

Imaging Diseases of the Abdomen and Pelvis: CT, MRI, US

Chapter 1

1. What is the best modality to evaluate the internal morphology of cystic lesions?
 - a. MRI
 - b. Non-contrast ultrasound
 - c. Contrast CT
 - d. Non-contrast CT
2. Very small renal masses are detected in nearly_____of all adults undergoing CT scans.
 - a. 10%
 - b. 25%
 - c. 50%
 - d. 75%
3. What is the most common benign solid renal neoplasm?
 - a. Tuberous sclerosis
 - b. Angiomyolipoma (AML)
 - c. Hemangioma
 - d. Leiomyoma
4. CT and MRI obtained during the portal venous phase are at least_____accurate in renal cancer staging.
 - a. 50%
 - b. 60%
 - c. 75%
 - d. 90%
5. Patients with RENAL nephrometry scores of_____are poor candidates for partial nephrectomy.
 - a. 1-3
 - b. 4-6
 - c. 10-12
 - d. >13

Chapter 2

6. Which of the following modalities provides an excellent display of the pelvic floor?
 - a. Ultrasound
 - b. CT
 - c. Dynamic MRI
 - d. Radiography
7. Damage to the pubocervical fascia may cause urinary incontinence.
 - a. True
 - b. False
8. Which of the following are other causes of pelvic floor weakness?
 - a. Aging
 - b. Obesity
 - c. Multiple births
 - d. A & B

9. Prior to a MR defecography exam the patient should void about _____ hours before the exam.
- 1
 - 2
 - 3
 - 4
10. Proper MR defecography preparation includes distending the rectum with ultrasound gel.
- True
 - False
11. The organ-specific reference point in the anterior, middle, and posterior compartment is the most inferior aspect of the _____.
- Bladder
 - Rectum
 - Cervix
 - Vagina

Chapter 3

12. What is the procedure of choice for the initial evaluation of benign diseases of the female genital tract?
- Abdominal sonography
 - CT
 - MRI
 - Endovaginal sonography
13. MR imaging should be performed using thin sections of _____ mm.
- 1 - 1.5
 - 2 - 2.5
 - 3 - 3.5
 - 3.5 - 4
14. The most important MR sequence is a T2-weighted sequence that demonstrates the zonal anatomy of the uterus.
- True
 - False
15. Symptomatic leiomyomas are the number one cause of hysterectomies and costs _____ dollars annually in direct costs and lost work days.
- 10.3 billion
 - 24.6 billion
 - 34.4 billion
 - 43.3 billion
16. Deep endometriosis usually lies 5mm below the peritoneum within which of the following?
- Bladder
 - Vagina
 - Bowel wall
 - All the above

Chapter 4

17. With current multimodality imaging and therapy, what is the recurrence rate after rectal cancer surgery?
 - a. 1%
 - b. 2%
 - c. 3%
 - d. 4%
18. Assessment of local tumor response is generally performed by which of the following?
 - a. Digital rectal exam
 - b. Endoscopy
 - c. MRI 6-8 weeks after completing chemotherapy
 - d. All the above
19. For primary T staging, what modality is the preferred staging method for large, advanced tumors?
 - a. Ultrasound
 - b. CT
 - c. MRI
 - d. PET/CT
20. Based on the Response Evaluation Criteria in Solid Tumors (RECIST), which of the following **is not** a patient category?
 - a. Incomplete response
 - b. Partial response
 - c. Stable disease
 - d. Progressive disease
21. Sclerotic bone and cystic lesions are considered nontarget lesions if they do not have large solid components.
 - a. True
 - b. False

Chapter 5

22. What percentage of choledochal cysts manifest in adults?
 - a. 5%
 - b. 10%
 - c. 15%
 - d. 20%
23. Stones are manifested as a signal void on T-2 weighted imaging.
 - a. True
 - b. False
24. What is the lifetime risk for patients with primary sclerosing cholangitis to develop cholangiocarcinoma (CC)?
 - a. 1 – 5%
 - b. 6 – 9%
 - c. 10 – 15%
 - d. 20 – 25%
25. Cholangiocarcinoma is an adenocarcinoma arising from the pancreatic duct.
 - a. True
 - b. False

26. Most gallstones contain which of the following?
- a. Cholesterol
 - b. Calcium
 - c. Water
 - d. A & B
27. In approximately _____ of all patients with acute cholecystitis no intraluminal stones can be found.
- a. 5%
 - b. 7%
 - c. 9%
 - d. 10%

Chapter 6

28. The upper abdominal viscera are interconnected by how many pairs of ligaments?
- a. 1
 - b. 2
 - c. 3
 - d. 5
29. Disease from the abdominal viscera **does not** spread to the retroperitoneum through ligamentous pairs.
- a. True
 - b. False
30. Nodes in the gastrohepatic ligament are typically _____ or less in diameter.
- a. 8mm
 - b. 10mm
 - c. 12mm
 - d. 14mm
31. What ligament contains the left gastroepiploic and short gastric vessels and their associated lymphatics?
- a. Gastrosplenic ligament
 - b. Gastrocolic ligament
 - c. Hepatoduodenal ligament
 - d. Splenorenal ligament
32. On the left, the gastrocolic ligament is continuous with the _____ ligament.
- a. Hepatoduodenal
 - b. Gastrosplenic
 - c. Gastrohepatic
 - d. None of the above

Chapter 7

33. Usually, how many umbilical arteries encircle the normal bladder?
- a. One
 - b. Two
 - c. Three
 - d. Four
34. What percentage of children born with bladder exstrophy are diagnosed postnatally?
- a. 10%
 - b. 25%
 - c. 50%
 - d. 75%

35. What is the normal ureter diameter in a child?
- a. 1 – 2mm
 - b. 3 – 4mm
 - c. 5 – 6mm
 - d. 7 – 8mm
36. What is the most important imaging technique in childhood pelvic imaging?
- a. MRI
 - b. Ultrasound
 - c. Radiography
 - d. CT
37. What modality is often used to identify the location of undescended testis?
- a. CT
 - b. MRI
 - c. Ultrasound
 - d. Radiography
38. What is the complete absence of blood flow in the testis called?
- a. Cryptorchidism
 - b. Testicular torsion
 - c. Testicular tumor
 - d. None of the above

Chapter 8

39. The majority of adnexal masses are_____.
- a. Cancerous
 - b. Invasive
 - c. Benign
 - d. Cystic
40. What modality is indicated for further staging of a suspected ovarian cancer?
- a. Ultrasound
 - b. CT
 - c. MRI
 - d. PET
41. What percentage of complex adnexal masses are diagnosed only by ultrasound?
- a. 78 – 80%
 - b. 82 – 85%
 - c. 87 – 90%
 - d. 93 – 95%
42. In MRI imaging of adnexal lesions, fat and hemorrhage have high SI on T-2 weighted imaging.
- a. True
 - b. False
43. What modality has no role in characterizing adnexal lesions?
- a. CT
 - b. MRI
 - c. Ultrasound
 - d. PET/CT

44. What is comprised of a variety of tissues and typically demonstrates fat and calcifications representing teeth and bones?
- a. Endometriomas
 - b. Dermoid cyst
 - c. Solid ovarian tumor
 - d. Ovarian fibromas

Chapter 9

45. The adrenal gland **is not** a common site for primary tumors and metastasis.
- a. True
 - b. False
46. What is caused by an excess of catecholamines?
- a. Hypotension
 - b. Hypertension
 - c. Seizures
 - d. Hypoglycemia
47. What imaging modality is being used more frequently in the staging of many neoplasms in oncology patients?
- a. MRI
 - b. CT
 - c. PET
 - d. Ultrasound
48. What should be performed when adrenal imaging by CT, MRI and PET are equivocal or open to more than one interpretation?
- a. Ultrasound
 - b. CT guided biopsy
 - c. Surgery
 - d. Blood work
49. What is the complication rate for CT-guided biopsy of the adrenal gland?
- a. 3%
 - b. 5%
 - c. 7%
 - d. 9%

Chapter 10

50. Early reflux esophagitis typically is characterized on double contrast studies by _____ of the distal esophagus.
- a. Dilatation
 - b. Ulcers
 - c. Granularity
 - d. Stricture
51. Barrett's esophagus develop in what percentage of patients with reflux esophagitis?
- a. 10%
 - b. 12%
 - c. 15%
 - d. 17%

52. Most benign ulcers are located on the lesser curvature of the posterior wall of the gastric antrum of the body.
- True
 - False
53. What is the most common cause of gastrocolic fistulas?
- NSAID
 - esophagitis
 - Herpes esophagitis
 - Candida esophagitis
54. Early adenocarcinomas of the esophagus arising from Barrett's mucosa can manifest as which of the following **except**_____.
- Small sessile polyps
 - Plaque-like lesions
 - Superficial spreading lesions
 - Erosion
55. For local staging of esophageal cancer using CT, what is considered the upper limit of normal mural thickness?
- 2mm
 - 3mm
 - 4mm
 - 5mm

Chapter 11

56. What year was the Prostate Reporting and Data System (PI-RADS) introduced?
- 2011
 - 2012,
 - 2013
 - 2014
57. What is the preferred field strength for multiparametric MRI?
- .2T
 - 1.5T
 - 3T
 - 7T
58. Multiparametric MRI of the prostate should include which of the following sequences?
- T2-weighted imaging
 - Diffusion-weighted imaging
 - Dynamic contrast-enhanced imaging
 - All the above
59. Slice orientation and slice thickness should match for all mpMRI sequences to allow side-to-side comparison.
- True
 - False
60. What is the dominate sequence for the peripheral zone where most prostate cancers are located?
- DCE sequence
 - T2-weighted sequence
 - DWI sequence
 - T1-weighted sequence

61. What is the dominant sequence for the transitional zone?
- a. DCE sequence
 - b. T-2 weighted sequence
 - c. DWI sequence
 - d. T1-weighted sequence

Chapter 12

62. What is often the first imaging modality used in patients with known or suspected gut-related disease?
- a. CT
 - b. Radiography
 - c. MRI
 - d. Ultrasound
63. Initial US evaluation of the gut should be performed in all four quadrants using a curved probe.
- a. True
 - b. False
64. What is the usual dose of enteral contrast agent before a small bowel CT?
- a. 750 – 1000mL
 - b. 1000 – 1250mL
 - c. 1250 – 1500mL
 - d. 1500 – 2000mL
65. Which of the following is not an advantage of MR imaging over CT?
- a. Length of exam
 - b. High contrast resolution
 - c. Lack of radiation exposure
 - d. Use of intravenous contrast with better safety profiles
66. Which of the following are limitations of MR imaging?
- a. Cost
 - b. Variability of exam quality
 - c. Access
 - d. A & B
67. What is the shortest section of the small intestines?
- a. Duodenum
 - b. Jejunum
 - c. Ileum
 - d. Retroperitoneum
68. The normal caliber of jejunal and ileal lumen, without the administration of spasmolytic agents is_____.
- a. < 40mm
 - b. < 35mm
 - c. < 30mm
 - d. < 25mm
69. What modality is considered the gold standard to evaluate emergent undiagnosed abdominal pain?
- a. Radiography
 - b. CT
 - c. MRI
 - d. US

70. What is the main cause of mesenteric ischemia?
- a. Arterial occlusion
 - b. Venous occlusion
 - c. Poor cardiac output
 - d. All the above
71. What is one of the most common inflammatory diseases of the small bowel?
- a. Obstruction
 - b. Celiac disease
 - c. Crohn's disease
 - d. Irritable bowel disease

Chapter 13

72. What modality is the primary imaging exam for evaluation of adult patients with acute abdominal pain?
- a. Radiography
 - b. MRI
 - c. Multi-detector CT
 - d. Ultrasound
73. Coronal reformations should be created routinely by the CT technologist, sent to PACS, and reviewed by the radiologist.
- a. True
 - b. False
74. What is the initial imaging examination of choice for patients with suspected acute cholecystitis, for patients with suspected acute cholecystitis and acute gynecological abnormalities?
- a. CT
 - b. MRI
 - c. Radiographs
 - d. US
75. What is the most common disorder presenting with right upper quadrant pain?
- a. Hepatitis
 - b. Liver abscess
 - c. Acute cholecystitis
 - d. Ruptured liver mass
76. The diagnosis of left upper quadrant gastric pathology is best established by_____.
- a. Endoscopy
 - b. CT
 - c. MRI
 - d. US
77. Acute left upper quadrant pain is most often caused by which of the following?
- a. Splenic infarction
 - b. Splenic abscess
 - c. Crohn's disease
 - d. A & B
78. What is the primary imaging examination in females with suspected gynecologic pathology?
- a. CT
 - b. MRI
 - c. US
 - d. Radiography

79. Small bowel obstruction usually is due to_____.
- a. Adhesions
 - b. Crohn's disease
 - c. Radiation enteritis
 - d. Gallstone ileus
80. What percentage of patients with small bowel obstruction do not undergo surgery?
- a. 45%
 - b. 50%
 - c. 55%
 - d. 60%

Chapter 14

81. What is the typical length of the pancreas?
- a. 6 – 8cm
 - b. 9 – 11cm
 - c. 12 – 15cm
 - d. 16 – 18cm
82. Typically, pancreatic ectopic tissue is detected by_____.
- a. CT
 - b. Endoscopy
 - c. US
 - d. MRI
83. Pancreatic ductal adenocarcinoma accounts for what percentage of all malignant pancreatic tumors?
- a. 75 – 79%
 - b. 80 – 84%
 - c. 85 – 95%
 - d. 96 – 98%
84. What percentage of patients have lymph node metastasis at the time of primary pancreatic cancer diagnosis?
- a. 10%
 - b. 20%
 - c. 30%
 - d. 40%
85. Malignancy occurs in what percentage of mucinous cystic neoplasms?
- a. 30%
 - b. 35%
 - c. 40%
 - d. 45%

Chapter 15

86. What remains the first-line imaging for infants and children presenting with suspected gastrointestinal pathology?
- a. CT
 - b. Conventional radiography
 - c. MRI
 - d. US

87. When performing an US exam on children, what is the key factor for success?
- a. Knowing how to deal with children of all ages
 - b. Using high-end US equipment/high frequency probe
 - c. Knowing how to sedate children
 - d. A & B
88. What modality is rarely used in the first-line evaluation of gastrointestinal pathology?
- a. US
 - b. CT
 - c. MRI
 - d. Radiography
89. In neonates and young children, a bowel pattern suspicious for a high obstruction may be assessed further with an _____ study.
- a. Contrast enema
 - b. Upper GI contrast study
 - c. US of abdomen
 - d. MRI of abdomen
90. In older infants and children, obstruction may be related to which of the following etiologies **except**_____.
- a. Adhesions
 - b. Intussusception
 - c. Appendicitis
 - d. Trauma

Chapter 16

91. Colorectal cancer accounts for approximately _____ deaths yearly in the USA.
- a. 30,000
 - b. 40,000
 - c. 50,000
 - d. 60,000
92. Which of the following **is not** recommended for a cathartic prep?
- a. Phospho-soda agents
 - b. Polyethylene glycol
 - c. Magnesium citrate
 - d. Bisacodyl tablets
93. The colon must not be fully distended with air or carbon dioxide for optimal visualization.
- a. True
 - b. False
94. Average patients undergoing CT colonography should receive an effective radiation dose of less than _____.
- a. 3 mSv
 - b. 4 mSv
 - c. 5 mSv
 - d. 6 mSv

Chapter 17

95. What is the modality of choice for routine liver imaging?
- MRI
 - US
 - Contrast-enhanced MDCT
 - PET
96. Using a 64-plus-detector-row system, the entire liver can be scanned within_____seconds.
- 1 – 2
 - 1 – 3
 - 1 – 4
 - 1 – 5
97. MRI of the liver should include which of the following sequences?
- T1-weighted
 - T2-weighted
 - Contrast-enhanced
 - All the above
98. Inflammatory hepatocellular adenomas (HCA) accounts for what percentage of HCA cases?
- 35 – 45%
 - 50 – 55%
 - 60 – 67%
 - 70 – 74%
99. What is the most common primary liver cancer?
- Hepatic adenoma
 - Hepatocellular carcinoma (HCC)
 - Hepatoblastoma
 - Hemangioma
100. HCC is found mostly in patients with which of the following conditions?
- Hepatitis B or C
 - Liver cirrhosis
 - Hemochromatosis
 - All of the above

Chapter 18

101. Cervical cancer is the_____most common malignancy among women worldwide.
- Second
 - Third
 - Fourth
 - Fifth
102. What is the method of choice to evaluate locoregional extent of cervical cancer?
- US
 - MRI
 - CT
 - PET

103. Which cervical cancer stage invades the parametrium?
- Stage IA
 - Stage IB
 - Stage II A
 - Stage II B
104. After fertility-sparing surgery, follow-up MRI is recommended at _____ months and _____.
- 2, 4
 - 4, 6
 - 4, annually
 - 6, annually
105. What stage of endometrial cancer invades the uterine serosa?
- Stage IA
 - Stage II
 - Stage IIIA
 - Stage IV
106. What is the imaging method of choice if uterine sarcoma is suspected clinically or if intervention is planned?
- MRI
 - CT
 - US
 - PET

Chapter 19

107. What represents the diagnostic or therapeutic gold standard in colonic imaging?
- Optical colonoscopy
 - Barium enema
 - MRI
 - Endoscopy
108. What are the most common benign lesion of the colon?
- Lipoma
 - Polyp
 - Hemangioma
 - Lymphangioma
109. Which polyps present with a round, oval, or lobulated polyp head?
- Sessile polyps
 - Pedunculated polyp
 - Flat polyp
 - None of the above
110. On CTC, non-polypoid lesions are defined as lesions that measure _____ or larger above the surrounding mucosa.
- 4mm
 - 5mm
 - 6mm
 - 7mm

111. Polyps smaller than_____are frequently ignored.
- a. 3mm
 - b. 4mm
 - c. 5mm
 - d. 6mm

Chapter 20

112. Urinary tract infections affect_____patients annually worldwide.
- a. 150 million
 - b. 160 million
 - c. 179 million
 - d. 180 million
113. What is the initial modality used to evaluate patients with pyelonephritis?
- a. MRI
 - b. CT
 - c. US
 - d. Radiography
114. Unenhanced CT is excellent for identifying which of the following?
- a. Gas in the urinary tract
 - b. Stones
 - c. Hemorrhage
 - d. All the above
115. What is the mortality rate for type 1 emphysematous pyelonephritis?
- a. 52%
 - b. 62%
 - c. 69%
 - d. 71%

Chapter 21

116. What has become one of the most common causes of chronic liver disease?
- a. Cirrhosis
 - b. Nonalcoholic fatty liver disease (NAFLD)
 - c. Hepatitis B
 - d. Hepatitis C
117. Liver fibrosis may be caused by which of the following?
- a. Steatohepatitis
 - b. Hepatitis B
 - c. Hepatitis C
 - d. All the above
118. In_____of cirrhosis cases, the liver shape and contour appear normal in CT and MRI exams.
- a. 10%
 - b. 20%
 - c. 25%
 - d. 30%

Chapter 22

119. Diffuse hepatic steatosis is common and estimated to occur in approximately____of obese patients.
 - a. 30%
 - b. 35%
 - c. 40%
 - d. 45%
120. What modality easily identifies diffuse steatosis?
 - a. MRI
 - b. US
 - c. CT
 - d. PET
121. On CT, excessive storage of iron into the hepatocytes will result in an overall decreased density.
 - a. True
 - b. False
122. In hemosiderosis the excessive iron is processed and accumulates in what organ?
 - a. Liver
 - b. Spleen
 - c. Bone marrow
 - d. All the above

Chapter 23

123. What is the imaging modality of choice for trauma?
 - a. US
 - b. MRI
 - c. CT
 - d. Radiography
124. Late urographic MRI phases are acquired between____and____minutes after contrast injection.
 - a. 3 – 5 minutes
 - b. 6 – 9 minutes
 - c. 10 –20 minutes
 - d. 25 – 30 minutes
125. Diffusion weighted imaging (DWI) allows indirect estimation of the cell density.
 - a. True
 - b. False
126. What is the most frequent inflammatory changes in the kidneys?
 - a. Pyelonephritis
 - b. Stones
 - c. Tumors
 - d. Abscess

Chapter 24

127. Which of the following is the most common case of scrotal pain?
 - a. Torsion of the testis
 - b. Hydrocele
 - c. Vascular pathologies
 - d. All the above

128. About _____ of scrotal/testicular malignancies can present with scrotal pain.
- a. One fourth
 - b. One third
 - c. One half
 - d. Three fourths
129. What is the most common etiology for isolated retroperitoneal lymphadenopathy?
- a. Lymphoma
 - b. Extragonadal germ cell tumor
 - c. Testicular cancer
 - d. All the above
130. What is the initial imaging examination of choice for testicular and scrotal abnormalities?
- a. MRI
 - b. CT
 - c. US
 - d. Radiography