EXAM NUMBER_____

Graduate Anatomy
EXAMINATION 1

September 18, 2020

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

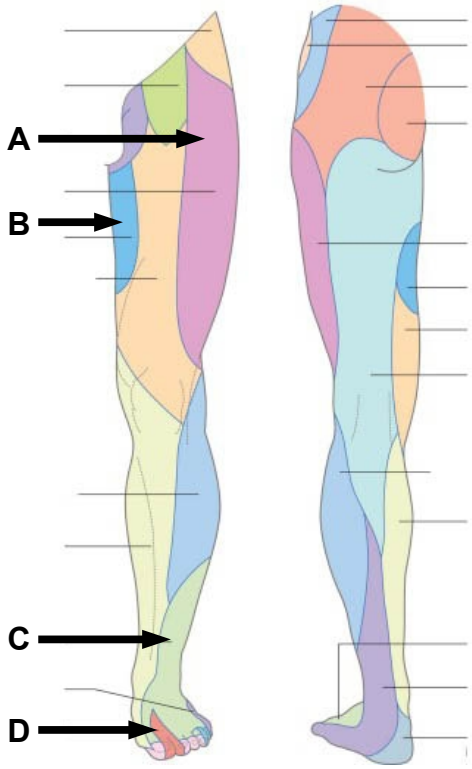
1. Identify the Nerve Distributions. (2 pts)

A. _____

B. _____

C. _____

D. _____



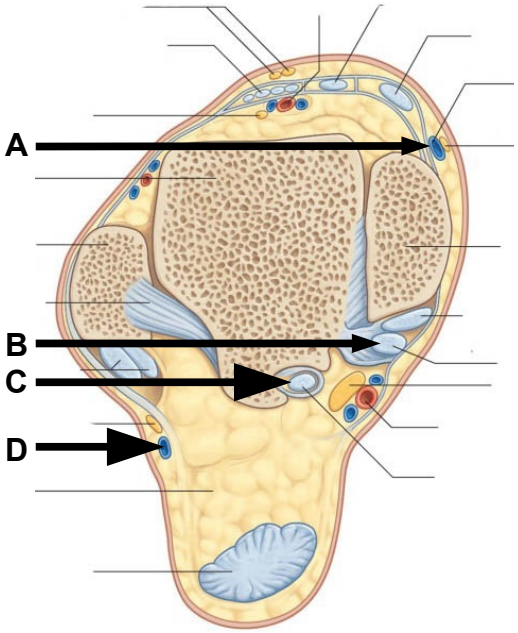
2. Identify the structures. (2 pts)

A. _____

B. _____

C. _____

D. _____



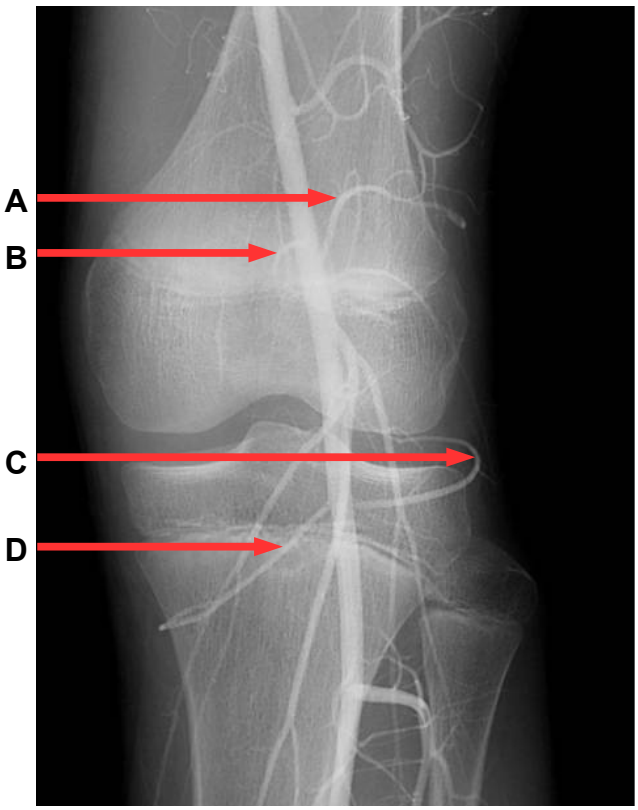
3. Identify the structures. (2 pts)

A. _____

B. _____

C. _____

D. _____



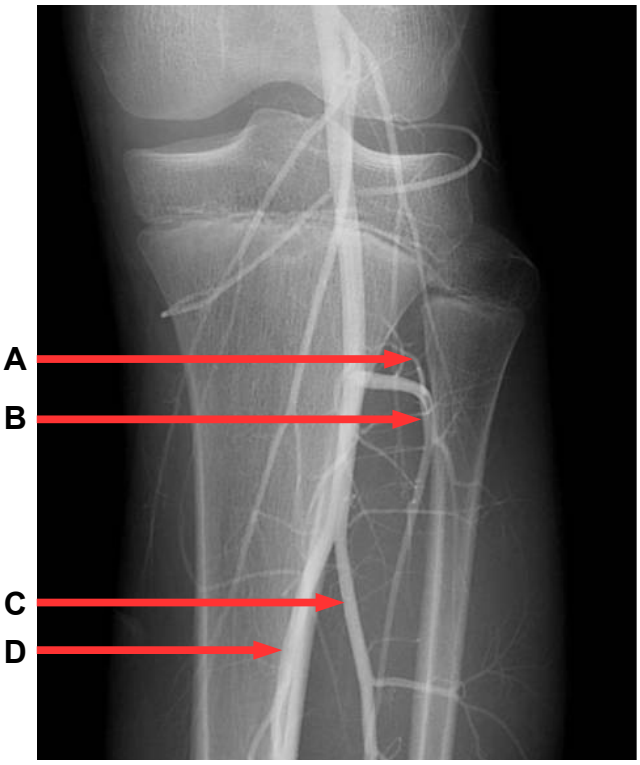
4. Identify the structures. (2 pts)

A. _____

B. _____

C. _____

D. _____



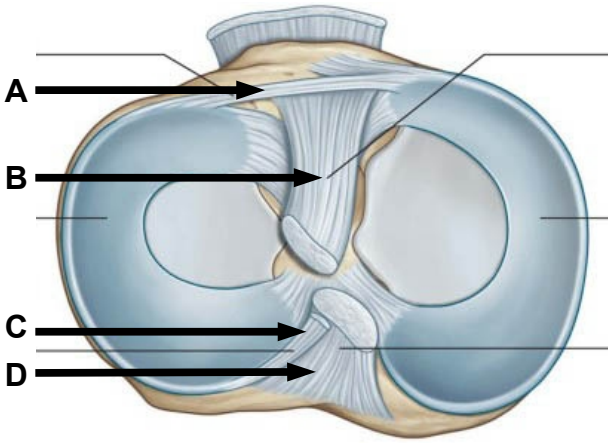
5. Identify the structures. (2 pts)

A. _____

B. _____

C. _____

D. _____



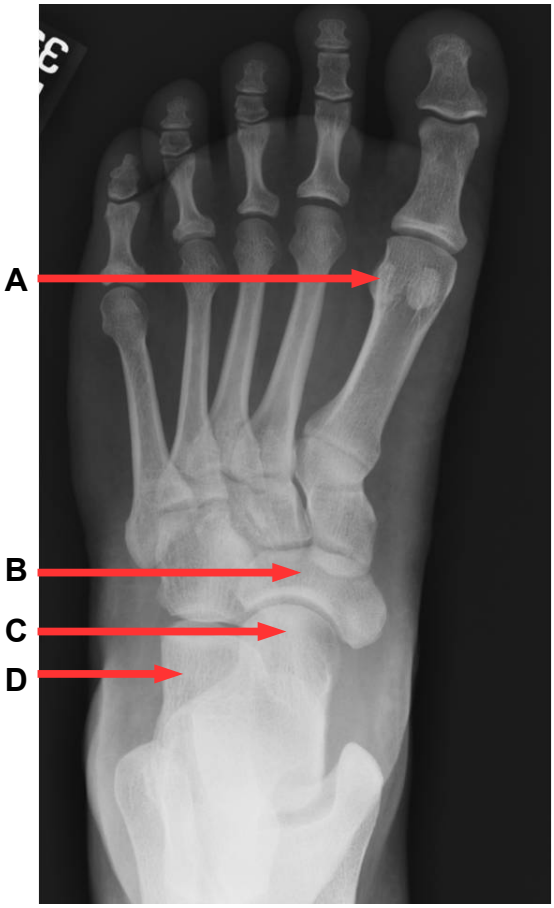
6. Identify the structures. (2 pts)

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 nerve to vastus medialis enters the popliteal fossa along with the saphenous nerve.

    b. The falciform edge of the saphenous hiatus is anterior to the femoral ring.

    c. The superficial infrapatellar bursa communicates with the synovial joint cavity of the knee.

    d. The lesser saphenous vein enters the popliteal fossa by passing through the adductor hiatus.

    e. The ascending branch of the lateral circumflex femoral artery passes posterior to sartorius and anterior to rectus femoris.

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

3. With regard to the hip joint:

    a. The artery of the ligament of the head of the femur is a branch of the posterior obturator artery.

    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 iliofemoral ligament attach at the anterior inferior spine.

    d. The acetabular labrum is interrupted at the acetabular notch.

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 plateau.

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

    d. The popliteus muscle medially rotates the hip to close-pack (lock) the knee during extension.

    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 deep to the thoracic sympathetic trunk.

    b. The superior border of the superior mediastinum is defined by a line from the jugular notch to the T4 vertebra.

    c. The pulmonary ligaments define boundaries of the oblique sinus.

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

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

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

1. Heart tissues receive arterial blood supply during diastole. **Discuss the anatomy of the aortic semilunar valve. Discuss blood flow within the coronary arteries during the cardiac cycle. (6 pts)**

2. Effusion of the pericardial cavity leads to cardiac tamponade. **Discuss the anatomy of the fibrous and serious pericardium. (6 pts)**

3. Rapid deceleration of a motor vehicle may cause dislocation of the hip joint. **Discuss the ligamentous support of the hip joint and the limitations of movement provided by these ligaments. Include mention of the line of gravity in regards to stability. (6 pts)**

4. Unlocking of the knee joint during the gait cycle requires rotation of the hip. **Discuss the anatomy and function of the popliteus muscle. (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. Account for fascial barriers that may impede the spread of cancer into the thoracic cavity. Account for metastatic spread to the left breast and superficial inguinal lymph nodes. (12 pts)**

2. A 46 year old carpenter has concerns about stepping on a nail that has penetrated the medial sole of the foot and pierced the spring ligament. **Discuss the fascia, muscles, tendons, nerves, bones, and vasculature at risk with a penetrating injury that pierces the spring ligament. Discuss the support of the medial longitudinal arch. (12 pts)**

3. A laceration in the region of the subcutaneous tibia might disrupt the crural fascia of the anterior compartment of the leg. Infection might lead to anterior compartment syndrome. **Review the boundaries and contents of the anterior compartment of the leg. What functional deficits may result from compression of structures within the anterior compartment of the leg? (12 pts)**

4. The vascular and muscular lacuna provide a communication for structures passing from the abdominopelvic cavity to the femoral triangle of the anterior thigh. **Review the boundaries and contents of the femoral triangle. Provide mention of of the boundaries crossed by structures passing from the femoral triangle to other regions. (12 pts)**