

Specialized Topics in Areas of Radiologic Sciences
P.O. Box 2931 Toledo, Ohio 43606 419-471-1973
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Unit 48:

Fundamentals of Fluoroscopy

By

Jeffrey D. Houston, MD

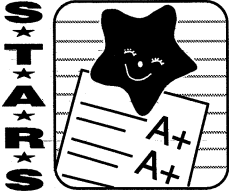
and

Michael Davis, MD

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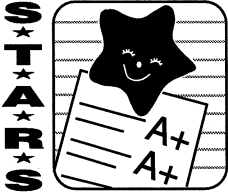
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Unit 48

Title: **Fundamentals of Fluoroscopy** by Jeffrey D. Houston, M.D. & Michael Davis, M.D.
Please *complete the answer sheet at the conclusion of the post test* and *return* to S.T.A.R.S.

Introduction

- The _____ position is performed with the patient in the LAO (left anterior oblique) position.
 - Sims
 - Trendelenburg
 - decubitus
 - Fowler
- The fetus is _____ times more sensitive to radiation damage than the adult.
 - one
 - two
 - three
 - four
- A diagnostic procedure that may produce a fetal dose greater than 2 mGys is a
 - chest x-ray
 - extremity x-ray
 - barium enema
 - skull x-ray
- The fetus may lose _____ hours of life expectance as a result of an abdominal x-ray exam.
 - 8
 - 10
 - 14
 - 20
- Termination of pregnancy is **NOT** recommended for fetal doses less than _____ mGys.
 - 200
 - 500
 - 700
 - 1,000
- The natural incidence of cancer deaths is _____ out of every 10,000 babies born.
 - 500
 - 1,000
 - 1,500
 - 2,000
- The drug that has an effect opposite of insulin is
 - epinephrine
 - glucagon
 - sincalide
 - xylocaine

Part I Pharyngeal and Esophageal Examinations

- A videofluoroscopic swallowing exam is **NOT** recommended for patients with
 - dysphagia
 - globus
 - gastroesophageal reflux
 - odynophagia
- The second swallow in videofluoroscopy should focus on the
 - nasopharynx
 - oropharynx
 - hypopharynx
 - glottis

10. The radiographer should always have _____ ready when performing swallowing exams.
- a. suction b. oxygen c. drugs d. nurses
11. To begin a speech pathology swallowing exam, the patient should be imaged in the _____ position.
- a. recumbent b. lateral c. anterior d. oblique
12. Phonation should be recorded to visualize the
- a. pharynx b. glottis c. vocal cords d. tongue movement
13. The pathologic mucosal ring that results in dysphagia is called
- a. Schatzki ring b. A-ring c. hiatal hernia d. stricture
14. A ____ mm. barium pill can be used to further evaluate an esophageal stricture.
- a. 8 b. 10 c. 13 d. 15
15. To evaluate esophageal obstruction, the patient is given ____ oz. of barium to outline the ingested material.
- a. 1 b. 2 c. 3 d. 4
16. The best fluoroscopic exam recommended to detect early mucosal disease is
- a. single contrast c. swallowing
b. double contrast d. esophagram for perforation
17. The best coating of the esophagus in a double contrast study is described as
- a. "snow white" b. black & white c. "gray-cotton" d. "silver-satin"

Part II Upper Gastrointestinal Examinations

18. Patient preparation for an UGI is NPO after midnight or ____ hours prior to the exam.
- a. 2. b. 4 c. 6 d. 8
19. To reveal gastric folds, the radiographer or physician should use
- a. compression b. upright views c. dense barium d. decubitus views
20. The contrast medium recommended if a perforation is suspected is
- a. iodine-based b. regular barium c. dense barium d. water-soluble
21. The ileocecal valve can be seen best in most patients by turning them in a slight
- a. LAO position b. LPO position c. RAO position d. RPO position

22. To optimize the mucosal coating of the gastric antrum and body, rock the patient's hips from side to side

- a. 8-10 times b. 12-14 times c. 15-18 times d. 20 times or more

23. The reduction of a hiatal hernia employing a 270 degree posterior fundal wrap is called

- a. Collis gastropexy c. Nissen fundoplication
b. Belsey Mark IV repair d. Toupet fundoplication

24. To locate gastric bands and pouch, the _____ should be visualized on the scout film.

- a. air pocket b. fluid level c. suture lines d. surgical staples

25. _____ should be administered to patients undergoing enteric feeding tube placement.

- a. Glucagon b. Metoclopramide c. Epinephrine d. Gastografin

26. A ____ French enteroclysis catheter is most commonly used for double contrast enteroclysis.

- a. 12-13 b. 13-15 c. 14-16 d. 16-18

Part III Colon Examinations

27. A single contrast barium enema bag contains a total of ____ ccs. of barium and tepid water.

- a. 500 b. 1,000 c. 2,000 d. 2,500

28. To open the splenic flexure, the patient must be in the _____ position.

- a. LPO b. RAO c. LAO d. RPO

29. A therapeutic water-soluble enema can be performed for

- a. diverticulosis b. fecal impaction c. volvulus d. bowel obstruction

30. When performing a double contrast barium enema, fill the colon with ____ ccs. of undiluted barium before inflating the colon.

- a. 350 b. 500 c. 600 d. 1,000

31. The first anatomic area imaged during a double contrast barium enema is the _____ colon.

- a. rectosigmoid b. descending c. transverse d. ascending

32. To acquire lateral decubitus views, the edge of the cassette should be positioned at the

- a. hip b. bottom of buttocks c. gluteal crease d. crest of the ilium

33. A _____ catheter can be effective to intubate a colostomy.

- a. enteroclysis b. Teflon c. percutaneous d. Foley

34. Overinflation of the balloon can cause

- a. discomfort b. perforation c. irritation d. spasm

35. When performing a dynamic proctogram, the radiographer must prepare the fluoroscopic room with a

- a. Brunswick chair b. swivel chair c. bedpan d. pair of adult diapers

36. After ingesting a single Sitzmarks capsule, the patient must return for imaging after

- a. 1 day b. 3 days c. 5 days d. 7 days

Part IV Biliary Examinations

37. When performing a T-tube cholangiogram, an air bubble can be misinterpreted as

- a. a tumor b. a perforation c. a cyst d. a calculus

38. An oral cholecystogram requires ___ 0.5 g tablets of iopanoic acid (Telepaque).

- a. 4 b. 6 c. 8 d. 10

39. A _____ meal is used to stimulate gallbladder emptying.

- a. liquid b. fat-free c. fatty d. high cholesterol

40. Pancreatic malignancy can be evaluated with

- a. endoscopic retrograde cholangiopancreatography c. surgical cholangiography
b. T-tube cholangiography d. enteroclysis

Part V Genitourinary Examinations

41. The radiographer should have ___ ccs. of iodine water-soluble contrast ready for cystography.

- a. 100 b. 200 c. 350 d. 500

42. The formula (contrast instilled) – (contrast voided) is used to determine

- a. bladder volume b. postvoid residual c. contractility d. elasticity

43. A _____ should be obtained before performing a voiding cystourethrogram.

- a. cystogram b. urogram c. cystoscopy d. pyelogram

44. An intact but elongated and narrowed urethra indicates a Type ___ urethral injury.

- a. 1 b. 2 c. 3 d. 4

45. The balloon on a Foley catheter should **not** be inflated more than ___ ccs.

- a. 1 b. 2 c. 3 d. 4

46. Some institutions require serum BUN/creatinine measurements within ___ weeks of a fluoroscopic intravenous urogram.
- a. 1 b. 2 c. 3 d. 4
47. The "0" minute nephrogram is obtained during
- a. intravenous pyelography c. voiding cystography
b. fluoroscopic intravenous urography d. retrograde urethrography
48. If asynchronous fallopian tube filling occurs, the radiographer may need to take _____ views.
- a. upright b. lateral c. oblique d. anteroposterior

Part VI Musculoskeletal Examinations

49. A contraindication to magnetic resonance (MR) imaging is the presence of
- a. a cardiac pacemaker c. enamel fillings
b. a feeding tube d. a urinary catheter
50. Gadolinium is added to a ___ cc. Bag of normal saline for shoulder injections.
- a. 25 b. 50 c. 60 d. 75
51. Air bubbles can mimic
- a. calcifications c. soft tissue masses
b. intra-articular loose bodies d. cystic masses
52. The radiographer needs to draw ___ ccs. of gadolinium for a knee injection.
- a. 0.3 b. 0.6 c. 0.9 d. 1.2
53. A metal hemostat can be used to locate the _____ aspect of the femoral head-neck junction for hip aspiration.
- a. anterior b. posterior c. inferior d. superior

Part VII Neuroradiology Examinations

54. A lumbar puncture is usually made at the _____ interspace.
- a. L1-L2 b. L2-L3 c. L3-L4 d. L4-L5
55. The maximum amount of extracted cerebrospinal fluid (CSF) should generally **not** exceed
- a. 10-12 ccs b. 12-15 ccs c. 15-20 ccs d. 20-30 ccs
56. One of the postprocedure orders for patients after lumbar myelography is
- a. restricted activity for 4 hours c. restricted activity for 8 hours
b. restricted activity for 12 hours d. restricted activity for 24 hours

57. The most common approach for cervical myelography is
- a. cervical b. thoracic c. lumbar d. sacral
58. To prevent intracranial passage of contrast, the patient's neck should be
- a. hyperflexed b. hyperextended c. immobilized d. neutral
59. Lumbar puncture should be avoided cephalad to ____ to prevent inadvertent spinal cord injury.
- a. L1 b. L2 c. L3 d. L4
60. In thoracic myelography, keeping the tabletop in a ____ degree head-upright position ensures accumulation of the contrast dependently.
- a. 15 b. 30 c. 45 d. 60

Part VIII Pediatric Examinations

61. The view most commonly imaged in videofluoroscopic swallowing exams is the
- a. oblique b. anteroposterior c. upright d. lateral
62. Barium for speech pathology swallowing studies may be mixed with
- a. applesauce b. sugar c. Jello d. peppermint
63. Pediatric patients are usually kept NPO for ____ to ____ hours dependent on age.
- a. $\frac{1}{2}$ - 1 b. $1\frac{1}{2}$ - 2 c. 2-4 d. 3-5
64. Pediatric patients are kept NPO to stimulate
- a. peristalsis b. appetite c. salivary glands d. swallowing
65. A single contrast enema may be needed to identify the transition zone in
- a. Hirschsprung disease c. Chron's disease
b. bowel obstruction d. colostomy
66. A puncture through the _____ may decompress a tension pneumoperitoneum.
- a. hypogastrium b. epigastrium c. iliac d. umbilicus
67. Intraluminal pressure should be maintained at **less than** ____ mm Hg at all times when inflating the colon for intussusception diagnosis and reduction.
- a. 60 b. 90 c. 120 d. 150
68. The grade of vesicoureteral reflux that is limited to the distal ureter is
- a. I b. II c. III d. IV

69. The formula (age in years + 2) x ____ ccs. is used to calculate expected bladder volume.

- a. 15 b. 30 c. 45 d. 60

70. A pediatric patient may consume a carbonated beverage prior to an intravenous urogram to

- a. quench their thirst c. maintain their electrolytes
b. solicit co-operation d. better visualize the kidneys

Part IX Miscellaneous Examinations

71. The test recommended to determine suspected diaphragmatic paralysis is

- a. a nuclear medicine lung scan c. "sniff"
b. blood gases d. ultrasound of the thorax

72. To secure the fit of a catheter to the size of the fistula in the skin surface, the catheter selection is always based on the

- a. largest size possible c. smallest size possible
b. flexibility d. smoothness

Appendices

73. Emergency pretreatment regimen for patients with prior intravenous contrast reactions is hydrocortisone _____ hours before the exam if possible.

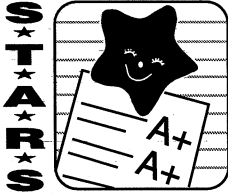
- a. 2 b. 4 c. 6 d. 8

74. Medication treatment for profound or protracted urticaria may produce

- a. nausea b. vomiting c. dizziness d. drowsiness

75. Diazepam (Valium) should be administered to patients who experience

- a. bronchospasm c. multiple seizures
b. hypotension d. bradycardia



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Answer Sheet for: Unit 48 Fundamentals of Fluoroscopy by Jeffrey D. Houston, M.D. and Michael Davis, M.D.

Please place your lettered selection for each question in the respective box and return *ONLY this post test sheet to S.T.A.R.S.*

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2.	14.	26.	38.	50.	62.	74.
3.	15.	27.	39.	51.	63.	75.
4.	16.	28.	40.	52.	64.	
5.	17.	29.	41.	53.	65.	
6.	18.	30.	42.	54.	66.	
7.	19.	31.	43.	55.	67.	
8.	20.	32.	44.	56.	68.	
9.	21.	33.	45.	57.	69.	
10.	22.	34.	46.	58.	70.	
11.	23.	35.	47.	59.	71.	
12.	24.	36.	48.	60.	72.	