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Federal State Budget Educational Institution
of Higher Education
Pacific State Medical University
of the Ministry of Health of the Russian Federation

APPROVED BY

Director of the Institute of Therapy (Internal
Medicine) and Instrumental Diagnostics

_____/ Nevzorova V.A./
“2nd” of April 2026

COLLECTION OF ASSESSMENT TOOLS

B1.V.EC.03.02 Nephrology in primary care physician (district doctor) practice of the basic educational program of Higher Education

Specialty	31.05.01 General Medicine (English- language program) (code, name)
Degree	Specialist's degree
Profile	02 "Healthcare" (in the field of providing primary health care to the population in medical organizations: polyclinics, outpatient clinics, inpatient/outpatient facilities of the municipal health care system)
Mode of study	Full-time
Period of mastering the BEP	6 years (nominal length of study)
Institute	of Therapy (Internal Medicine) and Instrumental Diagnostics

Vladivostok, 2026

1. INTRODUCTION

1.1. Collection of Assessment Tools is a document that regulates the format, content, and types of assessment tools for continuous assessment, interim examination and final (state final) examination, and graded criteria for each type of assessment tools.

1.2. Assessment tools allows to evaluate the development of universal, general professional, and professional competencies (UCs, GPCs and PCs respectively) outlined in Federal State Educational Standard of Higher Education and defined in the basic educational program of higher education for the specialty 31.05.01 General Medicine (English-language program), profile 02 "Healthcare" (in the field of providing primary health care to the population in medical organizations: polyclinics, outpatient clinics, inpatient/outpatient facilities of the municipal health care system).

([BEP HE for the 31.05.01 General Medicine \(English-language program\)](#)), section 3. Learning Outcomes Requirements of the Basic Educational Program of Higher Education)

2. DOCUMENT BODY

2.1. Types of Assessment, Formats of Assessment Tools

No.	Types of assessment	Assessment Tools Format
1	Continuous assessment	Tests
		Mini-Case Studies
2	Interim assessment	Tests
		Mini-Case Studies

3. The contents of assessment tools for continuous and interim examination are prepared by the teacher of the course

Tests for continuous assessment

	Code	Competence description / name of labor function / name of work activity / text
S	31.05.01	General Medicine for international students (in English)
C	PC-5	Ability and readiness to select patient management tactic with decision on risk factors correction program, plan of pharmacological and non-pharmacological treatment and assessment of their efficiency and safety in patients with diseases of internal organs, taking into account the diagnosis, age of the patient, and clinical picture of the disease in settings including day hospital
C	PC-6	Ability and readiness to select a type of patient routing based on current medical care procedures
F	A/03.7	Prescribing treatment and monitoring its efficiency and safety
I		ANSWER LEVEL 1 TEST QUESTIONS (ONE CORRECT ANSWER)
		1. CAUSES OF RENOVASCULAR ARTERIAL HYPERTENSION INCLUDE *A renal artery stenosis B chronic glomerulonephritis C diabetic nephropathy D chronic pyelonephritis 2. MORPHOLOGICAL SIGN INDICATING NEPHRITIS ACTIVITY IS *A pronounced proliferation of glomerular cells B a large proportion of sclerosis and atrophy of the tubules C a large proportion of sclerosed glomeruli D large area of tubulointerstitial fibrosis 3. ONE OF THE INDICATIONS FOR SURGICAL INTERVENTION IN CASE OF DEVELOPMENT OF ISCHEMIC NEPHROPATHY IS

- *A bilateral renal artery stenosis with a degree of narrowing greater than 60%
- B bilateral renal artery stenosis with a degree of narrowing less than 60%
- C any renal artery stenosis
- D unilateral renal artery stenosis with a degree of narrowing greater than 60%

4. A LARGE AMOUNT OF URATE GIVES URINE SEDIMENT _____
COLOR

- *A pinkish with a brick-red tint
- B creamy with a greenish tint
- C white
- D yellow

5. HIGH LEVEL OF ALBUMINURIA (A2) ACCORDING TO THE
INTERNATIONAL CLASSIFICATION IS

- *A 30-299 mg/day
- B 300-1999 mg/g
- C > 300 mg/day
- D > 2000 mg/g

6. A KEY ROLE IN THE PATHOGENESIS OF THROMBOTIC
MICROANGIOPATHY IS PLAYED BY

- *A damage to the endothelium with platelet aggregation
- B disseminated intravascular coagulation
- C prothrombin activation
- D impaired fibrinolysis

7. NEPHROPATHY ASSOCIATED WITH ANTIPHOSPHOLIPID SYNDROME
USUALLY MANIFESTS AS

- *A renal dysfunction
- B tubular dysfunction
- C recurrent macrohematuria
- D arterial hypotension

8. THE CONNECTION BETWEEN PROTEINURIA AND KIDNEY MOBILITY
IS CONFIRMED BY PERFORMING

- *A orthostatic test
- B Rehberg Test
- C McClure-Aldrich test
- D prednisolone test

9. WHEN MONITORING A PATIENT WITH CHRONIC RENAL FAILURE,
THERE IS NOTABLE INCREASE IN

- *A blood pressure
- B glomerular filtration rate
- C number of erythrocytes in the urine
- D levels of c-reactive protein in the blood

10. A DAILY AMOUNT OF URINE LESS THAN 500 ML IS CALLED

- *A oliguria
- B anuria
- C dysuria
- D polyuria

11. WHEN A STONE IN THE INTRAMURAL PART OF THE URETER
DISRUPTS URODYNAMICS, THE PAIN IS _____ IN NATURE

- *A acute paroxysmal
- B constant aching
- C dull
- D aching

12. ANTIPHOSPHOLIPID SYNDROME SHOULD BE EXCLUDED IN PATIENTS WITH

- *A habitual miscarriage (>3 miscarriages)
- B recurrent urinary infection
- C history of late preeclampsia
- D chronic arterial hypertension

13. DURING PREGNANCY, _____ CAN BE DETECTED IN NORMAL URINE

- *A glucose
- B bacteria
- C fungi
- D protein ≥ 0.3 g/s

14. THE MAIN CAUSE OF NOCTURNAL POLLAKIURIA IN PATIENTS WITH BENIGN PROSTATIC HYPERPLASIA (BPH) IS

- *A increased bloodflow in the veins of the pelvis
- B prostate atrophy
- C fibromatous histological structure of BPH
- D rectal BPH

15. THE CAUSATIVE AGENT OF TUBERCULOSIS BELONGS TO

- *A gram-positive acid- and alkali-resistant bacteria
- B gram-positive diplococcus
- C rickettsia Provachek
- D gram-negative acid-resistant bacteria

16. ADRENAL CORTICAL TUMORS INCLUDE

- *A corticosteroma
- B sympathoblastoma
- C paraganglioma
- D pheochromocytoma

17. ASYMPTOMATIC BACTERIURIA IN PREGNANT WOMEN MAY BE A RISK FACTOR FOR

- *A acute cystitis
- B acute pneumonia
- C acute glomerulonephritis
- D urolithiasis

18. X-RAY CONTRAST EXAMINATION OF THE URINARY SYSTEM IN A CHILD WITH URINARY SYSTEM INFECTION SHOULD BE PERFORMED WHEN

- *A the inflammatory process subsides
- B body temperature normalizes
- C the activity of the inflammatory process is high
- D overall condition improves

19. ARTERIAL HYPERTENSION IN COMBINATION WITH _____ IS INCLUDED IN THE CONCEPT OF "MIXED TYPE GLOMERULONEPHRITIS"

- *A nephrotic syndrome
- B renal failure
- C macro- or microhematuria
- D edematous syndrome

20. THE ELEMENTS OF URINE SEDIMENT OF RENAL ORIGIN ONLY INCLUDE

- *A casts
- B erythrocytes

C leukocytes

D crystals

21. LOW SEVERITY CRITERIA FOR FOCAL LUPUS NEPHRITIS EXCLUDE

*A mesangial proliferative glomerulonephritis

B absence of crescents and fibrinoid necrosis during morphological examination

C normal kidney function

G proteinuria less than 3 g/day

22. CONTRAST-ENHANCED COMPUTED TOMOGRAPHY OF THE KIDNEYS IN ACUTE PYELONEPHRITIS IS INDICATED IN

*A patients with long-lasting (72 hours) fever

B all patients before prescribing antibacterial therapy

C all patients before discharge from the hospital

D all patients with uncomplicated pyelonephritis

23. THE MOST COMMON CAUSE OF ACUTE NEPHRITIC SYNDROME IS

*A acute post-streptococcal glomerulonephritis

B Minimal change disease (MCD)

C diabetic nephropathy

D kidney amyloidosis

24. IN CASE OF ALCOHOLIC DISEASE, THE LEVEL OF _____ IMMUNOGLOBULIN IS INCREASED IN THE BLOOD

*A A

B M

C E

D G

25. MILKY WHITE COLOR OF URINE IS CAUSED BY HIGH CONTENT OF

*A lipides or lymph

B urates or oxalates

C bilirubin or urobilin

D myoglobin or porphyrin

26. THE MOST COMMON TYPE OF INHERITANCE OF POLYCYSTIC KIDNEY DISEASE IN ADULTS IS

*A autosomal dominant

B X-linked dominant

C Y-linked

D X-linked recessive

27. THE MOST COMMON SYMPTOM OF KIDNEY CANCER IS

*A hematuria

B pain

C accelerated ESR

D palpable tumor

28. TO CHARACTERIZE THE OSMOREGULATORY FUNCTION OF THE KIDNEYS THE _____ IS PERFORMED

*A Zimnitsky test

B three-glass test

C two-glass test

D Nechiporenko test

29. IN HEALTHY PEOPLE AFTER PHYSICAL EXERTION _____ CASTS MAY APPEAR

*A hyaline

B waxy

- C pigment
- D granular

30. DARK AND YELLOWISH COLORATION OF THE SKIN OF PATIENTS WITH CRF IS CAUSED BY

- *A disrupted excretion of urochromes
- B increase in direct bilirubin
- C impaired bilirubin secretion
- D increase in indirect bilirubin

31. AS A SCREENING LABORATORY TEST FOR THE DIAGNOSIS OF ACUTE PYELONEPHRITIS, _____ IS PERFORMED

- *A urinalysis
- B protein electrophoresis
- C biochemical analysis
- D phase-contrast microscopy

32. A COMMON COMPLICATION OF AUTOSOMAL DOMINANT POLYCYSTIC DISEASE IS

- *A bleeding into cysts
- B hydrothorax
- C arrhythmia
- D malabsorption syndrome

33. THE EARLIEST SIGN OF KIDNEY DAMAGE IN OBESE PATIENTS IS THE APPEARANCE OF

- *A hyperfiltration
- B hypercreatininemia
- C proteinuria
- D microalbuminemia

34. LUPUS NEPHRITIS SCREENING SHOULD BE PERFORMED IN _____ WITH SYSTEMIC LUPUS ERYTHEMATOSUS

- *A all patients (regardless of gender and age)
- B only in older men
- C menopausal women only
- D women with intact menstrual function only

35. IN THE BLOOD OF PATIENTS WITH CHRONIC RENAL FAILURE, THERE IS A DECREASE OF

- *A glomerular filtration rate
- B gamma glutamyl transpeptidase levels
- C c-reactive protein levels
- D number of erythrocytes in the urine

36. THE HORMONES SECRETED BY THE KIDNEYS INCLUDE

- *A renin, erythropoietin, 1,25 – dihydroxyvitamin D3
- B renin, aldosterone
- C renin, parathyroid hormone
- D erythropoietin, parathyroid hormone

37. QUANTITATIVE METHOD OF URINE SEDIMENT EXAMINATION IS

- *A Nechiporenko test
- B Sulkovich test
- C Rehberg Test
- D Zimnitsky test

38. TO PERFORM ZIMNITSKY TEST, DAILY URINE IS COLLECTED

- *A eight times

- B twice
- C five times
- D once

39. CAUSES OF RENOVASCULAR HYPERTENSION INCLUDE

- *A antiphospholipid syndrome
- B tubulointerstitial nephritis
- C primary hyperaldosteronism
- D chronic glomerulonephritis

40. URATE NEPHROLITHIASIS IS OFTEN ASSOCIATED WITH

- *A articular tophaceous gout
- B deforming osteoarthritis
- C chronic osteomyelitis
- D Ankylosing spondylitis

41. THE RAREST SYMPTOMS OF TRUE SCLERODERMIC KIDNEY INCLUDE

- *A preserved renal function
- B polycystosis of both kidneys
- C arterial hypertension
- D erythrocytes and protein in urine

42. CHARACTERISTIC SYMPTOMS OF CHRONIC RENAL FAILURE INCLUDE

- *A weakness, decreased appetite
- B skin rashes
- C edema
- D bouts of fever

43. GENETIC STUDY OF COMPLEMENT SYSTEM GENES IN PATIENTS WITH ATYPICAL HEMOLYTIC-UREMIC SYNDROME SHOULD BE PERFORMED

- *A in patients planning kidney transplantation
- B in the acute period to establish a diagnosis
- C before starting complement-blocking therapy
- D to confirm thrombotic microangiopathy

44. ACUTE POST-STREPTOCOCCAL GLOMERULONEPHRITIS MORE OFTEN DEVELOPS

- *A 7-14 days after recovering from viral or bacterial disease
- B one month after recovering from respiratory illness
- C without connection with past diseases
- D at the height of respiratory disease

45. CAUSES OF RENOVASCULAR HYPERTENSION INCLUDE

- *A Takayasu arteritis
- B lupus nephritis
- C nephropathy of pregnant women
- D acute pyelonephritis

46. RAPIDLY PROGRESSING RENAL FAILURE IS CHARACTERISTIC OF

- *A extracapillary glomerulonephritis
- B focal segmental glomerulosclerosis
- C kidney amyloidosis
- D diabetic nephropathy

47. GLOMERULAR FILTRATION RATE IS USUALLY DETERMINED BY ASSESSING CLEARANCE OF

	*A creatinine B glucose C albumin D electrolytes 48. SPECIFIC FEATURE OF HEMATURIA IN PATIENTS WITH FOCAL SEGMENTAL GLOMERULOSCLEROSIS IS *A combination with high proteinuria B combination with bacteriuria C painful macrohematuria D presence of more than 70% unchanged erythrocytes in urine 49. _____ IS OBSERVED IN THE ELDERLY AND SENILE PATIENTS *A decrease in hepatic blood flow B increased hepatic blood flow C increase in liver weight D increase in the rate and intensity of metabolism in the liver 50. DURING PREGNANCY GLOMERULAR FILTRATION RATE _____ BY THE END OF _____ *A increases; 1 trimester B increases; 2 trimester C increases; pregnancy D decreases; 1 trimester
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Assessment criteria

“Very good” – 80-100% correct answers of questions of every level

“Good” - 70-79% correct answers of questions of every level

“Satisfactory” - 55-69% correct answers of questions of every level

“Unsatisfactory” - less than 55% correct answers of questions of every level

Standardized case studies and checklists for **B1.V.EC.03.02 Nephrology in primary care physician (district doctor) practice** course

Case Study No.1

	Code	Competence description / name of labor function / name of work activity / text
S	31.05.01	General Medicine for international students (in English)
C	PC-5	Ability and readiness to select patient management tactic with decision on risk factors correction program, plan of pharmacological and non-pharmacological treatment and assessment of their efficiency and safety in patients with diseases of internal organs, taking into account the diagnosis, age of the patient, and clinical picture of the disease in settings including day hospital
C	PC-6	Ability and readiness to select a type of patient routing based on current medical care procedures
F	A/03.7	Prescribing treatment and monitoring its efficiency and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS 23-year-old patient presents with swelling of the face, eyelids, torso, limbs, a decrease in the amount of urine excreted per day to 500 ml, weakness, headaches. The patient has a history of chronic tonsillitis. Similar symptoms first appeared 2 years prior; the patient underwent a lengthy treatment in the

		nephrology department, received prednisolone with a positive effect, was discharged from the hospital in satisfactory condition. After discharge, he was not observed by a doctor, was not treated, although he occasionally noted swelling on his face. 2 weeks prior the patient had angina after which the condition deteriorated rapidly and the above complaints appeared. Physical examination results: blood pressure is 150 and 95 mm Hg, heart rate is 92 beats per minute, RR is 22 per minute. Laboratory test results: Complete blood count: erythrocytes $3.4 \times 10^{12}/L$, hemoglobin 124 g/L, color index 0.89, leukocytes $5.4 \times 10^9/L$, leukocyte formula is normal, ESR 42 mm/h. Blood biochemistry: total blood protein 35.6 g/L, albumin 18.2 g/L, blood cholesterol 9.3 mmol/L. Urinalysis: specific gravity 1022, protein 5.4 g/L, 20-25 leached erythrocytes in the field of view.
Q	1	Question: What is the main clinical and laboratory syndrome, how does it manifest itself?
Q	2	Question: What is your preliminary diagnosis?
Q	3	Question: What additional tests are needed to clarify the diagnosis?
Q	4	Question: Prescribe treatment in accordance with the clinical guidelines for this pathology
Q	5	Question: What is the estimated time frame of temporary disability in patients with this disease? How often should periodic check-up within the framework of the follow-up care be performed?

Case Study No.1 Checklist

	Code	Competence description / name of labor function / name of work activity / text
S	31.05.01	General Medicine for international students (in English)
C	PC-5	Ability and readiness to select patient management tactic with decision on risk factors correction program, plan of pharmacological and non-pharmacological treatment and assessment of their efficiency and safety in patients with diseases of internal organs, taking into account the diagnosis, age of the patient, and clinical picture of the disease in settings including day hospital
C	PC-6	Ability and readiness to select a type of patient routing based on current medical care procedures
F	A/03.7	Prescribing treatment and monitoring its efficiency and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS 23-year-old patient presents with swelling of the face, eyelids, torso, limbs, a decrease in the amount of urine excreted per day to 500 ml, weakness, headaches. The patient has a history of chronic tonsillitis. Similar symptoms first appeared 2 years prior; the patient underwent a lengthy treatment in the nephrology department, received prednisolone with a positive effect, was discharged from the hospital in satisfactory condition. After discharge, he was not observed by a doctor, was not treated, although he occasionally noted swelling on his face. 2 weeks prior the patient had angina after which the condition deteriorated rapidly and the above complaints appeared. Physical examination results: blood pressure is 150 and 95 mm Hg, heart rate is 92 beats per minute, RR is 22 per minute.

		Laboratory test results: Complete blood count: erythrocytes $3.4 \times 10^{12}/L$, hemoglobin 124 g/L, color index 0.89, leukocytes $5.4 \times 10^9/L$, leukocyte formula is normal, ESR 42 mm/h. Blood biochemistry: total blood protein 35.6 g/L, albumin 18.2 g/L, blood cholesterol 9.3 mmol/L. Urinalysis: specific gravity 1022, protein 5.4 g/L, 20-25 leached erythrocytes in the field of view.
Q	1	Question: What is the main clinical and laboratory syndrome, how does it manifest itself?
A		Correct answer: Nephrotic syndrome in the patient is manifested by severe edema, high proteinuria 5.4 g/L (3.0-3.5 g/L and more), hypoproteinemia 35.6 g/L, hypoalbuminemia 18.2 g/L, hyperlipidemia 9.3 mmol/L
R2	Very good	Correctly names and indicates all syndromes
R1	Good/ Satisfactory	Not all syndromes are indicated; The key points of the identified syndrome are not indicated.
R0	Fail	Cannot identify a single syndrome
Q	2	Question: What is your preliminary diagnosis?
A		Correct answer: Chronic glomerulonephritis, mixed form (nephrotic and hypertonic), exacerbation stage.
R2	Very good	Formulates a diagnosis correctly and completely, and can indicate the nephrotic form of the disease.
R1	Good/ Satisfactory	Formulates the diagnosis correctly, incorrectly indicates the form of the disease or does not indicate the activity of the process; Formulates the diagnosis correctly, but not completely, does not know the form of the disease and does not indicate the activity of the process.
R0	Fail	Unable to formulate a diagnosis.
Q	3	Question: What additional tests are needed to clarify the diagnosis?
A		Correct answer: Determination of creatinine level with the calculation of GFR, urea, electrolytes, determination of daily proteinuria, platelets, coagulogram, blood clotting time, ultrasound of the abdominal cavity and kidneys, ECG, heart ultrasound, chest radiography. A nephrologist may recommend performing needle biopsy of the kidneys.
R2	Very good	Lists in full the laboratory and instrumental examination methods indicated for the patient
R1	Good/ Satisfactory	Does not list in full the laboratory or instrumental examination methods indicated for the patient, but must name creatinine with calculation of SCF, urea, ultrasound of the kidneys; Names 1-2 laboratory parameters, 1 type of instrumental examination, does not mention the calculation of the SCF.
R0	Fail	Does not know any type of additional laboratory or instrumental tests indicated for the patient.
Q	4	Question: Prescribe treatment in accordance with the clinical guidelines for this pathology
A		Correct answer:

		Therapeutic diet No. 7 and bed rest are indicated in the patient. The main treatment consists of using glucocorticosteroids and cytostatics; anticoagulants and antiplatelet agents. Additionally: diuretics, ACE inhibitors/angiotensin II receptor blockers, calcium channel blockers, statins with simultaneous control of the lipid spectrum.
R2	Very good	Correctly indicates the principles of treatment.
R1	Good/ Satisfactory	Cannot indicate nephroprotective treatment only; Indicates only the principle of non-drug treatment.
R0	Fail	Doesn't answer the question.
Q	5	Question: What is the estimated time frame of temporary disability in patients with this disease? How often should periodic check-up within the framework of the follow-up care be performed?
A		Correct answer: Temporary disability duration: 60-75 days. Periodic examination within follow-up care at least once every 3 months.
R2	Very good	Correctly indicates the principles of treatment.
R1	Good/ Satisfactory	Incorrect periods of incapacity for work; Indicates the need for dispensary observation with an incorrect time frame.
R0	Fail	Doesn't answer the question.

Case Study No.2

	Code	Competence description / name of labor function / name of work activity / text
S	31.05.01	General Medicine for international students (in English)
C	PC-5	Ability and readiness to select patient management tactic with decision on risk factors correction program, plan of pharmacological and non-pharmacological treatment and assessment of their efficiency and safety in patients with diseases of internal organs, taking into account the diagnosis, age of the patient, and clinical picture of the disease in settings including day hospital
C	PC-6	Ability and readiness to select a type of patient routing based on current medical care procedures
F	A/03.7	Prescribing treatment and monitoring its efficiency and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS 50-year-old man presents with severe weakness, blood pressure reaching up to 160/100 mm Hg, dysuria, nocturia. The patient has been living with articular gout for more than 10 years, takes allopurinol irregularly. Exacerbations of the disease occur 2-3 times a year after errors in the diet, the patient manages pain by independently taking non-steroidal anti-inflammatory drugs. Five years ago, there was an episode of renal colic with passing of a stone (calculus). Subsequently, renal microliths were repeatedly detected during ultrasound, and dysuria was periodically noted. Blood pressure (BP) periodically reached up to 150/100 mm Hg over the last 3 years; the patient did not seek medical attention regarding that and does not take antihypertensive drugs constantly. The last exacerbation of gouty arthritis developed after a summer vacation with heavy alcohol consumption and

		overeating; the patient self-administered Movalis 15 mg/day for a week with a good effect on joint syndrome. However, blood pressure became difficult to manage, feeling of weakness and unpleasant sensations during urination appeared; the patient noted cloudy urine with brick-red tint. The patient has a history of chronic pancreatitis, duodenal ulcer. Heredity: the mother of the patient is 70 years old and has a history of arterial hypertension, urolithiasis. Addictions: has been smoking 10 cigarettes a day for over 20 years, drinks 1-1.5L of alcohol (beer) 2-3 times a week. History of allergic reactions: none. Occupational hazards: has been working with paints containing lead for over 10 years. Overall condition moderately severe. Height 175 cm. Weight 90 kg, BMI 31 kg/m². The skin is normal in color, dry; no edema. Tophi were detected in the area of cartilage of the auricles and elbows. Vesicular breathing with no rales on auscultation. Respiratory Rate (RR) 22 per minute Heart sounds are clear, rhythmic; no murmurs. Heart rate 76 beats/min, no pulse deficit. BP 160/90 mm Hg. The abdomen is soft and painless in all sections in palpation. The liver is not enlarged, liver dimensions are 10-8-7 cm, edge palpable at the edge of the costal arch. Bowel movement normal. No costovertebral angle (CVA) tenderness detected. Nocturia: 1-2 urinations per night. Urinalysis: brick-red tint, cloudy, acidic, specific gravity - 1.008, protein - 0.08, epithelium – negative, urobilin - negative, erythrocytes – 40-50 in the field of view, leukocytes – 2-3 in the field of view, casts – hyaline, salts – urates in large quantities. Complete blood count: hemoglobin - 140 g/L, erythrocytes – $3.5 \times 10^{12}/L$, leukocytes – $5.3 \times 10^9/L$, platelets – 300.0; ESR - 10 mm/h. Biochemical blood test: total bilirubin – 13.1 mmol/L, uric acid – 560.0 $\mu\text{mol/L}$, creatinine - 128 $\mu\text{mol/L}$, glucose – 5.4 mmol/L, cholesterol – 6.0 mmol/L, total protein – 77 g/L, albumin - 49 g/L, eGFR – 56 mL/min.
Q	1	Question: Assess the laboratory test results.
Q	2	Question: What are the additional examination methods?
Q	3	Question: What is your preliminary diagnosis?
Q	4	Question: Outline non-pharmaceutical treatment of this patient.
Q	5	Question: Outline pharmaceutical treatment of this patient.

Case Study No.2 Checklist

	Code	Competence description / name of labor function / name of work activity / text
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C	PC-6	Ability and readiness to select a type of patient routing based on current medical care procedures
F	A/03.7	Prescribing treatment and monitoring its efficiency and safety
I		READ THE PROVIDED CASE DESCRIPTION AND GIVE DETAILED ANSWERS TO THE QUESTIONS 50-year-old man presents with severe weakness, blood pressure reaching up to 160/100 mm Hg, dysuria, nocturia. The patient has been living with articular gout for more than 10 years, takes allopurinol irregularly. Exacerbations of

		the disease occur 2-3 times a year after errors in the diet, the patient manages pain by independently taking non-steroidal anti-inflammatory drugs. Five years ago, there was an episode of renal colic with passing of a stone (calculus). Subsequently, renal microliths were repeatedly detected during ultrasound, and dysuria was periodically noted. Blood pressure (BP) periodically reached up to 150/100 mm Hg over the last 3 years; the patient did not seek medical attention regarding that and does not take antihypertensive drugs constantly. The last exacerbation of gouty arthritis developed after a summer vacation with heavy alcohol consumption and overeating; the patient self-administered Movalis 15 mg/day for a week with a good effect on joint syndrome. However, blood pressure became difficult to manage, feeling of weakness and unpleasant sensations during urination appeared; the patient noted cloudy urine with brick-red tint. The patient has a history of chronic pancreatitis, duodenal ulcer. Heredity: the mother of the patient is 70 years old and has a history of arterial hypertension, urolithiasis. Addictions: has been smoking 10 cigarettes a day for over 20 years, drinks 1-1.5L of alcohol (beer) 2-3 times a week. History of allergic reactions: none. Occupational hazards: has been working with paints containing lead for over 10 years. Overall condition moderately severe. Height 175 cm. Weight 90 kg, BMI 31 kg/m². The skin is normal in color, dry; no edema. Tophi were detected in the area of cartilage of the auricles and elbows. Vesicular breathing with no rales on auscultation. Respiratory Rate (RR) 22 per minute Heart sounds are clear, rhythmic; no murmurs. Heart rate 76 beats/min, no pulse deficit. BP 160/90 mm Hg. The abdomen is soft and painless in all sections in palpation. The liver is not enlarged, liver dimensions are 10-8-7 cm, edge palpable at the edge of the costal arch. Bowel movement normal. No costovertebral angle (CVA) tenderness detected. Nocturia: 1-2 urinations per night. Urinalysis: brick-red tint, cloudy, acidic, specific gravity - 1.008, protein - 0.08, epithelium – negative, urobilin - negative, erythrocytes – 40-50 in the field of view, leukocytes – 2-3 in the field of view, casts – hyaline, salts – urates in large quantities. Complete blood count: hemoglobin - 140 g/L, erythrocytes – $3.5 \times 10^{12}/L$, leukocytes – $5.3 \times 10^9/L$, platelets – 300.0; ESR - 10 mm/h. Biochemical blood test: total bilirubin – 13.1 mmol/L, uric acid – 560.0 $\mu\text{mol}/L$, creatinine - 128 $\mu\text{mol}/L$, glucose – 5.4 mmol/L, cholesterol – 6.0 mmol/L, total protein – 77 g/L, albumin - 49 g/L, eGFR – 56 mL/min.
Q	1	Question: Assess the laboratory test results.
A		Correct answer: The patient has a decrease in urine specific gravity, urinary syndrome (trace proteinuria, erythrocyturia with altered erythrocytes), uraturia. The patient had lipid metabolism disorder (hypercholesterolemia), purine metabolism disorder (hyperuricemia), hypercreatininaemia, and decreased GFR. Complete blood count is within normal limits.
R2	Very good	Correctly names and indicates all syndromes
R1	Good/ Satisfactory	Descriptors of incomplete answers to the question are indicated Not all syndromes are indicated; The key points of the identified syndrome are not indicated.
R0	Fail	Cannot identify a single syndrome
Q	2	Question: What are the additional examination methods?
A		Correct answer:

		Ultrasound of the urinary system, Overview X-ray of the abdominal cavity. CT with contrast may be performed.
R2	Very good	Lists in full the instrumental examination methods indicated for the patient.
R1	Good/ Satisfactory	Does not fully list the instrumental examination methods indicated for the patient. Names 1 type of instrumental examination.
R0	Fail	Does not know any type of additional laboratory or instrumental tests indicated for the patient.
Q	3	Question: What is your preliminary diagnosis?
A		Correct answer: Chronic tubulointerstitial nephritis, urate nephrolithiasis. Stage 3A CKD.
R2	Very good	Formulates a diagnosis correctly and completely, and can indicate the nephrotic form of the disease.
R1	Good/ Satisfactory	Formulates the diagnosis correctly, incorrectly indicates the form of the disease or does not indicate the stage of the process; Formulates the diagnosis correctly, but not completely, does not know the stage of the disease.
R0	Fail	Formulates a diagnosis correctly and completely, and can indicate the nephrotic form of the disease.
Q	4	Question: Outline non-pharmaceutical treatment of this patient.
A		Correct answer: Affecting modifiable risk factors: smoking, alcohol consumption, obesity, sedentary lifestyle, lead exposure. Therapeutic diet: limiting the consumption of purine bases. Urine alkalization: drinking regimen.
R2	Very good	Correctly indicates all the principles of non-drug treatment.
R1	Good/ Satisfactory	Does not indicate the impact of risk factors, but formulates the principles of dietary therapy; Formulates the impact of risk factors, but does not indicate the principles of dietary therapy.
R0	Fail	Doesn't answer the question.
Q	5	Question: Outline pharmaceutical treatment of this patient.
A		Correct answer: In order to adjust the level of uric acid, it is recommended to take the following medications: Allopurinol (Febuxostat in case of intolerance). For antihypertensive and nephroprotective purposes: ACE inhibitors/angiotensin II receptor blockers. Correction of hyperlipidemia: taking statins with simultaneous control of the lipid spectrum.
R2	Very good	Correctly indicates the principles of treatment
R1	Good/ Satisfactory	Indicates nephroprotective treatment only; Indicates only the need to correct the uric acid level.
R0	Fail	

4. Assessment criteria for learning outcomes

"Pass" is given to a student who has shown a sufficiently strong knowledge of the basic concepts of the subject; is able to complete specific practical tasks outlined in the program with no outside help, use recommended reference material, and correctly evaluate the results.

"Fail" is given to a student who has significant gaps in knowledge of the basic concepts of the subject, is not able reach the correct solution to a specific practical task outlined in the curriculum even with outside help.