

Chapter 01: Preliminary Steps in Radiography
Long: Merrill's Atlas of Radiographic Positioning and Procedures, 14th Edition

MULTIPLE CHOICE

1. The Radiography Practice Standards are written and maintained by the:
 - a. American Registry of Radiologic Technologists.
 - b. American Medical Association.
 - c. American Society of Radiologic Technologists.
 - d. Joint Commission on Education in Radiologic Technology.

ANS: C

2. The Standards of Ethics for radiographers was written and is maintained by the:
 - a. American Registry of Radiologic Technologists.
 - b. American Medical Association.
 - c. American Society of Radiologic Technologists.
 - d. Joint Commission on Education in Radiologic Technology.

ANS: A

3. Radiographic images of the hands, wrist, feet, and toes are routinely displayed with the digits:
 - a. positioned toward the ceiling.
 - b. positioned toward the floor.
 - c. horizontal and pointed to the left.
 - d. horizontal and pointed to the right.

ANS: A

4. How often should the radiographic tabletop be cleaned?
 - a. Only when visibly soiled
 - b. Weekly
 - c. Daily
 - d. After every procedure/patient

ANS: D

5. The easiest and most convenient method of preventing the spread of microorganisms is:
 - a. wearing PPE.
 - b. following cough etiquette protocols.
 - c. handwashing.
 - d. proper handling of sharps.

ANS: C

6. All are apparent abnormalities that could affect the radiographic result and should be recorded by the radiographer in the clinical history, *except*:
 - a. tattoos with ferrous pigments.
 - b. freckles and moles.
 - c. swelling or masses.
 - d. surface scars.

ANS: B

7. Involuntary motion can be caused by which of the following?
1. Peristalsis
 2. Spasm
 3. Breathing
- a. 1 and 2
 - b. 1 and 3
 - c. 2 and 3
 - d. 1, 2, and 3

ANS: A

8. Nervousness, discomfort, and fear are causes of:
- a. voluntary motion.
 - b. involuntary motion.
 - c. imaging procedure failure.
 - d. image artifacts.

ANS: A

9. Radiographers can control voluntary motion by:
- a. using a high kVp.
 - b. increasing the length of exposure time.
 - c. performing the examination in the recumbent position.
 - d. giving clear instruction to the patient.

ANS: D

10. Which type of accessory equipment reduces the amount of scatter and off-focus radiation that reaches the image receptor?
- a. Compensating filter
 - b. Grid
 - c. Sandbag
 - d. Sponge

ANS: B

11. Information that must be included on all radiographic images includes all of the following *except*:
- a. right or left side marker.
 - b. patient's name or ID number.
 - c. radiographer's name.
 - d. date of exam.

ANS: C

12. The metric conversion of 40 inches is _____ cm.
- a. 16
 - b. 18
 - c. 90
 - d. 102

ANS: D

13. The simplest and most common shape of compensating filter is the:
- wedge.
 - trough.
 - double-wedge.
 - Boomerang.

ANS: A

14. All are guidelines for gonad shielding, *except*:
- the gonads lie in the primary beam.
 - shielding is used when it will not compromise the exam objective.
 - patients with reasonable reproductive potential should be shielded.
 - gonad shields are only needed for pediatric patients.

ANS: D

15. What is the most common image receptor general position?
- Diagonal
 - Crosswise
 - Lengthwise
 - Vertical

ANS: C

16. The central or principle beam of x-rays is termed the:
- center beam (CB).
 - image beam (IB).
 - central ray (CR).
 - image receptor (IR).

ANS: C

17. The general goal for central ray placement is:
- parallel with the structure of interest.
 - perpendicular to the structure of interest.
 - angled along the long axis of the part of interest.
 - angled against the long axis of the part of interest.

ANS: B

18. What term is defined as the distance from the anode focal spot inside the x-ray tube to the image receptor?
- Collimation
 - Source-to-image receptor distance (SID)
 - Central ray (CR)
 - Image receptor (IR)

ANS: B

19. All of the following are affected by the SID used for a radiographic image, *except*:

- a. spatial resolution.
- b. magnification of the anatomy in the image.
- c. patient dose.
- d. contrast resolution.

ANS: D

20. The image receptor used in computed radiography IRs is a:
- a. tethered solid-state digital detector.
 - b. wireless flat-panel detector.
 - c. cassette with film.
 - d. photostimulable storage phosphor imaging plate.

ANS: D

21. Blood and body fluid recommendations are issued by the:
- a. CDC.
 - b. ASRT.
 - c. ARRT.
 - d. JCAHO.

ANS: A

22. Each radiology department must write age-specific competencies to meet the standards of the:
- a. CDC.
 - b. ASRT.
 - c. ARRT.
 - d. JCAHO.

ANS: D

23. Gonad shielding is required when the gonads lie within ____ cm of the primary x-ray field.
- a. 3
 - b. 5
 - c. 6
 - d. 8

ANS: B

24. Which of the following radiographic examinations would give a male patient the highest gonad dose?
- a. Limb
 - b. Skull
 - c. Pelvis
 - d. Lumbar spine

ANS: C

25. Which of the following radiographic examinations would give a female patient the highest gonad dose?
- a. Limb
 - b. Skull
 - c. Pelvis

d. Lumbar spine

ANS: D

26. Which of the following is affected when imaging patients who are obese?

1. Image quality
2. Ability to transfer safely
3. Ability to find positioning landmarks
- a. 1 and 2 only
- b. 1 and 3 only
- c. 2 and 3 only
- d. 1, 2, and 3

ANS: D

27. A fundamental responsibility of radiographers is to ensure that each radiation exposure upholds the ALARA concept. ALARA stands for:

- a. as low as reasonably achievable.
- b. as long as radiograph is acceptable.
- c. acceptable limits allowed for radiographic attempts.
- d. attempts to lessen all radiographic allowances.

ANS: A

28. The source of radiation in an x-ray tube (the anode) shall not be closer than _____ inches from the patient.

- a. 12
- b. 15
- c. 10
- d. 18

ANS: A

29. A physician who is board certified to read or interpret, x-ray examinations is a:

- a. hospitalist.
- b. radiographer.
- c. radiologist.
- d. surgeon.

ANS: C

30. Which term refers to restriction of the exposure field?

- a. Collimation
- b. Filter
- c. Shuttering
- d. Central ray (CR)

ANS: A

31. Which side marker would be placed on the image receptor on the edge of the collimated field for a radiographic image of a patient with an injured right hand?

- a. The left (L) marker on the left side of the patient's right hand
- b. The right (R) marker on the right side of the patient's left hand