

Subject: Human Anatomy II

Class: Radiology, 2nd semester

Section: B

Instructor: Dr. Arooba.

MidTerm Assignment, spring 2020.

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Marks 30.

Select the best option.

1. A metatarsal bone has the following basic parts:

A. Head, shaft, and tail

B. Head, shaft, and base

C. Head, neck, tubercle, and base

D. Head, neck, tubercle, and tail

2. Sustentaculum tali is located on _____ of calcaneum.

A. Medial surface

B. Lateral surface

C. Anterior surface

D. Superior surface

3. Circumduction is the combination of?

A. Flexion, extension, medial rotation, and lateral rotation

B. Flexion, extension, abduction, and adduction

C. Abduction, adduction, medial rotation, and lateral rotation

D. Extension, adduction, medial rotation, and lateral rotation

4. It looks like inverted Y shaped:

A. Iliofemoral ligament

B. Pubofemoral ligament

C. Ischiofemoral ligament

D. Plantar aponeurosis

5. The increase in neck angle with the shaft of the femur is called:

A. Coxa valga

B. Coxa vara

C. Coxa benda

D. Coxa increase

6. The floor of the acetabulum is non-articular called:

A. Acetabular fossa

B. Acetabular margin

C. Acetabular notch

D. Capsule

7. The tubercle separating the tendons of peroneus longus and peroneus brevis is:

A. Anterior tubercle

B. Posterior tubercle

C. Medial tubercle

D. Peroneal tubercle

8. The symphysis pubis is:

- A. Primary cartilaginous joint
- B. Secondary cartilaginous joint
- C. Synovial joint
- D. Fibrous joint

9. Which bone does not part in the formation of the knee joint?

- A. Femur
- B. Tibia
- C. Fibula
- D. Patella

10. Regarding tibia:

- A. Anterior border is subcutaneous
- B. Lateral border is subcutaneous
- C. Medial border is subcutaneous
- D. Medial surface is subcutaneous

Give brief answers to the following questions. Add diagrams/ pictures where needed.

Each question carries 5 marks.

1. Describe the arches of foot. Name the factors responsible for the maintenance of these arches.

Ans: The food has three arches two longitudinal (Medial and Lateral) arche and one anterior transvers arch

Longitudinal arch:

- There are two longitudinal arches; Medial and lateral

Medial arch;

- The medial arch is higher of two longitudinal

Muscular support:

- Tibialis anterior, fibularis longus flexor digitorum longus, flexor hallucis and intrinsic foot muscles.

Ligament support:

- Plantar Ligament (in particular the long plantar, short plantar and plantar calcaneonavicular ligament) medial ligament of ankle joint.

Bony support:

- Shape of bones of arch.

Other; Planter aponeurosis.

Lateral Arch;

- The lateral arch is the flatter of two longitudinal arches.

Muscular support:

- Fibularis longus, flexor digitorum longus and intrinsic foot muscles.

Ligamentous Support:

- Plantar ligament (in particular the long plantar and plantar calcaneonavicular ligament)

Bony shape:

- Shape of the bones of arch

Other:

- Planter Aponeurosis

Transverse arch:

- The transverse arches are located in the coronal plane of foot.

Muscular support;

- Fibularis longus and tibialis posterior

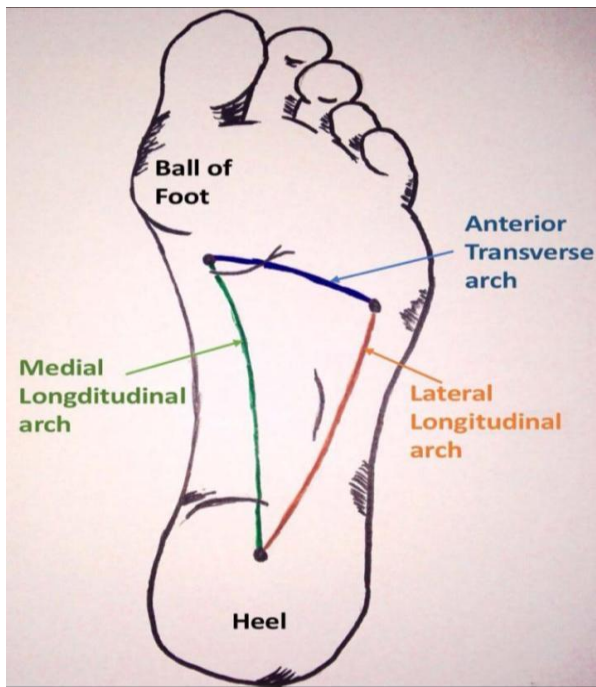
Ligamentous support:

- Same as the above.

Bony support;

- The wedge shape of the bones of arch

DIAGRAM;



2. Mention the attachments, nerve supply and actions of the muscle largely responsible for the prominence of buttocks. Which site is safe for the intramuscular injection in this region?

Ans. Gluteus Maximus Muscle;

- Gluteus maximus muscle is the most prominent muscle of buttocks

Origin: Ilium, Sacrum and coccyx

Insertion; Gluteal tuberosity

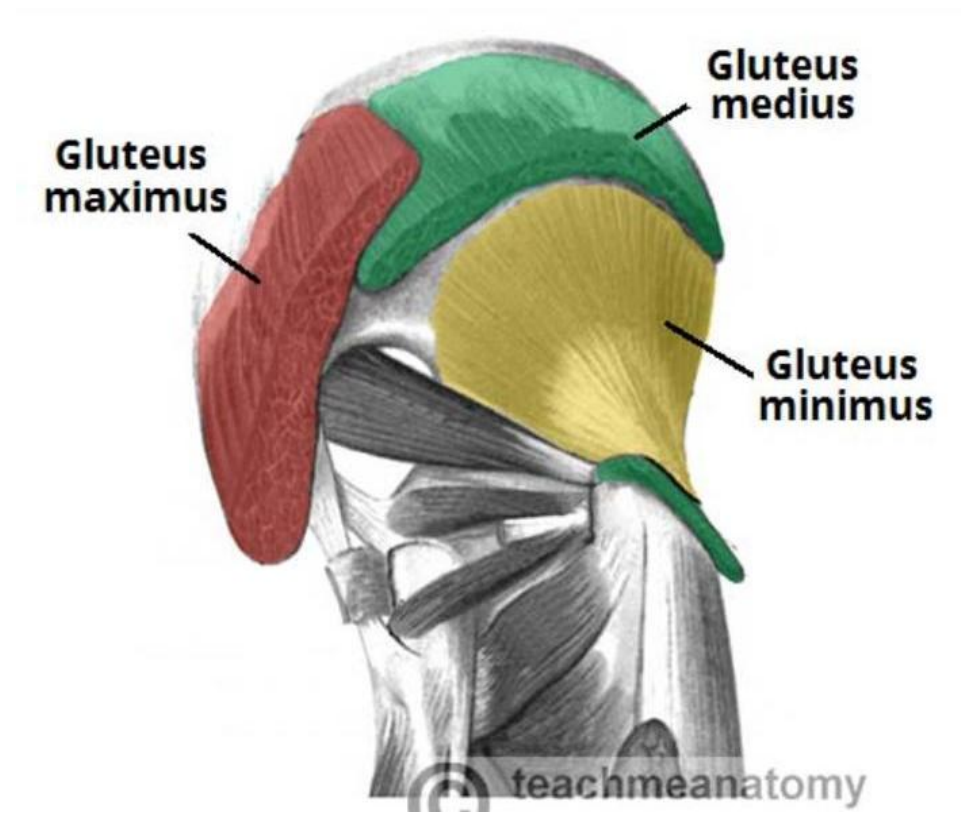
Innervations; inferior gluteal nerve

Action; main extensor muscle of the thigh and assist lateral rotation of thigh

I/M injection safe site;

Upper lateral quadrant of the lateral maximus muscle is safe for I/M injection.

DIAGRAM;



3. How greater and lesser sciatic foramina formed and enlist the structures passing through them

Ans. Sciatic Foramina; There are two sciatic foramina; Greater sciatic foramina and lesser sciatic foramina

Greater sciatic Foramina;

- It is present in hip bone

- Its is formed when greater sciatic notch is covered by sacrotuberous ligament and sacrospinous ligament.

Lesser sciatic Foramina:

- It is present in medial side to greater foramen, when lesser sciatic notch is covered by sacrospinous ligament and sacrotuberous ligaments.

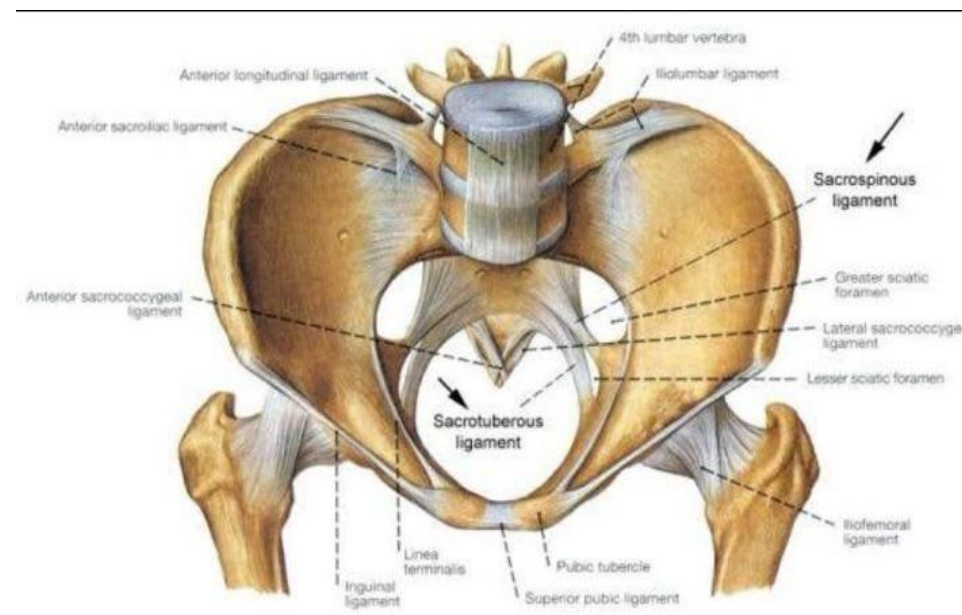
Structure passing through Greater sciatic foramina:

1. Piriformis muscle
2. Superior gluteal nerves
3. Superior gluteal nerve
4. Sciatic nerve
5. Inferior gluteal nerve
6. Inter pudental nerve and vessels
7. Posterior cutaneous nerve of thigh

Structure passing through lesser sciatic foramina:

- Tendon of obturator internus nerve of abturator intervos internal pudental vessels.

DIAGRAM



4. What are hamstring muscles? Give their origin, insertion, nerve supply and action.

Ans. Hamstring muscles;

- The group of muscles which are present on the posterior surface of thigh or posterior compartment.
- 1. Biceps femoris
- 2. Semitendinous
- 3. Semi membranous

Innervation; Sciatic nerve

1. **Biceps femoris;** Two heads

- **Origin;** long head: ischial tuberosity

Short Head: linea aspera

- **Insertion;** Head of fibula
- **Action;** flexion of the knee joint extension of thigh at hip joint.
- **Innervation;** Sciatic nerve

2. **Semitendinous;**

- **Origin;** Ischial tuberosity
- **Insertion;** Tibia
- **Action;** Flexion of knee joint medial rotation of hip joint.
- **Innervations;** tibial part of sciatic nerve

3. **Semimembranous;**

- **Origin;** Ischial tuberosity
- **Insertion;** Medial side of tibia.
- **Action;** flex of leg at knee joint medial rotation to leg at hip joint.
- **Innervations;** Tibial part of sciatic nerve.

DIAGRAM;

