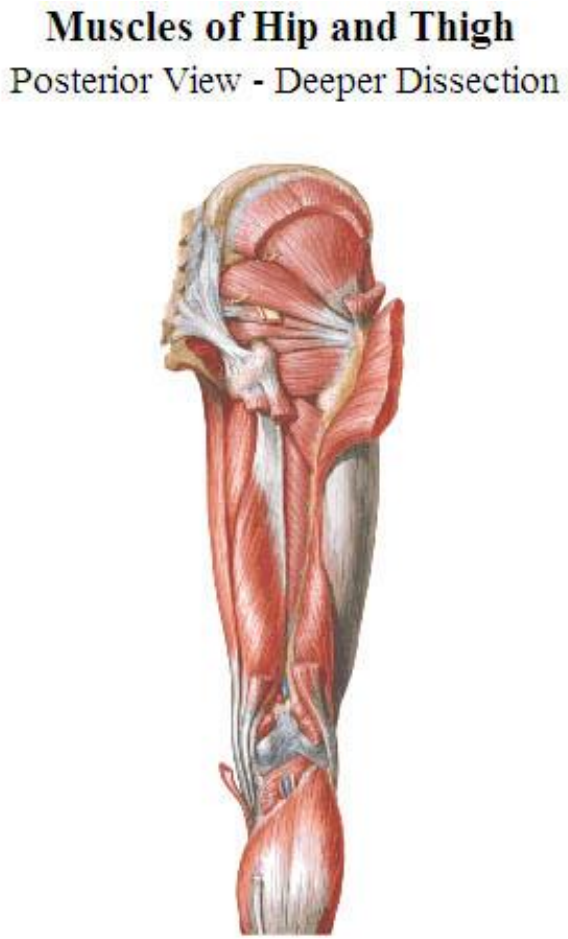
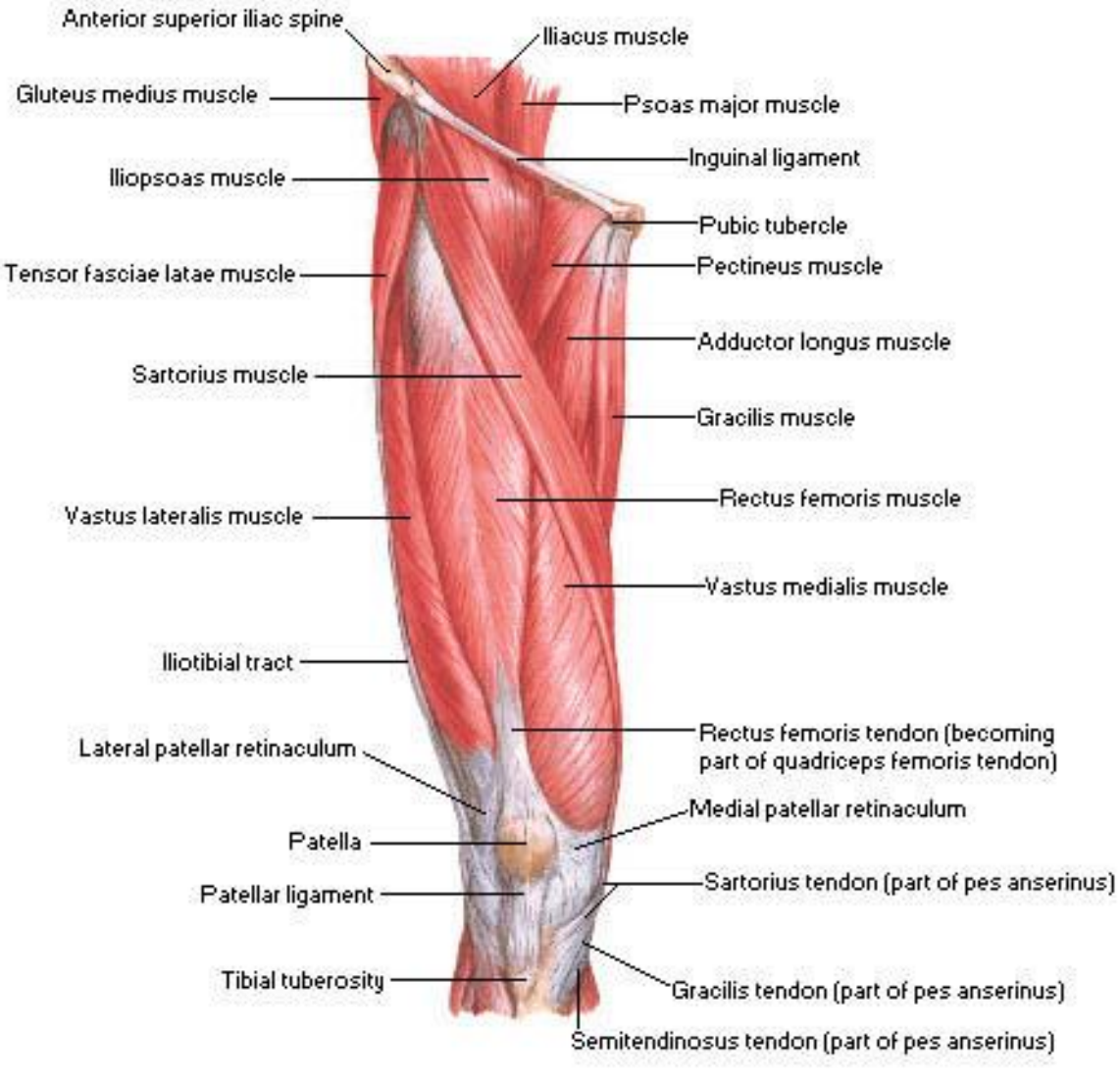


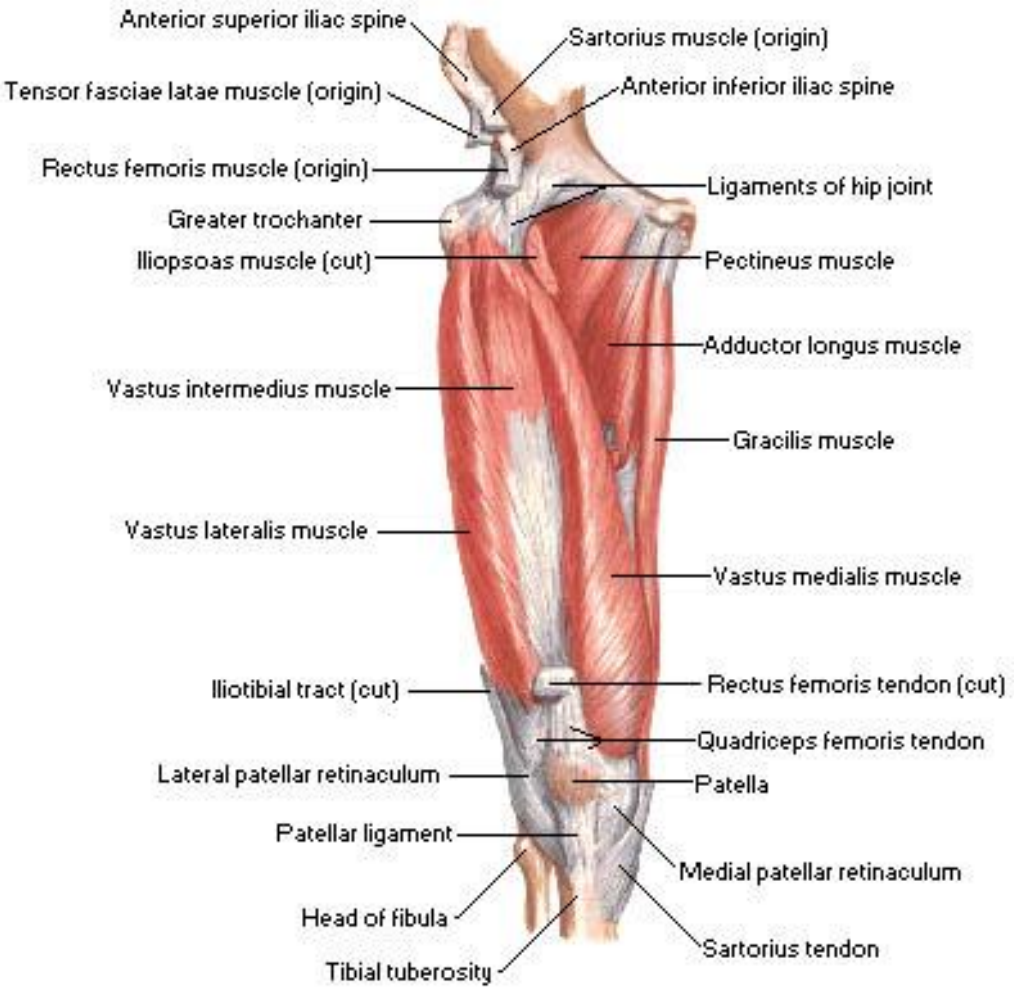
Muscles of Thigh

Anterior View - Superficial Dissection



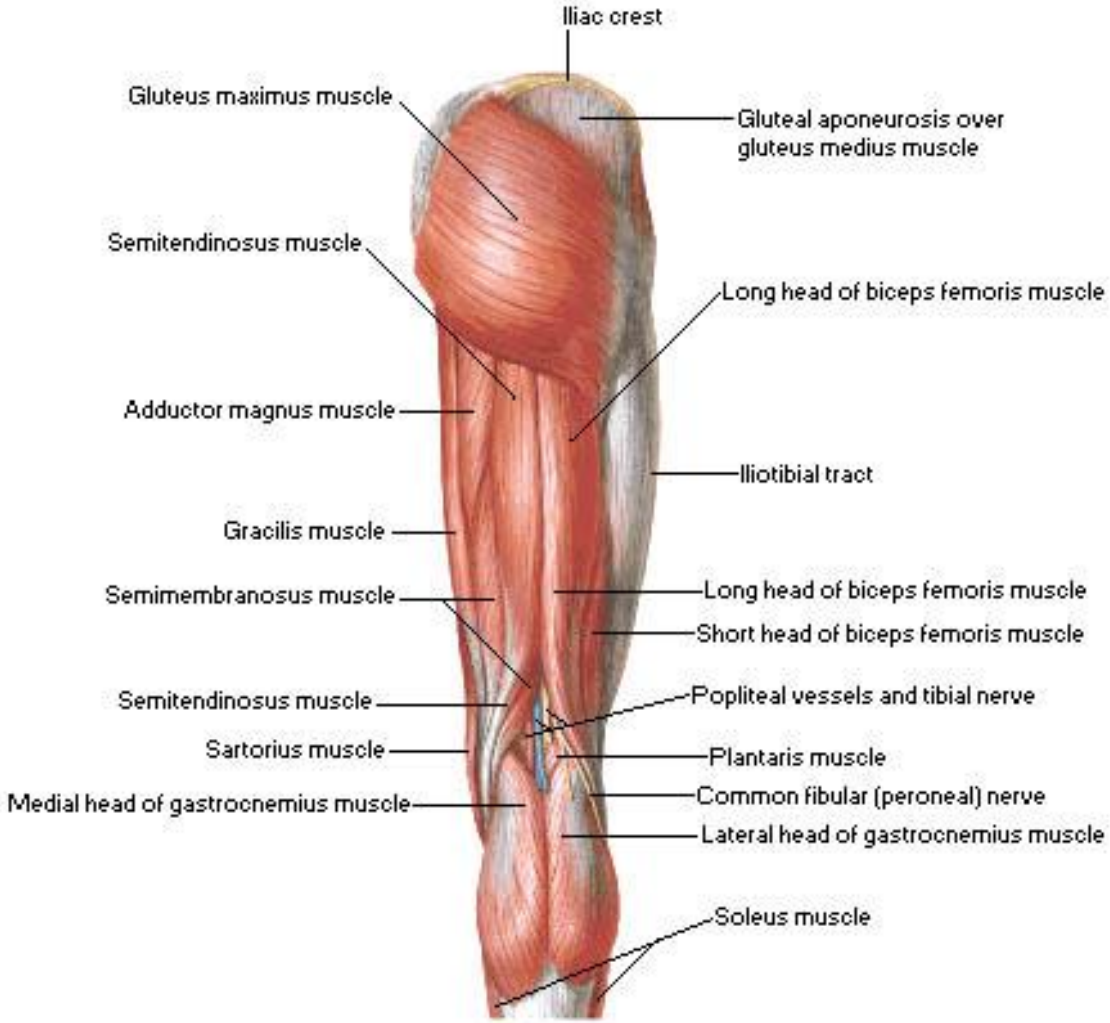
Muscles of Thigh

Anterior View - Deeper Dissection



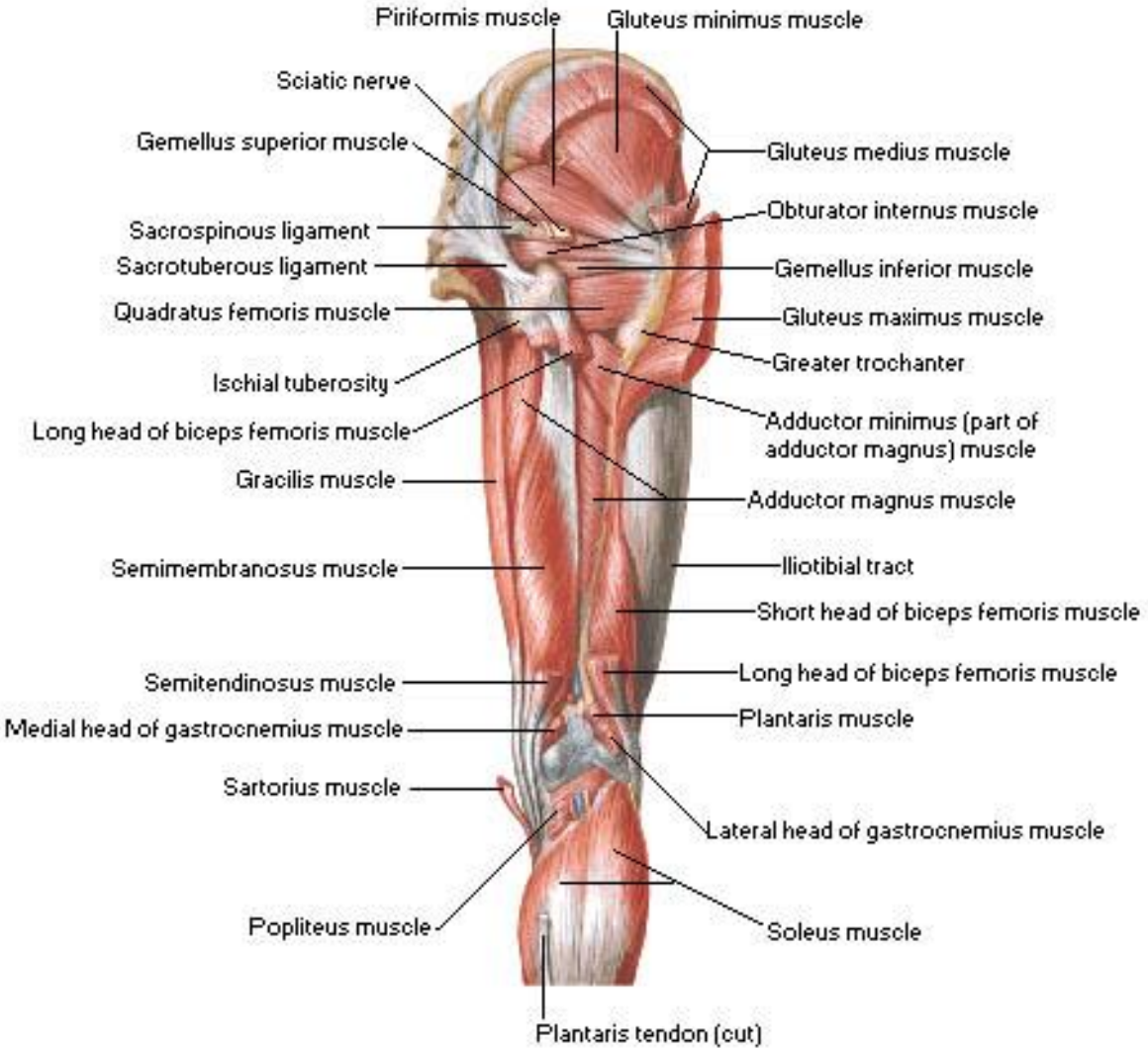
Muscles of Hip and Thigh

Posterior View - Superficial Dissection



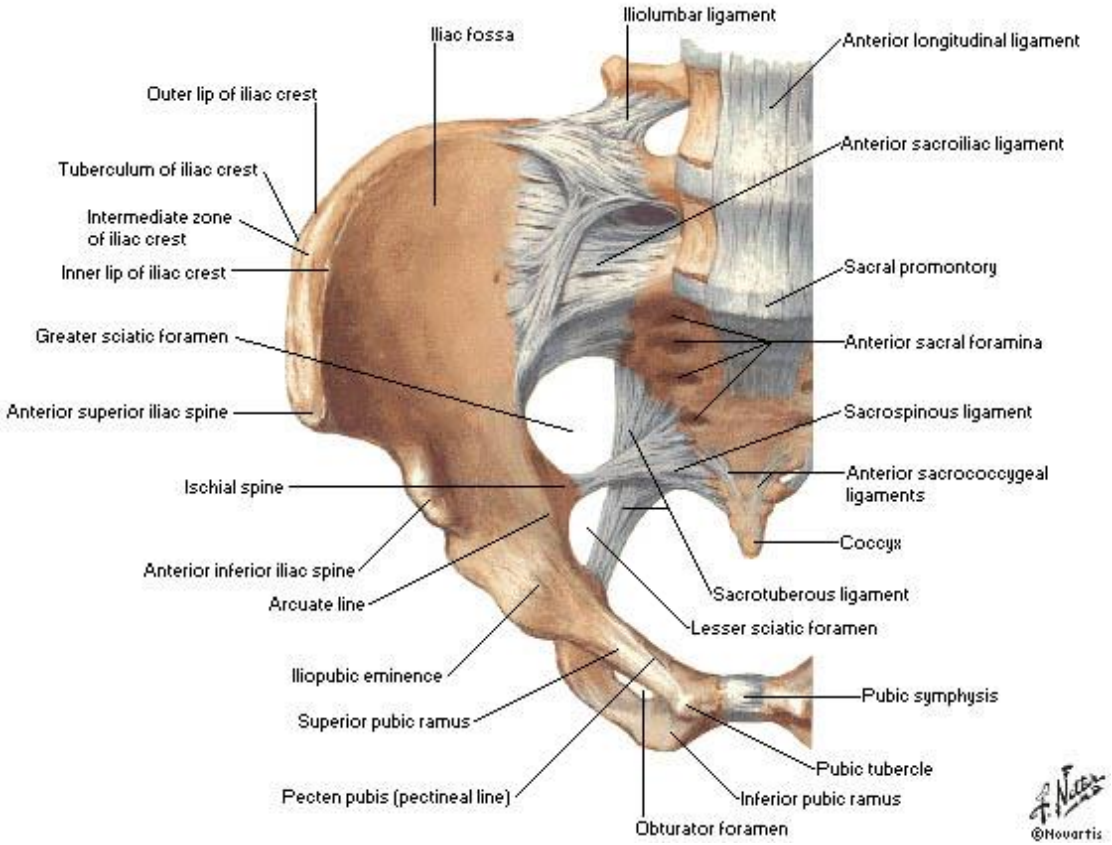
Muscles of Hip and Thigh

Posterior View - Deeper Dissection

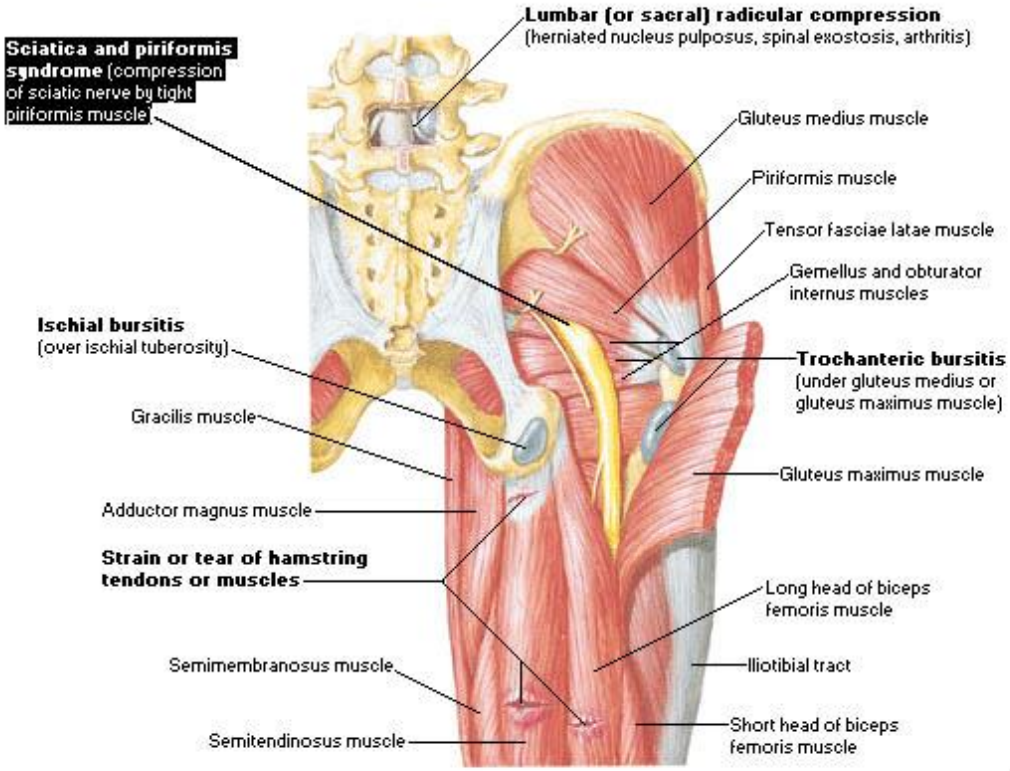


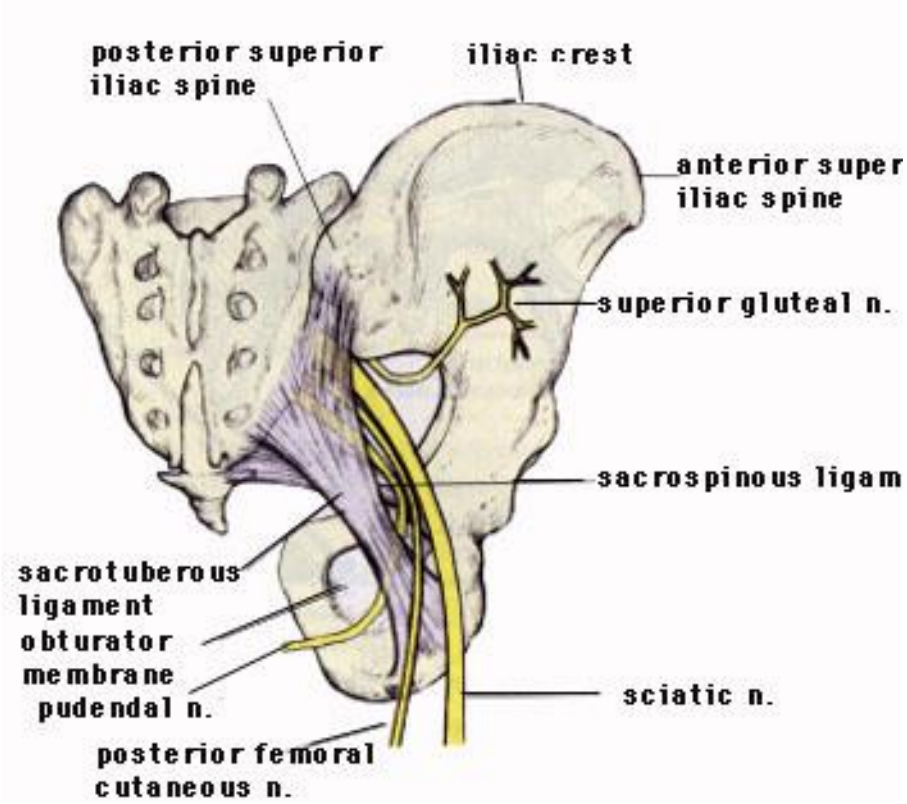
Bones and Ligaments of Pelvis

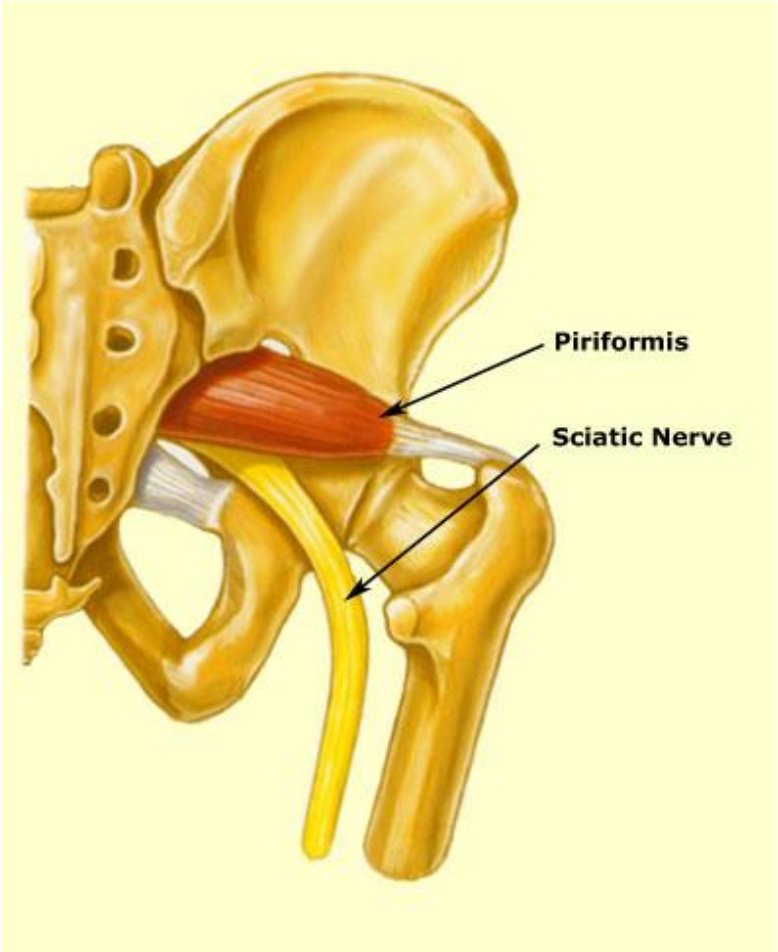
Anterior View



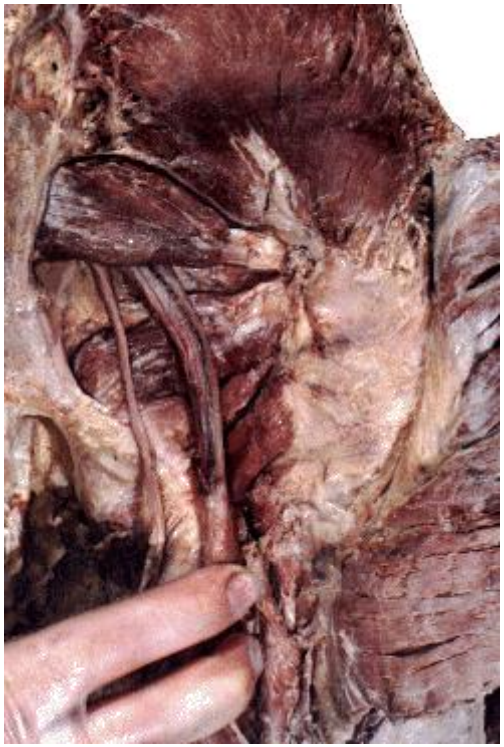
Differential Diagnosis of Hip, Buttock, and Back Pain




posterior superior
iliac spine
iliac crest
anterior super
iliac spine
superior gluteal n.
sacrospinous ligam
sacrotuberous
ligament
obturator
membrane
pudendal n.
sciatic n.
posterior femoral
cutaneous n.


Piriformis
Sciatic Nerve

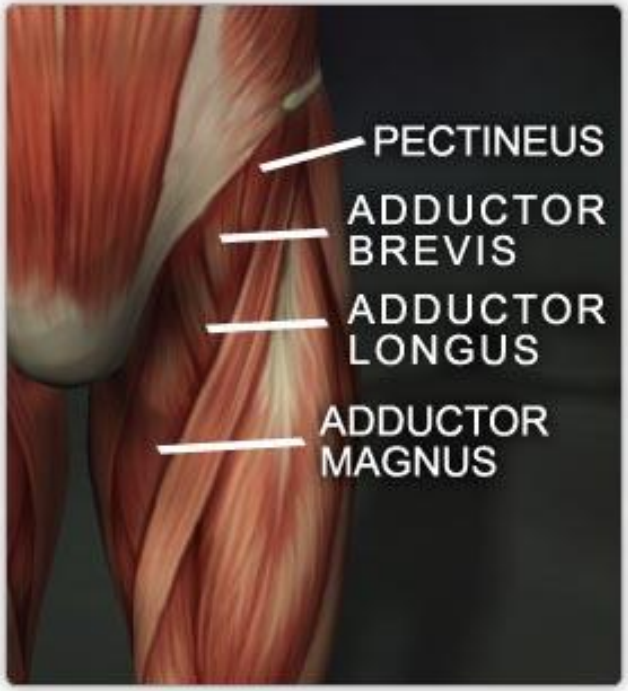
Warning: Cadaver Images



Medial Thigh and Hip Adductors

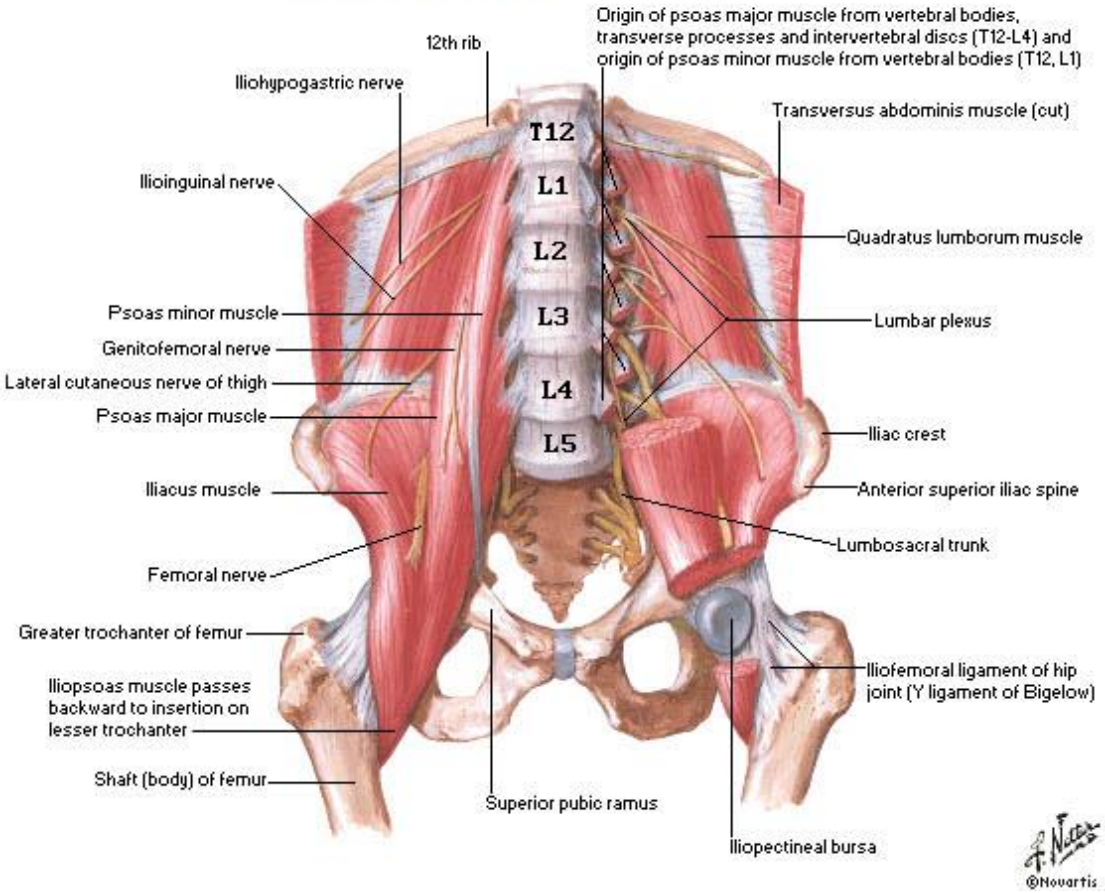
Not on Test


Hip joint
Pubic bone
Adductor longus
Femur


PECTINEUS
ADDUCTOR BREVIS
ADDUCTOR LONGUS
ADDUCTOR MAGNUS

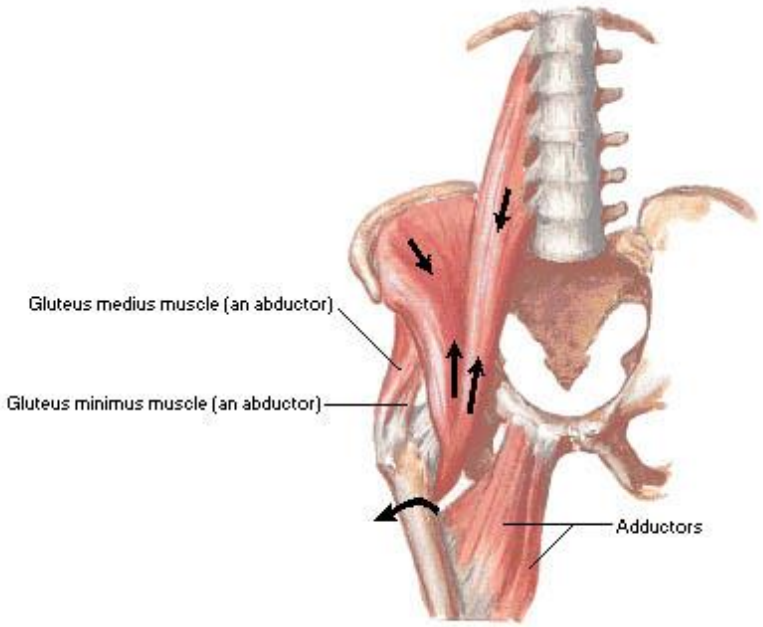
Hip Flexors

Psoas and Iliacus Muscles



Psoas and Iliacus Muscles

Action



Note: arrows indicate direction of action of iliopsoas muscle