EXAM NUMBER_____

Graduate Anatomy

EXAMINATION 1

September 14, 2018

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

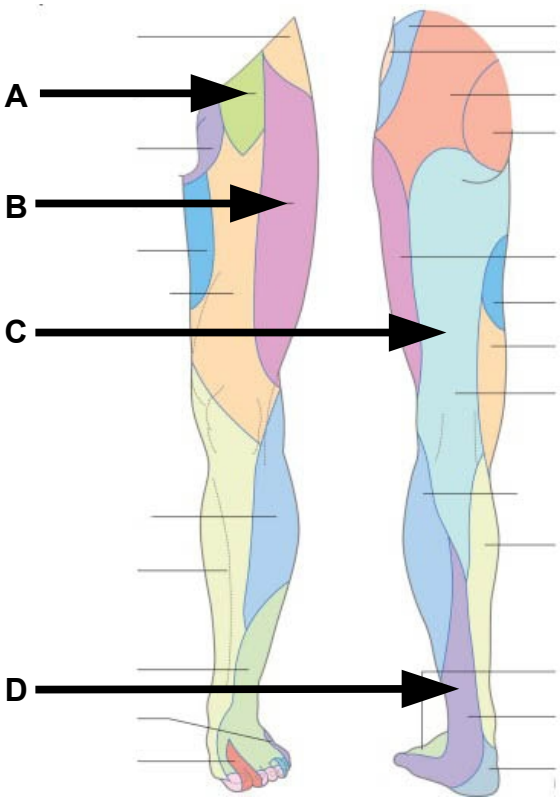
1. Identify the Nerve Distributions. (2 pts)

A. _____

B. _____

C. _____

D. _____



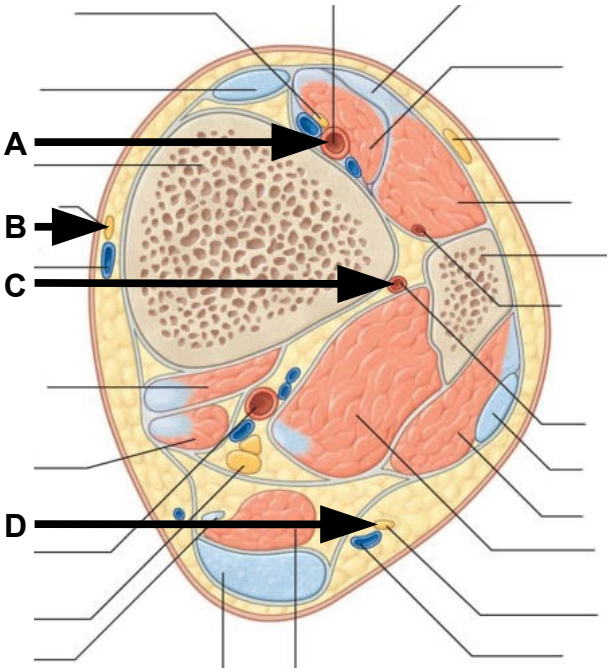
2. Identify the structures. (2 pts)

A. _____

B. _____

C. _____

D. _____



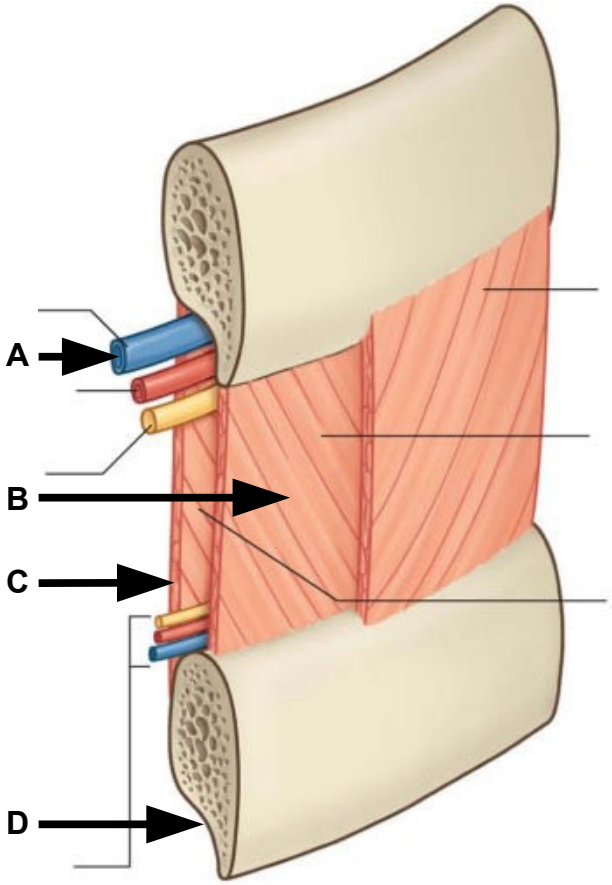
3. Identify the structures. (2 pts)

A. _____

B. _____

C. _____

D. _____



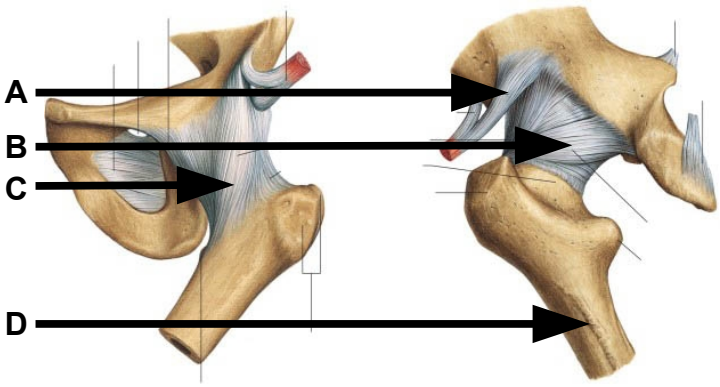
4. Identify the structures. (2 pts)

A. _____

B. _____

C. _____

D. _____



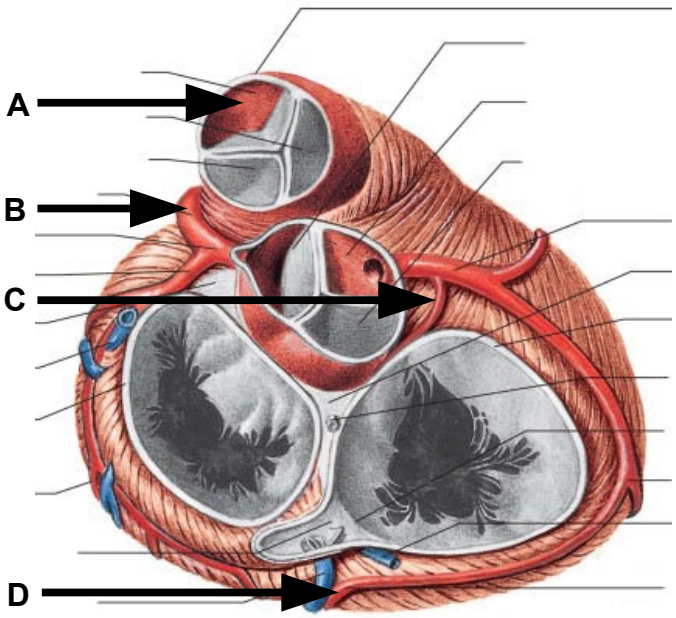
5. Identify the structures. (2 pts)

A. _____

B. _____

C. _____

D. _____



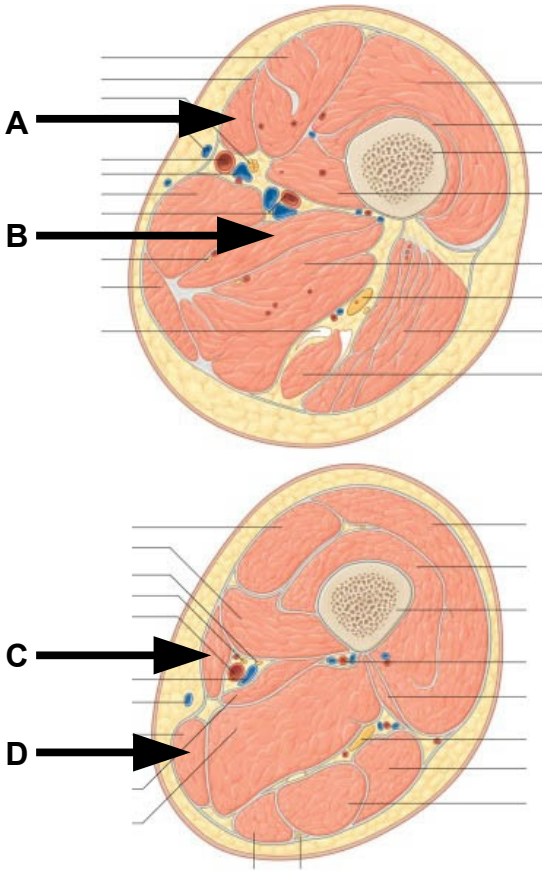
6. Identify the structures. (2 pts)

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 adductor magnus enters the adductor canal along with the nerve to vastus lateralis.

    b. The femoral artery is superficial to the femoral vein within the adductor canal.

    c. The articularis genu attaches to the infrapatellar bursa and guards against synovial entrapment during rapid flexion.

    d. The descending genicular artery enters the popliteal fossa by passing through the adductor hiatus.

    e. The saphenous nerve, passes through the adductor hiatus.

    f. The sartorius and tensor fascia lata arise from the anterior superior iliac spine.

3. With regard to the hip joint:

    a. The pubofemoral ligament tightens on extension and abduction.

    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 to the anterior inferior spine.

    d. The straight head of the rectus femoris arises from the anterior inferior iliac spine superficial to the iliofemoral ligament.

4. With regard to the knee joint:

    a. The superior medial genicular artery passes through the adductor hiatus.

    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 posterior cruciate ligament limits posterior displacement of the tibia on the femur.

    e. The tendon of origin of the popliteus muscle arises from the lateral femoral condyle.

5. With regard to the mediastinum:

    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 sternal angle to the T1 vertebra.

    c. The vagus nerve passes posterior to the hilum of the lung and the phrenic nerve passes anterior to the hilum of the lung.

    d. The arch of the azygos is leaves an impression inferior to the hilum of the left lung.

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

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

1. Redundant support of the atrioventricular valve cusps may preserve life in the event of papillary muscle rupture. **Discuss the anatomy of the tricuspid valve and provide an account for the opening and closing of the valve. (6 pts)**

2. Twelve percent of the women in the United States develop metastatic breast cancer. **Discuss the anatomy and lymphatic drainage of the left breast. Account for the spread of cancer to the other breast and to the ipsilateral superficial inguinal lymph nodes. (6 pts)**

3. Forced inversion at the ankle joint may injure structures that support the lateral side of the ankle joint. **Discuss structures that provide support to the lateral ankle joint. (6 pts)**

4. Forced abduction and anterior displacement of the leg may cause an injury to the knee known as the “unhappy triad” or what Dr. Bollard referred to as the “trifecta.” **Discuss the anatomical stability of the knee joint. Include a brief account of the “unhappy triad.” (6 pts)**

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

Part IV. Essay. (48 pts)

1. An effusion of the pericardial cavity may lead to cardiac tamponade and death. **Discuss the anatomy of the pericardium, include fascial layers, relationships, stabilization, vasculature, innervation, and lymphatic drainage. Comment on the clinical procedure for pericardiocentesis. (12 pts)**

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

3. 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)**

4. Incorrectly placed intragluteal injections may injure structures located superior to and inferior to the piriformis muscle. These injuries may cause permanent disability. **Discuss the anatomical relationships of the piriformis muscle. Describe the anatomical pathways of the superior gluteal nerve and the functional deficits and compensations(s) resulting from injury to this nerve. (12 pts)**