EXAM NUMBER_____

Graduate Anatomy

EXAMINATION 1

September 17, 2021

PART I. Answer in the space provided. (12 pts)

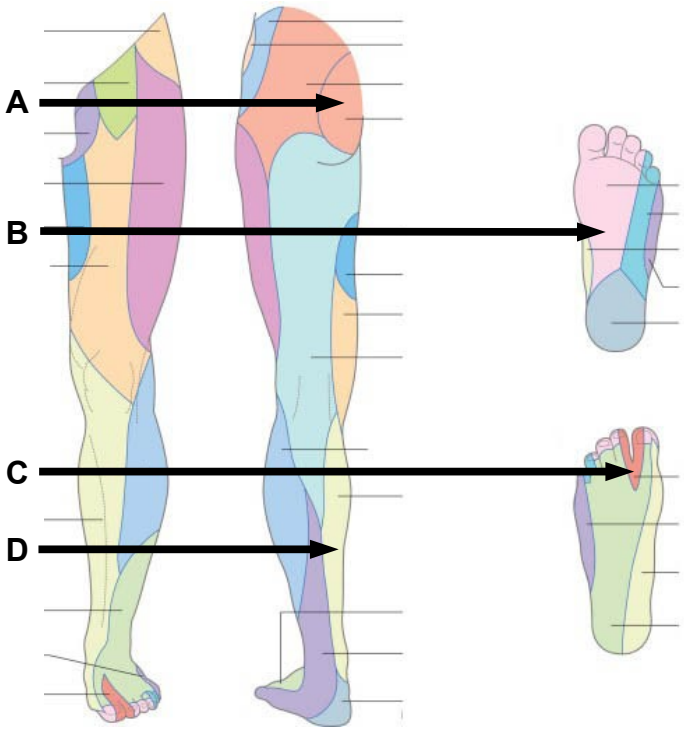
1. Identify the Nerve Distributions. (2 pts)

A. _____

B. _____

C. _____

D. _____



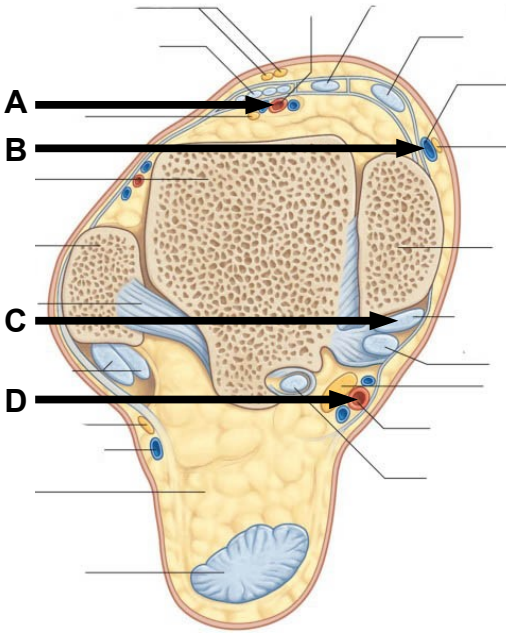
2. Identify the structures. (2 pts)

A. _____

B. _____

C. _____

D. _____



EXAM NUMBER_____

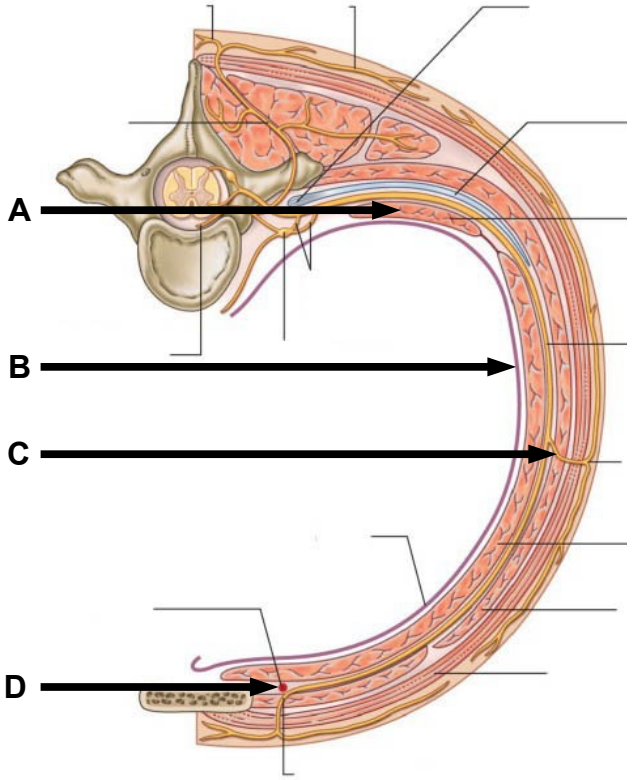
3. Identify the structures. (2 pts)

A. _____

B. _____

C. _____

D. _____



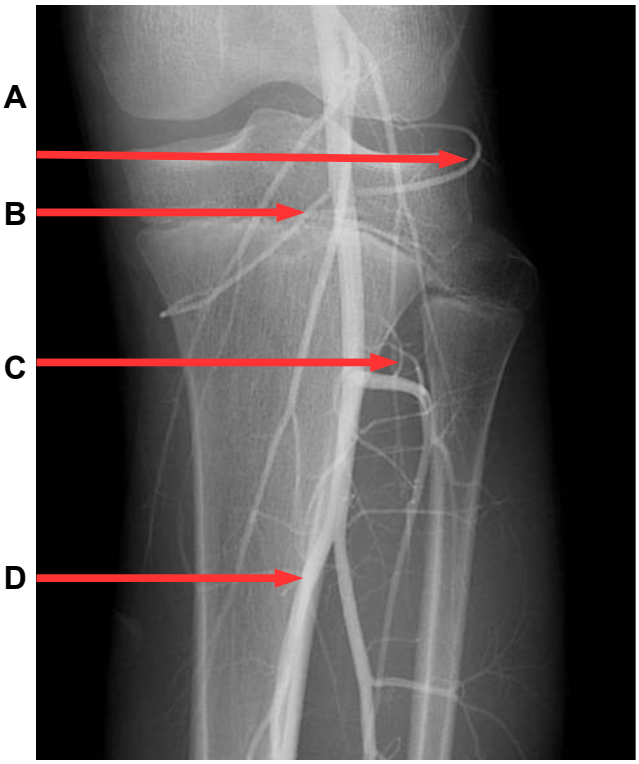
4. Identify the structures. (2 pts)

A. _____

B. _____

C. _____

D. _____



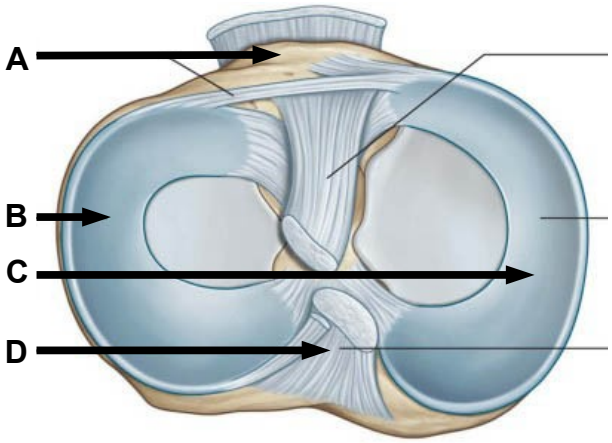
5. Identify the structures. (2 pts)

A. _____

B. _____

C. _____

D. _____



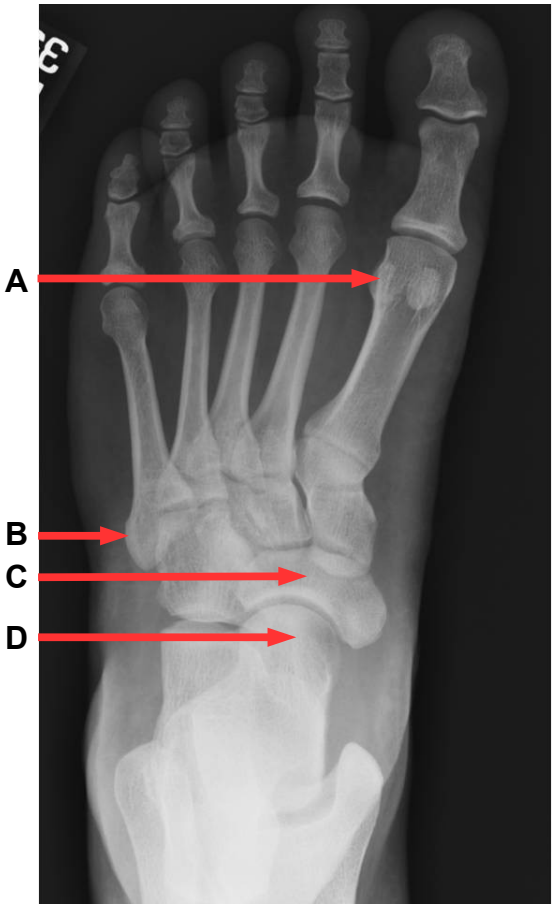
6. Identify the structures. (2 pts)

A. _____

B. _____

C. _____

D. _____



Part II. Circle the correct answer. All, none, or some may apply. (10 pts)

1. With regard to the thigh:

    a. The femoral artery enters the adductor canal along with the saphenous nerve.

    b. The anterior posterior projection at the falciform edge of the saphenous hiatus is anterior to the femoral artery.

    c. The suprapatellar bursa is elevated by the articularis genu muscle.

    d. The great saphenous vein enters the femoral triangle by passing through the adductor hiatus.

    e. The ascending branch of the first perforating artery contributes to the cruciate anastomosis.

    f. The tensor fascia lata muscle inserts onto the iliotibial tract and gluteal tuberosity.

3. With regard to the hip joint:

    a. The iliofemoral ligament attaches the anterior superior iliac spine to the lesser trochanter.

    b. The transverse acetabular ligament and acetabular notch from an osseofibrous foramen that transmits the artery of the head of the femur into the acetabular fossa.

    c. The reflected head of rectus femoris and the pubofemoral ligament attach at the anterior inferior iliac spine.

    d. The acetabular labrum forms a continuous ring that deepens the acetabular fossa.

4. With regard to the knee joint:

    a. The middle genicular artery passes through the arcuate ligament.

    b. The coronary ligaments attach the medial and lateral menisci to the tibial condyles.

    c. The anterior cruciate ligament attaches the lateral side of the medial femoral condyle to the anterior intercondylar eminence of the tibia.

    d. The popliteus muscle laterally rotates the femur to unlock the extended knee.

    e. The cruciate ligaments of the knee are intrasynovial and intracapsular.

5. With regard to the thorax:

    a. The right posterior intercostal arteries pass deep to the azygos vein and superficial to the thoracic sympathetic trunk.

    b. The inferior border of the superior mediastinum is defined by a line from the sternal angle to the T4 vertebra.

    c. The venous mesocardium defines the boundaries of the coronary sinus.

    d. The arch of the azygos receives drainage from the left supreme intercostal vein.

    e. Thoracic splanchnic nerves branch from the posterior side of parasympathetic trunk ganglia.

Part III. Indicate your understanding of the following. Answer in the space provided. (30 pts)

1. The heart myocardium receives arterial blood supply during diastole. **Discuss the anatomy and function of the aortic semilunar valve. Discuss blood flow within the coronary arteries during the cardiac cycle. (6 pts)**

2. The leaflets of the tricuspid valve are closed by ventricular hemodynamics and held closed by anatomical structures. **Discuss the anatomy and function of Tricuspid valve. (6 pts)**

3. Entrapment of the lateral femoral cutaneous nerve causes paraesthesia of the lateral thigh known as meralgia paresthetica. **Discuss the anatomy of the lateral femoral cutaneous nerve. Account for clinical significance of paraesthesia along a peripheral nerve distribution compared to paraesthesia along a dermatome distribution. (6 pts)**

4. Stabilizing the pelvis during the gait cycle requires proper function of the hip abductors. **Discuss the anatomy of the superior gluteal nerve. Include foramina, relationships, and innervated muscles. Account for functional deficits following injury to the superior gluteal nerve within the context of Trendelenburg gait. (6 pts)**

5. Movement of the thoracic wall is required for respiration. **Discuss the anatomical basis for expansion along the transverse axis of the thorax known as bucket handle movement. (6 pts)**

Part IV. Essay. (48 pts)

1. Twelve percent of the women in the United States develop metastatic breast cancer. **Discuss the anatomy of the right female breast. Include fascia, vasculature, innervation, relationships, glandular tissues, lymphatic drainages, and support. Account for fascial barriers that may impede the contiguous spread of cancer into the thoracic cavity and lung. Account for metastatic spread to the left breast and to superficial inguinal lymph nodes. Include an instance of clinical significance. (12 pts)**

2. A 46-year-old carpenter stepped on a nail that penetrated the medial sole of the foot. **Discuss the skin, fascia, muscles, tendons, nerves, vasculature, ligaments, bones, and lymphatic drainage at risk by a penetrating injury that pierces the spring ligament. Discuss the support of the medial longitudinal arch. Include an instance of clinical significance. (12 pts)**

3. A laceration of the leg may lead to infection that compresses structures within the anterior compartment. **Review the boundaries, contents, and relationships of the anterior compartment of the leg. Include skin, fascia, ligaments, bones, vasculature, lymphatic drainages, and muscles. What functional deficits may result from compression of structures within the anterior compartment of the leg? Include an instance of clinical significance. (12 pts)**

4. Forced abduction and anterior displacement of the leg may damage structures that stabilize the knee joint. **Review the anatomy and stability of the knee joint. Account for bones, articular surfaces, ligaments, innervation, vasculature, lymphatic drainage, movement, and limits of movement. Include an instance of clinical significance. (12 pts)**