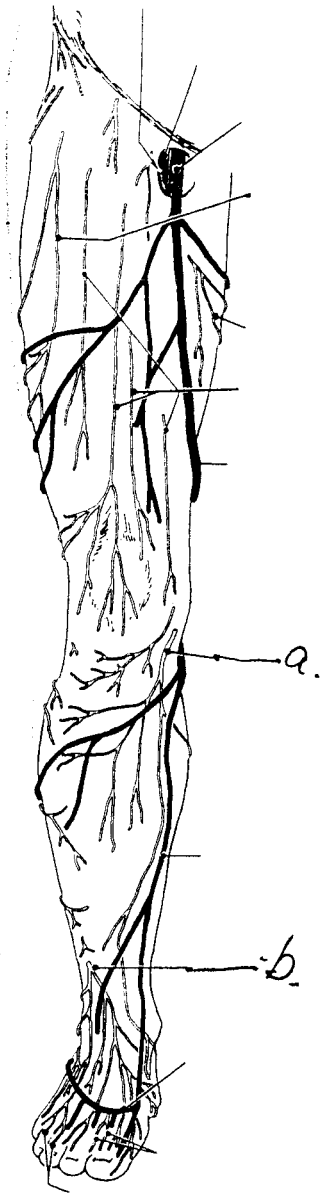
Sept. 1, 2005 EXAM NUMBER KEY

PART III. Identify the structures. (6 pts)

1. Identify the nerves. (1 pt)

a. Saphenous Nerve

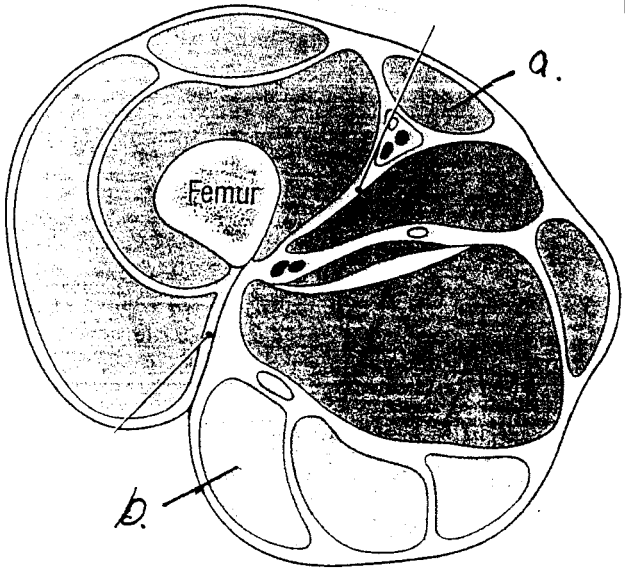
b. Superficial Peroneal (Fibular) Nerve



2. Identify the structures. (1 pt)

a. Sartorius

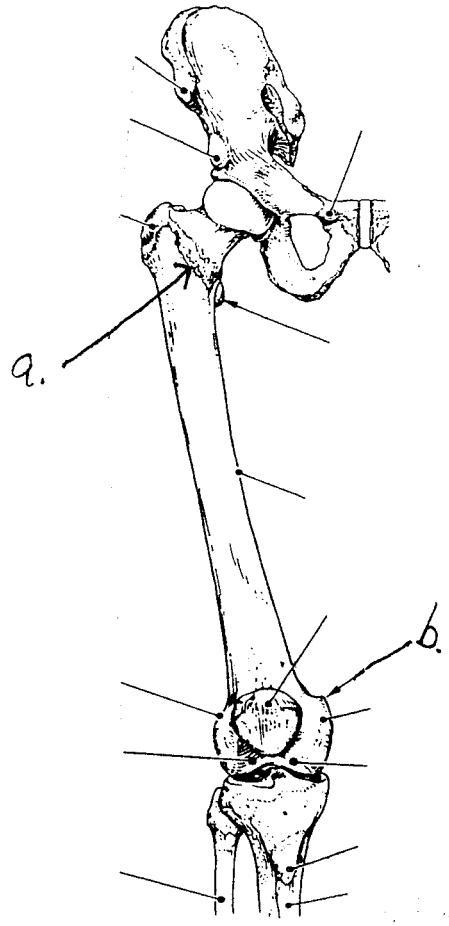
b. Biceps Femoris



3. Identify the structures. (1 pt)

a. Intertrochanteric Line

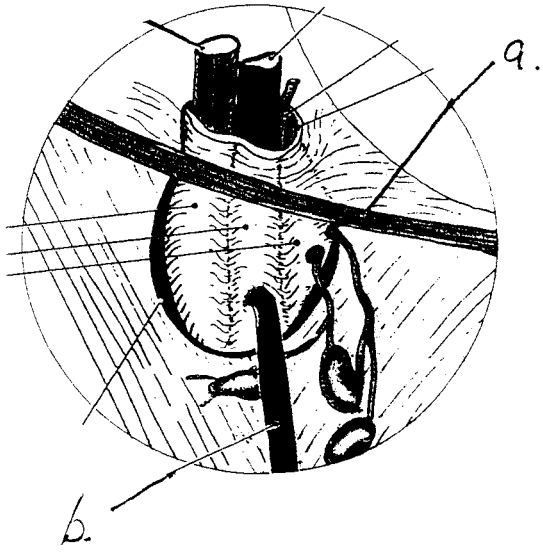
b. Adductor Tubercle



4. Identify the structures. (1 pt)

a. Inguinal Ligament

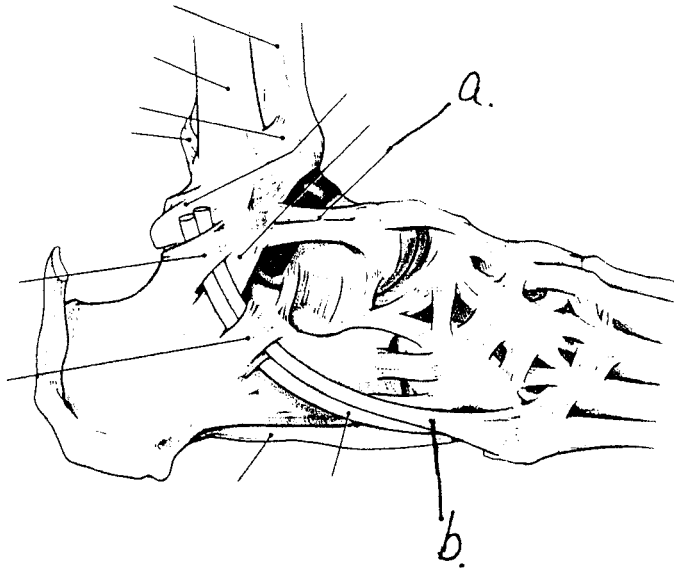
b. Great Saphenous Vein



5. Identify the structures. (1 pt)

a. Anterior Talofibular Ligament

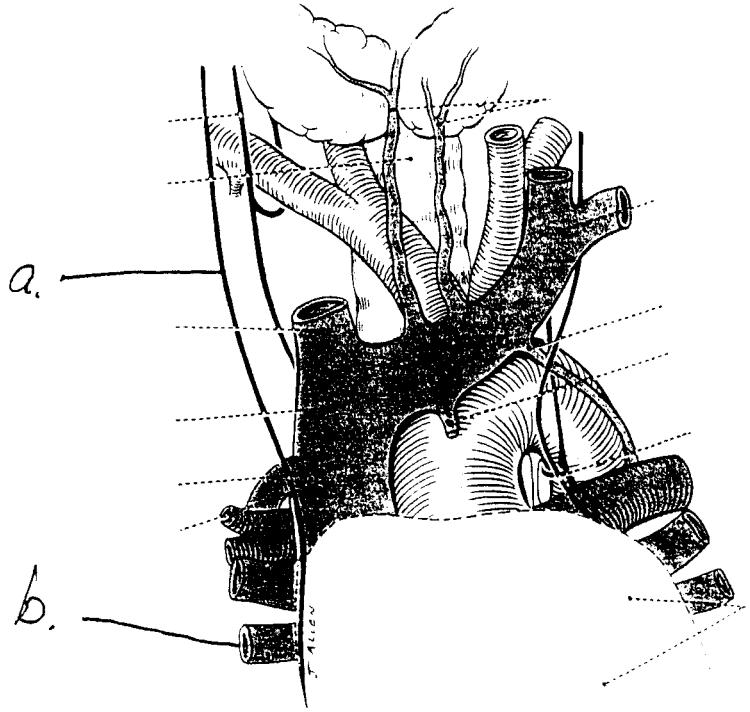
b. Peroneus (Fibularis) Brevis



6. Identify the structures. (1 pt)

a. Phrenic Nerve

b. Pulmonary Vein



Part IV. Circle the correct answer. All, none, or some may apply. (36 pts)

1. With respect to the nervous system (4 pts):

(a.) There is a white ramus communicans at the level of T2.

b. The visceral afferents of the greater splanchnic nerve consist of pre- and post-ganglionic neurons.

(c.) The motor nerves to the visceral layer of serous pericardium are from the autonomic nervous system.

(d.) The sensory nerves of the peripheral diaphragm are from the intercostal nerves.

(e.) The intrinsic (terminal/intrinsic) ganglia lie on or within the organ innervated.

(f.) The lesser splanchnic nerve contains pre-ganglionic neurons of the sympathetic nervous system.

g. The sympathetic division of the autonomic nervous system constricts the coronary arteries during periods of "flight or fright".

(h.) The costal parietal layer of the pleura has innervation from the intercostal nerves.

2. With regard to the posterior mediastinum (2 pts):

(a.) The right anterior intercostal artery for intercostal space 8 is derived from the musculophrenic artery.

(b.) The left posterior intercostal artery for intercostal space 1 is derived from costocervical branch of the subclavian artery.

c. The thoracic duct lies between the azygous vein and thoracic aorta, and is anterior to the esophagus.

(d.) The greater splanchnic nerve lies medial to the lesser splanchnic nerve.

3. With respect to the subinguinal region and thigh (4 pts):

(a.) The femoral ring is the opening of the femoral canal.

b. The superior cornu is derived from the cribriform fascia.

c. The lateral femoral circumflex artery is derived from either the femoral or deep femoral artery, and courses between the iliopsoas and pectineus muscles.

(d.) The first perforating artery is derived from the deep femoral artery and contributes to the cruciate anastomosis.

e. The superifical external pudendal artery arises from the femoral artery and emerges through the saphenous opening.

f. Femoral hernias are located inferior to the inguinal ligament.

g. The saphenous nerve, a branch of the obturator nerve, enters the adductor canal but does not exit through the adductor hiatus.

h. The floor of the femoral triangle is formed, in part, by the iliopsoas and pectineus muscles.

4. In the gluteal region (6 pts):

a. The piriformis courses through the greater sciatic foramen.

b. The superior gemellus lies anterior to the posterior femoral cutaneous nerve.

c. The gluteus medius is a medial rotator of the thigh.

d. The internal pudendal vein courses through the lesser sciatic foramen.

e. The gluteus maximus muscle is extremely important in walking, and paralysis of this muscle will not permit ambulation (i.e., walking).

f. Gluteal injections in the lower medial quadrant could damage the superior gluteal nerve.

g. A spinal tap (lumbar puncture) should be performed at spinal cord levels T12-L1.

h. A patient with a lesion (damage) to the left superior gluteal nerve will experience pelvic sag (tilt) when the right lower extremity is off the ground.

i. The femoral nerve and obturator nerve are derived from L4 through S3.

j. The obturator internus, but not the obturator externus, is a lateral rotator of the thigh.

k. The inferior gemellus courses through the greater sciatic foramen to unite with the tendon of the obturator internus.

l. The gluteus medius, gluteus minimus, and tensor fascia lata muscles are innervated by the superior gluteal nerve.

5. In regard to the thigh/popliteal fossa (3 pts):

a. A characteristic of a hamstring muscle is an origin from the ischial tuberosity.

b. The short head of the biceps femoris is innervated by the common peroneal division of the sciatic nerve.

c. A landmark for the superior lateral and medial genicular arteries is that they are located superior to the popliteus soleus muscle.

d. The popliteal artery lies deeper than the popliteal vein or tibial nerve in the popliteal fossa, and is endangered by fractures of the supracondylar region of the femur.

e. The circumflex fibular artery contributes to the genicular anastomosis.

f. The lateral sural cutaneous nerve is a branch of the tibial nerve.

6. With respect to the foot/arches/gait (6 pts):

a. The flexor digitorum brevis is innervated by the medial plantar nerve.

b. Digit 2 is adducted by the plantar adductor interossei.

c. Sesamoid bones are found in the heads of the flexor hallucis brevis.

d. The center of gravity passes in front of the ankle joint.

e. There are 3 extensor digitorum brevis muscles, but 4 flexor digitorum brevis muscles.

f. The arcuate artery lies deep to the extensor hallucis brevis muscle.

g. The plantar aponeurosis is a specialization of the tela subcutanea.

h. The lateral plantar artery lies superficial to the quadratus plantae muscle.

i. The lumbricals flex the metatarsophalangeal joints and extend the interphalangeal joints.

j. The medial plantar nerve lies lateral to the abductor digiti minimi muscle.

k. Push-off during the gait cycle involves the flexor hallucis longus.

l. The adductor digiti minimi serves as the adductor for the 5th digit.

7. In the thorax (5 pts):

a. The esophagus is narrowed where it is in contact with the arch of the aorta.

b. The right recurrent laryngeal nerve courses around the right subclavian artery.

c. The right right pulmonary artery and the left bronchus are inferior to the arch of the aorta.

d. The angle of Louis (sternal angle) is at the level of T4/T5 invertebral disc, and is at the site of attachement of the second costal cartilage.

e. The subcostal muscles lie deep to the intercostal nerves.

f. The pericardiacophrenic artery is derived from the internal thoracic artery.

g. The arch of the aorta is located in the middle mediastinum.

h. The sympathetic trunks course through the posterior mediastinum.

i. The phrenic nerves course through the superior mediastinum.

j. The lower border of the parietal pleura in the mid-axillary line is at the level of the 10th rib.

8. With respect to the lungs and ventilation (3 pts):

a. The left pulmonary artery is shorter than the right pulmonary artery.

b. A bronchopulmonary segment consists of a 3rd order bronchus, lung tissue, and the pulmonary artery.

c. The arterial mesocardia unites the pulmonary veins and the aorta.

d. The eparterial bronchus is located in the right lung, and is charaterized by a lack of cartilage.

e. Expiration of the thoracic cavity/lungs is result of a contraction of the diaphragm.

f. Fat is often stored between lung tissue and the visceral pleura.

9. In the heart (3 pts):

a. The SA node is located in the endocardium at the cephalic end of the sulcus terminalis.

b. The marginal artery is a branch of the nodal artery.

c. Systole refers to contraction of the heart.

d. The sternopercardiacal ligaments stabilize the pericardium to the central tendon.

e. The chordae tendinae function in closure of the semilunar valves.

f. The moderator band is composed of pectinate muscles.