

**Thematic plan of seminar-type classes
in discipline «General surgery»
for students of 2023, 2024 year of admission
under the educational programme
31.05.01 General medicine,
specialisation General medicine
Specialist's,
form of study full-time
for the 2025-2026 academic year**

№	Thematic blocks	Hours (academic) ³
4 term		
1.	<p>Introduction to the subject and history of surgery. Evidence-based medicine in surgery.¹</p> <p>The concept of surgery and surgical diseases. The preventive direction and the physiological foundations of modern surgery. General and specialized surgical care, its organization, features of the development of surgical care in polyclinics and hospitals. The sequence of studying surgery sections in higher medical educational institutions. The relationship of surgery with other medical disciplines. The history of Russian surgery, its place and relationship with other surgical schools in the world. The history of the development of the A.A. Polyantsev General Surgery Clinic and surgery in the Volgograd region. Surgical literature. Globalization of information exchange in modern surgery: national and international societies of surgeons, congresses, symposiums, congresses. The place of evidence-based medicine methods in information flows in surgery. The most sensitive search strategies for randomized controlled trials on surgery in the Medline database and the Cochrane Library. Ethical and deontological aspects of surgical activity.²</p>	4
2.	<p>Asepsis.¹</p> <p>The concept of surgical infection. Types of surgical infection. Sources and ways of spreading surgical infection. Nosocomial infection in a surgical hospital. The concept of asepsis. Organizational forms of ensuring asepsis. The layout and principles of the surgical hospital. Sterilization of operating clothes, underwear, surgical instruments, drains. The use of disposable materials and tools. Sterilization by ionizing, ultraviolet, and ultrasonic radiation. Modern means and methods of chemical sterilization and disinfection. Packaging and storage of sterile material. Sterility control. Special functional areas of the operating unit. Cleaning the operating room. Aseptic measures for participants in the operation and the surgical field. General rules, techniques and modern methods of hand treatment before surgery. Preparation and rules for processing the surgical field. Donning sterile clothing, dressing, wearing, and changing gloves. Rules of operation in conditions of strict asepsis.²</p>	4
3.	<p>Antisepsis.¹</p> <p>Definition of antiseptics. Types of antiseptics. The concept of primary and secondary surgical treatment of wounds, principles and stages of implementation. Drying, tamponing, drainage of wounds and cavities, vacuum treatment, vacuum aspiration, pulsating liquid jet treatment, aspiration-washing method, UV, laser irradiation, ultrasonic cavitation, hyperbaric oxygenation, ozone therapy. Various types of topical and general antiseptic applications. The main groups of antiseptics. Fundamentals of rational antiseptic chemotherapy. Types of biological antiseptics. Biological antiseptics. The concept of antibacterial therapy. Indications for antibacterial therapy. The choice of antibacterial drugs. The choice of doses and method of administration of an antibacterial drug during treatment. Duration of antibacterial therapy. Methods of influencing the immune forces of the body. Principles of rational combination of different types of antiseptics. The concept of preventive antibiotic therapy.²</p>	4

4.	Pain and pain syndrome. Local anesthesia. ¹ Mechanisms and causes of pain. Characteristics of pain. Narcotic anesthesia. Indications, contraindications, documentation. Means and principles of medical treatment of pain syndrome. The concept of local anesthesia. Types of local anesthesia: pharmacological (terminal, infiltration, conduction) and physical. Drugs for local anesthesia, their mechanism of action, main characteristics. The technique of certain types of local anesthesia: indications, contraindications, methods of implementation, possible complications and ways to prevent them. Novocaine blockades, concept, types. Indications for the use of novocaine blockades. ²	4
5.	General anesthesia. ¹ The concept of general anesthesia. Theories of anesthesia. Modern concepts of anesthesia. Classification of anesthesia. Assessment of anesthetic risk. Preparation of patients for anesthesia, premedication and its implementation. Inhalation anesthesia. Anesthesia and respiratory anesthesia. The stages of ether anesthesia. Types of inhalation anesthesia. Modern inhalation anesthetics. Intravenous anesthesia. The main drugs for intravenous anesthesia. Muscle relaxants. Modern combined inhalation anesthesia. The methodology and clinical picture of modern general anesthesia. Standardized monitoring with assessment of oxygenation, ventilation, circulation and temperature. Complications of anesthesia and the immediate post-acute period, their prevention and treatment. ²	4
6.	Fundamentals of hemotransfusiology. ¹ Part 1. Historical aspects of blood transfusion. The concept of blood transfusion. Immunological foundations of transfusiology. Blood antigenic systems, blood groups. Group systems of red blood cells. The AB0 group systems and the Rhesus group system. Methods for determining the blood type according to the AB0 and Rh factor systems. Errors in determining blood groups. The concept of blood components, their characteristics. The mechanism of action of transfused blood components. Modern rules of blood transfusion by groups of the AB0 system and the Rh factor system. Regulatory and legal aspects of hemotransfusion. Organization of the donation service in Russia. Rules for the examination of blood donors and its components. Self-donation. Modern methods of harvesting and preserving blood components. ²	4
7.	Fundamentals of hemotransfusiology. ¹ Part 2. Duties, main actions of the doctor and the sequence of their implementation during component hemotransfusion. Determination of indications and contraindications for component hemotransfusion. Preparation of the patient for transfusion. Choosing the transfusion method. Assessment of the suitability of blood components (brakerage). Blood compatibility tests of the donor and recipient before transfusion. Preparation of the system and start of transfusion. Conducting a test for biological compatibility. Carrying out transfusion. Dynamic monitoring during and after transfusion. Documentation of blood transfusion. Complications and reactions that occur during transfusion of blood components (classification, characteristics, clinic, diagnosis, treatment and prevention). ²	4
8.	Fundamentals of injury surgery. Bleeding and blood loss. ¹ The concept of bleeding, hemorrhages, and hematomas. Classification of bleeding. Protective and adaptive reaction of the body to acute blood loss. Clinical manifestations of external and internal bleeding. Clinical and instrumental diagnosis of bleeding. Assessment of the severity of blood loss and determination of its magnitude. Methods of temporary and final stop of bleeding. Modern principles of blood loss treatment. "Blood-saving" technologies in surgery. Algorithms for first aid with various types of bleeding. Transportation of patients with bleeding. The concept of hemorrhagic shock. Stages and their characteristics. Determination of the severity of shock. The Algovéri index. Principles of treatment. ²	4
9.	Fundamentals of injury surgery. Wounds. ¹ Types of injuries and classification of injuries. Complications and risks of injury:	4

	<p>immediate, immediate and late. General principles of diagnosis of traumatic injuries. General principles of organization of pre-hospital and inpatient trauma care. Classification of wounds. Pathogenesis and phases of the wound process. Clinical features of various types of wounds. Principles of first aid for wounds. Primary surgical treatment of wounds, its types. Secondary surgical treatment of wounds. Infectious complications of wounds. General and local signs of suppuration of wounds. Treatment of a purulent wound depends on the phase of the wound process. Additional physical methods of wound treatment. Flow-aspiration system. Enzyme therapy, antibacterial therapy. Physiotherapy treatment. Prevention of suppuration of postoperative wounds.²</p>	
10.	<p>Fundamentals of injury surgery. Damage to soft tissues, tendons, and joints. Fractures and dislocations.¹ Closed soft tissue injuries. Bruises, sprains, tears (causes, clinical manifestations). First aid and treatment of closed soft tissue injuries. Definition of fracture and dislocation. Classification of fractures and dislocations. The clinical picture of fractures and dislocations. Fundamentals of X-ray diagnostics of fractures and dislocations. First aid for fractures and dislocations. The basic principles of fracture treatment are pain management, reposition, immobilization, and rehabilitation. The basic principles of dislocation treatment are pain relief, dislocation reduction, retention in a normal position, and acceleration of full recovery. Complications of traumatic fractures and dislocations, their prevention.²</p>	4
11.	<p>Fundamentals of injury surgery. Thermal damage.¹ The concept of burn, classification. Determination of the depth and area of the burn. Forecast. First aid for burns. Burn disease – phases of the course. Principles of general and local treatment. Radiation and chemical burns. Local manifestations. First aid. Features of first aid for chemical burns of the skin, mouth, esophagus and stomach. Electrical injury. Local and general effects of electric current. First aid in case of electrical injury. Features of further examination and treatment. Cold injury and refrigeration. Types of general and local cold injury. Classification. Clinical picture, first aid and further treatment (pre-reactive and reactive periods).²</p>	4
12.	<p>Fundamentals of injury surgery. Injury to the head, chest and abdomen.¹ Classification and characteristics of head injury. The main dangers of head injuries that pose a threat to the patient's life. First aid for head injuries. Classification of chest injury. The concept of pneumothorax. Types of pneumothorax. Clinical picture and diagnosis of pneumothorax, features of first aid for strained, valvular and open pneumothorax. Principles of treatment. Hemothorax. Clinical manifestations of hemothorax. First aid for hemothorax. Classification of abdominal injuries. Clinical, laboratory and instrumental diagnostics of injuries to the abdominal cavity and retroperitoneal space. First aid tasks and principles of treatment. Features of transportation of patients with head, chest and abdominal injuries.²</p>	4
13.	<p>Fundamentals of surgery for regional circulatory disorders. Violation of arterial blood flow.¹ Acute and chronic arterial blood flow disorders. Chronic diseases of the main arteries (obliterating atherosclerosis, obliterating aortoarteritis, obliterating endarteritis). Etiological and pathogenetic factors of development. Stages of chronic arterial insufficiency, clinical manifestations, diagnosis, principles of conservative and surgical treatment. The concept of acute thrombosis and thromboembolism. Etiology and pathogenesis. General principles of clinical and instrumental diagnostics. The degree of acute ischemia. Principles of complex treatment.²</p>	4
14.	<p>Fundamentals of surgery for regional circulatory disorders. Tissue necrosis.¹ The concept of dry and wet necrosis. The main causes of necrosis. Anatomical and physiological features of an organism in the genesis of necrosis. Clinical picture of dry and wet necrosis, principles of treatment. Tissue necrosis caused by acute and chronic ischemia. Pressure sores (concept, causes, classification, diagnosis,</p>	4

	principles of treatment). Ulcer as a skin defect resulting from an imbalance of aggression factors and imbalance (etiopathogenesis, classification, clinical course, local and complex treatment). Fistulas (concept, classification, clinical picture, diagnosis, principles of treatment). ²	
15.	Fundamentals of surgery for regional circulatory disorders. Violation of venous circulation. Violation of blood circulation. ¹ Violation of venous circulation, basic concepts. Varicose veins. Classification according to nosological forms and severity of venous outflow disorders. The clinical picture. Diagnostics. Functional tests. The concept of acute venous thrombosis and thrombophlebitis. Methods of instrumental diagnostics. Conservative and surgical methods of treatment of acute venous insufficiency. The lymphatic system, the main functions. Lymphatic insufficiency (mechanical, dynamic, resorptive). Symptoms of lymphatic circulation insufficiency. Lymphostasis (general and regional). The clinical picture of lymphedema. Differential diagnosis of edema of various origins. Methods and methods of conservative and surgical treatment of lymphedema. ²	4
5 term		
16.	Fundamentals of purulent septic surgery. General issues of acute surgical infection. ¹ Definition of the concepts of infection and surgical infection. Classification of surgical infection. Pathogens of purulent surgical infection. Pathogenesis. Local and general manifestations of surgical infection. Laboratory diagnosis of acute surgical infection. Modern principles of prevention and treatment of purulent diseases. General principles of treatment of purulent diseases, rational antibiotic therapy, immunotherapy, enzyme therapy, detoxification, stimulating and restorative therapy. Principles of surgical treatment of purulent septic infection. General principles of surgical intervention techniques. Modern methods of purulent focus treatment. ²	4
17.	Fundamentals of purulent septic surgery. Purulent diseases of the skin, lymphatic system, and glandular organs. ¹ Types of purulent skin diseases: furuncle, furunculosis, carbuncle. Etiology and pathogenesis. Clinic, diagnosis, and treatment. Features of the course of purulent skin diseases on the head and neck. Types of purulent-inflammatory diseases of the lymphatic system: erysipelas, erysipeloid, lymphangiitis, lymphadenitis. Definition, classification, causes, clinic, diagnosis, treatment. Purulent-inflammatory diseases of glandular organs. Mastitis - definition, classification, causes, clinic, diagnosis, principles of local and general treatment. The concept of mumps, hydradenitis. Etiopathogenesis, clinic, diagnosis, treatment. ²	4
18.	Fundamentals of purulent septic surgery. Purulent diseases of fat and muscle tissue. ¹ Types of purulent-inflammatory diseases: abscess, phlegmon. Etiology and pathogenesis, clinical manifestations, diagnosis, principles of surgical treatment. Principles of conservative therapy. Post-injection abscess. Phlegmon of the neck. The concept of purulent mediastinitis, purulent paranephritis, acute paraproctitis (etiology and pathogenesis, clinic, diagnosis, treatment). Retroperitoneal space phlegmons. ²	4
19.	Fundamentals of purulent septic surgery. Purulent diseases of the serous cavities. ¹ Pleurisy: etiology, pathogenesis, clinical picture, diagnosis, treatment, complications. Pleural empyema, definition, classification, diagnosis, principles of surgical treatment. Definition of peritonitis, classification, etiology, pathogenesis. Clinical manifestations of peritonitis (phases of the course). Diagnosis of peritonitis. Peritoneal symptoms. Assessment of the severity of the patient's condition. Principles of treatment (surgical, general). Features of the postoperative course in patients after abdominal rehabilitation. ²	4
20.	Fundamentals of purulent septic surgery. Surgical infection of synovial membranes, joints, bones. ¹	4

	Acute bursitis: concept, classification, etiopathogenesis, clinic, diagnosis, treatment. Arthritis: concept, classification, etiopathogenesis, clinic, diagnosis, treatment. Osteomyelitis; definition, classification. Etiology and pathogenesis. The clinical picture. Features of instrumental and laboratory diagnostics. Acute hematogenous osteomyelitis. Chronic recurrent osteomyelitis. Primary chronic forms of osteomyelitis (Brody's abscess, Garre's osteomyelitis, Ollier), their characteristics. Principles of general and local treatment of osteomyelitis. ²	
21.	Fundamentals of purulent septic surgery. Surgical infection of the hand. Diabetic foot. ¹ Anatomical and functional features of fingers and hands. Classification of purulent-inflammatory diseases of the hand. Surface and deep types of paronychia: clinic, diagnosis, principles of treatment. Purulent tendovaginitis. Phlegmon of the hand (commissural phlegmon, phlegmon of the median palmar space, phlegmon of the tenar). Clinical and instrumental diagnostics. Principles of complex treatment. The concept of a diabetic foot. The main clinical forms of diabetic foot, clinic, diagnosis, principles of treatment, prevention. ²	4
22.	Fundamentals of purulent septic surgery. Surgical sepsis. ¹ The concept of sepsis. The doctrine of sepsis, its development, and pathogenesis. Classification and terminology. Epidemiology and etiology. The pathogenesis of sepsis. Clinical manifestations of sepsis. Diagnostic criteria and laboratory diagnosis of sepsis. Stages of sepsis: bacteremia, systemic inflammatory reaction syndrome, sepsis, severe sepsis, septic shock, multiple organ failure syndrome. Assessment of the severity of sepsis patients. Principles of complex treatment (surgical treatment and intensive care). ²	4
23.	Fundamentals of purulent septic surgery. Acute specific surgical infection. ¹ Acute anaerobic infection, definition, main groups. Anaerobic non-clostridial infection. Causes, clinical picture, diagnosis, treatment. Anaerobic clostridial infection. Etiology, pathogenesis, clinic, diagnosis, treatment, prevention. Tetanus. Microbiological and pathophysiological characteristics of the pathogen. Classification. Periods of tetanus and clinical characteristics. The volume of detoxification, anticonvulsant, and symptomatic therapy. Surgical treatment. Planned and emergency (non-specific and specific) prevention of tetanus. Features of the course of acute specific surgical infection. Anthrax: definition, etiopathogenesis, main forms of the disease and their characteristics, diagnosis and differential diagnosis, principles of treatment. Rabies: definition, causes, course features, diagnosis, treatment, prevention, first aid. Diphtheria of wounds: etiopathogenesis, clinic, diagnosis, treatment. ²	4
24.	Fundamentals of purulent septic surgery. Chronic specific surgical infection. ¹ Secondary tuberculosis, etiology, pathogenesis. Osteoarticular tuberculosis (tuberculous spondylitis, tuberculous gonitis, tuberculous coxitis): clinical manifestations, diagnosis, principles of treatment. Tuberculosis of wounds. Tuberculosis of the gastrointestinal tract. Peritonitis of tuberculous etiology. Tuberculous lymphadenitis. Actinomycosis: clinical picture, laboratory and instrumental diagnostics, principles of treatment, prevention ¹ .	4
25.	Fundamentals of surgery for parasitic diseases. ¹ Concepts of surgical parasitic diseases. Echinococcosis: characteristics of the parasite, ways of infection, clinical manifestations, principles of diagnosis and treatment of echinococcosis. Alveococcosis: causes, diagnosis, clinic, principles of conservative therapy, surgical treatment, prevention. Surgical complications of ascariasis, opisthorchiasis, amoebiasis, filariasis, paragonimosis, fascioliasis. Understanding of tropical surgical parasitic diseases. ²	4
26.	Clinical examination of a surgical patient. ¹ Part 1. Ethical and legal aspects in the examination of a surgical patient. Rules for collecting complaints. Details of complaints about the main and related Survey systems. The history of the disease and the patient's life. General inspection. Examination of the systems (cardiovascular, respiratory, digestive, genitourinary,	4

	endocrine, nervous, osteoarticular, lymphatic). Local status (features of the description in the medical history). Rules for making a preliminary diagnosis. Compilation of a differential diagnostic series. Special (additional) examination methods to clarify the diagnosis: laboratory, instrumental. Clinical diagnosis. The treatment plan. The concept of epicrisis. ²	
27.	Clinical examination of a surgical patient. ¹ Part 2. Documentary support of a patient in a surgical hospital. The importance of medical history for protecting the rights of the patient and medical staff. The concept of an academic medical history. Supervision of patients with surgical pathology (each student receives a patient from the surgical department of the clinic for supervision). Conducts a survey and examination of the patient according to the scheme of writing an academic illness. Discussing with the teacher the results of the examination, preliminary diagnosis, drawing up a medical history plan, writing fragments of the medical history of the examined patient. ²	4
28.	Emergency conditions in surgery. Critical conditions of vital activity in surgical patients. ¹ The concept of critical condition. Clinical assessment of the patient's general standing. Objective methods for assessing the severity of the condition of patients and injured. Types of disorders of the vital activity of the body in surgical patients: collapse, coma, asphyxia, acute organ failure (clinical manifestations, basic elements of emergency diagnosis, first aid). Multiple organ failure syndrome. Types, symptoms, and diagnosis of terminal conditions: preagonia, agony, and clinical death. Signs of biological death. First aid for respiratory and circulatory arrest. ²	4
29.	Emergency conditions in surgery. Shock. ¹ The modern definition of shock. Classification of shock. Pathogenesis. Phases and degrees of shock. Basic concepts. Shock lung, shock kidney. The concept of a vicious circle. Criteria for diagnosis. Clinic, diagnostics, first aid. Anaphylactic shock, features of the course, first aid. Traumatic shock, features of the course, first aid. The scheme of anti-shock actions. Complex shock therapy. Replenishment of the BCC during shock. Methods of anesthesia and hemodynamic maintenance in shock. Criteria for treatment success. ²	4
30.	Emergency conditions in surgery. DIC syndrome. ¹ The pathology of hemostasis is DIC syndrome. The main aspects of the physiology of hemostasis. Causes and pathophysiology of DIC syndrome. Classification. Laboratory diagnosis of DIC syndrome. Features of DIC syndrome in various pathologies. Basic principles of therapy. Prevention of DIC syndrome in surgical practice. ²	4
31.	General issues of oncology. ¹ The concept of oncology. Organization of the oncological service in the Russian Federation. Causes of tumor development. Modern ideas about precancerous conditions. The concept of carcinogenesis. The concept of carcinogens. Classification of tumors. Clinical and morphological characteristics of tumors. Benign tumors. Malignant tumors. Clinical classification of malignant tumors. The concept of small oncological signs. Clinical manifestations of tumors. The concept of tumor immunomarkers. Modern diagnosis of tumors. Principles and methods of tumor treatment. Types of surgical interventions for oncological diseases. The concept of ablasty and antiblasty. Methods of radiation therapy. Chemotherapy. Hormone therapy. Fundamentals of complex therapy of malignant tumors. Prevention of malignant neoplasms. Medical examination of cancer patients. ²	4
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¹ – topic

² – essential content

³ – one thematic block includes several classes, the duration of one class is 45 minutes, with a break between classes of at least 5 minutes

Considered at the department meeting of General Surgery,
protocol of «02» June's 2025 г., № 14.

Head of the Department



_____ S.I.Panin