

THEMATIC PLAN OF PRACTICAL CLASSES
for " Phthysiopulmonology" cycle
for the 4th year students of the Faculty for training for foreign countries
7, 8 semester

№	Наименование темы	Часы
1	Introduction. Ethical and deontological aspects in TB hospital. Bacteriological diagnostics of tuberculosis.	6
1.1	General rules in anti-TB hospital. Basic requirements and problems of medical ethics and medical deontology.	
1.2	Bacteriological laboratory tests for MTB detection. Clinical specimens. Collection of samples.	
1.3	Sputum smear AFB microscopy. Ziehl-Neelsen staining. Fluorescent auramine staining.	
1.4	Culture methods of MTB detection. Classical cultivation on Löwenstein-Jensen media. Automated culture method (BACTEC cultivation). MBT identification and drug resistance detection.	
1.5	Genotypic methods of MTB identification and drug resistance detection.	
2	Diagnostics of tuberculosis.	6
2.1	Peculiarities of TB patients examination. TB diagnostics.	
2.2	Symptoms and signs of tuberculosis. History of disease. Physical examination of patient.	
2.3	Radiographic diagnostics (chest radiography, computer tomography, magnetic resonance imaging). X-ray patterns of pulmonary tuberculosis.	
2.4	Tuberculin skin test. Diaskin-test. IFN- γ Release Assays (IGRAs).	
2.5	Additional diagnostic methods. Fiberoptic bronchoscopy. Broncho-alveolar lavage procedure. Lung biopsy. Spirography. Pleural puncture. Surgical diagnostics for TB (thoracoscopy, mediastinoscopy).	
3	Classification of tuberculosis. Primary tuberculosis in children. Disseminated forms of TB.	6
3.1	Clinical forms of tuberculosis. Signs and criteria of TB disease. Primary and post-primary (secondary) tuberculosis. ICD-10 classification.	
3.2	Primary tuberculosis in children. Risk factors for TB infection and disease. Pathogenesis and hystomorphology.	
3.3	Progressive primary TB in children. Clinical forms of primary tuberculosis: common and extra pulmonary symptoms. Primary TB complex (tuberculous mediastinal lymphadenitis and endobronchial tuberculosis).	
3.4	Miliary TB disease. Definition, pathogenesis and hystomorphology, clinical variants, diagnostics, outcomes.	
3.5	Disseminative TB. Definition, pathogenesis and hystomorphology, clinical variants, diagnostics, outcomes.	
4	Secondary pulmonary tuberculosis.	6
4.1	Subacute TB forms. Pathogenesis, hystopathology and clinical aspects depending on host's immune response and reactivity.	
4.2	Radiographic appearance of subacute TB forms. Laboratory verification. Course and prognosis.	
4.3	Acute progressive pulmonary TB. Risk and determining factors. Pathogenesis, hystopathology and clinical signs of caseous pneumonia. Course and prognosis.	
4.4	Tuberculoma – pathogenesis, hystopathology and clinical aspects. Radiographic features and verification methods. Course and prognosis. Indication for surgical treatment.	
5	Chronic TB forms. Complications of tuberculosis.	6
5.1	Stages of cavitation in TB. Elastic and rigid caverns. Clinical and X-ray manifestation.	
5.2	Reasons and conditions for developing of chronic pulmonary TB. Symptoms and course of chronic TB disease. X-ray signs.	
5.3	Criteria of healing and reactivation. Post-TB sequels.	
5.4	Systemic complications of TB: lung-heart insufficiency, amyloidosis.	
5.5	Haemoptysis and lung haemorrhage. Diagnostic approach and management.	
5.6	Spontaneous pneumothorax. Closed and tension pneumothorax. Signs and symptoms, diagnostics	

	and management. Urgent needle decompression of the pleural cavity.	
6	Extrapulmonary tuberculosis.	6
6.1	Tuberculous meningoencephalitis – risk factors and clinical signs. Lumbar puncture and the cerebrospinal fluid examination. Cerebral tuberculoma - clinical aspects, course and prognosis.	
6.2	Pleural tuberculosis - pathogenesis and clinical aspects. Physical signs and radiographic features. Thoracentesis and examination of the pleural fluid.	
6.3	Tuberculosis of the upper airways. Indications for bronchoscopy.	
6.4	Peripheral lymph node TB. Genitourinary and genital TB. Skeletal tuberculosis. Less common extrapulmonary forms (gastrointestinal tuberculosis, tuberculous pericarditis and other).	
7	TB associated with concomitant diseases and conditions.	6
7.1	Pulmonary TB associated with occupational pneumoconiosis.	
7.2	HIV-associated TB.	
7.3	TB associated with diabetes mellitus, chronic non-specific respiratory diseases, lung cancer, gastro-intestinal, renal disorders, mental diseases, alcohol and narcotic addiction.	
7.4	Tuberculosis and maternity.	
8	Treatment of tuberculosis. Drug resistant tuberculosis.	6
8.1	Principles and aims of active TB treatment. First-line and second-line anti-TB drugs. Modes of action, dosages. TB treatment regimens. Initial (intensive) phase and a continuation phase of treatment.	
8.2	Side effects of anti-TB drugs. Symptom-based approach to management of drug side-effects.	
8.3	Adjunctive therapy of tuberculosis. Surgical treatment of TB – indications and contraindications. Adequate diet for TB patients.	
8.4	Preventing drug resistance. Primary and acquired (secondary) resistance. Reasons and mechanisms of drug resistance developing. Course and prognosis of DR-TB. Principles of DR-TB treatment. Palliative and end-of-life care. Sanatoria for TB patients.	
9	Prevention in the community. Biosafety and hospital control.	6
9.1	Social risk factors of active TB disease developing. Improving access to care for high-risk groups.	
9.2	Bacille de Calmette et Guérin vaccine. Organization of BCG-vaccination in high and low TB prevalence countries. Individual contraindications and complications of the BCG vaccination. Treatment of latent tuberculous infection (preventive chemotherapy).	
9.3	Sanitary prophylaxis. Respiratory isolation of persons with active TB disease as a measure to limit MTB transmission. Screening and management of active TB contacts. Tuberculosis in cattle - bovine TB control.	
9.4	Biosafety in the hospital and in the laboratory. Tuberculosis infection control activities aims and levels. The high TB transmission risk zones. TB transmission control measures (administrative, engineering, and individual protection). The rules of individual protection masks using.	
9.5	Anti-TB control measures in outpatient health care institutions.	
10	Principles of Tuberculosis Control.	6
10.1	Tuberculosis as a global problem. WHO promoted TB control measures – DOTS, Stop TB and The End TB strategies. Evaluation of a National Tuberculosis Program. Basic, intermediate and national level of management. NTP in Belarus.	
10.2	The passive case-finding of patients presenting with symptoms suggestive of tuberculosis (suspects). Smear-positive individuals identifying.	
10.3	The role of radiography and tuberculin skin test in case-finding.	
10.4	Tuberculosis register. Categories of TB patients for registration on diagnosis. Monitoring patients during treatment - sputum conversion, clinical and chest X-ray monitoring. Treatment outcome recording and “cohort analysis” of treatment results.	
10.5	Epidemiological indices (tuberculosis morbidity and mortality rate, disease incidence and prevalence, drug resistant TB and HIV-TB surveillance).	