STUDY GUIDE
for
Body Cavity Trauma

1. The central cavity within the thorax that houses the major chest organs is the

   A. central sulcus
   B. manubrium
   C. peritoneum
   D. mediastinum

2. The uppermost part of the sternum is the

   A. mediastinum
   B. manubrium
   C. sternal body
   D. xiphoid process

3. The heart is suspended in the chest by the aortic arch and the ligamentum

   A. arteriosum
   B. cardiosum
   C. teres
   D. pericardium

4. The kidneys, spleen, and part of the pancreas are located within the _____ cavity.
   A. peritoneal
   B. retroperitoneal
   C. pleural
   D. pericardial

5. The sigmoid colon is located in the
   A. right upper quadrant
   B. left upper quadrant
   C. right lower quadrant
   D. left lower quadrant

6. The appendix is located in the
   A. right upper quadrant
   B. left upper quadrant
   C. right lower quadrant
   D. left lower quadrant

7. The gallbladder is located in the

A. right upper quadrant
B. left upper quadrant
C. right lower quadrant
D. left lower quadrant

8. The stomach is located in the

A. right upper quadrant
B. left upper quadrant
C. right lower quadrant
D. left lower quadrant

9. The continuous tube that extends from the esophagus to the rectum is the _____ canal.

A. duodenal
B. alimentary
C. parenteral
D. peritoneal

10. The wave-like muscular motion of the intestines is known as

A. alimentation
B. peristalsis
C. omentum
D. mesentery action

11. Which of the following is a function of the liver?

A. detoxifying blood from the intestines
B. storing body energy reserves
C. producing plasma proteins
D. all of the above

12. Bile is stored in the

A. liver
B. gallbladder
C. pancreas
D. spleen

13. The small bowel consists of which following three sections in order?

A. Ileum, duodenum, jejunum
B. Jejunum, omentum, duodenum
C. Duodenum, jejunum, ileum
D. Omentum, ileum, jejunum

14. A collapse of alveoli is known as

A. consolidation
B. atelectasis
C. excursion
D. effusion

15. The liver is suspended in the abdomen by the

A. ligamentum teres
B. bundle of Kent
C. isle of Langerhans
D. mesentery

Scenario:

Your patient is a 45-year-old who presents with a bluish discoloration above the nipple line, absent vital signs, bloodshot eyes, and distended neck veins. He was pinned for a short time underneath his car following a rollover accident.

16. He has most likely suffered a

A. tension pneumothorax
B. traumatic asphyxia
C. massive hemothorax
D. pericardial tamponade

17. The bluish discoloration is caused by

A. lack of oxygen in the tissues
B. low PaO2
C. the bursting of capillaries
D. high PaCO2

Scenario:

Your patient is a 35-year-old female who was stabbed in the right chest after a quarrel with her boyfriend. You quickly discover a sucking wound in the right chest. She presents with diminished breath sounds right side, hyperresonant to percussion on the right side, ecchymosis from T-5 to T-8 on the right side, and dyspnea. BP—120/70, HR 90, RR—26 and shallow.

18. In addition to the sucking wound, your field diagnosis is

    A. massive hemothorax
    B. pneumothorax
    C. pericardial tamponade
    D. tension pneumothorax

19. Her condition is due to

    A. blood in the pleural space
    B. air in the pleural space
    C. blood in the pericardial sac
    D. air in the pericardial sac

20. Your initial management of this patient is to
    A. intubate the trachea
    B. ventilate with 100% oxygen
    C. seal the open wound with an occlusive dressing
    D. decompress the chest immediately

Scenario:

Your patient is a 15-year-old male who fell of his bicycle and hit the ground very hard. He presents with paradoxical chest movement on the right side, dyspnea, and guarded respirations. His vital signs are: BP—140/80, HR—100, RR—30 and shallow, diminished breath sounds on both sides.

21. Your field diagnosis is
    A. pneumothorax
    B. flail chest
    C. traumatic asphyxia
    D. hemothorax

22. The paradoxical movement is due to
    A. the instability of the chest wall
    B. air in the pleural space
    C. blood in the pleural space
    D. paralysis of the respiratory muscles

23. The major complication from this injury is

A. bleeding into the pericardial space
B. air leaking into the subcutaneous tissues
C. decreased tidal volumes
D. rib displacements

24. Prehospital management of this patient includes

A. positive pressure ventilation
B. emergency chest decompression
C. pericardiocentesis
D. having the patient breathe into a paper bag

Scenario:

Your patient is a 26-year-old who was shot with a small caliber handgun in the right chest. She presents with dyspnea, distended neck veins, absent breath sounds on the right side, diminished breath sounds on the left, hyperresonant on both sides, tracheal deviation toward the left side. Her vital signs are: BP—10/30, pulse 120 and weak, respirations 30 and shallow.

25. Your field diagnosis is

A. simple pneumothorax
B. tension pneumothorax
C. pericardial tamponade
D. massive hemothorax

26. Her hypotension could be caused by

A. decreased venous return
B. tamponade effect on the heart
C. blood loss
D. all of the above

27. Emergency field management of this patient includes

A. pneumatic antishock garment
B. needle chest decompression
C. pericardiocentesis
D. none of the above

Scenario:

Your patient is a 67-year-old female who was struck by a car and lies on the ground. She presents with dyspnea, pain to the right chest, dull percussion on the right side, diminished breath sounds on the right side. Her vital signs are: BP—80/60, HR—110, RR—30, skin cool and clammy, flat neck veins.

28. Your field diagnosis is

    A. tension pneumothorax
    B. hemothorax
    C. pericardial tamponade
    D. traumatic asphyxia

29. Emergency field management of this patient includes

    A. rapid IV fluid replacement
    B. pericardiocentesis
    C. needle decompression
    D. pneumatic antishock garment

Scenario:

Your patient is a 35-year-old unbelted male driver who hit the steering wheel and windshield in a one-car accident. He presents unconscious with the following vital signs: BP—110/90, pulse 120 and weak, respirations 28 and shallow, lungs equal and clear, distant heart sounds, skin cool and clammy, and distended neck veins. His only external signs of trauma is a midsternal bruise.

30. Your field diagnosis is
    A. tension pneumothorax
    B. massive hemothorax
    C. traumatic asphyxia
    D. pericardial tamponade

31. This patient's primary problem is
    A. air filling the pleural space
    B. fluid in the pericardial sac
    C. severe crushing injury to the chest
    D. blood in the pleural space
32. Emergency management of this patient includes
    A. needle decompression
    B. chest tube
    C. pneumatic antishock garment
    D. pericardiocentesis

Scenario:

Your patient is a 57-year-old female who was a passenger in a two-car accident. She was ejected from the vehicle and lies on the ground next to the car. She presents unconscious with no obvious signs of trauma. Her vital signs are: BP--70/30, pulse 120 and weak, respirations 38 and shallow, lungs equal and clear, flat neck veins. Upon exam, you find discoloration around the umbilicus and abdominal guarding.

33. Your field diagnosis is

A. tension pneumothorax
B. pericardial tamponade
C. intra-abdominal hemorrhage
D. ruptured diaphragm

34. Abdominal guarding usually indicates

A. diaphragmatic tear
B. hypovolemic shock
C. peritoneal irritation
D. aortic aneurysm

35. Field management of this patient includes
A. pneumatic antishock garment
B. IV fluid replacement
C. rapid transport to a trauma center
D. all of the above

36. The muscles responsible for chest expansion (inspiration) are the
A. diaphragm, sternocleidomastoid, and intercostal muscles.
B. trapezius, pectoralis major, and rectus abdominus muscles.
C. diaphragm, trapezius, and latissimuss dorsi muscles.
D. Both answers A and B.
E. Both answers B and C.

37. The area between the parietal and visceral pleura is called a "potential" space because
A. there is no space there until trauma occurs to create one.
B. the area is sealed and the space filled by a small amount of lubricating fluid, providing adhesion of the two layers.
C. the terms "parietal" and "visceral" refer to opposite surfaces of a single pleura and do not involve spaces.
D. Any of the above.
E. None of the above.

38. Atelectasis is defined as

A. failure of respiratory effort.
B. absence of respiratory effort.
C. collapsed bronchioles.
D. collapsed alveoli.
E. absence of chest expansion

39. Lung tissue contusion may result in

A. localized atelectasis.
B. localized pulmonary edema.
C. increased $PaCO_2$
D. Answers A and B only.
E. Answers A, B, and C.

40. Blunt fracture of a single rib, with associated contusion and pain, may result in

A. atelectasis.
B. reduced thoracic expansion
C. pneumo - and / or hemothoraces.
D. Answers B and C only.
E. Answers A, B, and C.

41. A flail chest segment is best defined as

A. one rib, fractured in two or more places.
B. two or more adjacent ribs, each fractured in two or more places.
C. three or more adjacent ribs, each fractured in a single (common) location.
D. All of the above.
E. None of the above.

42. Paradoxical movement of a flail segment is infrequently observed because of the "splinting" effect of localized muscle spasm. However, if it occurs, you would anticipate observing

A. an absence of movement (expansion) on the affected side.
B. the flail segment bulging out during inspiration and sinking into the chest during expiration.
C. the flail segment sinking into the chest during inspiration and bulging out during expiration.
D. Either answer A or B.
E. None of the above.

43. Traumatic asphyxia is defined as a
    A. severe crushing injury of the upper or lower airways, producing sudden and complete airway obstruction, resulting in asphyxia.
    B. severe crushing injury of the chest, producing absent or grossly inadequate chest excursion and prevention of venous return to the heart, resulting in asphyxia.
    C. total airway obstruction, produced by any foreign body, resulting in asphyxia.
    D. Either answer A or B.
    E. None of the above.
44. A closed pneumothorax may be caused by any of the following except,
    A. penetrating trauma immediately below the xiphoid process.
    B. ruptured alveoli secondary to the forceful coughing of a COPD patient.
    C. blunt trauma, producing a bronchial or bronchiolar rupture.
    D. a ruptured congenital lung defect, secondary to physical exertion.
    E. intermittent positive pressure ventilation with bag-valve-mask or demand valve devices.
45. A "paper bag syndrome" injury may rupture bronchioles and / or alveoli, resulting in a pneumothorax. This type of injury is produced by
    A. penetrating trauma to a hyperinflated thorax.
    B. blunt trauma to a hypoinflated thorax.
    C. compression trauma to a hyperinflated thorax.
    D. Both answers A and B.
    E. Both answers A and C.
46. A patient presenting with a bulging and cyanotic tongue, jugular venous distention, bloodshot eyes, and generalized upper body cyanosis is classically indicative of
    A. traumatic asphyxia.
    B. paper bag syndrome
    C. tension pneumothorax.
    D. simple pneumothorax.
    E. hemopneumothorax.
47. All of the following statements regarding tension pneumothorax are true, except
    A. tension pneumothorax is created by the ingress of air into the pleural space without egress.
    B. tension pneumothorax may result in a complete collapse of lung on the injured side.
    C. in the presence of tension pneumothorax, increased intrathoracic pressure impedes cardiac output, but allows for venous return of blood to the heart, thus increasing cardiac dysfunction.
    D. the mediastinal shift produced by a tension pneumothorax reduces the ventilatory potential of the uninjured lung.
    E. tension pneumothorax will reduce cardiac output and may cause occlusion of great vessels.

48. An early sign of tension pneumothorax is

A. shifting of the trachea toward the affected side.
B. shifting of the trachea away from the affected side.
C. severe dyspnea.
D. Both answers A and C.
E. Answers A, B, and C.

49. A late sign of tension pneumothorax is

A. shifting of the trachea toward the affected side.
B. shifting of the trachea away from the affected side.
C. severe dyspnea.
D. Both answers A and C.
E. Answers A, B, and C.

50. Possible signs and symptoms of a simple hemothorax include all of the following, except
A. diminished or absent breath sounds on the injured side.
B. jugular venous distention.
C. tachypnea, tachycardia, and hypotension.
D. cyanosis.
E. diaphoresis.

51. Possible signs and symptoms of a tension pneumothorax include all of the following, except

A. agitation, increasing dyspnea, increasing resistance to ventilation.
B. Tracheal deviation toward the injured side.
C. jugular venous distention.
D. hyperresonant breath sounds on the injured side.
E. tachypnea, tachycardia, and hypotension.

52. Which of the following statements regrading myocardial contusion is false?
A. Contused myocardium will present with signs and symptoms similar to acute myocardial infarction.
B. Myocardial contusion presents with chest pain, but rarely is accompanied by dysrhythmias or ectopy.
C. The prognosis for myocardial contusion is better than that of an acute myocardial infarction.
D. All of the above are false.
E. None of the above are false.

53. The heart is surrounded by a protective sac composed of two layers. The inner layer that is contiguous with the cardiac muscle is called the

A. epicardium.
B. parietal pericardium.
C. myocardium.
D. visceral pericardium.
E. endocardium.

54. The outer layer of the sac surrounding the heart is called the

A. epicardium.
B. parietal pericardium.
C. myocardium.
D. visceral pericardium.
E. endocardium.

55. The area between the layers of the heart's protective sac

A. is filled with a cushion of air.
B. is filled with a cushion of cartilage.
C. is filled with a small amount of lubricating fluid.
D. varies in amount of space, depending upon the amount of friction generated.
E. is empty unless penetrated by trauma (and therefore called a "potential space").

56. Pericardial tamponade may be caused by

A. blunt trauma.
B. deceleration trauma.
C. penetrating trauma.
D. Answers A and B only.
E. Answers A, B, and C.

57. Possible signs and symptoms of pericardial tamponade include all of the following, except

A. tachycardia and tachypnea.
B. distended jugular veins.
C. diminished breath sounds in the left thorax.
D. increasing diastolic blood pressure.
E. narrowing pulse pressure.

58. Possible signs and symptoms of a dissecting thoracic aneurysm include all of the following, except

A. a tearing or burning pain in the periumbilical area.
B. chest pain with numbness or tingling of the left arm.
C. an absent or diminished radial pulse.
D. tachycardia and tachypnea.
E. nausea, vomiting, and / or diaphoresis.

59. Your patient received an isolated blunt injury to the midaxillary line of her right chest. Position for transport should be

A. left laterally recumbent.
B. right laterally recumbent.
C. semi-Fowler's position.
D. supine and secured to a long backboard.
E. prone and secured to a long backboard.

60. Your patient has a small penetrating wound in the upper right anterior chest without an exit wound. You should dress the wound with an occlusive dressing

A. only if sucking sounds are noted.
B. only if frothy bleeding is noted.
C. only if the patient complains of dyspnea.
D. only if the patient is tachypneic.
E. despite the absence of dyspnea, sucking, or frothing signs.

61. An occlusive dressing on the thorax should be sealed on three sides only, so that

A. increased thoracic pressure may escape.
B. thoracic hemorrhage may escape.
C. atmospheric air may enter and supplement inspired air.
D. Both answers A and C.
E. Both answers B and C.

62. Needle decompression of a tension pneumothorax occurs

A. at the midclavicular line of the affected side, in the fifth or sixth intercostal space (ICS).
B. at the midaxillary line of the affected side, in the second or third intercostal space (ICS).
C. either in the fifth or sixth ICS of the midclavicular line or the second or third ICS of the midaxillary line of the affected side.
D. either in the second or third ICS of the midclavicular line or the fifth or sixth ICS of the midaxillary line of the affected side.
E. None of the above.

63. Which of the following statements regarding needle decompression of a tension pneumothorax is false?

A. If a pneumothorax is not present, needle decompression will create one.
B. Insertion site of the needle is along the lower margin of the upper rib of the appropriate ICS.
C. Repeat decompression may be necessary proximal to the original site.
D. Both answers B and C are false.
E. None of the above is false.

64. Treatment of the patient with a cardiac contusion

A. includes administration of standard ACLS medications according to ACLS protocols.
B. is limited to supportive therapy, with oxygen being the only medication administered to the trauma patient.
C. includes needle decompression to diminish chest pain secondary to increased mediastinal pressure.
D. Both answers B and C.
E. None of the above.

65. Management of the patient with pericardial tamponade includes

A. high-flow oxygen.
B. rapid transportation to the ER.
C. pericardiocentesis, utilizing the subxyphoid approach.
D. Answers A and B only.
E. Answers A, B, and C.

66. Management of an object impaled in the chest includes

A. occlusive dressing about the entrance (and exit) site of the object.
B. stabilization with bulky dressings.
C. removal of the object if its location interferes with required performance of CPR.
D. Answers A and B only.
E. Answers A, B, and C.

67. Organs located within the retroperitoneal space include
A. the kidneys
B. portions of the duodenum, and the pancreas.
C. the thoracic aorta and the superior vena cava.
D. Answers A and B only.
E. Answers A, B, and C.

68. Signs and symptoms of shock following injury to the lateral left upper abdominal quadrant should cause suspicion of injury to the

A. liver and left kidney.
B. spleen and left kidney.
C. ascending colon, spleen and left kidney.
D. descending colon, liver and left kidney.
E. None of the above.

69. Signs and symptoms of shock following injury to the lateral right upper abdominal quadrant should cause suspicion of injury to the

A. liver and right kidney.
B. spleen and right kidney.
C. ascending colon, spleen and right kidney.
D. descending colon, liver and right kidney.
E. None of the above.

70. Complaints of acute pain originating in the right lower abdominal quadrant should cause suspicion of injury or illness involving the

A. appendix, right ovary or fallopian tube, and descending colon.
B. appendix, right ovary or fallopian tube, and spleen.
C. appendix, right ovary or fallopian tube, and ascending colon.
D. appendix, right ovary or fallopian tube, and gall bladder.
E. None of the above.

71. Complaints of acute pain originating in the left lower abdominal quadrant should cause suspicion of injury or illness involving the

A. appendix, left ovary or fallopian tube, and descending colon.
B. appendix, left ovary or fallopian tube, and spleen.
C. appendix, left ovary or fallopian tube, and ascending colon.
D. appendix, left ovary or fallopian tube, and gall bladder.
E. None of the above.

72. The abdominal aorta bifurcates at its distal end, becoming the left and right

A. intra-abdominal arteries.
B. femoral arteries.
C. common iliac arteries.
D. great saphenous arteries.
E. popliteal arteries.

73. Your patient has a gunshot entrance wound in the RLQ of his abdomen. There is no exit wound. You suspect potential injury to the

A. abdomen only.
B. abdominopelvic areas only.
C. abdomen and thorax only.
D. abdominopelvic and thoracic cavities.
E. abdomen and retroperitoneal area only.

74. Peritonitis is produced by

A. free blood in the abdomen.
B. bowel contents spilled within the abdomen.
C. digestive fluids loose within the abdomen.
D. Answers A and C only.
E. Answers A, B, and C.

75. *Rebound tenderness* is defined as

A. the patient's complaint of pain upon initiation of abdominal palpation.
B. the patient's complaint of pain upon release of abdominal palpation.
C. the patient's complaint of pain upon palpation of the flanks.
D. muscle spasm or contraction upon initiation of abdominal palpation.
E. muscle spasm or contraction upon release of abdominal palpation.

76. *Abdominal guarding* is defined as

A. the patient's complaint of pain upon initiation of abdominal palpation.
B. the patient's complaint of pain upon release of abdominal palpation.
C. the patient's complaint of pain upon palpation of the flanks.
D. muscle spasm or contraction upon initiation of abdominal palpation.
E. muscle spasm or contraction upon release of abdominal palpation.

77. Treatment of closed abdominal injuries includes

A. high flow oxygen and two or more peripheral crystalloid IV's.
B. moist dressings covered with occlusive dressings.
C. application of PASG and inflation of the abdominal section only (in absence of hypotension).
D. Answers A and B only.
E. Answers A, B, and C.

78. Treatment of an eviscerated abdomen includes

A. high flow oxygen and two or more peripheral crystalloid IV's.
B. moist dressings covered with occlusive dressings.
C. application of PASG and inflation of the abdominal section only (in absence of hypotension).
D. Answers A and B only.
E. Answers A, B, and C.

79. Management of an object impaled in the LUQ of the abdomen includes

A. occlusive dressing about the entrance (and exit) site of the object, and stabilization with bulky dressings.
B. high-flow oxygen and two or more peripheral crystalloid IV's.
C. removal of the object if life-threatening hypotension requires inflation of the abdominal section of the PASG.
D. Answers A and B only.
E. Answers A, B, and C.

80. The PASG has is contraindicated in which of the following scenarios?

A. Blunt abdominal trauma
B. Blunt chest trauma
C. Penetrating chest trauma
D. Pelvic fracture with intrabdominal hemorrhage