

STRUCTURAL BASIS OF MEDICAL PRACTICE

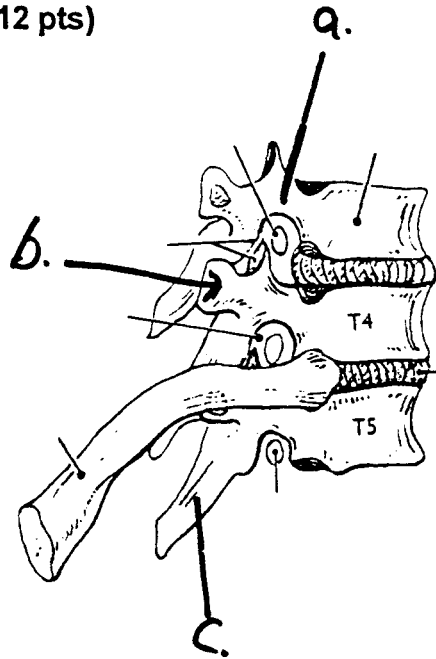
EXAMINATION I

August 31, 2001

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

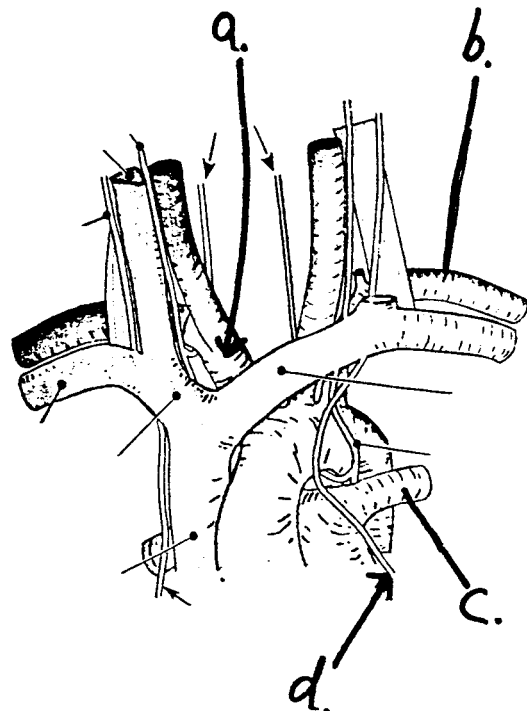
1. Identify the structures. (1.5 pts)

- a. Pedicle
- b. Transverse Process
- c. Spinous Process



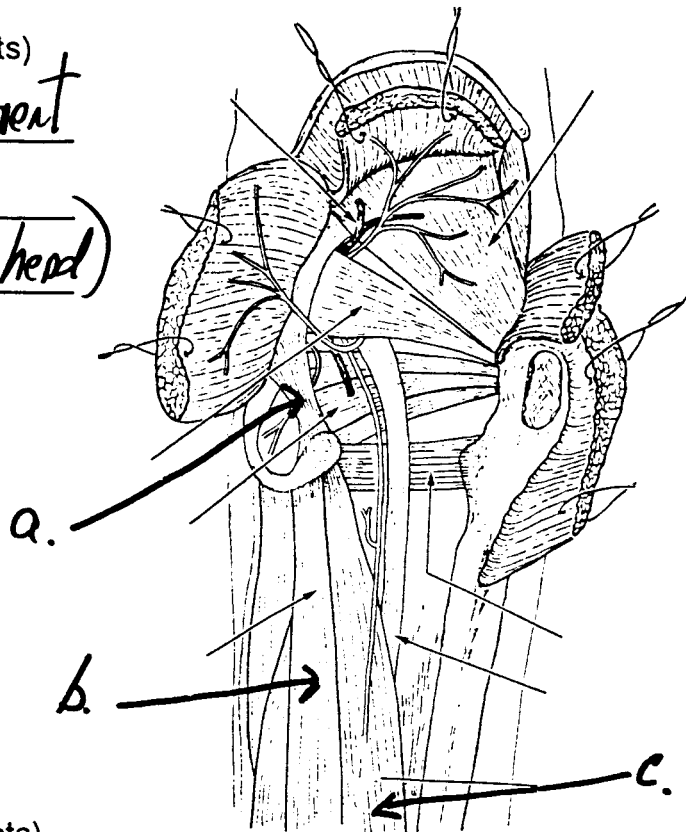
2. Identify the structures. (2 pts)

- a. Brachiocephalic Artery
- b. Left Subclavian Vein
- c. Left Pulmonary Artery
- d. Left Phrenic Nerve



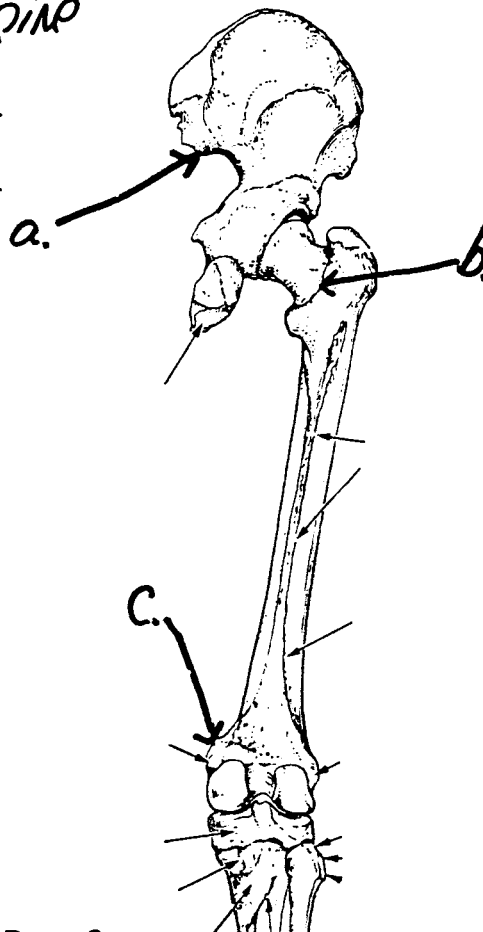
3. Identify the structures. (1.5 pts)

- a. Sacrospinous Ligament
- b. Semitendinosus
- c. Biceps Femoris (long head)



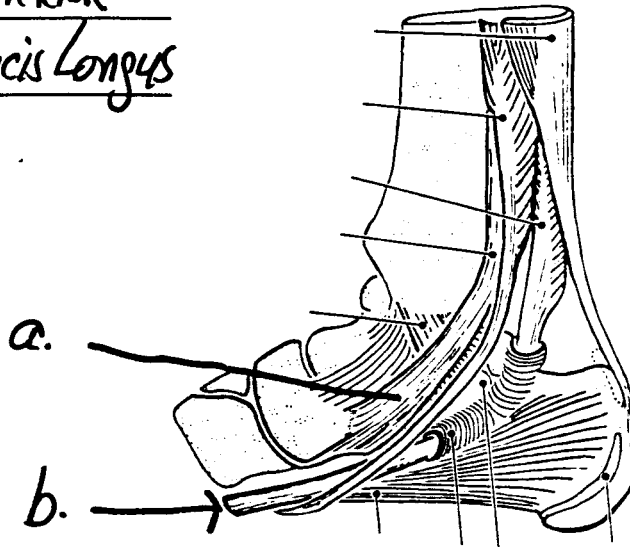
4. Identify the structures. (1.5 pts)

- a. Posterior Superior Iliac Spine
- b. Intertrochanteric Crest
- c. Abductor Tubercle



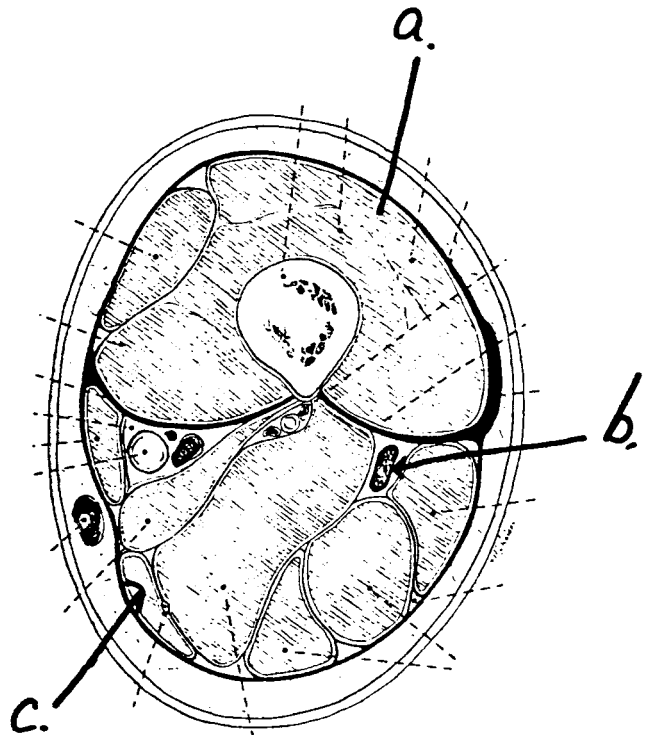
5. Identify the structures. (1 pt)

- a. Tibialis Posterior
- b. Flexor Hallucis Longus



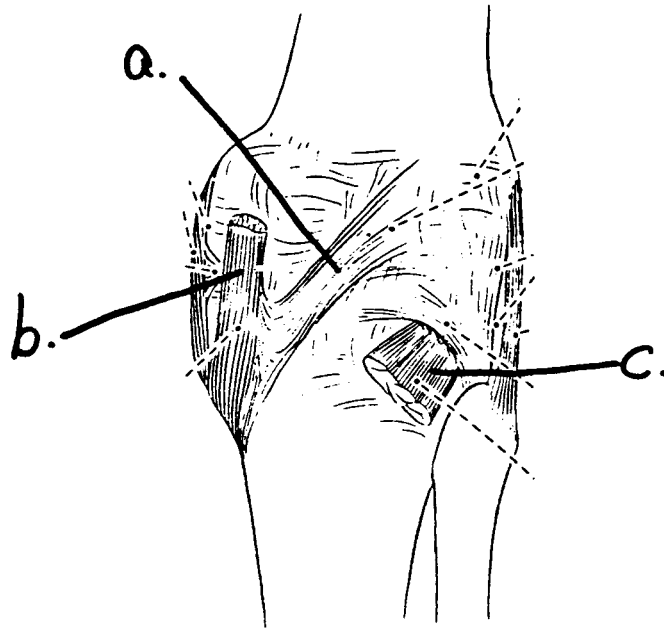
6. Identify the structures. (1,5 pts)

- a. Vastus Lateralis
- b. Sciatic Nerve
- c. Gracilis



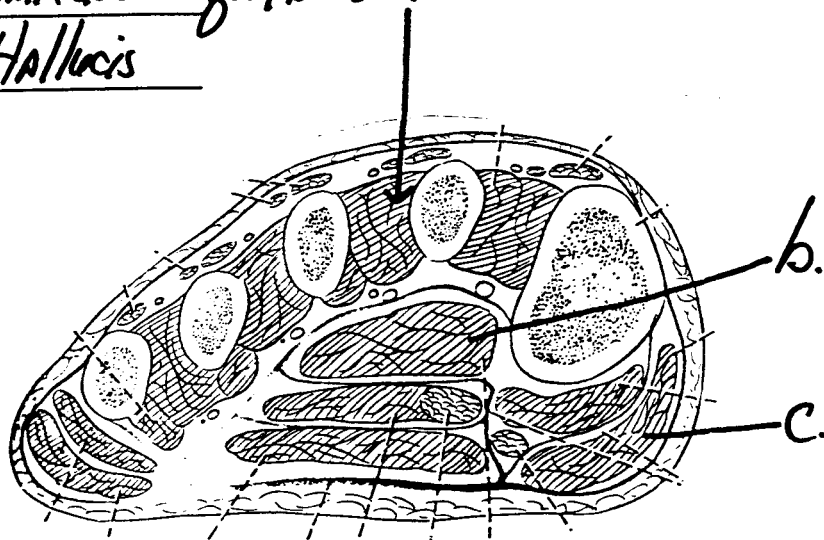
7. Identify the structures. (1.5 pts)

- a. Oblique Popliteal Ligament
- b. Semimembranosus
- c. Popliteus



8. Identify the structures. (1.5 pts)

- a. Second Dorsal Interosseous
- b. Abductor Hallucis (Oblique Head)
- c. Abductor Hallucis



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

1. With respect to the respiratory system:

- a. You can identify bronchi associated with a bronchopulmonary segment because they have no cartilage.
- b. The pump-handle movement involves the articulation of the body of the vertebra with the head of the rib.
- c. The inferior border of the parietal pleura in the midaxillary plane is at the 10th rib
- d. The bucket-handle movement of respiration expands ribs 1-6 in the anterior-posterior diameter.
- e. The right bronchial artery arises from the right internal thoracic artery.

2. In regard to the respiratory system:

- a. The root of the left lung lies superior to the aortic arch.
- b. The left bronchus is smaller in diameter but almost twice as long as the right bronchus.
- c. The carina is located in the trachea, and lies between the right and left bronchi.
- d. The trachea bifurcates at the level of the T2/3.
- e. There is an impression of the esophagus on the right lung.

3. In the leg:

- a. The tibialis anterior lies against the medial surface of the tibia.
- b. The extensor digitorum longus inserts into the distal phalanx of digits 2-5, whereas the extensor digitorum brevis inserts into the middle phalanx of digits 2-5.
- c. The peroneal artery gives rise to the posterior lateral malleolar artery.
- d. The superior peroneal retinaculum extends from the lateral malleolus to the calcaneus.
- e. The common peroneal nerve gives rise to the lateral sural cutaneous nerve.

4. In the leg:

- a. The line of gravity passes in front of the tibia.
- b. The superficial peroneal nerve courses laterally around the tibia and innervates the peroneus longus, peroneus brevis, and peroneus tertius.
- c. The head of the fibula and the common peroneal nerve can be palpated.
- d. The extensor hallucis longus crosses the anterior tibial artery.
- e. Muscles in the superficial posterior compartment invert the foot.

5. With regard to the heart:

- a. The nodal artery is derived from the left coronary artery and provides blood to the sinoatrial (SA) node.
- b. The great cardiac vein drains into the coronary sinus.
- c. A crista terminalis can be found in both the right and left atria.
- d. Blood flow in the coronary artery occurs during diastole.
- e. The anterior papillary muscle is derived from pectinate muscles.

6. In the heart:

- a. The apex of the heart is positioned superiorly, posteriorly, and to the right.
- b. The fossa ovalis is the remnant of a connection between the right and left atria.
- c. The superficial cardiac plexus can be found in the concavity of the aortic arch.
- d. The chordae tendinae extend from the papillary muscle to the undersurface of the semilunar valves.
- e. The arterial mesocardium is associated with the aorta and the pulmonary artery.

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7. In the subinguinal region:

- a. Femoral hernias occur inferior and lateral to the pubic tubercle.
- b. The femoral vein lies in the femoral canal.
- c. The pectineus lies lateral to the adductor longus.
- d. The femoral nerve can be found in the muscular lacuna.
- e. The superficial external pudendal artery is a branch of the femoral artery.

8. In the foot:

- a. The 1st dorsal interosseous muscle is innervated by the lateral plantar nerve.
- b. The lateral tarsal artery is the termination of the peroneal artery.
- c. The plantar arterial arch is derived from the lateral plantar artery.
- d. The tendons of the plantar interosseous muscles contribute to the extensor expansion associated with the lateral 4 toes.
- e. The lumbricals extend the metatarsophalangeal joint and flex the interphalangeal joints.

9. In the foot:

- a. The extensor digitorum brevis divides into 4 tendons to the lateral four toes.
- b. The lateral plantar nerve innervates the adductor hallucis muscle.
- c. The flexor digitorum brevis flexes the middle phalanges of the lateral 4 toes and assists in metatarsophalangeal flexion of the same digits.
- d. The transverse tarsal joint extends from side to side across the foot and is composed of the talonavicular articulation medially and the calcaneocuboid joint laterally.
- e. The heads of the metatarsals do not contribute to the transverse arch.

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10. In regard to vessels and muscles in the thorax:

- a. The greater splanchnic nerve lies lateral to the sympathetic trunk.
- b. The external intercostal muscles are innervated by the phrenic nerve.
- c. The motor innervation of the diaphragm is the subcostal nerve.
- d. There are gray rami communicans at the level of T12.
- e. The thoracic duct drains lymph into the right internal jugular vein.

11. In the thorax:

- a. The 1st and 2nd anterior intercostal arteries are derived directly from the subclavian artery.
- b. There are 12 pair of external intercostal muscles.
- c. The 8th anterior intercostal artery branches directly from the musculophrenic artery.
- d. The azygous vein drains into the subclavian vein.
- e. The right 5th posterior intercostal vein drains into the azygous vein.

12. With respect to the hip joint:

- a. The ligamentum capitis femoris is intracapsular.
- b. The pubofemoral ligament becomes tight in extension and also limits abduction.
- c. The iliofemoral ligament attached to the intertrochanteric crest.
- d. The cruciate anastomosis is formed in part by the superior gluteal artery.
- e. The synovial membrane lines all parts of the interior of the joint, except where there is cartilage.

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13. In the lower extremity:

- a. The saphenous nerve exits through the adductor hiatus.
- b. The lesser saphenous vein terminates in the great saphenous vein.
- c. The tensor fascia lata is innervated by the superior gluteal nerve.
- d. The quadratus femoris and the superior gemellus originate from the ischial spine.
- e. The vastus lateralis extends the knee but does not flex the hip joint.
- f. The gracilis muscle is innervated by the obturator nerve.
- g. The lateral inferior genicular artery passes across the popliteus muscle.

14. In the lower extremity, hybrid muscles (innervation by two different nerves) includes:

- a. Pectineus
- b. Adductor magnus
- c. Biceps femoris
- d. Adductor longus
- e. Gastrocnemius