



Red tech official for radiographer

CT Clinical MCQs – (1 to 100)

1. What is the best initial CT protocol for suspected acute stroke?

- A. CT perfusion
- B. Non-contrast brain CT
- C. CT angiography
- D. Contrast-enhanced brain CT

✓ **Answer:** B. Non-contrast brain CT

2. What is the typical contrast delay time for arterial phase imaging in abdominal CT?

- A. 10 seconds
- B. 20–30 seconds
- C. 70–90 seconds
- D. 120 seconds

✓ **Answer:** B. 20–30 seconds

3. For detecting pulmonary embolism, which CT technique is used?

- A. HRCT
- B. CT fluoroscopy
- C. CTPA (CT Pulmonary Angiography)
- D. CT enterography

✓ **Answer:** C. CTPA (CT Pulmonary Angiography)

4. What is the preferred patient position for abdominal CT?

- A. Supine
- B. Prone
- C. Right lateral
- D. Sitting

✓ **Answer:** A. Supine

5. Which of the following is a contraindication for iodinated contrast in CT?

- A. Hypertension
- B. Diabetes mellitus
- C. Renal insufficiency

D. Astigmatism

✓ **Answer:** C. Renal insufficiency

6. Which window setting is best used for lung parenchyma assessment?

A. Bone window

B. Soft tissue window

C. Mediastinal window

D. Lung window

✓ **Answer:** D. Lung window

7. What is the best CT phase to detect liver metastases?

A. Arterial phase

B. Non-contrast

C. Venous (portal) phase

D. Delayed phase

✓ **Answer:** C. Venous (portal) phase

8. In CT brain imaging, a hyperdense middle cerebral artery sign suggests:

A. Acute ischemic stroke

B. Chronic infarct

C. Hemorrhage

D. Tumor

✓ **Answer:** A. Acute ischemic stroke

9. What is the typical scan delay for portal venous phase abdominal CT?

A. 10–15 sec

B. 20–25 sec

C. 60–70 sec

D. 120–150 sec

✓ **Answer:** C. 60–70 sec

10. Which CT technique is most suitable for detecting subarachnoid hemorrhage?

A. CT perfusion

B. CT angiography

C. Non-contrast CT brain

D. Contrast-enhanced CT brain

✓ **Answer:** C. Non-contrast CT brain

11. What is the main role of CT enterography?

A. Gallstone detection

B. Crohn's disease assessment

C. Renal calculi diagnosis

D. Brain perfusion imaging

✓ **Answer:** B. Crohn's disease assessment

12. Which contrast phase is used for CT urography?

- A. Arterial phase only
- B. Corticomedullary phase
- C. Nephrographic and excretory phases
- D. Portal venous phase

✓**Answer:** C. Nephrographic and excretory phases

13. A CT scan with "ground-glass opacity" most commonly suggests:

- A. Lung malignancy
- B. Pulmonary edema
- C. Interstitial lung disease
- D. Pleural effusion

✓**Answer:** C. Interstitial lung disease

14. CT angiography of the aorta is best performed in which phase?

- A. Non-contrast
- B. Arterial phase
- C. Portal phase
- D. Delayed phase

✓**Answer:** B. Arterial phase

15. What is the most suitable CT scan for trauma evaluation?

- A. Contrast-enhanced CT of the chest
- B. Non-contrast CT head
- C. Whole-body CT (Trauma Protocol)
- D. CT angiography

✓**Answer:** C. Whole-body CT (Trauma Protocol)

16. What is the HU (Hounsfield Unit) cutoff for diagnosing renal stones?

- A. >100
- B. >200
- C. >400
- D. >1000

✓**Answer:** C. >400

17. Which contrast injection site is preferred for CT angiography?

- A. Left antecubital vein
- B. Right dorsalis pedis
- C. Right antecubital vein
- D. Femoral vein

✓**Answer:** C. Right antecubital vein

18. Which CT finding is most characteristic of acute pancreatitis?

- A. Calcified head of pancreas
- B. Fat stranding and peripancreatic fluid
- C. Portal thrombosis

D. Contracted gallbladder

✓ **Answer:** B. Fat stranding and peripancreatic fluid

19. For CT perfusion brain studies, the key perfusion parameters include:

A. HU, voxel, and window

B. CBF, CBV, MTT

C. T1, T2, FLAIR

D. ROI, SD, CTDI

✓ **Answer:** B. CBF, CBV, MTT

20. What should be avoided immediately before a contrast-enhanced abdominal CT?

A. Hydration

B. Full bladder

C. Fasting 4–6 hours

D. Breathing exercises

✓ **Answer:** B. Full bladder

21. A target sign in bowel wall on CT suggests:

A. Appendicitis

B. Crohn's disease

C. Intussusception

D. Ischemic colitis

✓ **Answer:** D. Ischemic colitis

22. What is the most sensitive CT sign of pulmonary embolism?

A. Mosaic attenuation

B. Pleural effusion

C. Filling defect in pulmonary artery

D. Ground-glass opacity

✓ **Answer:** C. Filling defect in pulmonary artery

23. A patient presents with hematuria. Best initial CT protocol?

A. Plain CT abdomen

B. CT angiography

C. CT urography

D. CT pelvis

✓ **Answer:** C. CT urography

24. What is the most likely finding in CT of a patient with subdural hematoma?

A. Crescent-shaped hyperdensity

B. Biconvex hyperdense lesion

C. Ring-enhancing lesion

D. Intraventricular blood

✓ **Answer:** A. Crescent-shaped hyperdensity

25. In suspected bowel perforation, what should be done first?

- A. Contrast enema
- B. Oral contrast CT
- C. CT with rectal contrast
- D. Plain CT abdomen (non-contrast)

✓ **Answer:** D. Plain CT abdomen (non-contrast)

26. What CT protocol is most appropriate for suspected pulmonary fibrosis?

- A. CT angiography
- B. HRCT (High-Resolution CT)
- C. Spiral chest CT
- D. Contrast chest CT

✓ **Answer:** B. HRCT (High-Resolution CT)

27. What is the minimum number of hours of fasting before a contrast-enhanced abdominal CT?

- A. 2 hours
- B. 4 hours
- C. 6 hours
- D. No fasting required

✓ **Answer:** B. 4 hours

28. Which imaging phase is most useful for identifying adrenal adenomas?

- A. Non-contrast phase
- B. Arterial phase
- C. Venous phase
- D. Delayed phase (10–15 min)

✓ **Answer:** D. Delayed phase (10–15 min)

29. Which finding in CT brain suggests subacute infarct?

- A. Hypodensity with mass effect
- B. Hyperdense vessel sign
- C. Loss of gray-white differentiation
- D. Hypodensity with sulcal effacement

✓ **Answer:** A. Hypodensity with mass effect

30. CT angiography of coronary arteries is ideally done at what heart rate?

- A. >100 bpm
- B. <65 bpm
- C. 80–100 bpm
- D. 90–110 bpm

✓ **Answer:** B. <65 bpm

31. What oral contrast is commonly used for bowel opacification?

- A. Iodinated IV contrast

- B. Barium sulfate
- C. Gadolinium
- D. Normal saline

✓**Answer:** B. Barium sulfate

32. Which is NOT a common indication for CT chest?

- A. Lung cancer screening
- B. Evaluation of ILD
- C. Liver metastasis evaluation
- D. Pulmonary embolism

✓**Answer:** C. Liver metastasis evaluation

33. Which of the following is a low attenuation lesion on CT?

- A. Calcified granuloma
- B. Air-filled cyst
- C. Hemorrhage
- D. Metastatic nodule

✓**Answer:** B. Air-filled cyst

34. In suspected appendicitis, what is the most useful CT finding?

- A. Free air
- B. Enhancing bowel wall
- C. Enlarged appendix >6 mm
- D. Calcification

✓**Answer:** C. Enlarged appendix >6 mm

35. The double duct sign on contrast CT suggests:

- A. Liver cirrhosis
- B. Pancreatic head mass
- C. Acute cholecystitis
- D. Gallstone ileus

✓**Answer:** B. Pancreatic head mass

36. What does pneumatosis intestinalis on CT indicate?

- A. Chronic constipation
- B. Colonic polyps
- C. Ischemic bowel
- D. IBS

✓**Answer:** C. Ischemic bowel

37. A typical CT finding in COVID-19 pneumonia is:

- A. Cavitory lesions
- B. Pleural effusion
- C. Bilateral ground-glass opacities
- D. Lung nodules

✓**Answer:** C. Bilateral ground-glass opacities

38. Which scan phase best demonstrates renal cortical necrosis?

- A. Arterial phase
- B. Nephrographic phase
- C. Excretory phase
- D. Non-contrast phase

✓**Answer:** B. Nephrographic phase

39. What contrast-related precaution is necessary for a diabetic patient on metformin?

- A. Stop metformin 48 hours post-contrast
- B. Give contrast IV bolus
- C. Administer insulin before scan
- D. Dehydrate the patient

✓**Answer:** A. Stop metformin 48 hours post-contrast

40. What is a common CT feature of mesenteric ischemia?

- A. Target sign
- B. Portal venous gas
- C. Enhancing bowel wall
- D. Dilated ureter

✓**Answer:** B. Portal venous gas

41. What finding on a trauma CT chest suggests aortic injury?

- A. Pleural effusion
- B. Hemothorax
- C. Mediastinal hematoma
- D. Bronchiectasis

✓**Answer:** C. Mediastinal hematoma

42. Which of the following is a typical CT sign of an abscess?

- A. Homogenous low density
- B. Ring-enhancing lesion with central fluid
- C. Irregular calcification
- D. Fat stranding only

✓**Answer:** B. Ring-enhancing lesion with central fluid

43. CT findings of acute diverticulitis include:

- A. Intramural hematoma
- B. Wall thickening and pericolic fat stranding
- C. Target sign
- D. Mesenteric cyst

✓**Answer:** B. Wall thickening and pericolic fat stranding

44. Which phase is essential in pancreatic CT protocol?

- A. Pre-contrast only
- B. Corticomedullary
- C. Dual-phase (arterial + venous)

D. Delayed only

✓ **Answer:** C. Dual-phase (arterial + venous)

45. For CT-guided biopsy, which CT type is typically used?

A. HRCT

B. Non-contrast spiral CT

C. CT fluoroscopy

D. Perfusion CT

✓ **Answer:** C. CT fluoroscopy

46. Which condition contraindicates IV contrast in CT?

A. Moderate anemia

B. Controlled asthma

C. History of severe contrast allergy

D. Hypothyroidism

✓ **Answer:** C. History of severe contrast allergy

47. In CT imaging, pneumoperitoneum is best seen in which position?

A. Prone

B. Supine

C. Left lateral

D. Erect

✓ **Answer:** D. Erect

48. Best CT finding in active GI bleeding is:

A. Wall thickening

B. Mucosal enhancement

C. Active contrast extravasation

D. Mesenteric fat stranding

✓ **Answer:** C. Active contrast extravasation

49. What is the role of a bolus tracker in CT angiography?

A. Detect motion artifacts

B. Auto-start scan at peak contrast

C. Measure tissue density

D. Guide injection speed

✓ **Answer:** B. Auto-start scan at peak contrast

50. What is the CT appearance of a hepatic hemangioma?

A. Early washout

B. Peripheral nodular enhancement with centripetal fill-in

C. Non-enhancing solid mass

D. Central necrosis with rim enhancement

✓ **Answer:** B. Peripheral nodular enhancement with centripetal fill-in

51. What is the most appropriate CT phase to assess splenic laceration in trauma?

- A. Arterial phase
- B. Portal venous phase
- C. Delayed phase
- D. Non-contrast phase

✓ **Answer:** B. Portal venous phase

52. What is the most common CT finding in colonic diverticulosis?

- A. Ring-enhancing mass
- B. Wall thickening
- C. Air-filled outpouchings
- D. Free air under diaphragm

✓ **Answer:** C. Air-filled outpouchings

53. What is a CT sign of bowel obstruction?

- A. Target sign
- B. Mural enhancement
- C. Dilated bowel loops with air-fluid levels
- D. Free intra-abdominal fat

✓ **Answer:** C. Dilated bowel loops with air-fluid levels

54. What is the best CT scan phase for bladder cancer staging?

- A. Non-contrast
- B. Arterial
- C. Venous
- D. Delayed (urothelial phase)

✓ **Answer:** D. Delayed (urothelial phase)

55. Which of the following is best evaluated on a non-contrast CT brain?

- A. Ischemic stroke
- B. AV malformation
- C. Intracranial hemorrhage
- D. Glioma

✓ **Answer:** C. Intracranial hemorrhage

56. Which structure is best visualized with HRCT of the chest?

- A. Large pleural effusion
- B. Lung parenchyma and interstitium
- C. Mediastinum
- D. Pulmonary arteries

✓ **Answer:** B. Lung parenchyma and interstitium

57. What phase is most suitable for adrenal lesion washout analysis?

- A. Arterial
- B. Venous
- C. Delayed

D. Non-contrast

✓ **Answer:** C. Delayed

58. In CT urography, the nephrographic phase is used for assessing:

A. Stones

B. Renal perfusion

C. Renal masses

D. Ureteric patency

✓ **Answer:** C. Renal masses

59. A hyperdense crescent sign in CT aorta indicates:

A. Aortic aneurysm

B. Aortic dissection

C. Intramural hematoma

D. Pseudoaneurysm

✓ **Answer:** C. Intramural hematoma

60. What is the CT finding of obstructive uropathy?

A. Shrunken kidney

B. Dilated renal pelvis and calyces

C. Cortical thinning

D. Perinephric fluid

✓ **Answer:** B. Dilated renal pelvis and calyces

61. What is a typical CT finding in hepatocellular carcinoma?

A. Peripheral enhancement

B. Arterial phase hyperenhancement with washout

C. No enhancement

D. Hypodense on all phases

✓ **Answer:** B. Arterial phase hyperenhancement with washout

62. In a trauma patient, what does a "seatbelt sign" on CT suggest?

A. Appendicitis

B. Diaphragmatic rupture

C. Bowel injury

D. Rib fracture

✓ **Answer:** C. Bowel injury

63. CT abdomen reveals a well-defined fat-containing lesion in the adrenal gland. Most likely diagnosis?

A. Pheochromocytoma

B. Myelolipoma

C. Hemangioma

D. Metastasis

✓ **Answer:** B. Myelolipoma

64. A typical CT feature of ischemic colitis is:

- A. Bowel wall thinning
- B. Hyperenhancement
- C. Mucosal sloughing and submucosal edema
- D. Large lymph nodes

✓**Answer:** C. Mucosal sloughing and submucosal edema

65. A “halo sign” in lung CT may indicate:

- A. Pneumothorax
- B. Pulmonary embolism
- C. Invasive aspergillosis
- D. Emphysema

✓**Answer:** C. Invasive aspergillosis

66. What is the most common CT finding in pancreatitis?

- A. Pancreatic duct stone
- B. Fat stranding around pancreas
- C. Pancreatic calcification
- D. Thrombosis of splenic vein

✓**Answer:** B. Fat stranding around pancreas

67. A fluid level in a lung cavity on CT suggests:

- A. Pneumonia
- B. Pulmonary embolism
- C. Lung abscess
- D. Fibrosis

✓**Answer:** C. Lung abscess

68. What does "tree-in-bud" appearance on HRCT suggest?

- A. Pulmonary edema
- B. Bronchiolar inflammation/infection
- C. Emphysema
- D. Interstitial fibrosis

✓**Answer:** B. Bronchiolar inflammation/infection

69. A typical CT sign of volvulus is:

- A. Target sign
- B. Whirl sign
- C. Crescent sign
- D. Cobra head sign

✓**Answer:** B. Whirl sign

70. What is a sentinel clot sign on CT?

- A. Dense area of blood near organ injury
- B. Free air in the peritoneum
- C. Bowel gas collection

D. Blood in subarachnoid space

✓ **Answer:** A. Dense area of blood near organ injury

71. CT cystogram is used to evaluate:

A. Ureteric strictures

B. Bladder injury

C. Renal mass

D. Urethral trauma

✓ **Answer:** B. Bladder injury

72. What is a common finding in CT of pericardial tamponade?

A. Pericardial calcification

B. Pericardial effusion with collapsed right heart chambers

C. Pulmonary artery enlargement

D. Mediastinal widening

✓ **Answer:** B. Pericardial effusion with collapsed right heart chambers

73. Which CT phase is critical for arterial visualization in mesenteric ischemia?

A. Portal venous

B. Delayed

C. Arterial

D. Non-contrast

✓ **Answer:** C. Arterial

74. What finding is most suggestive of bronchiectasis on HRCT?

A. Tree-in-bud pattern

B. Tram-track appearance

C. Ground-glass opacity

D. Nodular opacity

✓ **Answer:** B. Tram-track appearance

75. What type of CT is used to detect active gastrointestinal bleeding?

A. Delayed phase only

B. Dual-energy CT

C. Multiphasic CT with arterial and venous imaging

D. Non-contrast CT

✓ **Answer:** C. Multiphasic CT with arterial and venous imaging

76. What is the most likely cause of pneumomediastinum seen on chest CT?

A. Pneumonia

B. Esophageal rupture or trauma

C. Asthma

D. Lung nodule

✓ **Answer:** B. Esophageal rupture or trauma

77. The “reversed halo sign” on lung CT is seen in:

- A. Sarcoidosis
- B. Invasive fungal infection
- C. Pneumonia
- D. Emphysema

✓**Answer:** B. Invasive fungal infection

78. Which of the following is an absolute contraindication for contrast-enhanced CT?

- A. Mild asthma
- B. Controlled diabetes
- C. Severe contrast allergy
- D. Elevated cholesterol

✓**Answer:** C. Severe contrast allergy

79. CT abdomen shows concentric bowel wall thickening with a “target sign.” Likely diagnosis?

- A. Colitis
- B. Bowel ischemia
- C. Intussusception
- D. Diverticulitis

✓**Answer:** C. Intussusception

80. In CT angiography, the bolus tracking region for pulmonary embolism is:

- A. Aorta
- B. Left atrium
- C. Main pulmonary artery
- D. Left ventricle

✓**Answer:** C. Main pulmonary artery

81. What is the CT sign of fat embolism syndrome?

- A. Crazy-paving pattern
- B. Mosaic attenuation
- C. Ground-glass opacities and interlobular septal thickening
- D. Tree-in-bud pattern

✓**Answer:** C. Ground-glass opacities and interlobular septal thickening

82. Which phase of CT chest is best for mediastinal mass evaluation?

- A. Non-contrast
- B. Arterial
- C. Venous
- D. Delayed

✓**Answer:** C. Venous

83. What CT appearance is typical of a simple renal cyst?

- A. Enhancing lesion
- B. Hyperdense solid mass
- C. Non-enhancing, fluid attenuation

D. Calcified mass

✓ **Answer:** C. Non-enhancing, fluid attenuation

84. In CT brain, a “lens-shaped” hyperdensity indicates:

A. Subarachnoid hemorrhage

B. Subdural hematoma

C. Epidural hematoma

D. Infarction

✓ **Answer:** C. Epidural hematoma

85. Which CT phase is best for imaging a suspected liver hemangioma?

A. Portal venous phase

B. Arterial phase

C. Delayed phase

D. Dual phase

✓ **Answer:** C. Delayed phase

86. What does “enhancement washout” in CT adrenal protocol help differentiate?

A. Abscess from tumor

B. Cyst from hemorrhage

C. Benign adenoma from metastasis

D. Pheochromocytoma from lipoma

✓ **Answer:** C. Benign adenoma from metastasis

87. What is the preferred method of evaluating small bowel obstruction in CT?

A. Non-contrast CT

B. CT enterography

C. Contrast-enhanced CT with oral contrast

D. CT colonography

✓ **Answer:** C. Contrast-enhanced CT with oral contrast

88. A “whirl sign” in the mesentery is associated with:

A. Bowel perforation

B. Internal hernia or volvulus

C. Lymphoma

D. Diverticulitis

✓ **Answer:** B. Internal hernia or volvulus

89. CT feature of an aortic dissection includes:

A. Crescent sign

B. Intimal flap

C. Contrast extravasation

D. Vascular calcification

✓ **Answer:** B. Intimal flap

90. A fluid–fluid level in a renal lesion on CT suggests:

- A. Simple cyst
- B. Hemorrhagic cyst or abscess
- C. Renal artery aneurysm
- D. Lipoma

✓ **Answer:** B. Hemorrhagic cyst or abscess

91. What CT sign indicates bowel wall ischemia?

- A. Mucosal enhancement
- B. Pneumatosis intestinalis
- C. Target sign
- D. Free peritoneal fluid

✓ **Answer:** B. Pneumatosis intestinalis

92. Which of the following is commonly seen in CT of sigmoid volvulus?

- A. Coffee bean sign
- B. Rigler's sign
- C. Air bronchogram
- D. Collar sign

✓ **Answer:** A. Coffee bean sign

93. What finding on CT is suggestive of active GI bleeding?

- A. Bowel wall thickening
- B. Contrast pooling within lumen
- C. Mesenteric edema
- D. Air-fluid levels

✓ **Answer:** B. Contrast pooling within lumen

94. What is the CT sign of tracheobronchial rupture?

- A. Ground-glass opacity
- B. Pneumomediastinum and subcutaneous emphysema
- C. Tree-in-bud
- D. Target sign

✓ **Answer:** B. Pneumomediastinum and subcutaneous emphysema

95. CT cystography is performed by:

- A. IV contrast and delayed scan
- B. Bladder catheter and retrograde filling with contrast
- C. Oral contrast and prone position
- D. Scout imaging only

✓ **Answer:** B. Bladder catheter and retrograde filling with contrast

96. The most specific CT finding for ureteric stone is:

- A. Perinephric fat stranding
- B. Ureteral wall thickening
- C. Hyperdense focus in ureter

D. Hydronephrosis

✓ **Answer:** C. Hyperdense focus in ureter

97. Which of the following can simulate a lung mass on CT?

A. Pleural effusion

B. Rounded atelectasis

C. Bronchiectasis

D. Cystic fibrosis

✓ **Answer:** B. Rounded atelectasis

98. CT perfusion is primarily used in:

A. COPD

B. Pancreatitis

C. Acute stroke

D. Urolithiasis

✓ **Answer:** C. Acute stroke

99. What is the CT sign of gallbladder perforation?

A. Enhancement of the gallbladder wall

B. Intramural gas

C. Pericholecystic fat stranding

D. Gallstones in common bile duct

✓ **Answer:** B. Intramural gas

100. In post-contrast CT, enhancing septations within a cystic renal mass indicate:

A. Benign cyst

B. Hematoma

C. Malignancy (Bosniak IV)

D. Calcified granuloma

✓ **Answer:** C. Malignancy (Bosniak IV)
