

**LESSON 1: FLUOROSCOPIC AND SPECIAL RADIOGRAPHIC EQUIPMENT**

1. **The National Committee on Radiation Protection and Measurements specify that the tube-tabletop distance will be not less than:**  
 A 15 inches                      B 20 inches                      C 5 inches                      D 25 inches
  
2. **A diagnostic-type protective tube housing will be used with equivalent of ——— mm lead.**  
 A 1.5                      B 0.8                      C 2.0                      D 2.5
  
3. **The dose rate measured in the CR at tabletop will not exceed ——— roentgens per minute (R/min) for fluoroscopic equipment with AEC.**  
 A 10                      B 2                      C 7                      D 5
  
4. **The serial film changer is mostly obsolete due to the use of:**  
 A excessive energy use                      B digital radiology systems                      C oscillating grids                      D focusing electrodes
  
5. **Videotape recording offers ——— radiation dose to the patient over (as) cine recording.**  
 A the same                      B a much higher                      C a slightly higher                      D a lower
  
6. **The major disadvantage of cine over videotape is that ——— is somewhat compromised.**  
 A resolution                      B processing quality                      C instant playback                      D tape reusability
  
7. **Image intensification relates to a method of producing fluoroscopic images characterized by a high level of:**  
 A resolution                      B contrast                      C brightness                      D magnification
  
8. **——— is determined by the ratio of the input phosphor to the output phosphor.**  
 A Minification                      B Magnification                      C Phosphorization                      D Quantum mottling
  
9. **Image intensifiers are rated at 5, 8, 9, and 11 inches, which relates to the:**  
 A input phosphor circumference                      B input phosphor radius                      C field size covered                      D input phosphor diameter
  
10. **An efficient magnification and viewing system should enlarge the part to approximately:**  
 A 3 times life size                      B 4 times life size                      C life size or greater                      D 2 times life size
  
11. **Kilovoltages ranging from ——— to 120 kVp at an x-ray current of 1/2 to 2 mA are commonly used.**  
 A 50                      B 70                      C 90                      D 110
  
12. **Density equalization filters are called compensating filters, wedge filters, differential-absorption filters, supplementary filters, or:**  
 A balancing filters                      B teeter-totter filters                      C distortion filters                      D slide filters
  
13. **Contrast media that increase photon absorption are termed ——— (positive) contrast media.**  
 A radiolucent                      B radiotranslucent                      C radiopaque                      D radiolene
  
14. **Iodine and barium in their natural states are poisons.**  
 A True                      B False
  
15. **Contrast media that contains iodine as needed for opacity but contains no positive-charged ions is called ——— contrast.**  
 A non-ionic                      B negative                      C reverse                      D retrograde

16. **Retrografen is essentially Renografin with neomycin, a(n) ———, added.**  
 A diuretic B preservative C thinning agent D antibiotic
17. **Contrast media reactions seem to be different, but symptoms are so similar that they are generally thought of as a variety of anaphylaxis.**  
 A True B False
18. **———— refers to the characteristics of blood action or flow.**  
 A Hemokinesiology B Hemomomentum C Hemoshift D Hemodynamics
19. **The Reuben (————) bag (a device for pumping air into the patient's lungs) or an oxygen bottle and mask aids the patient's respiration.**  
 A NG B Ambu C Airbubble D Gasrite
20. **With a contrast media reaction, your first response should be to call a doctor, preferably the physician who:**  
 A is a lung specialist B is an ENT C made the injection D serves as chief-of-staff
21. **No metal should be allowed to come in contact with a radiopaque media that is:**  
 A iodinated B radiopaque C ionized D radiolucent
22. **Oxygen, carbon dioxide, and room air, used in contrast media, are classified as:**  
 A radiopaque B radiolucent C viscous D highly irritating
23. **A drug reaction classed as hemodynamic could result in:**  
 A renal shutdown B myocardial infarction C systemic shock D A, B, and C are correct

## LESSON 2: DIGESTIVE AND UROGENITAL SYSTEMS

24. **The esophagus lies immediately posterior to the trachea. It penetrates the diaphragm and enters the stomach by way of the:**  
 A splenic orifice B pulmonary orifice C cardiac orifice D esophagus orifice
25. **If perforation is suspected (for an esophagus study), an alternate non-barium sulfate radiopaque should be substituted.**  
 A True B False
26. **During a fluoroscopic exam of the esophagus, the patient ingests the contrast medium and controls his respiration as directed by the:**  
 A technologist B radiologist C attending physician D nurse
27. **In an esophageal study, an ——— is almost always included. Other radiographs may consist of AP and lateral projections.**  
 A RAO B RPO C LPO D LAO
28. **Regarding an RAO of the esophagus, the patient may be in the upright or recumbent position – rotated:**  
 A 5° B 15° C 30° D 40°
29. **For an upper GI series, the patient should have nothing by mouth for a period of ——— hours prior to the time of the examination.**  
 A 8-12 B 2-3 C 24 D 5-7
30. **———— ounces total volume per patient is usually required during fluoroscopic filling for the upper GI series.**  
 A 3 to 5 B 8 to 16 C 7 to 10 D 20 to 25
31. **For a PA to show the stomach and duodenum in the upper GI series, the Iliac crests should be ——— inches below the center of the film.**  
 A 2 B 7 C 10 D 5

32. For suspected diaphragmatic hernia, tilt the patient ——— head down and make an exposure with suspended inspiration.  
 A 15°                                      B 5°                                      C 45°                                      D 25°
33. For the barium enema, the introduction of the contrast media into the colon is based on a double contrast consisting of barium:  
 A and sodium sulfate                      B and water                      C and air                      D and gastrografiin
34. After completion of the fluoroscopic phase of the barium enema, PA and AP projections are made using a ——— CR.  
 A 15° caudal                      B 45° cephalad                      C 25° caudal                      D vertical
35. As in question 34 above, PA or AP projections are usually made with the patient in the right and left lateral decubitus positions using a:  
 A horizontal CR                      B 25° caudal CR                      C 45° cephalad CR                      D 15° caudal CR
36. Routine views of the barium enema include all the following except:  
 A PA or AP                      B lateral rectum                      C tangential of splenic flexure                      D AP axial
37. In a fluoro exam the radiologist will perform a preliminary screening - usually done with the patient in the recumbent position.  
 A True                      B False
38. In a barium enema, filling the bowel at a slower rate can be controlled by ——— the enema bag or by pinching the tubing.  
 A squeezing                      B shaking                      C raising                      D lowering
39. For the single-contrast barium enema, a PA projection of the barium-filled colon is obtained using a ———-inch image, lengthwise.  
 A 10 x 12                      B 14 x 17                      C 8 x 10                      D 11 x 14
40. With a barium enema, a post-evacuation PA projection is usually done using the same procedure as for the pre-evacuation PA.  
 A True                      B False
41. A projection of the sigmoid colon (LPO) is sometimes done with the patient supine, left hip down, right hip and trunk rotated up to:  
 A 10° to 15°                      B 70° to 90°                      C 5° to 10°                      D 30° to 60°
42. The double-contrast barium enema involves the use of two types of contrast media – radiopaque residual barium and radiolucent:  
 A gastrografiin                      B hypaque                      C air                      D water
43. Bile is manufactured by the ——— cells of the liver which extract the necessary constituents from the circulating blood.  
 A polyhedral                      B Kupffer                      C hepatic stellate                      D macrophage
44. The patient is not allowed to eat fats after ——— before the radiographic study of the gallbladder.  
 A the noon meal 2 days                      B the noon meal the day                      C midnight the day                      D 7pm the day
45. In cholecystography an LAO is done using a tightly restricted cone field (——) and an 8 to 10-inch film.  
 A 6 inches                      B 2 inches                      C 8 inches                      D 3 inches
46. In cholecystography the RPO may be done with the patient in either the recumbent or erect position.  
 A True                      B False
47. The cholecystographic series is usually terminated with the final film begin taken ——— after ingestion of a "fatty meal".  
 A 3 hours                      B 5 hours                      C 1/2 to 1 hour                      D 15 minutes

48. Cholangiography is a procedure for the demonstration of the ——— after the introduction of a contrast medium.  
 A gall bladder vasculature      B hepatic ducts only      C pancreatic duct      D biliary tract
49. Excretory urography is commonly referred to as retrograde pyelography.  
 A True      B False
50. In the course of an IVP, the 2nd film is normally taken ——— minutes after injection.  
 A 30      B 20      C 10      D 2
51. In the course of an IVP, it is recommended that the patient be left unattended:  
 A for no more than 5 min's      B for no more than 2 min's      C for no more than 10 min's      D at no time
52. The table may be elevated ——— for the ureterogram to demonstrate any kinking of the ureters - among other reasons.  
 A 35° to 45°      B 5° to 10°      C 20°      D 25° to 30°
53. In cystography a contrast medium is introduced into the bladder in an amount sufficient to distend the bladder:  
 A 50 to 100 cc      B 200 to 300 cc      C 300 to 400 cc      D 30 to 50 cc
54. With cystograms the right and left posterior-obliques (——— body rotation) are made following the AP projection.  
 A 25° to 30°      B 45° to 60°      C 15°      D 5°
55. Nephrography is a procedure for the demonstration of the ——— of the kidneys with use of a contrast medium.  
 A parenchymal structures      B papilla      C major and minor calyx      D medulla
56. Hysterosalpingography is usually scheduled ——— days after menstruation or at a time determined by the gynecologist or radiologist.  
 A 25 to 27      B 20 to 22      C 1 to 8      D 10 to 15
57. The ——— decubitus position names signify the surface of the body upon which the patient is resting in a recumbent position.  
 A two      B three      C five      D four
58. A thick-paste barium sulfate mixture is often used in the radiographic study of the:  
 A esophagus      B small intestine      C stomach      D large intestine
59. High-kilovoltage spot-filming of the barium-filled colon utilizes the ——— kilovoltage level.  
 A 90-110      B 120-140      C 210-220      D 400 plus
60. The centering point for an AP view of the urinary bladder is:  
 A one inch above symph. pubis      B crest of ilium      C midway between ASIS / crest      D fifth lumbar vertebra
61. Nephrograms may sometimes result as a side-effect in:  
 A cholecystography      B operative cholangiography      C angiocardiology      D retrograde pyelography
62. Approximately ——— of carbon dioxide or oxygen is introduced for a pelvic pneumoperitoneogram.  
 A 2 cc      B 30 cc      C 100 cc      D 500 cc

### LESSON 3: RESPIRATORY, CARDIOVASCULAR, AND NERVOUS SYSTEMS

63. ——— is most frequently used to examine and identify masses or other pathology in either the mediastinum or in the lung.  
 A MRI      B US      C Fluoroscopy      D CT

64. **Ultrasound may be used to detect pleural effusion or for guidance when inserting a needle to aspirate the fluid (——).**  
 A pneumonectomy      B mediastinoscopy      C bronchoscopy      D thoracentesis
65. **Angiography (or ——) is the radiographic study of the blood channels in portions of the circulatory system.**  
 A venography      B vasography      C phlebography      D capillariography
66. **Arteriography is the radiographic examination of the arteries during injection of a radiopaque contrast medium.**  
 A True      B False
67. **Venography (or ——) is the radiographic examination of the veins during the injection of a contrast medium.**  
 A phlebography      B vasography      C capillariography      D venography
68. **Nephrography is a form of capillariography.**  
 A True      B False
69. **Angiocardiology is an examination of the heart and great vessels of the:**  
 A upper abdomen      B neck      C thorax      D peritoneum
70. **Cerebral arteriography is also known as arterial:**  
 A pulse volume studies      B encephalography      C lobagrams      D carotid scans
71. **Portal venography is the radiographic examination of the venous circulation in the —— and related blood channels.**  
 A liver      B spleen      C gallbladder      D cecum
72. **The —— allows the examiners to stop the back-flow of contrast once contrast injection has stopped.**  
 A pressure regulator      B stop-gap nodule      C directional valve      D flow switch
73. **—— are a variation on the arteriographic design with a flexible plastic sheath fitted over the needle slightly shorter than the bevel.**  
 A Safety needles      B Winged needles      C Sheath needles      D 24 gauge needles
74. **A —— timing unit can make exposures of 1/1000 to 1/500 second in rapid sequence at predetermined intervals.**  
 A transducer multi-task      B split sensor      C "fire neck"      D thyatron rapid-recovering
75. **In an angiocardiology examination an 8 x 10-inch film may suffice for an infant, but a ——-inch film would be required for an adult.**  
 A 11 x 14      B 10 x 12      C 12 x 14      D 14 x 17
76. **With upper extremity angiographic exams, the —— is the site most frequently used for injection.**  
 A groin      B medial ankle      C antecubital fossa      D deltoid muscle
77. **A patient may be instructed to inhale against the closed glottis (—— maneuver) during certain examinations.**  
 A Ghirelli's      B Muller's      C Massinger's      D Pisa's
78. **Compared with kVp values for similar size chest radiographs, an increase of about —— percent is necessary for angiocardiology.**  
 A 50      B 15      C 5      D 40
79. **Regarding aortography, the translumbar percutaneous method is also known as the —— method.**  
 A trans-permeable      B subvesicular      C direct      D indirect



96. The technical factors used in mammography depend upon several variables, and the kVp should be:  
 A 20 to 35                      B 10 to 15                      C 45 to 55                      D 60 to 75
97. The greatest obstacle to overcome in the normal course of pediatric radiography is the adverse effect of motion.  
 A True                      B False
98. The ——— apparatus ("head sling") may be used to great advantage for head or neck images with the patient in the upright position.  
 A Hoffer                      B Guested                      C Sayre                      D Signorelli
99. PA ——— and dorsoplantar feet are commonly employed in bone age studies on children.  
 A facial bones                      B knees                      C elbows                      D hands and wrists
100. ——— (multidirectional) systems, as a general rule, produce better tomograms of areas that require maximum blurring.  
 A Supradirectional                      B Superdirectional                      C Hyperdirectional                      D Pluridirectional
101. The level or plane of the body section to be examined is known as the focal plane or ——— plane.  
 A tertiary                      B datum                      C central                      D basal
102. In orthoradiography, a particular portion of the x-ray beam is used in such a way as to protect a specific dimension of an object in:  
 A exactly one-half true size                      B exactly one-fourth true size                      C true size                      D exactly one-third true size
103. The ——— method is useful in that it produces an image that shows the object in its entire length.  
 A slit-scanography                      B cleft-scanography                      C split-breach                      D Hamilton
104. The ——— series is used for diagnosing malformations of long bones caused by disease (among other things).  
 A omni bone                      B long bone                      C calcium                      D osseous matter
105. An abnormal or exaggerated lateral curvature of the spine is called:  
 A spondylosis                      B degenerative disc disease                      C stenosis                      D scoliosis
106. The CR (or projection) does not always have to be horizontal when performing fluid-level radiography.  
 A True                      B False
107. It is generally advisable to allow an elapse of ——— minutes before performing fluid-level radiography.  
 A 5 to 7                      B 2 to 4                      C 8 to 10                      D 10 to 12
108. The practical kVp range for soft-tissue radiography is from:  
 A 40 to 70                      B 80 to 90                      C 100 to 110                      D 120 to 125
109. The radiograph should exhibit relatively ——— contrast graduated over the entire image pattern for soft-tissue radiography.  
 A low (long-scale)                      B low (short-scale)                      C high (short-scale)                      D high (long-scale)
110. The radiation hazard in portable radiography is potentially greater than the conventional exposure room in the radiology department.  
 A True                      B False

111. Standing 6 feet from the tube, your exposure would be about ——— of the amount you would receive standing 3 feet from the tube.  
A 10 percent                      B 75 percent                      C 25 percent                      D 50 percent
112. Grids (either portable or grid cassettes) should be used for all examinations where SR might pose a problem.  
A True                              B False
113. The power source in the operating room is located between ——— feet above floor level to provide an added safety factor.  
A 7 and 9                      B 2 and 3 1/2                      C 1 and 2                      D 4 and 4 1/2
114. The virginal breast consists primarily of ——— tissue.  
A fatty                              B muscular                      C fibroglandular                      D calculus
115. For a mammography study, if the kVp is 25 and the mAs 1600, three views would generate ——— HU.  
A 40,000                      B 80,000                      C 120,000                      D 240,000
116. For voltages under 50 kVp, the minimum filtration equivalent is:  
A 0.3 mm aluminum equivalent    B 0.5 mm aluminum equivalent    C 1.0 mm aluminum equivalent    D 1.5 mm aluminum equivalent
117. In the craniocaudal breast position, the patient is to put her hand behind her back and:  
A Sit up straight                      B lean to one side                      C Cough                      D bend slightly backward
118. Tomography depends upon:  
A focusing x-rays                      B blurring unwanted structures    C OFD                      D SID
119. Amplitude affects the thickness of the section demonstrated on a tomogram. Another factor that controls thickness is:  
A OFD                              B mAs                              C SID                              D kVp
120. A particular body section unit is set for a tube amplitude of 24 inches and a rate of 12 inches per second-so the exposure time should be:  
A 0.5 seconds                      B 1.5 seconds                      C 2.0 seconds                      D 2.5 seconds



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1		25		49		73		97	
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