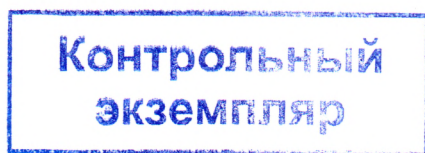


MINISTRY OF HEALTH OF THE REPUBLIC OF BELARUS
Educational Institution
«BELARUSIAN STATE MEDICAL UNIVERSITY»



APPROVED
by Rector of the Educational Institution «Belarusian State Medical University»
S.P.Rubnikovich
01.12.2025
Reg. # UD-0911-03-35/2528/edu.

SURGICAL DISEASES

**Curriculum of the educational institution
in the academic discipline for the specialty**

7-07-0911-03 «Dentistry»

Curriculum is based on the educational program «Surgical Diseases» for specialty 7-07-0911-03 «Dentistry», approved 01.12.2025, registration # УД-0911-03-27/2526/уч.; on the educational plan of education institution in the specialty «Dentistry», approved 16.04.202, registration # 7-07-0911-03/2526/mf

COMPILERS:

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RECOMMENDED FOR APPROVAL:

by the Department of General Surgery of the Educational Institution «Belarusian State Medical University»
(protocol # 2 of 30.09.2025);

by the Scientific and Methodical Council of the Educational Institution «Belarusian State Medical University»
(protocol # 3 of 19.11.2025)

EXPLANATORY NOTE

«Surgical Diseases» is an academic discipline of the General Clinical Surgical Module, containing systematized scientific knowledge about the etiology, pathogenesis, clinical manifestations, methods of diagnosis, treatment and prevention of the most common surgical diseases.

The aim of the academic discipline «Surgical Diseases» is to develop basic professional competence for the diagnosis and treatment of surgical diseases.

The objectives of the academic discipline «Surgical Diseases» are to develop students' scientific knowledge about:

- principles of desmurgy, asepsis and antisepsis, the basics of blood transfusion, diagnosis of bleeding, methods of hemostasis and compensation of blood loss;

- basic principles of anesthesiology and resuscitation, basic principles of diagnosis and treatment of the most common purulent surgical diseases, peripheral circulatory disorders;

- diagnostic methods, principles of treatment and prevention of some of the most common urgent surgical diseases;

- methods of providing emergency medical care to patients with acute surgical diseases, injuries and emergency conditions;

- skills and abilities required for:

- identifying syndromes and symptoms of surgical diseases;

- diagnosis of major surgical diseases;

- providing emergency medical care in the event of the development of a number of conditions that threaten the patient's life.

Relations to other educational disciplines

The knowledge, skills and abilities acquired in the study of the academic discipline «Surgical Diseases» are necessary for the successful study of the academic disciplines: «Ophthalmology», «Traumatology and Orthopedics», «Obstetrics and Gynecology», «Otorhinolaryngology» and Oral and Maxillofacial Surgery Module.

A student who has mastered the content of the educational material of the academic discipline should have the following basic professional competence: use knowledge about the etiology and pathogenesis, clinical manifestations, complications, methods of diagnosis and differential diagnosis, apply the principles of treatment and prevention in diseases and injuries in adults and children, provide medical care in emergency conditions.

As a result of studying the academic discipline «Surgical Diseases», the student should

know:

- etiology, pathogenesis, classification, clinical presentation, diagnostic methods, differential diagnosis, principles of treatment and prevention of the most common surgical diseases;

- clinical manifestations, diagnostic methods and medical tactics for conditions requiring emergency surgical intervention;

- medical tactics in the critical condition in a patient with a surgical disease;

- rules of medical ethics and deontology;

be able to:

identify symptoms and syndromes of surgical diseases;
 treat hands before medical procedures and surgery;
 determine indications for additional diagnostic methods and perform clinical interpretation of the data obtained;
 provide emergency medical care for life-threatening conditions;
 organize transportation of patients to healthcare organizations;
 perform basic cardiopulmonary resuscitation;
 perform transport immobilization;
 perform venipuncture, venesection;
 perform primary surgical treatment of wounds, assist in performing the most common emergency operations;

master:

skill in examining patients with surgical diseases;
 skills of assisting in surgical operations.

Total number of hours for the study of the discipline is 120 academic hours, including 63 classroom hours and 57 hours of independent student work. Classroom hours according to the types of studies: 12 hours of lectures (including 3 hours of supervised student independent work (SSIW), 51 hours of practical classes.

Form of higher education – full-time.

Intermediate assessment is carried out according to the syllabus of the specialty in the form of a differentiated credit (semester 6).

ALLOCATION OF ACADEMIC TIME ACCORDING TO SEMESTERS OF STUDY

Code, name of the specialty	Semester	Total number of academic hours	Number of classroom hours					Form of intermediate assessment
			Number of classroom hours	including			Out-of-class self-studies	
				Class lectures	SSIW	practicals		
7-07-0911-03 «Dentistry»	6	120	63	9	3	51	57	differentiated credit

THEMATIC PLAN

Section (topic) name	Number of class hours	
	lectures (incl. SSIW)	practical
1. General Surgery	10,5	24
1.1. Introduction into academic discipline «Surgical Diseases». Desmurgy.	-	3
1.2. Antiseptics and asepsis	1,5	3
1.3. Bleeding and blood loss. Transfusion of donor blood, blood components, blood replacement solutions	3	3
1.4. Specifics of examination of patients with surgical diseases. Surgical operation	-	3
1.5. Common issues of anesthesiology and resuscitation	1,5	3
1.6. Wounds	1,5	3
1.7. Common and special issues of surgical infection	1,5	3
1.8. Basics of oncology	1,5	3
2. Special Surgery	1,5	27
2.1. Vascular disorders	-	3
2.2. Acute appendicitis	-	3
2.3. Diseases of the gallbladder and extrahepatic bile ducts	-	3
2.4. Pancreatic diseases	-	3
2.5. Peptic ulcer of the stomach and duodenum. Complications requiring surgical treatment	-	3
2.6. Hernia of abdominal wall	-	3
2.7. Acute ileus	-	3
2.8. Peritonitis	-	3
2.9. Diseases of the rectum and pararectal tissue	1,5	3
Total hours	12	51

CONTENT OF THE EDUCATIONAL DISCIPLINE

1. General Surgery

1.1. Introduction into academic discipline «Surgical Diseases». Desmurgy

History of the development of surgery. Deontological principles in surgery. Development of surgery in Belarus. The purpose and objectives of the academic discipline «Surgical Diseases».

Desmurgy. General principles of bandaging. Application of soft bandages. Triangle dressings. Sling-shaped bandages for the head and neck. Adhesive bandages. Bandages for the head, neck, limbs.

1.2. Antiseptics and asepsis

Antiseptics. History of the development of antisepsis in surgery. Types of modern antiseptics. Objectives and methods of mechanical antiseptics: wound care and primary surgical treatment of wounds. Modern methods of physical antiseptics:

drainage of wounds and cavities, the use of ultraviolet radiation, medical lasers, evacuation of wounds, hyperbaric oxygenation. Chemical antiseptics: requirements for chemical antiseptics, groups of antiseptics and methods of their use. Biological antiseptics: antibiotics, enzyme therapy, immunotherapy. Rules for antibacterial treatment. Mixed antiseptic. Methods of antiseptics use. Antibiotic therapy.

Asepsis. History of the asepsis development, its significance in modern conditions. Exogenous and endogenous infection. Physical and chemical methods of sterilization. Prevention of airborne, contact and implantation infections. Epidemiological safety of medical care.

Hand treatment before medical procedures and surgery. Treatment of the surgical field.

1.3. Bleeding and blood loss. Transfusion of donor blood, blood components, blood replacement solutions

Definition, classification, pathogenesis, clinical presentation of bleeding. The human body's reaction to bleeding. Factors contributing to self-control of bleeding. Methods of temporary bleeding control. Methods of definitive bleeding control: mechanical, physical, chemical, biological.

Blood loss: determination of the amount of blood loss, treatment tactics. Causes of death due to blood loss.

Transfusion of donor blood, blood components, blood replacement solutions.

Hemotransfusion: definition, methods. Isohemagglutination. Blood groups. Rh-Hr factors. Methodology for determining ABO and Rh blood group. Preservation of donor blood and its storage. Blood components. Indications and contraindications for transfusion of whole donor blood and blood components. Determination of the suitability of preserved donor blood and blood components for transfusion. Tests for individual compatibility, methods and stages of blood transfusion. Errors and complications during blood transfusions, their prevention and treatment.

Determination of blood group. Compatibility tests of transfused blood. Intravenous infusion system.

1.4. Specifics of examination of patients with surgical diseases. Surgical operation

Specifics of examination of patients with acute and chronic surgical diseases, oncological processes and injuries. General issues of modern diagnostics methods in surgical diseases.

Surgical operation. Types of surgical interventions, their anatomical and physiological rationale. Minimally invasive surgeries.

Preoperative period. Examination of the patient, preparation for elective and emergency surgery. Features of monitoring the patient's condition during surgery.

Postoperative period. Patient care after surgery. Characteristics of the uncomplicated postoperative period. Postoperative complications: diagnosis, treatment, prevention.

1.5. Common issues of anesthesiology and resuscitation

Local anesthesia. Pharmacodynamics of anesthetic. Types of local anesthesia (superficial, infiltrative, infiltrative anesthesia by Vishnevsky, nerve block,

intravenous, intra-arterial, bone, spinal). Technique of local anesthesia, indications, contraindications, risks, complications.

Basics of resuscitation. Goals of resuscitation. Prevention and treatment of fainting, collapse, traumatic shock. Concepts of the terminal state (preagonal, agonal, clinical death). Basic methods of resuscitation. Algorithm for basic cardiopulmonary resuscitation. Post-resuscitation disease.

1.6. Wounds

Definition, classification of wounds. Types of wounds and stages (phases) of the wound process. General principles of wound treatment, primary surgical treatment of wounds. Principles of treatment of infected and purulent wounds. Modern wound dressings. Methods of local treatment of wounds: physical, chemical, biological. Methods of general influence on the human body during wound healing. Hypertrophic scars and keloids of the face.

Primary surgical treatment of the wound. Dressing of a postoperative wound. Dressing in purulent wound.

1.7. Common and special issues of surgical infection

Surgical infection: etiology, specific features of the course of purulent surgical infection, phases of inflammation, classification.

Acute nonspecific infection: etiology, pathogenesis, local tissue reaction, general reaction of the human body to surgical infection, outcomes of purulent infection, principles of treatment.

Certain types of acute purulent diseases. Acute purulent diseases of the soft tissues of the face, neck and glandular structures (furuncle, furunculosis, carbuncle, abscess, phlegmon, mastitis, lymphadenitis, parotitis, felon, erysipelas).

Surgical sepsis: classification, septic syndromes, pathogenesis, clinical picture, diagnosis, treatment principles.

Acute specific infection. Anaerobic clostridial and non-clostridial infection: classification, pathogens, pathogenesis, clinical presentation, diagnosis and treatment, types of prevention. Tetanus: pathogenesis, clinical picture, features of diagnosis and treatment, prevention.

1.8. Basics of oncology

Organization of medical care in the Republic of Belarus for cancer patients. Precancerous diseases. Benign and malignant neoplasms. Stages of the tumor process. Classification of neoplasms according to the TNM system. Clinical, instrumental and morphological methods for diagnosing malignant neoplasms. Types of biopsies. Early diagnosis of malignant neoplasms. Treatment of neoplasms: surgical, radiation, chemotherapy, hormonal, combined.

2. Special Surgery

2.1. Vascular disorders

Arterial diseases. The concept of acute and chronic arterial insufficiency syndromes. Principles for macro- and microhemodynamic disorders assessment. Causes of acute arterial insufficiency. Pathogenesis and stages of acute arterial insufficiency.

Arterial thrombosis and embolism: clinical presentation, diagnosis, principles of conservative and surgical treatment.

Venous diseases. The concept of acute and chronic venous insufficiency syndromes, causes of the disease, factors contributing to their development, principles of diagnosis.

Thrombophlebitis of the superficial veins of the lower extremities: pathogenesis, basic principles of diagnosis and treatment, prevention.

Varicose veins of the lower extremities: pathogenesis, clinical picture, main symptoms, principles of surgical treatment, the role of minimally invasive and endovascular interventions, prevention.

2.2. Acute appendicitis

Acute appendicitis: classification, etiology, pathogenesis, clinical presentation, diagnosis, specific symptoms, differential diagnosis, treatment principles. Features of the clinical presentation of acute appendicitis in children, pregnant women, elderly and senile people and depending on the location of the appendix.

Complications of acute appendicitis (appendiceal infiltrate, periappendiceal abscess): principles of diagnosis and treatment.

2.3. Diseases of the gallbladder and extrahepatic bile ducts

Gallstone disease: clinical forms, etiology, pathogenesis, clinical presentation, diagnosis. Modern instrumental methods for studying the biliary tract. Features of treatment of gallstone disease (surgical, conservative), indications, contraindications.

Chronic calculous cholecystitis: forms, principles of diagnosis and treatment.

Acute cholecystitis: etiology, pathogenesis, classification, clinical presentation, diagnosis, main symptoms, principles of treatment.

Complications of cholelithiasis (obstructive jaundice, choledocholithiasis, biliary strictures): principles of diagnosis and treatment.

2.4. Pancreatic diseases

Acute pancreatitis: etiology, pathogenesis, classification, clinical presentation, diagnosis, principles of conservative treatment, prevention. Complications of acute pancreatitis. Indications for surgical treatment of acute pancreatitis, types of surgical interventions.

2.5. Peptic ulcer of the stomach and duodenum. Complications requiring surgical treatment

Peptic ulcer of the stomach and duodenum: etiology, pathogenesis, varieties (according to Johnson), clinical presentation, diagnosis, principles of conservative treatment, types of surgical interventions.

Symptomatic ulcers (hormonal, medicinal, stress).

Perforated ulcer of the stomach and duodenum: classification, clinical presentation, diagnosis, principles of surgical treatment, types of surgical interventions.

Bleeding ulcer of the stomach and duodenum: pathogenesis, clinical presentation, diagnosis, principles of conservative (endoscopic) hemostasis, types of surgical interventions. Pyloroduodenal stenosis: stages, principles of diagnosis and treatment.

2.6. Hernia of abdominal wall

Definition of the concept of «abdominal hernia». Elements of abdominal hernias. Etiology, pathogenesis of hernias (producing and contributing factors), clinical

presentation, diagnosis, principles of treatment. Modern methods of hernia repair (tension-free, video laparoscopic). Prevention of abdominal hernias.

Complications of hernias. Strangulated hernia. Types and mechanisms of infringement (fecal, elastic, retrograde, parietal). The nature of changes in the strangulated organ (strangulation groove, ischemic necrosis). Clinical presentation, diagnosis, principles of treatment of strangulated hernias. Medical tactics for spontaneous and forced reduction of a strangulated hernia.

2.7. Acute ileus

Acute ileus: classification by origin, pathogenesis, anatomical localization, clinical course. Methods for examining patients with acute intestinal obstruction.

Dynamic (spastic, paralytic) intestinal obstruction: etiology, pathogenesis, clinical picture, diagnosis, treatment principles.

Mechanical intestinal obstruction (obstructive, strangulation, mixed types): etiology, pathogenesis, clinical picture, principles of conservative and surgical treatment.

2.8. Peritonitis

Definition of the concept of «intra-abdominal infection». Peritonitis from the position of abdominal sepsis.

Generalized peritonitis: etiology, pathogenesis, classification by clinical course, localization, prevalence, nature of the pathogen and stages of development, severity of clinical manifestations of various sepsis, clinical picture, specific symptoms, diagnosis, principles of surgical treatment, features of complex postoperative treatment.

2.9. Diseases of the rectum and pararectal tissue

Acute paraproctitis: etiology, pathogenesis, classification, clinical presentation, diagnostic principles. Rectal fistulas (chronic paraproctitis): clinical presentation, diagnosis, principles of treatment.

Hemorrhoids: classification, etiology, pathogenesis, clinical presentation and diagnosis of acute and chronic hemorrhoids and its complications, principles of treatment, the role of minimally invasive technologies.

EDUCATIONAL DISCIPLINE «SURGICAL DISEASES» CURRICULAR CHART

Section, topic #	Section (topic) name	Number of class hours		Supervised student independent work	Literature	Practical Skill	Form of control	
		lectures	practical classes				of practical skills	of current / intermediate assessment
6 semester								
	Lectures	9		3				
1.2.	Antisepsis and Asepsis	1,5	-	-	1-5			
1.3.	Bleeding and Blood Loss	1,5	-	-	1-5			
1.3.	Transfusion of Donor Blood, Blood Components and Blood Substitutes	1,5	-	-	1-5			
1.5.	General Anesthesiology and Resuscitation. Emergency Management	1,5	-	-	1-5			
1.6.	Wounds	1,5	-	-	1-5			
1.7.	General and Specific Surgical Infections	1,5	-	-	1-5			
1.8.	Fundamentals of Oncology	-	-	1,5	1-5			Computer test
2.9.	Diseases of the Rectum and Perirectal Tissue	-	-	1,5	1-5			Computer test
	Practical classes	-	51	-	1-5			
1.1.	Introduction to academic discipline «Surgical Diseases». Desmurgy. Rules of medical ethics and deontology	-	3	-	1-5	Applying soft bandages	Performing a practical skill using a simulated participant	Survey, computer test, case study
1.2.	Antisepsis and asepsis	-	3	-	1-5	Preparing the surgical site. Hand washing before	Visual assessment of skill performance	Survey, computer test, case study

						medical procedures and surgery		
1.3.	Bleeding and blood loss. Transfusion of donor blood, blood components and blood substitutes	-	3	-	1-5	Inserting an intravenous line. Blood typing. Compatibility testing of transfused blood	Performance of a practical skill on simulation equipment*. Solving situational problems	Control work*
1.4.	Specifics of examination of patients with surgical diseases. Surgical operation	-	3	-	1-5	-	-	Survey, computer test, case study
1.5.	General issues of anesthesiology and resuscitation. Tactics in emergency situations	-	3	-	1-5	Basic cardiopulmonary resuscitation	Performing a practical skill on simulation equipment*	Survey, computer test, case study
1.6.	Wounds	-	3	-	1-5	Initial surgical wound debridement. Postoperative wound dressing	Assistance in primary surgical treatment of a wound. Assistance with dressing a postoperative wound	
1.7.	General and specific issues of surgical infection	-	3	-	1-5	Purulent wound dressing	Assistance in dressing a purulent wound	Control work*
1.8.	Basics of oncology	-	3	-	1-5	-	-	Survey, computer test, case study
2.1.	Vascular disorders	-	3	-	1-5	-	-	Survey, computer test, case study
2.2.	Acute appendicitis	-	3	-	1-5	-	-	Survey, computer test, case study
2.3.	Diseases of the gallbladder and extrahepatic bile ducts	-	3	-	1-5	-	-	Survey, computer test, case study
2.4.	Pancreatic diseases	-	3	-	1-5	-	-	Survey, computer test, case study

2.5.	Peptic ulcer of the stomach and duodenum. Complications requiring surgical treatment	-	3	-	1-5	-	-	Survey, computer test, case study
2.6.	Hernia of abdominal wall	-	3	-	1-5	-	-	Survey, computer test, case study
2.7.	Acute ileus	-	3	-	1-5	-	-	Survey, computer test, case study
2.8.	Peritonitis	-	3	-	1-5	-	-	Survey, computer test, case study
2.9.	Diseases of the rectum and pararectal tissue	-	3	-	1-5	-	-	Case study. Differentiated credit
Total hours		9	51	3				

* This is a mandatory form of current certification

INFORMATION AND INSTRUCTIONAL UNIT

LITERATURE

Basic:

1. Alekseev, S. A. Surgical Diseases. Practice book / S. A. Alekseev. – Minsk : Higher School, 2020. – 222 p.

Additional:

2. General Surgery : textbook / ed. by S. D. Khimich, M. D. Zheliba. – Kyiv: AUS Medicine Publishing, 2019. – 534 p.

3. Schwartz's Principles of Surgery / F. C. Brunicaudi, S. I. Schwartz, D. K. Andersen [et al.]. – 11th ed. – New York : McGraw-Hill Education, 2019. – 2319 p.

4. Essentials of general surgery and surgical specialties / ed. by P. F. Lawrence. – 6th ed. – Philadelphia : Wolters Kluwer, 2019. – 747 p.

Electronic courseware for the educational discipline «Surgical Diseases»:

5. <https://etest.bsmu.by/course/view.php?id=237>.

METHODOLOGICAL RECOMMENDATIONS FOR THE ORGANIZATION AND PERFORMANCE OF STUDENT INDEPENDENT WORK IN THE ACADEMIC DISCIPLINE

The time allotted for independent work can be used by students for:

- preparation for lectures, practical classes;
- preparation for differentiated credit in the academic discipline;
- study of topics (questions) assigned for independent study;
- note-taking from academic literature.

METHODOLOGICAL RECOMMENDATIONS FOR THE ORGANIZATION AND PERFORMANCE OF SUPERVISED STUDENT INDEPENDENT WORK IN THE ACADEMIC DISCIPLINE

APPROXIMATE LIST OF TASKS FOR SUPERVISED STUDENT INDEPENDENT WORK:

- preparing thematic reports, essays and presentations;
- taking notes from textbooks.

FORMS OF CONTROL OF SUPERVISED STUDENT INDEPENDENT WORK:

- computer test.

LIST OF AVAILABLE DIAGNOSTIC TOOLS

The following forms of current certification are used to diagnose competencies:

- survey;
- computer test;
- case study;
- control work.

LIST OF AVAILABLE TEACHING METHODS

- Traditional method;
- active (interactive) methods:
 - PBL (Problem-Based Learning);

TBL (Team-Based Learning);
CBL (Case-Based Learning).

LIST OF PRACTICAL SKILLS

List of practical skills	Practical skills control form
1. Applying soft bandages	Performing a practical skill using a simulated participant
2. Preparing the surgical site	Visual assessment of skill performance
3. Hand washing before medical procedures and surgery	Visual assessment of skill performance
4. Inserting an intravenous line	Performing a practical skill on simulation equipment
5. Blood typing	Solving situational problems
6. Compatibility testing of transfused blood	Solving situational problems
7. Basic cardiopulmonary resuscitation	Performing a practical skill on simulation equipment
8. Initial surgical wound debridement	Assistance in primary surgical treatment of a wound
9. Postoperative wound dressing	Assistance with dressing a postoperative wound
10. Purulent wound dressing	Assistance in dressing a purulent wound

LIST OF EQUIPMENT USED

Mannequin, gloves, surgical instruments (tweezers, forceps, scissors, needle holder), suture material, gauze ball, napkins, soft bandages, adhesive plaster, antiseptic, infusion system, bottle with solution, blood grouping tablets, standard serums, blood component vial.

PROTOCOL OF THE CURRICULUM APPROVAL

Title of the discipline requiring approval	The name of the department	Proposals for changes in the content of the educational institution's curriculum for the academic discipline	The decision taken by the department that developed the curriculum
1. Ophthalmology	Department of Ophthalmology	There are no additions and changes	Protocol # 2 of 08.09.2025
2. Traumatology and Orthopedics	Department of Traumatology and Orthopedics with a course of advanced training and retraining	There are no additions and changes	Protocol # 2 of 08.09.2025
3. Obstetrics and Gynecology	Department of Obstetrics and Gynecology with a course of advanced training and retraining	There are no additions and changes	Protocol # 2 of 08.09.2025
4. Otorhinolaryngology	Department of Otorhinolaryngology with a course of advanced training and retraining	There are no additions and changes	Protocol # 2 of 08.09.2025
5. Oral Surgery and Propaedeutics of Maxillofacial Surgical Diseases	Department of Surgical Dentistry	There are no additions and changes	Protocol # 2 of 08.09.2025
6. Maxillofacial Surgery and Outpatient Maxillofacial Surgery	Department of Maxillofacial Surgery and Plastic Surgery with a course of advanced training and retraining	There are no additions and changes	Protocol # 2 of 08.09.2025

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O.A. Fateeva

Curriculum content, composition and the accompanying documents comply with the
established requirements.

Head of the Office of Educational
Activities of the Educational Institution
«Belarusian State Medical University»

18.11.2025



I.L. Kotovich

Methodologist of the Educational and
Methodological Department of the
Office of Educational Activities of the
Educational Institution «Belarusian
State Medical University»

18.11.2025



S.V. Zaturanova