MED439
KING SAUD UNIVERSITY

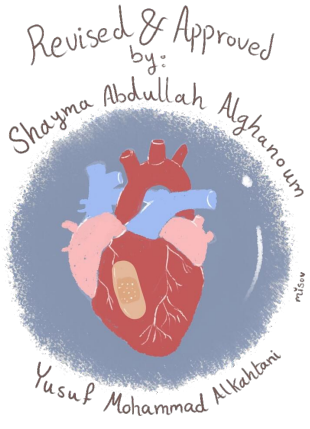
Frontal medial thigh

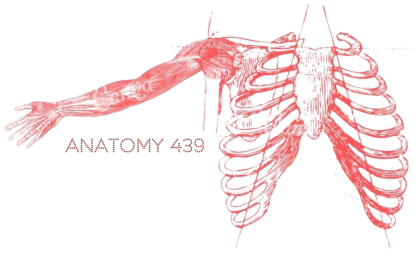
Musculoskeletal Block - Lecture 13

Objective:

✓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.

Color index:
Important
In male's slides only
In female's slides only
Extra information, explanation





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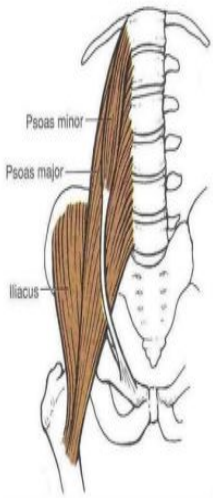
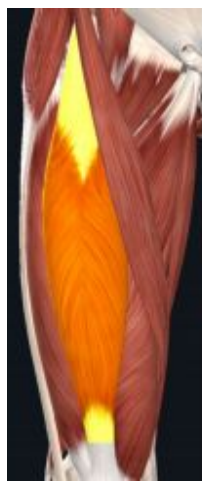
Contact us:
Anatomy439@gmail.com

The thigh

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

Thigh compartment			Nerve supply
Anterior compartment	Extensors of knee **Quadriceps femoris** Divided to 4 muscles: 1. Rectus femoris 2. Vastus intermedius 3. Vastus medialis 4. Vastus lateralis	Flexors of hip -Sartorius -Pectineus -psoas major -Iliacus	Femoral nerve (L2,3,4)
Medial compartment	**Adductors of hip:** -Adductor longus - Adductor brevis - Adductor magnus (adductor part) - Gracilis		Obturator nerve (L2,3,4)
Posterior compartment	• **Flexors of knee & extensors of hip:** Hamstrings		Sciatic nerve

ANTERIOR COMPARTMENT OF THIGH

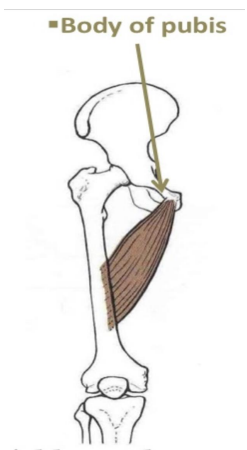
	Flexors of hip			Extensors of knee: Quadriceps femoris			
Muscles	Sartorius	Pectineus	**iliopsoas:** iliacus & psoas major	**Rectus femoris**	**Vastus intermedius**	**Vastus medialis**	**Vastus lateralis**
Origin	Anterior superior iliac spine	Superior pubic ramus	**Iliacus:** ilium of hip bone **Psoas:** transverse process of lumbrical vertebral	Anterior inferior iliac spine	Front of shaft of femur (Ant. & lat.)	Posterior border of femur upper end and shaft of femur)	Posterior border of femur upper end and shaft 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, abd**uction & **lateral rotation** of hip -joint Flexion of knee join	**Flexion** & **add**uction 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**						
Picture							

Medial Compartment

Muscle	Adductor longus	Adductor brevis	Adductor magnus (adductor part)	Gracilis
Origin	Body of pubis	-Body of pubis -Inferior pubic 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 (Insertion ——> origin)			-Adduction of hip joint -flexes knee joint -Adduction of thigh
Nerve Supply	Obturator nerve			

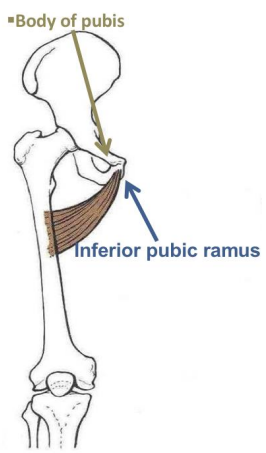
Pictures

Origin:



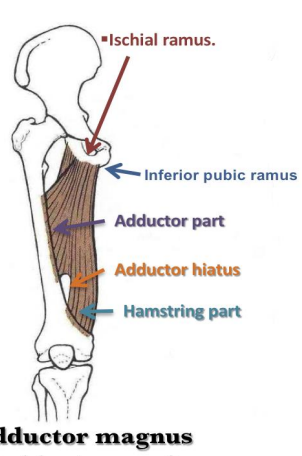
Adductor longus

Origin:



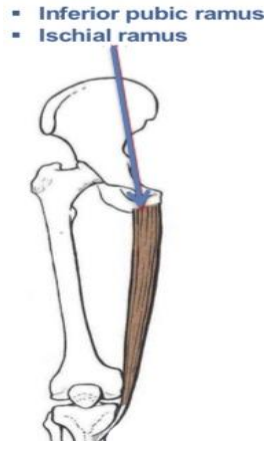
Adductor brevis

Origin:



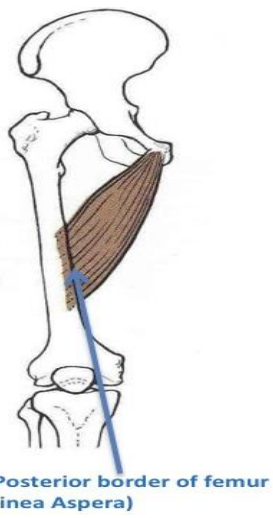
Adductor magnus (adductor part)

Origin:



Gracilis

Insertion:



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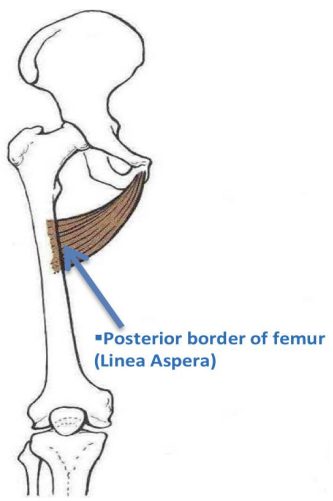

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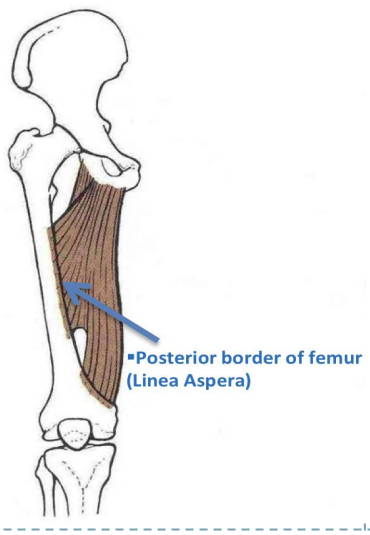
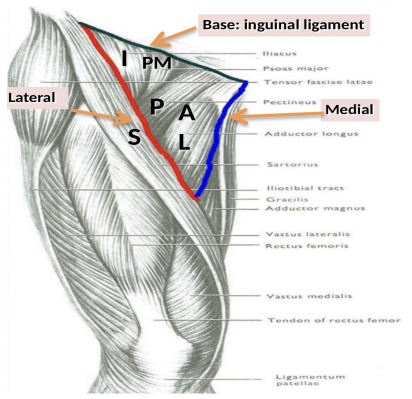
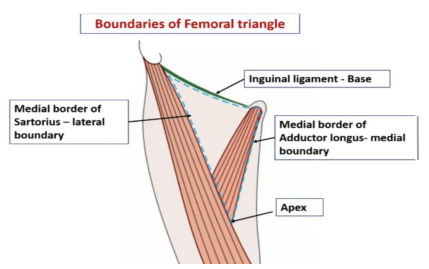


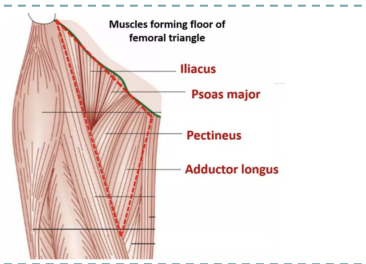
Insertion:

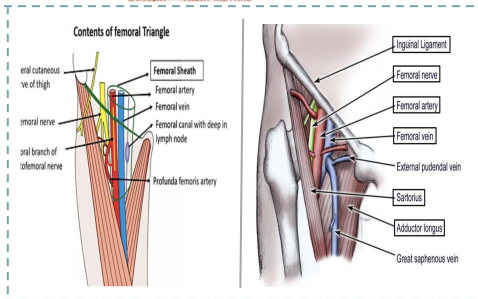
Femoral Triangle

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



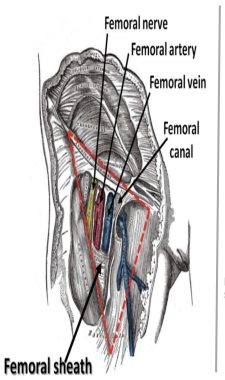


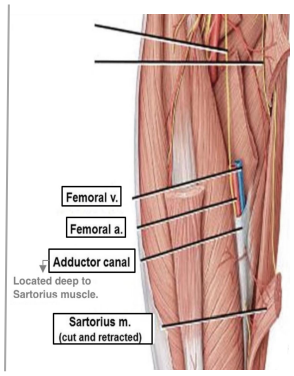


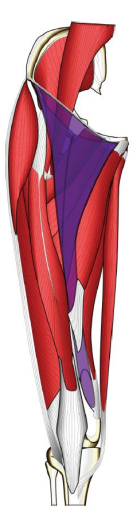


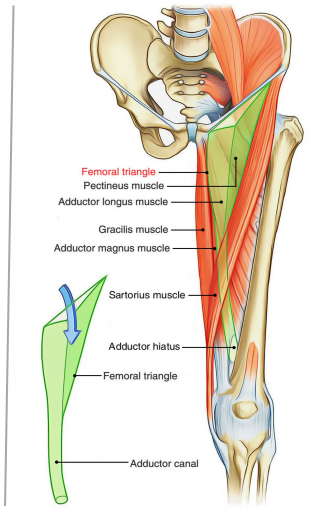
Adductor canal (Subsartorial canal)

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** one third of front of thigh
Extent	From **apex of femoral triangle** to **adductor hiatus** (in Adductor magnus)
Boundaries	**Roof:** Sartorius
	Floor: Adductor longus + Adductor magnus



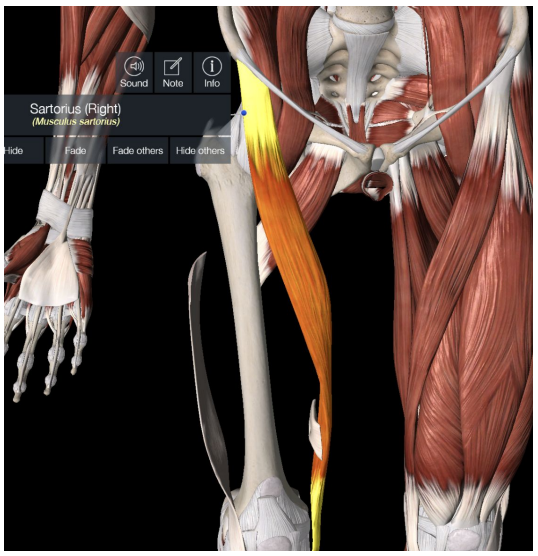


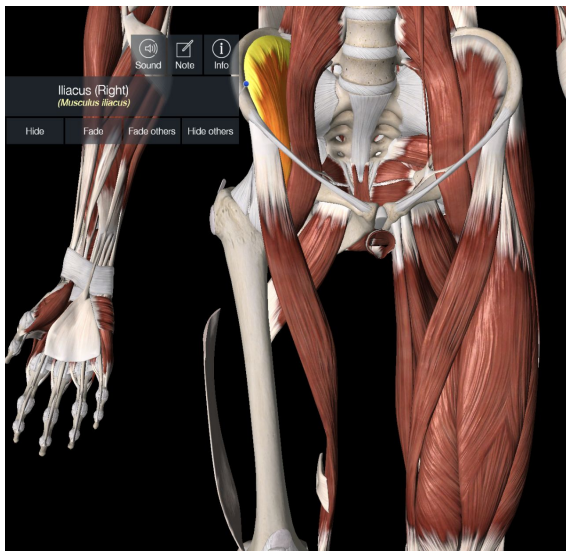


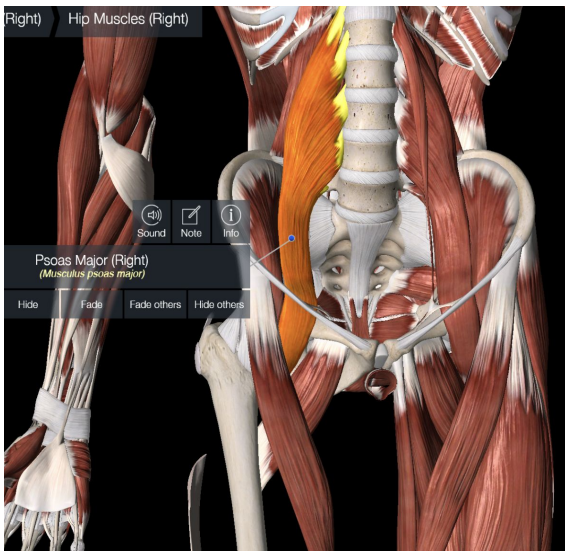


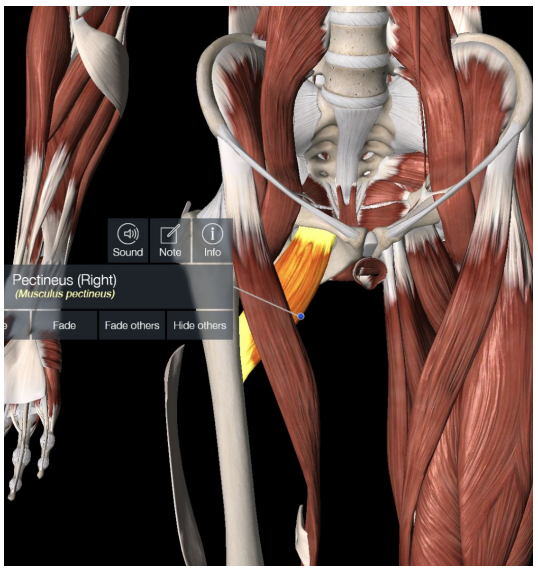
Summary

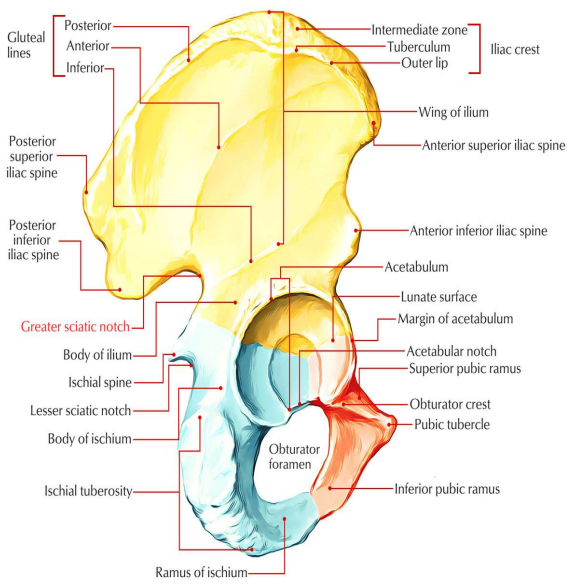
Muscle	Origin	Insertion	Innervation	Function
Gracilis	A line on the external surfaces of the body of the pubis, the inferior pubic ramus, and the ramus of the ischium	Medial surface of proximal shaft of tibia	Obturator nerve (**L2**, L3)	Adducts thigh at hip joint and flexes leg at knee joint
Adductor longus	External surface of body of pubis (triangular depression inferior to pubic crest and lateral to pubic symphysis)	Linea aspera on middle one-third of shaft of femur	Obturator nerve (anterior division) (**L2, L3,** L4)	Adducts and medially rotates thigh at hip joint
Adductor brevis	External surface of body of pubis and inferior pubic ramus	Posterior surface of proximal femur and upper one-third of linea aspera	Obturator nerve (**L2, L3**)	Adducts and medially rotates thigh at hip joint
Adductor magnus	Adductor part—ischiopubic ramus	Posterior surface of proximal femur, linea aspera, medial supracondylar line	Obturator nerve (**L2, L3,** L4)	Adducts and medially rotates thigh at hip joint

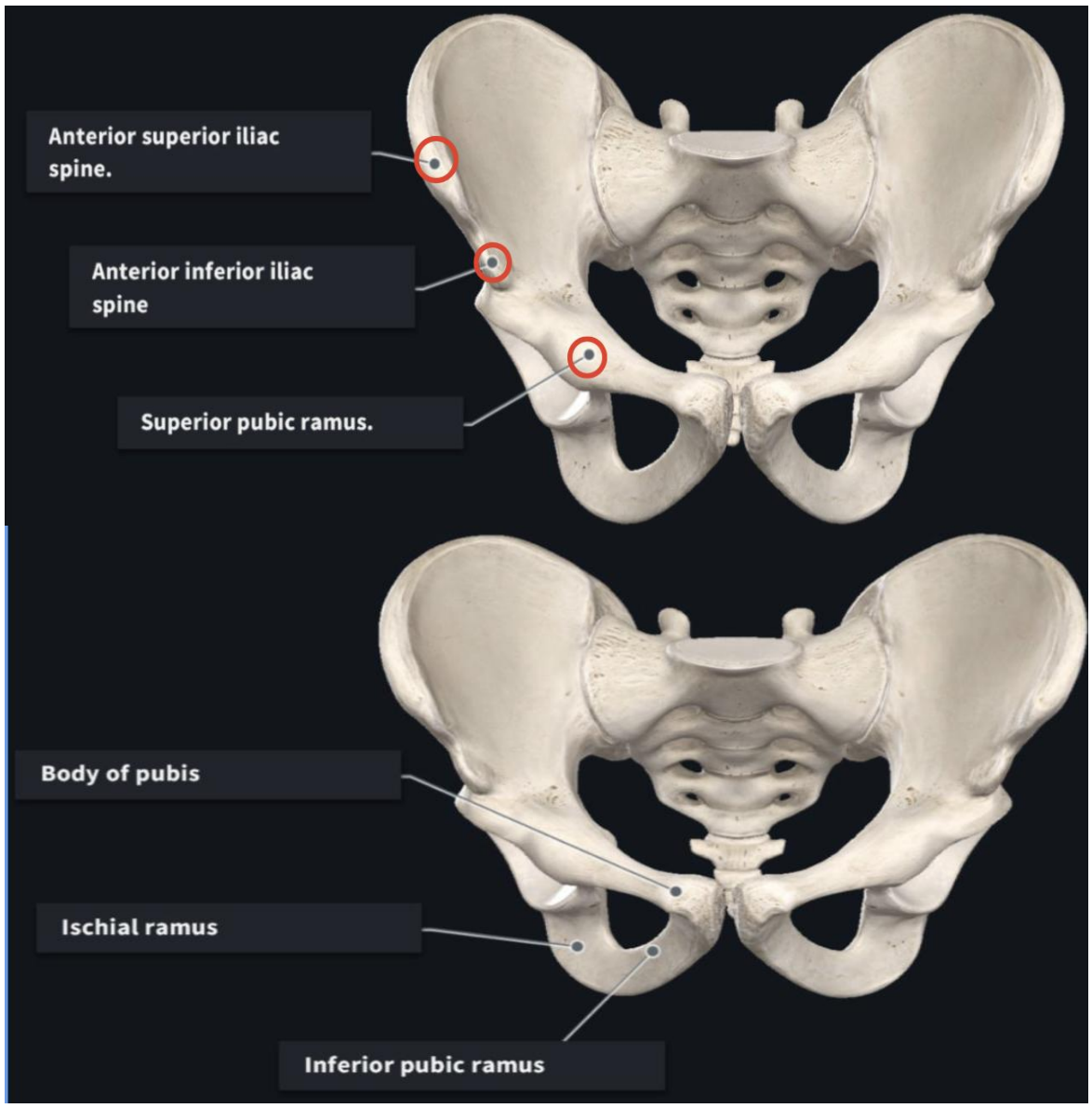












MCQs

Q1: The femoral sheath covers:

A. Femur
B. Femoral Nerve
C. Sciatic Nerve
D. Femoral vein

Q2: Which of the following flexes the knee joint?

A. Gracilis
B. Adductor longus
C. Illiopsoas
D. Abductor longus

Q3: What's the action of Pectineus muscle upon hip joint?

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

Q4: The insertion of adductor longus?

A. front of shaft of femur
B. upper part of medial surface of tibia
C. posterior border of femur (linea aspera)
D. Iliac crest

Q5: 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

Q6: The site of the 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 front of thigh

Q7: What muscle is responsible for tailor's position?

A. Rectus Femoris
B. Sartorius
C. Gracilis
D. Pectineus

Q8: The roof of Subsartorial canal:

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

Q9: All the muscles listed below are inserted into Linea aspera <u>EXCEPT</u>:

A. Adductor brevis
B. Gracilis
C. Adductor longus
D. Adductor magnus

Q10: Muscle that insert in Upper part of medial surface of tibia:

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

Q11: Which muscle of the quadriceps femoris in the anterior compartment can not be seen?

A. Rectus femoris
B. Vastus lateralis
C. Vastus intermedius
D. Vastus medialis

Q12: The floor of femoral triangle includes all of the following except:

A. Adductor longus
B. Illiopsoas
C. Psoas major
D. Iliacus

<u>Answers:</u>

1- D	7- B
2-A	8- A
3- C	9-B
4-C	10-D
5-A	11-C
6- B	12- B

SAQs

Q1: What is the content of the femoral triangle floor (from medial to lateral)?

Q2: What is the insertion of Gracilis muscle?

Q3: What are the medial compartments of the thigh and what's the nerve supply of them?

Answers:

Q1: Adductor longus muscle - Pectineus muscle - Psoas major muscle - Iliacus muscle

Q2: Upper part of medial surface of tibia **(behind sartorius)**

Q3: 1. Adductor longus 2. Adductor brevis 3. Adductor magnus (adductor part) 4.Gracilis
Supplied by obturator nerve

This lecture is done by:

- Sarah Al Quwayz
- Rand AlRefaei
- Abdullah Alzoghaibi

Team leaders:
Mayasem Alhazmi
Fahad Alajmi

SPECIAL THANKS TO THE AMAZING
#MED438 ANATOMY TEAM