

A thoracic splanchnic nerve is defined as a nerve leaving the sympathetic chain proceeding toward the viscera and containing, at least:

- A. visceral afferent (sensory) fibers.
- B. post ganglionic sympathetic axons.
- C. preganglionic sympathetic axons.
- D. somatic efferent axons innervating skeletal muscle.
- E. somatic afferent axons.

Answer = C

Adult male suddenly has severe substernal pain radiating into the left arm. Patient is rushed to the hospital but is DOA. At autopsy, examination of the heart reveals a large area of necrosis of the left ventricle. The occluded artery was the

- A. anterior interventricular.
- B. posterior interventricular.
- C. marginal.
- D. circumflex branch.
- E. none of the above.

Answer = A

The arch of the thoracic aorta gives off several branches. In order from first to last:

- A. brachiocephalic, left common carotid, left subclavian.
- B. common carotid, right subclavian, left subclavian.
- C. left brachiocephalic, right brachiocephalic, right subclavian.
- D. right brachiocephalic, left brachiocephalic, left subclavian.
- E. None of the above is correct.

Answer = A

The left vagus nerve

- A. gives rise to a recurrent laryngeal branch
- B. is located anterior to the aortic arch
- C. passes anterior to the hilum of the lung
- D. choices a and b
- E. choices a, b, and c

Answer = D

The thoracic duct is the main vessel of lymph drainage for all of the following EXCEPT the

- A. liver
- B. pelvis
- C. left lower limb
- D. left side of the thorax
- E. right lung

Answer = E

All of the following occur upon inhalation except:

- A. the diaphragm descends
- B. the external intercostal muscles contract
- C. the abdominal muscles contract pushing abdominal viscera cranially
- D. the ribs may be raised
- E. the vertical dimension of the thoracic cavity may increase

Answer = c

All of the following are typically direct branches of the aorta EXCEPT the

- A. right coronary artery
- B. right subclavian artery
- C. left common carotid artery
- D. fourth posterior intercostal artery
- E. brachiocephalic artery

Answer = B

All of the following statements about the pleura are correct EXCEPT that the

- A. parietal pleura receives sensory innervation from intercostal and phrenic nerves
- B. pulmonary ligament extends inferiorly from the hilum of the lung
- C. pleural recesses are formed between two layers of the parietal pleura
- D. parietal pleura in the right pleural cavity is continuous with parietal pleura in the left pleural cavity
- E. parietal pleura extends into the root of the neck slightly above the level of the first rib

Answer = D

The sternal angle exists at the articulation between the

- A. sternum and clavicle.
- B. manubrium and body of the sternum.
- C. manubrium and xiphoid process.
- D. body of the sternum and xiphoid process.
- E. none of the above.

Answer = B

A total loss of both motor and sensory function in the anterior thoracic wall would indicate an injury to the

- A. dorsal root ganglia.
- B. white rami communicantes.
- C. dorsal primary rami.
- D. ventral roots of the spinal nerve.
- E. ventral primary rami.

Answer = E

The neurovascular bundle within each intercostal space lies

- A. between the external and internal layers of intercostal muscles.
- B. between the internal and innermost layers of intercostal muscles.
- C. deep to the innermost layer of intercostal muscles.
- D. superficial to the external intercostal muscles.
- E. posterior to the transversus thoracis muscle.

Answer = B

The horizontal plane at the level of the sternal angle gives the approximate location of the

- right pulmonary veins.
- B. superior border of the aortic arch.
- C. bifurcation of the trachea.
- D. crossing of the midline by the hemiazygos vein.
- E. apex of the lungs.

Answer = C

A radiological examination is required for induction into the Army. One feature closely observed by the attending radiological officer is that in a normal person in an anterior to posterior x-ray of the thorax, the right border of the heart shadow is formed mostly by the

- A. inferior vena cava.
- B. right ventricle.
- C. pulmonary trunk.
- D. right atrium.
- E. left atrium.

Answer = D

The sinoatrial node is located in the

- A. interatrial septum.
- B. coronary sulcus.
- C. fossa ovalis.
- D. interventricular septum.
- E. crista terminalis.

Answer = E

The oblique pericardial sinus is created by pericardial reflections around the

- A. aorta and superior vena cava.
  - B. pulmonary veins and aorta.
  - C. pulmonary veins and inferior vena cava.
  - D. pulmonary veins and pulmonary trunk.
  - E. pulmonary trunk and superior vena cava.
- Answer = C

All of the following vessels provide a route for collateral circulation to the descending aorta in postductal coarctation of the aorta EXCEPT the

- A. superficial epigastric artery.
  - B. internal thoracic arteries.
  - C. left subclavian artery.
  - D. anterior intercostal arteries.
  - E. brachiocephalic artery.
- Answer = A

In the thorax, the right vagus nerve

- A. passes lateral to the superior vena cava.
  - B. gives off branches to the pericardium.
  - C. supplies the thoracic surface of the diaphragm.
  - D. courses anterior to the brachiocephalic artery.
  - E. lies on the dorsal or posterior surface of the esophagus.
- Answer = E

Which structure presses against the esophagus?

- A. Left lung
  - B. Right phrenic nerve
  - C. Superior vena cava
  - D. Left atrium
  - E. Left pulmonary artery
- Answer = A,D

The left vagus nerve

- A. gives rise to a recurrent laryngeal branch.
  - B. is located anterior to the aortic arch.
  - C. passes anterior to the hilum of the lung.
  - D. choices A and B.
  - E. choices A, B and C.
- Answer = D

A transverse section through the intervertebral disc between vertebral bodies T4 and T5 in a young child would pass through all of the following EXCEPT the

- A. left brachiocephalic vein.
  - B. joint between the manubrium and body of the sternum.
  - C. azygos vein.
  - D. thymus gland.
  - E. bifurcation of the trachea.
- Answer = A

The epicardium is the

- A. fibrous pericardium
  - B. parietal layer of serous pericardium.
  - C. visceral layer of serous pericardium.
  - D. cardia muscle.
  - E. none of the above.
- Answer = C

All of the following statements about the sternal angle are correct EXCEPT it

- A. lies at the level of the intervertebral disc between T3 and T4 vertebrae.
  - B. indicates the level of the second costal cartilage.
  - C. indicates the level of the tracheal bifurcation.
  - D. indicates where the manubrium articulates with the body of the sternum.
  - E. indicates the beginning and ending of the aortic arch.
- Answer = A

The left vagus nerve contributes to all of the following EXCEPT the

- A. cardiac plexus.
  - B. esophageal plexus.
  - C. left greater splanchnic nerve.
  - D. left recurrent laryngeal nerve.
  - E. pulmonary plexus.
- Answer = C

Pain fibers innervating the fibrous pericardium are traveling in the

- A. vagus nerve.
  - B. cardiac plexus.
  - C. phrenic nerve.
  - D. dorsal rami.
  - E. subcostal nerve.
- Answer = C

As you explore the posterior mediastinum searching for a ruptured thoracic duct, all of the following structures are found EXCEPT

- A. vagal nerve fibers.
  - B. greater splanchnic nerves.
  - C. pulmonary veins.
  - D. the azygos vein.
  - E. the esophagus.
- Answer = C

A bullet enters the chest through the right 4th intercostal space in the midclavicular line and emerged at the inferior angle of the right scapula. The patient probably had

- A. hemorrhage into his pericardium.
  - B. mediastinal inflammation due to perforation of the esophagus.
  - C. traumatic aneurysm of the thoracic aorta.
  - D. collapse of the right lung.
  - E. perforation of the diaphragm with injury to the liver.
- Answer = D

Preganglionic sympathetic nerve fibers are found in all of the following EXCEPT the

- A. lesser splanchnic nerve.
  - B. lumbar sympathetic trunk.
  - C. ventral roots of thoracic spinal nerves.
  - D. white ramus communicantes.
  - E. pelvic splanchnic nerves.
- Answer = E

During surgery involving the coronary arteries, the surgeon will usually locate the right coronary artery in the

- A. anterior interventricular groove.
  - B. posterior interventricular groove.
  - C. right atrioventricular sulcus.
  - D. left atrioventricular sulcus.
  - E. sulcus terminalis.
- Answer = C

All of the following veins drain into the coronary sinus EXCEPT the

- A. middle cardiac vein.
  - B. oblique vein of the left atrium.
  - C. anterior cardiac vein.
  - D. great cardiac vein.
  - E. small cardiac vein.
- Answer = C

Which of the following is in the correct anterior-to-posterior orientation?

- A. thymus gland, left brachiocephalic vein
  - B. left brachiocephalic vein, thoracic duct, trachea
  - C. left brachiocephalic vein, esophagus, trachea
  - D. left brachiocephalic vein, aortic arch, trachea
  - E. thymus gland, thoracic duct, trachea
- Answer = D

The least splanchnic nerve

- A. contains postganglionic sympathetic fibers.
  - B. is a branch of the recurrent laryngeal nerve.
  - C. comes from T10-T11.
  - D. synapses in the aorticorenal ganglion.
  - E. supplies parasympathetic fibers to the gut.
- Answer = D

Which is/are true concerning the sympathetic chain?

1. The first four thoracic ganglia contribute to the cardiac and pulmonary plexuses.
  2. It contains general visceral afferent fibers.
  3. All thoracic ganglia are interconnected.
  4. The cell bodies of the preganglionic fibers are located in the ganglia.
- Answer = A

An ice pick penetrating the left 4th intercostal space immediately lateral to the sternum would enter the:

- A. left ventricle and atrium
  - B. right ventricle and atrium
  - C. left atrium only
  - D. right ventricle only
  - E. left ventricle only
- Answer = D

The anterior cardiac veins empty directly into the:

- A. right atrium
  - B. coronary sinus
  - C. great cardiac vein
  - D. right ventricle
  - E. oblique vein
- Answer = A

A large embolus in a branch of the right pulmonary artery could possibly come from the

- A. right pulmonary veins.
  - B. left ventricle.
  - C. left subclavian vein.
  - D. right coronary artery.
  - E. portal vein.
- Answer = C

The least splanchnic nerve:

- A. contains postganglionic fibers to the kidney
  - B. supplies preganglionic fibers to the aorticorenal ganglion
  - C. is associated with the middle colic artery
  - D. pierces the diaphragm at T-12
  - E. is formed at L-1 and L-2 ganglia
- Answer = B

A patient experiencing a heart attack may complain of severe pain in the medial aspect of the arm. This referred pain is usually conducted by the

- A. left vagus n.
  - B. left phrenic n.
  - C. left recurrent laryngeal n.
  - D. afferents of T1-2 spinal nerves.
  - E. efferents fibers of the thoracic sympathetic ganglia.
- Answer = D

All of the following frequently occur upon inhalation EXCEPT:

- A. the diaphragm descends
  - B. the external intercostal muscles contract
  - C. the abdominal muscles contract pushing abdominal viscera cranially
  - D. the ribs may be raised
  - E. the vertical dimension of the thoracic cavity may increase
- Answer = C

All of the following cardiac veins empty into the coronary sinus EXCEPT the

- A. middle.
  - B. small.
  - C. great.
  - D. anterior.
  - E. oblique.
- Answer = D

An ice pick penetrating in an anterior-posterior direction through the right 3rd intercostal space at the lateral edge of the sternum would enter the

- A. left ventricle.
  - B. right ventricle.
  - C. left atrium.
  - D. ascending aorta.
  - E. right atrium.
- Answer = E

In an unsuccessful attempt to obtain bone marrow, a needle was pushed too deeply through the midline of the lower half of the manubrium and obtained whole blood. The needle was most likely in the

- A. superior vena cava.
  - B. right brachiocephalic vein.
  - C. aortic arch.
  - D. pulmonary trunk.
  - E. right atrium.
- Answer = C

Structures found in the posterior interventricular sulcus usually include all of the following EXCEPT

- A. subepicardial fat.
  - B. a branch of the right coronary artery.
  - C. The great cardiac vein
  - D. sympathetic fibers.
  - E. a venous channel that drains into the coronary sinus.
- Answer = C

All of the following statements are correct EXCEPT that

- A. the left recurrent laryngeal nerve loops under the subclavian artery.
  - B. the thoracic duct empties into the junction of the left internal jugular and left subclavian veins.
  - C. the thymus gland is located anterior to the left brachiocephalic vein.
  - D. an object aspirated into the trachea is more likely to enter the right primary bronchus.
  - E. the right vagus nerve passes posterior to the root of the lung.
- Answer = A

A deep horizontal stab wound through the left 9th intercostal space in the midaxillary line would probably injure all of the following EXCEPT the

- A. parietal pleura.
  - B. parietal peritoneum.
  - C. diaphragm.
  - D. spleen.
  - E. celiac artery.
- Answer = E

The thoracic splanchnic nerves

- A. include the greater splanchnic nerve that receives branches from spinal cord levels T10 and T11.
  - B. include fibers that go to the inferior mesenteric ganglia.
  - C. originate mainly from cell bodies in the sympathetic chain ganglia.
  - D. are mainly preganglionic sympathetic fibers.
  - E. leave the sympathetic chain by way of grey rami communicantes.
- Answer = D

Each of the following statements regarding the left coronary artery are correct EXCEPT that it

- A. gives off an anterior interventricular branch.
  - B. gives off a branch that accompanies the middle cardiac vein.
  - C. gives off a circumflex branch.
  - D. gives off a branch that travels with the great cardiac vein
  - E. supplies blood to the interventricular septum.
- Answer = B

The pectoralis major muscle is

- A. involved in extension of the humerus.
  - B. attached to the coracoid process of the scapula.
  - C. posterior to the pectoralis minor muscle.
  - D. innervated partly by the medial pectoral nerve.
  - E. involved in lateral rotation of the humerus.
- Answer = D

The apex of the heart is usually located at the

- A. 3rd intercostal space.
  - B. 4th intercostal space.
  - C. 5th intercostal space.
  - D. 6th intercostal space.
  - E. 7th intercostal space.
- Answer = C

The right coronary artery

- A. gives off an anterior interventricular branch.
  - B. provides blood to the SA and AV nodes.
  - C. travels with the great cardiac vein.
  - D. gives off a circumflex branch.
  - E. lies within the posterior interventricular sulcus.
- Answer = B

A 72 year old male presents with symptoms of a thrombosis (clot) of the coronary sinus. He probably suffers from decreased drainage of all of the following venous channels EXCEPT the

- A. middle cardiac vein.
  - B. anterior cardiac veins.
  - C. great cardiac vein.
  - D. small cardiac vein.
- Answer = B

An ice pick penetrating the right 4th intercostal space at the lateral edge of the sternum would enter the

- A. left ventricle.
  - B. right ventricle.
  - C. left atrium.
  - D. ascending aorta.
  - E. right atrium.
- Answer = E

All of the following structures are associated with the right atrium EXCEPT the

- A. pectinate muscles.
  - B. crista terminalis.
  - C. S-A node.
  - D. chordae tendineae.
  - E. foramen ovale.
- Answer = D

A bullet entered the chest through the right 7th intercostal space in the midclavicular line and emerged at the inferior angle of the right scapula. The patient can be expected to have a

- A. hemorrhage into the pericardium.
  - B. perforation of the stomach.
  - C. traumatic laceration of the thoracic aorta.
  - D. penetration of the right primary bronchus.
  - E. perforation of the liver.
- Answer = E

During an autopsy, the pathologist opened the chambers of the heart. He noted that the pectinate muscles are located in

- A. the right atrium only.
  - B. the right ventricle only.
  - C. the left ventricle only.
  - D. the left atrium only.
  - E. more than one cardiac chamber.
- Answer = E

All of the following occur upon inhalation EXCEPT that the

- A. diaphragm descends.
  - B. external intercostal muscles contract.
  - C. abdominal muscles contract pushing abdominal viscera cranially.
  - D. ribs may be raised.
  - E. lateral dimension of the thoracic cavity may increase.
- Answer = C

The patient is a 4-year-old female. An MRI of the thorax indicates a mass approximately the size of a golf ball attached to the posterior surface of the manubrium. All of the following statements regarding this patient are probably correct EXCEPT that the mass

- A. displaces the thymus gland.
  - B. alters blood flow through the aortic arch.
  - C. inhibits venous return from the left upper limb.
  - D. inhibits the coronary circulation.
  - E. compresses the trachea.
- Answer = D

The patient is a 38-year-old female suffering from an inflammation of the fibrous pericardium. The pain she is experiencing is transmitted via the

- A. vagus nerve.
- B. cardiac plexus.
- C. phrenic nerve.
- D. dorsal rami.
- E. subcostal nerve.

Answer = C

During surgery involving the coronary arteries, you would find the circumflex branch in the

- A. anterior interventricular groove.
- B. posterior interventricular groove.
- C. right atrioventricular sulcus.
- D. left atrioventricular sulcus.
- E. sulcus terminalis.

Answer = D

A distinguishing feature of the right atrium is the

- A. conus arteriosus.
- B. moderator band.
- C. anterior papillary muscle.
- D. trabeculae carneae.
- E. crista terminalis.

Answer = E

All of the following statements concerning the orientation of the heart are true EXCEPT that the

- A. emergence of the pulmonary trunk is anterior to the ascending aorta.
- B. left (obtuse) margin of the heart is formed primarily by the left ventricle.
- C. left atrium is located immediately anterior to the esophagus.
- D. inferior margin of the heart is formed primarily by the right atrium.
- E. apex of the heart is located at approximately the left 5th intercostal space.

Answer = D

All of the following statements regarding the left vagus nerve are correct EXCEPT that it

- A. passes anterior to the left primary bronchus.
- B. sends fibers to the cardiac plexus.
- C. passes anterolateral to the aortic arch.
- D. gives rise to a recurrent laryngeal branch.
- E. sends fibers to the esophageal plexus.

Answer = A

All of the following occur upon inhalation EXCEPT that the

- A. diaphragm descends.
- B. external intercostal muscles contract.
- C. abdominal muscles contract pushing abdominal viscera cranially.
- D. ribs may be raised.
- E. lateral dimension of the thoracic cavity may increase.

Answer = C

The moderator band (septomarginal trabecula) is located in

- A. the right atrium.
- B. the right ventricle.
- C. the left ventricle.
- D. more than one cardiac chamber.
- E. the left atrium.

Answer = B

During bypass surgery, a surgeon dissecting in the posterior interventricular sulcus would find all of the following structures EXCEPT

- A. subepicardial fat.
- B. a branch of the right coronary artery.
- C. the great cardiac vein.
- D. sympathetic fibers.
- E. a venous channel that drains into the coronary sinus.

Answer = C

A patient is admitted to the ER with life-threatening complications resulting from a large embolus in a branch of the right pulmonary artery. You suspect that the embolus could have traveled via the

- A. right pulmonary veins.
- B. left ventricle.
- C. right subclavian vein.
- D. right coronary artery.
- E. portal vein.

Answer = C

Cells from a tumor located in the medial portion of the mammary gland would most likely metastasize initially to the

- A. pectoral group of axillary lymph nodes.
- B. parasternal lymph nodes.
- C. abdominal lymph nodes.
- D. deep nodes between the pectoralis major and the pectoralis minor.
- E. clavicular lymph nodes.

Answer = B

A distinguishing feature of the left atrium is the

- A. muscoli pectinati.
- B. opening of the coronary sinus.
- C. crista terminalis.
- D. septomarginal trabeculae.
- E. anterior papillary muscle.

Answer = A

Dr. Ken Davis and you are doing exploratory abdominal surgery on a trauma victim. While examining the lesser peritoneal sac you determine that all of the following statements about the sac are correct EXCEPT that

- A. most of the inferior recess is obliterated.
- B. part of it is located dorsal to the hepatogastric ligament.
- C. part of it is located between the stomach and the pancreas.
- D. the caudate lobe of the liver projects into the superior recess.
- E. the superior recess is bordered on the right by the abdominal aorta.

Answer = E

The left recurrent laryngeal nerve

- A. hooks around the left pulmonary artery.
- B. passes posterior to the ligamentum arteriosum.
- C. provides sympathetic fibers to the cardiac plexus.
- D. ascends in a groove between the aorta and the azygos vein.
- E. provides sympathetic fibers to the pulmonary plexus.

Answer = B

Surgery in the posterior mediastinum has severely damaged the left greater splanchnic nerve. In your discussions with a classmate the two of you decide that all of the following statements concerning the greater splanchnic nerve are correct EXCEPT that it

- A. arises from neurons whose cell bodies are in spinal cord levels T5-9.
- B. is primarily composed of preganglionic fibers.
- C. contains sympathetic fibers for only abdominal viscera.
- D. sends fibers into spinal nerves via the gray rami communicants.
- E. usually passes through a crus of the diaphragm.

Answer = D

If the descending aorta is ripped from its position in the body by Freddie Krueger, all of the following arteries would be torn EXCEPT the

- A. posterior intercostal arteries.
- B. esophageal arteries.
- C. bronchial arteries.
- D. musculophrenic arteries.
- E. subcostal arteries.

Answer = D

An individual with a gunshot wound to the chest is diagnosed as having a damaged left phrenic nerve which

- A. travels between parietal and visceral layers of pleura.
- B. passes posterior to the lingula.
- C. originates from fibers of the lower three cervical spinal nerves.
- D. is distributed on the inferior surface of the diaphragm.
- E. passes through the caval foramen.

Answer = D

A 65 year-old male underwent coronary artery bypass surgery. Following a vertical midline incision and during retraction of the two halves of the sternum, the surgeons observed structures posterior to the manubrium which include the

- A. aortic arch.
- B. left recurrent laryngeal nerve.
- C. left brachiocephalic vein.
- D. pulmonary trunk.

Answer = A

In your ICP I class you attempt to become familiar with the auscultation points of the heart (locations on the thoracic wall where sounds from specific heart valves may be heard most distinctly with a stethoscope). As you think about the orientation

- A. the apex of the heart is located at approximately the left 5th intercostal space.
- B. the left (obtuse) margin of the heart is formed primarily by the left ventricle.
- C. most of the left atrium is located on the posterior side of the heart.
- D. the emergence of the pulmonary trunk lies anterior to the ascending aorta.

Answer = E

The left coronary artery usually

- A. has an anterior interventricular branch.
- B. has a branch that travels with the great cardiac vein.
- C. has a circumflex branch.
- D. sends a branch to the sinuatrial node.

Answer = A

A 72-year-old female who smoked 3 packs of Kents per day for 40 years was diagnosed with lung cancer, requiring removal of the entire right lung. During removal of the right lung the surgeon noted that the root of the right lung is

- A. anterior to the right phrenic nerve.
- B. inferior to the arch or the azygos vein.
- C. posterior to the right vagus nerve.
- D. superior to the pulmonary ligament.

Answer = C

During a procedure to drain blood from the pericardial sac in a patient suffering from cardiac tamponade, you were reminded by the attending ER resident that the fibrous pericardium

- A. fuses with the diaphragm.
- B. lies immediately anterior to the esophagus.
- C. extends onto the roots of the great vessels.
- D. extends from the 2nd to the 6th costal cartilages.

Answer = E

Chordae tendinae were observed in a chamber of a heart during an autopsy. The pathologist recalled that a heart valve which is attached to the chordae tendinae is the

- A. mitral (bicuspid) valve.
- B. semilunar valve.
- C. aortic valve.
- D. pulmonary valve.
- E. valve of the coronary sinus.

Answer = A

A large embolus (clot that formed in a blood vessel, broke away and lodged in another blood vessel) was found in the brain at autopsy. This embolus could have formed in the

- A. right pulmonary veins.
- B. hepatic veins.
- C. right coronary artery.
- D. right renal vein.
- E. superior vena cava.

Answer = A

Two elderly persons, both diagnosed as having pleurisy, were comparing their illnesses. One had left lateral thoracic pain, whereas the other had left neck and shoulder pain. Assuming the diagnoses to be correct, the explanation for these differences in pain distribution is that the pleura is innervated by

- A. the greater splanchnic nerves.
- B. intercostal and phrenic nerves.
- C. parasympathetic and sympathetic nerves.
- D. the phrenic and vagus nerves.
- E. the vagus and intercostal nerves.

Answer = B

During surgery to bypass the circumflex branch of the left coronary artery, the surgeon looked for this branch in the

- A. anterior interventricular sulcus.
- B. posterior interventricular sulcus.
- C. coronary sinus.
- D. coronary sulcus.

Answer = D

During repair of a heart defect, the surgeon was careful to avoid suturing the blood vessel that in most cases supplies the sinu-atrial (SA) node. This vessel usually originates from a branch of the

- A. left coronary artery.
- B. circumflex artery.
- C. marginal artery.
- D. anterior interventricular artery.
- E. right coronary artery.

Answer = E

A golf ball-sized tumor was detected in the posterior mediastinum of a 56-year-old accountant. The thoracic surgeon knew that during removal of the tumor she could encounter in the posterior mediastinum the

- A. left recurrent laryngeal nerve.
- B. ascending aorta.
- C. left subclavian artery.
- D. esophageal plexus.
- E. right brachiocephalic vein.

Answer = D

A 64-year-old man with severe angina pectoris is found by coronary angiography to have a 90% occlusion of the left coronary artery just proximal to its bifurcation. During physical exertion, he reported having pain radiate down the medial side of his left arm. Anginal pain of cardiac origin is mediated by increased activity in afferent fibers that travel in the

- A. sympathetic chain.
- B. phrenic nerves.
- C. somatic nerves to the arm.
- D. terminal portions of the intercostal nerves.
- E. vagus nerves.

Answer = A

Your patient is a 51-year-old man whom you suspect has a blockage of the esophagus due to compression. You decide to radiologically visualize the esophagus after he has swallowed barium. Prior to the completion of this procedure, you form a mental picture of the various structures pressing against the esophagus. The radiologic procedure you have requested confirms your suspicions that the organ compressing the esophagus is most likely the

- A. left brachiocephalic vein.
- B. left common carotid artery.
- C. superior vena cava.
- D. left atrium.
- E. left pulmonary artery.

Answer = D

You assist a thoracic surgeon as he removes cancerous lymph nodes from the hilus of the right lung in a 35-year-old male patient. As the hilus is approached, he makes several comments about the anatomy of this area. You cautiously suggest that all of the comments were correct EXCEPT that the root of the right lung is

- A. anterior to the azygos vein.
- B. posterior to the right vagus nerve.
- C. inferior to the arch of the azygos vein.
- D. superior to the pulmonary ligament.
- E. lateral to the pulmonary trunk.

Answer = B

A tumor in the posterior mediastinum compressed the thoracic duct. Parts of the body which could have slowed lymphatic drainage include all of the following EXCEPT the

- A. lower limbs.
- B. abdomen.
- C. external genitalia.
- D. lungs.
- E. lower right intercostal spaces.

Answer = D

A deer hunter shoots his partner with an arrow that travels in a horizontal plane between the sternal angle and the disc separating the fourth and fifth thoracic vertebrae. All of the following statements regarding the path of the arrow are correct EXCEPT that it would pass

- A. superior to the pulmonary trunk.
- B. through the bifurcation of the trachea.
- C. through the junction between the ascending aorta and the arch of the aorta.
- D. inferior to the left brachiocephalic vein.
- E. through the brachiocephalic artery.

Answer = E

The pain of angina pectoris can be referred to the medial and posterior aspect of the arm via the intercostobrachial nerve. The spinal cord level from which this nerve usually originates is

- A. T1.
- B. T2.
- C. T3.
- D. T4.
- E. T5.

Answer = B

Cells from a tumor located in the upper lateral portion of the mammary gland would most likely metastasize initially to the

- A. pectoral group of axillary lymph nodes.
- B. parasternal lymph nodes.
- C. abdominal lymph nodes.
- D. deep lymph nodes between the pectoralis major and the pectoralis minor muscles.
- E. clavicular lymph nodes.

Answer = A

A knife piercing the 4th intercostal space three inches lateral to the spinous processes could damage the

- A. 5th intercostal nerve.
- B. internal intercostal muscle.
- C. external intercostal muscle.
- D. transversus thoracis muscle.

Answer = C

A fracture at the sternal angle would involve the

- A. sternum and the clavicle.
- B. manubrium and the body of the sternum.
- C. manubrium and the xiphoid process.
- D. body of the sternum and the xiphoid process.

Answer = B

During a surgical procedure to gain access to a neuroma (tumor) on the 4th intercostal nerve, the surgeon would look

- A. between the external and the internal layers of the intercostal muscles.
- B. between the internal and the innermost layers of the intercostal muscles.
- C. deep to the innermost layer of the intercostal muscles.
- D. superficial to the external intercostal muscles.
- E. deep to the transversus thoracis muscle.

Answer = B

A tumor in the superolateral quadrant of the mammary gland must be removed. To complete this procedure, all of the following vessels must be ligated (tied off) EXCEPT branches of the

- A. intercostal arteries.
- B. internal thoracic artery.
- C. lateral thoracic artery.
- D. transverse cervical artery.
- E. thoracoacromial artery.

Answer = D