**SYLLABUS**

**Зәр шығару жүйесінің патологиясы және гомеостаз/**

**Патология мочевыделительной системы и гомеостаз/**

**Pathology of the urinary system and homeostasis**

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| **1.**  | **General information about the discipline** |
| 1.1 | Faculty/School:Graduate School of Medicine | 1.6 | Credits (ECTS): a) 4 credits - 120 hours |
| 1.2 | Educational program (EP): 6B10103 GENERAL MEDICINE | 1.7 | **Prerequisites:**1. Жалпы патология/Общая патология/General pathology2. Науқас және дәрігер/Пациент и врач/Patient and doctor**Postrequisites:**Ішкі аурулар/Внутренние болезни/Internal medicineProfile disciplines |
| 1.3 | Agency and year of accreditation of the EPНААР 2021 | 1.8 | СРС/СРМ/СРД (quantity):40 hours |
| 1.4 | Name of discipline: **Зәр шығару жүйесінің патологиясы және гомеостаз/****Патология мочевыделительной системы и гомеостаз/****Pathology of the urinary system and homeostasis** | 1.9 | СРСП/СРМП/СРДП (quantity):20 hours |
| 1.5 | Discipline ID: **90298**Discipline code: **PМS3208** | 1.10 | ***Required -*** yes  |
| **2.**  | **Description of the discipline** |
|  | During the course of the course to form students' abilities:The discipline includes the study of pathogenesis, pathomorphology, clinical presentation of problems (clinical syndromes), and clinically oriented pharmacology of pathology of the cardiovascular system and blood. The training involves the development of clinical argumentation, analytical and problem-oriented thinking, a deep understanding of the problem in a clinical context; the formation and development of skills for clinical diagnosis of pathology, and the reasonable formation of a syndromic diagnosis. |
| **3** | **Purpose of the discipline** |
| - Study of pathogenesis, pathomorphology, clinical presentation of problems (clinical syndromes) and clinically oriented pharmacology of pathology of the cardiovascular system and blood.- Development of clinical argumentation, analytical and problem-oriented thinking, deep understanding of the problem in a clinical context;- Formation and development of skills of clinical diagnosis of pathology and reasonable formation of a syndromic diagnosis. |
| **4.**  | **Learning outcomes (LО) by discipline (3-5)** |
|  | LO disciplines | LO according to the educational program,with which the LO is associated by discipline(LO No. from the EP passport) |
| 1. Apply knowledge on the pathogenesis of the pathology of the urinary system in the process of diagnosis and treatment | Proficiency level - 2 | 1. Collect information from patients and other sources relevant to the diagnosis, treatment, and prevention of common and emergency conditions, including the performance of diagnostic procedures. |
| 2. To be able to conduct targeted questioning and physical examination of the patient, taking into account age-related characteristics with pathology of the urinary system. | Proficiency level - 3 | 2. To identify and interpret clinical symptoms and syndromes, data from laboratory and instrumental methods of studying patients with the most common diseases in their typical manifestation and course in the age aspect; interpret, analyse, evaluate and prioritize relevant data to formulate a plan for diagnosing and managing the disease, including initiating appropriate interventions. |
| 3. Define diagnostic and therapeutic interventions related to common diseases affecting the urinary system | Proficiency level - 2 | 3. Integrate clinical knowledge and skills to provide an individual approach to the treatment of a particular patient and the promotion of his health in accordance with his needs; make professional decisions based on the analysis of the rationality of diagnostics and applying the principles of evidence-based and personalized medicine. |
| 4. Interpret the main data of laboratory, morphological and instrumental examination in diseases of the urinary system. | Proficiency level - 2 | 4. Apply knowledge of the basic principles of human behavior for effective communication and treatment and diagnostic process in compliance with the principles of ethics and deontology; apply knowledge of the patient's psychology, taking into account cultural characteristics and racial affiliation; demonstrate the skills of working in a team, organizing and managing the diagnostic and treatment process; effectively build a dynamic relationship between the doctor and the patient that occurs before, during and after the medical treatment; effectively communicate medical information orally and in writing to provide safe and effective care to patients; work effectively in an interprofessional/multidisciplinary team with other healthcare professionals; |
| 5. Integrate knowledge to identify the main syndromes of the urinary system: edematous, urinary, pain, renal failure, arterial hypertension. | Proficiency level - 3 | 5. Provide medical care for the most common diseases to patients of all age groups, in urgent and life-threatening conditions; |
| 6. Describe the social, economic, ethnic and racial factors that play a role in the development, diagnosis and treatment of diseases of the urinary system. | Proficiency level - 2 | 6. Analyze and maintain the necessary documentation and organization of workflow in healthcare organizations; use modern information and digital technologies and healthcare information systems to solve professional problems. |
| 7. Apply the classification of diseases of the urinary system, understand the mechanism of action, pharmacokinetics, analyze side effects, indications and contraindications for the use of drugs that affect the kidneys, antibacterials, immunosuppressants (glucocorticosteroids, cytostatics), diuretics, antihypertensives, antivirals, erythropoietin drugs, calcimimetics, etc. | Proficiency level - 3 | 7. Analyze and maintain the necessary documentation and organization of workflow in healthcare organizations; use modern information and digital technologies and healthcare information systems to solve professional problems. |
| 8. Демонстрировать способность к эффективному медицинскому интервьюированию с учетом правил и норм взаимоотношения доктор-пациент и знаний основных принципов человеческого поведения в разные возрастные периоды, в норме и при отклонениях в поведении, в разных ситуациях; | Proficiency level - 2 | 8. Demonstrate a commitment to the highest standards of professional responsibility and integrity; observe ethical principles in all professional interactions with patients, families, colleagues and society as a whole, regardless of ethnicity, culture, gender, economic status or sexual orientation; |
| 9. Demonstrate a commitment to the highest standards of professional responsibility and integrity; - observe ethical principles in all professional interactions; | Proficiency level - 2 | 9. Demonstrate the need for continuous professional training and improvement of their knowledge and skills throughout their professional activities; |
| 10. Demonstrate the need for continuous professional training and improvement of their knowledge and skills; | Proficiency level - 3 | 10. Demonstrate the skills of conducting scientific research, the desire for new knowledge and the transfer of knowledge to others. |
| 11. Demonstrate the skills of conducting scientific research, the desire for new knowledge and the transfer of knowledge to others. | Proficiency level - 3 |  |
| **5.** | **Summative assessment methods** *(mark (yes – no) / specify your own):* |
| 5.1  | MCQ testing for understanding and application | 5.5  | Scientific project SSRW (student’s scientific research work) |
| 5.2  | Practical skills – Miniclinical exam (MiniCex) | 5.6  | Curation, clinical skills |
| 5.3  | 3. SIW (case, video, simulation OR SRWS - thesis, report, article) - assessment of the creative task. | 5.7  | Midterm control:Stage 1 - MCQ testing for understanding and applicationStage 2 – passing practical skills (miniclinical exam (MiniCex) |
| 5.4  | Medical history | 5.8  | Exam: comprehensive throughout the module pathology of organs and systems-1 including "Languages in Medicine"Stage 1 - Testing on MCQ for understanding and applicationStage 2 - OSСE |

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| **6.**  | **Detailed information about the discipline** |
| 6.1 | Academic year:2023-2024 | 6.3 | Timetable:8.00 till 14.00 |
| 6.2 | Semester:5 semester | 6.4 | Location (educational building, office, platform and link to the meeting of learning using distance learning technologies):City Clinical Hospital №1, City Clinical Hospital №7, Central City Clinical Hospital, City Clinical Infectious Diseases Hospital named after Zhekenova) |
| **7.** | **Discipline leader** |
| Position | Full name | Department | Contact information (e-mail) | Consultations before exams |
| acting assistant professor | Chingayeva Gulnar | Department of Clinical Disciplines | 8 (701) 741-90-79 | Before the examination session within 60 minutes |
| **8.** | **The content of the discipline** |
|  | Name of the discipline | Quantity of hours | Conducting form |
|  | Syndromes in nephrology: edematous, urinary, pain, renal failure, arterial hypertension | 6 | Formative assessment:1. Using active learning methods: TBL, CBL2. Working with the patient3. Training in the simulation center4. Mini-conference of the ISW topics |
|  | Nephrotic syndrome | 12 | Formative assessment:1. Using active learning methods: TBL, CBL2. Working with the patient3. Training in the simulation center |
|  | Nephritic syndrome | 12 | Formative assessment:1. Using active learning methods: TBL, CBL2. Working with the patient3. Training in the simulation center |
|  | Kidney failure syndrome: acute kidney injury | 6 | Formative assessment:1. Using active learning methods: TBL, CBL2. Working with the patient3. Training in the simulation center |
| **Midterm control 1** | Summative evaluation:2 stages:1-stage – MCQ testing for understanding and application - 40%2-stage – mini clinical exam (MiniCex) - 60% |
|  | Kidney failure syndrome: chronic kidney disease | 6 | Formative assessment:1. Using active learning methods: TBL, CBL2. Working with the patient3. Training in the simulation center4. Mini-conference of the ISW topics |
|  | Urinary tract infection. Urolithiasis disease. | 6 | Formative assessment:1. Using active learning methods: TBL, CBL2. Working with the patient3. Training in the simulation center4. Mini-conference of the ISW topics |
|  | Male reproductive system | 6 | Formative assessment:1. Using active learning methods: TBL, CBL2. Working with the patient3. Training in the simulation center4. Mini-conference of the ISW topics |
|  | Nephrological aspects in pregnant women | 6 | Formative assessment:1. Using active learning methods: TBL, CBL2. Working with the patient3. Training in the simulation center |
| **Midterm control 2** | Summative evaluation:2 stages:1-stage – MCQ testing for understanding and application - 40%2-stage – mini clinical exam (MiniCex) - 60% |
| **Final control (Exam)** | Summative evaluation:2 stages:1-stage – MCQ testing for understanding and application - 40%2- stage – ОSCE with NP - 60% |
| **Total** | **100** |
| **9.**  | **Methods of teaching in the discipline**(briefly describe the approaches to teaching and learning that will be used in teaching)Using active learning methods: TBL, CBL |
| 1 | **Methods of formative assessment:** TBL – Team Based Learning (<https://classroom.google.com/w/MzM5OTU5MjU0OTM0/t/all>)CBL – Case Based Learning (<https://www.queensu.ca/ctl/resources/instructional-strategies/case-based-learning#:~:text=What%20is%20Case%2DBased%20Learning,group%20to%20examine%20the%20case>.)  |
| 2 | **Summative assessment methods (from point 5):** 1. MCQ testing for understanding and application2. Passing practical skills - miniclinical exam (MiniCex)3. SIW - **creative task**4. Medical history5. Scientific project SSRW (student’s scientific research work)6. 360 score - behavior and professionalism |
| **10.**  | **Summative assessment** *(indicate grades)* |
| **№** | **Forms of control** | **General % from total %** |
| 1 | Curation,clinical skills | 20% (estimated by the checklist)  |
| 2 | Student's independent work (case, video, simulation OR student's research work - thesis, report, article) | 10% (estimated by the checklist) |
| 3 | Border control | 70% (1-stage – MCQ testing for understanding and application - 40%;2- stage – mini clinical exam (MiniCex) - 60%) |
| **Total border control 1** | 20 + 10 + 70 = 100% |
| 5 | Patient history defence | 20% |
| 6 | Student's independent work | 10% |
| 7 | Border control | 70% (1-stage – MCQ testing for understanding and application - 40%;2- stage – mini clinical exam (MiniCex) - 60%) |
| **Total border control 2** | 20 + 10 + 70 = 100% |
| 9 | Exam | **2 stages:**1st stage - testing on MCQ for understanding and application - 40%2nd stage - OSCE with NP - 60% |
| 10 | **Final score:**  | overall admission rating 60% + Exam 40% (1st stage - testing on MCQ for understanding and application - 40%2nd stage - OSCE with NP - 60% |
| **10.** | **Score**  |
| **Rating by letter system** | **Digital****equivalent** | **Points****(% content)** | **Assessment Description**(changes should be made only at the level of the decision of the Academic Committee on the quality of the faculty) |
| А  | 4,0  | 95-100  | **Assessment Description**(changes should be made only at the level of the decision of the Academic Committee on the quality of the faculty) |
| А-  | 3,67  | 90-94  | **Excellent.** Exceeds the highest job standards. |
| В+  | 3,33  | 85-89  | **Excellent.** Meets the highest job standards. |
| В  | 3,0  | 80-84  | **Good.** Very good. Meets high job standards. |
| В-  | 2,67  | 75-79  | **Good.** Meets most of the job standards. |
| С+  | 2,33  | 70-74  | **Good.** More than enough. Shows some reasonable ownership of the material. |
| С  | 2,0  | 65-69  | **Good.** Acceptable. Meets the basic standards of the task. |
| С-  | 1,67  | 60-64  | **Satisfactory.** Acceptable. Meets some basic job standards. |
| D+  | 1,33  | 55-59  | **Satisfactory.** Acceptable. Meets some basic job standards. |
| D  | 1,0  | 50-54  | **Satisfactory.** Minimally acceptable. |
| FX  | 0,5  | 25-49  | **Unsatisfactory.** Minimally acceptable. |
| F  | 0  | 0-24  | **Unsatisfactory.** Very low productivity. |
| **11.** | **Educational resources** (use the full link and specify where you can access the texts/materials) |
| Literature  | **Main****Available in the library**

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| **Author** | **Name of the book, publisher** | **Year of publication** |
| Nicholas J Talley, Brad Frankum & David Currow. Essentials of Internal medicine | Elsevier. 3d edition, Chapter 12, p 320-323 – **1 экземпляр** | 2014 |
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| Talley N.J., Connor”s. | Clinical examination. 8th edition. р.992 | 2018 |

**Missing in the library**

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| **Author** | **Name of the book, publisher** | **Year of publication** |
| Қанатбаева А.Б, Қабулбаев К.А | Нефрология. Оқулық. | 2016 |
| Канатбаева А.Б., Кабулбаев К.А. | Нефрология  | 2021 |
| Alan Yu et al. | Brenner and Rector's The Kidney, 2-Volume Set, 11th Edition | 2020 |
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| E. Lerma, et al. | Nephrology secrets, 4th edition | 2019 |

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| **Additional****Available in the library**

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| **Author** | **Name of the book, publisher** | **Year of publication** |
| Nicholas J Talley, Brad Frankum & David Currow. Essentials of Internal medicine | Elsevier. 3d edition, Chapter 12, p 320-323 – 1 экземпляр | 2014 |
| Внутренние болезни: учебник: в 2-х т. / М-во науки и высшего образования РФ; под ред.: А. И. Мартынов [и др.]. Т. 1, 772, [2] с. | 2021 |
| Внутренние болезни: учебник : в 2-х т. / М-во науки и высшего образования РФ; под ред.: А. И. Мартынов [и др.]. Т. 2, 693, [2] с | 2021 |
| Бүйрек ауруларының фармакотерапиясы : оқулық / [Н. Ж. Орманов, Т. Н. Орманов, У. Ж. Садырханова, және т.б. ], 163 б. | 2017 |
| Орманов, Намазбай Жаппарович. Фармакотерапия болезней почек : [учеб.-метод. пособие] / Н. Ж. Орманов, Л. Н. Орманова, - 73 с. - | 2017 |

**Имеется на кафедре (ссылка на Classroom)**

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| **Author** | **Name of the book, publisher** | **Year of publication** |
| Қанатбаева А.Б, Қабулбаев К.А | Нефрология. Оқулық. 416б. | 2016 |
| Alan Yu et al. | Brenner and Rector's The Kidney, 2-Volume Set, 11th Edition, Alan Yu et al. 3529p. | 2020 |
| Томилина Н.А.и др | Хроническая болезнь почек. Избранные главы нефрологии/ГЭОТАР-Медиа, 512 стр. | 2017 |
| Под редакцией Шилова Е.М., Смирнов А.В., Козловская Н.Л. | Нефрология, 856 с. | 2020 |
| Шилов Е.М.  | Нефрология: клинические рекомендации, 816 с. | 2023 |
| Ред.Шилова Е.М., Смирнова А.В., Козловская Н.Л. | Нефрология. Клинические рекомендации/под. ГЭОТАР-Медиа, 816с. | 2016 |
| Шейман Д.А. | Патофизиология почки. Перевод с английского. Бином, 192 с.  | 2017 |
| E. Lerma, M. et al. | Nephrology secrets, 4th edition. 617р. | 2019 |
| Edgar V. Lerma et al | CURRENT Diagnosis / Treatment: Nephrology and Hypertension, 2nd Edition. | 2018 |
| Brenner GM, Stevens CW. | Pharmacology. 568p. | 2018 |
| **С.**Ronco. | Critical Care Nephrology, 3rd Edition**.** 1456р | 2019 |
| J. L. Jameson; J.Loscalzo. | Harrison’s Nephrology and Acid- Base Disorders, 3rd Edition, 336р.  | 2017 |
| Alexandr J. Howie | Handbook of renal biopsy pathology, Third edition, 297р. | 2020 |
| Перевод Бобковой И.Н., Буланова Н.М., Захарова Е.В и др.  | Клинические практические рекомендации KDIGO 2021 по лечению гломерулярных болезней, 298 с.  | 2021 |
| Российское общество урологов | Мочекаменная болезнь, 96 с. | 2020 |
| Ассоциация нефрологов РФ | Клинические рекомендации: Острое повреждение почек (ОПП), 142 с. | 2020 |
| Ассоциация нефрологов РФ | Клинические рекомендации: Хроническая болезнь почек (ХБП), 233 с. | 2021 |
| Ассоциация нефрологов РФ | Клинические рекомендации: Фокально-сегментарный гломерулосклероз, 54 с. | 2021 |
| Ассоциация нефрологов РФ | Клинические рекомендации: Поражение почек при АНЦА ассоциированных васкулитах (АНЦАассоциированный гломерулонефрит) | 2021 |
| Котенко О.Н. | Нефрология. Клинические протоколы лечения, 70 с | 2021 |
| Российское общество урологов | Клинические рекомендации. Недержание мочи, 63 с. | 2020 |
| Под редакцией Д.Ю. Пушкаря  | Урология, 2-е издание, переработанное и дополненное, 522 с. | 2020 |
| Wada T., Furuichi К., Kashihara N. | Diabetic Kidney Disease, 189 р. | 2021 |
| Мухин Н.А., Моисеев В.С. | Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР, стр 104-178 | 2020 |
| Эрман М.В.  | Симптом-синдром-диагноз. Болезни почек и мочевыделительной системы у детей, 2020. 118 с | 2020 |

Link to literature - https://classroom.google.com/u/1/c/NTczMDUxNDE1MjEy |
| Basic(fundamental works published earlier than the required terms of relevance)**Available in the library**1. Ішкі аурулар пропедевтикасы Әдістемелік оқу құралы 2013 – 30 экземпляров
2. Пропедевтика внутренних болезней: учебник / Мухин Н.А., Моисеев В.С., М:,Геотар Медиа 2020г. – 10 экземмпляров
3. Ішкі аурулар пропедевтикасы: оқулық — М.: ГЭОТАР-Медиа,2015. — 672 б.: ил. Н.А. Мухин, В.С. Моисеев; қазақтіліндегі редакциясын басқарған Б.Б. Абдахина; жауапты редакторы В.А. Ткачев – 20 экземпляров

**Available at the department**1. BATES' Guide to Physical Examination and History Taking, 12th edition
2. Macleod’s Clinical Examination 14th Edition, 2017
3. USMLE Step 2 CK Lecture Notes 2020. Internal Medicine
4. Lippincot Illustrated Reviews: Pharmacology, 7th Edition, 2019.
5. Robbins Essential Pathology, 2021.
6. USMLE Step 1 Lecture Notes 2021.Pathology
 |
| Electronic resources (including but not limited to: library electronic catalogue, scientific literature databases, databases, animation, modeling, professional blogs, websites, other electronic reference materials (e.g. video, audio, digests) | **Internet resources:** 1. Medscape.com - <https://www.medscape.com/familymedicine>
2. Oxfordmedicine.com - <https://oxfordmedicine.com/>
3. Uptodate.com - <https://www.wolterskluwer.com/en/solutions/uptodate>
4. KDIGO- <https://kdigo.org/wp-content/uploads>
5. Osmosis - <https://www.youtube.com/c/osmosis>
6. Ninja Nerd - <https://www.youtube.com/c/NinjaNerdScience/videos>
7. Cor Medicale - <https://www.youtube.com/c/CorMedicale> - медицинские видео анимации на русском языке.
8. Lecturio Medical - <https://www.youtube.com/channel/UCbYmF43dpGHz8gi2ugiXr0Q>
9. SciDrugs - <https://www.youtube.com/c/SciDrugs/videos> - видео лекции по фармакологии на русском языке.
10. <https://www.kidney-international.org/>
11. <https://kdigo.org>
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| Simulators in the simulation center | 1. SAM (Student auscultation manikin) – student manikin for auscultation of the pathology of the Oran and systems (including the urinary system)2. Mannequin-simulator for teaching percussion skills, palpation of the abdominal organs (kidneys, bladder) |
| Special software | 1. Google classroom – available in the public domain.2. Medical calculators: Medscape, Physician's Handbook, MD+Calc - freely available.3. Directory of diagnostic and treatment protocols for medical workers from the RCHD, the Ministry of Health of the Republic of Kazakhstan: Dariger - available in the public domain. |
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| **12.** | **Tutor Requirements and Bonus System** |
| **Rules of academic conduct:****1) Appearance:*** office attire (shorts, short skirts, open T-shirts are not allowed to visit the university, jeans are not allowed in the clinic)
* clean ironed robe
* medical mask
* medical cap (or a neat hijab without hanging ends)
* medical gloves
* changeable shoes
* neat hairstyle, long hair should be gathered in a ponytail, or a bun, for both girls and guys. Neatly short cut nails. Bright, dark manicure is prohibited. It is permissible to cover the nails with transparent varnish.
* badge with full name (full name)

2) Mandatory presence of a phonendoscope, tonometer, centimeter tape, (you can also have a pulse oximeter)**3) \* Properly executed sanitary (medical) book (before the start of classes and must be updated on time)****4) \* Availability of a vaccination passport or other document about the complete****completed course of vaccination against COVID-19 and influenza****5) Mandatory observance of the rules of personal hygiene and safety**6) Systematic preparation for the educational process.7) Accurate and timely maintenance of reporting documentation.8) Active participation in medical-diagnostic and public events of the departments.**A student without a medical book and vaccination will not be allowed to see patients.****A student who does not meet the requirements for appearance and / or from whom a strong / pungent odor emanates, since such a smell can provoke an undesirable reaction in the patient (obstruction, etc.) - is not allowed to the patients!****The teacher has the right to decide on the admission to classes of students who do not comply with the requirements of professional behavior, including the requirements of the clinical base!****Бонусная система:**1. Participation in research work, conferences, olympiads, presentations, the student is rewarded by means of a bonus system in the form of encouragement - adding points to the student in one of the forms of summative assessment. |
| **13.** | **Discipline policy** *(части, выделенные зеленым, пожалуйста, не изменяйте)* |
|  | Discipline policy is determined by the University's Academic Policy and the University's Academic Integrity Policy. If the links do not open, then you can find the relevant documents in IS Univer.**Discipline:**1. Being late for classes or the morning conference is not allowed. In case of being late, the decision on admission to the lesson is made by the teacher leading the lesson. If there is a good reason, inform the teacher about the delay and the reason by message or by phone. After the third delay, the student writes an explanatory note addressed to the head of the department indicating the reasons for being late and is sent to the dean's office to obtain admission to the lesson. If you are late without a valid reason, the teacher has the right to deduct points from the current grade (1 point for each minute of delay)2. Religious events, holidays, etc. are not a valid reason for skipping, being late and distracting the teacher and the group from work during classes.3. If you are late for a good reason - do not distract the group and the teacher from the lesson and quietly go to your place.4. Leaving the class ahead of time, being outside the workplace during school hours is regarded as absenteeism.5. Additional work of students during study hours (during practical classes and shifts) is not allowed.6. For students who have more than 3 passes without notifying the curator and a good reason, a report is issued with a recommendation for expulsion.7. Missed classes are not made up.8. The internal regulations of the clinical bases of the department are fully applicable to students9. Greet the teacher and any senior by standing up (in class)10. Smoking (including the use of vapes, electronic cigarettes) is strictly prohibited on the territory of medical facilities (out-doors) and the university. Punishment - up to the annulment of boundary control, in case of repeated violation - the decision on admission to classes is made by the head of the department11. Respectful attitude towards colleagues regardless of gender, age, nationality, religion, sexual orientation.12. Have a laptop / laptop / tab / tablet with you for training and passing MCQ tests for TBL, boundary and final controls.13. Taking MCQ tests on phones and smartphones is strictly prohibited.The behavior of the student at the exams is regulated by the "Rules for the final control", "Instructions for the final control of the autumn/spring semester of the current academic year" (the current documents are uploaded to the Univer IS and are updated before the start of the session); "Regulations on checking text documents of students for the presence of borrowings.". |
| **14.** | **Principles of inclusive education (no more than 150 words).** |
|  | 1. **Constantly preparing for classes:**For example, backs up statements with relevant references, makes brief summariesDemonstrates effective teaching skills, assists in teaching others**2. Take responsibility for your learning:**For example, manages their learning plan, actively tries to improve, critically evaluates information resources3. **Actively participate in group learning:**For example, actively participates in discussions, willingly takes tasks**4. Demonstrate effective group skills**For example, takes the initiative, shows respect and correctness towards others, helps to resolve misunderstandings and conflicts.5. **Skillful communication skills with peers**:For example, he listens actively, is receptive to nonverbal and emotional signals Respectful attitude**6. Highly developed professional skills:**Eager to complete tasks, seek opportunities for more learning, confident and skilledCompliance with ethics and deontology in relation to patients and medical staffObservance of subordination.**7. High introspection:**For example, recognizes the limitations of his knowledge or abilities, without becoming defensive or reproaching others**8. Highly developed critical thinking:**For example, accordingly demonstrates skills in performing key tasks, such as generating hypotheses, applying knowledge to cases from practice, critically evaluating information, making conclusions aloud, explaining the process of reflection**9. Fully complies with the rules of academic behavior with understanding, offers improvements in order to increase efficiency.**Observes the ethics of communication – both oral and written (in chats and appeals)**10. Fully follows the rules with full understanding of them, encourages other members of the group to adhere to the rules**Strictly adheres to the principles of medical ethics and PRIMUM NON NOCER |
| **15.** | **Distance/Online Learning – Prohibited in Clinical Discipline** *(части, выделенные зеленым, пожалуйста, не изменяйте)* |
| 1. According to the order of the Ministry of Education and Science of the Republic of Kazakhstan No. 17513 dated October 9, 2018 "On approval of the List of areas of training with higher and postgraduate education, training in which in the form of external studies and online education is not allowed". According to the above regulatory document, specialties with the discipline code of health care: bachelor's degree (6B101), master's degree (7M101), residency (7R101), doctoral studies, (8D101) - training in the form of external study and online education - is not allowed.Thus, students are prohibited from distance learning in any form. It is only allowed to work out a lesson in a discipline due to the absence of a student for reasons beyond his control and the presence of a timely confirming document (example: a health problem and presenting a confirming document - a medical certificate, a signal sheet of the PHC, an extract from a consultative appointment with a medical specialist - a doctor) |
| **16.** | **Approval and review** |
| Department head | Signature | Professor Kurmanova Gaukhar |
| Teaching Quality Committeeand teaching faculty | Protocol № | Confirmation date |
| Chairman of the Academic Committee of the Faculty of Medicine and Health | Signature | Professor Kurmanova Gaukhar |
| Dean | Signature |  |

**Topic plan and content of classes**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| № | Тopic | Content | Literature | Conduct form |
|  | 2 | 3 | 4 | 5 |
| 1 | Syndromes in nephrology: edematous, urinary, pain, renal failure, arterial hypertension | **Learning outcomes:*** Apply knowledge of the pathogenesis of edema, proteinuria, hematuria in the process of diagnosis and treatment;
* Able to identify symptoms and syndromes of diseases of the urinary system when interviewing a patient;
* Carry out targeted questioning and physical examination taking into account age characteristics when examining a patient with a pathology of the urinary system;
* Integrate knowledge for the detection and differential diagnosis of edematous syndrome, proteinuria and hematuria;
* Integrate knowledge for the identification and differential diagnosis of primary and secondary hypertension, renal failure syndrome:
* Substantiate and prescribe methods of examination, with the interpretation of the results of laboratory diagnostics;
* Calculate the albumin-creatinine ratio;
* Calculate the glomerular filtration rate;
* Substantiate the preliminary diagnosis using medical terminology;
* Prescribe treatment for a patient with edema, hypertension, taking into account the individual characteristics of the patient, pharmacodynamics and pharmacokinetics of drugs (diuretics, antihypertensives).
* Demonstrates adherence to professional values such as altruism, compassion, empathy, responsibility, honesty and confidentiality;
* Demonstrates the ability and need for continuous professional training and improvement of their knowledge and skills of professional activity;
 | 1. Мухин Н.А., Моисеев В.С. Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР – 2020г, стр 649-725.2. Nicholas J Talley, Brad Frankum & David Currow. Essentials of Internal medicine Elsevier. 3d edition, Chapter 12, p 320-323 (Электронный ресурс).3. Нефрология. Оқулық. /Қанатбаева А.Б, Қабулбаев К.А ред – М: Литтера, 2016. – 54-77с; 175-181.4. Нефрология. Учебник/ Канатбаева А.Б., Кабулбаев К.А., 2021. – 58-79.5. Harrisson’s Manual of Medicine/ 20th Edition, Section 6, chapter 40, p. 249-253, p. 2209-2220.6. Brenner and Rector's The Kidney, 2-Volume Set, 11th Edition, Alan Yu et al. 2020. . Chapter 1-3, 19, 21, 30, 46-50.7. Эрман М.В. Симптом-синдром-диагноз. Болезни почек и мочевыделительной системы у детей, 2020. 41-110 с.8.<https://geekymedics.com/abdominal-examination/> | Formative assessment:1. Using active learning methods: TBL, CBL2. Working with the patient3. Training in the simulation center 4. Mini-conference of the ISW topicFor topics for which RO is at the level of 1-2 |
| 2 | Nephrotic syndrome (NS) | **Learning outcomes:*** Apply knowledge of pathogenesis to identify nephrotic syndrome;Проводить целенаправленный расспрос и физикальное обследование с учетом возрастных особенностей при обследовании пациента с нефротическим синдромом;
* Determine edema according to the degree of gradation: 1+, 2+, 3+;
* Assign an examination plan for patients with NS;
* Interpret laboratory data (OAC, OAM, ACR, BAC - total protein, albumin, cholesterol, glucose, creatinine, urea, electrolytes, coagulogram, ELISA immunoblotting, ELISA for viral hepatitis, HIV, anti PLA2R); instrumental (ultrasound of the kidneys);
* Calculate the albumin-creatinine ratio;
* Calculate the glomerular filtration rate;
* Interpret the results of a kidney biopsy: light microscopy, immunofluorescence, electron microscopy to clarify the morphological variant of NS;
* Establish nephrotic syndrome and a list of the most likely diseases that may be accompanied by NS based on the results of clinical, laboratory and morphological data;
* Integrate knowledge for the identification and differential diagnosis of primary and secondary NS (minimum change disease, focal segmental glomerulosclerosis, membranous nephropathy);
* Able to determine indications and contraindications for nephrobiopsy;
* Substantiate the preliminary diagnosis using medical terminology;
* Prescribe treatment for a patient with NS, taking into account the individual characteristics of the patient, pharmacodynamics and pharmacokinetics of drugs (diuretics, glucocorticosteroids, cystostatics, anticoagulants).
* Demonstrates communication skills, skills of independent work, teamwork, organization and management of the diagnostic and treatment process;
* Apply knowledge of the principles and methods of forming a healthy lifestyle for a person and family;
* Demonstrates basic research skills.
 | 1. Мухин Н.А., Моисеев В.С. Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР – 2020г, стр 649-725 . 2. & David Currow. Essentials of Internal medicine Elsevier. 3d edition, Chapter 12, p. 323-327 (Электронный ресурс).3. Нефрология. Оқулық. /Қанатбаева А.Б, Қабулбаев К.А ред – М: Литтера, 2016. – 81-102с.4. Нефрология. Учебник/ Канатбаева А.Б., Кабулбаев К.А., 2021. – 84-107.5. Шилов Е.М. Нефрология: клинические рекомендации, 2023, с.78-144. 6. Brenner and Rector's The Kidney, 2-Volume Set, 11th Edition, Alan Yu et al. 2020. Chapter 4, 26, 30-32.7. KDIGO 2021 Clinical Practice Guideline for the Management of Glomerular Diseases. Kidney International, 2021 Vol: 100, Issue: 4, Page: S1-S2768. Nephrology secrets, fourth edition edited by Edgar V. Lerma, 2019, Part IV.1. Harrison’s Nephrology and Acid- Base Disorders, 3rd Edition, J. L. Jameson; J.Loscalzo. 2017, 162-189 р.
2. Handbook of renal biopsy pathology Alexandr J. Howie, Third edition, 2020, 297р.
3. History and Clinical Examination at a Glance Third edition Jonathan Gleadle 178-179 стр
4. Graham Douglas , Fiona Nicol . Macleods Clinical Examination. 13th Edition – 2013 year 137-165 Step-up\_to\_ Medicine\_ 4th\_edition\_2016, 79-88 pages
5. <https://geekymedics.com/acute-management-of-upper-gi-bleeding/>
 | Formative assessment:1. Using active learning methods: TBL, CBL2. Working with the patient3. Training in the simulation center  |
| 3 | Nephritic syndrome (NiS) | **Learning outcomes:*** Apply knowledge of pathogenesis to identify nephritic syndrome;
* Carry out targeted questioning and physical examination taking into account age characteristics when examining a patient with nephritic syndrome;
* Determine edema according to the degree of gradation: 1+, 2+, 3+;
* Assign an examination plan for patients with NIS;
* Interpret laboratory data (OAC, OAM, ACR, BAC - total protein, albumin, cholesterol, glucose, creatinine, urea, electrolytes, coagulogram, ELISA immunoblotting, ELISA for viral hepatitis, HIV, anti PLA2R); instrumental (ultrasound of the kidneys);
* Calculate the albumin-creatinine ratio;
* Calculate the glomerular filtration rate;
* Interpret the results of a kidney biopsy: light microscopy, immunofluorescence, electron microscopy to clarify the morphological variant of NS;
* Integrate knowledge for the identification and differential diagnosis of primary and secondary NIS (post-streptococcal glomerulonephritis, RPGN, MPGN, granulomatosis with polyangiitis, Sjögren's disease, etc.);
* Conduct differential diagnosis of hematuria - glomerular and non-glomerular origin;
* Substantiate the preliminary diagnosis using medical terminology;
* Prescribe treatment for a patient with NIS, taking into account the individual characteristics of the patient, pharmacodynamics and pharmacokinetics of drugs (diuretics, glucocorticosteroids, cystostatics, anticoagulants, antibiotics, ACE inhibitors, CCBs, etc.);
* Integrate knowledge and skills to ensure an individual approach in the treatment of a particular patient;
* Demonstrates communication skills, skills of independent work, teamwork and information resources;
* Possesses basic skills in maintaining current accounting and reporting medical documentation, including in information systems;
* Demonstrates adherence to professional values such as altruism, compassion, empathy, responsibility, honesty and confidentiality;
 | 1. Мухин Н.А., Моисеев В.С. Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР – 2020г, стр 649-725 . 2. & David Currow. Essentials of Internal medicine Elsevier. 3d edition, Chapter 12, p. 323-327 (Электронный ресурс).3. Нефрология. Оқулық. /Қанатбаева А.Б, Қабулбаев К.А ред – М: Литтера, 2016. – 81-102с.4. Нефрология. Учебник/ Канатбаева А.Б., Кабулбаев К.А., 2021. – 97-113, 131-146.5. Шилов Е.М. Нефрология: клинические рекомендации, 2023, с. 156-226. 6. Brenner and Rector's The Kidney, 2-Volume Set, 11th Edition, Alan Yu et al. 2020. Chapter 4, 26, 30-32.7. KDIGO 2021 Clinical Practice Guideline for the Management of Glomerular Diseases. Kidney International, 2021 Vol: 100, Issue: 4, Page: S1-S276.8. Nephrology secrets, fourth edition edited by Edgar V. Lerma, 2019, Part IV.9. Harrison’s Nephrology and Acid- Base Disorders, 3rd Edition, J. L. Jameson; J.Loscalzo. 2017, 162-189 р.10. Handbook of renal biopsy pathology Alexandr J. Howie, Third edition, 2020, 297р.11. History and Clinical Examination at a Glance Third edition Jonathan Gleadle 178-179 стр 1. Graham Douglas , Fiona Nicol . Macleods Clinical Examination. 13th Edition – 2013 year 137-165 Step-up\_to\_ Medicine\_ 4th\_edition\_2016, 79-88 pages
2. <https://geekymedics.com/acute-management-of-upper-gi-bleeding/>

  | Formative assessment:1. Using active learning methods: TBL, CBL2. Working with the patient3. Training in the simulation center  |
| 4 | Kidney failure syndrome: acute kidney injury (AKI) | **Learning outcomes:*** Apply knowledge of pathogenesis for detection and differential diagnosis of renal failure;
* Carry out targeted questioning and physical examination taking into account age characteristics when examining a patient with renal insufficiency;
* Determine edema according to the degree of gradation: 1+, 2+, 3+;
* Identify and differentiate options for acute kidney injury;
* Identify and differentiate the symptoms of acute and chronic renal failure - clinical, laboratory and instrumental (ultrasound of the kidneys, ultrasound of the vessels of the kidneys, ECG);
* Interpret the results of general clinical tests and acid-base balance (blood gases);
* Calculate the albumin-creatinine ratio;
* Calculate the glomerular filtration rate;
* Able to identify indications and contraindications for nephrobiopsy in RPGN;
* Substantiate the preliminary diagnosis using medical terminology;
* Prescribe conservative therapy for patients with AKI, taking into account the individual characteristics of the patient, comorbidities, complications - hypotensive, renoprotective, antibacterial, corticosteroids, cytostatics, drugs for the correction of metabolic acidosis, electrolyte disorders, etc.;
* Determines the indications and contraindications for renal replacement therapy (acute hemodialysis, acute peritoneal dialysis);
* Prescribe treatment for emergency conditions, such as hyper- and hypokalemia, hyper- and hyponatremia, edematous syndrome, etc.
* Assign therapeutic nutrition to patients with AKI - nutritional support;
* Improves interpersonal communication and patient counseling skills;
* Primary delivery of a medical history with correction of errors, followed by delivery by the end of the discipline.
 | 1. Мухин Н.А., Моисеев В.С. Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР – 2020г, стр 649-725 . 2. & David Currow. Essentials of Internal medicine Elsevier. 3d edition, Chapter 12, p. 323-327 (Электронный ресурс).3. Нефрология. Оқулық. /Қанатбаева А.Б, Қабулбаев К.А ред – М: Литтера, 2016. – 264-293 б.4. Нефрология. Учебник/ Канатбаева А.Б., Кабулбаев К.А., 2021. – 334-366.5. Шилов Е.М. Нефрология: клинические рекомендации, 2023, с. 561-617. 6. Brenner and Rector's The Kidney, 2-Volume Set, 11th Edition, Alan Yu et al. 2020. Chapter 4, 26, 30-32.7. Nicholas J Talley, Brad Frankum & David Currow. Essentials of Internal medicine Elsevier. 3d edition, Chapter 12, p. 358-363 (Электронный ресурс).8. Harrison’s Nephrology and Acid- Base Disorders, 3rd Edition, J. L. Jameson; J.Loscalzo. 2017, page 43-58.9.Harrisson’s Manual of Medicine/ 20th Edition, p. 2433-2449.10.<https://geekymedics.com/acute-pancreatitis/> | Formative assessment:1. Using active learning methods: TBL, CBL2. Working with the patient3. Training in the simulation center  |
| 5 | Kidney failure syndrome: chronic kidney disease (CKD) | **Learning outcomes:*** Apply knowledge of pathogenesis for detection and differential diagnosis of AKI and CKD;
* Carry out targeted questioning and physical examination taking into account age characteristics when examining a patient with CKD;
* Determine edema according to the degree of gradation: 1+, 2+, 3+;
* Identify and differentiate the stages of CKD;
* Identify and differentiate the symptoms of CKD using clinical, laboratory and instrumental studies (ultrasound of the kidneys, ultrasound of the vessels of the kidneys, MRI of the vessels of the kidneys);
* Interpret the results of general clinical tests (OAC, OAM, ACR, biochemical blood test - total protein, albumin, creatinine, urea, serum iron, ferritin, transferrin, calcium, phosphorus, parathyroid hormone, potassium, sodium, vitamin D, viral hepatitis B and C , KShchS - blood gases) and instrumental (ultrasound of the kidneys, ultrasound of the vessels of the kidneys, MRI of the vessels of the kidneys, ECG, EchoCG);
* Calculate the albumin-creatinine ratio;
* Calculate the glomerular filtration rate;
* Substantiate the preliminary diagnosis using medical terminology;
* Identify complications of CKD depending on the stage: hypertension, anemia, mineral and bone disorders, metabolic acidosis;
* Assign therapeutic nutrition to patients with CKD - nutritional support;
* Prescribe conservative therapy for patients with CKD, taking into account the individual characteristics of the patient, concomitant diseases, complications - hypotensive, renoprotective, diuretics, EPO drugs, calcimimetics, drugs for the correction of metabolic acidosis, electrolyte disorders, etc.;
* Determines the indications and contraindications for renal replacement therapy (chronic hemodialysis, chronic peritoneal dialysis);
* Demonstrates communication skills, skills of independent work, teamwork, organization and management of the diagnostic and treatment process;
 | 1. Мухин Н.А., Моисеев В.С. Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР – 2020г, стр 649-725 . 2. & David Currow. Essentials of Internal medicine Elsevier. 3d edition, Chapter 12, p. 323-327 (Электронный ресурс).3. Нефрология. Оқулық. /Қанатбаева А.Б, Қабулбаев К.А ред – М: Литтера, 2016. – 293-307 б.4. Нефрология. Учебник/ Канатбаева А.Б., Кабулбаев К.А., 2021. –367-425.5. Шилов Е.М. Нефрология: клинические рекомендации, 2023, с. 633-770. 6. Brenner and Rector's The Kidney, 2-Volume Set, 11th Edition, Alan Yu et al. 2020. Chapter 4, 27, 51-68.7. Harrison’s Nephrology and Acid- Base Disorders, 3rd Edition, J. L. Jameson; J.Loscalzo. 2017, page 43-58. 8. Harrisson’s Manual of Medicine/ 20th Edition, p. 2332-2342, p. 2347-2405.9. Davidson’s principles and practice of Medicine, 22nd edition, pgs 928, 94310.<https://geekymedics.com/hyperlipidaemia/> | Formative assessment:1. Using active learning methods: TBL, CBL2. Working with the patient3. Training in the simulation center 4. Mini-conference of the ISW topicFor topics for which RO is at the level of 1-2 |
| 6 | Urinary tract infection. Urolithiasis disease. | **Learning outcomes:*** Apply knowledge of pathogenesis for detection and differential diagnosis of complicated and uncomplicated urinary tract infections;
* Carry out targeted questioning and physical examination taking into account age characteristics when examining a patient with UTI;
* Identify and differentiate the symptoms of complicated / uncomplicated when interviewing a patient (pyelonephritis, cystitis, urethritis);
* Assign an examination plan to a patient with UTI, ICD;
* Interpret and generalize the data of physical and laboratory-instrumental examination obtained during the examination of the patient - UAC, OAM, BAC, urine culture, ultrasound of the kidneys, bladder, CT-OBP, MRI-OBP;
* Calculate the glomerular filtration rate;
* Diagnose the ICD and provide emergency assistance in case of an attack;
* Substantiate the preliminary diagnosis using medical terminology;
* Build a treatment strategy for complicated and uncomplicated UTIs: antimicrobials, uroseptics, litholytics, antispasmodics;
* Improve interpersonal communication and patient counseling skills;
* Demonstrates the ability and need for continuous professional training and improvement of their knowledge and skills of professional activity;
 | 1. Мухин Н.А., Моисеев В.С. Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР – 2020г, стр 649-725 . 2. & David Currow. Essentials of Internal medicine Elsevier. 3d edition, Chapter 12, p. 323-327 (Электронный ресурс).3. Нефрология. Оқулық. /Қанатбаева А.Б, Қабулбаев К.А ред – М: Литтера, 2016. – 213-233 б.4. Нефрология. Учебник/ Канатбаева А.Б., Кабулбаев К.А., 2021. –257-292.5. Brenner and Rector's The Kidney, 2-Volume Set, 11th Edition, Alan Yu et al. 2020. Chapter 36-38, 48, 726. Nephrology secrets, fourth edition edited by Edgar V. Lerma, 2019 Part I, VIII (Chapter 44).7. Harrisson’s Manual of Medicine/ 20th Edition, Section 6, chapter 45, p. 276-281, p. 2342-2347, 2422-2433.8. Bickley L. Bates' Guide to Physical Examination and History-Taking. Lippincott Williams & Wilkins; 20129.<https://geekymedics.com/cholangitis/> | Formative assessment:1. Using active learning methods: TBL, CBL2. Working with the patient3. Training in the simulation center 4. Mini-conference of the ISW topicFor topics for which RO is at the level of 1-2 |
| 7 | Male reproductive system | **Learning outcomes:*** Apply knowledge of pathogenesis to identify and differential diagnosis of diseases of the reproductive system: acute and chronic prostatitis, urinary incontinence (stress, imperative, nocturnal incontinence, situational urinary incontinence), urinary retention when interviewing a patient;
* Carry out targeted questioning and physical examination taking into account age characteristics when examining a patient with a pathology of the male reproductive system;
* Identify and conduct differential diagnosis and treatment of pain syndrome: pain in diseases of the urinary syndrome, prostate gland, diseases of the testicle and epididymis;
* Be guided by the basic principles of diagnosis of urological causes of hematuria;
* Interpret the results of the examination (CBC, biochemical, Coagulogram, PSA, ultrasound, kidneys, bladder, prostate, CT/MRI, small pelvis);
* Substantiate the preliminary diagnosis using medical terminology;
* Prescribe treatment for patients with pathology of the male reproductive system;
* Demonstrate adherence to professional values such as altruism, compassion, empathy, responsibility, honesty
 | 1. Мухин Н.А., Моисеев В.С. Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР – 2020г, стр 104-178.2. Nicholas J Talley, Brad Frankum & David Currow. Essentials of Internal medicine Elsevier. 3d edition, Chapter 12, p. 384-400 (Электронный ресурс) 4. Harrisson’s Manual of Medicine/ 20th Edition, Section 6, chapter 44, p. 272-276, p. 281-285, p. 2405-2414.5. Talley and O’connor’s Clinical Examination 8th edition. Chapter 14, 274-276 стр. 6. Клинические рекомендации. Недержание мочи, 2020, 63 с.7. Под редакцией Д.Ю. Пушкаря. Урология, 2-е издание, переработанное и дополненное, 31-51 с.8.<https://geekymedics.com/acute-management-of-upper-gi-bleeding/>8.<https://geekymedics.com/ascitic-fluid-analysis/> | Formative assessment:1. Using active learning methods: TBL, CBL2. Working with the patient3. Training in the simulation center 4. Mini-conference of the ISW topicFor topics for which RO is at the level of 1-2 |
| 8 | Nephrological aspects in pregnant women | **Learning outcomes:*** Apply knowledge of pathogenesis to identify and differential diagnosis of physiological and pathophysiological changes during pregnancy when interviewing a patient;
* Carry out a targeted questioning and physical examination, taking into account the timing of pregnancy and the pathology of the MVS;
* Identify and differentiate the variants of complicated and uncomplicated UTI, glomerular diseases, renal failure;
* Interpret and generalize the data of physical and laboratory-instrumental examination obtained during the examination of the patient - CBC, biochemical, urine culture for flora, ultrasound of the kidneys, substantiate the preliminary diagnosis using medical terminology;
* Calculate the albumin-creatinine ratio;
* Calculate the glomerular filtration rate
* Prescribe treatment for pregnant women, taking into account individual characteristics, gestational age, pharmacodynamics and pharmacokinetics, and the effect on the fetus;
* Determine indications for prolongation of pregnancy with kidney pathology;
* Improve interpersonal communication and patient counseling skills;
* Resubmission of the medical history with correction of errors and assessment of the student's skills
 | 1. Мухин Н.А., Моисеев В.С. Пропедевтика внутренних болезней: учебник. — 2-е изд., доп. и перераб. М.: ГЭОТАР – 2020г, стр 649-725 . 2. & David Currow. Essentials of Internal medicine Elsevier. 3d edition, Chapter 12, p. 323-327 (Электронный ресурс).3. Нефрология. Оқулық. /Қанатбаева А.Б, Қабулбаев К.А ред – М: Литтера, 2016. – 197-208 б.4. Нефрология. Учебник/ Канатбаева А.Б., Кабулбаев К.А., 2021. –234-245.5. Brenner and Rector's The Kidney, 2-Volume Set, 11th Edition, Alan Yu et al. 2020. Chapter 36-38, 48, 726. Nephrology secrets, fourth edition edited by Edgar V. Lerma, 2019 Part I, VIII (Chapter 44). | Formative assessment:1. Using active learning methods: TBL, CBL2. Working with the patient3. Training in the simulation center  |

**Independent work of the student on topics**

|  |  |  |
| --- | --- | --- |
| **№** |  **Topic of the lesson**  | **The topic of student's independent work** |
| 1 | Syndromes in nephrology: edematous, urinary, pain, renal failure, arterial hypertension | ISW: Differential diagnosis of hematuria (Alport syndrome, Berger's disease, thin membrane disease). |
| 2 | Nephrotic syndrome (NS) | Glomerulonephritis associated with infections |
| 3 | Nephritic syndrome (NiS) | Hereditary diseases of the glomerular basement membrane |
| 4 | Renal Failure Syndrome: Acute Kidney Injury (AKI) | Kidney damage with COVID-19 |
| 5 | Kidney failure syndrome: chronic kidney disease (CKD) | Cardiovascular disease and end-stage CKD |
| 6 | Urinary tract infection. Urolithiasis disease. | Vesicoureteral reflux in children, complications in adults |
| 7 | Male reproductive system | Bladder c-r. Differential diagnosis. |
| 8 | Nephrological aspects in pregnant women | Pregnancy after kidney transplant |

**RUBRICATOR FOR ASSESSING LEARNING OUTCOMES**

**with summative assessment**

**Rating calculation formula**

**For the 4th course as a whole- overall admission rating (OAR)**

|  |  |
| --- | --- |
| Curation, clinical skills | 20% |
| ISW (case, video, simulation OR SRSW - thesis, report, article) | 10% |
| Border control | 70% |
| **Total for BC-1** | 100% |
| Medical history | 20% |
| ISW | 10% |
| Border control | 70% |
| **Total for BC-2** | 100% |

**Final score:** OAR 60% + exam 40%

**Exam (2 stages)** – MSQ testing (40%) + OSCE (60%)**ем**

**Team based learning – TBL**

|  |  |
| --- | --- |
|  | % |
| **Individual** -- (IRAT) | **30** |
| **Group** -- (GRAT) | **10** |
| **Appeal** | **10** |
| **Case rating -**  | **20** |
| **Companion rating (bonus)** | **10** |
|  | **100%** |

**Case-based learning - CBL**

|  |  |  |
| --- | --- | --- |
|  |  | % |
| 1 | Interpreting survey data | 10 |
| 2 | Interpretation of physical examination findings | 10 |
| 3 | Preliminary diagnosis, justification, PD, examination plan | 10 |
| 4 | Interpretation of lab-instrumental examination data | 10 |
| 5 | Clinical diagnosis, problem sheet | 10 |
| 6 | Management and treatment plan | 10 |
| 7 | The validity of the choice of drugs and treatment regimens | 10 |
| 8 | Evaluation of effectiveness, prognosis, prevention | 10 |
| 9 | Special problems and questions on the case | 10 |
| 10 | Companion rating (bonus) | 10 |
|  |  | **100%** |

**Point-rating assessment of practical skills at the bedside (maximum 100 points)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **№** | **Criteria****(assessed by a point system)** | **10** | **8** | **6** | **4** | **2** |
| ***excellent*** | ***above average*** | ***satisfactory*** | ***needs an amendment*** | ***unacceptable*** |
|  | **History taking** |
| 1 | Communication skills when interviewing a patient | Introduced to the patient. He asked how to contact the patient. He spoke in a friendly tone, his voice was sonorous and clear. Polite wording of questions. He showed empathy for the patient - the posture of a doctor, approving "hoots". Asked open-ended questions. | Introduced to the patient. He asked how to contact the patient. He spoke in a friendly tone, his voice was sonorous and clear. Polite wording of questions. He showed empathy for the patient - the posture of a doctor, approving "hoots". Asked open-ended questions. | Introduced to the patient. He asked how to contact the patient. He spoke in a friendly tone, his voice was sonorous and clear. Polite wording of questions. Few open questions asked | He did not fully introduce himself to the patient, did not ask the patient's name, the student's speech was not intelligible, his voice was not intelligible. There are no open-ended questions, the patient answers in monosyllables. The student did not pay attention to the convenience of the patient, did not show empathy. | Communication with the patient is negative. The basic requirements for communicating with the patient are not met, there is no manifestation of empathy for the patient. |
| Collection of complaints | Identified the main and secondary complaints of the patient. **Revealed important details of the disease** (for example, when did edema appear, discoloration of urine, decreased urination, pain, increased blood pressure?). **Asked questions about differential diagnosis**. | Identified the main and secondary complaints of the patient. **Revealed important details of the disease** (for example, when did edema appear, discoloration of urine, decreased urination, pain syndrome, increased blood pressure? The nature of the pain syndrome?). | Identified the main complaints of the patient. **Revealed important details of the disease.** | The student cannot distinguish major complaints from minor ones. **Did not reveal important details of the disease.** Asks random questions. | DIDN'T REVEAL any details of the disease. The collection of complaints is limited only by the subjective words of the patient himself. |
| Collecting anamnesis of the disease | He **revealed the chronology** of the development of the disease, important details of the disease (for example, when does swelling appear, pain in the lumbar region, discoloration of urine, decreased urination, increased blood pressure?). He **asked about the medications taken** for this disease. Asked **questions about differential diagnosis.** | He revealed **the chronology of the development of the disease**, important details of the disease (for example, when edema appeared, discoloration of urine, decreased urination, pain, increased blood pressure). He asked **about the medications taken** for this disease. | Identified **the chronology of the development** of the disease. He asked about **the medications** taken for this disease. | The student cannot build a chronology of the development of the disease. Asks random questions. | The stage was skipped by the student. There is only information said by the patient himself. |
| Anamnesis vitae | Revealed allergic anamnesis, chronic diseases, operations, blood transfusions, medications taken on an ongoing basis, family history, social status of the patient, occupational hazards, epidemiological history. | Identified an allergic history, chronic diseases, operations, medications taken on an ongoing basis, family history, social status of the patient, occupational hazards, epidemiological history | Revealed allergic anamnesis, chronic diseases, family anamnesis. | Revealed allergic anamnesis, family anamnesis. | The stage was skipped by the student. There is only information said by the patient himself. |
| 2 | Patient Interview Quality | The patient was interviewed sequentially in order, but depending on the situation and characteristics of the patient, the student changes the order of the survey. At the end sums up - summarizes all questions and receives feedback from the patient (for example, let's summarize - youfell ill 2 weeks ago, when swelling of the face and legs first appeared, a change in the color of urine, then they noticed a decrease in diuresis, right?).Qualitatively detailed information was collected, suggesting a probable diagnosis.**Uses a problem sheet** - is able to highlight the main and secondary problems. | The patient was interviewed sequentially in order.Summarizes at the end – sums up all questions and gets feedback from the patient (e.g. let’s summarize – e.g. let’s summarize –fell ill 2 weeks ago, when swelling of the face and legs first appeared, a change in the color of urine, then they noticed a decrease in diuresis, right?).Qualitatively detailed information was collected, suggesting a probable diagnosis.**Uses a problem sheet** - is able to highlight the main and secondary problems. | The sequence of the survey is broken, but the quality of the information collected suggests a probable diagnosis.**Does not use a problem sheet -** does not know how to distinguish between major and minor problems. | Poll sequence is broken. The student repeats the same questions. The collected information is not of high quality, does not allow us to suggest a probable diagnosis.**Does not use a problem sheet** - does not know how to distinguish between major and minor problems. | The survey was conducted inconsistently, the student asks random questions that are not related to this patient's case or does not ask questions at all.**Does not use a problem sheet** - does not know how to distinguish between major and minor problems. |
| 3 | Time - management of patient interviews. Control over the situation. | The minimum time in a group spent interviewing a patient. The student is self-confident, fully in control of the situation and manages it. The patient is satisfied. | The survey was completed fairly quickly. The student is self-confident and in control of the situation. The patient is satisfied. | The time of questioning the patient is delayed, but does not cause discomfort to the patient. The student does not lose his temper. There is no negativity on the part of the patient. |  Long survey, the student is wasting his time. The patient expresses discomfort with the protracted questioning. The student is not self-confident and is lost when communicating with the patient. | The survey ended without revealing important information. The survey drags on too long, the atmosphere of communication is negative. Possible conflict with the patient. |
| **PHYSICAL EXAMINATION OF THE PATIENT** |
|  |  | **10** | **8** | **6** | **4** | **2** |
| ***excellent*** | ***above average*** | ***satisfactory*** | ***needs an amendment*** | ***unacceptable*** |
| 4 | Communication skills during the physical examination of the patient | Asked the patient (or relatives, parents, guardians) for consent to conduct a physical examination. Explained to the patient what and how to check (for example, I will listen to your lungs with a stethoscope, check the stomach with my hand, palpate the kidneys, bladder) | Asked the patient (or relatives, parents, guardians) for consent to conduct a physical examination. Explained to the patient what and how to check (for example, I will listen to your lungs with a stethoscope, check the stomach with my hand, palpate the kidneys, bladder) | Asked the patient (or relatives, parents, guardians) for consent to conduct a physical examination. Explained to the patient what and how to check (for example, I will listen to your lungs with a stethoscope, I will check the stomach with my hand) | Asked the patient (or relatives, parents, guardians) for consent to conduct a physical examination. | Contact with the patient's body without prior consent. |
| 5 | Assessment of the patient's level of consciousness on the Glasgow scale. | Accurately calculated scores on the scale. Correctly uses medical terminology to indicate the level of consciousness. | Accurately calculated scores on the scale. Correctly uses medical terminology to indicate the level of consciousness. | The error in the assessment on a scale of not more than 2 points. Knows the terminology to indicate the level of consciousness. | The error in the assessment on a scale of more than 3 points. Confused in medical terminology. | Does not know Glasgow scale criteria. Can't use. He does not know the differentiation of the level of consciousness. |
| Assessment of the patient's vital signs - heart rate, respiratory rate, blood pressure, body temperature, body mass index. | Technically correctly measured vital signs. Uses medical terminology correctly when evaluating vital signs (e.g. tachypnea, tachycardia, hypoxia, etc.) | Technically correctly measured vital signs. Uses medical terminology correctly when evaluating vital signs (e.g. tachypnea, tachycardia, hypoxia, etc.) | Small errors in the technique of measuring vital signs. The measurement results are not distorted. The student can correct the mistakes made in the use of medical terminology. | Gross errors in the technique of measuring vital signs, distortion of the results. Cannot correct errors in medical terminology on his own. | Does not own the technique of measuring vital signs. He does not know the normative data for assessing blood pressure, pulse, respiratory rate, saturation, body temperature. |
| 6 | Technique for the physical examination of the patient. | Physical examination of the patient was carried out according to the systems, according to the established procedure, the technique of palpation, auscultation and percussion is correct. **Explains to the patient what changes are found, and what should be the norm.****All important physical data (both pathological and normal) for a probable diagnosis were identified.****The student is able to change the order of examination depending on the identified symptoms.Details the identified symptoms (for example, did you notice swelling in the legs? How long ago did you notice it? Edema intensifies in the evening or in the morning? When did the change in urine color appear, etc.)****At the end, he sums up the correspondence of the changes identified during the physical examination to the complaints and the patient's history.** | The physical examination of the patient was carried out systemically in order, the technique of palpation, auscultation and percussion was correct.**Explains to the patient what changes are found, and what should be the norm.**All important physical data (both pathological and normal) for a probable diagnosis were identified.**Details the identified symptoms (for example, did you notice swelling in the legs? How long ago did you notice it? Edema intensifies in the evening or in the morning? When did the change in urine color appear, etc.)** | The physical examination of the patient was carried out in violation of the systemic order, but without causing inconvenience to the patient. The technique of palpation, auscultation and percussion is satisfactory, it requires minor correction by the teacher.The main violations sufficient for a probable diagnosis were identified. | The physical examination was not carried out systematically, the patient got up several times, lay down, changed his position, and experienced inconvenience.Only selected systems are covered,The technique of performing palpation, percussion, auscultation required significant correction by the teacher.Confused in the definition of normal and pathological changes. No major violations were identified.Not enough data to make a probable diagnosis. | During physical examination, gross violations - does not know the procedure and technique for conducting a physical examination of the patient.Does not know the norm and pathology of physical data. Cannot detect any violation. |
| 7 | Making a preliminary syndromic diagnosis | The most complete justification and formulation of a preliminary diagnosis with the justification of these complaints and physical examination, conducted a differential diagnosis for the main syndromes based on these complaints, the development of the disease, and the detected physical abnormalities. Understands the problem in a complex, connects with the characteristics of the patient.Correctly appointed laboratory and instrumental examination, **taking into account the differential diagnosis** (that is, he named what he prescribed, for which the expected changes).Explained to the patient important points in preparation for the examination (for example, if a general urine test, then hygiene of the external genital organs is mandatory, the first stream into the toilet, the rest to collect in a urine container.) | The most complete justification and formulation of a preliminary diagnosis with the justification of these complaints and physical examinationCorrect and justified from the point of view of the underlying pathology.Conducted differential diagnosis of the main syndromes.Correctly called the necessary laboratory and instrumental examination for diagnosis, called the expected changes.Explained to the patient important points in preparation for the examination. | Substantiation of the preliminary diagnosis based on complaints and physical examinationin terms of underlying pathology.Determined the main examination for diagnosis. | A template or intuitive formulation of a provisional diagnosis cannot provide justification (i.e., link complaints, the chronology of symptom development, and physical findings).The prescribed examination does not allow to confirm the diagnosis. | Formulation of the diagnosis at random, does not understand and does not see the connection between complaints and the patient's history.The prescribed examination does not allow to confirm the diagnosis.**The scheduled examination can harm the health of the patient.** |
| Plan of laboratory and visual examination (general blood test, biochemical blood test, urinalysis, ACR, ASLO, C-reactive protein, ELISA for HV, autoimmune diseases, etc., imaging methods, kidney biopsy) |
| 8 | Interpretation of the results of laboratory and instrumental research(general blood test, biochemical blood test, urinalysis, ACR, ASLO, CRP, ELISA for VG, autoimmune diseases and biopsy results, ultrasound imaging methods, etc.) | Accurate full interpretation using medical terminology, understands the relationship / or discrepancy between the detected abnormalities and the preliminary diagnosis | Accurate full interpretation, using medical terminology | Identification of the main deviations in the analyzes, the correct use of medical terminology | Incomplete or not entirely correct interpretation, does not know normative data, errors in the use of medical terminology | Does not use medical terminology, does not know regulatory data |
| 9 | Formulation of the final syndromic diagnosis, with substantiation based on the results of the examination | The student clearly formulates the underlying disease. When formulating the underlying disease, the clinical classification of the disease is used. Gives an assessment of the severity of the disease. Names the complications of the underlying disease.The student clearly substantiates his opinion on objective data (anamnesis, examination results).For example: Nephritic syndrome. Poststreptococcal glomerulonephritis. | The student clearly formulates the underlying disease. When formulating the underlying disease, the clinical classification of the disease is used. Gives an assessment of the severity of the disease. Names the complications of the underlying disease.The student clearly substantiates his opinion on objective data (history, examination results) For example: Nephritic syndrome. Poststreptococcal glomerulonephritis. | The student formulates the underlying disease. **Clinical classification is not complete.**The student clearly substantiates his opinion on objective data (history, examination results) For example: Glomerulonephritis. | The student can only formulate the underlying disease. Cannot fully explain the rationale for the diagnosis.For example: pneumonia (or equally perceived such answers as: lung tissue compaction syndrome, obstructive syndrome, acute respiratory failure syndrome, etc. | The student cannot formulate a diagnosis. Or fails to explain the rationale for the diagnosis (names the diagnosis at random according to the topic of the lesson) |
| 10 | Principles of treatment | Knows the basic groups i.e. the main drugs for the treatment of this disease, the mechanism of their action and the classification of these drugs.Reasonably chooses drugs: taking into account the indications and contraindications in this patient. Informs the patient about the most important side effects of prescribed medications.Informs the patient about the peculiarities of taking the drug (for example, after eating, drinking plenty of water, etc.)I determined the criteria for the effectiveness of treatment, and the estimated time frame for improving the patient's condition.He named the terms and methods of treatment control, subjective and objective data, data of laboratory and visualized control of treatment. | Knows the basic groups i.e. the main drugs for the treatment of this disease, the mechanism of their action and the classification of these drugs.Determines the indications and contraindications for this patient.Informs the patient about the most important side effects of prescribed medications.Informs the patient about the peculiarities of taking the drug (for example, after eating, drinking plenty of water, etc.)Determined the criteria for the effectiveness of treatment. | Knows only the basic principles of treatment. Names only a group of basic drugs for the treatment of this disease (for example, broad-spectrum antibiotics).Knows the mechanism of action of the main drugs. | Knows only the basic principles of treatment. Can name only the class of drugs (eg, antibiotics, or antihypertensives). Does not know the classification of drugs. Explains the mechanism of action in general terms at the layman level (for example, antibiotics kill bacteria, etc.) |  |
|  | TOTAL | 100 | 80 | 60 | 40 | 20 |

**Score-rating assessment of medical history (maximum 100 points)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **№** | **Criteria****(assessed by a point system)** | **10** | **8** | **6** | **4** | **2** |
| ***excellent*** | ***above average*** | ***satisfactory*** | ***needs an amendment*** | ***unacceptable*** |
| 1 | Patient complaints: major and minor | Complete and systematized, with an understanding of important details | Accurate and Complete | main information | Incomplete or inaccurate, missing some details | Misses important |
| 2 | Collecting an anamnesis of the disease |
| 3 | Anamnesis of life |
| 4 | Objective status - general examination | Complete, efficient, organized, with an understanding of important details | Consistently and correctly | Master data discovery | Incomplete or not quite correct, not attentive to the convenience of the patient | Inappropriate data |
| 5 | Respiratory system | Full, efficient, technically correct application of all skills of inspection, palpation, percussion and auscultation | Complete, efficient, technically correct application of all examination skills, physical examination with minor errors, or corrected during performance | Basic data revealedPhysical examination skills learned | Incomplete or inaccuratePhysical examination skills need improvement | Missing important dataInappropriate physical examination skills |
| 6 | **Cardiovascular system** |
| 7 | **Digestive system** |
| 8 | **Genitourinary system** | Full, efficient, technically correct application of all special examination skills |
| 9 | **Musculoskeletal system** | Full, efficient, technically correct application of all special examination skills |
| 10 | **Presentation of the medical history** | The most complete description and presentationUnderstands the problem in a complex, connects with the characteristics of the patient | precise, focused; choice of facts shows understanding | precise, focused; choice of facts shows understanding | Many important omissions, often including unreliable or unimportant facts | Lack of control over the situation, many important omissions, many clarifying questions |

**Score-rating assessment of the CPC - creative task (maximum 90 points) + bonuses for English and time management**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **20** | **15** | **10** | **5** |
| **1** | **Problem solving** | Organized focused, highlights all related to the main problem identified with an understanding of the specific clinical situation | Organized, focused, highlights all issues related to the main identified problem, but there is no understanding of the specific clinical situation | unfocused,Distraction to questions not related to the main problem identified | Неточный, упускает главное, несоответствующие данные. |
| **2** | **Informative, effective presentation**  | Fully conveyed all the necessary information on the topic in a free, consistent, logical mannerAdequately selected product form | All the necessary information was conveyed in a logical manner, but with minor inaccuracies | All the necessary information on the topic is presented chaotically, with minor errors. | Important information on the topic is not reflected, blunders |
| **3** | **Significance** | The material was selected on the basis of reliably established facts.Demonstrating understanding of the level or quality of evidence | Some conclusions and conclusions are formulated on the basis of assumptions or incorrect facts. No full understanding of the level or quality of evidence | Insufficient understanding of the problem, some conclusions and conclusions are based on incomplete and unproven data - dubious resources are used | Conclusions and conclusions are not justified or incorrect |
| **4** | **Logic and consistency** | The presentation is logical and consistent, has internal unity, the provisions in the product follow one from the other and are logically interconnected | It has internal unity, the provisions of the product follow one from the other, but there are inaccuracies | There is no consistency and logic in the presentation, but it is possible to trace the main idea | Jumps from one to another, hard to catch the main idea |
| **5** | **Literature analysis** | Literary data are presented in a logical relationship, demonstrate a deep study of the main and additional information resources | Literature data demonstrates the development of the main literature | Literary data is not always out of place, do not support the logic and evidence of presentations. | Inconsistency and randomness in the presentation of data, inconsistencyNo basic knowledge |
| **6** | **Practical significance** | High | Good | moderate | no |
| **7** | **Focus on the interests of the patient** | High | Good | moderate | no |
| **8** | **Applicability in future practice** | High | Good | moderate | no |
| **9** | **Clarity of the presentation, quality of the report (speaker's assessment)** | Correctly, to the place all opportunities of Power Point or other e-softs, the free possession of material, a sure manner of statement are used | It is overloaded or are insufficiently used visual materials, inexact possession of material | Visual materials are not informative  | Does not own material, is not able to explain it |
| **bonus** | **English/Russian/Kazakh\*** | The product is fully delivered in English/Russian/Kazakh language (checks by the head of the department)+ 10-20 points depending on quality | The product is prepared in English, delivered in Russian/Kaz+ 5-10 points depending on quality (or vice versa) | English-language sources were used in the preparation of the product+ 2-5 points depending on quality |  |
| **bonus** | **Time management \*\*** | Product delivered ahead of schedule10 points are added | Product delivered on time - no points awarded | Delayed delivery without affecting qualityMinus 2 points | Released lateMinus 10 points |
| **bonus**  | **Rating \*\*\***  | Additional points (up to 10 points) | Outstanding work such as:Best Group WorkCreativityInnovative approach to task completionAt the suggestion of the group |
|  | \* - for Kazakh / Russian groups - English; for groups studying in English - completing the task in Russian or Kazakh\*Term - determined by the teacher, as a rule - the day of boundary control\*\* thus, you can get a maximum of 90 points, in order to get above 90 - you need to show a result higher than expected |

**Point-rating assessment of practical skills at the bedside of the patient - curation (maximum 100 points)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **№** | **Criteria** | **10 points** | **8 points** | **6 points**  | **4 points** |
| **History taking** |
| 1. | Completeness and accuracy | Accurate, details the manifestations of the disease. Can identify the most important issue.Focused on patient comfort | Gathers basic information, neat, identifies new problems. | Incomplete or unfocused. | Inaccurate, misses the point, irrelevant data. |
| 2. | Detail | Organized, focused, highlights all clinical manifestations with an understanding of the course of the disease in a particular situation. | Reveals the main symptoms | incomplete data | Demonstrates incorrect data, or their absence |
| 3. | Consistency | Establishing priorities of clinical problems in a relatively short time. | Unable to fully control the history taking process | Allows the patient to pull himself aside, thereby lengthening the time. Uses leading questions (leads the patient to an answer that may be wrong). | Asks questions incorrectly or finishes history taking early without identifying important issues. |
| 4 | Time management | Maximum efficiency in the shortest time | the time for collecting anamnesis is delayed | Wasting time inefficiently | Not in control of the whole situation. |
| **PHYSICAL EXAMINATION** |
| 5. | The sequence and correctness of the physical examination | Performs correctly in sequence, confident, well-developed technique. | Knows the sequence, shows reasonable skill in preparing and performing the examination | Inconsistent, unsure, not fully proficient in examination skills, refuses to try basic examinations | Does not know the order and sequence of performing a physical examination, does not know its technique |
| 6. | Skill of a special survey on the instructions of the teacher\* |
| 7. | Efficiency | Revealed all the basic physical data, as well as details | Identified the main symptoms | incomplete data | Identified data that does not correspond to objective data |
| 8 | Ability to analyze revealed data | Changes the order of the examination depending on the identified symptoms, clarifies, details the manifestations. | Assumes a range of diseases with similar changes without clarification and specification of manifestations. | Cannot apply received interview and physical examination data to the patient. | Doesn't do analysis. |
|  |  | **20 points** | **16 points** | **12 points** | **8 points** |
| 9-10 | Communication skills | Won the favor of the patient even in a situation with a communication problem\* | Communication is quite effective | Satisfactorily | Failed to find patient contact |