5 year exam test
For the discipline Medical imaging

1.The following imaging methods are used in the diagnosis of ENT pathology:
a) Otoscopy
b) Computed tomography
c) Laryngoscopy
d) Skull radiography in Water's position
e) Polypositional radioscopy of the skull

2. The following basic imaging methods are used in the diagnosis of ENT pathology:
a) Doppler ultrasonography
b) Computed tomography
c) Computed tomography with conical beam
d) Magnetic resonance imaging
e) Conventional radiography

3. For the evaluation of the maxillary sinuses, first of all it is indicated:
a) skull radiography in frontal incidence, low face position
b) Lateral radiography of the skull
c) Skull radiography in frontal incidence, Water's position
d) Axial radiography of the skull
e) Orthopantomography

4. Which of the following investigations is indicated for the assessment of frontal sinuses:
a) Skull radiography in frontal incidence in the forehead-nose position (low face)
b) Lateral skull radiography
c) Targeted radiography of the nasal bones
d) Axial radiography of the skull
e) Orthopantomography

5. The most informative investigation imaging method in a patient with otorrhea and hearing loss is:
a) Axial radiography of the skull
b) Skull radiography, frontal view, Water's position
c) Magnetic resonance imaging
d) Computed tomography
e) Otoscopy

6. The paranasal sinuses are located in the bones:
a) Sphenoidal
b) Zygomatic
c) Frontal
d) Maxillary
e) Ethmoidal

7. Which of the listed sinuses are paranasal sinuses:
a) Ethmoidal
b) Frontal
c) Carotidian
d) Sphenoidal
e) Maxillary

8. Postero-anterior radiography of the skull in the nose-chin position with open mouth are indicated for examination of:
a) Nasal bones
b) Maxillary sinuses
c) The sphenoid sinus
d) Mastoid cells
e) Larynx

9. Postero-anterior skull radiography in the nose-chin position with closed mouth is indicated for examination:
a) Nasal cavity and nasal septum
b) Frontal sinus
c) The middle ear
d) The ethmoidal sinus
e) Mastoid cells

10. The radiological sign of the bell tower is characteristic of:
a) Adenoid vegetation
b) Purulent maxillary sinusitis
c) Chronic otitis media
d) Foreign body of the larynx
e) Acute laryngotracheitis

11. The characteristic imaging signs of chronic otitis media are:
a) Decreased pneumatization of mastoid air cells
b) Increased pneumatization of mastoid air cells
c) Calcifications at the level of the structures in the middle ear
d) Opacification of the external auditory canal
e) Dilation of the external auditory canal

12. The sphenoid sinus is better visible on radiography:
a) The frontal view of the skull in the nose-chin position
b) Lateral view of the skull
c) The frontal view of the skull in the forehead-nose position
d) Targeting the nasal bones
e) Oblique of the mandible

13. Imaging methods of choice in the diagnosis of intracranial complications of sinusitis are:
a) Skull radiography in two incidences
b) Ultrasonography

c) Computed tomography
d) Magnetic resonance imaging
e) Scintigraphy

14. Which of the following statements are correct:
a) The maxillary sinus has a pyramidal shape
b) The maxillary sinus has a cylindrical shape
c) The frontal sinus is well developed at birth
d) The shape and size of the frontal sinus have individual variations
e) The sphenoid sinus is located below the sella turcica

15. Normally the maxillary sinus on a radiography appears:
a) Opacified
b) Transparent
c) Non-homogeneous structure
d) With imprecise walls
e) With well-defined, clear walls

16. Normally the frontal sinus on radiography appears:
a) Opacified
b) Transparent
c) Always symmetrical
d) Asymmetric, with individual variations
e) It can be with septa

17. Total opacification of the maxillary sinus can be detected in case of:
a) Mucocele
b) Chronic sinusitis in remission
c) Acute sinusitis
d) Hematoma
e) Benign polyp

18. Partial parietal opacification of the maxillary sinus with convex upper edge can be detected in case of:
a) Benign polyps
b) Chronic sinusitis
c) Acute sinusitis
d) Conha bullosa
e) Mucocele

19. Partial parietal opacification in the maxillary sinus with thickening of the walls can be detected in case of:
a) Benign polyps
b) Chronic sinusitis
c) Acute sinusitis
d) Chronic rhinitis
e) Mucocele

20. Partial opacity with the hydro-aerial level in the maxillary sinus may be characteristic of:
a) Rhinitis
b) Chronic sinusitis in remission
c) Acute purulent sinusitis
d) Chronic sinusitis in exacerbation
e) Benign polyp

21. The imaging method of choice in the diagnosis of congenital hearing malformations is:
a) Otoscopy
b) Computed tomography
c) Radiography in the lateral incidence of the mastoid process
d) Audiogram
e) Magnetic resonance imaging

22. The imaging method of choice in the diagnosis of chronic otitis media and its complications is:
a) Otoscopy
b) Computed tomography
c) Radiography, lateral incidence of the mastoid process
d) Audiogram
e) Magnetic resonance imaging

23. For the diagnosis and assessment of the hypertrophy degree of adenoids, the following are used:
a) Lateral radiography of the skull
b) Nasopharyngeal tomosynthesis
c) Postero-anterior radiography of the skull in the forehead-nose position
d) Targeted radiography of the nasal bones
e) Sialography

24. The sign of the ice cream cone on computed tomography is characteristic of:
a) Normal structures of the nasal cavity
b) Normal structures of the middle ear
c) Normal structures of the nasopharynx
d) Normal structures of the inner ear
e) Normal structure of mastoid cells

25. The imaging method of choice for the diagnosis of vestibulo-cochlear nerve tumors is:
a) Linear tomography
b) Computed tomography
f) Computed tomography with conical beam
g) Tomosynthesis
h) Magnetic resonance imaging

26. Thickening of the maxillary sinus mucous membrane radiologically may be manifested as:
a) Partial opacification with a hydro-aerial level
b) Partial parietal opacification

c) Total opacification with homogeneous structure
d) Hyperlucency
e) Total opacification with non-homogeneous structure

27. In case of the liquid content presence in the maxillary sinus, which does not occupy the entire sinus cavity, radiological will be detected:
a) Partial opacification with a hydro-aerial level
b) Partial parietal opacification
c) Total opacification with homogeneous structure
d) Hyperlucency
e) Total opacification with non-homogeneous structure

28. Orthopantomography allows the visualization of the following ENT (ear, nose, throat) structures:
a) The frontal sinus
b) Maxillary sinus
c) Nasal septum
d) The sphenoid sinus
e) Internal auditory canal

29. To confirm the diagnosis of purulent sinusitis, the radiography should be taken at the patient's position:
a) Vertical, lateral incidence
b) Vertical, frontal incidence
c) Lying on the affected side
d) Lying on the healthy side
e) Dorsal decubitus

30. In what pathological condition will the imaging investigations be uninformative:
a) Maxillary sinus cyst
b) Mucocele
c) Uncomplicated acute rhinitis, early stages
d) Chronic sinusitis in remission
e) Chronic sinusitis in exacerbation

31. The hydro-aerial level in acute sinusitis may be:
a) Horizontal
b) Polycyclic
c) Concave lens shaped
d) Biconvex lens shaped
e) Ring shaped

32. Imaging methods of choice in the diagnosis of cholesteatoma are:
a) Otoscopy
b) Computed tomography
c) Magnetic resonance imaging
d) Skull radiography, frontal view

e) Skull radiography, lateral view

33. The radiography in Water's position is:
a) Postero-anterior skull radiography in the forehead-nose position
b) Postero-anterior skull radiography in the nose-chin position
c) Lateral radiography of the skull
d) Axial radiography of the skull
e) Oblique radiography of the skull

34. The sphenoid sinus is better seen on the skull radiography in the incidence:
a) Postero-anterior in the forehead-nose position
b) Postero-anterior in the nose-chin position
c) Oblique
d) Axial
e) Lateral

35. Axial radiography of the skull may be used to assess:
a) The frontal sinus
b) Maxillary sinus
c) Ethmoidal cells
d) Mastoid cells
e) The structures of the inner ear

36. Partial opacity in the maxillary sinus with the lens-shaped upper edge is the sign of:
a) Chronic sinusitis in remission
b) Chronic sinusitis in exacerbation
c) Purulent acute sinusitis
d) Allergic rhinitis
e) Sinus cyst

37. The imaging method of choice in the diagnosis of congenital external auditory canal malformations will be:
a) Linear tomography
b) Computed tomography
c) Postero-anterior radiography of the skull in the forehead-nose position
d) Radiography of the skull after Stenves
e) Axial radiography of the skull

38. Partial parietal opacity in the maxillary sinus may be a sign of:
a) Benign polyps
b) Malignant tumor in the sinus
c) Acute purulent sinusitis
d) Chronic sinusitis
e) Acute catarrhal sinusitis

39. Radiological sign of decreased mastoid air cell pneumatization is characteristic for:
a) Acute otitis externa

b) Chronic otitis media
c) Tumor of the vestibulo-cochlear nerve
d) Congenital malformation of the inner ear
e) It is a normal variant

40. Magnetic resonance imaging will be a method of choice in diagnosis:
a) Fractures of the mastoid process
b) Chronic otitis media
c) Intracerebral complications of mastoiditis
d) Tumors of the soft tissues of the ENT organs
e) Osteoma of the frontal sinus

41. An osteoma in the frontal imaging sinus appears as:
a) An opaque, round, bone-dense mass with a blurred outline, with signs of destruction of surrounding bone structures
b) An opaque, round, bone-density mass with a well-defined contour, with no signs of destruction of surrounding bone structures
c) An opaque, round, liquid-density, polycyclic-shaped mass with signs of destruction of surrounding bone structures
d) An opaque, round, liquid-density mass with the displacement of the median suture on the contralateral side
e) A transparent round mass with internal septa

42. Which of the following imaging signs are characteristic of emergency situations of the ENT structures:
thumb sign
the sign of the bell tower
ice cream cone sign
sea lion sign
silhouette sign

43. Radiographic signs of interstitial pulmonary edema include:
a) Enhanced pulmonary pattern
b) Kerley lines
c) Ascension of the diaphragm
d) Enlargement of intercostal spaces
e) Decreased transparency of the lung fields

44. Which of the following is the characteristic radiological sign of alveolar pulmonary edema:
a) Nodular opacities in the lung fields
b) Miliary opacities in the upper lung fields
c) Limited opacity in the lung field
d) Nodular opacities with hydro-aerial levels
e) Ring opacities

45. The Kerley lines represent:

a) Thickening of the interlobar fissures
b) Thickening of the intersegmental septa
c) Thickening of the interlobular septa
d) Accentuation of the lung pattern
e) Canceromathosis

46. Kerley lines represent the radiological sign of:
a) Alveolar pulmonary edema
b) Interstitial pulmonary edema
c) Pulmonary disease
d) Pulmonary artery trunk thromboembolism
e) Thromboembolism of the segmental branches of the pulmonary artery

47. Radiological signs of pulmonary pre-edema are:
a) Accentuation of the lung pattern
b) The sign of the ground glass
c) Nodular opacities in the lung fields
d) Kerley lines
e) Redistribution of the lung pattern (cephalization of the lung pattern)

48. The classic radiological image of pulmonary edema may include:
a) The appearance of butterfly wings sign
b) Alveolar edema
c) Interstitial edema
d) Pleural effusion
e) Atelectasis

49. Nodular opacities in the lung fields are characteristic of:
a) Interstitial pulmonary edema
b) Alveolar pulmonary edema
c) Pulmonary artery thromboembolism
d) Lobar pneumonia
e) Discoidal atelectasis

50. The accentuation of the lung pattern can be found in:
a) Pulmonary artery thromboembolism
b) Alveolar pulmonary edema
c) Interstitial pulmonary edema
d) Acute respiratory distress
e) Lung cancer

51. Imaging signs of pulmonary artery thromboembolism include:
a) Complete obstruction of one of the pulmonary artery branches, up to its "blunt"
b) Local decrease of the lung pattern
c) Local increase of the lung pattern
d) Filling defects in the pulmonary artery
e) The sign of the "budding tree"

52. Which of the following signs can be detected on a standard chest radiograph in the case of thromboembolism of the pulmonary artery branches:
The Westermark sign
Hampton's sign (Hampton's hump)
The sign of the "budding tree"
Kerley Lines
The sign of "honeycombs"

53. The direct imaging sign of pulmonary artery thromboembolism is:
a) Filling defect in the pulmonary artery
b) The Hampton sign (Hampton's hump)
c) The Westermark sign
d) Pleural effusion
e) Presence of Kerley lines

54. Indirect imaging signs of pulmonary artery thromboembolism are:
a) Filling defect in the pulmonary artery
b) The Hampton sign (Hampton's hump)
c) The Westermark sign
d) Dilation and homogenization of the pulmonary hilum
e) Pleural effusion

55. To diagnose pulmonary artery thromboembolism are used:
a) Chest computed tomography in angiographic regime
b) Pulmonary angiography
c) Ventilation-perfusion lung scintigraphy
d) Ultrasonography
e) Thermography

56. The local reduction of the lung pattern is characteristic for:
a) Pulmonary artery thromboembolism
b) Pulmonary edema
c) Respiratory distress
d) Pneumonia
e) Atelectasis

57. The classical radiological sign in the diagnosis of respiratory distress, compared to pulmonary edema is:
a) Dilation and homogenization of the pulmonary hilum
b) Lack of signs of pulmonary venous congestion
c) Reduction of the lung pattern
d) The presence of nodular opacities in the lung fields
e) Presence of Kerley lines

58. The requirements for iodinated contrast agents are as follows:
a) The contrast medium must have a high osmolarity

b) The contrast medium must have a viscosity as low as possible
c) The contrast medium must have low osmolarity
d) The contrast medium must have a high solubility in water
e) The contrast medium must have as high a viscosity as possible

59. Water-soluble contrast agents may be:
a) Barium sulphate
b) Radiopharmaceutical preparation
c) Ionic
d) Nonionice
e) With urinary excretion

60. Hyperosmolar contrast agents have the following adverse effects:
a) Reduce the strength of the heart contractions
b) Vasodilator effect
c) Decrease the ejection fraction of the heart
d) Promotes the formation of thrombi
e) Vasoconstrictor effect

61. Which of the following statements are correct:
a) Ionic contrast agents are hydrophobic
b) Nonionic contrast agents are hydrophilic
c) Ionic contrast agents dissociate in water into particles called ions
d) Nonionic contrast agents are neutral electrically, water soluble
e) Ionic contrast agents are hydrophilic

62. Minor reactions to the administration of contrast agents are:
a) Nausea
b) Facial edema
c) Heat sensations
d) Bronchial spasm
e) Ventricular fibrillation

63. In the event of minor reactions to the administration of contrast agents, the following shall be performed:
a) Stop injecting the contrast agent for about 20-30 seconds
b) Oral medication treatment
c) Immediate hospitalization of the patient in the intensive care unit
d) Administration of antihistamines
e) Administration of glucocorticosteroids

64. In case of severe reactions to the administration of contrast agents the following measures are required:
a) Temporarily stop injecting the contrast agent for about 20-30 seconds
b) Oxygen administration
c) Subcutaneous administration of adrenaline
d) The patient needs to be admitted to the intensive care unit

e) Oral drug treatment

65. Severity criteria for pulmonary artery thromboembolism are:
a) Increasing the size of the right ventricle, with the RV / LV ratio> 1
b) Increasing the size of the left ventricle, with the RV / LV ratio <1
c) Increasing the pressure in the right cavities of the heart
d) Reducing the pressure in the right cavities of the heart
e) Increasing the size of the atria

66. The fastest and most rational method of imaging, which allows the assessment of the degree severity in case of thromboembolism of the pulmonary artery branches is:
echocardiography
Ventilation-perfusion scintigraphy
Magnetic resonance imaging
Angiographic computed tomography
Angiopulmonography

67. Radiological signs, which can be detected in case of interstitial pulmonary edema, as opposed to venous congestion (pulmonary edema), are:
a) Nodular opacities in the lung fields
b) Kerley lines
c) Peribronchial cuffing
d) The appearance of pleural exudate
e) Redistribution of the lung pattern

68. Radiological appearance of butterfly wings sign:
a) Occurs in 100% of patients with alveolar pulmonary edema
b) Occurs more frequently in young patients
c) Occurs more frequently in case of rapid evolution of alveolar edema
d) Occurs more frequently in patients of senile age
e) Occurs more frequently in case of slow evolution of alveolar edema

69. In case of pulmonary edema, computed tomography may show the following signs:
a) Thickening of the septa
b) Ground glass appearance
c) Honeycombs appearance
d) Pleural exudate
e) Railway symptom

70. Asymmetric pulmonary edema (unilateral or unilaterally predominant) may develop if:
a) Acute development of severe mitral regurgitation
b) Patient's lying position on one side for a long time
c) Patient's supine position (lying on his back) for a long time
d) After lung re-expansion
e) After inhalation of toxic substances

71. Redistribution (cephalization) of the lung pattern will be detected radiologically in case of:
a) Pulmonary venous congestion
b) Pulmonary arterial hypervolemia
c) Pulmonary arterial hypovolemia
d) Accumulation of fluid in the pleural cavities
e) Thromboembolism of the pulmonary artery small branches

72. The Westermark radiological sign is characterized by:
a) Localized hyperlucency
b) Symmetrical bilateral hyperlucency
c) Dilation of the pulmonary hilum proximal to the area of hyperlucency
d) Narrowing of the pulmonary hilum
e) Reducing lung transparency

72. In case of esophageal atresia suspicion, the first imaging method of investigation to be applied is:
a) chest radiography with the tube insertion into the esophagus
b) chest radiography without tube insertion into the esophagus
c) Performing esophagus radiography with barium substance
d) Performing esophagus radiography without barium substance
e) Performing esophageal radioscopy without barium substance

73. In various forms of esophageal atresia, a simple abdominal radiography taken at 6 hours postnatal may show the following changes:
a) Excessive pneumatization of the intestinal loops
b) Absence of air content in the intestinal loops - opaque abdomen
c) Pneumoperitoneum
d) Presence of hydro-aerial levels, centrally located
e) Presence of hydro-aerial levels, located peripherally

74. In the case of suspected intraventricular haemorrhage in newborns, the first imaging method to be used is:
a) skull computed tomography without contrast substance
b) ultrasonography
c) skull computed tomography with contrast substance
d) electroencephalography
e) angiography of cerebral vessels

75. In which case of esophageal atresia air in the projection of the intestine will never occur:
a) Esophageal atresia with high fistula
b) Esophageal atresia with low fistula
c) Esophageal atresia without fistula
d) In all cases of esophageal atresia
e) In case of brachyesophagus

76. Bronchopulmonary dysplasia is:

a) A chronic pathology, which occurs as a result of long-term administration of oxygen therapy
b) A chronic pathology, which is based on the absence of oxygen therapy
c) A pathology that can develop in children born at less than 30 weeks
d) A pathology that can develop in children born at a term of more than 30 weeks
e) A pathology that can develop in children born with a weight of less than 1.5 kg

77. The characteristic radiological sign for bronchopulmonary dysplasia is:
a) The emergence of bilateral hyperlucency
b) Occurrence of pseudo cysts projected diffusely into the lung tissue separated by irregular pneumonic infiltration
c) The appearance of diffusely projected nodular opacities
d) The appearance of multiple pulmonary air cysts
e) The appearance of diffuse miliary opacities, mainly in the lower regions

78. Ulceronecrotic enterocolitis in newborn represents:
a) A severe inflammatory condition, which presents as a necrosis of the mucous and submucosal layer of the intestinal wall
b) A common inflammatory condition, which presents as a necrosis of the muscular layer of the intestinal wall
c) A non-inflammatory condition that affects the intestinal wall
d) A congenital malformation that affects the intestinal wall
e) A post-traumatic obstetric condition that affects the intestinal wall

79. Newborn ulceronecrotic enterocolitis most commonly affects:
a) Distal ileum
b) The proximal colon
c) The whole colon
d) The esophagus
e) The oral cavity

80. Which of the following statements about the radiological stages of ulceronecrotic enterocolitis is correct:
a) stage IV - the appearance of complications
b) stage II - distension of the intestinal loops, the appearance of intestinal pneumatosis
c) stage I - without radiological changes
d) stage III - includes changes in stage II + complications that may occur
e) stage I - incipient changes, which are characterized by intestinal pneumatosis

81. The pathognomonic radiological sign for ulceronecrotic enterocolitis in newborn is:
a) Absence of gas in the intestinal loops
b) Calcification of the intestinal wall
c) Hydro-aerial levels
d) Pneumoperitoneum
e) Intestinal pneumatosis

82. Prematurity is frequently associated with the following pathologies:
a) Meconium aspiration syndrome
b) Transient tachypnea of the newborn
c) Immature lung
d) Respiratory distress syndrome
e) Congenital diaphragmatic hernia

83. Which of the following radiological signs is NOT characteristic for surfactant deficiency disease:
a) Low lung volume
b) Homogeneous opacification of the lung tissue
c) Presence of air bronchogram
d) Presence of miliary opacities with apical location
e) Erasing the heart contour

84. Which of the following radiological signs are characteristic for surfactant deficiency disease:
a) Bilateral hyperlucency
b) Homogeneous opacification of the lung tissue
c) Presence of air bronchogram
d) Presence of miliary opacities with apical location
e) Erasing the heart contour

85. A chest radiography of a newborn baby is performed for:
a) Assessment of the reasons for breathing disorders
b) Assessment of changes in congenital syphilis
c) Assessment of the correct location of the umbilical catheter
d) Assessment of the presence of developmental abnormalities of the gastrointestinal tract
e) Assessment of the presence of developmental abnormalities of the urinary system

86. Which of the following are respiratory disorders caused by prematurity:
a) Congenital pneumonia
b) Perinatal asphyxia
c) Respiratory distress syndrome
d) Meconium aspiration syndrome
e) Upper airway obstruction

87. The synonym for respiratory distress syndrome is:
a) Hyaline membranes disease
b) Neonatal asphyxia disease
c) Meconium aspiration syndrome
d) Liquid aspiration syndrome
e) Non-hyaline membranes disease

88. Which of the following statements about the radiological stages of newborn respiratory distress syndrome are correct:
a) Stage I- normal radiological image

b) Stage II - diffuse haze of the lung tissue
c) Stage III - reticulo-granular opacification of the lung tissue
d) Stage IV - the simultaneous presence of the characteristic changes for stages I, II and III
e) Stage V - simultaneous presence of the characteristic changes for stages I, II and III plus the occurrence of complications

89. The characteristic radiological signs of meconium aspiration syndrome are:
a) Low lung volume
b) Increased lung volume
c) Nonhomogeneous polymorphic opacities projected mainly in the middle-lower lung fields
d) Nonhomogeneous opacities projected mainly in the middle-upper lung fields.
e) The presence of pulmonary areas condensation

90. The differential diagnosis of meconium aspiration syndrome is made with:
a) Neonatal pneumonia
b) Transient tachypnea of the newborn
c) Interstitial emphysema
d) Pulmonary hemorrhage
e) Congenital diaphragmatic hernia

91. The radiographic sign of the newborn's white lungs is characteristic for:
a) transient tachypnea of the newborn
b) hyaline membranes disease
c) meconium aspiration syndrome
d) bronchopulmonary dysplasia
e) congenital diaphragmatic hernia

92. The "continuous diaphragm" sign on radiography can be detected in case of:
a) pneumomediastinum, if the transparency is higher than the diaphragm
b) pneumoperitoneum, if the transparency is lower than the diaphragm
c) pneumoperitoneum, if the transparency is higher than the diaphragm
d) pneumopericardium, if the transparency is lower than the diaphragm
e) pneumopericardium, if the transparency is higher than the diaphragm

93. The "Double bubble" sign on the x-ray is characteristic of:
a) duodenal atresia
b) pyloric atresia
c) esophageal atresia
d) annular pancreas
e) meconium aspiration syndrome

94. For which congenital malformations are typical total or subtotal opacities in the lung field with heterogeneous structure associated with the displacement of the mediastinum to the opposite side:
a) congenital adenomatous cystic malformations type I
b) congenital lobar emphysema
c) congenital diaphragmatic hernia

d) interstitial pulmonary emphysema
e) bronchopulmonary dysplasia

95. The delayed radiological sign of necrotizing enterocolitis in newborns is:
a) the absence of gas in the intestinal loops
b) distension of the intestinal loops
c) intestinal pneumatosis
d) air in the portal vein
e) free air in the abdominal cavity

96. Radiological changes in transient tachypnea of the newborn include:
a) hyper-aerated lungs
b) total opacity of a lung
c) striated, perihilar, linear opacities
d) air bronchogram
e) intrafissural fluid

97. Radiological neonatal respiratory distress syndrome can be manifested by the following:
a) hyper-aerated lungs
b) hypo-aerated lungs
c) diffuse "ground glass" appearance
d) air bronchogram
e) unilateral, total or subtotal opacity in the lung field with heterogeneous structure

98. Indicate the particularities of performing the conventional radiological examination in pediatrics and neonatology:
a) The radiation dose should be kept to a minimum
b) Focus irradiation area
c) In some cases, the use of mobile radiography machines is welcome
d) Children are examined without companions
e) The irradiation dose is not calculated based on body weight and age

99. Which of the following statements about pediatric scintigraphy and neonatology are true:
a) is used to diagnose oncological pathologies
b) is the method of first intention for the diagnosis of renal-urinary malformations
c) is used for the early diagnosis of osteomyelitis
d) is the method of first intention for the diagnosis of lung pathologies
e) the method uses X-rays

100. Which of the following is the first-line investigation in childhood brain pathology:
a) Computed tomography without contrast
b) Computed tomography with contrast agent
c) Magnetic Resonance Imaging
d) Ultrasonography
e) Scintigraphy

101. Indicate the radiological signs characteristic for congenital hip dysplasia:

a) Decreased acetabular angle
b) Lateral movement of the hip
c) Shanton line asymmetry
d) Widening of the acetabular angle
e) Elongation of the femoral bone

102. The purpose of the pediatric radiological examination may be to:
a) Analysis of the child's skeleton
b) Confirmation of the cause of respiratory damage
c) Assessment of the position of the heart and pulmonary vascularization
d) Confirmation of tube placement
e) Assessment of the child's age

103. Indicate the characteristic signs for a chest radiography in a child up to 1 year old:
a) The cylindrical shape of the rib cage
b) Calcification of the ribs
c) The presence of the thymus
d) ICT greater than 0.5
e) The vertical position of the heart

104. Indicate the peculiarities of the spine development in children:
a) The vertebrae of newborns are convex in shape
b) The vertebrae of newborns are rectangular in shape
c) Physiological curves appear at 6 months of age
d) The sacral vertebrae are separated up to 16 years
e) Physiological curves appear at 3 months of age

105. Indicate the peculiarities of the chest radiographic image in children:
a) The ribs in newborns are located horizontally
b) The ribs in newborns are located obliquely
c) The heart is horizontal until the age of 5 years
d) Thymomegaly can be detected up to the age of 3 years
e) Protrude the pulmonary artery arch

106. Indicate the peculiarities of the radiographic image of the tubular bones in children:
a) contain the metaphysis
b) ossification nuclei are present
c) “green stick” type bone fractures are characteristic
d) contain a large amount of mineral substances
e) do not contain metaphysis

107. Indicate the particularities of imaging examinations in children:
a) Young children need to be accompanied by adults during the imaging investigation
b) The use of medicated sleep is necessary for CT and MRI examination
c) The use of medical sleep is contraindicated during CT and MRI examination
d) Irradiation time and dose are reduced
e) Young children do not need to be accompanied by adults during the imaging investigation

108. Which of the following statements about pediatric scintigraphy are correct:
a) use X-rays
b) is the method of choice for the early diagnosis of osteomyelitis
c) is indicated for the diagnosis of bone metastases
d) uses gamma rays
e) is indicated in case of bone trauma

109. Fractures in children are characteristic:
a) multifragmentation
b) subperiosteal
c) in "green wood"
d) of the growth cartilage
e) by settlement

110. Meta-epiphyseal fractures in children can be the following:
a) apophysolysis
b) subperiosteal
c) in "green wood"
d) multifragmentation
e) epiphysolysis

111. Which of the radiological investigations can detect more accurately gastroesophageal reflux disease:
a. radioscopy of the esophagus and stomach
b) fibroesophagogastroduodenoscopy (FEGDS)
c. scintigraphy of the esophagus
d. computed tomography of the esophagus
e. magnetic resonance imaging of the esophagus

112. On esophageal radioscopy, its origin is located at the level of:
a. bifurcation of the trachea
b) cervical vertebra VI
c. cervical vertebra III
d. cervical vertebra IV
e. aortic bifurcation

113. The radiological signs of cardiac achalasia are:
a. the "rat tail" sign
b. lack of stomach air sac
c. the presence of gastroesophageal reflux
d. diffuse narrowing of the esophagus
e. dilation of the esophagus

114. The most rational radio-imaging method for diagnosing digestive tract diverticula is:
a. computed tomography
b. magnetic resonance imaging

c) scintigraphy
d. radioscopy with barium meal
e. ph-metria

115. What is the most useful radiological method in diagnosing Dumping Syndrome:
a. stomach radioscopy
b) irigoscopy
c. computed tomography
d. barium passage
e. fibroesophagogastroduodenoscopy (FEGDS)

116. Radiological signs of Dumping syndrome are:
a. waterfall stomach
b. fast passage at the level of small intestine
c) duodeno-gastric reflux
d. "collapse" of barium mass from the stomach into the small intestine
e. slow passage at the level of small intestine

117. The most informative radio-imaging investigation for diagnosis of post-cholecystectomy syndrome is:
a. magnetic resonance cholangiography
b. oral cholecystography
c. Relaxing duodenography
d. laparoscopy
e. transhepatic percutaneous cholangiography

118. The presence of free air in the bile ducts at the radiological examination guide the diagnosis towards:
a. choledocholithiasis
b. biliary-digestive fistula
c. duodenal diverticulum
d. biliary stasis
e. gallstones

119. The radiological signs present on simple abdominal radiograph, specific to pancreatitis, are:
a. sentinel loop
b. accumulation of excessive air into the bowel loops
c. hydro-aerial levels
d. calcifications in the pancreatic area
e. ascites

120. Which of the following is the sign of chronic pancreatitis highlighted by computed tomography:
a. pseudocysts
b. dilated Wirsung canal
C. choledocholithiasis

d. ascites
e. hydro-aerial levels

121. Radiological signs similar to those of Crohn's disease can also be found in:
a. hemorrhagic rectocolitis
b. enteritis
c. ileocecal tuberculosis
d. cecum cancer
e. diverticulosis

122. Which of the following radiological signs is attested on empty abdominal radiography in case of mechanical intestinal occlusion:
a. pneumoperitoneum
b. gas within the gallbladder
c. “swallow nest” type hydro-aerial levels
d. intestinal loop pneumatosis
e sentinel loop

123. Which of the following radiological tests is used to diagnose colon cancer:
a. barium in passage
b) irigoscopy
c) colonoscopy
d. proctography
e. angiography

124. Acute dilatation of the colon is detected in:
a. diverticulosis of the colon
b. familial polyposis
c. hemorrhagic rectocolitis
d. spastic colitis
e. insufficiency of the ileo-cecal valve

125. The radiological symptom of "paving stones" can be detected in patients with:
a. hemorrhagic rectocolitis
b. Hirschsprung's disease
c. Crohn's disease
d. irritated bowel syndrome
e. colon cancer

126. Which of the radioimaging investigations listed is more important in diagnosing Hirschsprung's disease:
a. ultrasonography
b) irigoscopy
c. barium passage
d. computed tomography of the colon
e. magnetic resonance imaging of the colon

127. The imaging report describes the sign of "paving stones". Which of the listed imaging investigations was performed:

a) barium enema
b) Colonoscopy
c) Barium passage
d) Proctography
e) Relaxing duodenography

128. The radiological signs of hemorrhagic rectocolitis are:
a. mucosa with irregular and granular appearance
b. shortening of the intestine
c. pseudopolyps
d. absence of haustra
e. elongation of the intestine

129. The first-line radiological examination in rectal cancer is:
a. computed tomography
b. magnetic resonance imaging
c. proctography
d. pelvic ultrasound
e. simple radiography of the abdomen

130. The modern radioimaging methods used for rectal cancer diagnosis are:
a. computed tomography
b. magnetic resonance imaging
c. thermography
d. pelvic ultrasound
e. simple radiography of the abdomen

131. The most informative method for diagnosing chronic perirectitis is:
a. ultrasonography
b) colonoscopy
c) fistulography
d. computed tomography
e. scintigraphy

132. For which pathological process is characteristic the appearance of intestinal fistula:
a. ulcerative disease
b. irritable bowel syndrome
c. duodenal malrotation
d. Crohn's disease
e. intestinal diverticulosis

133. What is the best radioimaging method to confirm the diagnosis of acute cholecystitis:
a. oral cholecystography
b) ultrasonography
c. computed tomography

d. retrograde cholangiopancreatography
e. scintigraphy of the liver

134. Determination of air presence in the bile ducts on standard radiography of the right hypochondrium indicates:
a. choledocholithiasis
b. acute calculous cholecystitis
c. bilio-digestive fistula
d) perforating duodenal ulcer
e. perforating gastric ulcer

135. To confirm the diagnosis of perforating ulcer it is necessary to perform:
a. Abdominal ultrasonography
b. stomach radioscopy
c. empty abdominal radiography in orthostatism
d. empty abdominal radiograph in supine position
e. barium passage

136. Which of the following imaging tests are used to determine the progression of colon cancer:
a. abdominal ultrasound
b. computed tomography
c. magnetic resonance imaging investigation
d. electrocardiography
e. standard chest radiography

137. For which pathological process the following radiological changes are characteristic: the gastric antral region is narrowed conically, the walls are rigid, the peristalsis is absent, the mucosal relief is mosaic:
a. pylorostenosis
b. rigid antral gastritis
c. infiltrative cancer
d. gastric diverticulum
e. gastric polyp

138. The characteristic radiological signs for duodenal ulcer are:
a. the niche sign
b. inflammatory halo
c. convergence of folds
d. the positive “De Kerven” symptom
e. hydro-aerial levels

139. Functional radiological changes due to upper stomach layers disorders are:
a. atonia
b. hypertension
c. spasm
d. hypersecretion

e. hyposecretion

140. The characteristic radiological signs for esophageal achalasia are:
a. narrowing of the cardia part
b. suprastenotic dilation of the esophagus
c. the sign of "three layers"
d. lack of air stomach bubble
e. cardia part enlargement

141. Which of the following radiographic signs are characteristic for an inflammatory process of the stomach or duodenum:
a) "three layers" sign
b) "apple core" sign
c) "paving stone" sign
d) double bubble sign
e) "coffee bean" sign

142. The most common benign esophageal tumor is:
a. papilloma
b. angioma
c. leiomyoma
d. neurinoma
e. angiolipoma

143. The first intention radiological method in case of foreign body of the esophagus is:
a. radiography of the cervical region in lateral incidence
b. radioscopy of the esophagus with barium substance
c. computed tomography
d. magnetic resonance imaging investigation
e. scintigraphy of the esophagus

144. The indirect radiological signs in gastric ulcer are:
a. hypersecretion
b. niche
c. folds convergence
d. hypertonus
e. hyperkinesia

145. The direct radiological signs in gastric ulcer are:
a. hypersecretion
b. niche
c. folds convergence
d. hypertonus
e. hyperkinesia

146. The method of first choice in the diagnosis of jaundice is:

a. magnetic resonance imaging investigation
b. endoscopic retrograde cholangiopancreatography
c. computed tomography
d. ultrasonography
e. transhepatic percutaneous cholangiography

147. Chest radiography reveals a horizontal level of fluid in the background of the mediastinum. This radiological sign can be found in the following pathologies:
a. achalasia of the cardia
b. diaphragmatic hernia
c. esophageal varices
d. reflux peptic esophagitis
e. large esophageal diverticulum

148. The patient complains of heartburn, belching, retrosternal pain more obviously lying down. The first intention imaging investigation to establish the diagnosis will be:
a. abdominal ultrasonography
b. computed tomography of the abdomen
c. polypositional stomach radioscopy and in the Tredelenburg position
d. fibroesophagogastroduodenoscopy (FEGDS)
e. magnetic resonance imaging

149. A standard chest radiography reveals a horizontal level on the background of the mediastinum. The next method of examination will be:
a. computed tomography of the mediastinum
b. chest radiography in 3 incidences
c. radioscopy of the esophagus with barium meal
d. magnetic resonance imaging of the mediastinum
e. laterography

150. The presence of free air under the diaphragm domes is a sign of:
a. intestinal obstruction
b. cavitary organs perforation of the digestive tract
C. biliary-digestive fistula
d. hiatal hernia
e. esophageal stenosis

151. Select morphological changes of the digestive tract by plus filling:
a. niche
b. diverticulum
c. rigidity
d. lacuna
e. amputation

152. Select morphological changes of the digestive tract by minus filling:
a. niche
b. diverticulum

c. notch
d. lacuna
e. amputation

153. The duodenum includes the following anatomical parts:
a. upper horizontal
b. lower horizontal
c. transverse
d. ascending
e. descending

154. What is the imaging method of choice for postoperative gallstones:
a) Magnetic resonance imaging
b) Computed tomography
c) Postoperative cholangiography
d) Ultrasonography
e) Transhepatic percutaneous cholangiography

155. What is the non-invasive imaging method associated with anatomical precision in the bile ducts and gallbladder examination:
a) Computed tomography
b) Magnetic resonance imaging
c) Ultrasonography
d) Postoperative cholangiography
e) Simple abdominal radiography

156. Local stenosis of the colon with modified barium passage, image of "apple core" are characteristic for:
a) Infiltrative cancer
b) Vegetative cancer
c) Non-specific ulcerative colitis
d) Chron's disease
e) Achalasia

157. Well-defined lacunar image with clear and regular contour at the level of gastric body is characteristic for:
a) Adenocarcinoma in the "plate"
b) Vegetative cancer
c) Gastric polyp
d) Gastric diverticulum
e) Gastric ulcer

158. Simple abdominal radiograph is performed to determine:
a) Intestinal occlusion
b) Perforation of a cavitary organ
c) Urolithiasis
d) Radiopaque foreign bodies

e) Radionegative foreign bodies

159. Central lung cancer develops from:
a) the central bronchus
b) segmental bronchus
c) pleura
d) lung parenchyma
e) lobar bronchus

160. Peripheral lung cancer develops from:
a) the central bronchus
b) the subsegmental bronchus
c) pleura
d) lung parenchyma
e) ribs

161. Ultrasonography will be the method of first intention for investigation in tumor suspicion of:
a) lung parenchyma
b) abdominal parenchymal organs
c) bones
d) brain
e) stomach

162. Which of the indicated real planes can be obtained by magnetic resonance imaging investigation:
a) superior
b) lower
c) sagittal
d) frontal
e) axial

163. For a benign tumor is characteristic:
a) rapid growth
b) relatively slow growth
c) well-defined edges
d) invasion in adjacent organs
e) metastasis

164. For a malignant tumor is characteristic:
a) rapid growth
b) relatively slow growth
c) well-defined edges
d) invasion in adjacent organs
e) metastasis

165. Magnetic resonance imaging will be my most informative for tumor detection

with location:
a) in bone tissue
b) in the mediastinum
c) in the liver
d) in the nervous system
e) in the uterus

166. In case of which radiographic pathology, multiple lung nodules are detected:

a) metastases in the lungs
b) hamartroma
c) fungal infection
d) septic emboli
e) organized pneumonia

167. Magnetic resonance imaging of the thorax is performed for diagnosis of the following pathologies:
a) Lung cancer
b) Pulmonary edema
c) Vertebral bodies instability in the thoracic region
d) Mediastinal lymph nodes pathology
e) Vascular aneurysms

168. Indicate the most common sites of renal cancer metastasis:
a) lungs
b) skin
c) bones
d) liver
e) colon

169. Select the imaging methods used to diagnose chest trauma:
a) Standard chest radiograph
b) Scintigraphy
c) Computed tomography
d) Doppler ultrasound
e) Magnetic Resonance Imaging

170. Indicate the benefits of standard radiography in chest trauma:
a) It can be used as a forensic document
b) It allows the evaluation of the chest lesions, monitoring of their evolution, evaluation of the treatment efficiency
c) It can be performed on the patient's bed using portable radiological installations
d) It allows the evaluation of the lesions at the level of the intervertebral discs
e) It can be performed only inside the radiology department

171. In the diagnosis of thoracic trauma, ultrasonography may be indicated for the purpose of:
a) Rapid assessment of esophageal ruptures

b) Detection of pneumothorax
c) Rapid evaluation of hemopericardium, cardiac tamponade, valvular lesions
d) Diagnosis of hemothorax, hemoperitoneum
e) As a complementary method to radiography in the detection of costal fractures

172. Indicate the benefits of computed tomography in the diagnosis of chest trauma:
a) Being a non-irradiating method can be used in the examination of pregnant women
b) It is optimal in the diagnosis of hemothorax and pneumothorax
c) It is optimal in the diagnosis of parenchymal complications
d) Does not require argumentation
e) The patient needs special training to perform the investigation

173. Magnetic resonance imaging in chest trauma is useful for:
a) differentiation of myocardial contusion from myocardial infarction
b) assessment of the condition of the traumatized lung tissue
c) evaluation of vertebro-medullary lesions
d) examination of pregnant women in the first trimester
e) evaluation of mediastinal lesions

174. Which of the following statements characterizes the chest contusion:
a) Clinical signs appear after 48 hours, with slow progression, without signs of hypoxemia
b) It is associated with rib fractures, rib flap, penetrating wounds
c) Hemoptysis occurs
d) It is not the most common chest injury
e) It has no lethal potential

175. Which of the following statements about rib fractures are correct:
a) The ribs 1-3 are more frequently affected
b) The ribs 4-8 are more frequently affected
c) It is associated with pulmonary contusion, pneumothorax or hemorrhage; it can be single or multiple
d) Fractures of the first two ribs are often associated with vascular lesions
e) Fractures of the ribs 8-12 are associated with ruptures of the spleen, liver, kidneys

176. Which of the following statements characterizes rib fractures:
a) May be associated with pneumothorax
b) Not highlighted on standard radiography
c) May be associated with pulmonary contusion
d) May be associated with hemothorax
e) May be associated with subcutaneous emphysema

177. Which of the following statements characterizes sternal fractures:
a) May be associated with severe damage of the heart, aorta
b) Local deformation in case of overlapping fractures (sternum seems shortened, lower fragment raises skin and soft tissues leading to deformation)
c) Benign evolution when isolated
d) The sternum in not fracturing

e) It is highlighted only by computed tomography

178. The radiological examination for pneumothorax shows:
a) Collapsed lung imposed on the hilum
b) Hyperlucency of the affected hemithorax
c) Complete collapse of the lung independent of the amount of air in the pleural cavity
d) Total opacity without displacement of mediastinal organs
e) Multiple rib fractures in all cases of pneumothorax

179. Which of the following imaging methods are used in the diagnosis of abdominal trauma:
a) Simple radiography
b) Ultrasound
c) Angiography
d) Computed tomography
e) Barium passage

180. Which of the following imaging methods can be used to diagnose abdominal trauma:
a) Scintigraphy
b) Angiography
c) Intravenous pyelography
d) digestive tract radiography with barium sulphate
e) Power Doppler mode ultrasound

181. The examination of the trauma abdomen case in a pregnant woman in the second trimester will be performed by the following methods:
a) Magnetic resonance imaging
b) Ultrasonography
c) Computed tomography with contrast
d) Linear tomography
e) PET-CT

182. Examination of the lower or upper limb in the event of trauma in a pregnant woman can be performed by:
a) Standard radiography, with additional mandatory protection of the abdominal region
b) Ultrasound
c) Magnetic resonance imaging with contrast
d) Scintigraphy
e) The pregnant woman will not be examined by imaging methods

183. Which imaging method of investigation will be used in case of esophageal trauma:
a) Ultrasonography
b) Radioscopy of the esophagus with barium sulphate
c) Radioscopy of the esophagus with water-soluble contrast agent
d) Computed tomography
e) Fibrogastroscopy

184. The characteristic radiological sign of esophageal trauma is:

a) Contour defect due to minus filling
b) The polycyclic contour of the esophagus
c) Enlarged esophagus in volume
d) Free, permeable esophagus
e) Extravasation of the contrast substance in the ruptured zone

185. Which of the following imaging investigations are indicated in emergencies:
1. Standard radiography
2. Ultrasonography
3. Magnetic resonance imaging
4. Scintigraphy
5. Computed tomography

186. Which of the following is the most informative investigation in craniocerebral trauma:
1 Magnetic resonance imaging
2. Computed tomography
3. Skull radiography
4. Ultrasonography of the skull
5. PET CT

187. What imaging investigation will you indicate to the patient with a body weight of 180 kg in case of craniocerebral trauma:
1. Magnetic resonance imaging
2. Computed tomography
3. Standard radiography
4. Ultrasonography of the skull
5. Bone scintigraphy

188. What imaging investigation will you indicate to the patient with a body weight of 180 kg in the event of a stroke:
1. Magnetic resonance imaging
7. Computed tomography
8. Standard radiography
4. Ultrasound of the brain
5. With the indicated body weight parameters the diagnosis will be established based only on clinical data.

189. What imaging investigation is the first intention method in a stroke:
1. Magnetic resonance imaging with contrast material
2. Computed tomography with contrast
3. Standard radiography
3. Magnetic resonance imaging without contrast
4. Computed tomography without contrast

190. In the first hours after the hemorrhagic stroke, the most informative imaging method is:
1. Magnetic resonance imaging with contrast material
2. Computed tomography with contrast

3. Standard radiography
4. Magnetic resonance imaging without contrast
5. Computed tomography without contrast

191. In the first hours after the ischemic stroke, the most informative imaging method is:
Contrast-enhanced magnetic resonance imaging
Contrast-enhanced computed tomography
Standard radiography
Magnetic resonance imaging without contrast
Computed tomography without contrast

192. In what position of the patient can chest radiography be performed in determining the hydropneumothorax:
1. Postero-anterior horizontal
2. Postero-anterior vertical
3. Horizontal anterior-posterior
4. Anterior-posterior vertical
5. Lateral

193. The most optimal imaging method for determining pleural effusion is:
1. Standard radiography
2. Magnetic resonance imaging
3. Ultrasonography
4. Computed tomography
5. Pulmonary scintigraphy