5. ASSESSMENT FUND

5.1. Advancement Questions and Assignments

1. Name congenital malformations with a decrease in the pulmonary heart.
2. Call the congenital heart defects with an increase in pulmonary pattern.
3. What contrast material is used to study the gastro intestinal tract?
4. How many physiological constrictions are in the esophagus?
5. X-ray signs of a malignant tumor of the esophagus.
6. X-ray signs of post-burn cicatricle narrowing of the esophagus.
7. X-ray signs of pulseless diverticula of the esophagus.
8. X-ray signs of traction diverticula of the esophagus.
9. X-ray signs of esophagus achalasia.
10. X-ray signs of a benign tumor of the esophagus. What is the main method to examine the organs of the chest?
11. What is the advantage of CT of chest organs in comparison with X-ray examination?
12. What is the number of segments of the lungs?
13. Where is a horizontal interlobar slot projected on the chest X-ray in a direct projection?
14. Which method of radiologic diagnostics is used for preventive purposes?
15. What are the advantages of digital radiography?
16. What methods to examine chest organs do not carry radiation and why?
17. Can we use ultrasound to study the organs of the chest.
18. What are the main radiologic symptoms of pathology in the lungs?
19. What color does a shadow on the negative radiograph of the chest organs have?
20. What color does the enlightenment on the negative radiograph of the organs of the chest have?
21. Signs of the normal location of the mediastinal organs on the chest X-ray.
22. List the radiographic signs of focal and infiltrative shadows.
23. Specify the differences in the characteristics of miliary and large focal shadows.
24. Pathological conditions in the lungs that cause the diaphragm shift supwards.
25. What are the criteria for assessing the intensity of shadows?
26. Give the definition of an inhomogeneous shadow.
27. Describe your changes in the lung pattern.
28. X-ray picture of croupous pneumonia of the first stage.
29. X-ray picture in croupous pneumonia of the second stage.
30. Types of pleurisy and their radiographic signs.
31. X-ray picture of focal pneumonia.
32. Radiographic picture of lung abscess in stage II.
33. Radiological picture of lung abscess in stage III.
34. Is the mediastinum displaced in croupous pneumonia?
35. The difference in the X-ray picture in croupous pneumonia of the upper lobe of the right lung at stage II from the central endobronchial cancer of the right lung with complete obturation of the right upper lobe bronchus.
36. X-ray picture of pneumosclerosis.
37. What are the criteria for differential diagnosis of focal pneumonia from lung abscess at stage I?
38. What is the relevance of the problem of pulmonary tuberculosis?
39. The discovery of pulmonary tuberculosis.
40. The role of Hippocrates and Avicenna in the discovery of pulmonary tuberculosis.
41. The role of Robert Koch in the discovery of pulmonary tuberculosis.
42. The importance of radiological methods to solve the problem of pulmonary tuberculosis.
43. Classification of pulmonary tuberculosis.
44. Clinical and radiographic signs of the primary tuberculosis complex.
45. Stages of development of the primary tuberculosis complex.
46. X-ray morphological forms of tuberculous bronchoadenitis.
47. List the secondary forms of pulmonary tuberculosis.
48. Name the acute hemotogenous disseminated forms of pulmonary tuberculosis and their radiological features.
49. What are the X-ray features of rounded forms of tuberculosis (tuberculoma), its most frequent localization and differential diagnostics with peripheral lung cancer?
50. Name benign tumors of the mediastinum.
51. What pathognomonic symptoms of an echinococcal cyst in the lung do you know?
52. Which type of lung cancer is more common?
53. What are the radiologic symptoms of peripheral lung cancer?
54. Name the types of the progress of central lung cancer.
55. Describe the degree of bronchial obstruction in central endobronchial lung cancer.
56. What radiologic symptom is characterized central peribronchial lung cancer?
57. What are the benign tumors of the mediastinum?
58. What X-ray symptoms are typical for benign mediastinal tumors?
59. Name malignant tumors of the mediastinum.
60. What X-ray symptoms are typical for malignant tumors of the mediastinum?

61. How to conduct differential diagnosis between malignant and benign medtinal tumors?
62. The main radiological methods to diagnose heart diseases.
63. The special radiological methods to diagnose heart defects and vascular aneurysms.
64. Cardiometric criteria for the size of heart segments.
65. X-ray features of the configuration of the child's and senile heart.
66. X-ray criteria for the "aortic configuration" of the heart.
67. X-ray criteria for the "mitral" configuration of the heart.
68. Clinical and roentgenological criteria for the "globular" configuration of the heart.
69. Classification of congenital heart diseases.
70. Call congenital malformations with a decrease in the pulmonary heart.
71. Call the congenital heart defects with an increase in pulmonary pattern.
72. What contrast material is used to study the gastrointestinal tract?
73. How many physiological constrictions in the esophagus.
74. X-ray signs of a malignant tumor of the esophagus.
75. X-ray signs of post-burn cicatricial narrowing of the esophagus.
76. X-ray signs of pulseless diverticula of the esophagus.
77. X-ray signs of traction diverticula of the esophagus.
78. X-ray signs of esophagus achalasia.
79. X-ray signs of a benign tumor of the esophagus.
80. What is a filling defect?
81. What happens to the folds of the mucosa in a malignant tumor of the esophagus?
82. What contrast agent is used to study the stomach?
83. What is the technique of double gastric contrast?
84. What position is the patient examined in to identify hernia of the esophageal opening of the diaphragm?
85. X-ray signs of the stomach polyp.
86. X-ray signs of gastric ulcer.
87. X-ray signs of complications of stomach ulcers.
88. X-ray signs of a malignant tumor of the stomach.
89. X-ray signs of pilocenosis.
90. X-ray signs of acute small intestinal obstruction.
91. X-ray signs of acute colonic obstruction.
92. X-ray signs of a malignant tumor of the large intestine.
93. What is the basis for the USM method? What is the purpose of the ultrasonic sensor?
94. How many basic ultrasound methods exist ? Call them.
95. What is the preparation of patients for ultrasound and what cases is it necessary in?
96. What shortcomings of ultrasound do you know?
97. What does the cyst of the liver look like on the screen during ultrasound?
98. What ultrasound signs characterize gallstones?
99. What are ultrasound signs in acute cholecystitis?
100. Which method of radiologic diagnostics is the best to detect the pathology of the pancreas and why?
101. What are ultrasound signs in liver cancer?
102. What does the biliary duct with distal obstruction look like on the screen during ultrasound?
103. Which method of radiologic diagnostics radiologic diagnostics is considered the best in studying the anatomical and morphological features of the thyroid gland?
104. What methods of radiologic diagnostics determine the functional features of the thyroid gland? Give examples.
105. What ultrasound signs indicate a malignant tumor of the kidney?
106. What methods of radiologic diagnostics should be used for renal colic?
107. What method of radiologic diagnostics is leading in obstetrics and gynecology and why?
108. What features does the child's skeleton have in the X-ray image?
109. Which method of radiologic diagnostics is currently considered the most informative during the examination of joints?
110. Is the US method used to study the osteoarticular system?
111. What are the rules to be followed during radiographing of bones and joints?
112. What radiologic symptoms characterize the reduction of bone tissue?
113. What is osteoporosis in nature and in prevalence?
114. What kind of periostitis is typical for a malignant tumor of bones?
115. What radiologic signs characterize a bone fracture?
116. What radiologic signs indicate a consolidating fracture?
117. What pathological process is characterized by osteosclerosis and hyperostosis?
118. What are the radiologic symptoms of acute osteomyelitis?
119. What are consequences of chronic osteomyelitis?
120. What kinds of periostitis characterize chronic osteomyelitis?
121. What radiologic signs characterize the first stage of joint tuberculosis?
122. What are consequences of tuberculosis?

123. Which method of radiologic diagnostics is the best during the examination of cerebral vessels?
124. What is the purpose of using radionuclide diagnostic methods to study the brain?
125. Which method of radiologic diagnostics should be used in general medical practice to detect stenosis of the internal carotid and intervertebral arteries?
126. Why is the CT scan the choice to examine patients with head injury?
127. What does the area of fresh hemorrhage look like on the CT (indicate units of HU)?
128. What does the area of the edema look like on CT scan with a contusion of the brain?
129. What advantages does the MRI method have over CT in brain research?
130. Ionizing radiation. Interaction with the substance.
131. Characteristic of biological effect of ionizing radiation.
132. What are the advantages of orthopantomography?
133. What are the radiographic signs of chronic periodontitis (granulomatous, granulating, and fibrous)?
134. What are the radiologic symptoms of acute osteomyelitis?
135. What radiologic signs are found in chronic osteomyelitis?
136. What radialogic signs of odontogenic neoplasms do you know?
137. What is the difference between the radicular cyst and the follicular cyst during X-ray examination?
138. What methods of radiologic diagnostics should be used for suspected renal colic?
139. What X-ray signs are observed with spontaneous pneumothorax?
140. What methods of radiologic diagnostics should be used to identify the causes of coronary heart disease?
141. What is the radiologic picture of a lung infarction?
142. What are the X-ray signs of a perforated stomach ulcer?

5.2. Course Papers Themes

Course Papers are not provided

5.3. Assessment Fund

Tests (Appendix #1)
Cases/quizzes (Appendix #2)
Report with presentation (Appendix #3)
X-ray, CT, MRI, US scans (partly in Appendix #4)

5.4. List of Assessment Tools

Tests;
Situational tasks;
Report with presentation;
Radiographs, sonograms, a series of images of CT and MRI, discs with studies - for each topic.

6. COURSE (MODULE) METHODOLOGICAL AND INFORMATIONAL SUPPORT

6.1 Recommended Reading

6.1.1 Required Reading List

	Authors, Compliers	Title	Bookpublisher, Year
1	William Herring MD	Learning Radiology: Recognizing the Basics	FACR, 2015
2	Mark Rodrigues (Editor), Zeshan Qureshi (Editor)	Unofficial Guide to Radiology (Unofficial Guides to Medicine)	2014
3	Hariqbal, M.D. Singh, Dinesh, M.D. Pardesi	Radiology for Undergraduates and General Practitioners 1st Edition	2012

6.1.2 Advanced Reading

	Authors, Compliers	Title	Bookpublisher, Year
4	Christopher Clarke, Anthony Dux	Chest X-rays for Medical Students 1st Edition	2011

6.1.3 Guidance Papers

	Authors, Compliers	Title	Bookpublisher, Year
5	Na'eem Ahmed MBBS BSc, Rashid Akhtar MBBS BSc, Nihad Khan MBBS BSc	The Unofficial Guide to Radiology: 100 Practice Chest X Rays with Full Colour Annotations and Full X Ray Reports (Unofficial Guides to Medicine) 1st Edition	2017

6.2 Online Resources

http://www.myesr.org/ European Society of Radiology
http://www.radiologyassistant.nl/ Radiology Assistant
http://radiopaedia.org/ Radiopaedia
http://www.auntminnie.com/ Radiology cases
http://learningradiology.com/ Learning radiology

6.3. List of Information and Educational Technologies

Lectures using multimedia.
Seminars in radiology department with radiology equipment and real-time patients' examination.

6.3.1 Competence-based Educational Technologies

Traditional educational technologies: lectures, practical classes, focused on communicating knowledge and methods of action, passed on to students in ready-made form and intended to master. Lecturing involves the use of multimedia equipment. Conducting practical classes involves using tables, stands, visual aids. Visit diagnostic cabinets are equipped with X-ray machines, computer, magnetic resonance scanners, ultrasonic diagnostic devices.
The study of each section is illustrated by the corresponding medical images (X-rays, tomograms, computer and magnetic resonance tomograms, echograms, radiovisiograms, scintigrams).
Independent work of students implies preparing for clinical studies, writing research protocols with subsequent analysis with the teacher, preparing for the current or final assessment of tests and situational tasks, preparing for the final certification of practical skills and for final control.
The work with educational literature is considered as a kind of educational work on the module "Radiologic diagnostics" and is performed within the hours intended for its study (in the section of the CDS). Each student is provided with an access to the library funds of the university and the department.
The work of students in groups forms skills of team building and the quality of being sociable. The process of studying helps students acquire skills to make a dialogue with a patient. The independent work with patients encourages developing skills of deontological behavior and medical ethics, accuracy, discipline. Working in the room of radiological diagnostics and compiling algorithms for a rational radiologic examination of a patient form the skills to observe the Norms of radiation safety.

6.3.2 List of Information Reference Systems and Software

http://www.myesr.org/ European Society of Radiology
http://www.radiologyassistant.nl/ Radiology Assistant
http://radiopaedia.org/ Radiopaedia http://www.auntminnie.com/
Radiology cases http://learningradiology.com/ Learning
radiology

7. COURSE (MODULE) LOGISTICS

When the specialist's program is implemented, lecture rooms and rooms for practical classes are provided with computers, printers, projectors, radiologic equipment, etc. based on NCOH and FMC6; the Internet is available as well as all modern professional databases and information reference systems.

8. COURSE (MODULE) PROFICIENCY METHODICAL GLUIDELINES (FOR STUDENT)

Scale of evaluation - Appendix #5
Technological map of the discipline - Appendix #6

The training consists of a lecture course, practical classes, and students' independent work. When studying the academic discipline, students acquire theoretical knowledge and practical skills in radiologic diagnostics. Practical classes include a survey, a demonstration of radiographs, computer tomograms, sonograms, the use of visual aids, solving situational problems.
Independent work of students implies the preparation for practical classes, writing essays, performing creative tasks, the work with educational literature, lecture material; work with Internet resources on radiological diagnostics. The work with educational literature is considered as a kind of educational work on the discipline of oncology and performed within the hours intended for its study (in the section of the CDS). Each student is provided with an access to the library funds of the university and the department. Writing a report and anamnesis of a disease contribute to the formation of theoretical and practical skills. Students' work in groups forms skills of team building and the quality of being sociable. Students acquire ethical communication skills with patients. The initial level of trainees' knowledge is determined by testing. The current control over the process of studying the discipline is determined by an oral questionnaire during practical classes, solving typical situational tasks. At the end of each module, students either make a presentation or do a test.

APPENDIX №1

1. What is the most common cause of an abdominal aortic aneurysm (AAA)?
A) Infection (mycotic)
B) Atherosclerosis
C) Connective tissue diseases
D) Vasculitis
E) Trauma

2. Which of the following is/are clinical findings/ complications associated with an A
A. Lower limb ischaemia
B. Hydronephrosis
C. Transient ischaemic attack/cerebrovascular accident
D. Syncopeand shock
E. Retroperitoneal fibrosis

3. An AAA is usually defined as the AP diameter of the abdominal aorta exceeding
A. 10mm
B. 20mm
C. 25mm
D. 30mm
E. 40mm

4. Which of the following are risk factors for a primary spontaneous pneumothorax?
A) Malegender
B) Smoking
C) COPD
D) Trauma
E) Marfan's syndrome

5. Which of the following clinical findings would be supportive to a large simple right sided pneumothorax?
A) central trachea. Dull percussion and reduced air entry on the right side of thechest
B) central trachea. Dull percussion with bronchial breathing and crackles on the right side of the chest central trachea. Hyper resonant percussion and reduce dairentryon
C) the right side of thechest
D) central trachea. Hyperresonant percussion and reduced air entry on the left side of thechest
E) Trachea deviated to the left. Hyperactive resonant percussion and reduced air entry on the right side of the chest. Hypotensive, tachycardic

6. Which of the following is an appropriate differential diagnosis for a patient who presented with a sudden breathlessness?
A) Pulmonary embolus
B) Pneumothorax
C) Pneumonia
D) Heart failure
E) Anaphylaxis

7. What is the most important initial aspect to manage a patient?
A) Painrelief
B) Stabilization of the cervical spine with in-lineimmobilisation
C) A full anamnesis and examination to identify any underlying malignancy
D) Trauma assessment
E) A referral to neuro surgeons

8. What lines is/are useful for assessing the cervical spine on the lateral X-ray?
A) Anteriorvertebral line
B) Posteriorvertebral line
C) Line of Klein
D) Line of the spinous processes
E) Spinolaminarline

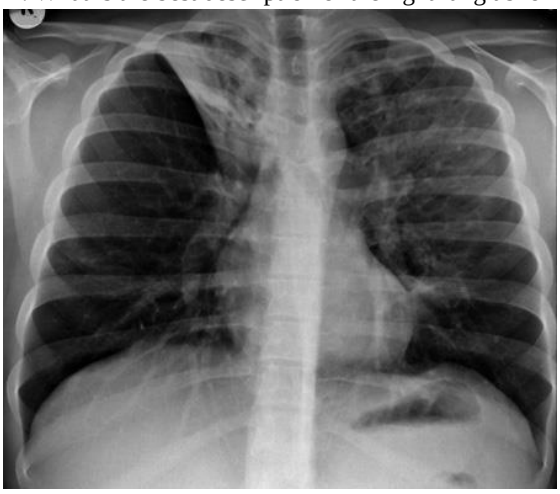
9. Which of these may indicate an unstable Jefferson fracture on odontoid peg view?
A) Normal Wackenheim's Line
B) 1mm gap between the peg and the lateralmasses
C) 7 mm displacement of lateral masses
D) A type two fracture of the odontoidpeg
E) C1/C2subluxation

10. Which of these is/are likely to be initially required when investigation of a suspected pathological fracture of the cervical spine takes place?
A) Anamnesis and examination
B) CTscan
C) MRI scan
D) PET/CTscan
E) Ultrasound of the neck

11. Which anatomical variant is visible?

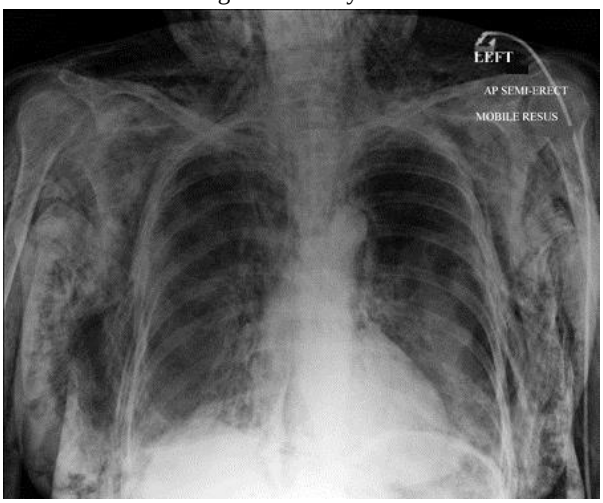
A - Azygos fissure
B - Cervical rib
C - Dextrocardia
D - Pectus excavatum

12. What is the best description of the right lung abnormality?



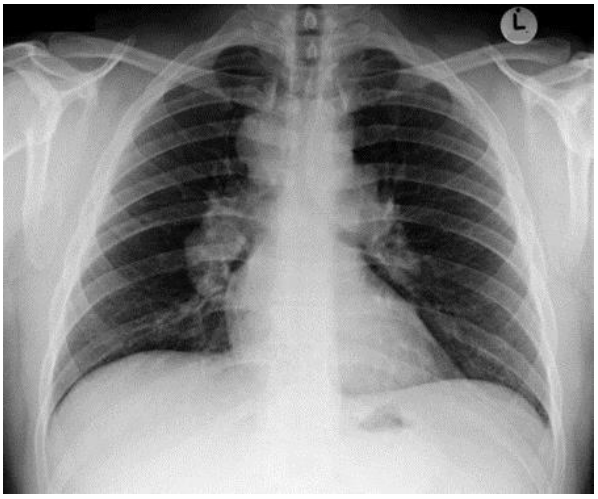
A - Pneumothorax
B - Hyperexpansion
C - Upper lobe collapse and consolidation
D - Lower lobe collapse

12. What is the striking abnormality?



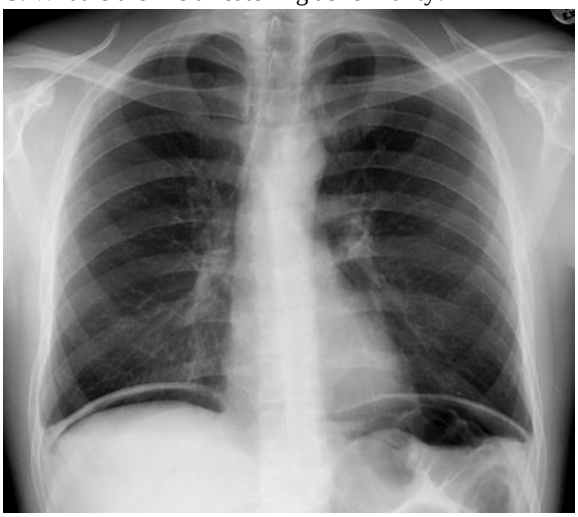
A - Poor quality image
B - Extensive surgical emphysema
C - Cardiomegaly
D - Pneumoperitoneum

14. What is the likely diagnosis in this patient with a rash on the shins?



A - Sarcoidosis
B - Lung cancer
C - HIV
D - Asbestosis

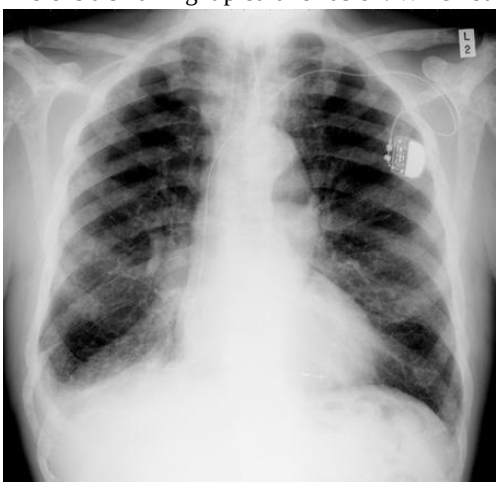
15. What is the life threatening abnormality?



A - Tension pneumothorax

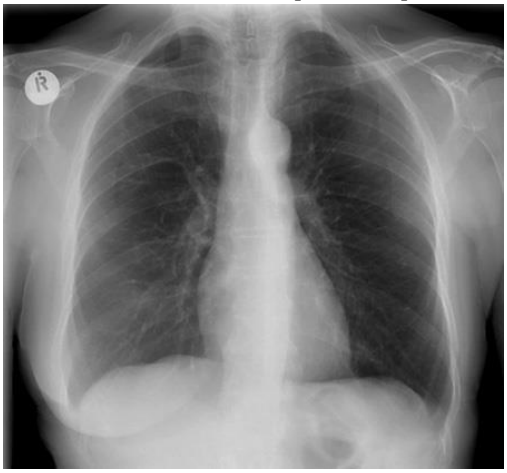
B - Pneumoperitoneum
C - Pneumobilia
D - Pulmonary oedema

16. There is a small right pleural effusion. Which other structures are most strikingly abnormal?



A - Heart chambers
B - Lungs
C - Soft tissues
D - Bones

17. There is the evidence of the previous operation. Which one?

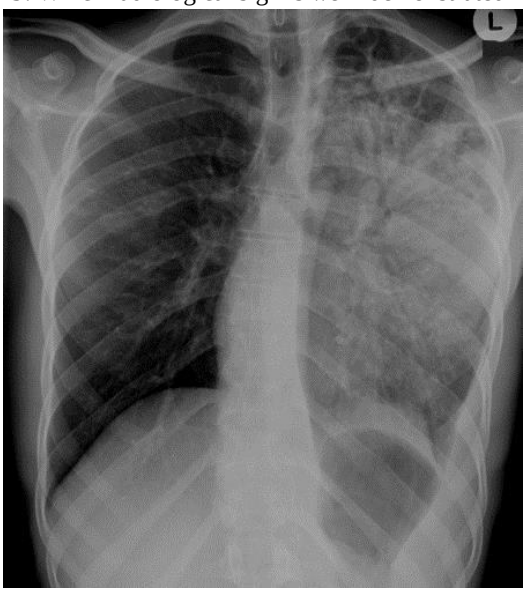


A - Thyroidectomy
B - Mitral valve replacement
C - Right pneumonectomy
D - Left mastectomy

18. This man is now retired. What was likely to be his previous occupation?

A - Doctor
B - Dentist
C - Hedge fund manager
D - Ship yard worker

19. Which radiological sign is well- demonstrated in the left lung?

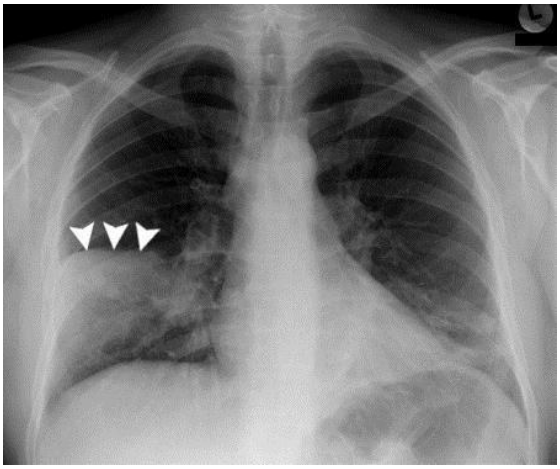


A - Air pneumogram
B - Air bronchogram
C - Air radiogram
D - Air tomogram

20. What is the underlying cause of the right pneumothorax?

A - Lung fibrosis
B - Metastatic disease
C - Emphysema
D – Trauma

21. This patient has right middle lobe pneumonia. Which anatomical structure (arrowheads) is limiting the superior extent of infection?



A - Horizontal fissure
B - Oblique fissure
C - Diaphragm
D - 8th rib

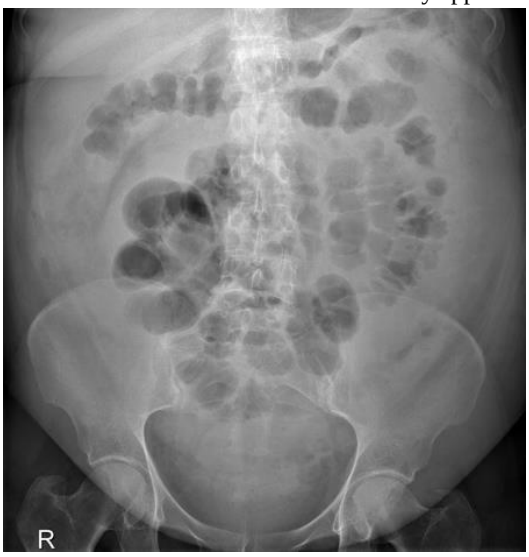
22. What is the likely cause of the pleural effusion in this smoker with finger clubbing?

A - Lung cancer
B - Heart failure
C - Sarcoidosis
D - Systemic lupus erythematosus

23. Which answer best describes the X-ray appearances?

A. Caecal volvulus
B. Large bowel obstruction
C. Small bowel obstruction
D. Bowel perforation
E. Normal

24. Which answer best describes the X-ray appearances?



A. Sigmoid volvulus
B. Normal
C. Ascites
D. Small bowel obstruction
E. Pneumoperitoneum

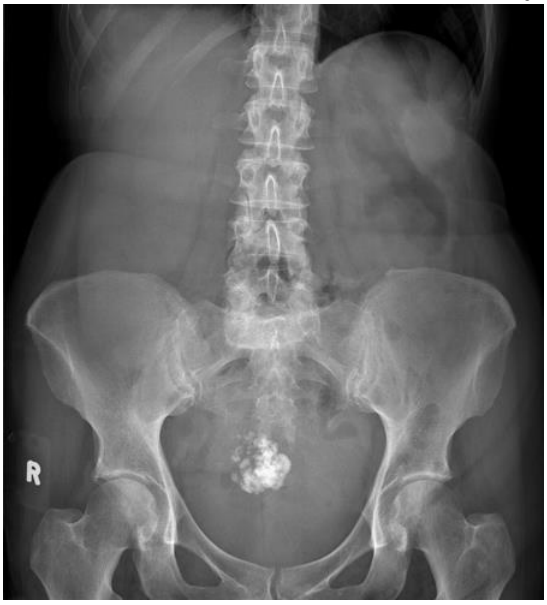
25. What is the cause of the area of calcification in this image?

A. Calcified gallstones
B. Calcified mesenteric lymph nodes
C. Pancreatic calcification
D. Malignant calcification
E. Calcified uterine fibroid

26. Which answer best describes the X-ray appearances?

A. Caecal volvulus
B. Sigmoid volvulus
C. Small bowel obstruction
D. Perforation
E. Normal

27. What is the cause of the area of increased density in the pelvis?

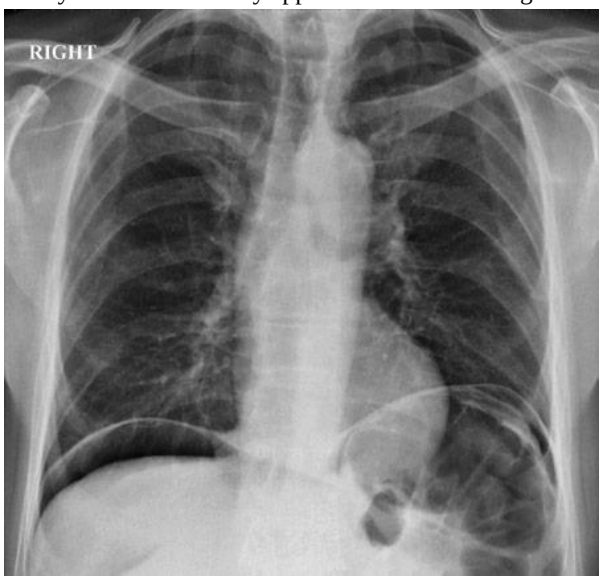


A. Calcified pelvic kidney
B. Calcified abdominal lymph node
C. Calcified uterine fibroid
D. Ingested barium
E. Calcified adrenal gland

28. This patient had a history of abdominal surgery 7 years ago, and presented with a 24-hour history of severe abdominal pain and vomiting. In this setting, which answer best describes the X-ray appearances.

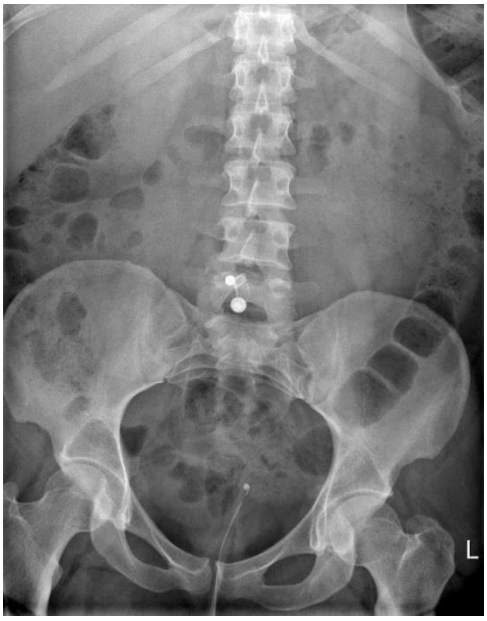
A. Small bowel obstruction
B. Post-operative ileus
C. Normal
D. Perforation
E. Sigmoid volvulus

29. If you saw these X-ray appearances in the setting of acute abdominal pain, what is the most appropriate course of the action?



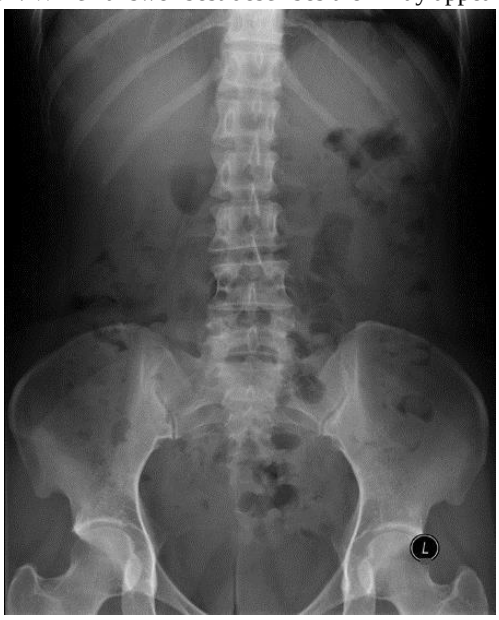
A. Place an abdominal drain
B. Request abdominal ultrasound
C. Request abdominal MRI
D. Resuscitate the patient and inform the surgeons
E. Take a break

30. What are the artifacts visible?



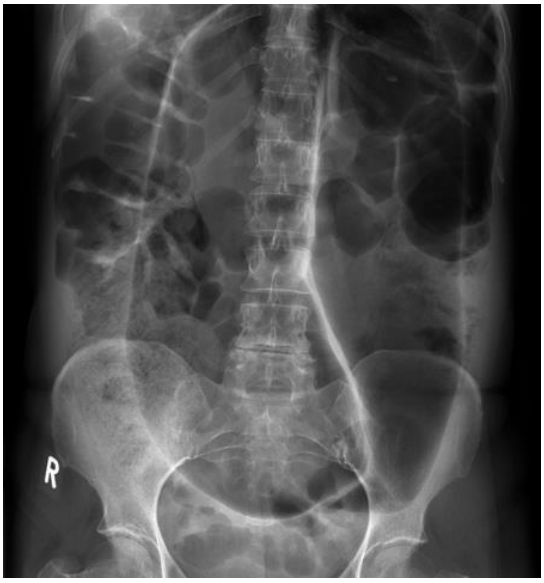
A. Urinary catheter and navel jewellery
B. Urinary catheter and surgical clips
C. Gastrostomy tube and surgical clips
D. Catheter and ingested foreign body
E. Gallstones and urinary catheter

31. Which answer best describes the X-ray appearances?



A. Pneumoperitoneum
B. Ascites
C. Psoas abscess
D. Small bowel obstruction
E. Normal

32. Which answer best describes the X-ray appearances?



A. Large bowel obstruction
B. Sigmoid volvulus
C. Caecal volvulus
D. Perforation
E. Small bowel obstruction

33. Which answer best describes the X-ray appearances?

A. Biliary obstruction
B. Bowel wall thumb-printing
C. Caecal volvulus
D. PerforationGallstone ileus

34. Which answer best describes the X-ray appearances?

A. Bowel wall thumbprinting
B. PerforationLarge bowel obstruction
C. Small bowel obstruction
D. Diverticulitis

35. What is the most common underlying cause of an abdominal aortic aneurysm (AAA)?
A. Trauma
B. Atherosclerosis
C. Connectivetissuediseases
D. Vasculitis
E. Infection (mycotic)

36. Which of the following is/are clinical findings/ complications associated with an A
A. Lower limbischaemia
B. Hydronephrosis
C. Transientischaemicattack/cerebrovascularaccident
D. Syncopeandshock
E. Retroperitonealfibrosis

37. An AAA is usually defined as the AP diameter of the abdominal aorta exceeding
A. 10mm
B. 20mm
C. 25mm
D. 30mm E. 40mm

38. Which of the following are risk factors for a primary spontaneous pneumothorax?
A. Malegender
B. Smoking
C. COPD
D. Trauma
E. Marfan'ssyndrome

39. Which of the following clinical findings would be supportive to a large simple right sided pneumothorax?
A. central trachea. Dull percussion and reduced air entry on the right side of thechest
B. central trachea. Dull percussion with bronchial breathing and crackles on the right side of the chest central trachea. Hyperresonantpercussionandreducedairentryon
C. the right side of thechest
D. central trachea. Hyperresonant percussion and reduced air entry on the left side of thechest
E. Trachea deviated to the left. Hyper resonant percussion and reduced air entry on the right side of the chest. Hypotensive, tachycardic

40. Which of the following are appropriate differential diagnoses for a patient who presents with a sudden breathlessness?
A. Pulmonaryembolus
B. Pneumothorax
C. Pneumonia
D. Heartfailure
E. Anaphylaxis

41. What is the most important initial aspect of the management of this patient?
A. Painrelief
B. Stabilisation of the cervical spine with in-lineimmobilisation
C. Full history and examination to identify any underlyingmalignancy
D. Traumaassessment
E. Referral to neuro surgeons

42. What lines is/are useful for assessing the cervical spine on the lateral X-ray?
A. Anteriorvertebral line
B. Posteriorvertebral line
C. Line of Klein
D. Line of the spinous processes
E. Spinolaminar line

43. Which of these may indicate an unstable Jefferson fracture on odontoid peg view?
A. Normal Wackenheim's Line
B. 1mm gap between the peg and the lateral masses
C. 7 mm displacement of lateral masses
D. A type two fracture of the odontoid peg
E. C1/C2subluxation

44. Which of these is/are likely to be initially required when investigating a suspected pathological fracture of the cervical spine?
A. Anamnesis and examination
B. CT scan
C. MRI scan
D. PET/CT scan
E. Ultrasound of the neck

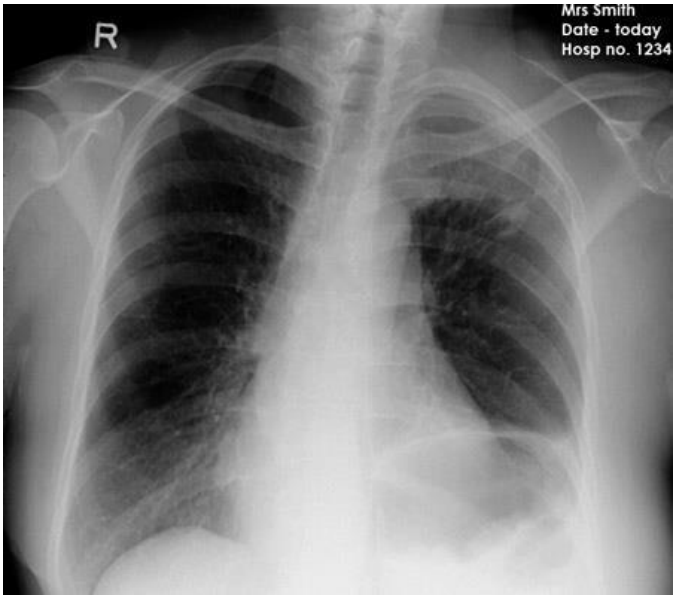
APPENDIX №2

Quiz 1

Mrs. Smith is a 67 year old lifelong smoker.

She comes to the medical outpatients' clinic complaining of a pain and swelling in her left arm, and an increasing breathlessness on climbing the stairs. She has also recently noticed a 'gravelly' quality to her voice.

On examination, her GP noticed a small pupil in the left eye, and referred her for a chest X-ray that you will see on the next page.



1. Can you link the clinical features to the X-ray findings?
2. Can you explain the change in her voice?
3. What is the cause of the small pupil of the left eye?
4. Why is the left hemidiaphragm raised?

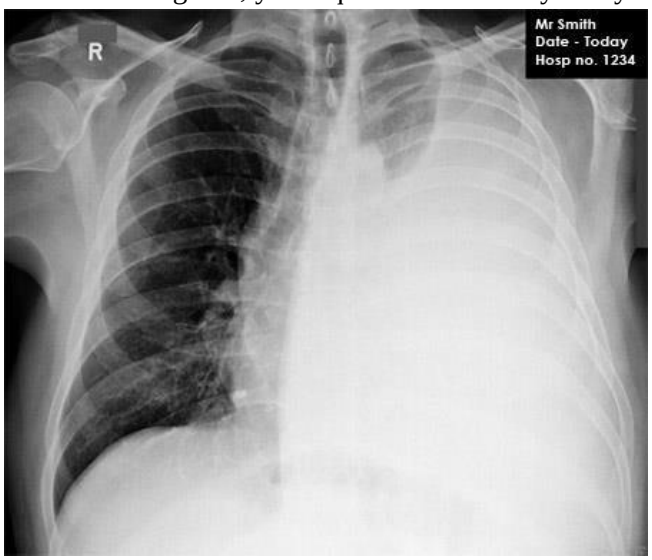
Quiz 2

Mr. Smith is a 56-year-old bus driver, an ex-smoker. Recently, he has found his work increasingly difficult and in the last 2 days has found it impossible to sleep due to breathlessness when lying down.

He is distressed when you see him in the emergency department.

Previous medical history includes lumbar pain and sciatica, which he has tolerated for years with a conservative treatment. He mentions recent increasing thoracic back pain, which he has found less tolerable but which is reasonably well controlled with anti-inflammatories.

After examining him, you request a chest X-ray that you will see on the next page.



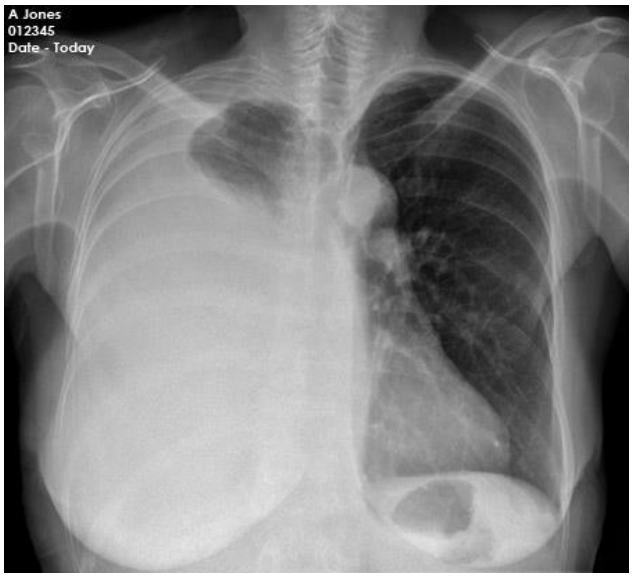
1. What is your immediate management for this patient?
2. What clinical signs would you expect to encounter at the time this X-ray was acquired?
3. Can you give a differential diagnosis?
4. What cause of his thoracic back pain could be and which imaging investigations do you think may be helpful to determine this?

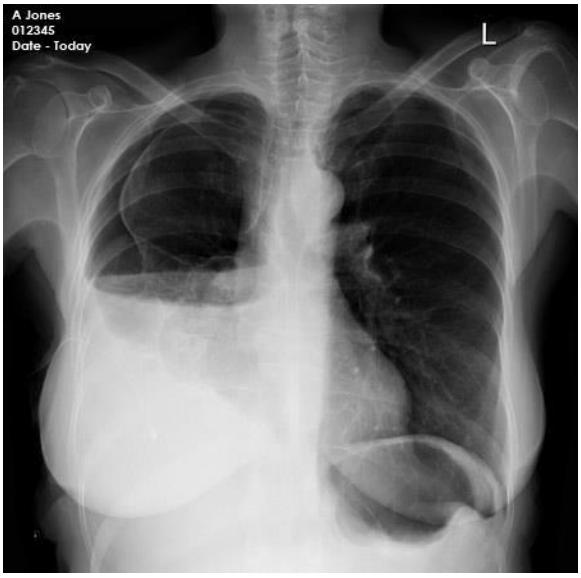
Quiz 3

Mrs. Jones is a 72-year-old lifelong non-smoker.

She has recently been given a diagnosis of ovarian carcinoma, which was discovered after a history of several months of vague abdominal symptoms. She has not yet received any active treatment. Over the last few days, she has become progressively weak, complains of shortness of breath, and is now unable to lie flat or to walk upstairs.

On examination, she has a tender and distended abdomen and reduced breath sounds on the right side of the chest. To confirm your clinical findings you have requested a chest X-ray that you will see on the next page.





1. Regarding image 2 - what procedure has been performed and what complication has occurred?
2. Regarding image 2 - what clinical signs could you expect to find on the examination?
3. What do you think could be the cause of her abdominal distension?
4. What is the best initial imaging examination to investigate her abdomen?
5. Which laboratories should receive a sample of the pleural fluid removed, and in general terms what results would you expect?

Quiz 4

Mrs. Johnson is a 72-year-old lifelong smoker. She has a long history of increasing shortness of breath and reduction in exercise tolerance.

She has had many hospital admissions and has been treated with oral steroids at varying doses over several years.

Recently she has complained of increasing generalized chest pain, with the pain specifically worse on coughing. On examination, she has quiet breath sounds. You note that she finds the examination generally uncomfortable, and there are several points of severe rib tenderness over her chest wall.

1. How is hyperexpansion determined on a chest radiograph?
2. What does hyperexpansion tell you about underlying lung disease?
3. What cause of the chest wall pain and tenderness could be?
4. How is the history of steroid treatment relevant?
5. How is osteoporosis formally diagnosed?

Quiz 5

Anne Johanssen is a 32 year old lifelong non-smoker with no significant medical history. She presented to the emergency department with a short history of unilateral chest pain without difficulty in breathing.

Examination findings:

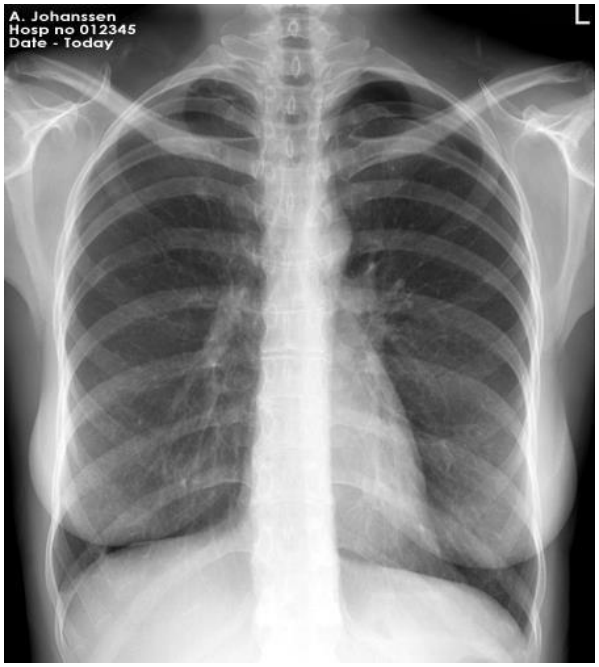
Pulse - 80 beats per minute at rest

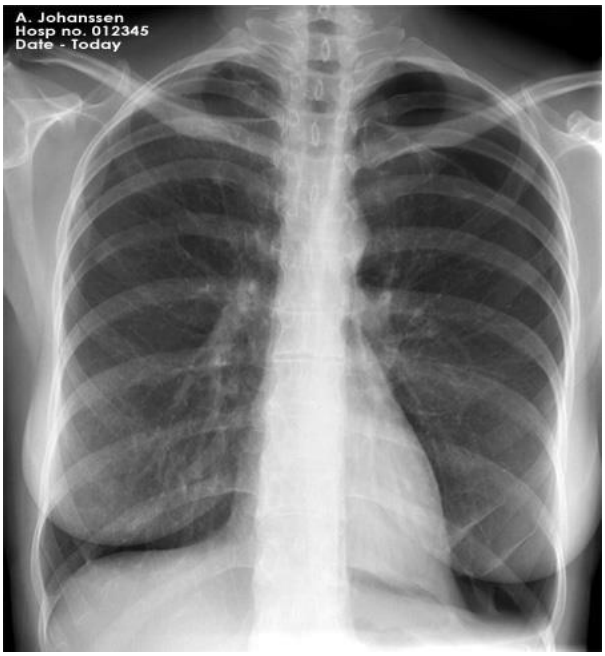
Blood pressure - 120/80

Respiratory rate - 14 per minute

Peak Expiratory Flow (PEF) is 100% of predicted

She is able to speak in full sentences





1. If not already stated - what would be your initial management at the time of the first X-ray?
2. If not already stated - what would be your management at the time of the second X-ray?

3. What clinical signs would you expect to encounter at the time the second X-ray was acquired?
4. What is the definition of a 'large' pneumothorax?
5. Where would you look to find up-to-date protocols for the management of pneumothorax?

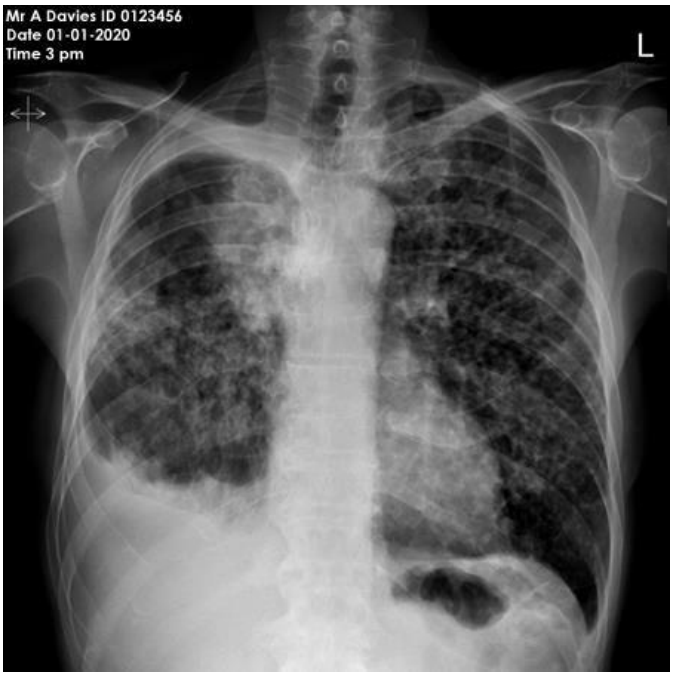
Quiz 6

Mr. Davies is a 71 year old life-long smoker.

He presented with worsening shortness of breath over several weeks, a more recent history of a cough productive of green sputum, and right-sided pleuritic chest pain. On direct questioning, he also gave a history of recent weight loss.

Blood tests show a raised white cell count and C-reactive protein. His liver function tests are also mildly abnormal. Renal function is normal.

Following your clinical assessment, you requested chest X-ray.



1. Can you link the clinical history to the X-ray findings?
2. What clinical examination findings would you expect?
3. How do you explain the blood test results?
4. Which imaging examination would you suggest doing next and why?

Quize 7

Mrs. Jones is an 82-year-old lifelong smoker.

She presents with a history of two recent episodes of haemoptysis and a loss of appetite over several months. She has a previous history of occasional angina and she had a road traffic crash several years ago with injury to her chest and legs. She had not been outside Europe for more than 25 years. **Examination findings:**

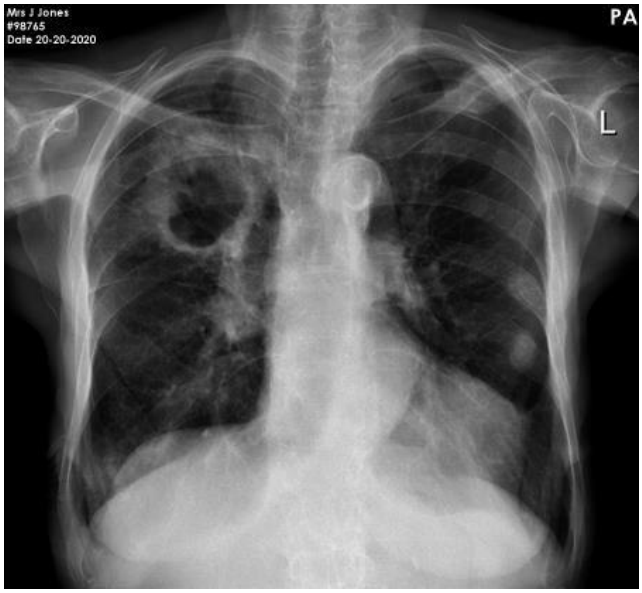
Apyrexial

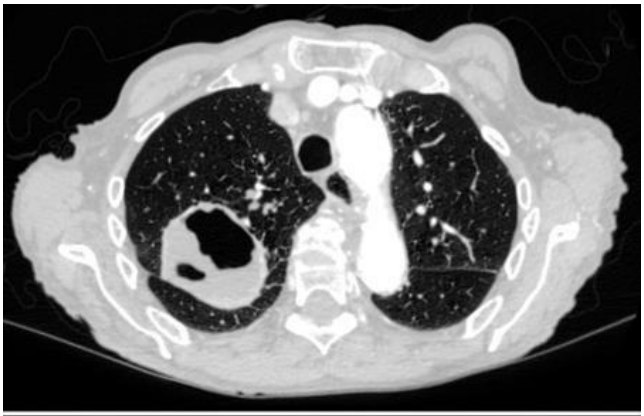
Pallor

Cachexia

Finger clubbing

Monophonic wheeze





1. What is this imaging examination and why do you think this was requested?
2. What precautions would you take prior to requesting this investigation?
3. What is the differential diagnosis of the findings on the X-ray?
4. Given the clinical history, what is your most likely diagnosis?
5. What are the options for imaging-guided tissue sampling of this patient?
6. What are the common sites of metastatic spread from bronchogenic carcinomas?

Quiz 8

Mrs. Brown is a 79-year-old widow who lives independently.
She has presented with a short history of increasing abdominal pain and distension.
You will be shown an abdominal X-ray, and asked to comment on any relevant findings.

1. Regarding image 1- what clinical history and examination would you expect to find at the time it was taken?
2. What are the most likely causes of the clinical and radiological diagnosis?
3. Why should a chest X-ray be requested in this clinical setting? (Chest X-ray is not shown in this scenario)
4. Regarding image 2 (If not already stated) - What procedure has been performed and why?
5. At CT, the patient was found to have an obstructing colonic cancer. What staging system do you know for this disease?

Quize 9

Mrs Green is a 72-year-old retired teacher. She presents with a history of an increasing abdominal pain and distension over the last 24 hours.

You will be shown an abdominal X-ray, and asked to comment on any relevant findings.

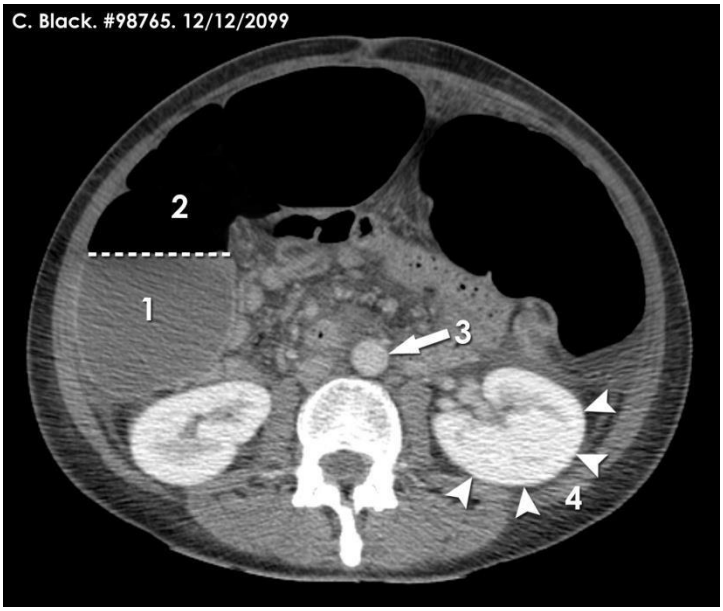
1. What is the radiological diagnosis?
2. Why should a chest X-ray be requested in this clinical setting? (Chest X-ray is not shown in this OSCE)
3. What clinical history and examination findings are possible at the time the image was acquired?
4. Which imaging investigation would be most appropriate to perform next and why?
5. What precautions are necessary prior to requesting the investigation in question 4?

Quiz 10

Mr. Black is a 69-year-old man with a complex previous surgical history including previous resection of the sigmoid colon to treat diverticular disease, which had been complicated by formation of a colovesical fistula. He subsequently had a reversal of ileostomy, and several year later, he presented with bowel obstruction, which was treated by adhesiolysis and colostomy formation.

He presented with a short history of increasing crampy abdominal pain and distension, and reported that nothing was emptying into his colostomy bag.

On examination, you find he is dehydrated and tachycardic. His colostomy bag - in the left lower quadrant - is empty.



1. What is this imaging examination and why was it requested?
2. What is the dotted line separating areas 1 and 2?
3. What are structures 3 and 4 and why are they denser (whiter) than surrounding soft tissues?
4. What is the radiological diagnosis and what are the possible causes?
5. Why should a chest X-ray be requested in this clinical setting? (Chest X-ray is not shown in this scenario) 6. What precautions should be taken before and after performing the CT scan in this clinical setting?

APPENDIX №3

Themes for a report with a presentation

Lung and heart in radiology:

1. Coronary angiography as a modern method of diagnosing ischemic heart disease.
2. Echocardiographic signs of aortic defects.
3. Echocardiographic signs of mitral defects.
4. Echocardiographic signs of hypertensive disease.
5. Echocardiographicsignsofchronicheartfailure.
6. Echocardiographic signs of thromboembolism of the pulmonaryartery.
7. MSCT signs of central and peripheral lungcancer.
8. MSCT signs of parasitic lungcysts.
9. Lung inflammation in smoking (changes in radiation methods ofdiagnosis).

Lung involvement in patients with acquired immunodeficiencysyndrome (changes in radiation diagnostic methods).

Mammography:

1. Ultrasound diagnosis of mastopathy.
2. A normal picture of a mammary gland at carrying out of mammography.
3. Signs of breast cancer in mammograms.
4. Signs of mastitis in mammography.

Signs of benign breast tumors during mammography.

Radiology of the reproductive system

1. Possibilities of the method of ultrasound diagnostics in the pathology of the reproductive system.
2. Ultrasound diagnosis of ectopic pregnancy.
3. Ultrasound diagnosis of normal pregnancy, stages of ultrasound screening.
4. Ultrasound diagnosis of tumors of the reproductive system.

The possibility of MRI in the diagnosis of diseases of the reproductive system.

Complex radialogic diagnostics in urology

1. Evaluation of a kidney function during radioisotope research.
2. Ultrasound diagnosis of urolithiasis.
3. Ultrasound diagnosis of tumors of the kidneys,bladder.
4. Ultrasonic diagnostics of inflammatory kidney diseases.

MSCT diagnosis of kidney tumors.

Emergency radiology

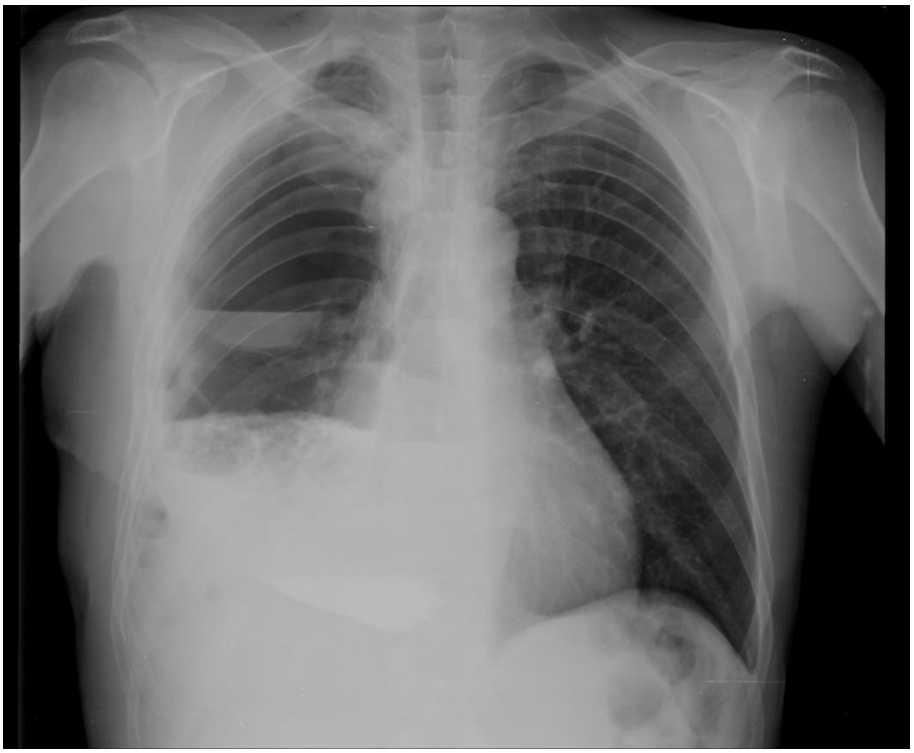
1. X-ray diagnosis of foreign bodies of the esophagus.
2. Radiographic diagnosis of foreign bodies of bronchi.
3. Radiographic diagnosis of hydrothorax.
4. Radiographic diagnosis of pneumothorax.
5. Radiographic diagnosis of acutepneumonia.
6. Radiographic diagnosis of traumatic injury of the trachea andbronchi.
7. Ultrasound diagnosis of ascites.
8. Radiographic diagnosis of acute intestinal obstruction.
9. Ultrasonic diagnosis of acute appendicitis.

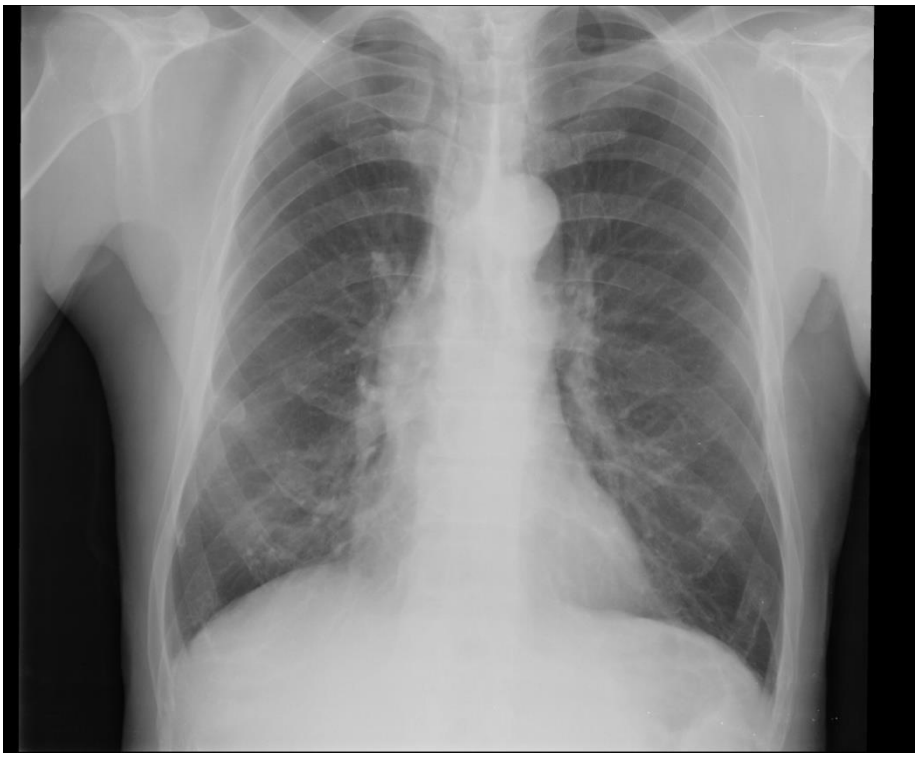
Radiographic diagnosis of rupture of a hollow organ in the abdominal cavity.

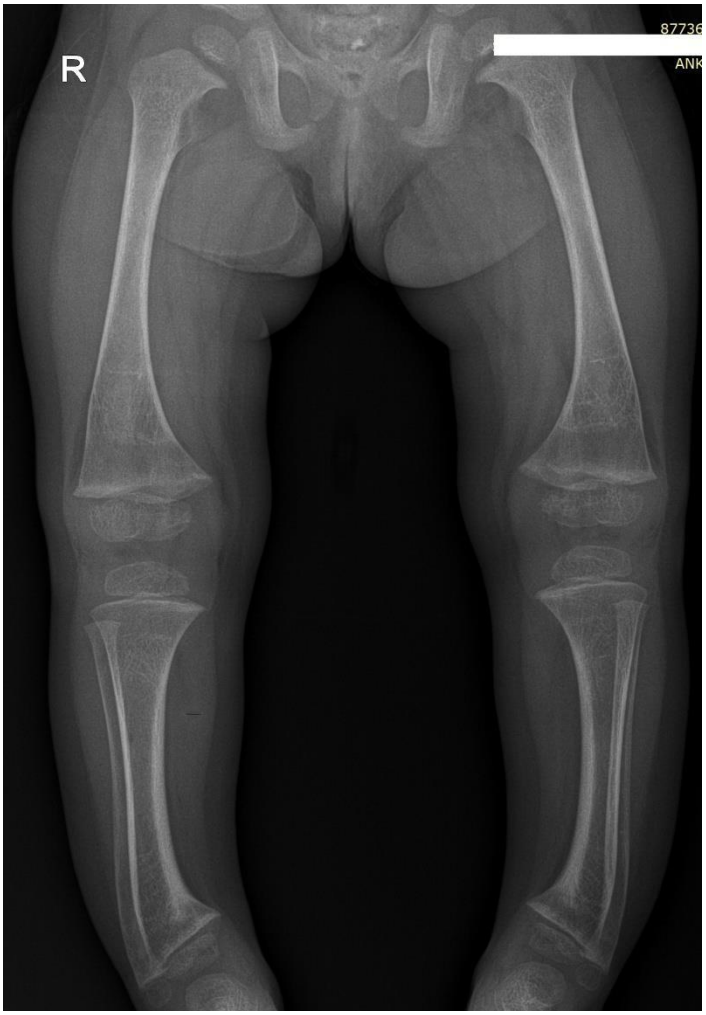
Radiologic diagnostics of endocrine system diseases:

1. Ultrasound diagnosis of the pathology of the thyroid gland.
2. Ultrasound diagnosis of adrenal pathology.
3. Ultrasound diagnosis of thyroiditis.
4. MRI diagnosis of pituitary tumors. MSCT diagnosis of thymus tumors.

APPENDIX №4



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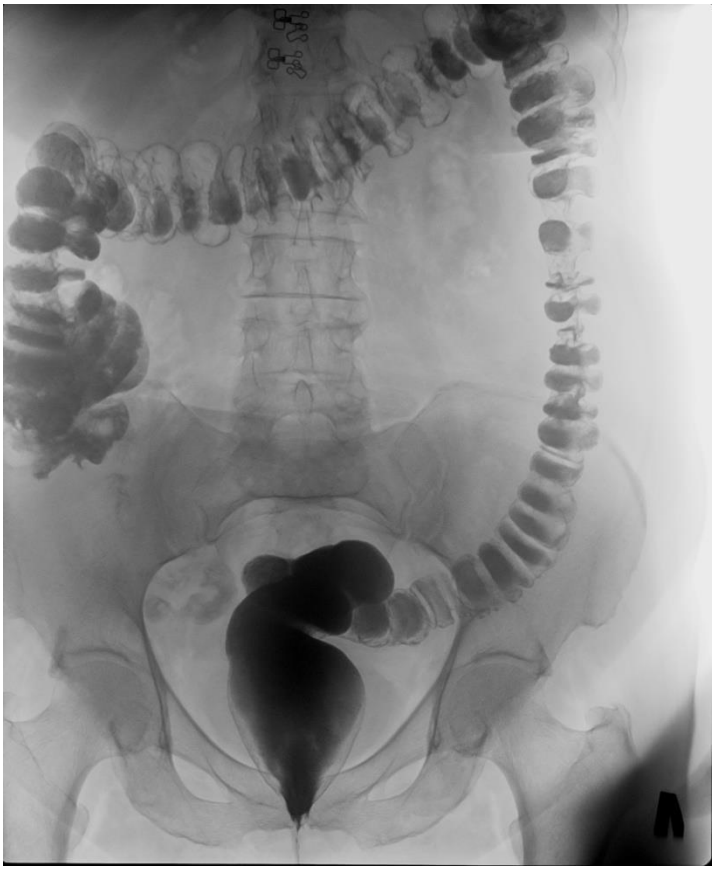

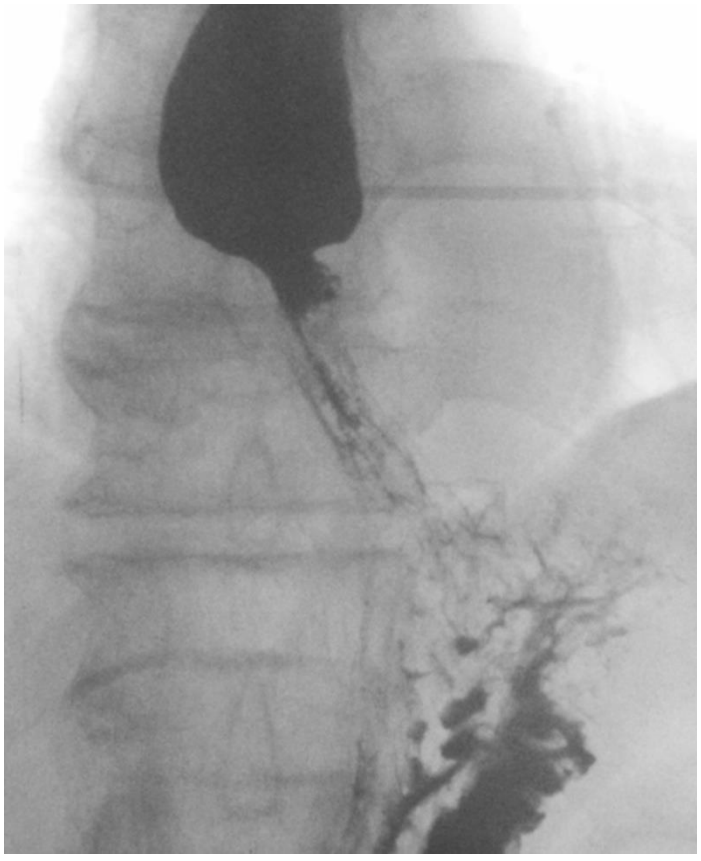


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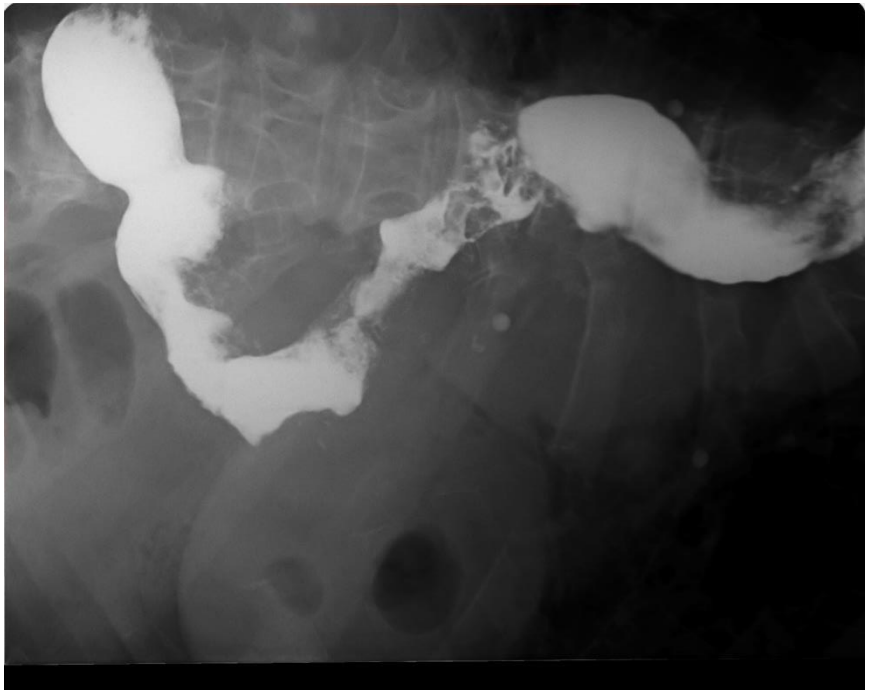

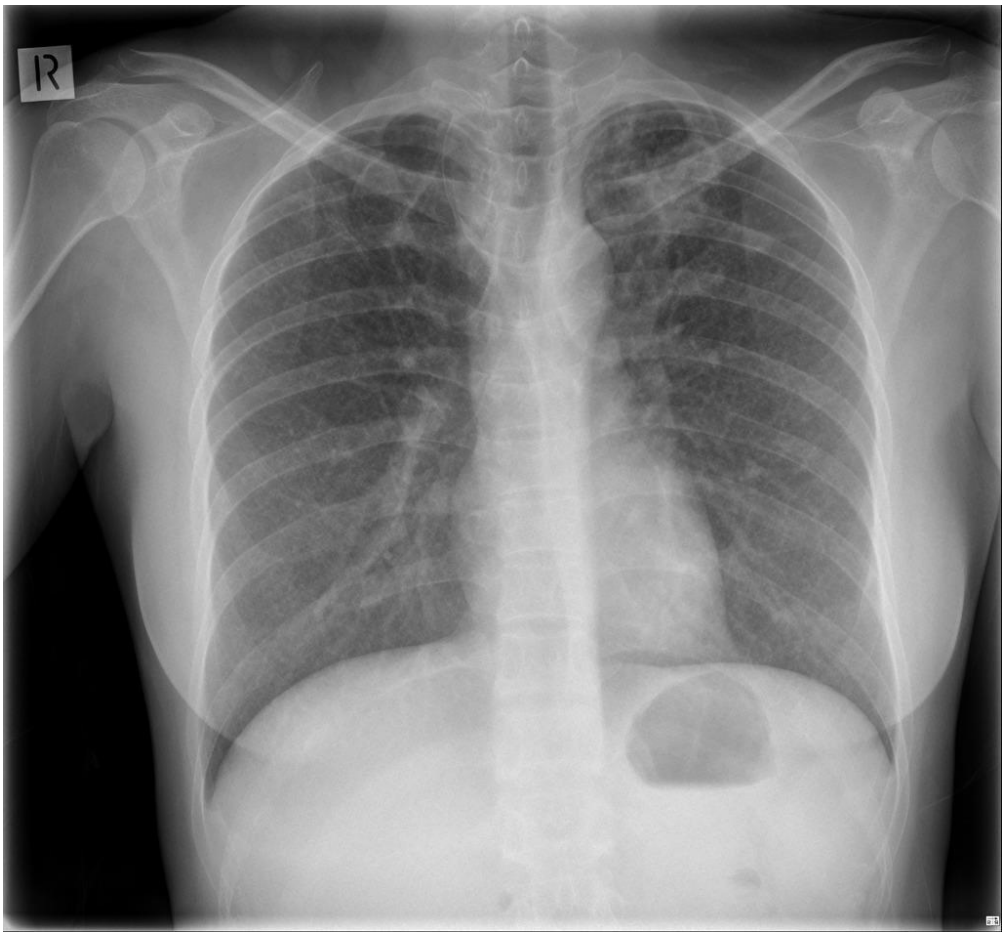
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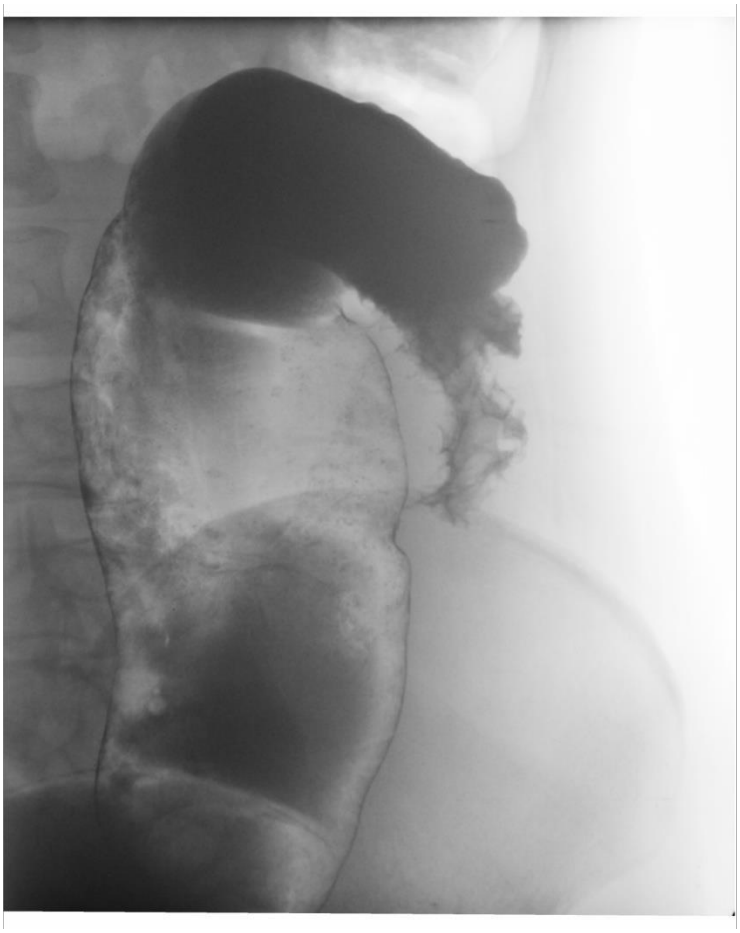

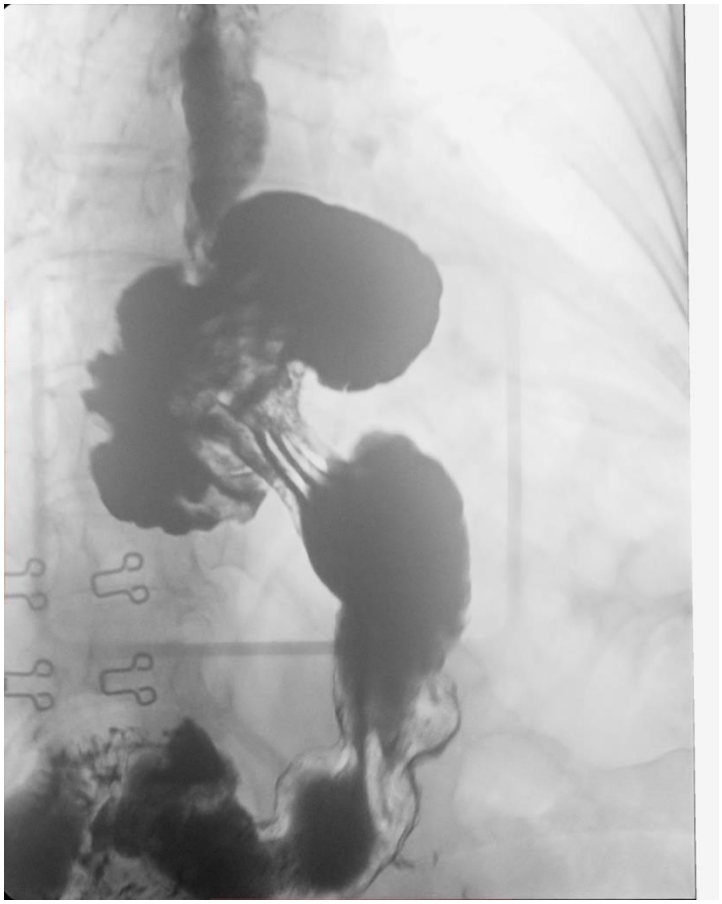

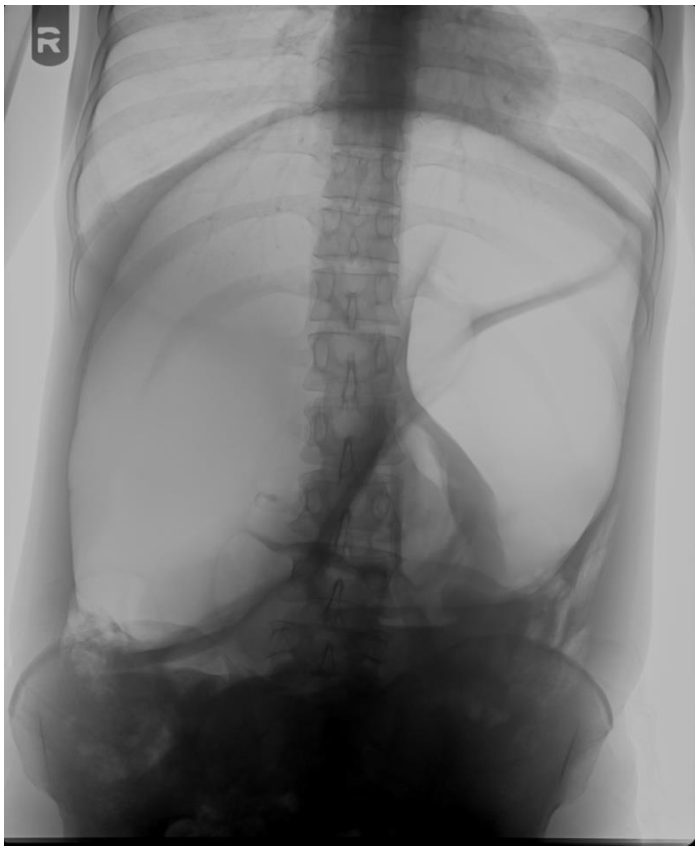
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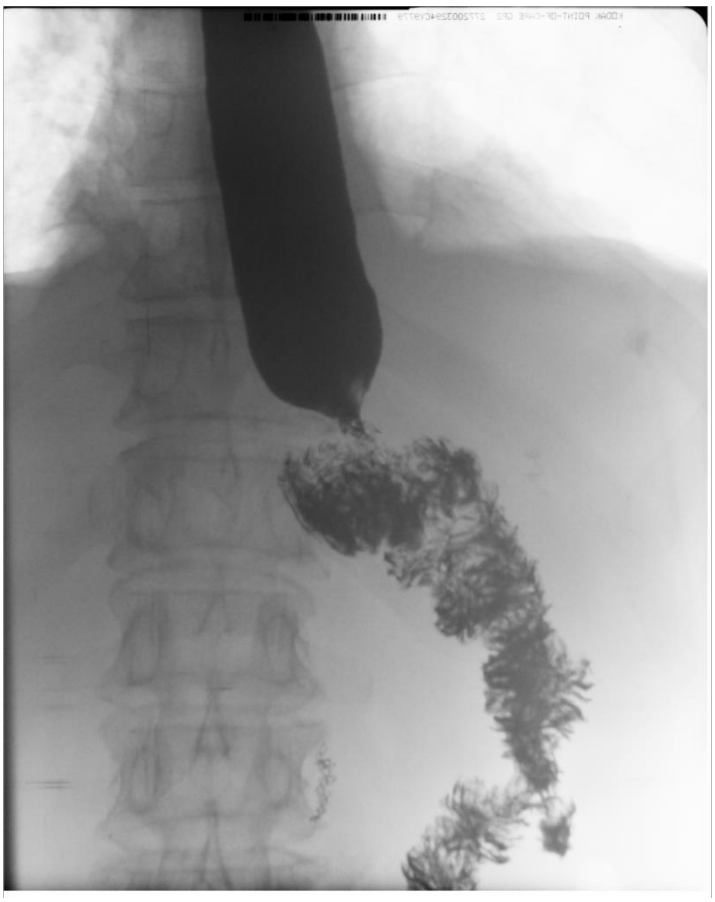

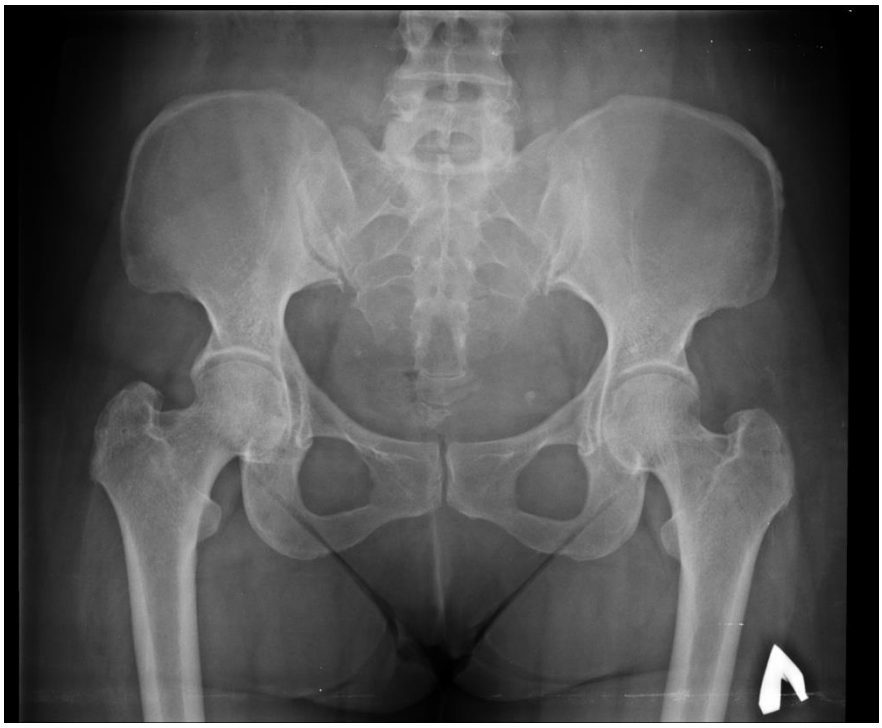

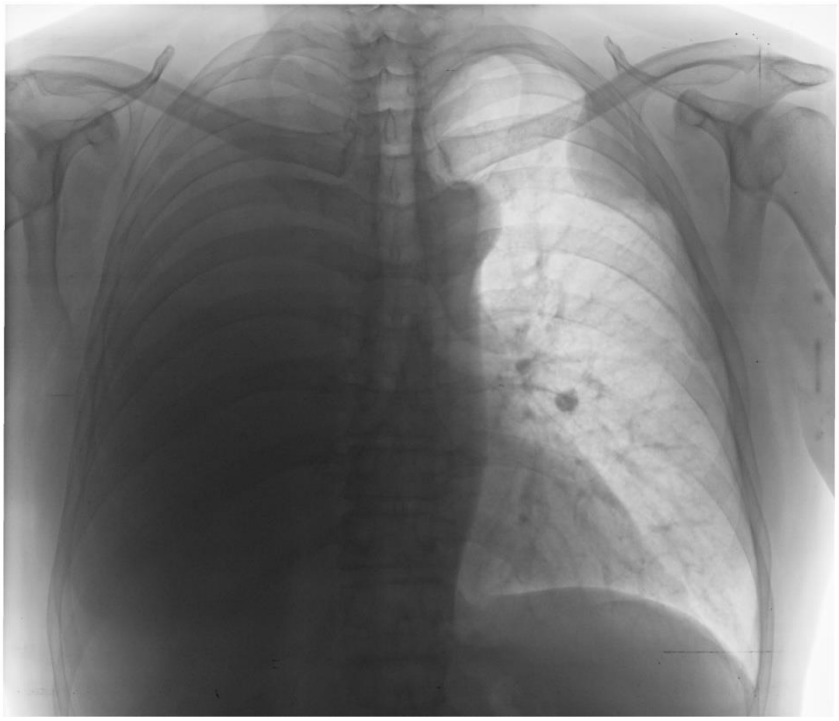

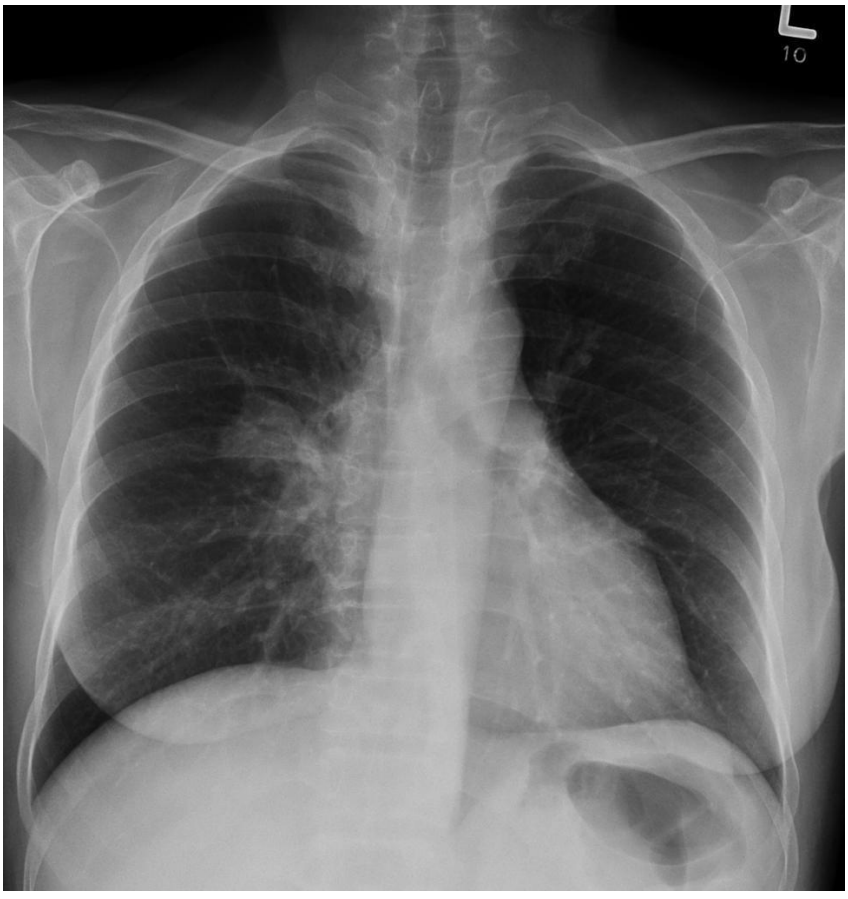
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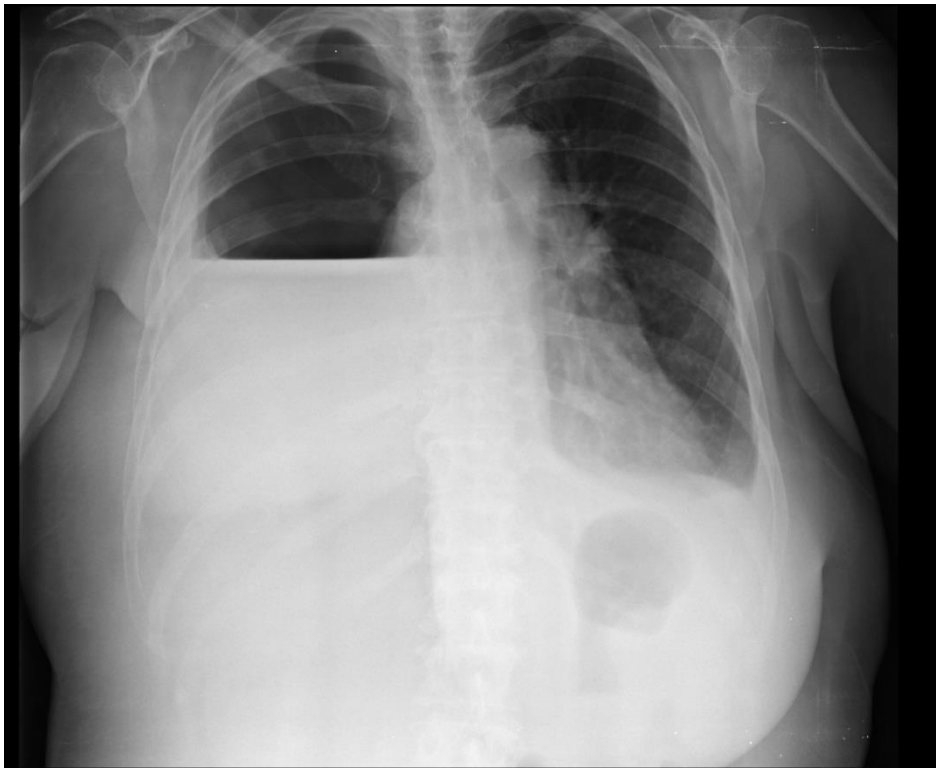


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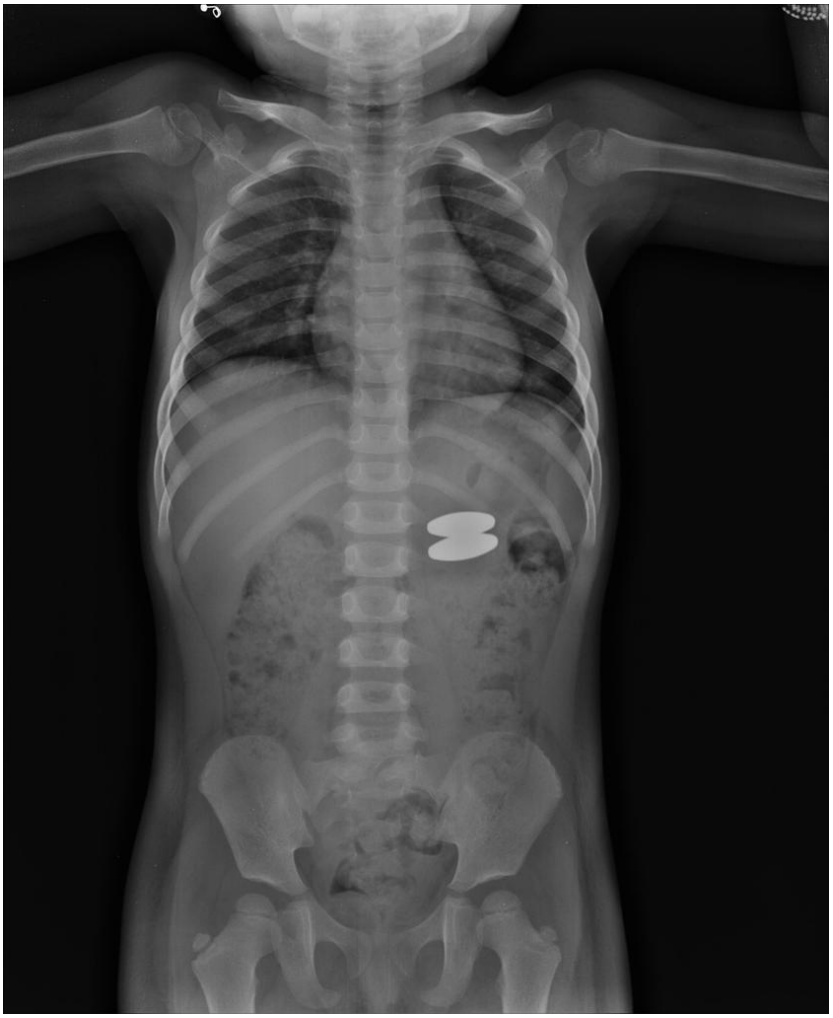

APPENDIX №5

SCALE OF ASSESSMENT OF THEORETICAL SURVEY (monitoring)

№	Indicator	Score
1.	Convincing answers	0-10
2.	Understanding the issues	0-30
3.	Reasonable attraction of medical terminology (appropriateness and reliability of information)	0-30
4.	Key words: their importance for the declared topic, competent use, quantity.	0-15
5.	Logicality and consistency of oral utterance.	0-10
	Total points	**Sum of points**

SCALE OF ASSESSMENT OF QUIZ SURVEY (monitoring)

№	Indicator	Score
1.	Correct assessment of the situation	0-20
2.	Correctness of the choice of the algorithm of actions	0-40
3.	Correctness of the choice of additional assignments of radialogic diagnostics.	0-40
	Total points	**Sum of points**

SCALE OF ASSESSMENT OF REPORT / PRESENTATIONS (monitoring)

№	Indicator	Score
Design of presentations		70
1.	Title page	0-4
2.	Slide design and use of additional effects (slide change, sound, pictures, video)	0-10
3.	Presentation of a text is short. Ideas are well-formed, clearly laid out and structured.	0-40
4.	Slides are presented in a logical sequence.	0-10
5.	The slides are printed.	0-6
REPORT		30
1.	Correctness and accuracy of speech during the presentation	0-12
2.	The breadth of horizons (answers to questions)	0-10
3.	Compliance with regulations	0-8
	Total points	**Sum of points**

When conducting a presentation
0-59% - 0-7 points the rating is "unsatisfactory"
60-74% - 8-9 points the rating is "satisfactory"
75-84% - 10-11 points the score is "good"
85-100% - 12-13 points rating "excellent"

SCALE OF ASSESSMENT OF THE TEST (landmark control)

0-59% - (0-11 correct answers), then it is 0-7 the score is "unsatisfactory";
60-74% - (12-14 correct answers), it is 8-9 points the rating is "satisfactory";

75-84% - (15-17 correct answers), then it is 10-11 points the score is "good";

85-100% - (18-20 correct answers), then it is 12-13 points score "excellent."

SCALE OF ESTIMATION OF DESCRIPTION OF DIAGNOSTIC IMAGES (landmark control)

№	Indicator	Score
1.	Correctness of the type of diagnostic examination, fill in the passport part	0-5
2.	Correctly identify anatomical structures	0-5
3.	Name visible changes on the images	0-30
4.	Correctly name the localization of changes	0-20
5.	Give the correct conclusion or set the differential series	0-20
6.	Correctness of the choice of additional radiodiagnostic prescriptions	0-10
7.	Correctness of the choice of the algorithm for the further action, referral to the necessary specialist	0-10
	Total points	**Sum of points**

SCALE OF ASSESSMENT OF EVALUATION OF ASSESSMENT WITH EVALUATION (intermediate control - "TO KNOW, TO BE ABLE, TO OWN"):

№	Indicator	Score
1.	Question 1	0-100
2.	Diagnostic Image	0-100
3.	Quiz	0-100
	Total points	**Arithmetic average (score / 3)**

When assessing the verbal response to the level of knowledge of KNOW, the following criteria are taken into account:

1. Knowledge of the basic methods of radiologic diagnosics.

2. Ability to solve situational problems, draw conclusions and generalizations, give reasoned answers.

3. Possession of monologue, consistency and consistency of response, ability to answer the questions posed, expression of their opinion on the issue during a discussion.

SCALE OF ESTIMATION OF LEVEL "KNOW":

85-100% (16-20 points) assesses the answer, which is logically correct in an accessible form and, accordingly, the terminology used in radiation diagnosis, as well as in general in medicine; excellent knowledge of the formation of an x-ray picture of various organs and systems; Deeply oriented in the basic radiographic signs, various diseases and differential diagnosis.

75-84% (10-15 points) is estimated response, which is presented logically correctly in an accessible form according to the terminology used in radiotherapy, as well as in general in medicine; excellent knowledge of the formation of an x-ray picture of various organs and systems; not sufficiently deeply oriented in the basic radiographic signs of various diseases, differential diagnosis.

60-74% (5-10 points) is estimated response, which shows the average knowledge in the issues of radiation diagnosis. Not sufficiently clearly oriented in the terminology used in radiation diagnosis; average knowledge of the formation of the radiographic picture of various organs and systems; not sufficiently deeply oriented in the basic radiographic signs of various diseases, differential diagnosis.

0-59% (1-4 points) is estimated response, which shows very weak knowledge in the issues of radiation diagnosis. Does not understand the terminology used in radio diagnosis; average knowledge of the formation of the radiographic picture of various organs and systems; poorly oriented in the basic radiographic signs of various diseases, differential diagnosis.

SCALE OF ASSESSMENT OF PRACTICAL JOBS (intermediate control - "TO BE ABLE AND TO OWN").

When assessing the answers to the level of training TO BE ABLE and TO OWN the following criteria are taken into account:

85-100% (8-10 points) is evaluated the answer, in which the student makes the diagnosis on his own; evaluates alternative methods of diagnosing various diseases; professionally expresses and substantiates his position on the main criteria for diagnosis; he can analyze and analytically think at the diagnosis, differential diagnosis.

75-84% (4-7 points) assess the response, in which the student makes a diagnosis independently, but does not evaluate alternative methods of diagnosing various diseases; professionally expresses and substantiates his position on the main criteria for diagnosis; he can analyze and analytically think at the diagnosis, differential diagnosis.

60-74% (1-3 points) assess the response, in which the student can not independently diagnose, does not evaluate alternative methods for diagnosing various diseases; it is difficult to substantiate your position on the main criteria for diagnosis; it is difficult to analyze and analyze analytically when diagnosing, differential diagnosis.

0-59% (0 points) evaluates the answer in which the student demonstrates a misunderstanding of the problem or there is no answer, and there was not even an attempt to solve the problem.

APPENDIX №6

The planning sheet of discipline
Discipline **"Radiology"**
31.05.01. General Medicine

COURSE 3, SEMESTER 6,

Credit units 2.

Title of module according to WPD	Type of control	Forms of control	Minimal credit points	Maximal credit points	Week of control
Module 1					
Module 1. Modern methods of radiology	Formative assessment	The activity and attendance are taken into account. Theoretical survey. - preparation and protection of the report with presentation; - solution of quizes. **Activity:** - 0,5 points are added for active participation in the practical lesson. - For active participation in Student science work - 3 points. **Attendance:** For every missed and not worked out lecture and practical lesson, 0.5 points are removed.	10	15	7 week
	Midterm examination	Evaluation test Diagnostic images	10	20	
Module 2					
Module 2. Radiology of various organs and systems	Formative assessment	The activity and attendance are taken into account. Theoretical survey. - Reading and reporting of X-rays, tomograms. sonograms; - solution of quizes. Activity: - 0,5 points are added for an active participation in the practical lesson. - For active participation in Student scientific work - 3 points. Attendance: For every missed and not worked out lecture and practical lesson, 0.5 points are removed.	10	15	18 week
	Midterm examination	Evaluation test Diagnostic images	10	20	
Total			40	70	
Midpoint assessment			20	30	
Summative assessment			60	100	

РЕЦЕНЗИЯ

на рабочую программу дисциплины «Лучевая диагностика» основной образовательной программы

КЫРГЫЗСКО-РОССИЙСКОГО СЛАВЯНСКОГО УНИВЕРСИТЕТА им. Б. Н. Ельцина

по специальности 31.05.01 «Лечебное дело»

Квалификация выпускника - специалист

Форма обучения - очная

В соответствии с Федеральным государственным образовательным стандартом высшего профессионального образования третьего поколения по специальности 31.05.01 «Лечебное дело», дисциплина «Лучевая диагностика» изучается в рамках базовой части общепрофессионального модуля.

Разработчиками рабочей программы дисциплины (РПД) «Лучевая диагностика» являются к.м.н. доцент Дюшеналиев К.Б., ст. преподаватель Куликова А.А., ст. преподаватель Штраус М.А., к.м.н. доцент Джумагулова Г.Ш.

Структура РПД «Лучевая диагностика», представленной на рецензию, соответствует требованиям к разработке рабочих программ.

Цели и задачи освоения РПД соотнесены с общими целями основной образовательной программы. Программа сформирована последовательно, логически верно, что позволяет обеспечить высокий уровень усвоения знаний и умений, а также активизацию креативной и познавательной деятельности и расширение профессиональной эрудиции студентов. Указаны различные формы учебной работы (лекции, семинары, практические занятия), а также виды самостоятельной работы студента с расчетом часов по каждому виду учебной деятельности., Учебно-методическое обеспечение дисциплины включает списки основной литературы и дополнительной литературы за последние 5 лет, учитывает электронно-библиотечные и Интернет-ресурсы, содержит методические рекомендации преподавателям и студентам. Фонд оценочных средств позволяет в полной мере осуществить контроль и оценку результатов обучения, освоенных знаний, умений и навыков в объеме универсальных и общепрофессиональных компетенций, предусмотренных ФГОС 3+.

Индивидуальные особенности РПД «Лучевая диагностика»:

- детально разработанное содержание программы, направленное на развитие у студента умений правильно оценивать результаты лучевой диагностики;

- большой объем наглядных пособий направлен на формирование у студента способности ориентироваться в скиалогических признаках патологических изменений.

Выводы рецензента:

содержание и учебно-методическое обеспечение РПД «Лучевая диагностика» соответствуют требованиям Федерального государственного образовательною стандарта высшего профессионального образования;

- РПД «Лучевая диагностика» может быть использована для методического обеспечения учебного процесса в рамках основной образовательной программы КРСУ по специальности 31.05.01. «Лечебное дело»

Заведующая кафедрой

патологической анатомии КРСУ,

к.м.н., доцент Ахметова М.И.

Рецензия

на рабочую программу дисциплины

“Лучевая диагностика" Медицинского

факультета КРСУ

по специальности 31.05.01 «Лечебное дело» на английском языке обучения по

профилю подготовки врач общей практики, очная форма обучения.

В представленной на рецензию программе, четко сформулированы цели и задачи изучения дисциплины “Лучевая диагностика”, точно определено ее место в структуре ООП специалиста. Избранные к освоению компетенции, знания, умения соответствуют ФГОС 3+ ВПО. Полноценно прописаны требования к результатам и механизмы освоения дисциплины, оценочные средства контроля формирования компетенций, знаний, умений.

Содержание дисциплины, планы лекций, клинических практических занятий; занятий, проводимых в интерактивной форме, самостоятельной работы студентов соответствуют основной образовательной программе и учебному плану по специальности 31.05.01 Лечебное дело иностранные студенты, утвержденным Ученым советом университета.

В программе полноценно представлены примеры всех форм оценочных средств для текущего (контрольные вопросы к занятиям, тестовые задания, задачи, кейс-технологии, перечень практических навыков.

В достаточном объеме отражены библиотечно-информационные ресурсы – основная и дополнительная литература, электронные версии учебников с указанием режима доступа, электронные образовательные ресурсы (базы данных, справочные и поисковые системы, Интернет ресурсы); материально-техническое обеспечение учебного процесса на кафедре Лучевой диагностики.

Дисциплина согласовано изучается с другими дисциплинами базовой части Блока образовательной программы по специальности 31.05.01 «Лечебное дело» иностранного обучения, о чем свидетельствует междисциплинарный протокол согласования с предшествующими и последующими дисциплинами.

Таким образом, данная рабочая программа может быть рекомендована для осуществления образовательной деятельности по дисциплине Лучевая диагностика.

Главный радиолог Минздрава

КР, руководитель отдела

клинической

радиологии НЦОГ,

д.м.н., профессор Аралбаев Р.Т.