To receive Category A continuing education credit for this Directed Reading, read the preceding article and circle the correct response to each statement. Choose the answer that is most correct based on the text. Transfer your responses to the answer sheet on Page 549 and then follow the directions for submitting the answer sheet to the American Society of Radiologic Technologists. You also may take Directed Reading quizzes online at www.asrt.org.

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*Your answer sheet for this Directed Reading must be received in the ASRT office on or before this date.

1. According to the American College of Radiology Practice Guidelines for the Performance of Pediatric and Adult Chest Radiography, there are several indications for a chest exam. Which of the following is not an indication?
   a. evaluation of signs and symptoms potentially related to the respiratory, cardiovascular and upper gastrointestinal systems
   b. follow-up of known thoracic disease processes
   c. compliance with government regulations
   d. documentation of amorphous silicon detector calibration when performing digital chest radiography

2. The ribs descend approximately ______ inches as they wrap around the thoracic cavity, posteriorly to anteriorly.
   a. 1 to 3
   b. 2 to 4
   c. 3 to 5
   d. 4 to 6

3. At approximately what vertebral level does the carina divide?
   a. T1-T2
   b. T2-T3
   c. T4-T5
   d. T5-T6

4. The lungs are composed of a spongy material called the _______.
   a. interstitium
   b. aveoli
   c. parenchyma
   d. hila

5. The purpose of surfactant is to:
   a. reduce the surface tension at the alveolar level.
   b. increase the surface tension at the alveolar level.
   c. maintain the structure of the cell wall.
   d. provide Type II cells with nourishment.

6. Which of the following correctly describes the lobes of the lungs?
   a. The right lung has 2 lobes and the left lung has 3 lobes.
   b. The right lung has 3 lobes and the left lung has 2 lobes.
   c. Both lungs have 3 lobes.
   d. Both lungs have 2 lobes.

Continued on next page
7. Which of the following statements are true regarding body piercings?
   1. Some body piercings cannot be removed because they have been welded closed.
   2. Removing a recent body piercing can result in closure of the piercing.
   3. The decision to remove a piercing should rest with the patient.
      a. 1 and 2
      b. 1 and 3
      c. 2 and 3
      d. 1, 2 and 3

8. It has been estimated that in many medical centers up to _______ % of all chest radiographs are performed with a portable x-ray machine.
   a. 40
   b. 50
   c. 60
   d. 70

9. Chest radiographs should be centered to T7 because this vertebral level correlates to the center of the chest. On the average woman, T7 is _______ inches inferior to the vertebra prominens; on the average man, T7 is _______ inches inferior to the vertebra prominens.
   a. 4, 5
   b. 5, 6
   c. 7, 8
   d. 8, 9

10. Whenever possible, a portable chest radiograph should be performed in a(n) _______ position.
    a. supine
    b. decubitus
    c. lordotic
    d. erect

11. In their study, Marik and Janower found that _______ % of intubated patients and _______ % of nonintubated patients in the ICU had modifications in treatment based on results of daily chest radiographs.
    a. 46, 10
    b. 56, 15
    c. 66, 25
    d. 76, 30

12. Which of the following best describes situs inversus?
    a. The lungs are filled with exudates.
    b. The heart is large and a silhouette sign is evident.
    c. The chest anatomy is a mirror image of normal.
    d. The apices are consolidated.

13. On a correctly exposed radiograph of the chest, the pulmonary blood vessels should be visualized to the distal _______ of the peripheral lung fields.
    a. one-quarter
    b. one-third
    c. one-half
    d. two-thirds

14. When evaluating a frontal chest radiograph for rotation, the medial ends of the clavicles should appear equidistant from the spinous processes of the thoracic vertebrae. Variation of more than _______ cm could affect the appearance of the lung.
    a. one-quarter
    b. one-half
    c. three-quarters
    d. 1

15. How much rotation is acceptable on a lateral image of the chest?
    a. one-eighth to one-quarter inch
    b. one-quarter to one-half inch
    c. three-eighths to five-eighths inch
    d. No rotation is acceptable.
Directed Reading Continuing Education Quiz

16. How many posterior ribs should be visualized above the diaphragm on a frontal projection of the chest to document sufficient inspiration?
   a. 7
   b. 8
   c. 9
   d. 10

17. If 2 structures of equal density are adjacent to each other, the border of neither structure can be detected. This is called the _______ sign.
   a. radiopaque
   b. Roentgen
   c. density difference
   d. silhouette

18. The distal end of an endotracheal tube should be positioned _______ cm above the carina.
   a. 2
   b. 3
   c. 4
   d. 5

19. The correct location for a tracheostomy tube tip is:
   a. halfway between the stoma and the carina.
   b. 5 cm above the carina.
   c. at the jugular notch.
   d. at the laryngeal prominence.

20. The tip of a central venous catheter or peripherally inserted central catheter line should be in the:
   a. subclavian vein.
   b. left atrium.
   c. jugular vein.
   d. superior vena cava.

21. The lithium batteries in an automatic implantable cardioverter defibrillator device can defibrillate a patient approximately _______ times.
   a. 25
   b. 50
   c. 75
   d. 100

22. Which of the following positions or projections often is ordered by radiologists to accentuate a pneumothorax?
   a. inspiratory PA chest
   b. expiratory PA chest
   c. apical lordotic
   d. dorsal decubitus

23. To demonstrate a left pleural effusion, the radiographer should perform a lateral decubitus with the left side:
   a. down.
   b. up.
   c. against the imaging receptor.
   d. toward the Bucky.

24. The normal heart occupies slightly less than _______ % of the transverse dimension of the thorax.
   a. 20
   b. 30
   c. 40
   d. 50

25. Which of the following could cause pneumoperitoneum?
   1. bowel obstruction
   2. penetrating injury to the abdomen
   3. sexual intercourse
   a. 1 and 2
   b. 1 and 3
   c. 2 and 3
   d. 1, 2 and 3