

## CHAPTER 2

### Multiple Choice

Choose the one alternative that best completes the statement or answers the question.

1. Knowing the exact body region where pain is located can help a physician determine the \_\_\_\_\_.
  - a. proper diagnosis
  - b. patient's size
  - c. extent of injury
  - d. proper medication
2. A body in the prone position is facing \_\_\_\_\_.
  - a. upward
  - b. left
  - c. right
  - d. downward
3. A plane is an imaginary line dividing the body into \_\_\_\_\_.
  - a. squares
  - b. sections
  - c. organs

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- d. tissues
4. Directional terms are used with \_\_\_\_\_ within the body.
- a. vertical points
  - b. horizontal points
  - c. lateral points
  - d. reference points
5. The midsagittal plane divides the body into which parts?
- a. Superior and inferior
  - b. Internal and external
  - c. Right and left
  - d. Front and back
6. Which test gives the greatest detail of tissue structures?
- a. MRI
  - b. EKG
  - c. Blood test
  - d. X-ray
7. What directional term would you use to indicate the wrist if the shoulder is your point of reference?
- a. External

- b. Distal
  - c. Internal
  - d. Proximal
8. Cyanosis is a condition that is usually a result of low levels of \_\_\_\_\_ within the body.
- a. blood
  - b. oxygen
  - c. saline
  - d. calcium
9. The heart and lungs are located in the \_\_\_\_\_ cavity.
- a. posterior
  - b. abdominal
  - c. pelvic
  - d. thoracic
10. The dorsal cavity contains which cavities?
- a. Thoracic and abdominal cavities
  - b. Cranial and spinal cavities
  - c. Pelvic and pericardial cavities
  - d. Pleural and pelvic cavities

11. The cervical spine contains how many vertebrae?
- a. 12
  - b. 7
  - c. 5
  - d. 3
12. The thoracic spine contains how many vertebrae?
- a. 3
  - b. 5
  - c. 7
  - d. 12
13. The space within the mouth is known as the \_\_\_\_\_ cavity.
- a. nasal
  - b. orbital
  - c. cranial
  - d. oral

14. The belly button is located in which region?
- a. Epigastric
  - b. Umbilical
  - c. Iliac
  - d. Hypogastric
15. Tenderness in the \_\_\_\_\_ quadrant can be a symptom of appendicitis.
- a. RUQ
  - b. LUQ
  - c. RLQ
  - d. LLQ
16. Patients experiencing orthopnea, \_\_\_\_\_.
- a. need to sleep without pillows
  - b. breathe easier in an elevated position
  - c. have a lower blood pressure when sitting down
  - d. complain of dizziness when breathing

17. The type of scan that provides a series of cross-sectional slices of the body is

\_\_\_\_\_.

- a. MRI
- b. ultrasound
- c. CT scan
- d. sonography

18. Blood is MOST commonly drawn from \_\_\_\_\_.

- a. deep veins
- b. central veins
- c. superficial veins
- d. deep arteries

19. Jugular venous distention is visible in the \_\_\_\_\_ area.

- a. neck
- b. chest
- c. brain
- d. lungs

20. The Fowler's position facilitates \_\_\_\_\_.
- a. sleeping
  - b. all treatments
  - c. dizziness
  - d. breathing
21. A sudden obstruction of a blood vessel by debris can include \_\_\_\_\_.
- a. hormones
  - b. nutrients
  - c. thrombi
  - d. glucose
22. An injury to the abdominopelvic cavity could include injury to the \_\_\_\_\_.
- a. brain
  - b. heart
  - c. spleen
  - d. sternum

23. A patient with peripheral cyanosis needs \_\_\_\_\_.

- a. oxygen
- b. white blood cells
- c. insulin
- d. potassium

24. The danger of a hernia is \_\_\_\_\_.

- a. internal bleeding
- b. blood flow is restricted to the portion of the organ protruding
- c. when an umbilical hernia becomes an inguinal hernia
- d. when the muscle protrudes through an organ

25. Deep leg veins are a common site for thrombi to form that can break away and travel to the \_\_\_\_\_.

- a. lungs
- b. liver
- c. ears
- d. intestines



26. The supine position \_\_\_\_\_.
- a. describes the body lying face upward
  - b. is also called the anatomical position
  - c. describes the body lying face downward
  - d. Both a and b
27. The term “dorsal” can be used in place of the term \_\_\_\_\_.
- a. inferior
  - b. posterior
  - c. anterior
  - d. distal
28. A \_\_\_\_\_ section would divide the eyes from the back of the head.
- a. sagittal
  - b. frontal
  - c. transverse
  - d. midsagittal

29. \_\_\_\_\_ devices use a narrowly focused x-ray beam that circles rapidly around the body.
- a. Magnetic resonance imaging (MRI)
  - b. X-ray
  - c. Ultrasound
  - d. Computed tomography (CT) scanning
30. The prone position \_\_\_\_\_.
- a. describes the body lying face upward
  - b. is also called the anatomical position
  - c. describes the body lying face downward
  - d. Both b and c
31. The \_\_\_\_\_ cavity contains the heart, lungs, and large blood vessels.
- a. thoracic cavity
  - b. abdominopelvic cavity
  - c. cranial cavity
  - d. spinal cavity

32. The directional term \_\_\_\_\_ means toward or at the body surface.
- a. superficial
  - b. medial
  - c. inferior
  - d. deep
33. The opposite of superficial is \_\_\_\_\_.
- a. deep
  - b. inferior
  - c. posterior
  - d. medial
34. What plane would divide the body into right and left halves?
- a. frontal plane
  - b. cross section plane
  - c. midsagittal plane
  - d. transverse plane

35. The liver can be found in the \_\_\_\_\_.
- a. right upper quadrant (RUQ) and left upper quadrant (LUQ)
  - b. left upper quadrant (LUQ) and left lower quadrant (LLQ)
  - c. left lower quadrant (LLQ) and right lower quadrant (RLQ)
  - d. right lower quadrant (RLQ) and right upper quadrant (RUQ)
36. Using the ankle as a reference point, the knee is \_\_\_\_\_ to the ankle
- a. inferior
  - b. superior
  - c. posterior
  - d. anterior
37. If you like to sleep on your stomach, you prefer sleeping in the \_\_\_\_\_ position.
- a. supine
  - b. prone
  - c. orthoptic
  - d. abdominal

38. The \_\_\_\_\_ vertebrae are located in the neck.
- a. sacral
  - b. thoracic
  - c. cervical
  - d. cranial
39. The lungs are \_\_\_\_\_ to the heart.
- a. medial
  - b. lateral
  - c. superficial
  - d. infraorbital
40. The \_\_\_\_\_ region is where the thigh meets the trunk and is also called the groin region.
- a. umbilical
  - b. abdominal
  - c. lumbar
  - d. inguinal

41. When a person quickly arises from a seated position, he or she becomes weak and dizzy. This may be a sign of \_\_\_\_\_.
- a. hypertension
  - b. hypotension
  - c. orthostatic hypotension
  - d. normal blood pressure
42. Trendelenburg position may be contraindicated in patients with \_\_\_\_\_.
- a. cerebral injury
  - b. hypertension
  - c. skin disease
  - d. None of the above
43. A condition where it is easier to breathe in a more upright position than lying flat is called \_\_\_\_\_.
- a. orthopnea
  - b. eupnea
  - c. dyspnea
  - d. tachypnea

44. Which of the following can cause an embolism?

- a. Blood clots
- b. Plaques
- c. cancer cells
- d. All of the above

45. Cyanosis causes what coloration of the skin?

- a. Red
- b. Blue
- c. Black
- d. White

46. Cyanosis is usually the result of low levels of \_\_\_\_\_ in the blood.

- a. carbon dioxide
- b. nitrogen
- c. oxygen
- d. carbon monoxide

47. Of the following, which is the most serious?
- a. Cyanosis
  - b. Central cyanosis
  - c. Peripheral cyanosis
  - d. All three are equally serious
48. The MOST common type of radiologic diagnostic modality is the \_\_\_\_\_.
- a. x-ray
  - b. CT scan
  - c. MRI
  - d. ultrasound
49. The thoracic and abdominopelvic cavities are separated by the \_\_\_\_\_.
- a. ribs
  - b. spinal cord
  - c. diaphragm
  - d. sternum



50. The large, dome-shaped muscle called the diaphragm is used for \_\_\_\_\_.
- a. circulation
  - b. digestion
  - c. reproduction
  - d. breathing
51. To standardize the orientation for the study of anatomy, scientists developed the \_\_\_\_\_ position
- a. prone
  - b. anatomical
  - c. trendelenburg
  - d. supine
52. The directional term \_\_\_\_\_ refers to body parts toward or in front of the body.
- a. dorsal
  - b. anterior
  - c. ventral
  - d. posterior

53. The doctor has ordered a study to look at the action of heart valves. Which procedure has he or she ordered?

- a. X-ray
- b. CT Scan
- c. MRI
- d. Ultrasound

54. A patient is scheduled to undergo a test and has stated that he or she has had surgery for a valve replacement. Which procedure could be contraindicated in this situation?

- a. X-ray
- b. CT Scan
- c. MRI
- d. Ultrasound

## Short Answer

Write the word or phrase that best completes each statement or answers the question.

1. The \_\_\_\_\_ position is laying face upward.
2. The \_\_\_\_\_ position is with the bed or examination table elevated 45–60 degrees.
3. The transverse (horizontal) plane divides the body into superior and \_\_\_\_\_ areas.
4. \_\_\_\_\_ refers to body parts located away from the midline.
5. The \_\_\_\_\_ or coronal plane divides the body into front and back sections.
6. \_\_\_\_\_ and posterior mean towards the back of the body.
7. \_\_\_\_\_ refers to body parts close to a point of reference on the body.
8. \_\_\_\_\_ means on the outside.
9. The word meaning at or towards or at the body surface is \_\_\_\_\_.
10. The opposite of dorsal is \_\_\_\_\_ (anterior).
11. The wrist is proximal to the hand and \_\_\_\_\_ to the elbow.
12. While central refers to the center of the body, \_\_\_\_\_ refers to the extremities (arms and legs) or surrounding or outer regions.
13. Death of tissue is called \_\_\_\_\_.
14. The anterior surface of the elbow is called \_\_\_\_\_.
15. The armpit is located in the \_\_\_\_\_ region.
16. When the head is lower than the heart, gravity increases the blood flow and

therefore increases the \_\_\_\_\_ pressure.

17. Left and right always refers to the \_\_\_\_\_ left and right.
18. Carpal tunnel syndrome is a condition of the \_\_\_\_\_.
19. The \_\_\_\_\_ region, more commonly known as the buttocks, is a region used for injections.
20. Patients are more prone to aspirate vomitus into their lungs in the Trendelenburg position and therefore should NOT \_\_\_\_\_ within two to four hours of being placed in that position.
21. Open MRI machines have been developed to decrease the feelings of \_\_\_\_\_ experienced by some individuals in a closed MRI, which takes place inside a very small tunnel.
22. The sternal area, also known as the \_\_\_\_\_, is used for CPR.
23. Pain in the general area of the \_\_\_\_\_ can indicate a variety of problems, including an ulcer, heart attack, appendicitis, or liver problems.
24. One of the problems with an x-ray film is that it is a one \_\_\_\_\_ view of a specific area.
25. A \_\_\_\_\_ is a tear in the muscle wall that can allow a structure (usually an organ) to protrude through it.
26. The \_\_\_\_\_ regions are located on either side of the epigastric region and contain the lower ribs.

27. The \_\_\_\_\_ position is sitting in bed with the head of the bed elevated 45 to 60 degrees.
28. Placing patients with secretions in the bases of their lungs in the \_\_\_\_\_ position helps drain those segments of the lungs.
29. \_\_\_\_\_ imagers use magnetic energy to produce cross sectional images of body structures.
30. A patient is placed in a supine position and instructed to raise his or her right leg while the practitioner places a hand on the patient's right thigh and gives a slight opposing downward force. This procedure is known as the \_\_\_\_\_ test.
31. \_\_\_\_\_ is a condition of bluish-colored skin that is usually the result of low levels of oxygen in the blood.
32. The \_\_\_\_\_ region is where the thigh meets the trunk and is also called the groin region.
33. \_\_\_\_\_ devices use sound waves to distinguish structures and allow body activities to be viewed in real time.
34. In the \_\_\_\_\_ position, the patient's posterior is against the x-ray film. The x-ray beam travels through the patient's anterior region, out the posterior, and onto the film.
35. A blood clot that breaks away and travels to the lungs is called a \_\_\_\_\_.
36. A blood clot that breaks away and travels to the brain is called a \_\_\_\_\_.
37. The \_\_\_\_\_ region of the abdomen, lies inferior to the umbilical region and is

flanked by the right and left iliac regions.

38. Heart failure can cause the back up of fluid into the venous system thus causing the \_\_\_\_\_ veins to become filled with extra blood.
39. In an x-ray, \_\_\_\_\_ is the least dense and therefore the MOST radiolucent showing up as black on the film.
40. In an x-ray, \_\_\_\_\_/fat densities depend on the thickness. The thicker the layer, the more radiation is absorbed, and the lighter the film.
41. In an x-ray, \_\_\_\_\_ density can be represented by blood or edema, and is a mid-range density.
42. In an x-ray, \_\_\_\_\_ and metal are the highest density and will show up on the film lighter than other densities.
43. An x-ray is a \_\_\_\_\_ dimensional view of a specific area. (Use the numeral in your answer)
44. A CT scan creates a \_\_\_\_\_ dimensional view of structures in the body. (Use the numeral in your answer)
45. A patient recovering from brain surgery is in the Intensive Care Unit and is suffering from an increased intracranial pressure. The \_\_\_\_\_ position is contraindicated in this situation.
46. You are assisting a patient into a chair who has spent the last two weeks in bed. The patient starts to complain of dizziness and you suspect that he or she is suffering from \_\_\_\_\_
47. Ultrasound uses \_\_\_\_\_ waves to distinguish structures in the body.

48. The doctor suspects that there is a lesion in the left lung behind the heart and has ordered a \_\_\_\_\_ lateral x-ray.

**True/False**

Write 'T' if the statement is true and 'F' if the statement is false.

- \_\_\_ 1. In the anatomical position, a person stands erect, faces forward with both feet parallel and the arms hanging at the side with palms facing backward.
- \_\_\_ 2. The Fowler's position is the BEST position for patients having trouble breathing.
- \_\_\_ 3. The prone position is BEST position to perform an abdominal exam.
- \_\_\_ 4. Cranial means superior.
- \_\_\_ 5. Medial means to the side.
- \_\_\_ 6. Computed tomography (CT) scanning uses a narrowly focused x-ray beam that circles rapidly around the body.
- \_\_\_ 7. A CT scan can show the TRUE depth of a quarter-sized tumor shown on a regular x-ray.
- \_\_\_ 8. Peripheral refers to the torso and head.
- \_\_\_ 9. The opposite of superficial is lateral.
- \_\_\_ 10. The cranial cavity houses the brain.
- \_\_\_ 11. An orbital injury can cause damage to sight.



- \_\_\_ 12. The pubic area is used for cardiopulmonary resuscitation.
- \_\_\_ 13. A doctor referring to a person's digits, is referring to their fingers.
- \_\_\_ 14. Cervical means relating to the knee.
- \_\_\_ 15. Brachial means lower arm.
- \_\_\_ 16. When a person quickly stands from a seated position and becomes weak and dizzy, they may have orthostatic hypertension.
- \_\_\_ 17. An ultrasound study would NOT be useful to observe the actions of heart valves.
- \_\_\_ 18. An embolism is a sudden obstruction of a blood vessel.
- \_\_\_ 19. When a patient has blood drawn, the clinician normally draws from the deep veins.
- \_\_\_ 20. There are seven lumbar (L) vertebrae in a normal human being.
- \_\_\_ 21. Anatomical position is the standardized position for the directional terms of the body.
- \_\_\_ 22. The elbow is distal to the shoulder.
- \_\_\_ 23. Proximal and medial are opposite terms.
- \_\_\_ 24. Frontal and coronal sections are the same thing.
- \_\_\_ 25. Sagittal and midsagittal sections are the same thing.
- \_\_\_ 26. A plane dividing the body into front and back portions is a sagittal plane.
- \_\_\_ 27. A transverse plane would divide the eyes from the back of the head.

- \_\_\_\_ 28. The abdominopelvic cavity is inferior to the thoracic cavity.
- \_\_\_\_ 29. A muscle called the diaphragm separates the thoracic cavity and the abdominopelvic cavity.
- \_\_\_\_ 30. In the anatomical position, the arms hang at the side with the palms facing medially.
- \_\_\_\_ 31. A symptom of heart failure is jugular venous distention.
- \_\_\_\_ 32. An embolism is a sudden obstruction of a blood vessel by debris.
- \_\_\_\_ 33. Cyanosis is a reddish coloring of the skin.
- \_\_\_\_ 34. Peripheral cyanosis presents as bluish fingers and toes.
- \_\_\_\_ 35. Central cyanosis presents as bluish fingers and toes.
- \_\_\_\_ 36. Peripheral cyanosis is sometimes difficult to detect in people of dark skin.
- \_\_\_\_ 37. Necrosis is the growth of new tissue.
- \_\_\_\_ 38. Pain in the RUQ may be a symptom of appendicitis.
- \_\_\_\_ 39. The Psoas test helps to determine carpal tunnel syndrome.
- \_\_\_\_ 40. Generally, the distance between the x-ray machine and the film is six feet.
- \_\_\_\_ 41. A CT Scan looks at cross-sections of the body.
- \_\_\_\_ 42. A MRI uses magnetic energy to produce high resolution images of body structures.
- \_\_\_\_ 43. Ultrasound is less sensitive than a regular x-ray.

\_\_\_\_ 44. There are six sets of vertebrae labeled for the body regions.

**Essay**

Write your answer in the space provided or on a separate sheet of paper.

1. List two organs found in each of the RUQ, LUQ, RLQ, and LLQ.

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2. Discuss the significance of central vs. peripheral cyanosis.

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3. If a patient complains of pain, what questions should you ask?

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4. Give the opposite of caudal, distal, external, superficial, and posterior.

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5. Explain why sectioning is done and how this helps determine pathology.

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6. Describe in your own words what occurs in orthostatic hypotension.

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7. List the three main views of x-rays that are normally seen in the clinical setting and briefly describe how the x-ray would travel through the body for each one.

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8. Describe what a hernia is and why a hernia can be very dangerous.

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## Matching

Match the following.

1. Peripheral cyanosis
  2. Thoracic
  3. CT scan
  4. MRI
  5. Posteroanterior (PA)
  6. Pubic area
  7. Ultrasound
  8. Orbital injury
  9. Quadrants
  10. Necrosis
- a. The x-ray is taken from the back to the front of the patient
  - b. Uses magnetic energy to produce even greater detail of structures
  - c. Bluish fingers and toes
  - d. Death of tissue
  - e. Chest cavity
  - f. Uses sound waves to distinguish structures in the body
  - g. Uses a narrowly focused x-ray beam that circles rapidly around the body and the computer constructs thin sliced images
  - h. Can cause damage to eyesight
  - i. Genital region
  - j. Compartments of the abdominal region

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