



Anterior and Medial Compartment of the Thigh

Musculoskeletal block- Anatomy-lecture 12

Editing file



Objectives

Color guide :

Only in boys slides in **Blue**

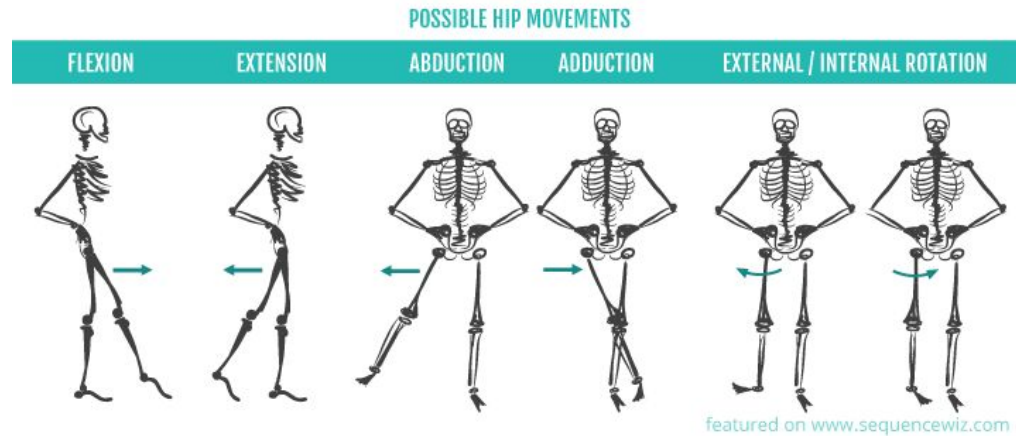
Only in girls slides in **Purple**
important in **Red**

Doctor note in **Green**

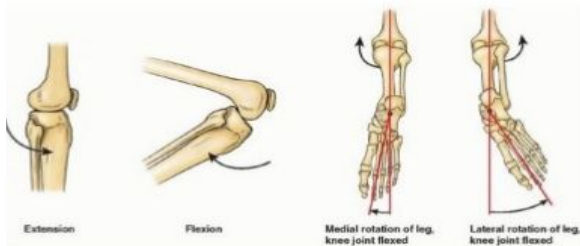
Extra information in **Grey**

- ✓ List the name of muscles of anterior compartment of thigh.
- ✓ Describe the anatomy of muscles of anterior compartment of thigh regarding: origin, insertion, nerve supply and actions.
- ✓ List the name of muscles of medial compartment of thigh.
- ✓ Describe the anatomy of muscles of medial compartment of thigh regarding: origin, insertion, nerve supply and actions.
- ✓ Describe the anatomy of femoral triangle & adductor canal regarding: site, boundaries and contents.

Movement of the Hip and Knee joints



- **Movements at Knee joint:**
- Flexion and Extension: against the transverse axis in sagittal plane.
- Some rotation can occur in flexed leg.



For better understanding the lecture : **Anatomy of the hip bone**

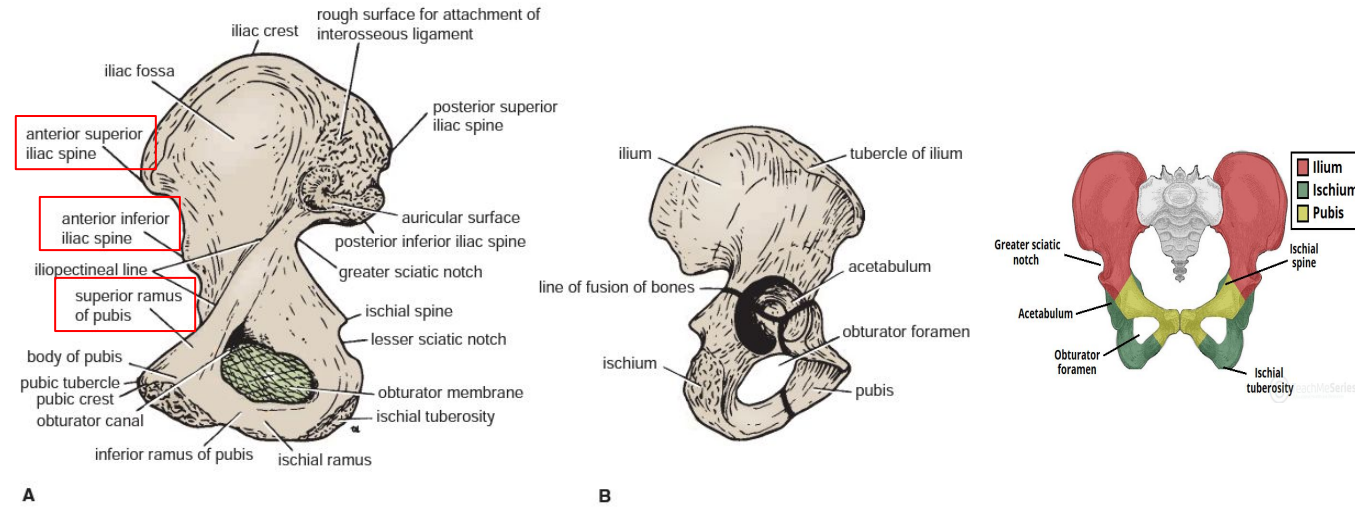


FIGURE 10.7 Medial surface (A) and lateral surface (B) of the right hip bone. Note the lines of fusion between the three bones (the ilium, the ischium, and the pubis).

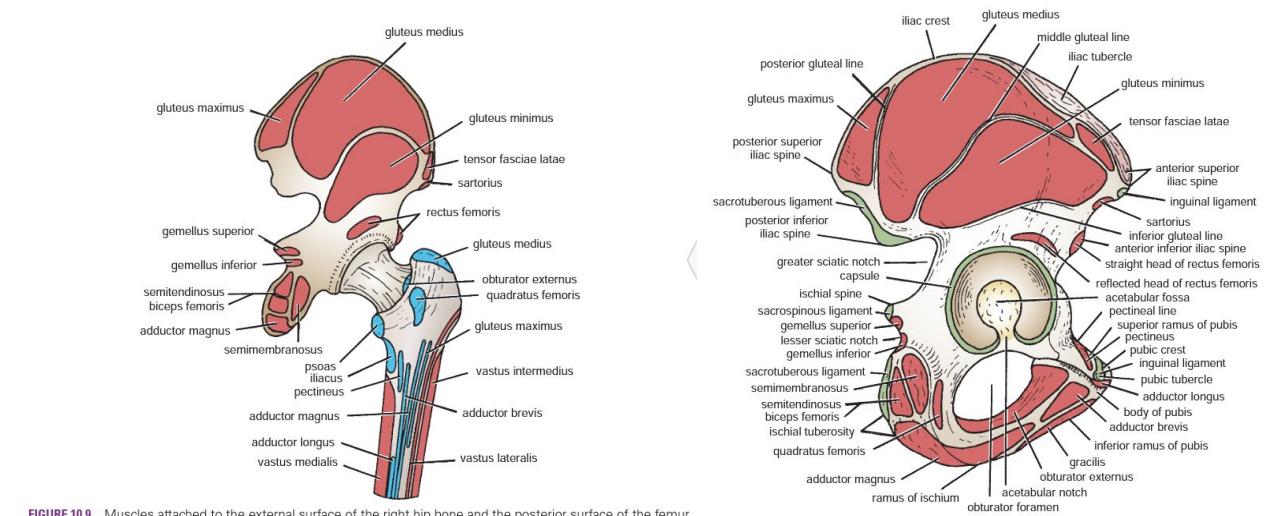
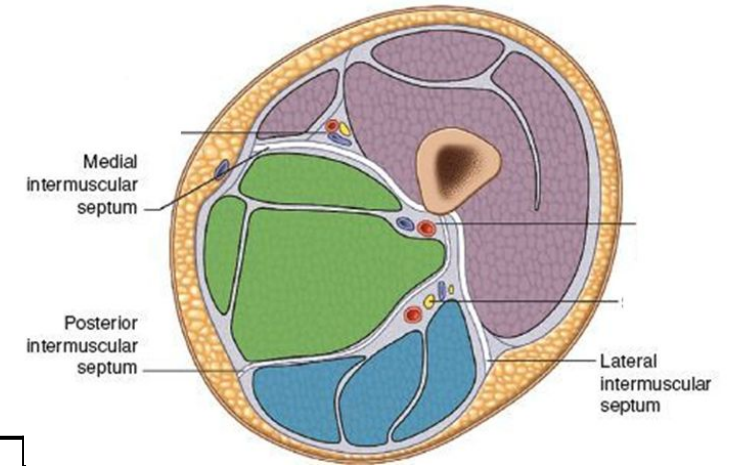


FIGURE 10.9 Muscles attached to the external surface of the right hip bone and the posterior surface of the femur.

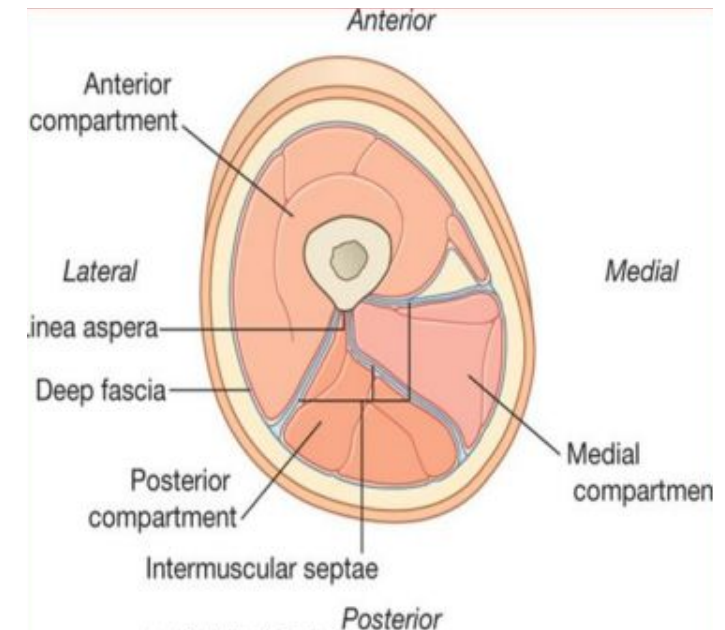
FIGURE 10.8 Muscles and ligaments attached to the external surface of the right hip bone.

The Thigh




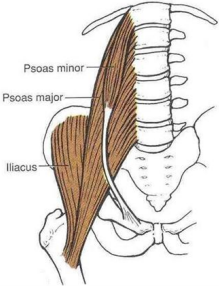

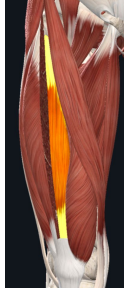


The thigh is divided into **3 compartments** By **3 intermuscular septa** (extending from deep fascia into femur)

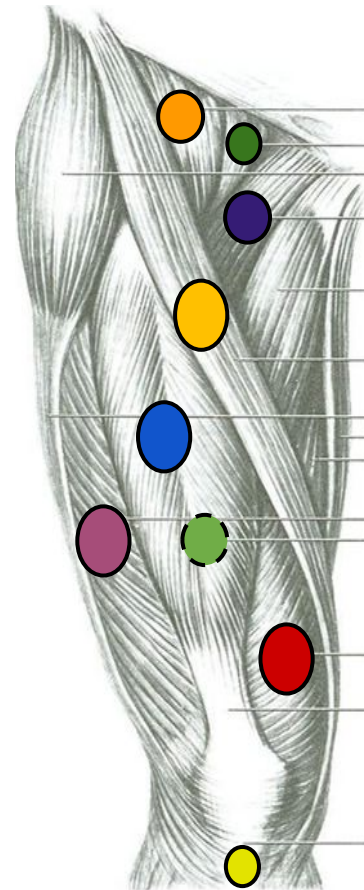
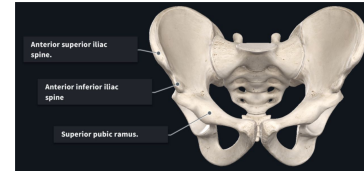


| Anterior Compartment | | Medial Compartment | Posterior Compartment |
|---|--|---|---|
| Extensors of <u>knee</u> | Flexors of <u>hip</u> | Adductors of <u>hip</u> | <ul style="list-style-type: none"> Flexors of <u>knee</u> extensors of <u>hip</u> |
| Quadriceps femoris divided to 4 muscles : Rectus femoris Vastus intermedius Vastus medialis Vastus lateralis | Sartorius Pectineus Iliacus psaos major | Adductor longus Adductor brevis Adductor magnus (adductor part) Gracilis | Hamstrings |
| Femoral nerve (L2,3,4) | | Obturator nerve (L2,3,4) | Sciatic nerve (L4,5,S1,2,3) |

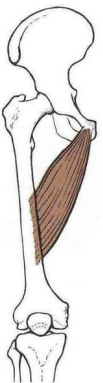
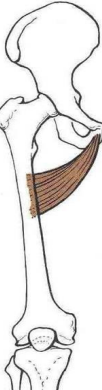
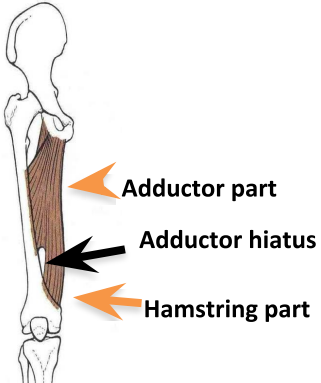
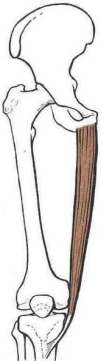


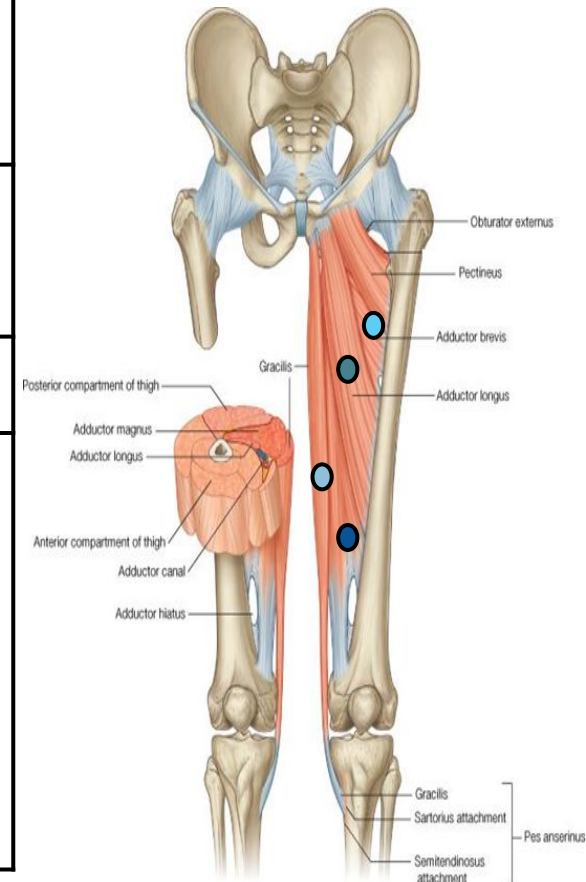
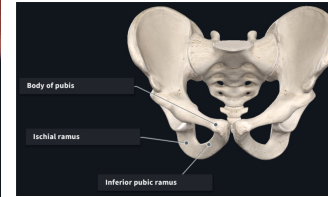
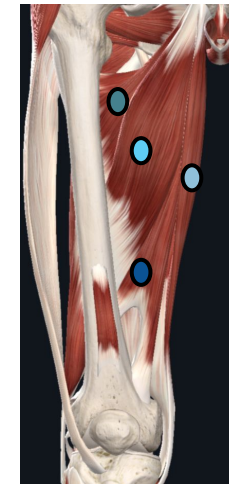
Anterior Compartment

| | Flexors of <u>hip</u> | | | Extensors of <u>knee</u> : Quadriceps femoris | | | |
|---------------------|--|---|--|---|---|---|---|
| Muscles | Sartorius | Pectineus | iliopsoas: iliacus & psoas major | Rectus femoris | Vastus intermedius | Vastus medialis | Vastus lateralis |
| Origin | Anterior superior iliac spine . | Superior pubic ramus . | Iliacus : ilium of hip bone Psoas : transverse process of lumbrical vertebral | Anterior inferior iliac spine | Front of shaft of femur | Posterior border of femur | Posterior border of femur |
| Insertion | Upper part of medial surface of tibia . | Back of femur (below lesser trochanter) | Lesser trochanter of femur | -Into PATELLA (Patella is a sesamoid bone also Pisiform) -From patella into TUBEROSITY OF TIBIA through LIGAMENTUM PATELLAE (PATELLAR LIGAMENT) | | |  |
| Action | (TAILOR'S POSITION) Flexion , abduction & lateral rotation of hip joint Flexion of knee joint | Flexion & adduction of Hip joint. | JUST Flexion of hip joint (They're the main flexors) | Extension of knee joint (Rectus femoris also can flex the hip joint) | | | |
| Nerve Supply | Femoral nerve | | | | | | |
| Pictures |  |  |  |  |  |  |  |



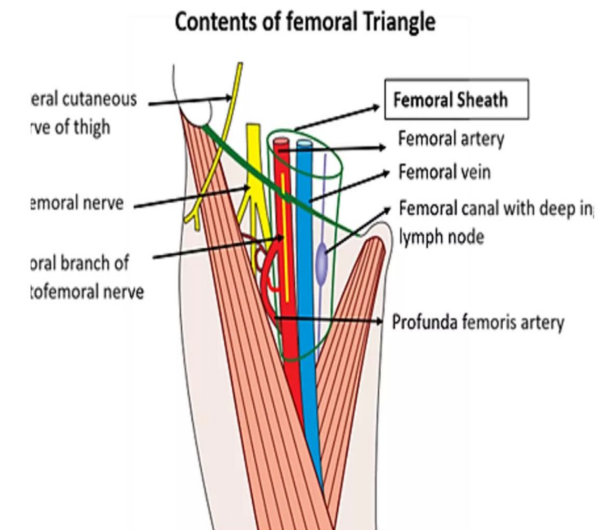
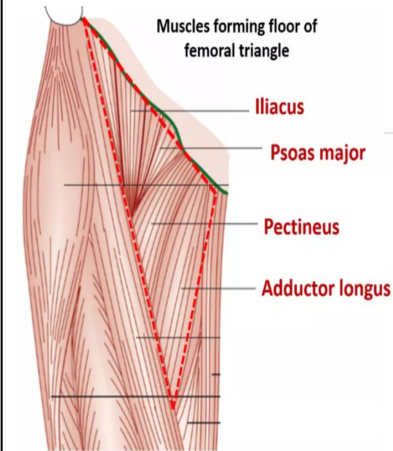
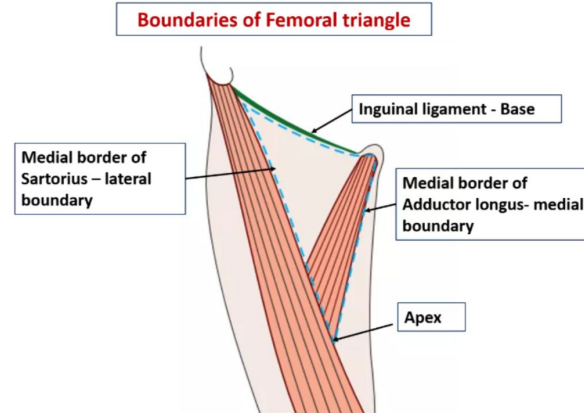
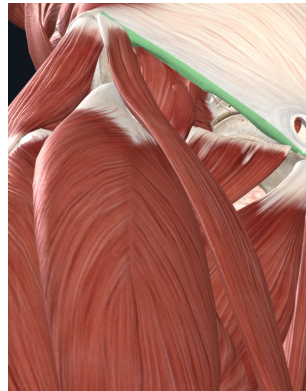
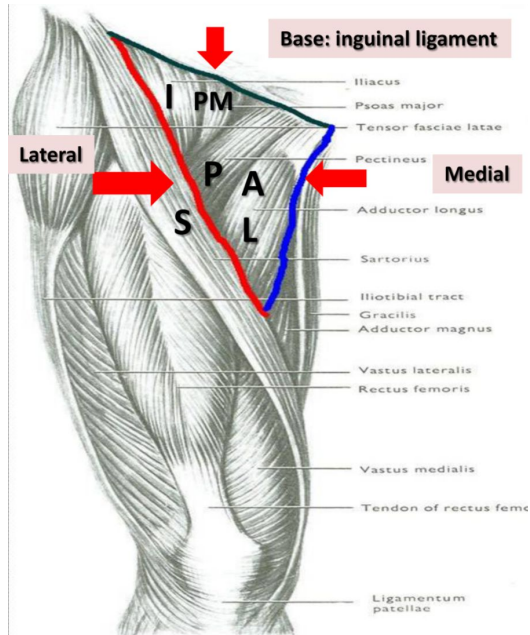
Medial Compartment

| Muscles | Adductor longus | Adductor brevis | Adductor magnus (adductor part) | Gracilis |
|--------------|---|--|---|--|
| Origin | -Body of pubis | -Body of pubis -Inferior pubic ramus | -Inferior pubic ramus -Ischial ramus. | -Inferior pubic ramus & Ischial ramus |
| Insertion | Posterior border of femur (Linea Aspera) | | | Upper part of medial surface of tibia (behind sartorius) |
| Action | Adduction of hip joint | | | -Adduction of hip joint -flexes knee joint |
| Nerve Supply | Obturator nerve | | | |
| Pictures |  |  |  |  SGS: <u>same insertion and same action</u> (flexes knee joint) S: Sartorius G: Gracilis S: semitendinosus |



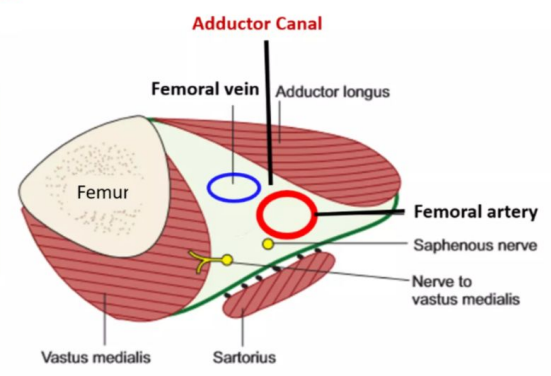
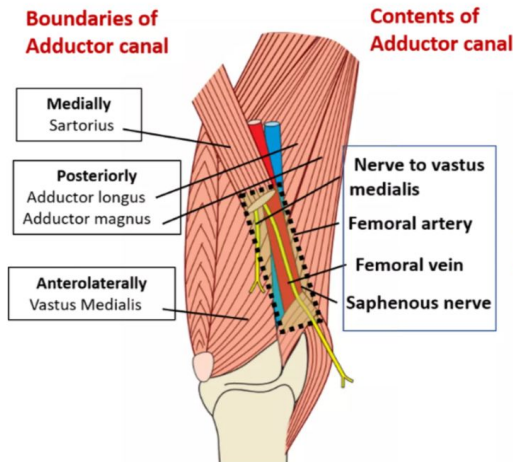
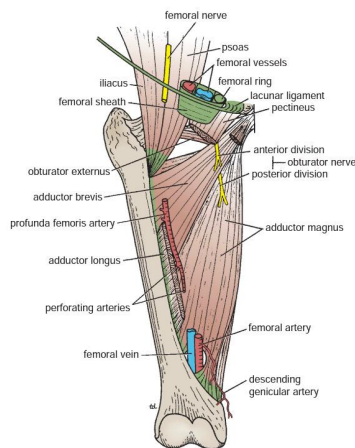
Femoral triangle

| Site | Boundaries | | | Roof | Floor | Content |
|-------------------------------|-----------------------------------|---|---|--|---|--|
| Upper third of front of thigh | Base: inguinal ligament | Lateral: medial border of Sartorius (Outside the triangular) | Medial: medial border of adductor longus (Inside the triangular) | 1-Superficial and Deep Fascia 2-Skin | (medial to Lateral) 1- Adductor longus 2- Pectineus 3- Psoas major 4- Iliacus | 1- Femoral Vein 2- Femoral Artery } enclosed in (Femoral sheath) 3- Femoral Nerve (Outside the femoral sheath) 4- Deep inguinal lymph nodes |



Adductor canal (Subsartorial canal)

| | |
|-------------------|--|
| Definition | intermuscular passage of A fascial envelope for femoral artery & vein to become the popliteal vessels in the popliteal fossa at the back of knee |
| Site | In middle third of front of thigh |
| Extent | From apex of femoral triangle to adductor hiatus(Adductor magnus) |
| Boundaries | Roof: Sartorius |
| | Floor: Adductor longus + Adductor magnus |



important for surgery and anesthesia

MCQs

Question 1: Body of pubis is the origin of

- A. Adductor brevis
- B. Adductor longus
- C. Gracilis
- D. A & B

Question 2: The femoral sheath covers

- A. femur
- B. Femoral nerve
- C. Sciatic nerve
- D. Femoral vein

Question 3: One of the Rectus femoris actions

- A. Flex the Hip joint
- B. Flex the knee joint
- C. Extend the hip joint
- D. None of the above

Question 4: All of the following muscles are inserted in LINEA ASPERA except

- A. Adductor longus
- B. Adductor Brevis
- C. Adductor Magnus
- D. Gracilis

Question 5: The roof of Subsartorial canal

- A. Sartorius
- B. Adductor longus
- C. Femoral vein
- D. Femoral artery

Question 6: The site of femoral triangle is

- A. Lower third of back of thigh
- B. Upper third of front of thigh
- C. Lower third of front of thigh
- D. Upper third of back of thigh

Question 7: What's the action of Pectineus muscle upon hip joint?

- A. Flexion
- B. Extension
- C. Flexion and adduction
- D. Extension and adduction

Question 8: Muscle that insert in Upper part of medial surface of tibia.

- A. Semitendinosus
- B. Gracilis
- C. Sartorius
- D. All of the above

Team members

Boys team:

- Khalid AL-Dossari
- Naif Al-Dossari
- Faisal Alqifari
- Salman Alagla
- Ziyad Al-jofan
- Suhail Basuhail
- Ali Aldawood
- Khalid Nagshabandi
- Mohammed Al-huqbani
- ★ Jihad Alorainy
- Khalid AlKhani
- Omar Alammari

Team leaders

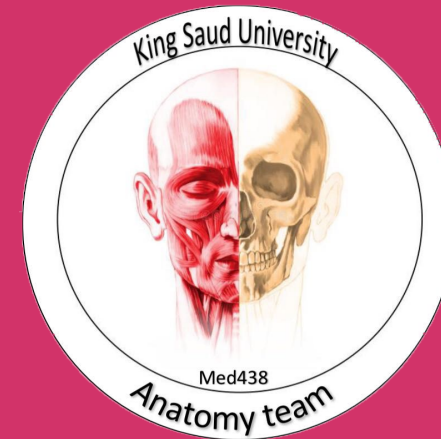
- ★ Abdulrahman Shadid
- Ateen Almutairi

★ =This lecture done by

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- Alhanouf Al-haluli
- Sara Al-Abdulkarem
- Rawan Al Zayed
- Reema Al Masoud
- Renad Al Haqbani
- Nouf Al Humaidhi
- Fay Al Buqami
- Jude Al Khalifah
- Nouf Al Hussaini
- Alwateen Al Balawi
- Rahaf Al Shabri
- Danah Al Halees
- Haifa Al Waily
- Rema Al Mutawa
- Amirah Al Dakhilallah
- Maha Al Nahdi
- Renad Al Mutawa
- Ghaida Al Braithen
- Reham Yousef

Special thank for
Anatomy team 436



Good luck

Give us your feedback:

