Federal State Budgetary Educational Institution of Higher Education
"Privolzhsky Research Medical University"
Ministry of Health of the Russian Federation

APPROVED
Vice-Rector for Academic Affairs
E.S. Bogomolova
31 August 2021

# WORKING PROGRAM

Name of the academic discipline: **UROLOGY**

Specialty: **31.05.01 GENERAL MEDICINE**

Qualification: **GENERAL PRACTITIONER**

Department: **FACULTY OF SURGERY AND TRANSPLANTOLOGY**

Mode of study: **FULL-TIME**

Labor intensity of the academic discipline: **72 academic hours**

Nizhny Novgorod
2021

The working program has been developed in accordance with the Federal State Educational Standard for the specialty 31.05.01 GENERAL MEDICINE, approved by Order of the Ministry of Science and Higher Education of the Russian Federation No. 988 of August 12, 2020.

**Developers of the working program:**
Zagainov Vladimir Evgenievich, Doctor of Medical Sciences, Professor, Head of the Department of Faculty Surgery and Transplantology

The program was reviewed and approved at the department meeting (protocol No. 10, June 1, 2021)
Head of the Department,
MD, Professor Zagainov V. E. _____ (print name)
(signature)

__June, 1_____2021

AGREED
Deputy Head of EMA ph.d. of biology _____ Lovtsova L.V.
(signature)

_June, 1_____ 2021

1. **The purpose and objectives of mastering the academic discipline** is the acquisition by students knowledge, practical skills in the diagnosis, treatment and prevention of major urological diseases.

1.1. The purpose of mastering the discipline: (*participation in forming the relevant competencies)*.

- Able to apply medical products, provided by the order of healthcare delivery, as well as examine patients for the purpose of determining the diagnosis (GPC-4)
- Able to assess morphofunctional, physiological conditions and pathological processes in the human body to solve professional problems (GPC-5)
- Able to collect complaints, anamnesis of the patient's life and illness, conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation), formulate a preliminary diagnosis and draw up a plan for laboratory and instrumental examinations of the patient (PC-5)
- Able to send a patient to laboratory, instrumental examination, to a consultation with specialist doctors if there are medical indications in accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on providing medical care taking into account the standards of medical care, and also refer the patient for providing specialized medical care in an inpatient setting or in a day hospital if there are medical indications in accordance with the current procedures for the medical care delivery, clinical recommendations (treatment protocols) on the medical care delivery taking into account the standards of medical care (PC-6)
- Able to: make a differential diagnosis with other diseases/conditions including emergencies, establish a diagnosis taking into account the current international statistical classification of diseases and related health problems (ICD) (PC-7)

1.2. Tasks of the discipline:

As a result of completing the discipline, the student should

**Know:**

- basic principles of organization of urological care for the population.
- organization, equipment and equipment of the urological room of the polyclinic, tools and equipment for urological manipulations, endoscopic and open surgical interventions, equipment for hemodialysis, hemosorption, plasmapheresis departments.
- etiology, pathogenesis and preventive measures of the most common urological diseases, modern classification of urological diseases.
- clinical picture, course features and possible complications of the most common urological diseases.
- methods for diagnosing urological pathology, modern methods of clinical, laboratory, instrumental examination of urological patients, including radiological, endoscopic, radionuclide methods, ultrasound diagnostics.
- criteria for the diagnosis of major urological diseases.
- principles of drug therapy for urological diseases, modern drugs, mechanisms of their action, dosage, side effects, complications, their therapy and prevention.
- basic principles of surgical treatment of urological diseases.

**Be able to:**

- apply objective methods of examination of the patient to establish a preliminary diagnosis of the underlying and concomitant diseases and their complications.
- assess the severity of the patient's condition, take the necessary measures to remove the patient from a dangerous state, provide emergency assistance.
- determine the need and sequence of special examination methods (clinical, laboratory, radiation, endoscopic, functional, morphological), give them the correct interpretation to

establish the final clinical diagnosis.

- to conduct a differential diagnosis of the main urological diseases in different age groups, to substantiate the clinical diagnosis.
- determine indications for planned and emergency surgery, develop a plan for preparing a urological patient for surgical treatment.
- develop postoperative treatment taking into account the prevention and treatment of complications.
- provide first aid and know the principles of tactics at the prehospital stage for: shock, acute urinary retention, renal colic.
- complete the necessary medical documentation.

**Possess:**

- the skills of a physical examination of a urological patient, the skills of correctly assessing radiological, laboratory, instrumental and radiological methods of examination, drawing up a treatment plan for patients with the main types of urological pathology.

## 2. Position of the academic discipline in the structure of the General Educational Program of Higher Education (GEP HE) of the organization.

**2.1.** The discipline Urology refers to the core part of Block 1 of GEP HE, Specialty 31.05.01 General Medicine

The discipline is taught in _7__ semester/_4__ year of study.

**2.2. The following knowledge, skills and abilities formed by previous academic disciplines are required for mastering the discipline:**

1. Normal human anatomy
2. Histology, embryology, cytology
3. Normal physiology
4. Pathological physiology
5. Pathological anatomy
6. Propaedeutics of internal diseases
7. Pharmacology
8. Topographic anatomy and operative surgery
9. General surgery

**2.3. Mastering the discipline is required for forming the following knowledge, skills and abilities for subsequent academic disciplines:**

1. Faculty surgery
2. Hospital surgery
3. Anesthesiology, resuscitation, intensive care

## 3. Deliverables of mastering the academic discipline and metrics of competence acquisition

Mastering the discipline aims at acquiring the following universal (UC) and general professional (GPC) and professional (PC) competencies

| № | Competen | The content of the | Code and name of | As a result of mastering the discipline, |
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| | ce code | competence (or its part) | the competence acquisition metric | the students should: | | |
|---|---|---|---|---|---|---|
| | | | | know | be able to | possess |
| 1. | GPC-4 | Able to apply medical products, provided by the order of healthcare delivery, as well as examine patients for the purpose of determining the diagnosis | IGPC 4.1 Knows the methodology for collecting an anamnesis of life and diseases, complaints from patients (their legal representatives); method of examination and physical examination; clinical picture, diagnostic methods of the most common diseases; methods of laboratory and instrumental studies for assessing the state of health, medical indications for conducting studies, rules for interpreting their results; international statistical classification of diseases and related health problems (ICD); conditions requiring emergency medical care; the procedure for the use of medical devices in accordance with the current procedures for the provision of medical, clinical recommendations and (treatment protocols) on the provision of medical care, assistance taking into account the standards of medical care<br>IGPC 4.2 Knows how to: collect complaints, anamnesis of life and disease in patients (their legal representatives), identify risk factors and causes of the development of diseases: apply methods of examination and physical examination of patients; interpret the results of the examination and physical examination of patients; diagnose the most common | the methodology of collecting anamnesis of life and diseases, complaints of patients (their legal representatives); examination procedure; and physical examination; clinical aspect, methods of diagnosis of the most common diseases; methods of laboratory and instrumental investigations to assess the state of health, medical indications for conducting research, rules for interpreting their results; international statistical classification of diseases and health-related problems (ICD); conditions requiring emergency medical care; procedure for the use of medical devices in accordance with the current procedures | collect complaints, anamnesis of life and disease of patients (their legal representatives), identify risk factors and causes of diseases; apply methods of examination and physical survey of patients; interpret the results of examination and physical examination of patients; diagnose the most common pathology among patients; identify risk factors for cancer; formulate a preliminary diagnosis, to make a plan for conducting laboratory, instrumental and additional investigations of patients in accordance with the procedures for providing medical care, clinical recommendations taking into account the standards of medical care; to refer | Has practical experience in: collecting complaints, anamnesis of life and disease of patients (their legal representatives), identifying risk factors and causes of disease development; examination and physical survey of patients; diagnosis of the most common diseases; identification of risk factors for major oncological diseases; formulation of a preliminary diagnosis, drawing up a plan for instrumental, laboratory, additional investigations, consultations of specialist doctors; referral of patients for instrumental, laboratory, additional investigations, consultations of specialist doctors in accordance with the current procedures for providing medical care, clinical recommendations taking into account the standards of medical care; interpretation of |

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| | | | pathology in patients; identify risk factors for cancer; formulate a preliminary diagnosis, draw up a plan for conducting laboratory, instrumental and additional studies in patients in accordance with the procedures for providing medical care, clinical recommendations, etc. taking into account the standards of medical care; refer patients for laboratory, instrumental and additional studies in accordance with the current procedures for the provision of medical care, clinical recommendations, and, subject to standards of care; refer patients for consultations to specialist doctors in accordance with the procedures for the provision of medical care, clinical recommendations and, taking into account the standards of medical care; interpret and analyze the results of consultations with patients' specialists; interpret and analyze the results of the main (clinical) and additional (laboratory, instrumental) examination methods; to carry out differential diagnostics of diseases in patients; identify clinical signs of sudden acute diseases, conditions, exacerbations of chronic diseases without obvious signs of a threat to life, requiring emergency medical care; use medical devices in accordance with the current procedures for the provision of medical,<br>clinical guidelines (treatment protocols) on | for providing medical care, clinical recommendations (treatment protocols) on the medical care delivery taking into account the standards of medical care | patients to laboratory, instrumental and additional investigations in accordance with the current procedures for providing medical care, clinical recommendations, taking into account the standards of medical care; refer patients for consultations to medical specialists in accordance with the procedures of medical care, clinical recommendations taking into account the standards of medical care; to interpret and analyze the results of consultations by medical specialists of patients; to interpret and analyze the results of basic (clinical) and additional (laboratory, instrumental) examination methods; carry out differential diagnosis of diseases of patients; identify clinical signs of sudden acute diseases, conditions, | data from additional (laboratory and instrumental) examinations of patients; making a preliminary diagnosis in accordance with the international statistical classification of diseases and problems related to health (ICD); differential diagnosis of diseases; recognition of conditions arising from sudden acute diseases, exacerbation of chronic diseases without obvious signs of a threat to the patient's life and requiring urgent medical care; the use of medical devices in accordance with current medical procedures, clinical recommendations (treatment protocols) on the issues of medical care delivery, assistance taking into account the standards of medical care |

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| | | | the provision of medical care, care taking into account the standards of medical care<br>IGPC 4.3 Has practical experience: collecting complaints, anamnesis of life and disease in patients (their legal representatives). identification of risk factors and causes of disease development; examination and physical examination of patients; diagnosis of the most common diseases; identification of risk factors for major cancers; I formulated a preliminary diagnosis, drawing up a plan for conducting instrumental puff. laboratory, additional research, consultations of medical specialists; referral of patients for instrumental, laboratory, additional studies, consultations of specialist doctors in accordance with the current procedures for the provision of medical care, clinical guidelines and, taking into account standards of care; interpretation of additional (laboratory and instrumental) examinations of patients; provisional diagnosis in accordance with the international statistical classification of diseases and related health problems (ICD); carrying out differential diagnostics of diseases; recognition of conditions arising from sudden acute diseases, exacerbation of chronic diseases without obvious signs of a threat to the patient's life and requiring emergency medical care; use of medical devices in accordance with the current procedures for | | exacerbations of chronic diseases without obvious signs of life-threatening, requiring medical care in an urgent form; use medical devices in accordance with current medical procedures, clinical recommendations (treatment protocols) on the provision of medical care, assistance taking into account the standards of medical care | |

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| | | | the provision of medical, clinical recommendations and (treatment protocols) on the provision of medical care, care taking into account the standards of medical care | | | |
| 2. | GPC-5 | Able to assess morphofunctional, physiological conditions and pathological processes in the human body to solve professional problems | IGPC 5.1 Knows: anatomy, histology, embryology, then graph and chess anatomy, physiology, pathological anatomy and physiology of human organs and systems<br>IGPC 5.2 Able to: evaluate the main morphological and functional data, physiological conditions and pathological processes in the human body<br>IGPC 5.3 Has practical experience: assessment of basic morphofunctional data, physiological states and pathological processes in the human body when solving professional problems | anatomy, histology, embryology, topographic anatomy, physiology, pathological anatomy and physiology of human organs and systems | evaluate the basic morphologic al and functional data, physiological conditions and pathological processes in the human body | Has practical experience in: assessment of basic morphological and functional data, physiological conditions and pathological processes in the human body when solving professional problems |
| 3. | PC-5 | Able to collect complaints, anamnesis of the patient's life and illness, conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation), formulate a preliminary diagnosis and draw up a plan for laboratory and instrumental examinations of the patient | IPC 5.1 Knows: Legislation of the Russian Federation in the field of health care, regulatory legal acts and other documents that determine the activities of medical organizations and medical workers; method of collecting complaints, anamnesis of life and disease of the patient; a technique for a complete physical examination of the patient (examination, palpation, percussion, auscultation); etiology, pathogenesis and pathomorphology, clinical picture, differential diagnosis, course features, complications and outcomes of diseases of internal organs; regularity and functioning of a healthy | the legislation of the Russian Federation in the field of health care, regulations and other documents that determine the activities of medical organizations and healthcare workers; method of collecting complaints, anamnesis of life and disease of the patient; a technique for a complete physical examination of the patient | collect complaints, anamnesis of life and disease of the patient and analyze the information received; conduct a complete physical examination of the patient (examination , palpation, percussion, auscultation) and interpret its results; determine the sequence of volume, content and sequence of diagnostic measures incl. modern digital | collection of complaints, anamnesis of life and disease of the patient; a complete physical examination of the patient (examination, palpation, percussion, auscultation); formulating a preliminary diagnosis and drawing up a plan for laboratory and instrumental examinations of the patient |

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| | | | human body and mechanisms for ensuring health from the standpoint of the theory of functional systems; features of the regulation of the functional systems of the human body in pathological processes; methods of laboratory and instrumental studies for assessing the state of health, medical indications for research, rules for interpreting their results<br>IPC 5.2 Able to: collect complaints, anamnesis of life and disease of the patient and analyze the information received; conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation) and interpret its results; determine the sequence of volume, content and sequence of diagnostic measures | (examination, palpation, percussion, auscultation); etiology, pathogenesis and pathomorphology, clinical aspect, differential diagnosis, clinical features, complications and outcomes of diseases of internal organs; patterns of functioning of a healthy human body and mechanisms for ensuring health from the standpoint of the theory of functional systems; features of the regulation of the functional systems of the human body in pathological processes; methods of laboratory and instrumental examinations for assessing the state of health, medical indications for conducting investigations, rules for interpreting their results | technologies | |
| 4. | PC-6 | Able to send a patient to laboratory, | IPC 6.1 Knows: general issues of organizing medical care for the population, methods of | general issues of organizing medical care | justify the need and scope of laboratory | referral of a patient for laboratory examination if |

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| | | instrumental examination, to a consultation with specialist doctors if there are medical indications in accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on providing medical care taking into account the standards of medical care, and also refer the patient for providing specialized medical care in an inpatient setting or in a day hospital if there are medical indications in accordance with the current procedures for the medical care delivery, clinical recommendations (treatment protocols) on the medical care delivery taking into account the standards of medical care | laboratory and instrumental studies to assess the state of health, medical indications for conducting studies, rules for interpreting their results; procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care, standards of medical care<br>IPC 6.2 Able to: justify the need and scope of laboratory examination of the patient; justify the need and scope of instrumental examination of the patient; justify the need to refer the patient for consultations to specialist doctors; determine medical indications for the provision of an ambulance, including other specialized ambulance, medical care | for the population, methods of laboratory and instrumental examinations to assess the state of health, medical indications for conducting examinations, rules for interpreting their results; procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care, standards of medical care | examination of the patient; justify the need and scope of instrumental examination of the patient; justify the need to refer the patient for consultations with specialist doctors; determine medical indications for the provision of emergency, including emergency specialized, medical care | there is a medical indication in accordance with the current procedures for the provision of medical care, clinical guidelines and (treatment protocols) on the provision of medical care, taking into account the standards of medical care; referral of a patient for an instrumental examination if there are medical indications in accordance with the current procedures for the provision of medical care, clinical recommendations and (treatment protocols) on the provision of medical care, taking into account the standards of medical care; referral of a patient for a consultation with specialist doctors if there are medical indications in accordance with the current procedures for the provision of medical care, clinical guidelines and (treatment protocols) on the provision of medical care, taking into account the standards of medical care: |

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| | | | | | | referral of a patient for specialized other medical care in an inpatient setting or in a day hospital setting, if medically indicated, in accordance with the current procedures for the provision of medical care, clinical guidelines and (treatment protocols) on the provision of medical care, taking into account the standards of care |
| 5. | PC-7 | Able to: make a differential diagnosis with other diseases/conditions including emergencies, establish a diagnosis taking into account the current international statistical classification of diseases and related health problems (ICD) | IPC 7.1 Knows: etiology, pathogenesis and pathomorphology, clinical picture, differential diagnosis, course features, complications and outcomes of diseases of internal organs; methods of laboratory and instrumental studies for assessing the state of health, medical indications for conducting studies, rules for interpreting their results; ICD<br>IPC 7.2 Able to: analyze the results of the patient's examination, if necessary, justify and plan the amount of additional research; interpret the results of collecting information about the patient's disease; interpret the data obtained during the laboratory examination of the patient; interpret the data obtained during the instrumental examination of the patient; interpret data obtained during consultations of the | etiology, pathogenesis and pathomorphology, clinical aspect, differential diagnosis, clinical features, complications and outcomes of diseases of internal organs; methods of laboratory and instrumental examinations for assessing the state of health, medical indications for conducting examinations, rules for interpreting their results; ICD | analyze the results of the patient's examination, if necessary, justify and plan the scope of additional examinations; interpret the results of collecting information about the patient's disease; interpret the data obtained during the laboratory examination of the patient; interpret the data obtained during the instrumental examination of the patient; interpret the data obtained during consultations of the patient by medical specialists; to | differential diagnosis with other diseases/conditions, including emergencies: diagnosis based on the current international statistical classification of diseases and related health problems (ICD) |

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| | | | patient by medical specialists; to carry out differential diagnostics of diseases of internal organs from other diseases | | carry out differential diagnostics of diseases of internal organs from other diseases | |

**4. Sections of the academic discipline and competencies that are formed when mastering them**

| № | Competence code | Section name of the discipline | The content of the section in teaching units |
|---|---|---|---|
| 1 | GPC- 4, 5 PC- 5, 6, 7 | History of urology. Semiotics and methods of diagnosis of urological diseases. Medical ethics and deontology in the work of a urologist. | History of the development of urological care. Symptoms and syndromes in urology. The pathogenesis of symptoms of diseases of the genitourinary system. Rules of medical ethics and deontology. Research methods in urology. History, physical examination. Laboratory, biochemical, bacteriological clinical, immunological diagnostic methods in urology. X-ray diagnosis of urological diseases. Ultrasonic diagnostic methods. Computed tomography and magnetic resonance imaging, radioisotope diagnostic methods Endoscopic diagnostic methods |
| 2 | GPC- 4, 5 PC- 5, 6, 7 | Nonspecific and specific inflammatory diseases of the urinary system and male genital organs. | Urinary tract infections, etiology, modern classification. Pyelonephritis. Pyelonephritis of pregnant women Etiology, pathogenesis, clinical signs, diagnosis, treatment. Indications for conservative and surgical treatment. Kidney abscess. Urosepsis. Paranephritis. Clinic, diagnosis, treatment. Cystitis is acute and chronic. Etiology, pathogenesis, clinical signs, diagnosis, differential diagnosis, treatment. Urethritis, prostatitis, orchitis, epididymitis. Etiology, pathogenesis, clinical signs, diagnosis, treatment Specific inflammatory diseases of the genitourinary system Tuberculosis of the kidneys and urinary tract. Treatment of tuberculosis of the kidney and ureter: conservative and surgical treatment, indications and contraindications. Tuberculosis of the genital system: tuberculosis of the epididymis, prostate, seminal vesicles. Ways of origin and spread of infection. Etiology and pathogenesis, clinic, diagnosis, treatment, prevention. |
| 3 | GPC- 4, 5 PC- 5, 6, 7 | Urolithiasis disease. | Epidemiology of urolithiasis, etiology, pathogenesis, theories of stone formation. Morphology and chemical composition of stones. Stones of the kidneys and ureters, their complications. Renal colic, differential diagnosis. Methods for diagnosing stones in the kidneys and ureters. Types of conservative therapy. Remote lithotripsy. Operative treatment. Endoscopic methods of treatment. Diet therapy and drug prevention of recurrence of stone formation. Bladder stones. Primary and secondary. |

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| | | | Symptoms. Endoscopic and X-ray diagnostics. Treatment. Prevention of relapses. Stones in the urethra and prostate. Symptoms, clinic, diagnosis and treatment. |
| 4 | GPC- 4, 5 PC- 5, 6, 7 | Oncourology. Tumors of the kidney, bladder. Prostate cancer. Hyperplasia of the prostate. | Tumors of the kidney. Etiology and pathogenesis, classification. Kidney Cancer Clinic. Diagnostic methods. X-ray, laboratory diagnostics. Differential diagnosis: kidney cyst, hydronephrosis, polycystic. Treatment: surgical, immunotherapy, chemotherapy. Types of operations, principles of surgical treatment of tumors of the kidneys, renal pelvis and ureter (nephrectomy, nephroureterectomy, kidney resection). Bladder cancer. Etiology and pathogenesis, classification. Superficial and muscle invasive cancer. Clinic, diagnosis, differential diagnosis. Surgical treatment, types of operations, immunotherapy, chemotherapy. Types, indications. Prevention of relapses. Prostate cancer. Etiology and pathogenesis, classification. Clinic, diagnostic algorithm, screening, PSA. Differential diagnosis. Indications for surgical treatment, its types. Types of conservative therapy. Hormone therapy. Chemotherapy. Hyperplasia of the prostate. Pathogenesis, clinical manifestations. Complications. Diagnostics. Indications for conservative and surgical treatment. Types of conservative therapy. Endoscopic methods of treatment. |
| 5 | GPC- 4, 5 PC- 5, 6, 7 | Injuries of the urinary system. | Closed and open kidney injury. Pathogenesis. Classification Clinical manifestations, complications. Diagnostics. Ultrasound, CT. excretory urography, retrograde pyelography and angiography in renal injury. Treatment: conservative and surgical. Indications. Damage to the ureters. iatrogenic damage. Clinical symptomatology. Diagnostics. Treatment. Complications and their treatment. Bladder injury. Pathogenesis. Classification Clinical manifestations, complications. Diagnostics. Treatment: conservative and surgical. Indications. Urethral injury. iatrogenic damage. Clinical symptomatology. Diagnostics. Treatment. Complications and their treatment. Injuries of the male genital organs. Pathogenesis. Classification Clinical manifestations, complications. Diagnostics. Treatment: conservative and surgical. Indications. |

**5. Volume of the academic discipline and types of academic work**

| Type of educational work | Labor intensity | | Labor intensity (AH) in semesters | | | |
|---|---|---|---|---|---|---|
| | volume in credit units (CU) | volume in academic hours (AH) | 7 | | | |
| Classroom work, including | | | | | | |
| Lectures (L) | 0,3 | 10 | 10 | | | |
| Laboratory practicum (LP)* | | | | | | |
| Practicals (P) | 1 | 34 | 34 | | | |

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|---|---|---|---|---|---|---|
| Seminars (S) | | | | | | |
| Student's individual work (SIW) | 0,7 | 28 | 28 | | | |
| Mid-term assessment | | | | | | |
| credit | | | | | | |
| TOTAL LABOR INTENSITY | 2 | 72 | 72 | | | |

## 6. Content of the academic discipline

6.1. Sections of the discipline and types of academic work

| № | Name of the section of the academic discipline | Types of academic work* (in AH) | | | | | |
|---|---|---|---|---|---|---|---|
| | | L | LP | P | S | SIW | total |
| 1 | History of urology. Semiotics and methods of diagnosis of urological diseases. Medical ethics and deontology in the work of a urologist. | 2 | | 6 | | 4 | 12 |
| 2 | Nonspecific and specific inflammatory diseases of the urinary system and male genital organs. | 2 | | 6 | | 6 | 14 |
| 3 | Urolithiasis disease. | 2 | | 8 | | 6 | 16 |
| 4 | Oncourology. Tumors of the kidney, bladder. Prostate cancer. Hyperplasia of the prostate. | 2 | | 8 | | 8 | 18 |
| 5 | Injuries of the urinary system. Credit. | 2 | | 6 | | 4 | 12 |
| | TOTAL | 10 | | 34 | | 28 | 72 |

* - L – lectures; LP – laboratory practicum; P – practicals; S – seminars; SIW – student's individual work.

6.2. Thematic schedule of educational work types:

6.2.1 Thematic schedule of lectures

| № | Name of lecture topics | Volume in AH | |
|---|---|---|---|
| | | semester 7 | |
| 1 | History of urology. Semiotics and methods for diagnosing urological diseases. | 2 | |
| 2 | Inflammatory diseases of the urinary system and male genital organs. | 2 | |
| 3 | Urolithiasis disease. | 2 | |
| 4 | Oncourology. Tumors of the urinary system and male genital organs. | 2 | |
| 5 | Injuries of the urinary system. | 2 | |
| | TOTAL (total - AH) 10 | | |

6.2.2. The thematic plan of laboratory practicums

Curriculum not included.

6.2.3. Thematic plan of practicals

| № | Name of the topics of practicals | Volume in AH | |
|---|---|---|---|
| | | semester 7 | |
| 1 | Semiotics and methods for diagnosing urological diseases. | 2 | |
| 2 | Nonspecific and specific inflammatory diseases of the urinary system and male genital organs. | 4 | |
| 3 | Urolithiasis disease. Etiology, pathogenesis of stone formation. Types of stones. Clinical manifestations of urolithiasis, its complications. Diagnosis of urolithiasis (ultrasound, X-ray diagnostics, diagnostic features of X-ray negative stones of the kidneys and ureters). | 4 | |
| 4 | Renal colic: causes, pathogenesis, clinic, diagnosis, treatment. Hematuria: causes, pathogenesis, clinic, diagnosis, treatment. | 4 | |
| 5 | Urolithiasis disease. Bladder stones, causes, types of treatment, complications. | 4 | |
| 6 | Oncourology. Tumors of the urinary system and male genital organs. | 4 | |
| 7 | Hyperplasia of the prostate. Pathogenesis. Clinic, diagnostic studies. Complications. Indications for surgical treatment. Methods of drug treatment. | 4 | |
| 8 | Hyperplasia of the prostate. Pathogenesis. Clinic, diagnostic studies. Complications. Indications for surgical treatment. Methods of drug treatment. | 4 | |
| 9 | Injuries of the urinary system. Credit. | 4 | |
| | TOTAL (total - AH) 34 AH | | |

6.2.4. Thematic plan of seminars

Curriculum not included.

6.2.5. Types and topics of student's individual work (SIW)

| № | Types and topics of SIW | Volume in AH | |
|---|---|---|---|
| | | semester 7 | |
| 1 | Semiotics and methods for diagnosing urological diseases - note-taking of textbooks, work with additional literature. | 4 | |
| 2 | Nonspecific and specific inflammatory diseases of the urinary system and male genital organs - note-taking of textbooks, work with additional literature. | 6 | |
| 3 | Urolithiasis disease. - note-taking of textbooks, work with additional literature | 6 | |
| 4 | Oncourology. Tumors of the urinary system and male genital organs - note-taking of textbooks, work with additional literature. | 6 | |
| 5 | Injuries of the urinary system - note-taking of textbooks, work with additional literature | 6 | |
| | TOTAL (total - AH) 28 | | |

**7. Types of assessment formats for ongoing monitoring and mid-term assessment**

| № | Semester No. | Types of control | | Name of section of academic discipline | Competence codes | Assessment formats | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | types | number of test questions | number of test task options |
| 1. | 7 | Current monitoring | Control of mastering the topic | 1. History of urology. Semiotics and methods of diagnosing urological diseases<br>2. Nonspecific and specific inflammatory diseases of the urinary system and male genital organs<br>3. Urolithiasis disease.<br>4. Oncourology. Tumors of the urinary system and male genital organs.<br>5. Травмы органов мочевыводящей системы | GPC- 4, 5<br>PC- 5, 6, 7 | Abstract writing. Presentation with a report. Writing a medical history. Entrance testing. Role and business games. Test. Thematic testing. Solving thematic situational problems. | 5 | 3 |
| | | | Monitoring the student's individual work | 1. History of urology. Semiotics and methods of diagnosing urological diseases<br>2. Nonspecific and specific inflammatory diseases of the urinary system and male genital organs<br>3. Urolithiasis disease.<br>4. Oncourology. Tumors of the urinary system and male genital organs. | GPC- 4, 5<br>PC- 5, 6, 7 | Final testing. Solution of thematically situational problems. | 5 | 3 |

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| | | | | 5. Травмы органов мочевыводящей системы | | | | |
| 2. | | Mid-term assessment | Credit | 1. History of urology. Semiotics and methods of diagnosing urological diseases<br>2. Nonspecific and specific inflammatory diseases of the urinary system and male genital organs<br>3. Urolithiasis disease.<br>4. Oncourology. Tumors of the urinary system and male genital organs.<br>5. Травмы органов мочевыводящей системы | GPC- 4, 5<br>PC- 5, 6, 7 | Interview. | 5 | 3 |

## 8. Educational, methodological and informational support for mastering the academic discipline (printed, electronic publications, the Internet and other network resources)

8.1. Key literature references

| № | Name according to bibliographic requirements | Number of copies | |
|---|---|---|---|
| | | at the department | in the library |
| 1 | Urology. Textbook for students of medical institutes / Ed. ON THE. Lopatkina / M., GEOTAR-Media - 2007. | 1 | 30 |

8.2. Further reading

| № | Name according to bibliographic requirements | Number of copies | |
|---|---|---|---|
| | | at the department | in the library |
| 1 | Komyakov, B.K. Urology / B.K. Komyakov. -M. : Geotar-Media, 2012. | 1 | 5 |
| 2 | Urology. A Handbook for Medical Students / S. Brewster, D. Cranston, J. Noble, J. Reynard, UK, BIOS Scientific Publishers Limited, 2001 | 1 | 5 |
| 3 | Macfarlane, M.T. Urology - 3rd ed. / M. Macfarlane // Lippincott Williams & Wilkins, 2001. - 292 p. | 1 | 5 |
| 4 | Burkitt, H.G. Essential surgery: problems, diagnosis and management - 3rd ed. / H.G. Burkitt // Edinburg, | 1 | 5 |

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| | Churchill Livingstone, 2002. - 704 p. | | |

8.3. Electronic educational resources for teaching academic subjects

8.3.1. Internal Electronic Library System of the University (IELSU)

| № | *Name of the electronic resource* | *Brief description (content)* | *Access conditions* | *Number of users* |
|---|---|---|---|---|
| | Internal Electronic Library System of the University (IELSU) | Proceedings of PIMU staff (textbooks, manuals, collections of tasks, methodological manuals, laboratory work, monographs, etc.) | Access by individual login and password from any computer and mobile device | Not limited |

8.3.2. Electronic educational resources acquired by the University

| № | *Name of the electronic resource* | *Brief description (content)* | *Access conditions* | *Number of users* |
|---|---|---|---|---|
| 1 | Database “Medicine. Healthcare (VO) and “Medicine. Healthcare (SPO)" as part of the database "Electronic library of a technical university (ELS "Student Consultant" | Textbooks and teaching aids for higher medical and pharmaceutical education | Access by individual login and password from any computer and mobile device | Not limited |
| 2 | Database «Doctor's Consultant. Electronic Medical Library» | National guidelines, clinical guidelines, textbooks, monographs, atlases, reference books, etc. | Access by individual login and password from any computer and mobile device | Not limited |
| 3 | Database "Electronic Library System "Bukap" | Educational and scientific medical literature of Russian publishing houses, incl. translated editions. The collection of subscription publications is formed point by point. | Access by individual login and password from any computer and mobile device | Not limited |
| 4 | Electronic periodicals in the database "SCIENTIFIC ELECTRONIC LIBRARY eLIBRARY" | Electronic medical journals | Access - from the computers of the university | Not limited |

8.3.3 Open access resources

| № | *Name of the electronic resource* | *Brief description (content)* | *Access conditions* |
|---|---|---|---|
| 1 | EBS "Urayt". Access mode: http://biblio-online.ru. | Textbooks and teaching aids for higher medical and pharmaceutical education | Not limited |
| 2 | EBS "Student Advisor". Access mode: http://www.studentlibrary.ru. | Textbooks and teaching aids for higher medical and pharmaceutical education | Not limited |
| 3 | EBS "Lan". Access mode: | Textbooks and teaching aids for | Not limited |

| | | | |
|---|---|---|---|
| | http://e. www.lanbook.com/. | higher medical and pharmaceutical education | |
| 4 | EBS "Znanium.com". Access mode: www.znanium.com. | Textbooks and teaching aids for higher medical and pharmaceutical education | Not limited |

**9. Material and technical support for mastering an academic discipline**

9.1. List of premises for classroom activities for the discipline

1. Lecture hall
2. Study rooms (5)
3. Departments of a clinical hospital with wards for patients (two surgical departments with 30 beds each)
4. Reception department for emergency and planned patients
5. Operating block with intensive care and intensive care units
6. Treatment and dressing rooms
7. Diagnostic departments and offices: radiation diagnostics, ultrasound, endoscopic department, laboratory departments, blood transfusion department

9.2. List of equipment for classroom activities for the discipline

1. Surgical instruments, devices, high-tech equipment (bases of the department)
2. Multimedia complex (laptop, projector, screen)
3. Kodascope
4. PC with Internet access
5. Sets of slides, tables, multimedia visual materials, videos on the topics of lectures and practical exercises

**9.3. A set of licensed and freely distributed software, including domestic production**

| **Item no.** | **Software** | **number of licenses** | **Type of software** | **Manufacturer** | **Number in the unified register of Russian software** | **Contract No. and date** |
|---|---|---|---|---|---|---|
| 1 | Wtware | 100 | Thin Client Operating System | Kovalev Andrey Alexandrovich | 1960 | 2471/05-18 from 28.05.2018 |
| 2 | MyOffice is Standard. A corporate user license for educational organizations, with no expiration date, with the right to receive updates for 1 year. | 220 | Office Application | LLC "NEW CLOUD TECHNOLOGIES" | 283 | without limitation, with the right to receive updates for 1 year. |
| 3 | LibreOffice | | Office Application | The Document Foundation | Freely distributed software | |
| 4 | Windows 10 Education | 700 | Operating systems | Microsoft | Azure Dev Tools for Teaching Subscription | |
| 5 | Yandex. Browser | | Browser | «Yandex» | 3722 | |
| 6 | Subscription to | 170 | Office | Microsoft | | 23618/HN100 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | MS Office Pro for 170 PCs for FGBOU VO "PIMU" of the Ministry of Health of Russia | | Application | | | 30 LLC "Softline Trade" from 04.12.2020 |

## 10. List of changes to the working program (to be filled out by the template)

Federal State Budgetary Educational Institution of Higher Education
"Privolzhsky Research Medical University"
Ministry of Health of the Russian Federation
(FSBEI HE "PRMU" of the Ministry of Health of Russia)

Department of faculty of surgery and transplantology

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**CHANGE REGISTRATION SHEET**

working program for the academic discipline
***UROLOGY***

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Field of study / specialty / scientific specialty: 31.05.01 GENERAL MEDICINE _____
*(code, name)*

Training profile: _____
(*name) - for master's degree programs*

Mode of study: FULL-TIME
*full-time/mixed attendance mode/extramural*

| Position | Number and name of the program section | Contents of the changes made | Effective date of the changes | Contributor's signature |
|---|---|---|---|---|
| 1 | | | | |

Approved at the department meeting
Protocol No. _____of _____20__

Head of the Department faculty
of surgery and transplantology
MD, Professor Zagainov V. E. _____/_____
department name, academic title signature print name