

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

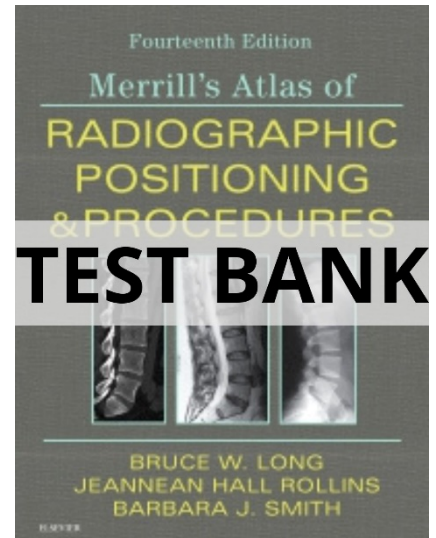
4. How often should the radiographic tabletop be cleaned?
 - a. Only when visibly soiled
 - b. Weekly
 - c. Daily
 - d. After every procedure/patient

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:
- a. wedge.
 - b. trough.
 - c. double-wedge.
 - d. Boomerang.

ANS: A

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

ANS: D

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

ANS: C

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

ANS: C

17. The general goal for central ray placement is:
- a. parallel with the structure of interest.
 - b. perpendicular to the structure of interest.
 - c. angled along the long axis of the part of interest.
 - d. 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?
- a. Collimation
 - b. Source-to-image receptor distance (SID)
 - c. Central ray (CR)
 - d. Image receptor (IR)

ANS: B

Test Bank For Merrill's Atlas of Radiographic Positioning and Procedures, 14th Edition by Bruce W. Long

19. All of the following are affected by the SID used for a radiographic image, *except*:
- spatial resolution.
 - magnification of the anatomy in the image.
 - patient dose.
 - contrast resolution.

ANS: D

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

ANS: D

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

ANS: A

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

ANS: D

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

ANS: B

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

ANS: C

25. Which of the following radiographic examinations would give a female patient the highest gonad dose?
- Limb
 - Skull
 - 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
- c. The left (L) marker on either side of the patient's hand

- d. The right (R) marker on either side of the patient's hand

ANS: D

MULTIPLE RESPONSE

1. Radiographers who obtain additional education, clinical practice, and certification to provide advanced clinical imaging procedures are designated as which two of the following titles? (*Select all that apply.*)
- Radiologist deputies (RD)
 - Radiologist assistants (RA)
 - Radiology practitioner assistants (RPA)
 - Advanced radiography practitioners (ARP)

ANS: B, C

2. Which two are the most common pre-exposure breathing instructions for radiographic procedures? (*Select all that apply.*)
- Rapid, shallow breaths
 - Slow, deep breaths
 - At the end of inspiration
 - At the end of expiration

ANS: C, D

3. Collimation of the x-ray beam prompts which two of the following? (*Select all that apply.*)
- A decrease in radiographic contrast
 - An increase in radiographic contrast
 - A decrease of scatter radiation
 - An increase of scatter radiation

ANS: B, C

4. An increase in SID will result in which two of the following? (*Select all that apply.*)
- Decreased magnification
 - Increased magnification
 - Increased spatial resolution
 - Decreased spatial resolution

ANS: A, C

Chapter 02: General Anatomy and Radiographic Positioning Terminology
Long: Merrill's Atlas of Radiographic Positioning and Procedures, 14th Edition

MULTIPLE CHOICE

1. In the "anatomic position," the palms of the hands are facing:
- backward.
 - forward.
 - up.
 - down.

ANS: B

Test Bank For Merrill's Atlas of Radiographic Positioning and Procedures, 14th Edition by Bruce W. Long

2. A plane passing through the body parallel with the midsagittal plane is termed:
- coronal.
 - sagittal.
 - axial.
 - oblique.

ANS: B

3. A plane passing vertically through the body from side to side is termed:
- oblique.
 - sagittal.
 - coronal.
 - horizontal.

ANS: C

4. Any plane passing through the body at right angles to its longitudinal axis is termed:
- coronal.
 - oblique.
 - sagittal.
 - horizontal.

ANS: D

5. All of the following are located in the thoracic cavity *except*:
- trachea.
 - spleen.
 - lungs.
 - esophagus.

ANS: B

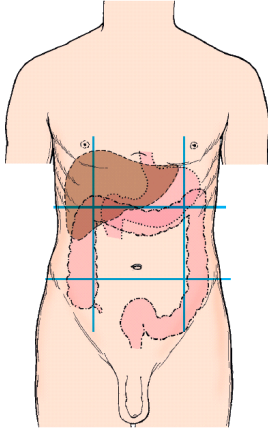
6. All of the following are located in the abdominal cavity *except*:
- kidneys.
 - stomach.
 - rectum.
 - pancreas.

ANS: C

7. Into how many regions is the abdomen divided?
- Two
 - Four
 - Six
 - Nine

ANS: D

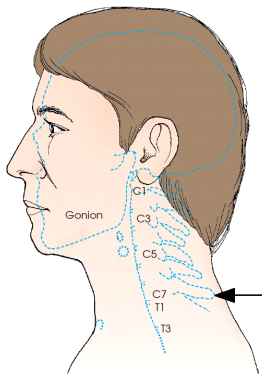
8. The lower, center region on this figure is termed the:



- a. epigastrium.
- b. lumbar.
- c. inguinal.
- d. hypogastrium.

ANS: D

9. The external landmark indicated by the arrow in this figure is the:



- a. mastoid tip.
- b. vertebra prominens.
- c. gonion.
- d. transverse process.

ANS: B

10. T9 and T10 are located at the level of the:

- a. sternal angle.
- b. xiphoid process.
- c. jugular notch.
- d. vertebra prominens.

ANS: B

11. L4 and L5 are located at the level of the:

- a. costal margin.
- b. superior iliac spine.
- c. umbilicus.
- d. superior aspect of the iliac crests.

ANS: D

12. S1 and S2 are located at the level of the:
- costal margin.
 - umbilicus.
 - superior aspect of the iliac crests.
 - anterior superior iliac spines (ASISs).

ANS: D

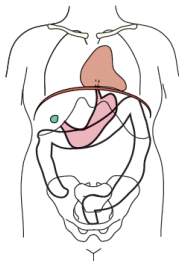
13. All of the following are types of body habitus, *except*:
- atrophic.
 - sthenic.
 - asthenic.
 - hypersthenic.

ANS: A

14. Approximately what percentage of the population has a sthenic body habitus?
- 5%
 - 10%
 - 35%
 - 50%

ANS: D

15. Which body habitus is shown in this figure?



- Hypersthenic
- Hyposthenic
- Asthenic
- Atrophic

ANS: A

16. The least-occurring body habitus is the:
- hyposthenic.
 - hypersthenic.
 - asthenic.
 - atrophic.

ANS: B

17. The adult skeleton is composed of how many bones?
- 185
 - 200
 - 206

d. 208

ANS: C

18. Bones are composed of an outer layer of compact bony tissue called the:
- compact bone.
 - periosteum.
 - spongy tissue.
 - medullary canal.

ANS: A

19. Long bones have a central cylindrical cavity called the:
- meniscus.
 - periosteum.
 - medullary cavity.
 - spongy tissue.

ANS: C

20. How many specific types of synovial joints are there?
- Three
 - Four
 - Five
 - Six

ANS: D

21. Some synovial joints contain synovial fluid-filled sacs outside the main joint cavity called:
- bursae.
 - menisci.
 - ligaments.
 - fibrous capsules.

ANS: A

22. How many saddle joints are there in the body?
- One
 - Two
 - Three
 - Four

ANS: A

23. Some synovial joints contain a thick cushioning pad of fibrocartilage called the:
- bursae.
 - meniscus.
 - cartilage.
 - fibrous capsule.

ANS: B

24. Which specific type of joint allows multiaxial movement?
- Pivot