Chapter 19

1. In terms of radiographic technique, which of the following body habiti would be closest to the

average technique for sthenic patients?

a. asthenic

b. hyposthenic

c. hypersthenic-fatty

d. hypersthenic-muscular

2. With the exception of esophagrams, what is the optimum kVp for *solid-column* barium

procedures?

a. 110-120

b. 90-100

c. 80-90

d. 76

3. Positive contrast agents, such as barium and iodine, absorb radiation well primarily because of

their:

a. thickness

b. viscosity

c. atomic number

d. density

4. In the United States, the average adult torso measures cm in AP projection and

laterally:

a. 22 cm, 30 cm

b. 20 cm, 26 cm

c. 20 cm, 34 cm

d. 26 cm, 30 cm

5. An abdominal technique chart lists 80 kVp and 200 mA at 1/4 second for a 22-cm patient in

the AP projection. For a 26-cm patient in AP projection, which of the following

techniques would be best?

a. 80 kVp at 100 mAs

b. 95 kVp at 50 mAs

c. 80 kVp at 75 mAs

d. 80 kVp at 200 mAs

e. 92 kVp at 100 mAs

6. The air in the lungs produces only a fraction of the scatter radiation that soft tissue does. For

chest radiography, this allows us to achieve high gray scale without excessive fogging by

utilizing:

a. high mA values

b. short exposure times

c. high kVp

d. low kVp

e. three-phase equipment

7. If no adjustments are made in technique, which of the following *could* still increase because of

large patient thickness?

a. overall exposure at the image receptor

b. subject contrast in the remnant beam

c. sharpness of detail

d. magnification

8. The lungs allow more x-rays to penetrate through the patient primarily because

of their:

a. thickness

b. extremely low viscosity

c. low atomic number

d. extremely low physical density

9. 5. A technique chart lists 84 kVp and 40 mAs for the AP projection on a 24-cm lumbar spine. For a 16-cm patient in AP projection, which of the following techniques would be best at 84 kVp?

a. 5 mAs

b. 10 mAs

c. 20 mAs

d. 40 mAs

e. 80 mAs

10. With all other factors unchanged, if patient thickness is increased, scatter radiation in the

remnant beam signal will:

a. increase as a direct result

b. decrease as a direct result

c. not change at all

d. may be affected indirectly, but is not directly controlled by it

11. With all other factors unchanged, if a positive contrast medium with high Z# is introduced,

the sharpness of detail in the image will:

a. increase as a direct result

b. decrease as a direct result

c. not change at all

d. may be affected indirectly, but is not directly controlled by it

12. A muscular patient requires radiographic technique compared to a fatty patient

measuring the *same size*:

a. more

b. less

c. equal

d. less penetrating

13. The assessment of any disease conditions for the purpose of modifying radiographic methods

is the responsibility of:

a. the radiographer

b. the referring physician

c. the consulting radiologist

d. the chief technologist

14. Which of the following is *not* one of the five materials or tissues demonstrated by

conventional radiography?

a. gas

b. glands

c. fluids

d. bone

e. fat

15. Two normal patients measuring equal size are radiographed. Neither has any disease. For any

body part *other than the chest*, the greatest determinant of different radiographic technique is the ratio between in the body part:

a. fat and fluid

b. soft tissue and bone

c. fat and air

d. fat and bone

16. For elderly patients with typical degenerative disease, the most appropriate adjustment in

radiographic technique is to:

a. reduce mAs

b. increase mAs

c. reduce kVp

d. increase kVp

e. increase exposure time

17. To make a significant increase in the intensity of the remnant x-ray beam, mAs would need

to be increased by *at least*:

a. 5%

b. 10%

c. 15%

d. 35%

e. 50%

18. When measuring the abdomen of a patient lying supine on the table, if the calipers are placed

directly on the tabletop during the measurement, the most likely result would be:

a. overexposure

b. underexposure

c. underpenetration

d. no error

19. For a patient with padded dash syndrome or a chicken bone lodged in the neck, use:

a. a 50% reduction in mAs only

b. a 10% decrease in kVp only

c. a 30% increase in mAs only

d. a 20% reduction in kVp only

20. Increase radiographic technique for which condition:

a. hydropneuomothorax

b. emphysema

c. atrophy

d. osteoporosis

21. Decrease radiographic technique for which condition:

a. actinomycosis

b. osteoarthritis

c. pneumoconiosis

d. hyperparathyroidism

22. Decrease radiographic technique for which condition:

a. ascites

b. osteochondroma

c. acromegaly

d. pneumothorax

23. Decrease radiographic technique for which condition:

a. fibrous carcinoma

b. osteopetrosis

c. rheumatoid arthritis

d. hydrocephalus

24. What technique increase is recommended for an extremity splinted with a 3/4-inch piece of

wood?

a. 35% (or 1/3)

b. 50% (or 1 ½ )

c. double

d. triple

e. no increase is needed

25. What technique increase is recommended for an extremity in a pure fiberglass cast?

a. 35% (or 1/3)

b. 50% (or 1 ½ )

c. double

d. triple

e. no increase is needed

26. As a general rule-of-thumb, any well-progressed degenerative disease will require what

adjustment in radiographic technique?

a. 35% increase

b. 67% increase

c. 35% decrease

d. 50% decrease

27. Clinically, fluid-distention of the abdomen is best detected by:

a. observation

b. palpation

c. questioning the patient

d. observing previous radiographs

28. On conventional radiographs, which of the following is *not* normally demonstrated against a

background of soft tissue?

a. metal

b. fat

c. connective tissue

d. gas

29. If the usual technique for a lateral cervical spine is 76 kVp, 200 mA at 0.07 second, which of

the following techniques would be used for a *soft tissue* lateral projection of this neck?

a. 76 kVp, 200 mA, 0.07 sec.

b. 76 kVp, 100 mA, 0.07 sec.

c. 88 kVp, 200 mA, 0.07 sec.

d. 62 kVp, 200 mA, 0.07 sec.

30. What technique increase is recommended for an extremity in a mixed fiberglass/plaster cast?

a. 50% (or 1 ½ )

b. double

c. triple

d. no increase is needed

31. Compared to the usual AP supine chest technique for living patients, the radiographic

technique for an AP supine chest taken on a dead body would be:

a. increased

b. decreased

c. roughly equal

32. Which of the following would be considered an *additive* disease?

a. increase in gas content

b. increase in fat content

c. increase in mineral content

d. decrease in bone content