MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION
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KYRGYZ-RUSSIAN SLAVIC UNIVERSITY
named after the first President of the Russian Federation B.N. Yeltsin

Department of THERAPY-1 (Pediatrics and Dentistry)

ASSESSMENT TOOLS FUND

by discipline

"PROPAEDEUTICS OF INTERNAL DISEASES"

Level of Higher Education	SPECIALIST
Training Direction	31.05.01 (RF) / 560001 (KR) — General Medicine
Qualification	Physician
Total Credits	10 credit units (360 hours)
Year / Semesters	3rd year, Semesters 3–4
Form of Study	Full-time
Preparation Year	2023
Duration of Study	5 years

The fund of assessment tools is intended to control the knowledge of students in the direction of training (specialty) General Medicine in the discipline "PROPAEDEUTICS OF INTERNAL DISEASES"

The fund of assessment tools was considered and approved at the meeting of the Department of Therapy-1 **(Pediatrics and Dentistry)**

Head of Department
Therapy-1 of Pediatrics and Dental specialties _ Suranova G.Zh.

Executors
Candidate of Medical Sciences, Associate Professor _ Suranova G.Zh.

1. COMPETENCIES FORMED THROUGH THE DISCIPLINE

NOTE: Propaedeutics of Internal Diseases employs exclusively a SYNDROMIC approach. Students at the 3rd year level do not formulate nosological diagnoses — only syndromes are identified and characterized.

PC-4: Pathophysiological analysis of clinical syndromes

Capable of conducting pathophysiological analysis of clinical syndromes, justifying pathogenetically grounded methods of diagnosis, treatment, rehabilitation and prevention among population considering age and sex groups.

Level	Know	Be Able To	Master	Assessment Tools
Level 1	Etiology and pathogenesis of main organ/system syndromes; mechanisms of syndrome formation	Correlate different types of examination methods with corresponding syndromes; compose a diagnostic plan	Skills in analysis of various types of pathology within a syndromic framework	Block A: Tests on examination methods
Level 2	Methods of patient management in outpatient and inpatient settings using a syndromic approach	Apply syndromic approach in managing patients in outpatient and inpatient settings	Methods of searching and correlating different syndromic findings	Block B: Situational cases
Level 3	Main directions and problems of patient management in leading syndromes	Monitor effectiveness and safety of management considering syndromic picture	Skills of syndromic management in outpatient and inpatient settings	Block C: Practice tasks; Block D: Certification questions

PC-5: Physical examination and interpretation of investigations

Capable of conducting and interpreting questionnaires, physical examination, clinical investigations, results of laboratory and instrumental studies; maintaining medical records.

Level	Know	Be Able To	Master	Assessment Tools
Level 1	Methods for identifying main pathological syndromes, symptoms, and organ system findings	Interpret results of physical and laboratory examination in context of leading syndromes	Skills in detection of main pathological syndromes	Block A: Tests; Oral questions on history-taking
Level 2	Specifics of detecting various types of pathological states and syndromes in accordance with ICD-10	Analyse various syndromes in clinical context; identify their significance in differential syndromic diagnosis	Methods for searching, detecting and systematizing main syndromes in accordance with ICD-10	Block B: Situational cases for history-taking and syndrome analysis

Level 3	Main syndromes of organ and system lesions; ECG interpretation within a syndromic context	Note practical value in comparing syndromes; decode ECG (healthy person, arrhythmias, hypertrophy, myocardial infarction syndrome)	Skills of self-justification in combining symptoms into syndromes; emergency syndromic aid	Block C: Practice tasks; Block D: Certification questions

PC-8: Application of health indicator documentation

Capable of applying current information about health indicators at the level of the healthcare institution.

Level	Know	Be Able To	Master	Assessment Tools
Level 1	Regulatory documentation adopted in healthcare; documentation for evaluating quality of medical organisations	Conduct medico-statistical analysis of health indicators; formulate syndromic assessment	Working skills and methods for maintaining medical records of various types	Block A: Tests on medical documentation
Level 2	MoH KR orders; clinical protocols	Maintain medical records including in electronic form within syndromic framework	Skills in comparative analysis of medical documentation	Block B: Situational cases on documentation
Level 3	International clinical guidelines (WHO, ESC, ADA), ICD-10/ICD-11	Use international guidelines in syndrome-based diagnosis and management	Skills in working with electronic regulatory databases; compare national and international standards	Block C: Practice tasks

PC-14: Establishing diagnosis based on clinical and biochemical investigations

Capable of establishing a syndrome-based diagnosis based on results of biochemical and clinical investigations.

Level	Know	Be Able To	Master	Assessment Tools
Level 1	List and characteristics of medical accounting documentation in medical organisations	Conduct medico-statistical analysis of health indicators; formulate syndromic conclusion	Working skills for maintaining accounting documentation	Block A: Tests
Level 2	Features of interpreting laboratory parameters in various pathological syndromes	Analyse results of biochemical and clinical investigations within syndromic context	Skills in interpreting laboratory data within pathology of organs and systems	Block B: Situational cases on lab interpretation
Level 3	Methods of comprehensive evaluation of investigation results	Compose examination plan considering clinical picture and	Skills in formulating syndromic diagnosis based on	Block D: Questions; Complex clinical cases

	for formulation of syndromic diagnosis	laboratory data; formulate syndromic diagnosis	comprehensive evaluation	

PC-26: Use of regulatory documentation in healthcare of KR and international practice

Level	Know	Be Able To	Master	Assessment Tools
Level 1	Legislation of KR in healthcare; MoH KR orders, clinical protocols	Apply MoH KR clinical protocols in practice	Skills in working with electronic regulatory databases	Block A: Tests
Level 2	International clinical guidelines (WHO, ESC, ADA), ICD-10/ICD-11	Use international guidelines in diagnosis and treatment planning	Ability to compare national and international standards	Block B: Situational cases
Level 3	Updates of clinical protocols and international guidelines	Complete medical records (case history, outpatient card) considering regulatory requirements	Skills of critical evaluation of updated clinical guidelines	Block D: Questions; Practice tasks

SLC-2: Professional communication skills

Capable of mastering techniques of professional communication; building interpersonal relationships, working in groups, constructively resolving conflicts, being tolerant to social, ethnic, religious and cultural differences.

Level	Know	Be Able To	Master	Assessment Tools
Level 1	Foundations of medical psychology and deontology	Contact patients of different ages and cultures	Empathic communication skills	Block A: Tests; Oral interview
Level 2	Principles of doctor-patient communication; active listening techniques	Work in interdisciplinary team; give and receive feedback	Mediation skills in conflicts	Block B: Role-play; Small group work
Level 3	Ethics of working in a medical team	Resolve conflict situations; apply cultural sensitivity	Skills of culturally-sensitive care; reflection on one's own communication	Block D: Questions; Clinical situation analysis

2. LEARNING OUTCOMES OF THE DISCIPLINE

2.1. KNOW:

- Anatomical-physiological, age and sex features of functioning of organs and systems of a healthy and sick person
- Causes and genesis of main pathological processes in the organism, mechanisms of their development
- Main clinical symptoms and syndromes in diseases of internal organs, mechanisms of their occurrence
- Essence and methodology of the most common methods of laboratory and instrumental examination of patients

- Normal parameters of laboratory and instrumental examination methods
- Symptomatology of some acute conditions (syndromes) threatening life
- Principles of emergency care in some acute syndromes

2.2. BE ABLE TO:

- Interview the patient and/or relatives and obtain complete information about the disease
- Perform physical examination of the patient (inspection, palpation, auscultation, blood pressure measurement, pulse assessment)
- Identify objective signs of a pathological syndrome
- Independently identify main clinical pathological syndromes and justify them
- Compose a plan for laboratory and instrumental examination of the patient
- Interpret results of laboratory and instrumental examinations
- Evaluate results of complete blood count, urinalysis, sputum, and stool analyses
- Evaluate results of biochemical blood tests
- Interpret a spirogram
- Interpret ECG of a healthy person and patients with rhythm/conduction disturbances, myocardial hypertrophy, acute myocardial infarction syndrome
- Present results of complete examination as a syndromic diagnosis
- Compose a brief (fragment) educational case history
- Provide emergency care in some acute syndromes
- Perform resuscitation in cases of clinical death

2.3. MASTER:

- Skills of collecting complaints and medical history from a patient
- Skills of performing objective examination of a patient
- Skills of measuring height, weight and calculating body mass index
- Skills of composing a plan for laboratory and instrumental examination
- Skills of providing emergency care in some acute syndromes
- Skills of performing resuscitation in cases of clinical death

3. STRUCTURE OF ASSESSMENT TOOL BLOCKS

Block	Content	Competencies	Semester
Block A	Test tasks (MCQ) on examination methods, etiology, pathology, syndromes, MKB-10, medical records; oral questioning on history-taking and physical examination	PC-4 (L1–L2), PC-5 (L1–L2), PC-8 (L1–L2), PC-14 (L1), PC-26 (L1), SLC-2 (L1)	3, 4
Block B	Clinical case studies: history-taking, clinical picture analysis, test interpretation, documentation; essays/summaries	PC-4 (L2–L3), PC-5 (L2–L3), PC-8 (L2–L3), PC-14 (L2–L3), PC-26 (L2), SLC-2 (L2)	3, 4
Block C	Practice-oriented tasks: simulation scenarios, patient examination with syndromic diagnosis, role-play games, writing and defense of case history fragment	PC-4 (L3), PC-5 (L3), PC-8 (L3), PC-14 (L3), PC-26 (L3), SLC-2 (L2–L3)	4

Block D	Certification questions: comprehensive patient management, differential syndrome diagnosis, syndromology, ECG and lab interpretation, practical skills	All competencies, all levels including Level 3	4 (Exam)

4. DISTRIBUTION BY SEMESTERS

Semester	Control Type	Blocks Used	Competencies
3 (2.1)	Credit	Block A, Block B (partial)	PC-4 (L1–L2), PC-5 (L1–L2), PC-8 (L1–L2), PC-14 (L1), PC-26 (L1), SLC-2 (L1)
4 (2.2)	Examination	Block A (final), Block B, Block C, Block D	All competencies, all levels including Level 3

5. TECHNOLOGY MAP OF THE DISCIPLINE

Semester 3 (Credit)

Module	Topic	Control Type	Form of Control	Min	Max	Week
M1	BC-1: Introduction to Internal Diseases. Propaedeutics. General and detailed inspection	Current	Frontal questioning, testing, practical skills, attendance	2	4	4
M1		Midterm	Oral/written questioning, situational case	6	10	
M2	BC-2: Pulmonary Syndromes. Subjective and objective examination methods	Current	Frontal questioning, testing, practical skills, attendance	2	4	7
M2		Midterm	Oral/written questioning, situational case	6	10	
M3	BC-3: Pulmonary Syndromes (continuation)	Current	Frontal questioning, testing, practical skills, attendance	2	4	10
M3		Midterm	Oral/written questioning, situational case, spirogram interpretation	6	10	
M4	BC-4: Cardiovascular Syndromes. Subjective and objective examination methods	Current	Frontal questioning, testing, practical skills, attendance	2	4	14
M4		Midterm	Oral/written questioning, situational case, ECG interpretation	6	10	

M5	BC-5: Cardiovascular Syndromes. Defense of case history	Current	Frontal questioning, testing, case history defense, attendance	2	4	16
M5		Midterm	Oral/written questioning, defense of case history fragment	6	10	
TOTAL				**40**	**70**	
Midterm Control	Credit			**20**	**30**	
Semester Rating				**60**	**100**	

Semester 4 (Examination)

Module	Topic	Control Type	Form of Control	Min	Max	Week
M6	BC-6: Gastrointestinal Syndromes. Subjective and objective examination methods	Current	Frontal questioning, testing, practical skills, attendance	2	4	5
M6		Midterm	Oral/written questioning, situational case	6	10	
M7	BC-7: Renal/Urinary Syndromes. Subjective and objective examination methods	Current	Frontal questioning, testing, practical skills, attendance	2	4	8
M7		Midterm	Oral/written questioning, situational case	6	10	
M8	BC-8: Haematopoietic System Syndromes. Subjective and objective examination	Current	Frontal questioning, testing, practical skills, attendance	2	4	12
M8		Midterm	Oral/written questioning, situational case	6	10	
M9	BC-9: Endocrine System Syndromes. Subjective and objective examination	Current	Frontal questioning, testing, practical skills, attendance	2	4	14
M9		Midterm	Oral/written questioning, situational case	6	10	
M10	BC-10: Rheumatological Syndromes. Subjective and objective examination	Current	Frontal questioning, testing, practical skills, attendance	2	4	16

M10		Midterm	Oral/written questioning, situational case	6	10	
TOTAL				**40**	**70**	
Midterm Control	Examination			**20**	**30**	
Semester Rating				**60**	**100**	

6. CASE HISTORY SECTION

6.1. General Requirements

The case history is the main document of the medical organisation, containing information about the patient, his/her disease, examination and treatment. Students must master skills of proper case history documentation in accordance with MoH KR orders.

6.2. Structure of Educational Case History

Section	Content	Requirements	Points
Title Page	Full name, age, sex, date of admission, ward, case number	Correct filling of all requisites	5
Complaints	Subjective sensations of patient at admission	Complete, sequential presentation; clarification of duration	10
Disease History	Development of current disease from onset to admission	Chronological sequence; connection with external factors	15
Life History	State of health prior to disease, heredity, social history	Systematic presentation; assessment of risk factors	10
Objective Status	Data of physical examination	Sequence: general inspection, organs and systems; accuracy of formulations	20
Preliminary Syndromic Diagnosis	Syndromic diagnosis with justification	Logical construction; justification of each syndrome	20
Examination Plan	Laboratory and instrumental methods	Justification of appointments; correspondence to syndromic diagnosis	10
Treatment Plan	Etiotropic and pathogenetic therapy	Correspondence to syndrome; consideration of contraindications	10

6.3. Procedure for Defending Case History

- Student observes the patient throughout the entire period of study at the department
- Case history is drawn up in accordance with the established form
- Case history is defended in the form of a report with presentation of clinical case
- Assessment is made on the following criteria: completeness of history (25%), quality of physical examination (25%), correctness of syndromic diagnosis formulation (25%), justification of examination and treatment plan (25%)

7. STUDENT'S INDEPENDENT WORK

Activity	Time/week	Notes
Study of lecture notes on the day of the lecture	10–15 min	Immediate repetition after lecture
Repetition of notes before the next lecture	10–15 min	Active reproduction of main provisions
Study of theoretical material from textbooks	1 hour	Work with main and additional literature
Preparation for practical classes	2 hours	Study key concepts; prepare for problem-solving
TOTAL	**3 h 30 min**	**Regular daily work**

8. TYPICAL ASSESSMENT TASKS

IMPORTANT: All test questions and clinical cases use SYNDROMIC approach only. Nosological (disease) diagnoses are not used in Propaedeutics of Internal Diseases.

CONTROL SECTION No. 1

Topic: Introduction to Internal Diseases. Propaedeutics. General and Detailed Inspection

BLOCK A: REPRODUCTIVE LEVEL (KNOWLEDGE)

Time: 30 minutes

ORAL QUESTIONS (3–4 questions selected):

1. What are the main methods of physical examination in propaedeutics of internal diseases?
2. Describe general patient inspection: methodology, diagnostic value.
3. List pathological forms of the thorax and their clinical significance.
4. Describe the method of body temperature measurement and the nature of temperature curves.
5. Name types of temperature curves and their significance in somatic diseases.
6. Describe the method of body mass index (BMI) determination.
7. Name degrees of obesity by BMI.
8. Describe medical ethics and deontology.

MCQ TESTS (closed type):

Q1. Barrel-shaped thorax, horizontal position of ribs. Which syndrome does this characterise?

A) Syndrome of consolidation of lung tissue
B) Syndrome of increased airiness of the lungs (emphysema syndrome)
C) Syndrome of fluid in the pleural cavity
D) Bronchial obstructive syndrome
E) Cavernous syndrome in the lung

ANSWER: B) Syndrome of increased airiness of the lungs (emphysema syndrome)
Barrel-shaped thorax with horizontal ribs is a hallmark of emphysema syndrome — increased air content in the lungs, leading to hyperinflation and thorax remodelling.

Q2. Body temperature 39.5°C, daily fluctuations ≤1°C. Which type of temperature curve?

A) Remittent
B) Subfebrile
C) Constant (Continued)
D) Intermittent
E) Hectic

ANSWER: C) Constant (Continued)
Constant fever: temperature above 38°C with daily fluctuations not exceeding 1°C. Characteristic of lobar pneumonia syndrome, typhoid fever.

Q3. Patient: height 175 cm, weight 95 kg. Calculate BMI and classify.

A) BMI 26, overweight syndrome
B) BMI 31, obesity syndrome Grade I
C) BMI 35, obesity syndrome Grade II
D) BMI 28, overweight syndrome
E) BMI 24, normal

ANSWER: B) BMI 31, obesity syndrome Grade I
BMI = 95 / (1.75)² = 95 / 3.0625 ≈ 31. This corresponds to obesity syndrome Grade I (BMI 30–34.9).

Q4. Asymmetry of the thorax, right side lags behind in breathing. Most probable pathological process?

A) Emphysema syndrome
B) Pneumothorax syndrome
C) Lung infiltration syndrome
D) Atelectasis or pleural effusion syndrome
E) Bronchial asthma syndrome

ANSWER: D) Atelectasis or pleural effusion syndrome
Lagging of one side in respiration indicates restriction of movement — caused by fluid accumulation (pleural effusion syndrome) or collapse of lung tissue (atelectasis syndrome) on the affected side.

BLOCK B: RECONSTRUCTIVE LEVEL (APPLICATION)

Time: 60 minutes

CLINICAL CASE 1

Patient M., 45 years, complaints of fever up to 38.5°C for 5 days, chills, weakness, headache. On examination: skin hyperaemic, moist. RR 22/min. Pulse 92 bpm, rhythmic. BP 125/80 mmHg. Lungs — vesicular breathing, no wheezes.

Questions:

9. Determine the type of temperature curve and characterise it. (5 points)
10. What additional examination methods should be ordered? (5 points)
11. Compose an examination plan for the patient with justification of each method. (10 points)

ANSWERS:

1. Temperature type: Remittent fever syndrome — daily fluctuations exceed 1°C but temperature does not return to normal. In this patient: 38.5°C with chills indicates remittent fever. This type is characteristic of infectious-inflammatory syndromes (pneumonia syndrome, pyelonephritis syndrome).

2. Additional methods: complete blood count (detect leukocytosis, elevated ESR — markers of inflammatory syndrome); chest X-ray (detect consolidation syndrome, effusion syndrome); urinalysis (exclude urinary syndrome); blood cultures (identify aetiology of febrile syndrome); CRP, procalcitonin (systemic inflammatory response syndrome markers).

3. Examination plan: 1) Complete blood count + ESR — to assess severity of inflammatory syndrome. 2) Chest X-ray — to detect pulmonary syndromes (consolidation, effusion). 3) Urinalysis — to exclude urinary syndrome. 4) Biochemical blood test (CRP, LDH) — to assess systemic inflammatory response syndrome. 5) Blood cultures x2 — to determine aetiology. 6) ECG — to assess cardiovascular effects of febrile syndrome. Syndromic conclusion: febrile-intoxication syndrome of moderate severity.

CONTROL SECTION No. 2

Topic: Examination Methods for Respiratory Organs. Syndromes in Pulmonology

BLOCK A: REPRODUCTIVE LEVEL

Time: 30 minutes

ORAL QUESTIONS (3–4 questions selected):

12. Describe the percussion method for the lungs.
13. Describe the auscultation method for the lungs.
14. List main normal respiratory sounds and their characteristics.
15. Name pathological wheezes and their diagnostic value.
16. Describe bronchial obstructive syndrome.
17. Describe the syndrome of increased airiness of the lungs (emphysema syndrome).

MCQ TESTS:

Q1. On percussion: dullness is found over the lesion. Which pathological syndrome is most likely?

A) Emphysema syndrome
B) Pneumothorax syndrome
C) Lung infiltration syndrome
D) Bronchial asthma syndrome
E) Pleural effusion syndrome

ANSWER: C) Lung infiltration syndrome (also E is possible depending on degree of dullness)
Dullness on percussion over an area indicates increased tissue density — characteristic of lung infiltration syndrome (consolidation). Absolute dullness (flatness) is characteristic of pleural effusion syndrome.

Q2. Fine moist wheezes in the lower lung zones. Which syndrome?

A) Bronchial obstructive syndrome
B) Lung infiltration syndrome
C) Pleural fluid syndrome
D) Pulmonary insufficiency syndrome
E) Chronic pulmonary heart syndrome

ANSWER: B) Lung infiltration syndrome
Fine moist wheezes (crepitation) in lower zones arise from fluid in the alveoli — characteristic of lung infiltration syndrome (alveolar oedema, pneumonia syndrome).

Q3. X-ray: increased airiness, widening of retrosternal space. Which syndrome?

A) Bronchial obstructive syndrome
B) Syndrome of increased airiness (emphysema syndrome)
C) Lung infiltration syndrome
D) Pleural syndrome
E) Cavernous syndrome in the lung

ANSWER: B) Syndrome of increased airiness (emphysema syndrome)
Increased airiness of lung fields + widening of retrosternal space = hyperinflation = emphysema syndrome. This is due to air trapping and loss of lung elasticity.

BLOCK B: RECONSTRUCTIVE LEVEL

Time: 60 minutes

CLINICAL CASE 1

Patient K., 58 years, cough with yellow-green sputum for 5 days, temperature 38.5°C, right-sided chest pain on coughing. Percussion: dullness over right lower lobe. Breathing: weakened, coarse moist wheezes over right lower zone. Temperature 38.3°C.

Questions:

18. Which syndrome is characteristic for this patient? (5 points)
19. What additional examination methods should be ordered? (5 points)
20. Compose an examination plan with justification of each method. (10 points)

ANSWERS:

1. Characteristic syndrome: Lung infiltration syndrome (lower right lobe localisation). Evidence: productive cough with purulent sputum, febrile-intoxication syndrome, dullness on percussion, coarse moist wheezes on auscultation — all signs of alveolar infiltration with exudate.
2. Additional methods: chest X-ray (confirm infiltration syndrome; identify extent and localisation); complete blood count (leukocytosis, shift left — confirm inflammatory syndrome); sputum examination (bacterioscopy, culture — identify aetiology); blood cultures; CRP, procalcitonin (severity of systemic inflammatory response syndrome).
3. Examination plan: 1) Chest X-ray — gold standard for confirming lung infiltration syndrome. 2) Complete blood count + ESR — assess severity of inflammatory syndrome. 3) Sputum microscopy and culture — identify pathogen. 4) Biochemical blood test (CRP, LDH, albumin) — assess systemic inflammatory response syndrome. 5) SpO2 (pulse oximetry) — assess respiratory failure syndrome. 6) Blood cultures x2 — for bacteraemia exclusion. Syndromic conclusion: lung infiltration syndrome + febrile-intoxication syndrome of moderate severity.

CONTROL SECTION No. 3

Topic: Pulmonary Syndromes (Continued)

BLOCK A: REPRODUCTIVE LEVEL

ORAL QUESTIONS (3–4 selected):

21. Describe the syndrome of lung tissue collapse (atelectasis).
22. Describe the syndrome of consolidation of lung tissue.
23. What are the clinical manifestations of cavernous syndrome in the lung?
24. Describe the syndrome of fluid accumulation in the pleural cavity.
25. Describe the syndrome of gas in the pleural cavity (pneumothorax syndrome).
26. What is the diagnostic value of spirography?

MCQ TESTS:

Q1. Right side lags in breathing, percussion sound is dull, breathing inaudible. Which syndrome?

A) Pleural fluid syndrome
B) Pleural gas syndrome (pneumothorax)
C) Lung infiltration syndrome
D) Bronchial obstructive syndrome
E) Syndrome of increased airiness

ANSWER: A) Pleural fluid syndrome
Lagging of the affected side + dull percussion + absent breath sounds — the classic triad of pleural fluid syndrome (hydrothorax, exudative pleuritis). Large fluid accumulation suppresses lung aeration and sound transmission.

Q2. Spirography: FEV1/FVC < 70%, increased residual volume. Which type of ventilation disorder?

A) Restrictive type
B) Obstructive type
C) Mixed type
D) Diffusion type
E) Perfusion type

ANSWER: B) Obstructive type
FEV1/FVC < 70% = obstruction to airflow = obstructive ventilation disorder syndrome. Characteristic of bronchial obstructive syndrome (bronchospasm, mucus hypersecretion, airway remodelling).

BLOCK B: RECONSTRUCTIVE LEVEL

Time: 60 minutes

CLINICAL CASE 1

Patient N., 62 years, smoker for 40 years, dyspnoea on minimal physical exertion, periodic cough with mucous sputum. Barrel-shaped thorax. Percussion: box sound. Auscultation: weakened breathing, prolonged expiration. Spirography: FEV1/FVC — 58%.

Questions:

27. Which syndrome is characteristic for this patient? (5 points)
28. Interpret the spirography data. (5 points)

29. Conduct differential syndromic analysis of bronchial obstructive syndrome of various origins. (10 points)

ANSWERS:

1. Characteristic syndrome: Bronchial obstructive syndrome + emphysema syndrome. Evidence: barrel-shaped thorax (emphysema), prolonged expiration (obstruction), weakened breathing (hyperinflation), box percussion sound (emphysema), cough with mucous sputum (obstructive-inflammatory syndrome).

2. Spirography interpretation: FEV1/FVC 58% — below 70% threshold = obstructive ventilation disorder syndrome. This indicates significant limitation of expiratory airflow. In combination with increased residual volume (implied by barrel thorax) — mixed obstructive-emphysematous syndrome.

3. Differential syndrome analysis: (1) Bronchospastic syndrome (bronchial asthma): episodic reversible obstruction, responds to bronchodilators, eosinophilic inflammation syndrome; (2) Bronchial obstructive syndrome with emphysema (COPD): progressive irreversible obstruction, history of smoking, emphysema syndrome; (3) Bronchial obstructive syndrome in cardiac asthma: orthopnoea, cardiac history, left ventricular dysfunction syndrome; (4) Endobronchial obstruction syndrome: unilateral obstruction, no response to bronchodilators, alarm symptoms. In this patient: irreversible obstructive syndrome with emphysema syndrome — progressive course typical of COPD.

CONTROL SECTION No. 4

Topic: Cardiovascular System. Syndromes in Cardiology

BLOCK A: REPRODUCTIVE LEVEL

ORAL QUESTIONS (3–4 selected):

30. Describe properties of the arterial pulse.
31. Describe the method of determining the borders of relative and absolute cardiac dullness.
32. List main heart sounds and the mechanism of their occurrence.
33. Name pathological heart sounds.
34. Describe heart murmurs: systolic and diastolic.
35. Describe ECG criteria of myocardial hypertrophy.

MCQ TESTS:

Q1. ECG: amplitude of R wave in V5–V6 > 25 mm. What syndrome is diagnosed?

A) Right ventricular hypertrophy syndrome
B) Left ventricular hypertrophy syndrome
C) Biventricular hypertrophy syndrome
D) Left atrial enlargement syndrome
E) Right atrial enlargement syndrome

ANSWER: B) Left ventricular hypertrophy syndrome
Tall R waves (>25 mm) in lateral leads V5–V6 with associated ST-T changes = left ventricular hypertrophy syndrome. This syndrome is characteristic of arterial hypertension syndrome, aortic stenosis syndrome.

Q2. Long systolic murmur heard at the apex, conducted to the axillary area. Which auscultatory syndrome?

A) Mitral stenosis syndrome
B) Mitral insufficiency syndrome
C) Aortic stenosis syndrome
D) Aortic insufficiency syndrome
E) Tricuspid insufficiency syndrome

ANSWER: B) Mitral insufficiency syndrome
Holosystolic murmur at the apex + radiation to the left axillary region = mitral regurgitation murmur syndrome. Regurgitation of blood from LV into LA during systole produces this characteristic auscultatory syndrome.

BLOCK B: RECONSTRUCTIVE LEVEL

Time: 60 minutes

CLINICAL CASE 1

Patient K., 45 years, chest pain on physical exertion, radiating to the left arm, relieved by nitroglycerin. BP 140/90 mmHg, pulse 88 bpm. ECG: signs of LV hypertrophy syndrome.

Questions:

36. Which syndrome is characteristic for this patient? (5 points)
37. What additional examination methods should be ordered? (5 points)
38. Compose an examination plan with justification of each method. (10 points)

ANSWERS:

1. Characteristic syndromes: Coronary insufficiency syndrome (angina syndrome — episodic chest pain triggered by exercise, relieved by nitroglycerin) + arterial hypertension syndrome (BP 140/90) + left ventricular hypertrophy syndrome (ECG data).

2. Additional methods: ECG at rest and during exercise (stress test) — to confirm coronary insufficiency syndrome; echocardiography — to confirm LV hypertrophy syndrome, assess EF; lipid profile — assess atherogenic syndrome; blood glucose — exclude metabolic syndrome; Holter ECG monitoring — detect rhythm disturbance syndrome; coronary angiography (if indicated) — gold standard for coronary insufficiency confirmation.

3. Examination plan: 1) 12-lead ECG — assess coronary insufficiency syndrome, conduction, hypertrophy. 2) Echocardiography — quantify LV hypertrophy syndrome, wall motion, EF. 3) Exercise stress test (treadmill/bicycle) — objectify coronary insufficiency syndrome. 4) Lipid profile (total cholesterol, LDL, HDL, TG) — assess atherogenic syndrome. 5) Fasting glucose, HbA1c — assess metabolic syndrome. 6) 24-hour BP monitoring — confirm arterial hypertension syndrome. Syndromic conclusion: coronary insufficiency syndrome (effort angina) + arterial hypertension syndrome stage 2 + LV hypertrophy syndrome.

CONTROL SECTION No. 5

Topic: Cardiovascular Syndromes (Continued). Defense of Case History

BLOCK A: REPRODUCTIVE LEVEL

ORAL QUESTIONS (3–4 selected):

39. Describe rhythm disturbance syndrome (arrhythmia syndrome).
40. Describe conduction disturbance syndromes: AV block syndrome, bundle branch block syndrome.
41. Name ECG criteria of acute myocardial infarction syndrome.
42. Describe heart failure syndrome.
43. Describe arterial hypertension syndrome.

MCQ TESTS:

Q1. ECG: no P waves, undulating f-waves with frequency 450–600/min. Which rhythm disturbance syndrome?

A) Sinus tachycardia syndrome
B) Extrasystolia syndrome
C) Atrial fibrillation syndrome
D) Atrial flutter syndrome
E) Paroxysmal tachycardia syndrome

ANSWER: C) Atrial fibrillation syndrome
Absence of P waves + chaotic atrial oscillations at 450–600/min = atrial fibrillation syndrome (absolute arrhythmia). The AV node conducts only part of impulses, producing an irregular ventricular rhythm.

Q2. ECG: ST segment elevation above isoelectric line in leads V1–V4. Which syndrome?

A) Effort angina syndrome
B) Acute coronary syndrome (myocardial infarction syndrome)
C) Chronic coronary insufficiency syndrome
D) Pericarditis syndrome
E) Pulmonary heart syndrome

ANSWER: B) Acute coronary syndrome (myocardial infarction syndrome)
ST elevation in V1–V4 = anterior myocardial infarction syndrome (STEMI). These leads correspond to anterior wall of the LV. ST elevation indicates transmural ischaemia with myocyte necrosis.

BLOCK B: RECONSTRUCTIVE LEVEL

Time: 60 minutes

CLINICAL CASE 1

Patient V., 55 years, intense pressing chest pain at rest, radiating to left arm and jaw, not relieved by nitroglycerin. Duration 40 minutes. ECG: ST elevation in leads II, III, aVF. Troponin I positive.

Questions:

44. Which syndrome is characteristic for this patient? (5 points)
45. Determine the localisation of myocardial ischaemia by ECG. (5 points)
46. Compose a case history fragment: complaints and preliminary syndromic diagnosis with justification. (10 points)

ANSWERS:

1. Characteristic syndrome: Acute myocardial infarction syndrome (inferior/diaphragmatic localisation). Evidence: intense rest pain > 30 min not responding to nitroglycerin (myocardial necrosis syndrome), ST elevation (acute ischaemia syndrome), positive troponin I (myocardial cytolysis syndrome).
2. Localisation: ST elevation in leads II, III, aVF — inferior (diaphragmatic) wall of the LV, supplied by the right coronary artery. This indicates acute coronary occlusion syndrome of the RCA territory.
3. Case history fragment — COMPLAINTS: intense squeezing retrosternal pain radiating to the left arm and jaw, onset at rest, unresponsive to nitroglycerin, duration 40 min; dyspnoea; general weakness. PRELIMINARY SYNDROMIC DIAGNOSIS: Acute myocardial infarction syndrome, inferior localisation. Justification: intense rest pain > 30 min (acute ischaemia syndrome) + ST elevation in II, III, aVF (current of injury syndrome — inferior wall) + positive troponin I (myocardial cytolysis syndrome) + pain syndrome with radiation pattern characteristic of inferior MI.

CONTROL SECTION No. 6

Topic: Gastrointestinal Tract Examination. Syndromes in Gastroenterology

BLOCK A: REPRODUCTIVE LEVEL

ORAL QUESTIONS (3–4 selected):

47. Describe the method of abdominal organ palpation.
48. Describe the method of liver percussion by Kurlov.
49. List main syndromes in gastroenterology.
50. Describe the syndrome of impaired gastric secretory function.
51. Describe the jaundice syndrome.
52. Name hepatic syndromes and their diagnostic significance.

MCQ TESTS:

Q1. Dull aching epigastric pain occurring 1.5–2 hours after eating, relieved by food intake. Which syndrome?

A) Gastric hypersecretion syndrome
B) Gastric hyposecretion syndrome
C) Gastric evacuation disorder syndrome
D) Maldigestion syndrome
E) Intestinal dyspepsia syndrome

ANSWER: A) Gastric hypersecretion syndrome
Late pain (1.5–2 h after meals) relieved by food intake — characteristic of hypersecretion syndrome (hyperacid syndrome). The pain is caused by excess acid acting on the mucosa in the absence of food buffer. Classic for duodenal peptic ulcer syndrome.

Q2. Jaundice of skin and sclera, pruritus, dark urine, acholic (white) stool. Which syndrome?

A) Haemolytic jaundice syndrome
B) Parenchymatous (hepatocellular) jaundice syndrome
C) Mechanical (subhepatic) jaundice syndrome
D) Cytolysis syndrome
E) Portal hypertension syndrome

ANSWER: C) Mechanical (subhepatic) jaundice syndrome
The triad: dark urine + acholic stool + skin pruritus = obstructive (cholestatic) jaundice syndrome. Bile duct obstruction prevents bilirubin excretion into the intestine, causing conjugated hyperbilirubinaemia syndrome.

BLOCK B: RECONSTRUCTIVE LEVEL

Time: 60 minutes

CLINICAL CASE 1

Patient N., 42 years, dull epigastric pain occurring 2 hours after eating, nocturnal pain relieved by 'soda'. In the last 3 days: pain intensification, appearance of black tarry stools.

Questions:

53. Which syndromes are characteristic for this patient? (5 points)
54. What additional examination methods should be ordered? (5 points)
55. Compose an examination plan with justification of each method. (10 points)

ANSWERS:

1. Characteristic syndromes: (1) Gastric hypersecretion syndrome — late pain, nocturnal pain, relief with antacid ('soda'); (2) Gastrointestinal bleeding syndrome — black tarry stools (melena) indicate upper GI bleeding; (3) Pain abdominal syndrome — epigastric localisation, connected with food intake.

2. Additional methods: FEGDS (urgent) — identify source of bleeding syndrome, localisation of mucosal defect; haemogram (Hb, Ht, erythrocytes) — assess haemorrhagic anaemia syndrome severity; blood type + Rh factor — for possible transfusion; H. pylori test (CLO-test, breath test) — aetiological diagnosis of hypersecretion syndrome; faecal occult blood test (confirm bleeding syndrome).

3. Examination plan: 1) Urgent FEGDS — identify and if possible stop bleeding syndrome source; assess mucosal defect. 2) Complete blood count — assess haemorrhagic anaemia syndrome (Hb level, Ht). 3) Coagulation (PT, aPTT, fibrinogen) — assess haemostasis syndrome. 4) H. pylori rapid test (CLO) — detect aetiological factor of hypersecretion syndrome. 5) Biochemical blood test (ALT, AST, bilirubin) — exclude hepatic syndromes. 6) Blood group and Rh factor. Syndromic conclusion: hypersecretion syndrome + gastrointestinal bleeding syndrome (upper source) + pain abdominal syndrome.

CONTROL SECTION No. 7

Topic: Urinary System Examination. Syndromes in Nephrology

BLOCK A: REPRODUCTIVE LEVEL

ORAL QUESTIONS (3–4 selected):

56. Describe the method of kidney palpation.
57. Describe the method of determining the percussion sign (CVA tenderness).
58. List main syndromes in nephrology.
59. Characterise oedematous syndrome and nephrotic syndrome.
60. Describe dysuria syndrome.
61. Name syndromes of acute and chronic renal failure.

MCQ TESTS:

Q1. Facial oedema in the morning, decrease in diuresis to 500 ml/day, elevated BP. Which syndrome?

A) Cardiac failure syndrome
B) Oedematous (nephrotic) syndrome
C) Portal hypertension syndrome
D) Lymphatic oedema syndrome
E) Hypothyroid syndrome

ANSWER: B) Oedematous (nephrotic) syndrome
Facial oedema in the morning (renal oedema is 'soft', mobile, begins with the face) + oliguria + hypertension — characteristic of renal oedematous syndrome. In nephrotic syndrome the oedema is due to hypoalbuminaemia.

Q2. Urinalysis: protein 4.5 g/L, leucocytes 2–3 per HPF, hyaline casts 5–7 per HPF. Which syndrome?

A) Urinary (nephritic) syndrome
B) Nephrotic syndrome
C) Urinary tract infection syndrome
D) Urolithiasis syndrome
E) Normal

ANSWER: B) Nephrotic syndrome
Massive proteinuria (>3.5 g/day equivalent) + casts (tubular damage marker) = nephrotic syndrome. Pyuria here is minimal — ruling out primary infectious urinary syndrome. Nephrotic syndrome is characterised by massive proteinuria, hypoalbuminaemia, hyperlipidaemia, oedema.

BLOCK B: RECONSTRUCTIVE LEVEL

Time: 60 minutes

CLINICAL CASE 1

Patient R., 28 years, facial and lower limb oedema, decreased diuresis, BP 160/100 mmHg. Urinalysis: protein 6.8 g/L, hyaline casts. Blood: total protein 48 g/L, albumin 28 g/L, cholesterol 8.2 mmol/L.

Questions:

62. Which syndromes are characteristic for this patient? (5 points)
63. What additional examination methods should be ordered? (5 points)
64. Compose an examination plan with justification for differential syndromic diagnosis. (10 points)

ANSWERS:

1. Characteristic syndromes: (1) Nephrotic syndrome — massive proteinuria (6.8 g/L), hypoproteinaemia (48 g/L), hypoalbuminaemia (28 g/L), hypercholesterolaemia (8.2 mmol/L), generalised oedema; (2) Oedematous syndrome — facial and lower limb oedema; (3) Arterial hypertension syndrome — BP 160/100; (4) Lipid metabolism disorder syndrome (atherogenic) — cholesterol 8.2 mmol/L.

2. Additional methods: 24-hour urine protein — confirm massive proteinuria syndrome; creatinine + GFR — assess renal filtration syndrome; kidney ultrasound — structural changes; 24-hour BP monitoring — confirm hypertension syndrome; antinuclear antibodies (ANA, anti-dsDNA) — exclude systemic lupus syndrome; complement C3, C4; kidney biopsy (if indicated) — morphological verification.

3. Examination plan: 1) 24-hour proteinuria — quantify nephrotic syndrome severity. 2) Serum creatinine, urea, GFR — assess renal failure syndrome. 3) Lipid profile — characterise atherogenic syndrome. 4) Kidney ultrasound + Doppler — structural evaluation. 5) Immunological panel (ANA, anti-dsDNA, ANCA, complement) — exclude systemic immune syndrome. 6) Coagulation (thrombophilia risk in nephrotic syndrome). Syndromic conclusion: nephrotic syndrome of severe degree + arterial hypertension syndrome + atherogenic syndrome.

CONTROL SECTION No. 8

Topic: Haematopoietic Organ Examination. Syndromes in Haematology

BLOCK A: REPRODUCTIVE LEVEL

ORAL QUESTIONS (3–4 selected):

65. Characterise complete blood count in normal state and in anaemia syndrome.
66. Describe the method of palpation of lymph nodes and spleen.
67. List syndromes of iron-deficiency anaemia.
68. Describe syndromes of B12-deficiency anaemia.
69. Describe haemolytic syndrome and its laboratory criteria.
70. Name haemorrhagic syndrome and DIC syndrome.

MCQ TESTS:

Q1. Weakness, dizziness, tinnitus, glossitis. Blood: Hb 75 g/L, MCV 110 fL, MCH 38 pg. Which syndrome?

A) Iron-deficiency anaemia syndrome
B) B12-deficiency anaemia syndrome
C) Haemolytic anaemia syndrome
D) Aplastic anaemia syndrome
E) Anaemia syndrome of chronic disease

ANSWER: B) B12-deficiency anaemia syndrome
High MCV (110 fL, macrocytosis) + high MCH (38 pg, hyperchromia) + glossitis (Hunter glossitis) = B12-deficiency anaemia syndrome (megaloblastic anaemia syndrome). B12 deficiency leads to impaired DNA synthesis with formation of giant erythrocytes.

Q2. Blood: Hb 95 g/L, MCV 72 fL, MCH 24 pg, colour index 0.78. Which type of anaemia syndrome?

A) Normochromic anaemia syndrome
B) Hyperchromic anaemia syndrome
C) Hypochromic (iron-deficiency) anaemia syndrome
D) Macrocytic anaemia syndrome
E) Normocytic anaemia syndrome

ANSWER: C) Hypochromic (iron-deficiency) anaemia syndrome
Low Hb (95 g/L) + low MCV (72 fL, microcytosis) + low MCH (24 pg, hypochromia) + low CI (0.78, below 0.85) = hypochromic microcytic anaemia syndrome, most characteristic of iron-deficiency syndrome.

BLOCK B: RECONSTRUCTIVE LEVEL

Time: 60 minutes

CLINICAL CASE 1

Patient K., 35 years, weakness, dizziness, craving for chalk and raw pasta, brittle nails, hair loss. Blood: Hb 85 g/L, MCV 76 fL, MCH 24 pg, colour index 0.75. Serum iron 6 µmol/L, ferritin 8 µg/L.

Questions:

71. Which syndromes are characteristic for this patient? (5 points)
72. What additional examination methods should be ordered? (5 points)
73. Compose an examination plan with justification for differential syndromic diagnosis. (10 points)

ANSWERS:

1. Characteristic syndromes: (1) Hypochromic microcytic anaemia syndrome — Hb 85 g/L, MCV 76 fL, MCH 24 pg, CI 0.75; (2) Sideropenic syndrome — perversion of taste/smell (pica — craving for chalk, raw pasta), brittle nails, hair loss, reflecting iron deficiency in tissues; (3) General hypoxia syndrome — weakness, dizziness (due to oxygen transport impairment).

2. Additional methods: serum iron (6 µmol/L — confirms iron deficiency syndrome); ferritin (8 µg/L — confirms depletion of iron stores); TIBC (total iron-binding capacity — elevated in iron deficiency syndrome); reticulocyte count (assess bone marrow response syndrome); faecal occult blood test (identify source of chronic blood loss syndrome); gynaecological examination (menorrhagia syndrome as cause); FEGDS (exclude gastric/duodenal source of chronic blood loss syndrome).

3. Examination plan: 1) Serum iron + TIBC + ferritin — complete characterisation of iron metabolism syndrome. 2) Reticulocytes — bone marrow response to anaemia syndrome. 3) Faecal occult blood test x3 — detect chronic blood loss syndrome (GI source). 4) FEGDS — exclude gastric bleeding/lesion syndrome as iron deficiency cause. 5) Gynaecological consultation — assess menorrhagia syndrome. 6) Thyroid function (TSH) — exclude hypothyroid syndrome as cause of anaemia. Syndromic conclusion: hypochromic microcytic anaemia syndrome of moderate severity + sideropenic syndrome, most likely due to chronic blood loss syndrome (source to be identified).

CONTROL SECTION No. 9

Topic: Endocrine System Examination. Syndromes in Endocrinology

BLOCK A: REPRODUCTIVE LEVEL

ORAL QUESTIONS (3–4 selected):

74. Describe the method of thyroid gland palpation.
75. What are the main syndromes in endocrinology?
76. Describe hypothyroid syndrome.
77. Describe hyperthyroid syndrome.
78. What are the criteria for diagnosing hyperglycaemia syndrome?
79. Describe hyperglycaemia syndrome.

MCQ TESTS:

Q1. Exophthalmos, finger tremor, moist skin, tachycardia. Which syndrome?

A) Hypothyroid syndrome
B) Hyperthyroid syndrome
C) Hypercorticism syndrome
D) Acromegaly syndrome
E) Hypoparathyroid syndrome

ANSWER: B) Hyperthyroid syndrome
The classic triad: exophthalmos + tachycardia + tremor, combined with moist skin (hyperhidrosis) = hyperthyroid syndrome (thyrotoxicosis syndrome). Excess thyroid hormones activate the sympathetic nervous system and increase metabolic rate.

Q2. Blood: free T4 28 pmol/L (norm 11–22), TSH 0.05 mIU/L (norm 0.4–4.0). Which syndrome?

A) Primary hypothyroid syndrome
B) Primary hyperthyroid syndrome
C) Secondary hypothyroid syndrome
D) Autoimmune thyroid lesion syndrome
E) Euthyroid syndrome

ANSWER: B) Primary hyperthyroid syndrome
Free T4 elevated (28, norm up to 22) + TSH suppressed (0.05, norm 0.4–4.0) = primary hyperthyroid syndrome. Elevated thyroid hormones suppress TSH production by negative feedback — the primary disorder is in the thyroid gland itself.

BLOCK B: RECONSTRUCTIVE LEVEL

Time: 60 minutes

CLINICAL CASE 1

Patient G., 35 years, irritability, hand tremor, increased sweating, palpitations, weight loss of 8 kg in 2 months with good appetite. Thyroid gland enlarged Grade II. Blood: free T4 48 pmol/L, TSH 0.01 mIU/L, TSH receptor antibodies positive.

Questions:

80. Which syndrome is characteristic for this patient? (5 points)
81. What additional examination methods should be ordered? (5 points)
82. Compose an examination plan with justification for differential syndromic diagnosis. (10 points)

ANSWERS:

1. Characteristic syndrome: Hyperthyroid syndrome (thyrotoxicosis syndrome) — elevated free T4 (48 pmol/L), suppressed TSH (0.01 mIU/L), positive TSH receptor antibodies (autoimmune activation), clinical manifestations: weight loss with good appetite (hypermetabolism syndrome), palpitations (tachycardia syndrome), tremor, hyperhidrosis, irritability (neuropsychiatric syndrome), thyroid enlargement (goitre syndrome).

2. Additional methods: Thyroid ultrasound — assess structure, volume (goitre syndrome characterisation); thyroid scintigraphy — assess function distribution (diffuse vs nodular); ECG — assess arrhythmia syndrome (atrial fibrillation in thyrotoxicosis); FEGDS (for T3, T4 monitoring); anti-TPO antibodies — autoimmune syndrome characterisation; calcium, phosphorus — exclude hypoparathyroid syndrome.

3. Examination plan: 1) Thyroid ultrasound — visualise goitre syndrome, assess structure, detect nodular formation syndrome. 2) Scintigraphy — diffuse hyperfunction (Graves syndrome) vs autonomous nodule syndrome. 3) ECG + Holter — assess tachycardia syndrome, detect atrial fibrillation syndrome (complication). 4) Anti-TPO antibodies — confirm autoimmune thyroid lesion syndrome. 5) Liver function (ALT, AST) — hepatic syndrome possible in thyrotoxicosis. 6) Blood glucose — hyperglycaemia syndrome possible in thyrotoxicosis. Syndromic conclusion: primary hyperthyroid syndrome (thyrotoxicosis) with autoimmune activation syndrome (positive TSH receptor antibodies) + tachycardia syndrome + goitre syndrome Grade II.

CONTROL SECTION No. 10

Topic: Musculoskeletal System Examination. Syndromes in Rheumatology

BLOCK A: REPRODUCTIVE LEVEL

ORAL QUESTIONS (3–4 selected):

83. What are the main methods of joint examination?
84. Describe differences between inflammatory and degenerative articular syndrome.
85. List main syndromes in rheumatology.
86. Describe the syndrome of inflammatory joint lesion (arthritic syndrome).
87. Describe the syndrome of degenerative joint lesion (arthrosis syndrome).
88. What are the criteria for seropositive arthritic syndrome?

MCQ TESTS:

Q1. Symmetrical swelling of MCP joints II–III of both hands, morning stiffness > 2 hours. Which syndrome?

A) Degenerative joint syndrome (arthrosis)
B) Inflammatory seropositive arthritic syndrome
C) Crystalline arthritic syndrome (gouty)
D) Reactive arthritic syndrome
E) Psoriatic arthritic syndrome

ANSWER: B) Inflammatory seropositive arthritic syndrome
Symmetrical small joint involvement + prolonged morning stiffness (>1 hour = inflammatory) = inflammatory arthritic syndrome. Symmetrical MCP II–III involvement is characteristic of seropositive arthritic syndrome. Distinguished from arthrosis syndrome (no morning stiffness, mechanical pain) and gout syndrome (asymmetric, large joint, acute attacks).

Q2. Blood: ESR 45 mm/h, CRP 32 mg/L, rheumatoid factor 85 IU/mL, ACPA 56 U/mL. Which syndrome?

A) Systemic connective tissue lesion syndrome
B) Seropositive arthritic syndrome
C) Axial spondyloarthritis syndrome
D) Degenerative joint syndrome
E) Crystalline arthritic syndrome

ANSWER: B) Seropositive arthritic syndrome
Elevated ESR + elevated CRP = systemic inflammatory response syndrome. Positive rheumatoid factor (RF) + positive ACPA (anti-cyclic citrullinated peptide antibodies) = serological arthritic syndrome markers. Both markers positive = seropositive arthritic syndrome. ACPA is more specific than RF for this syndrome.

BLOCK B: RECONSTRUCTIVE LEVEL

Time: 60 minutes

CLINICAL CASE 1

Patient T., 48 years (female), symmetric joint pain and swelling in hands and wrists for 8 months, morning stiffness lasting 2 hours, general weakness. Examination: swelling and tenderness of MCP II–IV bilaterally. Blood: Hb 105 g/L, ESR 52 mm/h, CRP 45 mg/L, RF 110 IU/mL, ACPA 78 U/mL. X-ray of hands: periarticular osteoporosis syndrome.

Questions:

89. Which syndromes are characteristic for this patient? (5 points)
90. What additional examination methods should be ordered? (5 points)
91. Compose an examination plan with justification for differential syndromic diagnosis. (10 points)

ANSWERS:

1. Characteristic syndromes: (1) Inflammatory seropositive arthritic syndrome — symmetrical MCP involvement, morning stiffness 2 h, RF+ and ACPA+ (serological syndrome); (2) Systemic inflammatory response syndrome — ESR 52, CRP 45 (systemic inflammation markers); (3) Periarticular osteoporosis syndrome — X-ray finding; (4) Anaemia syndrome of chronic disease — Hb 105 g/L (chronic inflammation suppresses erythropoiesis).

2. Additional methods: joint ultrasound (detect synovitis syndrome, pannus formation); joint MRI (early erosion syndrome identification before X-ray changes); X-ray both hands + wrists (marginal erosion syndrome, joint space narrowing); DAS28 score (disease activity syndrome quantification); ANA, anti-dsDNA (exclude systemic lupus syndrome); uric acid (exclude crystalline arthritic syndrome); hand function assessment.

3. Examination plan: 1) Joint ultrasound — detect and grade synovitis syndrome (grey-scale + power Doppler). 2) X-ray hands + wrists — detect erosion syndrome, periarticular osteoporosis syndrome. 3) MRI hands — early erosion syndrome, bone oedema syndrome. 4) ANA + anti-dsDNA + anti-Sm — exclude systemic lupus erythematosus syndrome. 5) Uric acid — exclude hyperuricaemia + crystalline arthritic syndrome. 6) DAS28-ESR/CRP — quantify inflammatory arthritic syndrome activity. Syndromic conclusion: inflammatory seropositive arthritic syndrome of high activity (DAS28 to be calculated) + systemic inflammatory response syndrome + periarticular osteoporosis syndrome + anaemia syndrome of chronic disease.

9. RECOMMENDED LITERATURE

Main Literature (L1)

- L1.1. Mukhin N.A., Moiseev V.S. Propaedeutics of Internal Diseases. — Moscow: GEOTAR-Media, 2019.
- L1.2. Ivashkin V.T., Sultanov V.K. Propaedeutics of Internal Diseases. Practical Course. — Moscow: MEDpress-inform, 2018.

Additional Literature (L2)

- L2.1. Harrison's Principles of Internal Medicine / Ed. by Jameson J.L. et al. — 20th ed. — New York: McGraw-Hill, 2018.
- L2.2. Fauci A.S., Kasper D.L. et al. Internal Medicine. Handbook — Moscow: Praktika, 2019.

Regulatory Documentation (L3)

- L3.1. Order of MoH KR No. 95 dated 09.02.2016 — Federal State Educational Standard for specialty 31.05.01 General Medicine.
- L3.2. Clinical Protocols of MoH KR — Cardiology, Pulmonology, Gastroenterology, Nephrology, Haematology, Endocrinology, Rheumatology.
- L3.3. ICD-10 / ICD-11 — International Classification of Diseases.