

Dean of the Faculty of foreign  
students of  
Orenburg State Medical University  
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" \_\_\_\_\_ " \_\_\_\_\_ 2020

Orenburg State Medical University

Department of Phthisiology and Pulmonology

Level of higher education: specialty

Specialty: 31.05.01 Medicine

Discipline: Phthisiology

Form intermediate certification: Exam

### **Questions for exam preparation**

1. The main stages of the teaching of tuberculosis as clinical, epidemiological and social problem. The contribution of Russian and foreign scientists in the development of phthisiology. Formation of phthisiology as a speciality and science. The place of phthisiology in modern medical specialties system.
2. Tuberculosis as an international health problem. International cooperation in the fight against tuberculosis. WHO strategy for TB control. TB in developed and developing countries.
3. Organization of TB control in the Russian Federation. Current state and prospects of TB control in the Russian Federation. National Concept for TB control. Basic legal documents on TB management and a brief description.
4. The causative agent of tuberculosis, morphological structure, chemical composition, enzyme activity, reproduction.
5. The pathogenicity and virulence of mycobacteria. Mycobacterial species and their differentiation. The variability of the Mycobacterium tuberculosis.
6. Ways of Mycobacterium tuberculosis transmission. Local and general reactions to TB infection.
7. Tuberculosis infection and disease, and the interaction of micro and macroorganism. The risk of the disease and the factors that influence the development and course of tuberculosis.

8. The anti-TB immunity. Primary and secondary periods of TB infection, their immunological characteristics.
9. Meaning of endogenous factor in the development of tuberculosis.
10. Morphology of tuberculous inflammation and cellular characterization of its constituent elements (epiteleoid cells, giant cells Pirogov-Langans, lymphocytes, neutrophils).
11. Productive, exudative inflammation and alterative (caseosis) elements. The character of metabolic and immunological disorders in different types of tuberculous inflammation.
12. The main methods of TB diagnosis (compulsory, optional). The stages of the diagnostic process.
13. Informativeness and purpose of various methods for the detection, diagnosis and dynamic monitoring of the state of organs and systems during treatment. The clinical interpretation of the observed changes, their importance for the diagnosis and follow-up survey.
14. Methods of radiographic examination in cases of tuberculosis of the respiratory system and other localizations. Indications for different types of X-ray examination at various forms of pulmonary tuberculosis, and in preparing patients for surgery.
15. Radiological syndromes of tuberculosis and other respiratory diseases. Algorithm descriptions of pathological formations in the lungs and the mediastinum, the clinical interpretation purposes and the identification of various diseases.
16. Bacterioscopic MBT detection methods: determining types of the information content, advantages and disadvantages.
17. The culture methods to identify MBT: definition, types, informative, advantages and disadvantages.
18. Molecular biological research methods in the diagnosis of tuberculosis. Definition, types, informative, advantages and disadvantages.
19. Types of potentially pathogenic nontuberculous mycobacteria, the value of pulmonary and extra-pulmonary pathology, diagnostic techniques. Laboratory diagnosis and identification methods of nonspecific microflora in pathological material.

20. General clinical laboratory methods. Diagnostic value of shift amount corpuscles of the peripheral blood and ESR in various forms and stages of tuberculosis.
21. The study of urine indicators of pulmonary and genitourinary tuberculosis, tuberculosis patients complicated with amyloidosis. Laboratory tests in determining the dosage of chemotherapy intolerance.
22. Cytological examination of sputum, bronchial content and other pathological material (pleural exudate, cerebrospinal fluid, punctate lymph node biopsy) in cases of tuberculosis of lung. Bronchoalveolar lavage study, clinical assessment cytogram.
23. Tuberculin and its properties. Types of tuberculin. Mechanism tuberculin reactions. Methods of setting tuberculin tests. The use of tuberculin tests in mass examinations of children.
24. Tuberculin Mantoux test with 2 TE PPD-L. Technique setting, the use of a sample to determine the initial infection by mycobacteria.
25. Early detection of tuberculosis in children, the selection of persons subject to vaccination and revaccination with BCG, the definition of infection with Mycobacterium tuberculosis population.
26. Using the Mantoux test with 2 TE PPD-L to identify individuals with an increased risk of TB disease and in need of screening for tuberculosis.
27. Differential diagnosis of infectious and after BCG vaccination sensitivity to tuberculin. Contraindications to the Mantoux test with 2 TE PPD-L.
28. Using of the recombinant allergen of tuberculosis for diagnosis, differential diagnosis and determine the activity of tuberculosis.
29. Drug "Diaskintest" characteristics, indications for use. The method of application, the estimation result.

30. The principles of classification of tuberculosis (pathogenetic, anatomopathological, clinical, radiological and microbiological). Modern classification, the basic principles of modern classification.
31. Sections of the clinical classification of TB, reflecting the main clinical forms, characteristic of tuberculosis and its complications, residual changes after the treatment of tuberculosis.
32. The wording of the diagnosis of tuberculosis and its change as a result of treatment.
33. The pathogenesis of primary tuberculosis in children and adolescents.
34. Meaning of massive infection, virulence of mycobacteria strains and for the occurrence of primary tuberculosis.
35. Factors that reduce the body's resistance to tuberculosis infection.
36. Meaning of BCG vaccination in the prevention of primary TB.
37. Primary infection with *Mycobacterium tuberculosis*.
38. Meaning tuberculin tests for the diagnosis of primary TB infection. Conversion of tuberculin test reactions.
39. Diagnosis of infectious and aftervaccine sensitivity to tuberculin.
40. Indications and methods of chemoprophylaxis of tuberculosis during primary infection.
41. Clinical symptoms and specialty of clinical and radiological manifestations of primary tuberculosis in children and adolescents in modern conditions.
42. Primary tuberculosis complex. Tuberculosis of intrathoracic lymph nodes. Pathogenesis and pathological anatomy.

43. Radiological forms of primary tuberculosis, diagnosis and treatment
44. Miliary pulmonary tuberculosis. The pathogenesis of early and late hematogenous dissemination.
45. Pulmonary and typhoid forms of pulmonary miliary tuberculosis, pathological signs.
46. Diagnosis, clinical complications of miliary tuberculosis. Acute tuberculous sepsis. Differential diagnosis with other etiologies of dissemination.
47. The pathogenesis of hematogenous, lymphogenic and bronchogenic dissemination.
48. Subacute and chronic disseminated pulmonary tuberculosis, pathogenesis, pathological and radiological signs.
49. Diagnosis and clinic of disseminated pulmonary tuberculosis. Disseminated (lymphogenous), pulmonary tuberculosis, clinical and radiographic features.
50. Complications of disseminated tuberculosis (pleurisy, laryngeal lesion and other organs).
51. Focal pulmonary tuberculosis. Pathogenesis and pathological anatomy of focal pulmonary tuberculosis.
52. The value of an exogenous superinfection and endogenous reactivation in the development of focal pulmonary tuberculosis. Detection methods, the clinic and treatment in focal tuberculosis.
53. The value of X-ray fluorography, and methods for the detection and diagnosis of focal tuberculosis.
54. The reasons for the progression of focal tuberculosis and formation of common processes. Outcomes of focal pulmonary tuberculosis. Differential diagnosis. Methods of determining the activity of tubercular lesions.

55. Infiltrative pulmonary tuberculosis. Pathogenesis and pathological anatomy of infiltrative tuberculosis. Clinical manifestations. Radiographic options: lobular, rounded, cloud-, perisissuritis, lobitis. Features of the course. The nature of residual changes.
56. Outcomes and prognosis of infiltrative tuberculosis. Differential diagnosis of infiltrative pulmonary tuberculosis and acute pneumonia.
57. Caseous pneumonia. Pathogenesis and pathological anatomy of the lobar and lobular caseous pneumonia. Clinical features, radiological characterization.
58. Outcomes and prognosis of caseous pneumonia. Differential diagnosis in cases of caseous lobar pneumonia.
59. Tuberculomas of lungs. Pathogenesis and pathological anatomy of the lung tuberculoma. Clinical picture of tuberculomas lung, clinical forms. Basic radiological signs in identifying and diagnosing tuberculoma.
60. Tuberculomas course and outcomes depending on the magnitude and phase flow, the value of the surgical treatment method. Differential diagnosis with rounded formations in the lungs.
61. Cavernous pulmonary tuberculosis. The pathogenesis of the lung cavity. The morphological structure of cavities and their variety (fresh formed, chronic, sanitized). Cavernous tuberculosis dynamics and the nature of his transformation. Clinical manifestations. Main radiological and laboratory signs of cavities in the lung.
62. Clinical characteristics of cavernous pulmonary tuberculosis. The main types of cavities healing. Differential diagnosis with cavitary formations in the lungs.
63. Fibro-cavernous tuberculosis. Epidemiological significance of chronic destructive tuberculosis. Pathogenesis. The causes of fibro-cavernous pulmonary tuberculosis. Morphological features.

64. Clinical and radiological variants of fibro-cavernous pulmonary tuberculosis. Complications of fibro-cavernous tuberculosis. Course and outcome.
65. Cirrhotic pulmonary tuberculosis. Pathogenesis and pathological anatomy of cirrhotic pulmonary tuberculosis. The main clinical and radiographic signs. The complication of cirrhotic tuberculosis.
66. TB pleurisy. Pathogenesis and pathological anatomy of tuberculous pleurisy. Nature of the lesion (morphologically nonspecific inflammation of the pleura). The clinical picture is dry (fibrinous) and exudative tuberculous pleurisy. Radiographic signs. Characteristics of pleural effusion. Indications for biopsy and pleuroscopy.
67. Differential diagnosis of exudative pleurisy. Tuberculous empyema, clinical course and outcome.
68. Tuberculosis meningitis and TB of central nervous system. Pathogenesis and pathological anatomy of tuberculous meningitis. Clinical manifestations of the basic forms of meningitis (basilar, spinal and meningoencephalitis). Neurological symptoms. Microbiological and serological diagnostics, change parameters of cerebrospinal fluid.
69. Differential diagnosis of tuberculous meningitis. The treatment of TB meningitis. Outcome of chemotherapy.
70. Tuberculosis of the urinary, genital organs. Pathogenesis and pathological anatomy of the genitourinary tuberculosis. Classification of genitourinary tuberculosis. Clinic and diagnosis of tuberculosis of the kidneys, ureter, bladder, genital area. Instrumental methods of research. Course and outcome. Differential diagnosis. Basic principles of treatment.
71. Pulmonary tuberculosis in HIV-infected and AIDS patients. Pathogenesis and pathological anatomy of tuberculosis in HIV-infected and AIDS patients.
72. Features of clinical, radiological and microbiological diagnosis of tuberculosis in HIV-infected and AIDS patients. Course and outcome of tuberculosis in HIV-infected and AIDS patients.

73. Tuberculosis, pregnancy and motherhood. The value of pregnancy and delivery in developing tuberculosis. Features course of tuberculosis in different periods of pregnancy.
74. Diagnosis of tuberculosis in pregnant women. Clinic and particular treatment, contraindications to antituberculosis drugs. Indications and contraindications to chemotherapy and breast-feeding the baby, TB prevention measures.
75. Tuberculosis in elderly persons. Pathogenesis, pathological Anatomy and tuberculosis clinics in middle and old age. Diagnosis and differential diagnosis. Course and outcome of tuberculosis in elderly and senile age.
76. Hemoptysis and pulmonary hemorrhage. Pathogenesis, diagnosis and treatment principles. Methods emergency in pulmonary hemorrhage. Treatment of complications and aspiration pneumonia.
77. Spontaneous pneumothorax. Pathogenesis, diagnosis, clinical features and treatment (conservative and surgical).
78. General principles of treatment of tuberculosis (hygiene-dietary regime, chemotherapy, pathogenetic and symptomatic therapy, physiotherapy, collapse therapy, surgical treatment, medical rehabilitation). Rationale phasing treatment (inpatient, outpatient, sanatorium). Continuity of treatment. Organizational forms of treatment and methods of monitoring the effectiveness of treatment.
79. Basic principles of chemotherapy. TB drugs, classification, mechanism of action on the mycobacterial population. The pharmacological characteristics of individual anti-TB drugs. The concept of the chemotherapy regimen. Determination of chemotherapy stages.
80. Clinical significance and clinical manifestations of drug resistance of *Mycobacterium tuberculosis*. Regimens of chemotherapy patients with chronic tuberculosis with drug resistant mycobacteria. Regimens of patients with pulmonary tuberculosis chemotherapy multidrug resistant mycobacteria.
81. Side reactions during chemotherapy. Their classification. Medicinal complications inherent in a separate anti-TB drugs. Clinical and laboratory methods for detection of adverse drug action. Removable and unavoidable side reactions. Methods for preventing and correcting drug complications.
82. Existing methods of pathogenetic therapy. Detoxification treatments, plasmapheresis, UV-blood, intravenous laser irradiation of blood. Desensitizing therapy. Therapy corticosteroids. Anabolic steroid hormones.



Metabolic and immunomodulatory therapy. Physiotherapy. Selection of the optimal timing of the appointment of various kinds of pathogenetic therapy in the intensive phase and the continuation phase of treatment.

83. Meaning artificial pneumothorax and pneumoperitoneum. Mechanism of action. Indications and contraindications. Methods of treatment. Clinical management of artificial pneumothorax and pneumoperitoneum. Complications and their prevention measures.
84. Modern methods of surgical treatment of patients with various forms of pulmonary tuberculosis. Various kinds of operations: lung resection, Pleuroectomy, decortication, thoracoplastic operation, extrapleural pneumolysis, cavernotomy, ligation of vessels and bronchi, empyema cavity drainage, drainage of the cavity. Thoracoscopic surgery. Features of surgical treatment of acutely progressive and drug-resistant pulmonary tuberculosis. Indications and contraindications for each type of surgery.
85. Sanatorium treatment of TB patients. Indications and contraindications for sanatorium treatment. Indications for treatment in TB sanatoriums of various climatic and geographical zones.
86. The epidemic process of tuberculosis and the factors that determine its development. The interaction of the source of infection, transmission mechanisms, and the susceptibility of people to disease. The value of the socio-economic and hereditary factors resulting in the development of tuberculosis. The reservoir of TB infection.
87. The sources and routes of transmission of TB infection. Mechanisms aerogenic ways of infection. The entrance gate of infection. The risk of infection with *Mycobacterium tuberculosis*. Meaning contact with TB varying degrees of infectivity. Hotbed of tuberculosis infection. The risk of developing the disease in infected and non. The concept of the population groups at greater risk of tuberculosis (risk).
88. Basic epidemiological indicators used in the epidemiology of tuberculosis. Infection with *Mycobacterium tuberculosis*. Incidence as an expression of the degree of interaction between the infection and the level of resistance of the organism determined social conditions of life, cultural and hygienic standards. The prevalence of tuberculosis, contingents of patients with active tuberculosis (morbidity). The value of mortality from tuberculosis to assess the epidemic control.
89. The TB clinic. The challenges facing the dispensaries: preventive measures, organizational and methodological guidance in the service area, the

organization of early detection of TB cases, the organization of treatment of patients, communication with medical institutions of general medical network, the analysis of epidemiological indicators in the area. Medical records. The main indicators of the quality of TB control.

90. Groups of dispensary observation and recording contingent of tuberculosis institutions. Characteristics of dispensary groups. Tactics dispensary observation and recording. Determining the activity of tuberculous process. The wording of the diagnosis. Prevention of relapse. Formation and characterization of a group of questionable activity TB tactics of observation and treatment.
91. The concept of early, timely, untimely, late and post mortal detection of tuberculosis in modern conditions.
92. Methods for detection of tuberculosis in different age groups: ray diagnostic methods, microbiological examination of sputum, tuberculin. Massive and panel surveys of adults (and teenagers) for TB by x-rays today.
93. Contingents of the population subject to mandatory and systematic x-ray screenings for tuberculosis. A group of individuals with an increased risk of tuberculosis (social, polyclinic, epidemiologic). Decreed contingents.
94. Specific prevention of tuberculosis. TB vaccination. BCG and BCG-M. Intradermal method of BCG vaccination. Technique of vaccination and revaccination with BCG, timing, indications and contraindications. Reaction organism grafted to intradermal BCG vaccine.
95. Assessment and recognition of local vaccination reactions. After BCG vaccine cutaneous scar value to evaluate the quality and effectiveness of anti-tuberculosis vaccination.
96. Complications of BCG-vaccination, their causes and treatment.
97. Organization of BCG vaccination and revaccination. 2 TU Mantoux test with PPD-L- as a primary screening method for revaccination with BCG.
98. Primary and secondary chemoprophylaxis. Chemoprevention of high-risk groups (giperergic tuberculin and recombinant TB-allergen reactions, contact with TB). Indications. Used drugs, their dosage, method and timing of chemoprophylaxis.
99. Organization of the account of bacteriological TB dispensaries and sanitary and epidemic supervision. The concept of outbreak of tuberculosis infection. The current group of TB lesions. Preventive work in the centers of tuberculosis infection from TB specialists, sanitary and epidemic control.

100. Desinfection of tuberculosis. Means and methods of disinfection.

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