

Chapter 02: Compensating Filters

Long: Merrill's Atlas of Radiographic Positioning & Procedures, 13th Edition

MULTIPLE CHOICE

1. A commonly performed projection that is significantly improved with the use of a compensating filter is the AP:
 - a. hand.
 - b. skull.
 - c. leg.
 - d. thoracic spine.

ANS: D

DIF: Level: Medium

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OBJ: Category: General

TOP: Exam: 3

2. Which of the following is required to maintain an even radiographic density on body parts that have significant variations in tissue density?
 - a. Increase the kVp.
 - b. Increase the mA.
 - c. Use a compensating filter.
 - d. Use a compression device.

ANS: C

DIF: Level: Medium

REF: Volume 1, Page 55

OBJ: Category: General

TOP: Exam: 1

3. Which of the following would be considered advantages in using anatomic compensating filters?
 1. Reduces radiation exposure to the patient
 2. Provides an even image density
 3. Increases image contrast and detail
 - a. 1 and 2
 - b. 2 and 3
 - c. 1 and 3
 - d. 1, 2, and 3

ANS: A

DIF: Level: Medium

REF: Volume 1, Page 55

OBJ: Category: General

TOP: Exam: 3

4. Which of the following projections will always require a compensating filter to demonstrate all of the anatomy on one image?
 1. AP shoulder
 2. Lateral hip
 3. Lateral C7-T1
 - a. 1 and 2
 - b. 2 and 3
 - c. 1 and 3
 - d. 1, 2, and 3

ANS: B

DIF: Level: Hard

REF: Volume 1, Page 57

OBJ: Category: General

TOP: Exam: 2

5. Where are most compensating filters placed?
- Under the patient
 - Directly on the patient
 - Between the x-ray tube and skin surface
 - Between the x-ray tube and collimator

ANS: C DIF: Level: Medium REF: Volume 1, Page 57
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6. The simplest and most common shape of compensating filter is the:
- wedge.
 - trough.
 - double-wedge.
 - Boomerang.

ANS: A DIF: Level: Medium REF: Volume 1, Page 57
OBJ: Category: General TOP: Exam: 2

7. The most common materials used in the manufacture of compensating filters are:
- copper.
 - aluminum.
 - high-density plastics.
- 1 and 2
 - 2 and 3
 - 1 and 3
 - 1, 2, and 3

ANS: B DIF: Level: Medium REF: Volume 1, Page 57
OBJ: Category: General TOP: Exam: 2

8. The major advantage of using collimator-mounted compensating filters is:
- ease of use.
 - can be used for different body areas.
 - provide increased contrast and detail.
 - reduction in radiation exposure to the patient.

ANS: D DIF: Level: Hard REF: Volume 1, Page 58
OBJ: Category: General TOP: Exam: 1

9. A wedge filter would be ideal for which of the following projections?
- AP chest
 - AP thoracic spine
 - Lateral C7-T1
 - Lateral hip

ANS: B DIF: Level: Medium REF: Volume 1, Page 60
OBJ: Category: General TOP: Exam: 2

10. A trough filter would be used for a:
- lateral hip.
 - AP shoulder.

- c. PA chest.
- d. AP thoracic spine.

ANS: C DIF: Level: Medium REF: Volume 1, Page 60
OBJ: Category: General TOP: Exam: 2

11. A special-design Ferlic filter would provide an even image density for which of the following projections?
- 1. AP thoracic spine
 - 2. Lateral C7-T1 (swimmer's method)
 - 3. Lateral hip (Danelius-Miller method)
- a. 1 and 2
 - b. 2 and 3
 - c. 1 and 3
 - d. 1, 2, and 3

ANS: B DIF: Level: Hard REF: Volume 1, Page 57
OBJ: Category: General TOP: Exam: None

12. The Boomerang filter would provide an even image density for which body area?
- a. Hip
 - b. Chest
 - c. Shoulder
 - d. C7-T1 region

ANS: C DIF: Level: Medium REF: Volume 1, Page 60
OBJ: Category: General TOP: Exam: 2

13. For which projection would two double-wedge filters be used?
- a. AP shoulder
 - b. Lateral hip
 - c. AP spine for scoliosis
 - d. Lateral spine for scoliosis

ANS: D DIF: Level: Hard REF: Volume 1, Page 64
OBJ: Category: General TOP: Exam: 2

14. Which of the following will provide maximum patient safety when using compensating filters?
- a. Use two hands to mount a collimator filter.
 - b. Use two hands to position a contact filter.
 - c. Use a low-kVp exposure technique.
 - d. Use a high-mA exposure technique.

ANS: A DIF: Level: Medium REF: Volume 1, Page 64
OBJ: Category: General TOP: Exam: 2