Chapter 23

1. Increasing the OID “gap” can be especially useful with which type of patients:

a. uncooperative

b. pediatric

c. asthenic

d. hypersthenic

e. brachycephalic

2. When using an increased OID, which of the following is *not* affected:

a. penumbra

b. size distortion

c. subject contrast

d. overall exposure at the image receptor

e. shape distortion

3. Which of the following will *most dramatically* affect spatial resolution (sharpness)?

a. change OID by 10 cm

b. change SID by 10 cm

c. change SOD by 10 cm

d. change field size by 10 cm

e. change patient thickness by 10 cm

4. At increased OID, which of the following does *not* spread out more than it otherwise would

have?

a. scatter radiation

b. gross image size

c. penumbra

d. the primary x-ray beam

5. With all other factors unchanged, if OID is increased, subject contrast in the projected image

carried by the remnant beam 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

6. With all other factors unchanged, if the OID is increased, overall exposure at the image

receptor plate 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

7. With all other factors unchanged, if the OID is increased, image magnification 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

8. With all other factors unchanged, if the OID is increased, image shape distortion 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

9. With all other factors unchanged, if the OID is increased, spatial resolution (sharpness) 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

10. With all other factors unchanged, if the OID is increased, x-ray beam penetration 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. The SOD/OID ratio is related to the spatial resolution (sharpness) of detail in the image:

a. by direct proportion

b. by inverse proportion

c. exponentially

d. it is not directly related

12. The SID/SOD ratio is related to magnification in the image:

a. by direct proportion

b. by inverse proportion

c. exponentially

d. it is not directly related

13. With an SID of 30 inches, and an OID of 20 inches, what is the factor of magnification?

a. 1.5 X

b. 2 X

c. 3 X

d. 66%

e. 200%

14. When the SID is 100 cm and the SOD 50 cm, the **relative unsharpness** in the image is:

a. 1

b. 2

c. 3

d. 4

e. 5

15. The image of an object measures 10 cm in width. The SID used was 75 cm and the object

was located 45 cm above the image receptor plate. How big is the actual object?

a. 2 cm

b. 4 cm

c. 3 cm

d. 5 cm

e. 6 cm

16. If the SID is changed from 100 cm to 150 cm, and at the same time the OID is changed

from 4 cm to 6 cm, the spatial resolution (sharpness) in the resulting image will:

a. increase by 50%

b. decrease by 50%

c. remain the same

d. be doubled

e. be cut in half

17. Which of the following formulas would be correct for calculating the magnification of a

projected image?

a. SID/SID-OID

b. SID/OID

c. SOD/OID

d. SID-OID/SOD

18. For macroradiography technique, the effects of increased OID are compensated for in one

aspect only, by using a in combination.

a. long SID

b. fractional focal spot

c. high-resolution receptor plate

d. reduced OID

19. In general radiography, a OID should always be used:

a. minimum

b. maximum

c. optimum (intermediate)