FEDERAL STATE BUDGETARY EDUCATIONAL INSTITUTION OF HIGHER EDUCATION "AMUR STATE MEDICAL ACADEMY" MINISTRY OF HEALTH OF THE RUSSIAN FEDERATION

AGREED
Vice-Rector for Academic Affairs

_____N. V. Loskutova
April 17, 2025

Decision of the CCMC
April 17, 2025

Protocol No. 7

APPROVED
by decision of the Academic Council of the FSBEI HE Amur SMA of the Ministry of Health of the Russian Federation
April 22, 2025
Protocol No. 15

Acting Rector of the FSBEI HE Amur SMA of the Ministry of Health of the Russian Federation

_____ I.V. Zhukovets
April 22, 2025

ДОКУМЕНТ ПОДПИСАН ЭЛЕКТРОННОЙ ПОДПИСЬЮ

Сертификат: 50AB2242604E64520B52614FA420034A
Владелец: Жуковец Ирина Валентиновна
Действителен: с 15.04.2025 до 09.07.2026

EDUCATIONAL PROGRAM
disciplines "ANESTHESIOLOGY, RESUSCITATION, INTENSIVE CARE"

Specialty: 31.05.01 General Medicine
Course: 6
Semester: 12
Total hours: 72 hrs.
Total credits: 2 credit units
Form of control: credit (12 semester)

Blagoveshchensk 2025

The educational program of the discipline is designed in accordance with the requirements of the Federal State Educational Standard of Higher Education - specialist in specialty 31.05.01 General Medicine, approved by the order of the Ministry of Education and Science of Russia dated 08.12.2020 No. 988 (registered with the Ministry of Justice of Russia on 08.26.2020 No. 59493), BPEP HE (2021).

Authors: Head of the Department of Anesthesiology, Resuscitation, Intensive Care and Emergency Medical Care, Ph.D. of Medical Sciences, Associate Professor S.V. Khodus;
Associate Professor of the Department of Anesthesiology, Resuscitation, Intensive Care and Emergency Medical Care, Ph.D. of Medical Sciences A.S. Abuldinov.

Reviewers: Professor of the Department of Hospital Surgery with a Course in Pediatric Surgery, Doctor of Medical Sciences, Professor V.V. Yanovoy;
Chief freelance specialist of the Ministry of Health of the Amur Region in the field of anesthesiology and resuscitation, head of the center of anesthesiology and resuscitation of the State Autonomous Healthcare Institution of the Amur Region Regional Children's Clinical Hospital R.S. Petrenko.

APPROVED at the meeting of the Department of Anesthesiology, Resuscitation, Intensive Care and Emergency Medical Care, protocol No. 8 dated April 7, 2025.

Head of Department, Ph.D. of Medical Sciences, Docent **S.V. Khodus**

Conclusion of the Expert Commission on the review of the Educational Programs:
Protocol No. 7 dated April 17, 2025

Expert of the Expert Commission
Ph.D. of medical Sciences, Docent **S.V. Medvedeva**

APPROVED at the meeting of the CMC No. 9:
Protocol No. 7 dated April 17, 2025

Chairman of the CMC No. 9,
Ph.D. of medical Sciences, Docent **S.V. Medvedeva**

AGREED:
Dean of the Faculty of Medicine,
Ph.D. of Medical Sciences
April 17, 2025

N.G. Brush

CONTENT

1. EXPLANATORY NOTE

1.1 Characteristics of the discipline

Modern anesthesiology-reanimatology , like the most important section clinical medicine , on today day is one from most dynamically developing section medicine . Development programs disciplines "Anesthesiology, resuscitation, intensive care" suggests studying basic questions of pain relief, cardiopulmonary resuscitation and intensive care critical care therapy , combined application common modern and most progressive methods aimed at Not only on anesthesia surgical interventions , but also on control temporarily weakened or lost vital functions under influence various internal or external reasons .

1.2 The purpose and objectives of the discipline.

The purpose of teaching the discipline: mastering the academic discipline "Anesthesiology, resuscitation, intensive care" consists of acquiring knowledge about disorders of vital functions of the patient's body, as well as the principles of intensive care and resuscitation, the main methods of providing first aid in emergency conditions; methods and types of anesthetic care, preparing the patient for surgery and anesthetic care, premedication .

Learning objectives of the discipline:

- ✓ students study the principles of anesthetic support for surgical and diagnostic interventions and methods of pain relief therapy;
- ✓ students study the etiology and pathogenesis of critical conditions, the pathophysiological essence of the processes occurring during dying and recovery of the body;
- ✓ acquisition by students of knowledge on diagnostics and principles of treatment of critical conditions in patients of surgical, therapeutic and other profiles; development of skills of a qualified approach to patients with disorders of vital functions of the body;
- ✓ development of skills in providing first and emergency aid in critical conditions to patients with medical, surgical and other profiles;
- ✓ student training a set of resuscitation measures in case of acute respiratory and circulatory disorders, in case of clinical death; the use of modern methods of resuscitation and intensive care in providing assistance to patients and victims in critical conditions of various etiologies; the simplest methods of pain relief when performing painful procedures and interventions, in the relief of pain syndromes;
- ✓ formation of a stable algorithm for cardiopulmonary and cerebral resuscitation;
- ✓ formation of ideas about the principles of organization and capabilities of a modern specialized anesthesiology and resuscitation service; modern methods of monitoring and detoxification used in intensive care

1.3. The place of the academic discipline in the structure of the main educational program of higher education

In accordance with the Federal State Educational Standard of Higher Education - a specialist in the specialty 31.05.01 General Medicine (2020), the discipline " Anesthesiology, resuscitation, intensive care" refers to the basic part, block 1 and is taught in the 6th year. The total workload of the discipline is 72 hours (2 credits). Of these, 48 classroom hours, 24 hours are allocated for independent work. Form of control - credit in the XII semester **.**

Students are trained on the basis of continuity of knowledge and skills acquired in previous courses.

1.4 Requirements for students

To study this academic discipline, the following knowledge, skills and abilities, formed by previous disciplines, are required:

Physics, Mathematics, Anatomy, Biochemistry, Pathophysiology, Clinical

Pathophysiology, Topographic Anatomy and Operative Surgery, Pharmacology
***Knowledge* :** − knows the basic laws of physics, physical phenomena and patterns underlying the processes occurring in the human body; − knows the physical principles of the functioning of medical equipment, the structure and purpose of medical equipment; − knows the physical and chemical essence of the processes occurring in a living organism at the molecular, cellular, tissue and organ levels; − knows the electrolyte balance of the human body, colligative properties of solutions (diffusion, osmosis, osmolarity , osmolality); − knows the classification and main characteristics of drugs, pharmacodynamics and pharmacokinetics, indications and contraindications for the use of drugs, side effects; − knows the basic patterns of development and vital activity of the organism based on the structural organization of cells, tissues and organs; − knows the anatomical, physiological, age-related, gender-related and individual characteristics of the structure and development of a healthy and sick organism; − knows the concepts of etiology, pathogenesis, morphogenesis, pathomorphosis of disease, nosology, principles of classification of diseases, basic concepts of general nosology ; − knows the functional systems of the human body, their regulation and self-regulation when exposed to the external environment in normal and pathological conditions; − knows the theoretical foundations of computer science, collection, storage, search, processing, transformation, distribution of information in medical and biological systems, the use of information computer systems in medicine and healthcare.
Skills: − knows how to use educational, scientific, popular science literature, the Internet professional activity; − uses physical, chemical and biological equipment; − uses various dosage forms in the treatment of certain pathological conditions, based on from their characteristics, to assess possible manifestations of drug overdose and ways to eliminate them; − interprets the results of the most common methods of functional diagnostics used to identify pathologies of the blood, heart and blood vessels, lungs, kidneys, liver and other systems; − determines and evaluates the results of electrocardiography, spirography, thermometry; hematological parameters; distinguishes normal values of metabolite levels (glucose, urea, bilirubin, uric acid, lactic and pyruvic acids, etc.) from pathologically altered ones in blood serum, reads a proteinogram and explains the reasons for the differences; − substantiates the principles of pathogenetic therapy of the most common diseases.
Skills: − has a command of medical and anatomical concepts; − has the skills to use medicines in the treatment, rehabilitation and prevention of various diseases and pathological conditions.
Propaedeutics of internal diseases, Hospital therapy, Hospital surgery, pediatric surgery, Clinical pharmacology, Outpatient therapy, Traumatology and orthopedics, Endocrinology, Emergency conditions in therapy, Public health and healthcare, health economics
Knowledge: − knows the basics of the legislation of the Russian Federation on public health protection, the main regulatory and technical documents;

- knows the modern classification of diseases;
- knows the clinical picture, features of the course and possible complications of the most common diseases that occur in a typical form in different age groups;
- knows the methods of diagnostics, diagnostic capabilities of methods of direct examination of patients with therapeutic, surgical and infectious profiles, modern methods of clinical, laboratory, instrumental examination of patients (including endoscopic, radiological methods, ultrasound diagnostics);
- knows the basics of organizing medical (outpatient and inpatient) care for various population groups;
- knows the diagnostic criteria for various diseases;
- knows the specifics of the organization and scope of work of an outpatient physician, the modern diagnostic capabilities of the outpatient service, methods of conducting emergency measures, indications for planned hospitalization of patients;
- knows the clinical manifestations of the main surgical syndromes;
- knows the specifics of providing first aid and resuscitation to victims of road traffic injuries, drowning, electrical injury, strangulation asphyxia, methods of restoring the patency of the upper respiratory tract, clinical symptoms of injuries to the musculoskeletal system, chest, abdominal cavity, pelvic cavity, head and cranial cavity.

Skills **:**

- determines the patient's status: collect anamnesis, interview the patient and/or his relatives, conduct a physical examination of the patient (inspection, palpation, auscultation, measurement of blood pressure, determination of the properties of the arterial pulse, etc.);
- assesses the patient's condition to decide on the need for medical care, conducts a primary examination of systems and organs: nervous, endocrine, immune, respiratory, cardiovascular, blood and hematopoietic organs, digestive, urinary, reproductive, musculoskeletal and joint, eye, ear, throat, nose;
- sets priorities for solving the patient's health problems: critical (terminal) condition, condition with pain syndrome, condition with chronic disease, condition with infectious disease, disability, geriatric problems, condition of mentally ill patients;
- make a preliminary diagnosis - synthesize information about the patient in order to determine the pathology and the causes that cause it;
- knows how to outline the scope of additional research in accordance with the prognosis of the disease, to clarify the diagnosis and obtain a reliable result;
- can determine the presence of a fracture or dislocation, free gas in the abdominal cavity, hydro -pneumothorax from an X-ray;
- knows how to select an individual type of care for treating a patient in accordance with the situation: primary care, emergency care, hospitalization;
- is able to formulate indications for the selected method of treatment taking into account etiotropic and pathogenetic agents, justify pharmacotherapy in a specific patient with the main pathological syndromes and emergency conditions, determine the route of administration, regimen and dose of drugs, assess the effectiveness and safety of the treatment;
- uses various methods of administering medications;
- is able to make a preliminary diagnosis and synthesize information about the patient in order to determine the pathology and the causes that cause it;
- knows how to outline the scope of additional research in accordance with the prognosis of the disease, to clarify the diagnosis and obtain a reliable result;
- provides first aid in emergency situations, first medical aid to victims in affected areas in emergency situations;

− knows how to examine patients with various traumatic injuries, with purulent-septic conditions, identify life-threatening disorders in bleeding, − monitors hemodynamic and respiratory parameters; − carries out resuscitation measures in the event of clinical death.
Skills: − has mastered the methods of general clinical results of instrumental detailed examination; − has experience interpreting laboratory diagnostic methods; − has a command of the clinical diagnosis algorithm; − has an algorithm for making a preliminary diagnosis with subsequent referral of the patient to the appropriate specialist doctor; − has mastered the basic medical diagnostic and therapeutic measures to provide first aid in emergency and life-threatening conditions. − the fundamentals of medical diagnostic and therapeutic measures to provide first aid in emergency and life-threatening conditions.

1.5 Requirements for the results of mastering the discipline

The study of the discipline "Anesthesiology, resuscitation, intensive care" is aimed at improving the following competencies: universal (UC) UC-1, general professional (GPC) GPC-4 and professional (PC) PC-1,2,3,4,5.

No. p/p	Code and name of competence	Code and name of the indicator of achievement of competence	As a result of studying the academic discipline "Anesthesiology, resuscitation, intensive care" The student must:		
			Know	**Be able to**	**To own**
Universal competencies					
1	**UC-1.** Capable of carrying out a critical analysis of problematic situations based on a systems approach, developing an action strategy	**AI UC-1.1.** Analyzes the problem situation based on a systems approach. **AI UC-1.3.** Applies systems analysis to resolve problematic situations in the professional sphere.	- algorithms for diagnostics and providing assistance to patients in emergency and urgent cases.	− outline the scope of additional research in accordance with the prognosis of the disease, to clarify the diagnosis and obtain a reliable result; − formulate indications for the selected treatment method, taking into account etiotropic and pathogenetic agents.	− Skills in making syndromic diagnosis
General professional competencies					
2	**GPC-4.** Capable of using medical products provided for by the procedure for providing medical care, as well as conducting patient examinations to establish a diagnosis	**AI GPC-4.1.** Uses modern medical technologies, specialized equipment and medical products, disinfectants, drugs, including immunobiological and other substances and their combinations when solving professional problems from the standpoint of evidence-based medicine. **AI GPC-4.2.** Knows the indications and contraindications for the appointment of instrumental, functional and laboratory examination methods, possible complications during the examination, emergency care and their prevention.	−modern methods of clinical, laboratory and instrumental diagnostics of patients in emergency and critical conditions	−conduct a physical examination of the patient (inspection, palpation, auscultation, measurement of blood pressure, determination of the properties of the arterial pulse, etc.) assess the patient's condition in order to decide on the need for medical care; −conduct a primary examination of systems and organs: nervous, endocrine, immune, respiratory , cardiovascular, blood, digestive, urinary;	−algorithm for making a preliminary diagnosis with subsequent referring them for additional examination and to specialist doctors; −interpretation results laboratory, instrumental diagnostic methods.

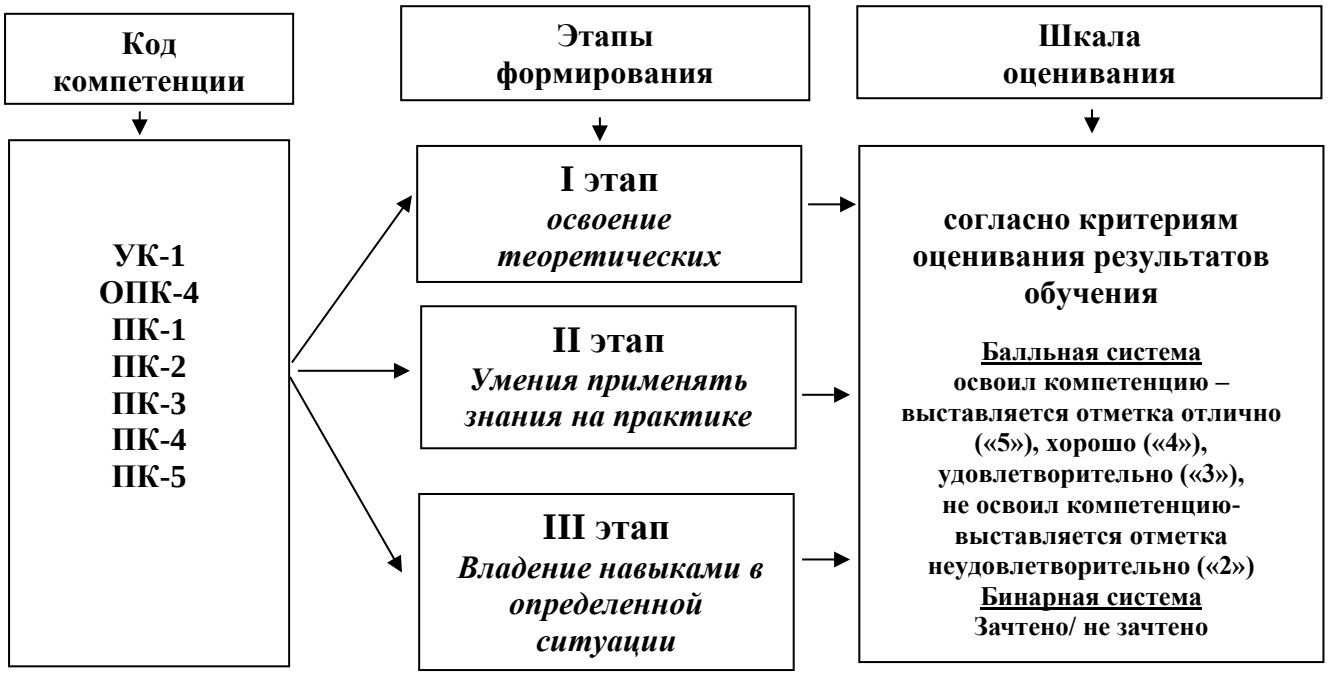
		AI GPC-4.3. Interprets the results of the most common methods of instrumental, laboratory and functional diagnostics, thermometry to identify pathological processes. **AI GPC-4.4.** Proficient in methods of general clinical examination of patients of various ages. **AI GPC-4.5.** Formulates a preliminary diagnosis and clinical diagnosis according to ICD		− formulate a clinical diagnosis.	
Professional competencies					
3	**PC-1** Capable of providing medical assistance in urgent and emergency situations	**AI PC - 1.1.** Identifies clinical signs of conditions requiring emergency medical care **AI PC -1.2.** Provides emergency medical care to patients with sudden acute illnesses, conditions, exacerbation of chronic diseases without obvious signs of a threat to the patient's life **AI PC -1.3** . Identifies conditions requiring emergency medical care **AI PC - 1.4.** Provides emergency medical care to patients in conditions that pose a threat to the patient's life. **AI PC -1.5.** Reveals signs of sudden cessation of blood circulation and breathing **AI PC - 1.6.** Performs basic cardiopulmonary resuscitation measures in combination with electrical impulse therapy (defibrillation) in the event of	− etiology, pathogenesis, diagnosis, treatment and prevention of the most common, emergency conditions, treatment methods and indications for their use; − features of providing medical care in emergency situations; − principles and methods of providing first aid in emergency situations; − methods for carrying out emergency measures.	− identify life-threatening disorders and provide assistance in emergency situations; − provide first aid help victims of disasters in emergency situations; − determine the criteria of clinical death, biological death; − carry out resuscitation measures in the event of clinical death.	− basic medical diagnostic and therapeutic measures to provide first aid in emergency and life-threatening conditions − methods of cardiopulmonary resuscitation, electropulse therapy

		clinical death of the patient (in case of sudden cessation of blood circulation and/or breathing) .			
4	**PC-2.** Capable of collecting and analyzing complaints, life history and medical history of the patient in order to establish a diagnosis	**AI PC-2 .1.** Establishes contact with the patient. **AI PC- 2.2.** Collects complaints, specifies them, highlighting the main and secondary ones. **AI PC- 2.3.** Collects and analyzes information about the onset of the disease, the presence of risk factors, the dynamics of the development of symptoms and the course of the disease. **AI PC -2.5 .** Collects and evaluates information about the medical history, including data on past illnesses, injuries and surgeries, hereditary, professional, epidemiological history.	− methods of interviewing a patient in critical condition; − modern methods of collecting anamnesis from a patient in critical condition.	− determine the patient's status: collect anamnesis, interview the patient and/or his relatives.	− evaluation methods states health population various age-gender groups.
5	**PC-3.** Capable of conducting a physical examination of a patient, analyzing the results of additional examination methods in order to establish a diagnosis	**AI PC-3.1.** Conducts a complete physical examination of the patient (inspection, palpation, percussion, auscultation) and interprets its results **AI PC-3.2.** Justifies the necessity, volume, sequence of diagnostic measures (laboratory, instrumental) and referral of the patient to specialist doctors for consultations **AI PC-3.3.** Analyzes the results of the patient examination, if necessary, justifies and plans the scope of additional studies. **AI PC-3.4.** Interprets and analyzes the results of collecting information	− diagnostic methods, diagnostic capabilities of methods of direct examination of the patient; − modern methods of clinical, laboratory, and instrumental examination of patients; − modern methods of clinical, laboratory and instrumental diagnostics of patients in emergency conditions.	− determine the patient's status: conduct a physical examination of the patient (inspection, palpation, auscultation, measurement of blood pressure, determination of the properties of the arterial pulse, etc.)	− methods of general clinical examinations; interpretation results laboratory instrumental diagnostic methods. − interpretation of the results of laboratory and instrumental diagnostic methods.

		about the patient's disease, data obtained during laboratory and instrumental examinations and during consultations with specialist doctors, and, if necessary, justifies and plans the scope of additional research. **AI PC-3.5.** Performs early diagnostics of internal organ diseases. Establishes a diagnosis taking into account the current international statistical classification of diseases and related health problems (ICD) **AI PC-3.6.** Conducts differential diagnostics of internal organ diseases from other diseases			
6	**PC-4.** Capable of determining indications for hospitalization, indications for emergency, including emergency specialized, medical care	**AI PC-4.1.** Defines medical indications for the provision of emergency, including emergency specialized, medical care **AI PC-4.3.** Uses medical products in accordance with current procedures for the provision of medical care, clinical recommendations (treatment protocols) on issues of providing medical care, care taking into account the standards of medical care	− methods and features of providing emergency care, including emergency specialized medical care, in urgent and emergency conditions.	− identify life-threatening disorders and provide emergency care, including specialized emergency care in emergency situations.	− the main medical diagnostic and therapeutic measures to provide emergency, including emergency specialized medical care in urgent and life-threatening conditions.
7	**PC-5.** Able to prescribe treatment to patients	**AI PC-5. 1.** Draws up a treatment plan for the patient taking into account the diagnosis, age of the patient, clinical picture of the disease, presence of complications, concomitant pathology, in	− methods of general and local anesthesia, indications for their use;	− develop a treatment plan for the patient taking into account the course of the disease, select and prescribe drug therapy,	− algorithm for performing basic medical diagnostic and therapeutic measures to provide first medical aid

		accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on issues of providing medical care, taking into account the standards of medical care **AI PC-5. 2.** Prescribes medications, medical devices and therapeutic nutrition taking into account the diagnosis, age and clinical picture of the disease in accordance with the current procedures for the provision of medical care, clinical recommendations, taking into account the standards of medical care **AI PC-5. 3.** Prescribes non-drug treatment taking into account the diagnosis, age and clinical picture of the disease in accordance with the current procedures for the provision of medical care, clinical recommendations, taking into account the standards of medical care **AI PC-5. 5.** Organizes personalized treatment of the patient, including pregnant women, elderly and senile patients	– medicines used for premedication , method of administration – schemes and protocols for the use of drugs in emergency and urgent conditions.	use non-drug treatment methods; – select an individual type of assistance for treating a patient in accordance with the situation: primary care, ambulance, emergency medical care; – determine the method of anesthesia for a patient for the purpose of performing a surgical intervention or diagnostic procedure; – prescribe premedication .	in urgent and threatening life states; – methods of relieving acute and chronic pain syndrome by prescribing analgesics of various groups.

1.6 Stages of competencies formation and description of assessment scales



1.7 Forms of training organization and types of control

The training consists of classroom lessons (48 hours), including a lecture course of 14 hours and clinical practical classes of 10 days (34 hours). The main training time is allocated to mastering the skills of diagnosing critical conditions, providing first medical aid and carrying out resuscitation measures.

Clinical practical classes are conducted in the form of interviews and discussions, demonstrations of patients in the intensive care unit and the use of visual aids, answers to test tasks, clinical analyses of patients, supervision of patients in the intensive care unit with a subsequent report.

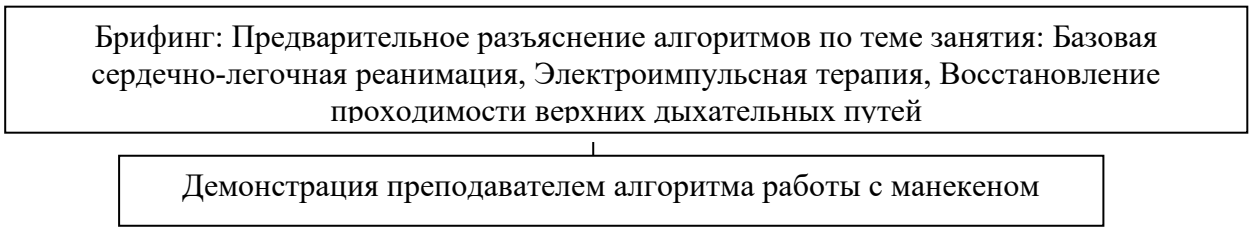
In accordance with the requirements, active and interactive forms of conducting classes are widely used in the educational process (*practicing practical skills on training mannequins, final passing of skills on robot simulators in the Accreditation and Simulation Center, and completing interactive simulations*).

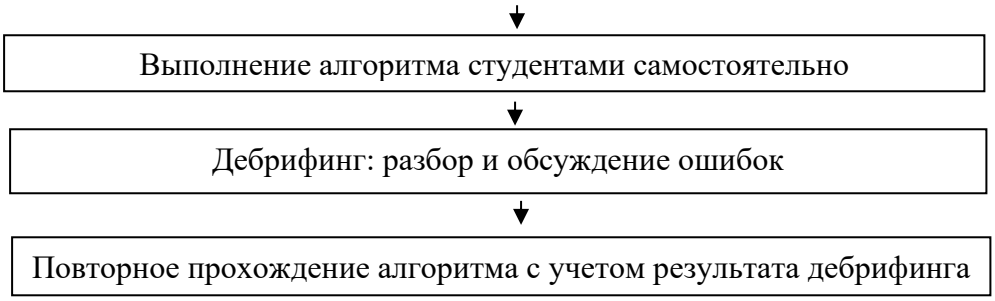
For each section of the academic discipline, methodological recommendations have been developed for students and teachers.

During the study of the academic discipline, students independently supervise patients in the intensive care and anesthesiology department, draw up examination reports and present a conclusion on the patient's condition, surgical and anesthetic risk or a protocol for conducting resuscitation measures. Independent work with patients contributes to the formation of adequate professional behavior, accuracy, and discipline.

When studying the discipline "Anesthesiology, resuscitation, intensive care", students are given one lesson (3.4 hours) to master practical skills and abilities in basic and advanced CPR in the Accreditation and Simulation Center (Fig. 1).

Fig. 1. Algorithm of work in the Accreditation and Simulation Center





Independent work of students is divided into classroom and extracurricular (mandatory for all students and optional). Extracurricular independent work implies preparation on issues not included in the subject of classroom classes and includes independent study of the material, preparation and defense of the abstract, as well as preparation for current and midterm control (24 hours).

Work with educational literature is considered as a type of educational work in the discipline " Anesthesiology, resuscitation, intensive care" and is carried out within the hours allocated for its study.

Each student is provided with access to the library collections of the Academy and the department. Methodological recommendations for students and teachers have been developed for each topic of the academic discipline.

Types control knowledge By discipline

1. Current control academic performance includes *input* control (testing) – is carried out on first lesson (by issues studied on previous disciplines), as well as *original* control (testing) - at the beginning each classes with the purpose of checks separate knowledge , skills , abilities students For development topics classes . *Day off.* control - frontal survey on the topic of the lesson , checking practical skills .
2. Intermediate certification is being carried out on credit classes in the 12th semester and consists of conducting oral interviews By questions , solutions test tasks and checks practical skills .

2. STRUCTURE AND CONTENT OF THE DISCIPLINE

2.1 Volume of academic discipline and types of educational activities

Type of academic work		**Total hours**	**Semester XII**
Lectures		**14**	**14**
Clinical practical classes		**34**	**34**
Independent work of a student		**24**	**24**
Total labor intensity	**hours**	**72**	**72**
	Z.E.	**2**	**2**

	2.2 Thematic plan of lectures and their summary	Code of formed competencies	Labor intensity (hour)
1	2	3	4
1.	**Organization of anesthesiology and resuscitation service. History of anesthesiology.** Founders of anesthesiology, first discoveries and steps in domestic and world anesthesiology. Regulatory documents on the organization of anesthesiology and resuscitation work. Classification of modern methods of anesthesiological care. Methods of anesthesia. Local anesthesia: application, infiltration, regional. General anesthesia: inhalation and intravenous. Risk of anesthesia. Intraoperative monitoring. Preparation of the patient for surgery and anesthesia.	UC-1; GPC-4; PC-1; PC-2; PC-3; PC-4; PC-5.	2
2.	**Modern approaches to cardiopulmonary resuscitation** (2 hours) - Basic and specialized resuscitation measures. Cardiopulmonary and cerebral resuscitation . Methods of restoring airway patency, indirect heart massage, electropulse therapy, drugs used in resuscitation. Modern algorithm of resuscitation measures.	UC-1; GPC-4; PC-1; PC-2; PC-3; PC-4; PC-5.	2
3.	**Acute respiratory failure, methods of restoring upper respiratory tract patency.** Definition, etiology and pathogenesis of acute respiratory failure. Classification of ARF. Obstructive acute respiratory failure. Methods of restoring upper respiratory tract patency. Adult respiratory distress syndrome, bronchial asthma. Interpretation of changes in external respiration function and arterial blood gas composition. Intensive care of ARF. Definition, main modes of mechanical ventilation, VVL.	UC-1; GPC-4; PC-1; PC-2; PC-3; PC-4; PC-5.	2
4.	**Shock: General Principles of Intensive Care.** (2 hours) – Definition. Mechanisms of shock: hypovolemia, heart failure, vasoplegia . Clinical forms of hypovolemic shock. Multiple organ failure in shock. General principles of shock therapy.	UC-1; GPC-4; PC-1; PC-2; PC-3; PC-4; PC-5.	2
5.	**Sepsis. Modern approach.** Sepsis, definitions, classification, pathophysiological mechanisms. Modern approaches to intensive care of septic conditions.	UC-1; GPC-4; PC-1; PC-2; PC-3; PC-4; PC-5.	2
6.	**Infusion therapy, infusion media.** Determining the indication for ITT. Basic and corrective ITT. Infusion media: crystalloid and colloid solutions. Methods of reducing surgical blood loss. Central venous catheterization. Evaluation of volume status.	UC-1; GPC-4; PC-1; PC-2; PC-3; PC-4; PC-5.	2
7.	**Infusion therapy, infusion media.** Determining the indication for ITT. Basic and corrective ITT. Infusion media: crystalloid and colloid solutions. Methods of reducing surgical blood loss. Central venous catheterization. Evaluation of volume status.	UC-1; GPC-4; PC-1; PC-2; PC-3; PC-4; PC-5.	2
Total hours			**14**

2.3 Thematic plan of clinical practical classes and their content

No. p/p	Name of the topics of practical classes	Contents of clinical practical training topics or clinical practical training	Codes of formed competencies and indicators of their achievement	Types of control	Labor intensity (hours)
1	Structure and organization of work of intensive care units, syndromes of critical	**Theoretical part:** History of the development of anesthesiology and resuscitation. Organization, equipment and principles of work of the anesthesiology	**UC-1.** AI: 1.1, 1.3 **GPC-4.** AI: 4.1-4.5 **PC-1.** AI: 1.1-1.6	Incoming inspection (testing),	3.4

	conditions	and resuscitation service. Structural divisions, tasks of the anesthesiology and resuscitation service. Material support. Staffing standards. **Practical part:** Collection and analysis of information about the patient's health status, making a syndromic diagnosis, determining the indication for hospitalization in the intensive care unit	**PC-2.** AI: 2.1, 2.2, 2.3, 2.5 **PC-3.** AI: 3.1-3.6 **PC-4** . AI: 4.1, 4.3	final control (solving case problems), oral survey.	
2	Cardiopulmonary and cerebral resuscitation, modern approaches (Accreditation and Simulation Center)	**Theoretical part:** Terminal condition, its stages. Etiology, pathogenesis and types of cardiac cessation; respiratory activity; Signs of clinical death; Resuscitation methods. Types of CPR. Indications, contraindications and timing of resuscitation assistance. **Practical part:** Sequence of actions to save life - chain of survival. Universal algorithm and quality of CPR. Sequence of CPR in adults and adolescents (method of artificial respiration, chest compressions, safe position for the victim). Algorithm of extended resuscitation measures. Electric impulse therapy (preparation for defibrillation , method of defibrillation in children and adults). Artificial ventilation of the lungs; primary and alternative means of respiratory support; Restoration of blood circulation: use of drugs and infusion media in case of circulatory arrest	**UC-1.** AI: 1.1, 1.3 **GPC-4.** AI: 4.1-4.5 **PC-1.** AI: 1.1-1.6 **PC-2.** AI: 2.1, 2.2, 2.3, 2.5 **PC-3.** AI: 3.1-3.6 **PC-4** . AI: 4.1, 4.3 **PC-5.** AI: 5.1, 5.2, 5.3, 5.5	Incoming inspection (testing), final control (business game – passing a simulation scenario).	3.4
3	Intensive care of acute respiratory failure, modes and methods of artificial ventilation.	**Theoretical part:** Acute respiratory failure. Etiology, pathogenesis, clinical features, diagnostics. Artificial ventilation. Resuscitation and intensive care in case of foreign body in the upper respiratory tract, asphyxia, laryngeal stenosis, ARDS. Clinic, diagnostics, principles of therapy. **Practical part:** Determination of the degree of respiratory failure, indications for the start of intravenous ventilation, artificial ventilation, interpretation of blood gas parameters.	**UC-1.** AI: 1.1, 1.3 **GPC-4.** AI: 4.1-4.5 **PC-1.** AI: 1.1-1.6 **PC-2.** AI: 2.1, 2.2, 2.3, 2.5 **PC-3.** AI: 3.1-3.6 **PC-4** . AI: 4.1, 4.3 **PC-5.** AI: 5.1, 5.2, 5.3, 5.5	Initial control (testing), final control (solving case problems), oral survey.	3.4
4	Intensive care of acute acid-base and water-electrolyte imbalances	**Theoretical part:** Acid-base balance. Definition and terminology; clinical disorders. Compensatory mechanisms: buffer systems of the body; respiratory compensation; liver compensation. Acidosis: physiological manifestations of acidemia ; respiratory acidosis; metabolic acidosis; anesthesia in acidosis. Alkalosis: physiological effects of alkalemia ;	**UC-1.** AI: 1.1, 1.3 **GPC-4.** AI: 4.1-4.5 **PC-1.** AI: 1.1-1.6 **PC-2.** AI: 2.1, 2.2, 2.3, 2.5 **PC-3.** AI: 3.1-3.6	Initial control (testing), final control (solving case problems), oral survey.	3.4

		respiratory alkalosis; metabolic alkalosis; anesthesia in alkalosis. Disturbance of water and electrolyte metabolism. Fluid components of the body: intracellular fluid; extracellular fluid; transport of water and electrolytes in the body. Disturbance of water metabolism: normal water metabolism; interdependence between plasma sodium concentration and extracellular and intracellular fluid osmolarity ; regulation of plasma osmolarity ; hyperosmolarity and hyponatremia. **Practical part:** Determine the type of disorder based on the results of the acid-base balance analysis. Determine the type and degree of dehydration, prescribe IIT.	**PC-4** . AI: 4.1, 4.3 **PC-5.** AI: 5.1, 5.2, 5.3, 5.5		
5	Fundamentals of infusion therapy	**Theoretical part:** General principles of long-term infusion therapy. Technique. Infusion media. Infusion therapy program. Blood substitutes. Transfusion of blood and its preparations. Parenteral nutrition. Enteral nutrition. **Practical part:** Create a long-term infusion therapy plan taking into account the patient's age.	**UC-1.** AI: 1.1, 1.3 **GPC-4.** AI: 4.1-4.5 **PC-1.** AI: 1.1-1.6 **PC-2.** AI: 2.1, 2.2, 2.3, 2.5 **PC-3.** AI: 3.1-3.6 **PC-4** . AI: 4.1, 4.3 **PC-5.** AI: 5.1, 5.2, 5.3, 5.5	Initial control (testing), final control (test), oral survey.	3.4
6	Acute cardiovascular failure. Shock. Intensive care.	**Theoretical part:** Acute cardiovascular failure. Features of intensive care and resuscitation. Left ventricular failure: Acute coronary syndrome. Arrhythmogenic shock. Vascular failure: Collapse. Intensive care and resuscitation in shock of various etiologies (cardiogenic shock, hemorrhagic , traumatic, burn, anaphylactic shock). **Practical part:** Assess the main indicators of the patient's hemodynamic profile, determine the type of shock condition, and prescribe emergency medical care measures.	**UC-1.** AI: 1.1, 1.3 **GPC-4.** AI: 4.1-4.5 **PC-1.** AI: 1.1-1.6 **PC-2.** AI: 2.1, 2.2, 2.3, 2.5 **PC-3.** AI: 3.1-3.6 **PC-4** . AI: 4.1, 4.3 **PC-5.** AI: 5.1, 5.2, 5.3, 5.5	Initial control (testing), final control (test), oral survey.	3.4
7	Sepsis, septic shock	**Theoretical part:** Pathophysiology of septic conditions. Modern classification of sepsis. Intensive care methods, principles of cardiorespiratory and antibacterial therapy. Infusion therapy of sepsis. **Practical part:**	**UC-1.** AI: 1.1, 1.3 **GPC-4.** AI: 4.1-4.5 **PC-1.** AI: 1.1-1.6 **PC-2.** AI: 2.1, 2.2, 2.3, 2.5	Initial (testing) control, Final control (solving case problems), oral survey.	3.4

		Determine the criteria for sepsis based on laboratory tests and physical examination of the patient. **Create an emergency plan for septic shock.**	**PC-3.** AI: 3.1-3.6 **PC-4** . AI: 4.1, 4.3 **PC-5.** AI: 5.1, 5.2, 5.3, 5.5		
8	Intensive care of comatose states	**Theoretical part:** Coma. Types (traumatic, apoplectic, as a result of poisoning, dysmetabolic). Pathogenesis, clinical picture, diagnostics. Features of intensive care and resuscitation of acute cerebrovascular accident , cerebral edema. **Practical part:** Assess the depth of the impairment of consciousness using the GLASGOW Coma Scale and draw up a plan for emergency first aid measures.	**UC-1.** AI: 1.1, 1.3 **GPC-4.** AI: 4.1-4.5 **PC-1.** AI: 1.1-1.6 **PC-2.** AI: 2.1, 2.2, 2.3, 2.5 **PC-3.** AI: 3.1-3.6 **PC-4** . AI: 4.1, 4.3 PC-5. **AI: 5.1, 5.2, 5.3, 5.5**	Initial control (testing), final control (solving case problems), oral survey.	3.4
9	Emergency treatment of critical conditions	**Theoretical part:** Algorithm of emergency medical care for patients with broncho-obstructive syndrome (severe exacerbation of bronchial asthma); patients with hypertensive crisis (various forms of manifestation); patients with life-threatening rhythm disturbances (tachycardia with narrow and wide complexes, bradycardia). **Practical part:** Assess the severity of the exacerbation of bronchial asthma ; Determine the type of hypertensive crisis; Assess ECG signs of tachycardia and bradyarrhythmia .	**UC-1.** AI: 1.1, 1.3 **GPC-4.** AI: 4.1-4.5 **PC-1.** AI: 1.1-1.6 **PC-2.** AI: 2.1, 2.2, 2.3, 2.5 **PC-3.** AI: 3.1-3.6 **PC-4** . AI: 4.1, 4.3 **PC-5.** AI: 5.1, 5.2, 5.3, 5.5	Initial control (testing), final control (solving case problems), oral survey.	3.4
10	Final lesson (test)	It is an intermediate assessment with an oral survey, solving test tasks and situational problems.	**UC-1.** AI: 1.1, 1.3 **GPC-4.** AI: 4.1-4.5 **PC-1.** AI: 1.1-1.6 **PC-2.** AI: 2.1, 2.2, 2.3, 2.5 **PC-3.** AI: 3.1-3.6 **PC-4** . AI: 4.1, 4.3 PC-5. **AI: 5.1, 5.2, 5.3, 5.5**	Solving case problems, oral questioning, testing	3.4
Total hours					**34**

2.4 Interactive forms of learning

Item No.	Topics of practical classes, lectures	Labor intensity in hours	Interactive form of learning	Labor intensity in hours, in % of the lesson
Clinical practical classes				
1.	Structure and organization of work of intensive care units, syndromes of critical conditions	3.4	Interactive distance testing	25 min (0.55 hours) 16.1%
2.	Cardiopulmonary and cerebral resuscitation, modern approaches (Accreditation and Simulation Center)	3.4	Practicing practical skills on training mannequins, interactive testing	90 min (2 hours) 58.8%
3.	Intensive care of acute respiratory failure, modes and methods of artificial ventilation.	3.4	Interactive distance testing	30 min (0.65 hours) 19.1%
4.	Intensive care of acute acid-base and water-electrolyte imbalances	3.4	Interactive testing, multimedia presentations	30 min (0.65 hours) 19.1%
5.	Fundamentals of infusion therapy	3.4	Interactive distance testing	30 min (0.65 hours) 19.1%
6.	Acute cardiovascular failure. Shock. Intensive care.	3.4	Interactive testing, multimedia presentations	30 min (0.65 hours) 19.1%
7.	Sepsis, septic shock	3.4	Interactive testing, multimedia presentations	30 min (0.65 hours) 19.1%
8.	Intensive care of comatose states	3.4	Interactive testing, multimedia presentations	30 min (0.65 hours) 19.1%
9.	Emergency treatment of critical conditions	3.4	Interactive testing, multimedia presentations	30 min (0.65 hours) 19.1%
10.	Final lesson (test)	3.4	Interactive testing	60 minutes (1.3 hours) 38.2%
Lectures				
1.	Organization of anesthesiology and resuscitation service. History of anesthesiology.	2	Viewing a multimedia presentation	90 minutes (2 hours) 100%
2.	Modern approaches to cardiopulmonary resuscitation.	2	Viewing a multimedia presentation	90 minutes (2 hours) 100%
3.	Acute respiratory failure, methods of restoring upper respiratory tract patency, respiratory therapy methods. Modern approaches to artificial ventilation, VVL	2	Viewing a multimedia presentation	90 minutes (2 hours) 100%
4.	Shock, general principles of intensive care	2	Viewing a multimedia presentation	90 minutes (2 hours) 100%
5.	Sepsis, a modern approach.	2	Viewing a multimedia presentation	90 minutes (2 hours) 100%
6.	Infusion therapy, infusion media	2	Viewing a multimedia presentation	90 minutes (2 hours) 100%

7.	Violation of acid-base balance, electrolyte disturbances. Correction methods	2	Viewing a multimedia presentation	90 minutes (2 hours) 100%

2.5 Criteria for assessing students' knowledge

The basis for determining the level of knowledge, skills, and abilities are the assessment criteria - completeness and correctness:

- Correct, accurate answer;
- Correct but not exact answer;
- Incorrect answer;
- No answer.

When assigning marks, it is necessary to take into account the classification of errors and their quality:

- Gross errors;
- Similar errors;
- Minor errors;
- Disadvantages.

No. p/p	Topic practical classes	Theoretical Part	Practical Part	General grade
1.	Structure and organization of work of intensive care units, syndromes of critical conditions	2-5	2-5	2-5
2	Cardiopulmonary and cerebral resuscitation, modern approaches (Simulation and certification center)	2-5	2-5	2-5
3	Intensive care of acute respiratory failure, modes and methods of artificial ventilation.	2-5	2-5	2-5
4	Intensive care of acute acid-base and water-electrolyte imbalances	2-5	2-5	2-5
5.	Fundamentals of infusion therapy	2-5	2-5	2-5
6.	Acute cardiovascular failure. Shock. Intensive care.	2-5	2-5	2-5
7.	Sepsis, septic shock	2-5	2-5	2-5
8.	Intensive care of comatose states	2-5	2-5	2-5
9.	Emergency treatment of critical conditions	2-5	2-5	2-5
10	Final lesson (test)	2-5	2-5	Passed - Failed
Average score				

Rating scales for ongoing knowledge control

The success of students' mastering of the subjects of the discipline, practical skills and abilities is characterized by a qualitative assessment and is assessed on a 5-point system: "5" - excellent, "4" - good, "3" - satisfactory, "2" - unsatisfactory. The conversion of the percentage of correct answers when solving test tasks into a point scale is carried out according to the following scheme:

Success rate	Mark on a 5-point scale
90-100%	"5"
80-89%	"4"
70-79%	"3"
Below 70%	"2"

Working off disciplinary debts.

If a student misses a class for a valid reason, he/she has the right to make it up and receive the maximum grade provided for by the course work program for that class. A valid reason must

be documented.

If a student misses a class for an unjustified reason or receives a "2" mark for all activities in the class, he/she is required to make it up. In this case, the mark received for all activities is multiplied by 0.8.

If a student is excused from a class at the request of the dean's office (participation in sports, cultural and other events), then he is given a grade of "5" for this class, provided that he submits a report on the completion of mandatory extracurricular independent work on the topic of the missed class.

Criteria for assessing midterm assessment.

1. Test control in the " Moodle " system.
2. Oral interview based on tickets containing theoretical questions

Criteria for final assessment (midterm assessment)

Excellent - for the depth and completeness of mastery of the content of the educational material, in which the student easily navigates, for the ability to connect theoretical questions with practical ones, to express and justify their judgments, to present the answer competently and logically; when testing, allows up to 10% of erroneous answers. Practical skills and abilities provided for by the working program of the discipline are fully mastered.

"Good" - the student has fully mastered the educational material, is oriented in it, correctly states the answer, but the content and form have some inaccuracies; during testing allows up to 20% of erroneous answers. Completely practical skills and abilities provided by the working program of the discipline, but allows some inaccuracies

"Satisfactory" - the student has mastered the knowledge and understanding of the main provisions of the educational material, but presents it incompletely, inconsistently, does not know how to express and justify his/her judgments; during testing, allows up to 30% of erroneous answers. Has only some practical skills and abilities.

"Unsatisfactory" - the student has fragmented and unsystematic knowledge of the educational material, is unable to distinguish between the main and secondary, makes mistakes in defining concepts, distorts their meaning, presents the material in a disorderly and uncertain manner, and makes more than 30% of erroneous answers during testing. Performs practical skills and abilities with gross errors.

Based on the results of different assessments, an average grade is given in favor of the student.

The student's success in mastering the discipline is assessed using a binary system of "passed" and "failed".

The translation of the mark into a binary scale is carried out according to the following scheme:

Marking on a 5-point system	Binary system mark
"5"	Passed
"4"	
"3"	
"2"	Not accepted

2.6 Independent work of students: in-class, out-of-class

Auditorium independent Job students :

- independent familiarization under the guidance of a teacher with the methodological material prepared by the department’s teachers on the sections being studied;
- taking notes on important aspects of the topic being studied;
- development of practical skills (Accreditation and Simulation Center);
- supervision of patients in the intensive care unit;

- watching educational videos.

Extracurricular independent Job students :

	Topic of the practical lesson	Time for student preparation for the lesson	Forms of extracurricular independent work of a student	
			Mandatory and the same for all students	At the student's choice
1	Structure and organization of work of intensive care units, syndromes of critical conditions	2.4	Preparation on theoretical issues (lectures, basic and additional literature, methodological recommendations, writing notes), solving test tasks, working in an online classroom, completing interactive simulations	-----
2	Cardiopulmonary and cerebral resuscitation, modern approaches (Accreditation and Simulation Center)	2.4		Abstract on the topic: "Changes in cardiopulmonary resuscitation protocols"
3	Intensive care of acute respiratory failure, modes and methods of artificial ventilation	2.4		Abstract on the topic: "ARDS, modern approaches to respiratory support" Abstract on the topic: "ECMO as a method of respiratory support".
4	Intensive care of acute acid-base and water-electrolyte imbalances	2.4		
5	Fundamentals of infusion therapy	2.4		Abstract on the topic: "Nutrition support as an element of intensive therapy."
6	Acute cardiovascular failure. Shock. Intensive care.	2.4		Abstract on the topic: "Mathematical calculations in the practice of a resuscitation physician."
7	Sepsis, septic shock	2.4		Abstract on the topic: "Evolution of protocols for intensive care of septic shock."
8	Intensive care of comatose states	2.4		Abstract on the topic: "Transportation of patients in a comatose state"
9	Emergency treatment of critical conditions	2.4		Abstract on the topic: "Hypertension. Hypertensive crisis"
10	Final lesson (test)	2.4	Review of literature on past topics	
Labor intensity in hours		**24**	**20**	**4**
Total labor intensity		**24 hours**		

2.7 Research (project) work of students

It is a mandatory section of the educational program, aimed at the comprehensive formation of universal, general professional and professional competencies. When developing research work, students are given the opportunity to study specialized literature in anesthesiology and resuscitation, participate in scientific research or technical developments, collect, process, analyze and system scientific and technical information on the topic of "Research and analysis of oxygen status indicators of patients in the early postoperative period", "Preoperative preparation of patients with abdominal surgical pathology". A binary assessment scale is adopted for assessing research: "passed", "failed"

3. EDUCATIONAL, METHODOLOGICAL, MATERIAL, TECHNICAL AND INFORMATION SUPPORT OF THE DISCIPLINE

3.1 Main literature

1. Sumin S.A. Emergency conditions: a teaching aid. 7th edition , revised and enlarged. – M.: OOO MIA, 2010. – 960 p.
2. Sumin S.A. Anesthesiology and resuscitation: in 2 volumes.-M.: MIA LLC, 2010. – T.1. – 928 pp., T. 2. – 872s.
3. Fundamentals of resuscitation [Electronic resource]: textbook / Sumin S.A., Okunskaya T.V. – M.: GEOTAR-Media, 2013. – 688 p. – ISBN 978-5-9704-2424-7. – Access mode: http://www.studmedlib.ru/book/ISBN9785970424247.html
4. Anesthesiology and resuscitation [Electronic resource]: textbook / Under ed . O. A. Dolina . – 4th ed ., revised and enlarged . – M.: GEOTAR-Media, 2009. – 576 p. – ISBN 978-5-9704-1033-2 – Access mode: http://www.studmedlib.ru/book/ISBN9785970410332.html
5. Anesthesiology and Intensive Care: A Practical Guide [Electronic resource] / Edited by Corresponding Member of the Russian Academy of Medical Sciences, Professor B.R. Gelfand. - 2nd ed., corrected . and additional. - M .: Litterra , 2012. - 640 p. - Access mode: http://www.studmedlib.ru/book/ISBN9785423500467.html

3.2 Further reading

1. Intensive care: national guidelines: in 2 volumes/edited by B.R. Gelfand, A.I. Saltanov. – M.: GEOTAR-Media, 2009. – V.1. – 960 p. – (Series “National Guidelines”).
2. Intensive care: national guidelines: in 2 volumes/edited by B.R. Gelfand, A.I. Saltanov. – M.: GEOTAR-Media, 2011. – V.2. – 784 p. – (Series “National Guidelines”).
3. Diagnostics in anesthesiology and intensive care: a guide for doctors. – SPb.: SpetsLit, 2011. – 414 p.
4. Emergency care for diseases of internal organs at the pre-hospital stage: manual for doctors/edited by V.A. Galkin. – M.: OOO MIA, 2009. – 200 p.
5. Emergency care in therapy and cardiology / edited by Yu. I. Grinshtein. - M.: GEOTAR-Media, 2009. - 224 p.
6. Syncopal states in clinical practice/edited by S.B. Shustov. – St. Petersburg: ELBI, 2009. – 336 p.
7. Kurek V.V., Kulagin A.V. Pediatric anesthesiology, resuscitation and intensive care: practical. manual. – M.: OOO “MIA”, 2011. – 992 p.
8. Gordeev V.I., Aleksandrovich Yu.S., Parshin E.V. Respiratory support in children. - St. Petersburg: ELBI, 2009. - 176 p. : ill.
9. Introduction to Anesthesiology and Resuscitation [Electronic resource]: textbook / Levite E. M. Ed. I. G. Bobrinskaya. – M.: GEOTAR-Media, 2007. – 256 p . – ISBN 978-5-9704-0418-8 . – Access mode: http://www.studmedlib.ru/book/ISBN9785970404188.html
10. Modern approaches to solving the problem of sudden cardiac death [Electronic resource] / V. V. Rezvan , N. V. Strizhova , A. V. Tarasov; edited by L. I. Dvoretsky. - M .: GEOTAR-

Media, 2015 .-- 96 p. - ISBN 978-5-9704-2534-3 . - Access mode : http://www.studmedlib.ru/book/ISBN9785970425343.html
11. Sudden cardiac death [Electronic resource] / Bokeria L.A., Revishvili A.Sh., Neminushchiy N.M. - M .: GEOTAR-Media, 2013. - 272 p. - (Series: "Library of a specialist physician"). - ISBN 978-5-9704-2450-6 . - Access mode : http://www.studmedlib.ru/book/ISBN9785970424506.html

3.3 Educational and methodological support for the discipline, prepared by the department staff

1. Khodus S.V., Anesthesiology, resuscitation, intensive care (collection of test tasks): Blagoveshchensk: Printing house of FGBOU VO Amur State Medical Academy, 2018. - 111 p. (https://www.amursma.ru/upload/iblock/e2b/Uchebnoe_posobie__Anensteziologiya,_reanimaciya,_intensivnaya_terapiya._Lechebnoe_delo_(sbornik_testovyx_zadanij).pdf)
2. Video lecture "Modern approaches to CPR" - Khodus S.V. (https://educ-amursma.ru/course/view.php?id=142)
3. Video lecture " Acute respiratory failure, methods of restoring upper respiratory tract patency, respiratory therapy methods. Modern approaches to artificial ventilation, VVL" - Khodus S.V. (https://educ-amursma.ru/course/view.php?id=142)
4. Video lecture "Shock, general principles of intensive care" - Khodus S.V. (https://educ-amursma.ru/course/view.php?id=142)
5. Video lecture "Differential diagnostics of comatose states" - Oleksik V.S. (https://educ-amursma.ru/course/view.php?id=142)
6. Electronic interactive presentation "Organization of anesthesiology and resuscitation service in the Russian Federation. History of anesthesiology" - Pustovit K. V. (https://educ-amursma.ru/course/view.php?id=142)
7. Electronic interactive presentation " Sepsis. Modern approach" - Pustovit K. V. (https://educamursma.ru/course/view.php?id=142)
8. Electronic interactive presentation "Infusion therapy. Infusion media" - Pustovit K. V. (https://educamursma.ru/course/view.php?id=142)
9. Electronic interactive presentation "Acid-base balance disorders, electrolyte disorders. Correction methods" - Pustovit K. V. (https://educamursma.ru/course/view.php?id=142)
10. Electronic interactive presentation "Emergency conditions in sports. Sudden death in sports" - Pustovit K. V. (https://educamursma.ru/course/view.php?id=142)

3.4 Equipment used for the educational process

The clinical bases for conducting practical classes are: State Autonomous Healthcare Institution of the Arkhangelsk Region Regional Clinical Hospital, State Autonomous Healthcare Institution of the Arkhangelsk Region Regional Clinical Hospital, State Autonomous Healthcare Institution of the Arkhangelsk Region Bishkek City Clinical Hospital

Students are taught in classrooms equipped with multimedia projectors and personal computers. In addition, the Academy's display classrooms (4 classrooms) and the Accreditation and Simulation Center's testing laboratory equipped with an interactive testing system are used in the teaching process.

Name of premises	Equipment of the premises
Classrooms for lecture-type classes: Lecture hall #5 (room #14, 4th floor, 176 m2), 675006, Blagoveshchensk, Gorky st., 101	Premises equipped with specialized furniture, multimedia equipment (screen, projector, laptop), sound amplification equipment
Classrooms for practical classes, group and individual consultations,	Classrooms equipped with specialized furniture:

ongoing monitoring and midterm assessment: room #2 (room #157), 675028, Blagoveshchensk, Voronkova St., bldg. 26	marker board – 1 pc., teacher's desk – 1 pc., study table – 5 pcs., chairs – 16 pcs.). Educational visual aids: educational stands – 3 pcs.
room #5 (room #160), 675028, Blagoveshchensk, Voronkova St., bldg. 26	Whiteboard – 1 pc., teacher's desk – 1 pc., study table – 4 pcs., chairs – 14 pcs. Educational visual aids: educational stands – 3 pcs.
room #414, 675000, Blagoveshchensk, Bolnichnaya St., 32	Whiteboard – 1 pc., teacher's desk – 1 pc., study table – 2 pcs., chairs – 14 pcs., stool – 10 pcs.
room No. 4/136, 675005, Blagoveshchensk, st. Oktyabrskaya, 108	Whiteboard – 1 pc., teacher's desk – 1 pc., study table – 3 pcs., chairs – 16 pcs. Educational visual aids: educational stands – 1 pc.
Debriefing room #3, Accreditation and Simulation Center (room #5, 3rd floor), 675006, Blagoveshchensk, Gorky St., 101	Teacher's desk - 1 pc., educational table - 8 pcs., chair - 18 pcs., video monitoring and recording system for the simulation training process - 1 pc.
Intensive care unit, Accreditation and simulation center (room 2, 3rd floor) 675006, Blagoveshchensk, Gorky st., 101	Table - 1 pc., video monitoring and recording system for simulation training - 1 pc., medical bed - 1 pc., bedside table - 1 pc., medical table - 1 pc., procedure table - 1 pc., changing table - 2 pcs., patient simulator simulating an adult man for training ECG skills - 1 pc., robot simulator for training advanced cardiopulmonary resuscitation skills - 1 pc., CPR mannequin - 3 pcs., pulse oximeter - 1 pc., airway management simulator - 1 pc., Heimlich maneuver training simulator - 1 pc., adult resuscitation simulator - 1 pc., training defibrillator - 1 pc., resuscitation phantom - 1 pc., defibrillator - monitor DKI-N-10 " Axion " - 1 pc., Defibrillator TES-7511k. - 1 pc., airway patency restoration simulator - 1 pc., Ozhivlennaya Anna simulator mannequin - 3 pcs., automatic external defibrillation simulator Powerheart G5 – 1 pc., training defibrillator Kardia International - 1 pc., Ambu bag - 3 pcs., Electric ventilator - 1 pc., Laryngoscope with a set of blades - 1 pc., Resuscitation phantom - 1 pc., Pulse oximeter YX 300 – 1 pc., glucometer – 1 pc., stand-tripod for intravenous infusions, steel – 3 pcs.

3.5 Professional databases, information reference systems, electronic educational resources

No. p/p	Resource name	Resource Description	Access	Resource address
Electronic library systems				
1	"Student Consultant" Electronic library of the medical university.	For students and teachers of medical and pharmaceutical universities. Provides access to electronic versions of textbooks, teaching aids and periodicals.	library, individual access	http: // www . studmedlib.ru /
2	"Doctor's Consultant" Electronic Medical Library.	The materials posted in the library have been developed by leading Russian specialists based on modern scientific knowledge (evidence-based medicine). The information has been prepared taking into account the position of the scientific and practical medical society (world, European and Russian) in the relevant specialty. All	library, individual access	http://www.rosmedlib.ru/cgi-bin/mb4x

		materials have undergone mandatory independent review.		
3	PubMed	Free search engine in the largest medical bibliographic database MedLine . Documents medical and biological articles from the specialized literature, and also provides links to full-text articles.	library, free access	http:// www. ncbi.nlm.nih . gov/ pubmed /
4	Oxford Medicine Online .	A collection of Oxford medical publications, bringing together over 350 titles into a single, cross-searchable resource. Publications include The Oxford Handbook of Clinical Medicine and The Oxford Textbook of Medicine , the electronic versions of which are constantly updated.	library, free access	http://www.oxfordmedicine.com
5	Human Biology Knowledge Base	Reference information on physiology , cell biology , genetics , biochemistry , immunology , pathology . (Resource of the Institute of Molecular Genetics of the Russian Academy of Sciences .)	library, free access	http://humbio.ru/
6	Medical online library	Free reference books, encyclopedias, books, monographs, abstracts, English-language literature, tests.	library, free access	http://med-lib.ru/
Information systems				
7	Russian Medical Association	Professional Internet resource. Objective: to promote effective professional activity of medical personnel. Contains the charter, personnel, structure, rules of entry, information about the Russian Medical Union.	library, free access	http://www.rmass.ru/
8	Web medicine.	The site presents a catalog of professional medical resources, including links to the most authoritative subject sites, journals, societies, as well as useful documents and programs. The site is intended for doctors, students, employees of medical universities and scientific institutions.	library, free access	http: //webmed.irkutsk.ru/
Databases				
9	World Health Organization	The site contains news, statistics on countries that are members of the World Health Organization, fact sheets, reports, WHO publications and much more.	library, free access	http://www.who.int/ru/
10	Ministry of Science and Higher Education of the Russian Federation.	The website of the Ministry of Science and Higher Education of the Russian Federation contains news, newsletters, reports, publications and more.	library, free access	http://www.minobrnauki.gov.ru
11	Ministry of Education of the Russian Federation.	The website of the Ministry of Education of the Russian Federation contains news, newsletters, reports, publications and much more.	library, free access	https://edu.gov.ru/
12	Federal portal "Russian education"	A single window for access to educational resources. This portal provides access to textbooks on all areas of medicine and health care.	library, free access	http: // www . edu.ru/ http://window.edu.ru/catalog/?p rubr =2.2.81.1

Bibliographic databases				
13	Database "Russian Medicine"	It is created in the Central Scientific and Methodological Library and covers the entire collection, starting from 1988. The database contains bibliographic descriptions of articles from domestic journals and collections, dissertations and their abstracts, as well as domestic and foreign books, collections of institute proceedings, conference materials, etc. Thematically, the database covers all areas of medicine and related areas of biology, biophysics, biochemistry, psychology, etc.	library, free access	http://www.scsml.rssi.ru/
14	eLIBRARY.RU	Russian information portal in the field of science, technology, medicine and education, containing abstracts and full texts of more than 13 million scientific articles and publications. The eLIBRARY.RU platform provides electronic versions of more than 2,000 Russian scientific and technical journals, including more than 1,000 open access journals.	library, free access	http://elibrary.ru/defaultx.asp
15	Portal Electronic library of dissertations	Currently, the Electronic Library of Dissertations of the Russian State Library contains more than 919,000 full texts of dissertations and abstracts.	library, free access	http://diss.rsl.ru/?menu=dissca talog/
16	Medline.ru	Medical and biological portal for specialists. Biomedical journal. Last updated February 7, 2021.	library, free access	http://www.medline.ru

3.6 Licensed and freely distributed software used in the educational process

I . Commercial software products		
1	MS Operating System Windows 7 Pro	License number 48381779
2	Operating system MS Windows 10 Pro , MS Office	AGREEMENT R No. 142 A dated December 25, 2019
3	MS Office	Number licenses : 43234783, 67810502, 67580703, 64399692, 62795141, 61350919
4	Kaspersky Endpoint Security for business Extended	Agreement No. 977/20 dated 12/24/2020
5	1 C: PROF University	LICENSE AGREEMENT No. 2191 dated 15.10.2020
6	1C: PROF Library	LICENSE AGREEMENT No. 2281 dated 11.11.2020
II . Freely distributed software		
1	Google Chrome	Freely distributed Distribution Terms: https :// play . google . com / about / play - terms / index . html
2	Yandex Browser	For free distributed Licensed agreement on usage programs Browser « Yandex » https://yandex.ru/legal/browser_agreement/
3	Dr.Web CureIt !	Freely distributed Licensed agreement : https :// st . drweb . com / static / new - www / files / license _ CureIt _ ru . pdf
4	OpenOffice	Freely distributed License: http :// www . gnu . org / copyleft / lesser . html
5	LibreOffice	Freely distributed License: https :// ru . libreoffice . org / about - us / license /

3.7 Resources of the information and telecommunications network "Internet"

- Ministry of Health of the Russian Federation. Standards of primary health care – https://www.rosminzdrav.ru/ministry/61/22/stranitsa-979/stranitsa-983/1-standarty-pervichnoy-mediko-sanitarnoy-pomoschi
- Ministry of Health of the Russian Federation. Standards of specialized medical care – https://www.rosminzdrav.ru/ministry/61/22/stranitsa-979/stranitsa-983/2-standarty-spetsializirovannoy-meditsinskoy-pomoschi
- Ministry of Health of the Russian Federation. Procedures for providing medical care to the population of the Russian Federation - https://www.rosminzdrav.ru/ministry/61/4/stranitsa-857/poryadki-okazaniya-meditsinskoy-pomoschi-naseleniyu-rossiyskoy-federatsii
- Federal Electronic Medical Library (Ministry of Health of the Russian Federation) – http://www.femb.ru
- Student consultant (Electronic library of the higher educational institution) – http://old.studmedlib.ru/ru/index.html
- Electronic library system "Medical library "MEDLIB.RU" - http://www.medlib.ru/
- Amur State Medical Academy (Electronic educational resources) – http://www.amursma.ru/obuchenie/biblioteki/elektronnye-obrazovatelnye-resursy/

4. ASSESSMENT TOOLS FUND

4.1 Current test control (input, initial, output, final)

Current (entrance) testing is carried out in the distance learning system (https://educ-amursma.ru/course/view.php?id=142) , by randomly generating an individual version containing 20 questions from the question bank (50 questions) .

Current (initial) testing is carried out in the distance learning system (https://educ-amursma.ru/course/view.php?id=142) , by randomly generating an individual version for each lesson topic, containing 10 questions from the question bank (30 questions) ; the total number of questions for current control is 270 .

The final test control is carried out in the distance learning system (https://educ-amursma.ru/course/view.php?id=142), by randomly generating an individual version containing 100 questions from the question bank (300 questions).

Examples of test tasks:

Choose one correct answer

1. INHALATION ANESTHETICS INCLUDE:
    1. isoflurane
    2. diprivan
    3. ketamine
    4. sodium thiopental
2. INTRAOPERATIVE MONITORING OF EXTERNAL RESPIRATION INCLUDES
    1. pulse oximetry
    2. oscillometry
    3. plethysmography
    4. scintigraphy
3. ASSESSMENT OF ANESTHESIOLOGICAL RISK IN CHILDREN IS CONDUCTED
    1. according to Balagin
    2. according to MNOAR

3. by ASA
4. according to APGAR

4. NARCOTIC ANALGESICS INCLUDE

1. fentanyl
2. drotaverine
3. droperidol
4. diazepam

Correct answer 1)

4.2 Situational tasks

Example of a case task

A 57-year-old woman called an ambulance team because of a sharp deterioration in her health, which manifested itself in the occurrence of unpleasant sensations in the chest, a pronounced heartbeat, a feeling of a "lump in the throat", weakness, and dizziness. The deterioration in her condition was not associated with anything.

It is known from the anamnesis that 6 months ago she was treated in the cardiology department for infective endocarditis. She denies chronic diseases and is not registered with the dispensary. She does not receive constant drug therapy. She does not note any allergic reactions.

On examination: the patient's condition is satisfactory. Consciousness is clear. The skin and visible mucous membranes are of normal color, clean, warm to the touch. Breathing is independent, effective, auscultation reveals vesicular breathing, conducted in all fields, no wheezing. Heart tones are muffled, the rhythm is regular, pronounced tachycardia (HR - 160 per minute, PS - 160 per minute), BP 110 and 70 mm Hg. The tongue is clean, moist, the abdomen is soft, painless on palpation in all areas. The liver and spleen are not enlarged. There are no dysuric disorders. The percussion symptom is negative on both sides.

The ECG recording procedure was performed by the ambulance doctor. The QRS complexes are not deformed, the width of the complexes is 0.1 sec, the voltage is preserved, the P wave is not determined, the shape and size of the complexes are the same, the R - R intervals are equal.

Questions :

1. Guess most likely diagnosis
2. Justify delivered diagnosis
3. Make a plan of emergency measures (non-drug) for this condition.
4. Prescribe drug therapy (first-line drugs) for this condition, indicating the dose and route of administration of the drug
5. What are the indications for emergency cardioversion in the treatment of this pathology?

Reference answer :

1. Paroxysmal supraventricular tachycardia
2. The diagnosis of paroxysmal tachycardia is based on a sudden increase in the heart rate (more than 90 per minute). The supraventricular origin of the rhythm is indicated by the characteristics of the recorded QRS complexes (width 0.1 sec, no deformation, no P wave). Given that all complexes have the same shape, width, and the R - R interval is the same length, it can be concluded that there is one source of ectopia.
3. It is necessary to ensure ECG monitoring, pulse oximetry, start oxygen therapy, catheterize a peripheral vein, and conduct vagal tests.
4. It is necessary to administer 6 mg of Adenosine (2 ml of 0.3% solution) intravenously; if ineffective (after 1-2 minutes), administer 12 mg of Adenosine; if ineffective (after 1-2 minutes), repeat administration of 12 mg of Adenosine. After each introductions preparation necessary enter 5-10 ml physiological solution .

5. In paroxysmal supraventricular tachycardia, cardioversion is indicated if the patient has a clinical picture of shock, myocardial ischemia, decompensated heart failure (a decrease in systolic pressure below 90 mm Hg, clinical manifestations of pulmonary edema).

4.3 List of practical skills that a student should have after mastering the discipline

1. Conduct examination adults and children in critical condition condition By "ABCDE" algorithm .
2. Make a syndromic diagnosis.
3. Determine indications for hospitalization in the intensive care unit.
4. Assess the patient's consciousness and breathing.
5. Restore airway patency using non-instrumental and instrumental methods (installation of an airway, laryngeal mask).
6. Perform indirect heart massage on adults and adolescents.
7. Perform artificial ventilation using the mouth-to-mouth method, through a face mask using an AMBU-type bag.
8. Perform electrical defibrillation .
9. Assess the patient's oxygen status.
10. Determine indications for starting IVL and artificial ventilation.
11. Determine the type of disorder based on the acid-base balance results.
12. Determine the type and degree of dehydration, prescribe ITI.
13. Assess the patient's volume status based on the clinical picture and laboratory test data.
14. Create a long-term infusion therapy plan taking into account the patient's age .
15. To assess the main parameters of the patient's hemodynamic profile.
16. Determine the type of shock and prescribe emergency medical care.
17. Assess the depth of impaired consciousness using the GLASGOW Coma Scale.
18. Prescribe and carry out emergency care measures for coma of unknown etiology.
19. Prescribe and carry out emergency care measures for drug-induced coma.
20. Prescribe and carry out emergency care measures for alcoholic coma.
21. To prescribe and carry out emergency care measures for coma associated with complications of diabetes mellitus.
22. Assess the severity of asthma exacerbation.
23. Prescribe emergency therapy for severe exacerbation of bronchial asthma.
24. Determine the type of hypertensive crisis, provide emergency care
25. To identify ECG signs of rhythm and conduction disturbances.
26. Provide emergency care when registering tachycardia with narrow rhythmic QRS complexes.
27. Provide emergency care when registering tachycardia with narrow arrhythmic QRS complexes.
28. Provide emergency care when registering tachycardia with wide rhythmic QRS complexes.
29. Provide emergency care when tachycardia is registered (the patient is unstable)
30. Perform cardioversion .
31. Determine indications and perform gastric lavage.
32. Determine indications and perform detoxification using the forced diuresis method.
33. Prescribe antidote therapy for various types of poisoning.

4.4 List of questions for the test

1. History of the development of anesthesiology and resuscitation.
2. The concept of critical conditions, syndromic diagnosis.
3. Order of the Ministry of Health of the Russian Federation No. 919n.
4. Algorithm for examining a patient in critical condition ABCDE.
5. Main disorders of vital functions related to breathing (diagnostics, monitoring).

6. Main disorders of vital functions related to blood circulation (diagnostics, monitoring).
7. Basic disorders of vital functions from the side of consciousness (diagnostics, monitoring).
8. Sudden circulatory arrest - definition, clinical signs.
9. Terminal state, its stages.
10. Etiology, pathogenesis and types of cardiac arrest.
11. Methods of restoring airway patency.
12. Methods of artificial ventilation during CPR.
13. Indications, contraindications and timing of resuscitation assistance.
14. Electrical defibrillation technique.
15. ODN - classification, morphological cause, clinical picture, laboratory diagnostics. Main directions of therapy, main difference in treatment.
16. Blood gas composition, normal arterial and venous blood indices. Gas exchange stages.
17. Mechanical asphyxia - methods of restoring the patency of the upper respiratory tract. Algorithm of emergency care for obstruction of the respiratory tract by a foreign body in children and adults.
18. Respiratory support, modes of artificial ventilation, intravenous ventilation.
19. Acute respiratory distress syndrome, etiology, pathogenesis, clinical features, intensive care.
20. Acid-base balance. Definition and terminology.
21. Compensatory mechanisms for acid-base balance disorders (buffer systems of the body): bicarbonate and hemoglobin buffer, respiratory compensation, renal compensation.
22. Acidosis: physiological manifestations of acidemia .
23. Alkalosis: physiological effects of alkalemia .
24. Principles of therapy for acid-base balance disorders.
25. Electrolyte metabolism. Clinical picture of electrolyte metabolism disorders.
26. Normal water metabolism, interdependence between plasma sodium concentration and extracellular and intracellular fluid osmolarity .
27. Water exchange disorders: hyperhydration , dehydration. Their types, clinical features, diagnostics.
28. Infusion therapy and other methods of correcting water-electrolyte imbalance.
29. Assessment of the patient's volume status.
30. Calculation of the infusion therapy program.
31. Crystalloids, their characteristics.
32. Isoosmolar solutions.
33. Hypo-osmolar solutions.
34. Hyperosmolar solutions.
35. Colloidal agents, classification, characteristics.
36. GEC, modern approaches to use.
37. Dextrans, modern approaches to use.
38. Gelatin solutions, modern approaches to use.
39. Complex preparations for parenteral nutrition.
40. Transfusion of blood and its components.
41. Shock - definition, clinical signs, types, hemodynamic profiles.
42. Diagnosis of shock conditions.
43. Types of hypovolemic shock. Main indicators of the severity of hypovolemic shock in children and adults.
44. Hemorrhagic shock. Diagnostics. First aid at the pre-hospital stage in children and adults.
45. Cardiogenic shock. Diagnostics. First aid at the pre-hospital stage.
46. Determination of the volume of blood loss - clinical, laboratory. Classification of blood loss.

47. Infusion therapy for blood loss – blood replacement scheme – qualitative and quantitative composition of infusion therapy.
48. Vasogenic shock. Diagnostics. Emergency measures in children and adults.
49. Sepsis – definition. Classification. Clinical manifestations in children and adults.
50. Septic shock - main clinical manifestations, hemodynamic profile.
51. Specific laboratory diagnostics for sepsis.
52. Prognostic scales for sepsis (SOFA, q-SOFA).
53. Resuscitation and intensive care in septic shock.
54. Sepsis-3. Modern approaches to solving the problem.
55. Acute cerebral insufficiency as a critical condition syndrome.
56. Factors determining the severity of acute cerebral insufficiency.
57. Assessment of coma severity. Rapid neurological examination. GLASGOW Coma Scale.
58. Coma - definition.
59. Classification of comas by rate of development, pathogenesis and severity. Clinical manifestations.
60. Hyper- ; hypoglycemic coma, main directions of therapy.
61. Opioid coma - clinical manifestations, diagnosis, emergency therapy.
62. Alcoholic coma - clinical manifestations, diagnosis, emergency care.
63. Resuscitation and intensive care for comas of unknown genesis in children and adults.
64. Clinical picture of poisoning with various substances in children and adults.
65. Basic methods of intensive therapy for exogenous poisoning in children and adults.
66. Antidote therapy for acute exogenous poisoning.
67. Clinic and therapy of acute renal and acute liver failure.
68. Extracorporeal methods of detoxification (hemodialysis, hemo- and lymphosorption , plasmapheresis).

APPROVED

at a meeting of the Department of Anesthesiology and Resuscitation, intensive care and emergency medical care
Protocol No. 8 dated 04/08/202 2
Head of Department _____ _ S. V.

Khodus

ADDITIONS AND CHANGES TO THE WORK PROGRAM IN THE DISCIPLINE "ANESTHESIOLOGY, RESUSCITATION, INTENSIVE CARE" SPECIALTY 31.05.01 MEDICAL PRACTICE FOR THE 2022-2023 ACADEMIC YEAR

The work program has been supplemented with new links to Internet sources of additional literature to prepare for mastering the discipline:

1. https://faronline.ru/api/static/cms-files/ad51a5f4-0de4-4665-83e2-8e00a6334fe8/Оберегение_проходизм_верхи_видных_видныхпутей_у_весрлых.pdf ("Ensuring the patency of the upper respiratory tract in adult patients in hospital" Clinical recommendations of the All-Russian public organization "Federation of Anesthesiologists and Resuscitators") for a practical lesson on the topic: Acute respiratory failure, methods of respiratory therapy.
2. https://rehabrus.ru/Docs/2021/KR-HNS-oktyabr2021.pdf ("Chronic disorders of consciousness" Clinical recommendations: All-Russian public organization for the promotion of the development of medical rehabilitation "Union of Rehabilitation Specialists of Russia"; All-Russian public organization "Federation of Anesthesiologists and Resuscitators") for a practical lesson on the topic: Intensive care of comatose states.

Make a change to Article 30, update Table 3.6 in the section “Licensed and freely distributed software used in the educational process.”

The list of software (commercial software products) has been updated.

No. p/p	List of software (commercial software products)	Details of supporting documents
1.	MS Operating System Windows 7 Pro	License number 48381779
2.	MS Operating System Windows 10 Pro	CONTRACT No. UT-368 from 09.21.2021
3 .	MS Office	License number: 43234783, 67810502, 67580703, 64399692, 62795141, 61350919
4.	Kaspersky Endpoint Security for business Extended	Agreement 326po/21-IB dated November 26, 2021
5.	1C Accounting and 1C Salary	LICENSE AGREEMENT 612/L dated 02.02.2022
6.	1C: PROF University	LICENSE AGREEMENT No. ЦБ-1151 dated 01.14.2022

7.	1C: PROF Library	LICENSE AGREEMENT No. 2281 dated 11.11.2020
8.	Consultant Plus	Agreement No. 37/C dated 02/25/2022
9.	Aktion 360	Agreement No. 574 dated November 16, 2021
10.	E-learning environment 3 KL (Russian Moodle)	Agreement No. 1362.2 dated November 15, 2021
11.	Astra Linux Common Edition	Agreement No. 142 A dated September 21, 2021
12.	Information system "Plans"	Agreement No. 8245 dated 06/07/2021
13.	1 C:Document flow	Agreement No. 2191 dated 10/15/2020
14.	R7-Office	Agreement No. 2 KS dated 12/18/2020

The list of freely distributed software has been updated.

No. p/p	List of freely distributed software	Links to license agreement
1	Yandex Browser	Freely distributed License agreement for the use of Yandex Browser programs https://yandex.ru/legal/browser_agreement/
2	Yandex.Telemost	Freely distributed License Agreement for the Use of Programs https://yandex.ru/legal/telemost_mobile_agreement/
3	Dr.Web CureIt !	Freely distributed License Agreement: https://st.drweb.com/static/new-www/files/license_CureIt_ru.pdf
4	OpenOffice	Freely distributed License: http://www.gnu.org/copyleft/lesser.html
5	LibreOffice	Freely distributed License: https://ru.libreoffice.org/about-us/license/
6	VK Calls	Freely distributed https://vk.com/license

APPROVED
at a meeting of the Department of Anesthesiology and Resuscitation, intensive care and emergency medical care
Protocol No. 8 of 04/07/2025
Head of Department _____ _ S. V. Khodus

ADDITIONS AND CHANGES TO THE WORK PROGRAM IN THE DISCIPLINE "ANESTHESIOLOGY, RESUSCITATION, INTENSIVE CARE" SPECIALTY 31.05.01 MEDICAL PRACTICE FOR THE 2023-2024 ACADEMIC YEAR

The work program has been supplemented with new links to Internet sources of additional literature to prepare for mastering the discipline:

1. https://faronline.ru/api/static/cms-files/de0e964a-016d-488d-a212-3e23d74afc08/Анафилактический_шок_-_для_сайт_ФАР.pdf ("Anaphylactic shock" of clinical recommendations : Russian Association of Allergists and Clinical Immunologists All-Russian public organization "Federation of Anesthesiologists and Resuscitators". "Approved at a meeting of the scientific and practical council of the Ministry of Health of the Russian Federation.) for the practical lesson "Emergency Therapy of Critical Conditions".
2. https://sepsisforum.ru/upload/documents/Clin%20Rec%20Sepsis%20(adults).pdf ("Sepsis in adults" Clinical guidelines: Russian Society of Surgeons, Russian non-profit organization "Association of Anesthesiologists-Resuscitators", Interregional public organization "Society of Physicians and Nurses "Sepsis Forum" (RSF), Russian Association of Specialists in the Treatment of Surgical Infections (RASHI), Interregional Association for Clinical Microbiology and Antimicrobial Chemotherapy (MAKMAH), Interregional public organization "Alliance of Clinical Chemotherapists and Microbiologists", Russian Society of Emergency Medical Care, National Association of Specialists in Thrombosis, Clinical Hemostasis and Hemorheology .) for a practical lesson on the topic: Sepsis, septic shock.

Familiarization sheet

No.	Full name, position	Date	Signature

Change Registration Sheet

Change	Sheet number	Deadline for introducing the change	Signature	Date