

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

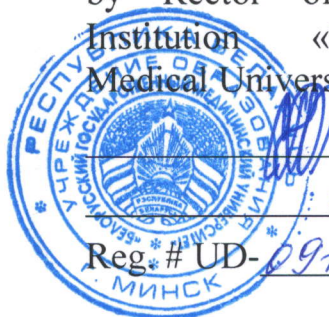
APPROVED

by Rector of the Educational
Institution «Belarusian State
Medical University»

S.P.Rubnikovich

15.11.2023

Reg. # UD-091-016/2324/edu.



SURGICAL DISEASES

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

1-79 01 07 «Dentistry»

Curriculum is based on the educational program «Surgical Diseases», approved 15.11.2023, registration # УД-091-016/2324/уч.; on the educational plan in the specialty 1-79 01 07 «Dentistry», approved 17.05.2023, registration # 7-07-0911-03/2324/mf.

COMPILERS:

S.A.Alekseev, Head of the Department of General Surgery of the Educational Institution «Belarusian State Medical University», DSc, Professor;

A.A.Bezvoditskaya, Associate Professor of the Department of General Surgery of the Educational Institution «Belarusian State Medical University», PhD, Associate Professor;

S.A.Klimuk, Assistant of the Department of General Surgery of the Educational Institution «Belarusian State Medical University»

RECOMMENDED FOR APPROVAL:

by the Department of General Surgery of the Educational Institution «Belarusian State Medical University»
(protocol # 5 of 23.10.2023);

by the Scientific and Methodical Council of the Educational Institution «Belarusian State Medical University»
(protocol # 11 of 15.11.2023)

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 purpose 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.

The knowledge, abilities and skills 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 the module «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:

BPC. Use knowledge about etiology and pathogenesis, clinical manifestations, complications, diagnostic methods and differential diagnosis, apply the principles of treatment and prevention for 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 cardiopulmonary resuscitation;
 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. Classroom hours according to the types of studies: lectures – 14 (including 7 hours of supervised student independent work), practical classes – 54, student independent work (self-study) – 52 hours.

Intermediate assessment is carried out in accordance with the curriculum in the specialty in the form of differentiated credit (6 semester).

Form of higher education – full-time.

ALLOCATION OF ACADEMIC TIME ACCORDING TO SEMESTERS OF STUDY

Code, name of the specialty	semester	Number of academic hours						Form of intermediate assessment
		total	in-class	including			out-of-class self-studies	
				lectures (including supervised independent work)	supervised student independent work	practical classes		
1-79 01 07 «Dentistry»	6	120	68	14	7	54	52	differentiated credit

THEMATIC PLAN

Topic (section) title	Number of class hours	
	lectures (including SIW)	practical
1. General Surgery	10	27
1.1. Introduction into discipline «Surgical Diseases». Desmurgy. Rules of medical ethics and deontology	-	3
1.2. Antiseptics and asepsis	2	3
1.3. Bleeding and blood loss	-	3
1.4. Transfusion of donor blood, blood components, blood replacement solutions	2	3
1.5. Specificity of examination of patients with surgical diseases. Surgical operation	-	3
1.6. Common issues of anesthesiology and resuscitation. Tactics for emergency conditions	-	3
1.7. Wounds	2	3
1.8. Common and special issues of surgical infection	2	3
1.9. Basics of oncology	2	3
2. Special Surgery	4	27
2.1. Vascular disorders	2	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 and its 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	2	3
Total hours	14	54

CONTENT OF THE EDUCATIONAL MATERIAL

1. General Surgery

1.1. Introduction into discipline «Surgical Diseases». Desmurgy. Rules of medical ethics and deontology

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.

Rules of medical ethics and deontology.

1.2. Antiseptics and asepsis

Antiseptics. History of the development of antiseptics 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.

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

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.

1.4. 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.

1.5. 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.

1.6. Common issues of anesthesiology and resuscitation. Tactics for emergency conditions

Local anesthesia. Pharmacodynamics of anesthetics. 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. Tactics in emergency conditions.

1.7. 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.

1.8. 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).

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.

1.9. 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 cholelithiasis (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. 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.

**ACADEMIC DISCIPLINE CURRICULAR CHART FOR THE DISCIPLINE «SURGICAL DISEASES»
OF THE MODULE «GENERAL CLINICAL SURGICAL MODULE»**

Number of section topic	Name section. topic	Number of classroom hours			Supervised student	Form of knowledge assessment
		lectures (including supervised)	supervised student	practical		
1.	General surgery	10	5	27	25	
1.1.	Introduction into discipline «Surgical Diseases». Desmurgy. Rules of medical ethics and deontology	-	-	3	4	situational cases, quiz, controlled works
1.2	Antiseptics and asepsis	2	1	3	2	tests, quiz, controlled works
1.3.	Bleeding and blood loss	-	-	3	4	tests, quiz, controlled works
1.4.	Transfusion of donor blood, blood components, blood replacement solutions	2	1	3	3	tests, quiz, controlled works
1.5.	Specificity of examination of patients with surgical diseases. Surgical operation	-	-	3		tests, quiz, controlled works
1.6.	Common issues of anesthesiology and resuscitation. Tactics in urgency	-	-	3	2	tests, quiz, controlled works
1.7.	Wounds	2	1	3	3	tests, quiz, controlled works
1.8.	Common and special issues of surgical infection	2	1	3	4	tests, quiz, controlled works
1.9.	Basics of Oncology	2	1	3	3	tests, quiz, controlled works
	Special surgery	4	2	27	27	
2.1.	Vascular disorders	2	1	3	3	practical classes reports, quiz, tests

2.2.	Acute appendicitis	-	-	3	3	practical classes reports, quiz, tests
2.3.	Diseases of the gallbladder and extrahepatic bile ducts	-	-	3	3	practical classes reports, quiz, tests
2.4.	Pancreatic diseases	-	-	3	3	practical classes reports, quiz, tests
2.5.	Peptic ulcer of the stomach and duodenum and its complications requiring surgical treatment	-	-	3	3	practical classes reports, quiz, tests
2.6.	Hernia of abdominal wall	-	-	3	3	practical classes reports, quiz, tests
2.7.	Acute ileus	-	-	3	3	practical classes reports, quiz, tests
2.8.	Peritonitis	-	-	3	3	practical classes reports, quiz, tests
2.9	Diseases of the rectum and pararectal tissue	2	1	3	3	differentiated credit, computer tests
		14	5	54	52	

INFORMATION AND INSTRUCTIONAL UNIT**LITERATURE****Basic:**

1. Алексеев, С. А. Хирургические болезни. Практикум = Surgical diseases. Practice book : учебное пособие для иностранных студентов учреждений высшего образования по спец. «Стоматология», «Медико-профилактическое дело». – Минск : Вышэйшая школа, 2020. – 222 с.

Additional:

2. Seymour I., Schwartz, F. Charles Brunicardi. Schwartz's Principles of Surgery, McGraw-Hill. – Education, 11th edition. – 2098 p.

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 offices and exams in academic discipline;
the study of topics (issues) made for independent study;
problem solving;
preparation of thematic reports, abstracts, presentations;
fulfillment of practical tasks;
abstracting educational literature;
compilation of tests by students to organize mutual control.

METHODOLOGICAL RECOMMENDATIONS FOR THE ORGANIZATION AND PERFORMANCE OF SUPERVISED STUDENT INDEPENDENT WORK IN THE ACADEMIC DISCIPLINE**Main forms of supervised student independent work:**

writing and presentation of the abstract;
presentation of the thesis in the oral form;
study of topics and problems that are not taken out at a lecture.

Supervised independent work control in carried out as:

discussions of abstracts;
protection of training tasks;
assessment of an oral answer to the question, message, report or situational cases;
individual conversation.

LIST OF AVAILABLE DIAGNOSTIC TOOLS**Oral form:**

situational cases;
reports for practical classes.

Written form:

tests;
quiz;
controlling works.

The oral-written form:

Credit with a mark;
Rating assessment.

Technical form:

computer test.

LIST OF AVAILABLE TEACHING METHODS

Linear (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. Application of soft bandages	performing a practical skill on simulation equipment
2. Treatment of the surgical field	performing a practical skill on simulation equipment
3. Hand treatment before medical procedures and surgery	performing a practical skill on simulation equipment
4. Assembling of an intravenous infusion system	performing a practical skill on simulation equipment
5. Determination of blood group	performing a practical skill on simulation equipment
6. Performing tests for compatibility of transfused blood	performing a practical skill on simulation equipment
7. Basic cardiopulmonary resuscitation	performing a practical skill on simulation equipment
8. Primary surgical treatment of the wound	performing a practical skill on simulation equipment
9. Dressing of a postoperative wound	performing a practical skill on simulation equipment
10. Dressing a purulent wound	performing a practical skill on simulation equipment

LIST OF EQUIPMENT USED

1. Gauze bandages.
2. CPR dummies.

LIST OF LECTURES

1. Asepsis and antiseptics.
2. Transfusion of donor blood, blood components, blood replacement solutions.
3. Wounds.
4. Common and special issues of surgical infection.
5. Basics of Oncology.
6. Vascular disorders.
7. Diseases of the rectum and pararectal tissue.

PRACTICAL LESSONS LIST

1. Introduction into discipline «Surgical Diseases». Desmurgy. Rules of medical ethics and deontology.
2. Antiseptics and asepsis.
3. Bleeding and blood loss.
4. Transfusion of donor blood, blood components, blood replacement solutions.
5. Specificity of examination of patients with surgical diseases. Surgical operation.
6. Common issues of anesthesiology and resuscitation. Tactics for emergency conditions.
7. Wounds.
8. Common and special issues of surgical infection.
9. Basics of Oncology.
10. Vascular diseases.
11. Acute appendicitis.
12. Diseases of the gallbladder and extrahepatic bile ducts.
13. Pancreatic diseases.
14. Peptic ulcer of the stomach and duodenum and its complications requiring surgical treatment.
15. Hernia of abdominal wall.
16. Acute ileus.
17. Peritonitis.
18. Diseases of the rectum and pararectal tissue.

PROTOCOL OF THE CURRICULUM APPROVAL

Title of the discipline requiring approval	The name of the department	Amendments to the curriculum in the academic discipline	Decision of the department, which designed the curriculum (date, protocol #)
1. Traumatology and orthopedics	Department of Traumatology and orthopedics	There are no additions and changes	protocol # 5 of 23.10.2023
2. Obstetrics and Gynecology	Department of Obstetrics and Gynecology	There are no additions and changes	protocol # 5 of 23.10.2023
3. Ophthalmology	Department of Ophthalmology	There are no additions and changes	protocol # 5 of 23.10.2023
4. Otorhinolaryngology	Department of Otorhinolaryngology	There are no additions and changes	protocol # 5 of 23.10.2023
5. Maxillofacial and dental surgery	Department of Maxillofacial surgery and dental surgery	There are no additions and changes	protocol # 5 of 23.10.2023

COMPILERS/AUTHORS:

Associate Professor of the Department of General Surgery of the Educational Institution «Belarusian State Medical University», PhD, Associate Professor

A.A.Bezvoditskaya

Head of the Department of General Surgery of the Educational Institution «Belarusian State Medical University», DSc, Professor

S.A.Alekseev

Assistant of the Department of General Surgery of the Educational Institution «Belarusian State Medical University»

S.A.Klimuk

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

Dean of the Medical Faculty for International Students of the educational institution «Belarusian State Medical University»

13. 11. 2023

O.S.Ishutin

Methodologist of the educational institution «Belarusian State Medical University»

13. 11. 2023

S.V.Zaturanova