

# GROSS ANATOMY EXAMINATION I

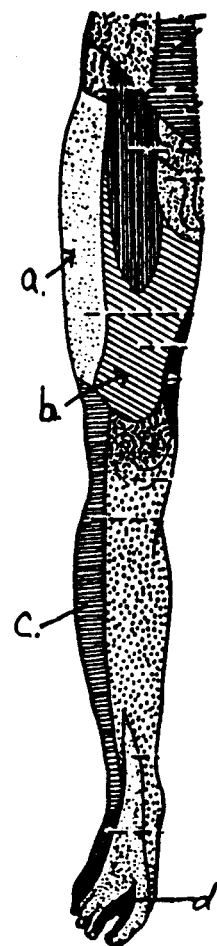
AUGUST 30, 1995

PART 1. Answer in the space provided. (18 pts.)

1. Identify the cutaneous innervation to the areas indicated. (2 pts.)

FIG. 16-2

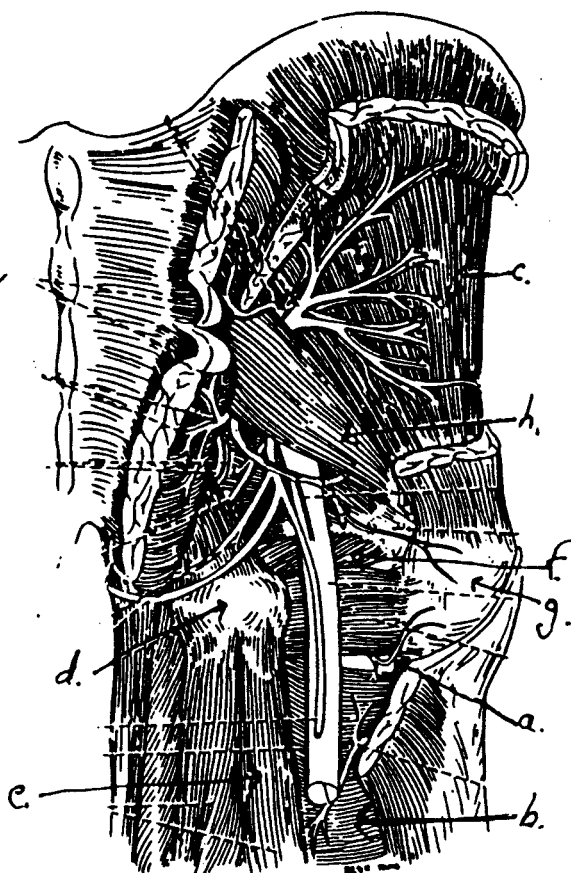
- a. Lateral femoral cutaneous
- b. Femoral
- c. Lateral sural cutaneous
- d. Deep peroneal



2. Identify the structures. (4 pts.)

FIG. 17-23

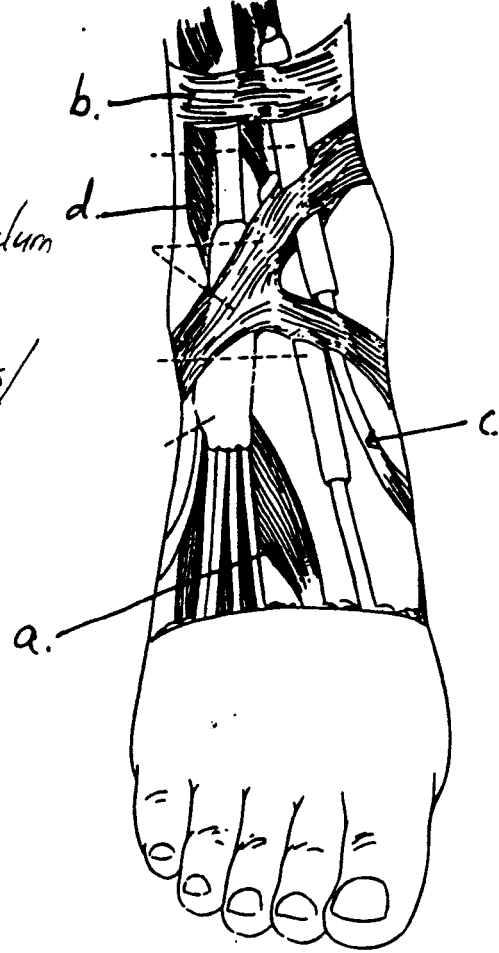
- a. Medial femoral circumflex artery
- b. Adductor magnus
- c. Gluteus minimus
- d. Ischial tuberosity
- e. Biceps femoris (long head)
- f. Anterior gemellus
- g. Greater trochanter
- h. Piriformis



3. Identify the structures. (2 pts)

Fig. 18-18

- a. Extensor hallucis brevis
- b. Superior extensor retinaculum
- c. Tibialis anterior
- d. Extensor digitorum longus / Peroneus tertius



4. Identify the arteries. (2 pts)

Fig. 18-41

- a. Femoral
- b. Anterior tibial
- c. Medial superior genicular
- d. Anterior tibial recurrent

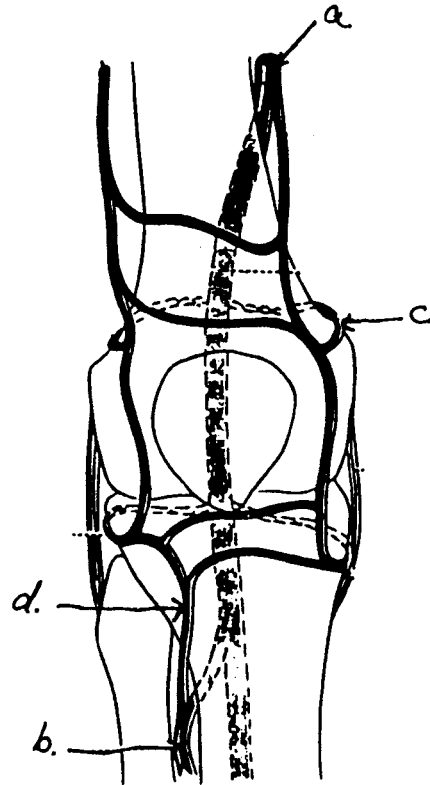


Fig. 18-48

5. Identify the structures (2 pts.)

- a. Flexor hallucis brevis
- b. Adductor hallucis
- c. (Tendon of) Flexor hallucis longus
- d. Abductor digiti minimi

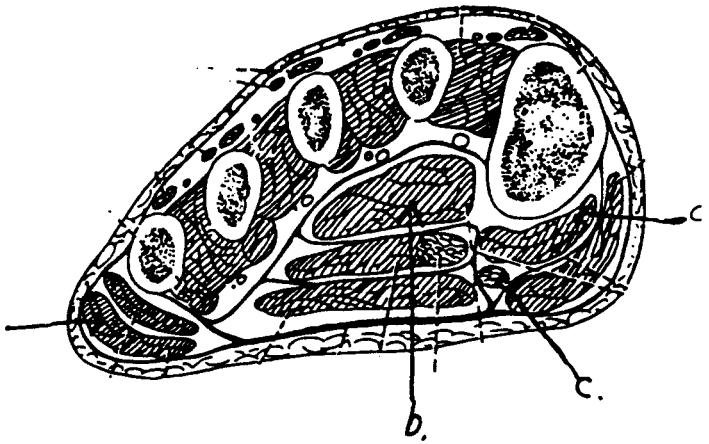
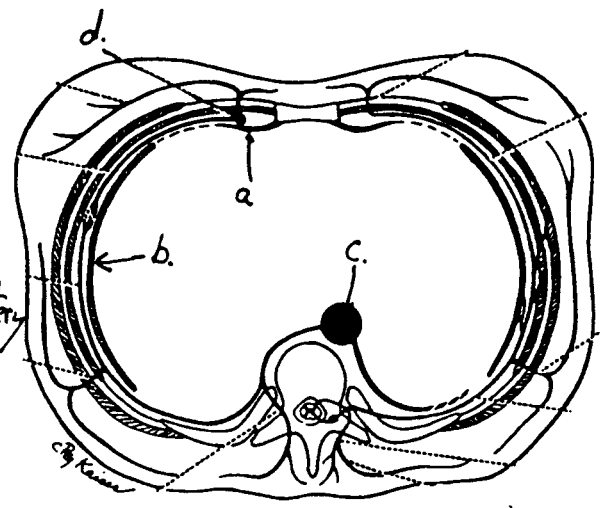


Fig. 19-10

6. Identify the structures. (2 pts.)

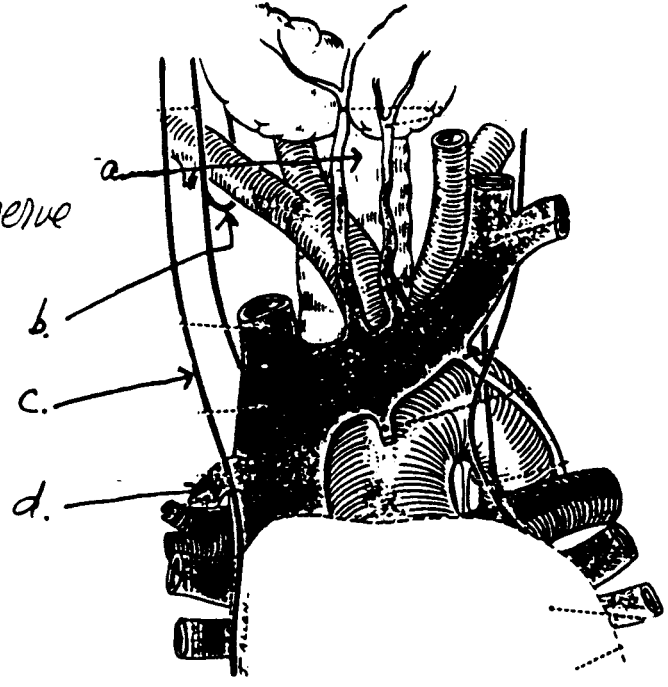
- a. Transversus thoracis (muscle)
- b. Innermost intercostal (muscle)
- c. Aorta
- d. Internal thoracic (mammary) artery



7. Identify the structures. (2 pts.)

Fig. 22-11

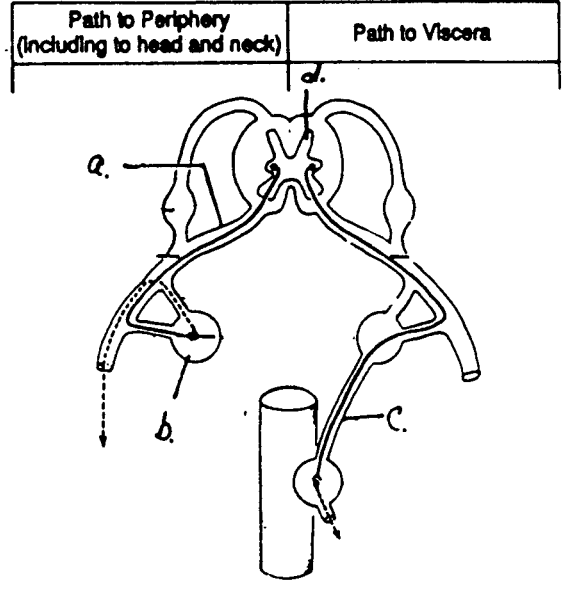
- a. Trachea
- b. (Right) recurrent laryngeal nerve
- c. Phrenic nerve
- d. Azygos vein



8. Identify the structures. (2 pts.)

Fig. 1-18  
Grant's  
Dissector

- a. Ventral root
- b. Sympathetic ganglion
- c. Splanchnic nerve
- d. Dorsal (posterior) horn



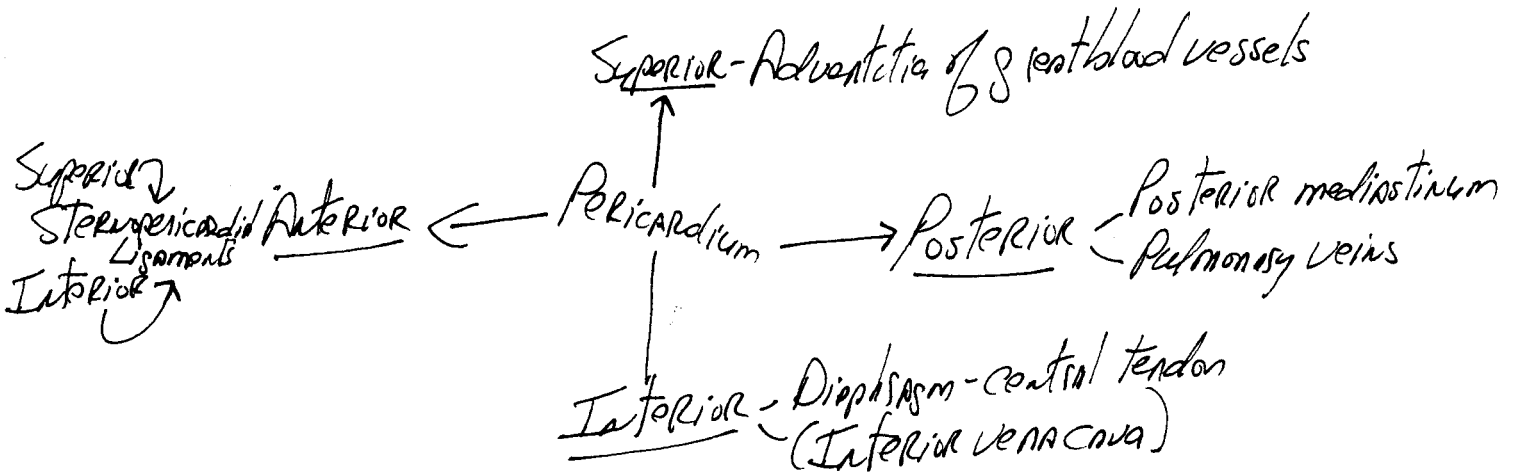
General plan of sympathetic nerve distribution.

**PART II. Answer in the space provided. (22 pts)**

1. A number of important structures create "impressions" on the lungs. Dysfunction of these related structures may have impact on respiration. Briefly indicate differences between impressions on the left lung and right lung. (4 pts.)

	<u>Right Lung</u>	<u>Left Lung</u>
<u>Medial</u>	Arzyous vein Superior vena cava Inferior vena cava Esophagus/groove [Heart-Right atrium]	Arch of Aorta Ascending Aorta Descending Aorta [Left common carotid artery] [Heart-Left ventricle]
<u>Inferior</u>	Liver	Stomach

2. The heart occupies a precise location in the thorax in order to function. Discuss the stabilization of the heart in the middle mediastinum. (5 pts.)



Answer in the space provided.

3. A patient comes to your office complaining of being tired. Your examination reveals an acute inflammation of the pericardial sac (i.e., pericarditis) brought on by an infection, and results in a pericardial effusion (i.e., passage of fluid from the pericardial capillaries into the pericardial cavity). (6 pts.)

a. Why might the heart be embarrassed in action and the heart rate slowed by the fluid in the pericardial sac? (2 pts.)

Pericardial sac is inelastic, thus restricted space

↓  
Fluid occupies space for movement

↓  
Heart slows - compression of veins - especially pulmonary

b. Where would you withdraw fluid (paracentesis) from the pericardial cavity without causing a pneumothorax? Explain your answer on an anatomical basis. (4 pts.)

1) Cardiac Notch - 5/6<sup>th</sup> intercostal spaces on left of sternum  
watch out for internal thoracic artery  
Parietal pleura not present / pericardium exposed

2) Inferior angle of sternum - superior / posterior direction of needle

4. Discuss the relationship of the phrenic nerve to the pericardium and the pleura. (3 pts.)

Travels between fibrous layer of pericardium and fibrous coat of parietal pleura; surrounded by endothoracic fascia  
SERVES AS SOURCE OF NERVOUS INNERVATION

Answer in the space provided.

5. Accumulation of fluid in the pleural cavity may be "tapped" at the costodiaphragmatic recess. Briefly define this recess at the midaxillary plane, and explain and justify whether a needle to extract fluid should be passed into the thoracic cavity above or below the rib. (4 pts.)

a) Parietal Pleura - extends to rib 10 at midaxillary  
Visceral Pleura - extends to ribs 8 " "  
Space for fluid accumulation  
Can "tap" fluid and risk little damage to lung

b) Above rib used for "tap"  
Avoids VAN in costal groove at lower edge of rib

**PART III. Answer in the space provided. (32 pts.)**

1. Cancer of the lung necessitates a knowledge of the lymphatic system. Indicate your understanding of the lymphatic drainage of the lung. (5 pts.)

2. A mediastinoscope can be used to visualize cancer in the superior mediastinum. Discuss the boundaries and contents of the superior mediastinum. (7 pts.)



**Answer in the space provided.**

3. Structures in the femoral triangle are often used for cardiac angiography. Discuss the anatomy and contents of the femoral triangle, and the relationships of the structures as they enter, occupy, and exit the triangle. (8 pts.)

**Answer in the space provided.**

4. Discuss the anatomy of the hip joint. Include an account of the innervation, vascular supply, ligaments, bones and articulations, movements and limitations of movements. (12 pts.)

**PART IV. Answer in the space provided. (28 pts.)**

1. Damage to the knee may involve the menisci. Discuss the anatomy and function of the menisci in the knee. Explain which meniscus is most vulnerable to injury; justify your answer. (8 pts.)

**Answer in the space provided.**

2. Locomotion involves understanding of the arches of the foot. Define the medial longitudinal arch and discuss the support of this arch. Please be systematic in your answer by working from the deepest structures outward. Include a description of the reason(s) for a failure of this arch. (10 pts.)

**Answer in the space provided.**

3. A patient with a history of ischemia in the lower limb brought on by narrowing of the arteries (i.e., intermittent claudication) presents with a foot drop and a slightly everted foot. You check and find a weakened pulse of the dorsalis pedis artery. Using your skills of anatomy and physical diagnosis, how would you discriminate between involvement of only this artery or its parent and/or other arteries in the lower limb, differentiate between an arterial versus a neural problem, and explain the clinical findings using your anatomical knowledge. (10 pts.)