

Front of Thigh : FAQs, MCQs and Viva Voce

Frequently Asked Questions — Front of Thigh

1. What are the boundaries of the femoral triangle?

- **Base:** Inguinal ligament
 - **Lateral boundary:** Medial border of sartorius
 - **Medial boundary:** Medial border of adductor longus
 - **Apex:** Point where sartorius crosses adductor longus
 - **Roof:** Skin, superficial fascia, deep fascia (cribriform fascia)
 - **Floor:** Iliacus, psoas, pectineus, adductor longus
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2. What are the contents of the femoral triangle?

- Femoral artery and its branches
 - Femoral vein and its tributaries
 - Femoral nerve and its branches
 - Femoral sheath and femoral canal
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- **Deep inguinal lymph nodes**
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3. What are the boundaries of the femoral ring?

- **Anterior:** Inguinal ligament
 - **Posterior:** Pectineus and fascia covering it
 - **Medial:** Lacunar ligament
 - **Lateral:** Femoral vein
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4. What are the contents of the femoral canal?

- Areolar tissue
 - Fat
 - Deep inguinal lymph node (of Cloquet)
 - Lymphatic vessels connecting superficial and deep inguinal nodes
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5. What structures pass through the saphenous opening?

- Great saphenous vein
- Superficial epigastric vein
- Superficial external pudendal vein
- Superficial circumflex iliac vein

- Superficial inguinal lymphatics
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6. What is the femoral sheath and its significance?

- A **funnel-shaped fascial sleeve** enclosing upper 3–4 cm of femoral vessels.
- Formed by **fascia transversalis (front)** and **fascia iliaca (behind)**.
- Divided into **three compartments**:
 - Lateral ? Femoral artery
 - Intermediate ? Femoral vein
 - Medial ? Femoral canal

Clinical relevance:

Site for **femoral hernia** and **vascular catheterization**.

7. What is the femoral ring?

- Upper opening of the femoral canal, leading into the abdomen.
 - Important because **abdominal contents can herniate** through it, producing a **femoral hernia**.
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8. What is the adductor (Hunter's or subsartorial) canal?

- A **musculofascial tunnel** on the medial side of the middle third of thigh.
 - Extends from the **apex of femoral triangle** to the **adductor hiatus**.
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- Transmits **femoral artery, femoral vein, saphenous nerve, and nerve to vastus medialis.**
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9. What is the clinical importance of the adductor canal?

- Used for **adductor canal nerve block** during knee surgeries.
 - Site for **femoral artery ligation** in popliteal aneurysm.
 - Can be compressed to control bleeding.
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10. What are the muscles forming the floor of femoral triangle?

- Lateral to medial ? **Iliacus, Psoas major, Pectineus, Adductor longus.**
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11. What is the patellar reflex (knee jerk) and what does it test?

- Reflex contraction of quadriceps when **patellar ligament** is tapped.
 - Tests **integrity of L3–L4 spinal segments** and **femoral nerve.**
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12. Which is the chief extensor of the knee?

- **Quadriceps femoris.**
-

13. Which muscle prevents lateral displacement of the patella?

- **Vastus medialis.**
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14. Which is the chief flexor of the hip joint?

- Iliopsoas.
-

15. Which is the longest muscle in the body?

- Sartorius.
-

16. Name the muscles forming the quadriceps femoris.

- Rectus femoris
 - Vastus medialis
 - Vastus lateralis
 - Vastus intermedius
-

17. What is the insertion of the quadriceps femoris?

- Common tendon inserted into **upper border of patella** and via **ligamentum patellae** to **tibial tuberosity**.
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18. What is the function of the iliotibial tract?

- Thickened lateral part of fascia lata.
 - Maintains **knee stability** during extension and partial flexion.
 - Receives insertions of **tensor fasciae latae** and **gluteus maximus**.
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19. What is the clinical importance of fascia lata?

- Used as **graft material** in reconstructive surgeries (e.g., dura repair, ptosis correction).
 - Weakness in fascia lata can contribute to **varicose veins** near saphenous opening.
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20. Which nerve supplies the anterior compartment of thigh?

- Femoral nerve (L2–L4).
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21. What is the branch of femoral nerve that continues below the knee?

- Saphenous nerve.
-

22. What is the largest branch of the femoral artery?

- Profunda femoris artery.
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23. What is the clinical importance of the femoral artery?

- Common site for **arterial pulse palpation**, **catheterization**, and **angiography**.
 - Can be compressed at **midinguinal point** to stop bleeding.
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24. What are the superficial branches of femoral artery?

- Superficial epigastric
 - Superficial circumflex iliac
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- Superficial external pudendal arteries
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25. What is the profunda femoris artery and what are its branches?

- Main artery of the thigh.
 - Branches:
 - Medial circumflex femoral artery
 - Lateral circumflex femoral artery
 - Four perforating arteries
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26. What is the course of the great saphenous vein?

- Begins at **medial end of dorsal venous arch**, passes **in front of medial malleolus**, runs along **medial thigh**, and ends in **femoral vein** after piercing the **cribriform fascia**.
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27. What are the contents of the subsartorial (adductor) canal?

- Femoral artery
 - Femoral vein
 - Saphenous nerve
 - Nerve to vastus medialis
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28. Which structure passes through the adductor hiatus?

- **Femoral artery and vein** — continue as **popliteal vessels** behind the knee.
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29. What is the saphenous opening?

- Oval gap in fascia lata, 4 cm below and lateral to pubic tubercle.
 - Transmits **great saphenous vein** and **superficial branches** of femoral artery.
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30. What is the clinical significance of the femoral triangle?

- Pulse palpation
 - Arterial catheterization
 - Venous cannulation
 - Nerve block
 - Site of femoral hernia and aneurysm
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31. What is the root value of femoral nerve?

- **L2, L3, L4.**
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32. What are the branches of femoral nerve in the thigh?

- **Anterior division:** Sartorius, medial and intermediate cutaneous nerves.
 - **Posterior division:** Quadriceps, saphenous nerve, articular branches.
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33. What are the boundaries of the adductor canal?

- **Anterolateral wall:** Vastus medialis.
 - **Posteromedial wall:** Adductor longus and magnus.
 - **Medial wall (roof):** Fibrous membrane covered by sartorius.
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34. What is the function of the iliopsoas muscle?

- Chief flexor of thigh; also flexes trunk when thigh is fixed.
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35. Which muscle is responsible for tailor's sitting position (cross-legged)?

- **Sartorius.**
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36. What is the function of articularis genu?

- Pulls the synovial membrane of the knee upward during extension to prevent pinching.
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37. What is the direction of fibers of sartorius muscle?

- Oblique — from **ASIS to medial tibia**; forms lateral boundary of femoral triangle.
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38. What are the branches of the lateral circumflex femoral artery?

- Ascending branch ? to gluteal region.
 - Transverse branch ? around upper femur.
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- Descending branch ? to vastus lateralis and knee.
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39. What is the main venous drainage of the front of the thigh?

- **Great saphenous vein** (superficial) and **femoral vein** (deep).
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40. What are the effects of femoral nerve injury?

- Paralysis of quadriceps ? inability to extend knee.
- Loss of patellar reflex.
- Sensory loss over anterior and medial thigh, and medial leg.

Multiple Choice Questions — Front of Thigh

1. The femoral artery is a continuation of which vessel?

- A. Internal iliac artery
- B. External iliac artery
- C. Inferior epigastric artery
- D. Deep femoral artery

Answer: B. External iliac artery

Explanation: The femoral artery begins at the midinguinal point as the continuation of the external iliac artery.

2. The chief extensor of the knee joint is:

- A. Sartorius
- B. Iliopsoas
- C. Quadriceps femoris
- D. Tensor fasciae latae

Answer: C. Quadriceps femoris

Explanation: Quadriceps femoris is the main extensor of the knee, composed of four heads.

3. The femoral nerve is derived from which spinal segments?

- A. L1–L2
- B. L2–L4
- C. L4–S1
- D. L5–S3

Answer: B. L2–L4

Explanation: The femoral nerve arises from the posterior divisions of L2, L3, and L4 of the lumbar plexus.

4. Which muscle forms the lateral boundary of the femoral triangle?

- A. Adductor longus
- B. Sartorius
- C. Tensor fasciae latae
- D. Rectus femoris

Answer: B. Sartorius

Explanation: Sartorius crosses the thigh obliquely and forms the lateral boundary of the triangle.

5. The floor of the femoral triangle is formed by which muscles (from lateral to medial)?

- A. Sartorius, Pectineus, Adductor longus
- B. Psoas, Iliacus, Pectineus, Adductor longus
- C. Pectineus, Sartorius, Gracilis
- D. Iliacus, Sartorius, Adductor longus

Answer: B. Psoas, Iliacus, Pectineus, Adductor longus

Explanation: These muscles form the muscular floor of the femoral triangle.

6. The femoral sheath encloses all of the following EXCEPT:

- A. Femoral artery
- B. Femoral vein
- C. Femoral canal
- D. Femoral nerve

Answer: D. Femoral nerve

Explanation: The femoral nerve lies outside the femoral sheath, lateral to the artery.

7. The medial compartment of the femoral sheath contains:

- A. Femoral artery
- B. Femoral vein
- C. Femoral canal
- D. Femoral nerve

Answer: C. Femoral canal

Explanation: The medial compartment is the femoral canal, containing lymph node of Cloquet and fatty tissue.

8. The saphenous nerve is a branch of which nerve?

- A. Obturator nerve
- B. Sciatic nerve
- C. Femoral nerve
- D. Lateral cutaneous nerve of thigh

Answer: C. Femoral nerve

Explanation: Saphenous nerve is the terminal branch of the femoral nerve, supplying medial side of leg and foot.

9. The largest branch of the femoral artery is:

- A. Profunda femoris artery
- B. Medial circumflex femoral artery
- C. Lateral circumflex femoral artery
- D. Deep external pudendal artery

Answer: A. Profunda femoris artery

Explanation: Profunda femoris is the main artery of the thigh, supplying most of its muscles.

10. The great saphenous vein drains into the femoral vein through:

- A. Obturator canal
- B. Adductor hiatus
- C. Saphenous opening
- D. Femoral ring

Answer: C. Saphenous opening

Explanation: The great saphenous vein passes through the cribriform fascia of saphenous opening to join the femoral vein.

11. Which muscle is the chief flexor of the thigh?

- A. Rectus femoris
- B. Sartorius
- C. Iliopsoas
- D. Pectineus

Answer: C. Iliopsoas

Explanation: Iliopsoas (iliacus + psoas major) is the most powerful flexor of the hip joint.

12. The adductor canal extends from:

- A. Base of femoral triangle to adductor longus
- B. Apex of femoral triangle to adductor hiatus
- C. Femoral ring to saphenous opening
- D. Lesser trochanter to tibial tuberosity

Answer: B. Apex of femoral triangle to adductor hiatus

Explanation: Adductor canal transmits femoral vessels to the popliteal fossa through the adductor hiatus.

13. The nerve to vastus medialis lies:

- A. Lateral to femoral artery
- B. Medial to femoral vein
- C. Posterior to femoral artery
- D. Between femoral artery and vein

Answer: A. Lateral to femoral artery

Explanation: It accompanies the femoral artery in adductor canal, laterally placed.

14. The patellar reflex tests which spinal segments?

- A. L1–L2
- B. L2–L3
- C. L3–L4
- D. L4–L5

Answer: C. L3–L4

Explanation: Reflex arc involves femoral nerve fibers from L3–L4.

15. Which muscle helps in crossing the legs as in a tailor's position?

- A. Pectineus
- B. Sartorius
- C. Adductor longus
- D. Gracilis

Answer: B. Sartorius

Explanation: Sartorius flexes, abducts, and laterally rotates the thigh, and flexes the knee.

16. The structure passing through adductor hiatus is:

- A. Saphenous nerve
- B. Femoral artery and vein
- C. Obturator nerve
- D. Great saphenous vein

Answer: B. Femoral artery and vein

Explanation: Both vessels pass through the adductor hiatus to become popliteal vessels.

17. The vastus medialis prevents which movement of patella?

- A. Medial displacement
- B. Lateral displacement
- C. Upward displacement
- D. Rotation

Answer: B. Lateral displacement

Explanation: Vastus medialis pulls the patella medially during extension, balancing lateral pull of vastus lateralis.

18. The prepatellar bursa is located between:

- A. Skin and patella
- B. Quadriceps tendon and patella
- C. Patella and femur
- D. Ligamentum patellae and tibia

Answer: A. Skin and patella

Explanation: The prepatellar bursa lies superficial to patella; inflammation causes *housemaid's knee*.

19. The femoral nerve supplies all of the following muscles EXCEPT:

- A. Pectineus
- B. Sartorius
- C. Gracilis
- D. Vastus lateralis

Answer: C. Gracilis

Explanation: Gracilis belongs to the medial compartment and is supplied by the obturator nerve.

20. The femoral artery can be palpated at:

- A. Midinguinal point
- B. Midpoint of inguinal ligament
- C. Midpoint between pubic symphysis and ASIS
- D. Midpoint between ASIS and femoral head

Answer: A. Midinguinal point

Explanation: Pulse of femoral artery is felt midway between ASIS and pubic symphysis.

21. Which muscle pulls the synovial membrane upward during knee extension?

- A. Articularis genu
- B. Vastus lateralis
- C. Vastus medialis
- D. Rectus femoris

Answer: A. Articularis genu

Explanation: Prevents pinching of synovial membrane during knee extension.

22. Femoral hernia occurs through which structure?

- A. Inguinal canal
- B. Femoral ring
- C. Adductor hiatus
- D. Obturator canal

Answer: B. Femoral ring

Explanation: The femoral ring is the upper opening of femoral canal; hernia passes through it.

23. Which structure lies immediately lateral to the femoral canal?

- A. Femoral artery
- B. Femoral vein
- C. Femoral nerve
- D. Great saphenous vein

Answer: B. Femoral vein

Explanation: The femoral vein forms the lateral boundary of the femoral ring.

24. Which nerve is affected in meralgia paraesthetica?

- A. Saphenous nerve
- B. Lateral cutaneous nerve of thigh
- C. Femoral nerve
- D. Obturator nerve

Answer: B. Lateral cutaneous nerve of thigh

Explanation: Entrapment under the inguinal ligament near ASIS causes tingling and pain over lateral thigh.

25. The fascia lata is thickened laterally to form:

- A. Cribriform fascia
- B. Iliotibial tract
- C. Femoral sheath
- D. Adductor canal

Answer: B. Iliotibial tract

Explanation: Thickened lateral part of deep fascia receiving gluteus maximus and tensor fasciae latae insertions.

26. The commonest site of femoral hernia is:

- A. Above the inguinal ligament
- B. Below and lateral to pubic tubercle
- C. Medial to pubic symphysis
- D. Over the femoral vein

Answer: B. Below and lateral to pubic tubercle

Explanation: Distinguishes femoral hernia from inguinal hernia, which lies above and medial.

27. The muscle used for intramuscular injection in thigh is:

- A. Rectus femoris
- B. Vastus lateralis
- C. Sartorius
- D. Gracilis

Answer: B. Vastus lateralis

Explanation: Safe site in both infants and adults due to absence of major vessels or nerves.

28. Which of the following is NOT supplied by the femoral nerve?

- A. Vastus medialis
- B. Sartorius
- C. Pectineus (partial)
- D. Adductor magnus

Answer: D. Adductor magnus

Explanation: Supplied mainly by obturator and sciatic nerves, not femoral.

29. The femoral vein lies _____ to the femoral artery at the inguinal ligament.

- A. Lateral
- B. Medial
- C. Posterior
- D. Anterior

Answer: B. Medial

Explanation: The vein is medial to artery at upper thigh, then passes posteriorly at apex of triangle.

30. The superficial inguinal lymph nodes drain all of the following EXCEPT:

- A. Lower limb
- B. Perineum
- C. Anterior abdominal wall below umbilicus
- D. Testis

Answer: D. Testis

Explanation: Testis drains into **para-aortic lymph nodes**, not superficial inguinal nodes.

Viva Voce — Front of the Thigh

1. What are the compartments of the thigh?

Answer:

- **Anterior compartment** – extensors of the knee (femoral nerve).
 - **Medial compartment** – adductors of the thigh (obturator nerve).
 - **Posterior compartment** – flexors of the knee (tibial part of sciatic nerve).
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2. Name the chief flexor of the thigh.

Answer: Iliopsoas muscle (psoas major + iliacus).

3. Which is the longest muscle in the body?

Answer: Sartorius.

4. What is the nerve supply of sartorius?

Answer: Femoral nerve (L2–L3).

5. What is the main action of sartorius?

Answer: Flexes the hip and knee, abducts and laterally rotates the thigh — helps in the “tailor’s” cross-leg position.

6. What are the parts of the quadriceps femoris?

Answer: Rectus femoris, vastus lateralis, vastus medialis, and vastus intermedius.

7. Which part of quadriceps also flexes the thigh?

Answer: Rectus femoris.

8. What is the insertion of quadriceps femoris?

Answer: Into the base of patella through the quadriceps tendon and via ligamentum patellae to tibial tuberosity.

9. Which muscle pulls the synovial membrane of the knee upward?

Answer: Articularis genu.

10. What prevents lateral displacement of the patella during knee extension?

Answer: Vastus medialis.

11. What is the root value of the femoral nerve?

Answer: L2, L3, and L4 (posterior divisions).

12. Which muscles are supplied by the femoral nerve in the thigh?

Answer: Iliacus, pectineus (partly), sartorius, quadriceps femoris, and articularis genu.

13. What is the chief action of quadriceps femoris?

Answer: Extension of the knee joint.

14. What is the chief extensor of the knee joint?

Answer: Quadriceps femoris.

15. What is the sensory branch of the femoral nerve that continues below the knee?

Answer: Saphenous nerve.

16. Where can the femoral artery be palpated?

Answer: At the midinguinal point — midway between the anterior superior iliac spine and pubic symphysis.

17. What is the largest branch of the femoral artery?

Answer: Profunda femoris artery.

18. Name the branches of the femoral artery in the femoral triangle.

Answer:

- Superficial epigastric artery
 - Superficial circumflex iliac artery
 - Superficial and deep external pudendal arteries
 - Profunda femoris artery
 - Muscular branches
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19. What is the adductor (Hunter's) canal?

Answer: A musculo-fascial tunnel in the middle third of the thigh transmitting the femoral artery, femoral vein, saphenous nerve, and nerve to vastus medialis.

20. What are the boundaries of the adductor canal?

Answer:

- **Anterolateral wall:** Vastus medialis
- **Posteromedial wall:** Adductor longus and magnus
- **Roof:** Fibrous membrane covered by sartorius.

21. What is the content of the femoral canal?

Answer: Fat, lymph vessels, and a deep inguinal lymph node (of Cloquet).

22. What is the clinical importance of the femoral canal?

Answer: Site of femoral hernia, especially in females.

23. What is the femoral sheath?

Answer: A fascial covering enclosing femoral artery, femoral vein, and femoral canal but not the femoral nerve.

24. What forms the femoral sheath?

Answer: Anterior wall from fascia transversalis; posterior wall from fascia iliaca.

25. What are the compartments of the femoral sheath?

Answer:

- Lateral: Femoral artery
- Intermediate: Femoral vein

- Medial: Femoral canal.
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26. What is the saphenous opening?

Answer: An oval gap in the fascia lata about 4 cm below and lateral to pubic tubercle for passage of the great saphenous vein.

27. What passes through the saphenous opening?

Answer: Great saphenous vein and superficial branches of femoral artery.

28. What is the cribriform fascia?

Answer: Fascia covering the saphenous opening, perforated by veins and lymphatics.

29. What is the extent of the femoral triangle?

Answer:

- **Base:** Inguinal ligament
 - **Apex:** Where sartorius crosses adductor longus
 - **Medial boundary:** Adductor longus
 - **Lateral boundary:** Sartorius.
-

30. What are the contents of the femoral triangle?

Answer: From lateral to medial — femoral nerve, femoral artery, femoral vein, and femoral canal (N-A-V-C).

31. Which structure forms the roof of the femoral triangle?

Answer: Skin, superficial fascia, deep fascia (fascia lata).

32. What forms the floor of the femoral triangle?

Answer: Iliacus, psoas major, pectineus, and adductor longus.

33. What is the nerve supply of iliacus?

Answer: Femoral nerve.

34. What is the nerve supply of psoas major?

Answer: Ventral rami of L1–L3 spinal nerves.

35. What is the insertion of iliopsoas?

Answer: Lesser trochanter of the femur.

36. What is the action of iliopsoas?

Answer: Chief flexor of the thigh at the hip joint.

37. What is the site of femoral artery catheterization?

Answer: Just below the inguinal ligament at the midinguinal point.

38. What is the patellar reflex?

Answer: Reflex extension of the knee on tapping the ligamentum patellae — tests L3–L4 segments.

39. What are the superficial inguinal lymph nodes related to?

Answer: Drain skin of lower limb, perineum, and lower anterior abdominal wall below umbilicus.

40. What causes meralgia paraesthetica?

Answer: Compression of lateral cutaneous nerve of thigh under the inguinal ligament near ASIS.

41. What is the clinical importance of vastus medialis?

Answer: Stabilizes the patella and prevents its lateral displacement during extension.

42. What muscle is used for intramuscular injection in the thigh?

Answer: Vastus lateralis.

43. What is the femoral ring?

Answer: The upper opening of the femoral canal through which femoral hernia may occur.

44. What is the relationship of femoral vein to femoral artery at the inguinal ligament?

Answer: The femoral vein lies **medial** to the artery.

45. What is the relationship of femoral nerve to femoral artery?

Answer: Femoral nerve lies **lateral** to femoral artery and outside the femoral sheath.

46. What is the main superficial vein of the front of the thigh?

Answer: Great saphenous vein.

47. What is the function of the iliotibial tract?

Answer: Stabilizes the knee during extension and receives insertions of tensor fasciae latae and gluteus maximus.

48. What is the clinical importance of fascia lata?

Answer: Used as graft material and maintains venous return by preventing vein dilation.

49. What is the site of femoral hernia in relation to pubic tubercle?

Answer: Below and lateral to pubic tubercle.

50. Which spinal segments form the patellar tendon reflex arc?

Answer: L3 and L4.