



**CD 8.5.1 CURRICULUM DISCIPLINĂ PENTRU
STUDII UNIVERSITARE**

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**FACULTY OF MEDICINE
CURRICULUM 0912.1 MEDICINE
DEPARTMENT OF SURGERY NO.2**

APPROVED

at the meeting of the Commission for Quality Assurance and Curricular Evaluation in Medicine / Pharmacy / Dentistry
Report no .___ of ____

Chairman, PhD, Prof.

Suman Serghei _____
(signature)

APPROVED

at the meeting of the Council of Faculty

Report no .___ of _____
Dean of the Faculty of Medicine, PhD,
Prof. **Gheorghe Placinta**

(signature)

APPROVED

at the meeting of the Department of
Surgery no.2

Report no. 1 from 15.09.2021
Head of the PhD, Prof.

Hotineanu Adrian

(signature)

**CURRICULUM
DISCIPLINE OF SURGICAL DISEASES S.10.O.095**

Integrated Studies

Course type: Compulsory discipline

Curriculum developed by a group of authors:

Hotineanu Adrian, PhD., Prof.
Iliadi Alexandru, Ph.D Ass Prof.
Cazacov Vladimir, PhD., Prof.

Chisinau, 2021



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I. PRELIMINARIES

- General presentation of the discipline: the place and role of the disciplines in the formation of the specific competencies of the professional / specialty training program.

- The discipline "Surgical Diseases" is a compulsory course in the university curriculum basic subjects in the general training of students, regardless of the specialty they will choose in the future. It presents an analytical integration and the implementation of knowledge in the present and fundamental surgical disciplines (anatomy, pathophysiology, topographical anatomy).

The aim of the discipline is to study endocrine, pleuro-pulmonary and other surgical diseases mediastinum and esophagus, cardiovascular, abdominal organs, treatment and prophylaxis of these diseases.

The teaching process is carried out in 2 main ways: lectures and practical works.

The lectures provide a way to present the information of the course of surgery with coherent logical structure, built from a systemic point of view. It reveals and complements the subject of the practical works in depth and clearly. The purpose of the lectures aims: presentation the most important information on the topics, the assistance in mastering the problems fundamentals of the course, the popularization of the latest achievements of modern scientific thinking specialty.

Practical lectures. The evaluation of the practical works in the discipline aims at evaluating the level reached by student in the formation of previous practical skills, abilities and capacities specific application of above mentioned in medical practice

- **The mission of the curriculum (purpose) in vocational training:**

- development of knowledge of the pathological conditions characteristic for surgical patients, based on the anamnestic, clinical and laboratory examination, methods of instrumental investigation;
- development, deepening of knowledge of etiology and pathogenesis, variants of topographic anatomy in order to assimilate the characteristics of atypical clinical evolution and practice of various possible diagnostic options;
- developing skills in studying and planning a complex of additional examinations useful in making the differential diagnosis and determination of surgical tactics.
- development of knowledge in the selective additional examination in carrying out planned and emergency treatment for surgical patients, choice of the optimal curative algorithm and prophylaxis of complications;
- developing knowledge in strengthening skills to motivate patients and their family members to behave positively, aiming at building a healthy lifestyle, training in prophylactic methods and self-control of the patients, trust in medical staff; implementing measures to maintain their health;
- developing the knowledge in the competence of examining the work incapacity of surgical patients and the medical documentation of surgical profile;
- improving the skills of activity with the scientific literature, selection, analysis, presentations through different reports;
- stimulating participation in scientific research, solving innovative tasks in applied medicine.

- Language (s) of instruction: Romanian, Russian, French, English

- Beneficiaries: students of the year of the faculties of MEDICINE and MEDICINE II



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I. DISCIPLINE ADMINISTRATION

Discipline Code		S.10.O.093	
Name of the Discipline		SURGICAL DISEASES	
Responsibles for Discipline		Ph.D, Professor, Adrian Hotineanu Ass. Profrssor, Alexandru Iliadi Ph.D, Professor, Vladimir Cazacov	
Academic Year	V	Semester/Semesters	IX-X
Total number of hours, including:			150
Course	30	Practical / laboratory work	30
Seminars	30	Individual work	60
Evaluation form	E	Number of credits	5

I. DISCIPLINE TRAINING OBJECTIVES

At the end of the study the student will be able:

• at the level of knowledge and understanding:

- to recognize surgical conditions in patients;
- know the peculiarities of the onset and evolution of various surgical conditions;
- to understand the methodology and features of examining patients with various surgical conditions;
- to understand the indications and how to transfer patients to specialized services;
- to know the frequency, etiology and pathogenesis of abdominal surgical diseases, as well as abdominal traumas;
- to know the contemporary methods of investigation (urgent and scheduled) of surgical pathology;
- to know the contemporary methods of treatment of abdominal surgical diseases and abdominal traumas;
- to know the methods of prophylaxis of chronic and acute pathologies of the abdominal organs.

• at application level:

- to collect and estimate the correct anamnesis data;
- to perform the correct examination of patients with various surgical conditions;
- to be able to establish the preventive diagnosis;
- to appreciate the severity of the patient's general condition;
- to provide urgent help in critical conditions.



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• *at the integration level:*

- will appreciate the importance of the discipline - surgical diseases in the context of medicine;
- will creatively address the issues of fundamental medicine;
- will deduce interrelationships between the discipline - surgical diseases and other fundamental disciplines;
- to possess skills of implementation and integration of the knowledge obtained in the discipline - surgical diseases with the fundamental disciplines;
- be able to objectively evaluate and self-evaluate knowledge in the field;
- will be able to assimilate new achievements in the field of surgical diseases and integrate them with other medical disciplines.

I. CONDITIONS AND PREREQUISITES

Students of academic year V are obliged:

- to possess the language of instruction;
- to strengthen the knowledge defined by predominantly informative-cognitive values from the previous years of studies III-IV;
- to analyze the clinical cases through the clinical analytical synthesis of the knowledge in the states of emergency – Intensive therapy and anesthesiological departments;
- to share the communication and interceptive clinical analysis during practice and theoretical lectures;
- possess skills of compassion, tolerance and a spirit of the independent decision.



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I. THEMATIC AND ORIENTATIVE DISTRIBUTION OF HOURS

Nr.	Theme	Number of hours		
		Lectures	PL/S	Individual work
1	History of the Department of Surgery No.2. Patient Care.	2	4	4
2	Surgical Pathology of the Thyroid Gland.	2	4	4
3	Endocrine Surgical Pathology. Multiple Endocrine Systemic Disorders.	2	4	4
4	Suppurative Pleuro-Pulmonary Surgical Pathology.	2	4	4
5	Unsuppurative Pleuro-Pulmonary Surgical Pathology. Surgical Pathology of the Diaphragm.	2	4	4
6	Cardiac Surgical Pathology.	2	4	4
7	Surgical Pathology of the Mediastinum and Esophagus.	2	4	4
8	Peripheral Arteriopathy. Acute Vascular Insufficiency.	2	4	4
9	Acute Non-Varicose Gastrointestinal Bleeding. Postresectional Syndroms.	2	4	4
10	Surgical Pathology of the Liver. Mechanical Jaundice. Postcholecystectomy Syndrome.	2	4	4
11	Portal Hypertension Syndrome. Surgical Pathology of the Spleen.	2	4	4
12	Surgical Pathology of the Pancreas.	2	4	4
13	Surgical Pathology of the Small And Large Intestine.	2	4	4
14	Surgical Pathology of the Rectum. Intestinal Fistulas.	2	4	4
15	Infections of the Abdominal Cavity.	2	4	4
		30	60	60
Total		150		



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The aim for the student for each topic provided by the study program will be:

- **to define** the syndrome discussed in each topic;
- **to know:**
 - detailing the syndrome, which includes pathophysiology, semiology, modern methods of investigation, the significance of the syndrome for nosological diagnosis;
 - diseases manifested by the syndrome in question;
 - incidence, modern aspects of etiology and pathogenesis of the diseases discussed in each topic;
 - the clinical and paraclinical diagnosis (laboratory and instrumental) of each nosological entity with its argumentation;
- **demonstrate the ability to:**
 - to perform the clinical and paraclinical diagnosis (laboratory and instrumental) of each nosological entity with its argumentation;
 - to make the differential diagnosis and its argumentation;
 - to make the clinical diagnosis (underlying disease, complications and comorbidities);
 - to draw up the paraclinical examination plan with its arguments;
 - to draw up a personalized treatment plan (for the underlying disease and comorbidities) with its reasoning;
- **to apply:**
 - the accumulated knowledge and practical skills;
 - the algorithm for diagnosis, differential diagnosis and treatment in possible emergencies;
 - the knowledge related to the preparation of medical documentation (observation sheet, stage epicrisis, transfer and discharge; extract from the observation sheet; statistical sheet).
- **to integrate** knowledge in the fields of fundamental, preclinical and clinical disciplines.

VI. PRACTICAL MANEUVERS PURCHASED AT THE END OF THE COURSE

1. Consolidation of the practical skills provided in the programs of the university curriculum for academic years III - IV;
2. Preparation of the clinical observation sheet arguing the presumptive diagnosis and the program instrumental and laboratory investigations, differential diagnosis and argumentation treatment program; Examining patients to diagnose various conditions pleuro-pulmonary, cardiovascular, endocrine, gastrointestinal surgery;
Preparation of patients for radiological examination (stomach, duodenum, intestine), endoscopic examination (stomach, duodenum, intestine) with ultrasound (organs of the abdominal cavity).
3. Evaluation of the results of modern contemporary investigations: immunological, bacteriological, 3D computerized tomography, computerized magnetic resonance imaging, angiography and other;
Interpretation of laboratory test results: changes in blood count, urine, indices immuno-biochemistry, acid-base balance, coagulogram; evaluation of radiological clichés in: cavity perforation, intestinal obstruction, chest and abdomen injuries, peritonitis, abdominal tumors, bile duct pathology, pancreatic disorders.
4. Practical maneuvers in the studied ailments, the practice of diagnostic-curative manipulations



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In the hospitalization section, the dressing room and the operating room:

- Skin incisions - wound debridement
- Performing intraoperative hemostatic ligation - wound suture
- Post-traumatic wound dressing
- Peripheral venous catheterization
- Paracentesis
- Thoracocentesis, drainage of the pleural cavity.
- Collection of biological samples for bacteriological examination
- Colostomy nursing
- Esophageal and stomach probe, Blackmore probe application
- Bladder catheterization and probe suppression
- Performing rectal palpation and vaginal touch, puncture the Duoglas space
- Performing evacuation and stimulation of the digestive tract
- Performing the diaphanoscopy, performing the Henelt maneuver, performing the Swarts test

II. REFERENCE OBJECTIVES AND UNITS OF CONTENT

Objectives

Content units

Topic 1. History of the Surgery Department No.2. Patient Care.

- to know the scheme of the observation sheet of the surgical patient;
- fulfillment of medical documents: observation sheet, extracts and certificates for the polyclinic;
- presentation of the patient's observation sheet at the end of the practical course.

History of the Department of Surgery No.2. Short history. The founders of the local surgical school. The organization of the specialized republican services. The main directions of scientific-practical activity of the surgery department no. 2 at the current stage.

Patient care.

1. The purpose of the practical work consists in the in-depth study of the methods of clinical and paraclinical exploration, the establishment of the presumptive and definitive diagnosis based on the exploration results, the presentation of the medical-surgical treatment plan. Each student is required to treat from 2 to 5 to 6 patients. To this practical lesson the student must know:

2. Clinical examination of the surgical patient (interrogation, inspection, palpation, percussion, auscultation, instrumental exploration).

3. The clinical trial combines the theoretical training of the student with the practical training acquired through a personal experience, which has great individual variations. Thorough theoretical training, clinical experience in examining and caring for patients, knowledge of patient exploration techniques are required.

4. The clinical trial includes the complete examination of the patient, the establishment of the diagnosis, the analysis of the case and the indication of the treatment carried out in conditions



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of practical works or promotion exam. The particularities of the general and local clinical examination of the surgical patient, in various conditions, require a careful anamnesis to establish the genetic and environmental factors incriminated in the occurrence of the disease, a complete clinical examination, establishing an etiological, topographic - anatomical, anatomical - morphological diagnosis staging. Therapeutic options and individualized treatment decision will be complemented by prospective assessment of quality of life and assessment of therapeutic response.

Topic 2. Surgical Pathology of the Thyroid Gland

- to define the fundamental concepts of thyroid diseases;
- to know the methods of examining the patient with thyroid gland pathology;
- to demonstrate skills of analysis and systematization of knowledge in the pathology of the thyroid gland;
- to present the criteria for differentiating various pathologies of the thyroid gland
- to participate in the practical activity regarding the diagnosis, treatment and prophylaxis in the pathology of the thyroid gland.

Surgical pathology of the thyroid gland

Notions of anatomy and physiology. Classification of thyroid gland pathology. Etiopathogenesis. Factors that contribute to the disruption of thyroid hormone synthesis - environmental factors, individual factors, genetic factors. Thyroid function. Exploration of thyroid function: radiocapture, protein iodine dosing, serum T3-T4 dosing, T3-T4 urinary dosing, basal metabolism, Werner test, Querido-Stamburi test, morphological ultrasound investigations - thyroid trepanation and ultrasound-guided aspiration. Medical and surgical treatment. Indications for surgical treatment. Early and late postoperative complications.

Prophylaxis

1. **Nodular goiter.** Etiopathogenesis. Classification. Epidemiology. Morphopathology. Positive and differential diagnosis. Indications for surgical treatment.
2. **Endemic and sporadic goiter.** Etiopathogenesis. Classification. Epidemiology. Notion of endemic area. Morphopathology. Positive and differential diagnosis. Medical and surgical treatment.
3. **Graves-Basedow disease.** Etiopathogenesis. Classification. Morphopathology. The clinical picture. Positive and differential diagnosis. Preoperative preparation. Surgical treatment. Peculiarities of postoperative care.
4. **Plummer's Thyroid Toxic Adenoma.** Etiopathogenesis. Classification. Morphopathology. Positive and differential diagnosis. Preoperative preparation. Surgical treatment.
5. **Inflammatory thyroid disease.** Acute thyroiditis and strumitis. Granulomatous subacute thyroiditis (De Quervain's thyroiditis). Etiopathogenesis. The clinical picture. Positive and differential diagnosis. Medical and surgical treatment.
6. **Chronic thyroiditis.** Lymphomatous thyroiditis (Hashimoto's disease). Chronic fibrous thyroiditis Riedel. Etiopathogenesis. The clinical picture. Positive and differential diagnosis. Medical and surgical treatment.
7. **Differential diagnosis of benign pathology with thyroid cancer.** Diagnostic and therapeutic landmarks. Indications and surgical treatment. Evolution. Complications. Prognosis.



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Topic 3. Endocrine Surgical Pathology. Multiple Endocrine Systemic Disorders.

- to define the basic concepts of parathyroid, adrenal, thymus, pancreas and endocrine disorders;
- to know the research methods in endocrine surgical pathology;
- to demonstrate skills of analysis and systematization of knowledge in endocrine surgical pathology;
- to apply the criteria for differentiating different pathologies of parathyroid, adrenal, thymus, pancreas, cancer and functional disorders;
- to integrate in the medical practice the methods of diagnosis, treatment and prophylaxis in the pathology of the endocrine glands and functional disorders.

1. Surgical pathology of the parathyroid glands.

Elements of anatomy and physiology of the parathyroid glands. Primary hyperparathyroidism (Recklinghausen's disease). Notion of secondary and tertiary hyperparathyroidism. Epidemiology. Etiopathogenesis. Pathological anatomy. Clinical forms of primary hyperparathyroidism. Positive diagnosis. Clinical and paraclinical investigations, biochemical, radiological of the skeleton, radioimmunological, angiography, selective catheterization of the veins of the neck and mediastinum, ultrasonography, computed tomography, scintigraphy with Thallium-201, nuclear magnetic resonance. Indications for surgical treatment. Complications. Hypercalciemic crisis.

2. Surgical pathology of the adrenal glands.

Hypercorticism (Cushing's Syndrome). Etiopathogenesis. The clinical picture. Positive diagnosis. Indications for therapeutic treatment. Principles of surgical treatment. Indications and contraindications for surgical treatment.

Hyperaldosteronism (Conn syndrome). Etiopathogenesis. The clinical picture. Positive diagnosis. Indications for therapeutic treatment. Principles of surgical treatment. Indications and contraindications for surgical treatment.

Pheochromocytoma. Etiopathogenesis. The clinical picture. Positive diagnosis. Indications for therapeutic treatment. Principles of surgical treatment. Indications and contraindications for surgical treatment.

3. Surgical pathology of the thymus. Myasthenia gravis.

Etiopathogenesis. Classification. Clinical and paraclinical diagnosis. Anticholinesterase test, electromyographic, serological, radiological tests, Se-methionine scintigraphy, angiography, chest computed tomography. Surgical treatment. Cholinergic crisis.

4. Multiple endocrine systemic disorders: MEN-I; MEN -IIA; MEN-IIB; MEN-III

Topic 4. Suppurative pleuro-pulmonary surgical pathology.

- to define the fundamental concepts of pleuro-pulmonary disease;
- to know the research methods in pleuro-pulmonary pathology;
- to demonstrate skills of analysis and systematization of knowledge in pleuro-pulmonary pathology;
- to apply the criteria for differentiation of different pleuro-pulmonary pathologies

Suppurative pleuro-pulmonary surgical pathology. Anatomy and physiology of the lungs and pleura. Pleuro-pulmonary suppurations. Notion. Classification of broncho-pulmonary suppurations. Diagnostic methods and functional explorations: biological investigations; investigation of respiratory function: radiological investigations - angio-cardio-pneumography, bronchography, computed tomography; endoscopic investigations: bronchoscopy, thoracoscopy; bacteriological investigations; morphological investigations.

1. Bronchiectatic disease. Etiopathogenesis. Classification. The clinical picture. Positive and differential diagnosis. Indications for



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(bronchiectatic disease, lung gangrene, acute and chronic purulent pleurisy, pyopneumothorax and functional disorders;
- to integrate in the medical practice the methods of diagnosis, treatment and prophylaxis in the pleuro-pulmonary pathology and the functional disorders.

surgical treatment. Surgery treatment. Complications.
2. Lung abscess. Etiopathogenesis. Classification. The clinical picture. Positive and differential diagnosis. Indications in surgical treatment. Surgical treatment. Complications.
3. Pulmonary gangrene. Etiopathogenesis. Classification. The clinical picture. Positive and differential diagnosis. Indications in surgical treatment. Surgical treatment. Complications
4. Acute and chronic purulent pleurisy (empyema). Nonspecific purulent pleurisy. Specific purulent pleurisy. Etiopathogenesis. Pathological anatomy. Classification. The clinical picture. Positive and differential diagnosis. Criteria for assessing the severity of purulent pleurisy. Complex therapeutic principles. Transcutaneous Monaldi and Bulau drainage. Indications for surgical treatment. Type of surgery: minimal pleurotomy with pleural drainage, minimal pleurotomy with intrapleural installation of fibrinolytic enzymes, video-assisted thoracic surgery, pulmonary resections, early thoracotomy and dehulling, coastal resection pleurotomy, trans-thoracic decortic, open chest surgery associated interventions. Early and late complications.
5. Piopneumothorax. Clinical forms. The clinical picture. Positive diagnosis. Positive and differential diagnosis. The treatment. Indications in surgical treatment. Surgical treatment. Complications.

Topic 5. Non-suppurative pleuro-pulmonary surgical pathology. Surgical pathology of the diaphragm.

- to define the fundamental concepts of non-suppurative pleuro-pulmonary disease;
- to know the research methods in pleuro - pulmonary pathology;
- to demonstrate skills of analysis and systematization of knowledge in pleuro-pulmonary pathology;
- to apply the criteria for differentiation of different pleuro-pulmonary pathologies (pulmonary hydatid cyst, pulmonary alveolar echinococcosis, post-traumatic pneumothorax, spontaneous pneumothorax, chylothorax, benign tumors and bronchogenic and pulmonary putties and functional disorders;
- to integrate in the medical practice the methods of diagnosis, treatment and prophylaxis in the pleuro-pulmonary pathology and

Non-suppurative pleuro-pulmonary surgical pathology.
1. Pulmonary hydatid cyst. Generalities. Short history. Notions of parasitology. Clinical manifestations (uncomplicated hydatid cyst and complicated hydatid cyst). Immunological examination. Paraclinical explorations-eosinophilia, Casoni intradermoreaction, Weinberg-Parvu complement fixation reaction, Quchterliy double-diffusion serological-immunochemical methods, counterimmunoelectrophoresis, immunofluorescence (indirect) method and ELISA reaction. Sputum examination. Radiological examination. Computed tomography. Ultrasound. Brohoscropy. MRI examination. Positive diagnosis. Differential diagnosis. Surgical treatment of pulmonary hydatidosis. Early and late complications.
2. Pulmonary alveolar echinococcosis. Etiopathogenesis. Classification. Symptomatology. Positive diagnosis. Complex treatment.
3. Posttraumatic pneumothorax. Etiopathogenesis. Classification. Symptomatology. Positive diagnosis. Complex treatment.
4. Posttraumatic hemothorax. Etiopathogenesis. Classification. Symptomatology. Positive diagnosis. Complex treatment.
5. Spontaneous pneumothorax. Etiopathogenesis. Classification. Symptomatology. Positive diagnosis. Complex treatment.
6. Chylothorax. Generalities. Etiopathogenesis. Classification.



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the functional disorders;
- to demonstrate skills of analysis and systematization of knowledge in diaphragm pathologies;
- to apply the criteria for differentiating different pathologies of the diaphragm (diaphragmatic hernias, esophageal hiatus hernias, traumatic hernias, true non-traumatic hernias, diaphragm relaxation) and functional disorders;
- to integrate in the medical practice the methods of diagnosis, treatment and prophylaxis in the pathology of the diaphragm and the functional disorders.

Symptomatology. Positive diagnosis. Complex treatment.
7. Benign bronchogenic and lung tumors. Etiopathogenesis. Pathological anatomy. Symptomatology. Positive and differential diagnosis. Treatment.
8. Bronchogenic and pulmonary cysts. Etiopathogenesis. Pathological anatomy. Symptomatology. Positive and differential diagnosis. Treatment.

Surgical pathology of the diaphragm.

Anatomy and physiology of the diaphragm. The sphincter functional mechanism. The valve mechanism through its angle and the Gubaroff valve. The diaphragmatic mechanism. The weak points of the diaphragm.

1. Diaphragmatic hernias. Definition. Etiopathogenesis. Favoring factors and triggering factors. Classification. Clinical picture (digestive symptoms, cardiovascular disorders, respiratory disorders). Positive diagnosis (radiological, endoscopic investigations and computed tomography, esophageal scintigraphy, pH-metry, manometry, pneumoperitoneum, diagnostic thoracoscopy). Clinical forms of hiatal hernias associated with other coronary heart disease and digestive disorders (Casten triad, Saint's triad, Lortat-Jacob's triad).
2. Esophageal hiatus hernias. Definition. Etiopathogenesis. Classification: a) hernias by sliding the esophageal hiatus of the diaphragm;
b) paraesophageal hernias of the esophageal hiatus of the diaphragm. Etiopathogenesis. The clinical picture. Positive diagnosis. Complications (peptic esophagitis, anemia, gastrointestinal bleeding, mechanical complications of gastric volvulus, compression and strangulation of adjacent organs). Conservative and surgical treatment. Surgical procedures in sliding hiatal hernias:
 - a) total funduplications (Nissen-Rossetti procedure);
 - b) partial funduplications 270-180 by abdominal approach (Toupet procedure, Dor procedure, Hill procedure) by thoracic approach (Belsey procedure, Toupet procedure, Allison procedure);
 - c) laparoscopic funduplications (Nissen-Rossetti procedure, Toupet procedure).
3. Traumatic hernias (true and false) Clinical picture. Positive diagnosis. Differential diagnosis. Treatment.
4. True non-traumatic hernias of the weak areas of the diaphragm: the area of the sternocostal triangle, hernias through the Larrey fissure, retrosternal hernias, hernias through the Morgani fissure, hernias located in the area of the Bochdalek triangle. Etiopathogenesis. The clinical picture. Positive diagnosis. The treatment.
5. Diaphragm relaxation. Definition. Etiopathogenesis. The clinical picture. Positive diagnosis. Surgical procedures



(palliative operations on the stomach and colon and operations by diaphragm plasty).

Topic 6. Surgical pathology of the heart

- to define the fundamental concepts of congenital heart diseases (non-cyanotic and cyanotic congenital vices);
- to know the research methods in the pathology of congenital heart diseases;
- to demonstrate skills of analysis and systematization of knowledge in the pathology of congenital heart disease;
- to apply the criteria for differentiating different pathologies (persistence of the arterial canal, ventricular septal defect, aortic isthmus stenosis, pulmonary artery stenosis, Fallot tetralogy, aortic coarctation), and functional disorders;
- to integrate in the medical practice the methods of diagnosis, treatment and prophylaxis in the pathology of the heart and the functional disorders.
- to define the fundamental concepts of the acquired valvular heart diseases;
- to know the research methods in the pathology of acquired heart diseases;
- to demonstrate skills of analysis and systematization of knowledge in the pathology of acquired heart disease;
- to apply the criteria for differentiating different pathologies acquired heart diseases (ischemic disease, post-infarct myocardial aneurysm, pericarditis) and functional disorders;
- to apply into medical practice the methods of diagnosis, treatment and prophylaxis in the pathology of acquired heart diseases and functional disorders

Cardiac surgical pathology.

History of cardiac surgery. Surgical anatomy of the heart. Fetal circulation. Definition of congenital heart disease. Classification of congenital heart diseases. News. Etiology (environmental factors, genetic factors, multifactorial causes). Pathophysiological changes (primary and secondary pathophysiological disorders). Surgical tactics depending on the form of congenital heart disease.

Extracorporeal circulation of the heart.

I. Non-cyanogenic congenital heart malformations.

1. Persistent arterial canal. Definition. Incidence. Morphology. Pathophysiology (hemodynamics). Clinical manifestations. Positive and differential diagnosis. Indications in surgical treatment.

Methods of surgery

2. Atrial septal defect. Definition. Incidence. Anatomical types.

Pathophysiology (hemodynamics). Clinical manifestations. Positive and differential diagnosis. Indications in surgical treatment.

Methods of surgery.

3. Ventricular septal defect. Definition. Incidence. Classification.

Pathophysiology (hemodynamics). Clinical manifestations. Positive and differential diagnosis. Indications in surgical treatment.

Methods of surgery.

4. Defects of the left heart and aortic system. Aortic coarctation.

Anatomo-pathological forms of aortic coarctation. Definition.

Incidence. Pathophysiology (hemodynamics). Clinical picture.

Positive and differential diagnosis. Natural evolution and operative indications. Surgical treatment. Results and complications.

II. Cyanogenic congenital malformations.

1. Tetralogy Fallot. Definition. The historian. Incidence.

Pathological anatomy. Clinical forms. Classification.

Pathophysiology (hemodynamics). Clinical manifestations. Positive and differential diagnosis. Indications in surgical treatment. Surgical treatment of Fallot tetralogy (palliative surgery, total correction).

Complications.

III. Acquired heart diseases. Notions of heart anatomy. The chambers of the heart and their structure. Heart valves. Subvalvular structures. Coronary artery anatomy. The fibrous skeleton of the heart.

1. Mitral stenosis and regurgitation. Etiopathogenesis.

Pathophysiology (hemodynamics). Symptomatology. Positive diagnosis. Steps for diagnostic evaluation. Conservative, endovascular and surgical treatment.

2. Aortic stenosis and regurgitation. Etiopathogenesis.

Pathophysiology (hemodynamics). Symptomatology. Positive



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diagnosis. Steps for diagnostic evaluation. Conservative, endovascular and surgical treatment.

3. Mechanical and biological valve prostheses. Advantages and disadvantages of mechanical and biological prostheses. Methods of surgery (annuloplasty, commissurotomy, shortening of tendon cords, procedures for reconstruction of the posterior and anterior valves, percutaneous balloon commissurotomy). Early and late outcomes and complications after valve prosthesis.

4. Ischemic heart disease. Etiopathogenesis. Classification Clinical picture. Positive and differential diagnosis. Indications and contraindications in surgical treatment.

5. Post-infarct myocardial aneurysm. Etiopathogenesis. Classification Clinical picture. Positive and differential diagnosis. Indications and contraindications in surgical treatment.

Topic 7. Surgical pathology of the mediastinum and esophagus.

- to define the fundamental concepts of the mediastinum;
- to know the research methods in mediastinum pathology;
- to demonstrate skills of analysis and systematization of knowledge in mediastinal pathology;
- to apply the criteria for differentiating different mediastinal pathologies (tumors, mediastinal cysts, mediastinal traumas, mediastinitis) and functional disorders;
- to integrate in the medical practice the methods of diagnosis, treatment and prophylaxis in the pathology of the mediastinum and the functional disorders.
- to define the fundamental concepts of esophageal pathology;
- to know the research methods in esophageal pathology;
- to demonstrate skills of analysis and systematization of knowledge in esophageal surgical pathology;
- to apply the criteria for differentiating different esophageal pathologies

Surgical pathology of the mediastinum.

Mediastinal anatomy. Physiological and pathophysiological data of the mediastinum. Classification of cysts and mediastinal tumors. General symptoms of mediastinal cysts and tumors. Special diagnostic methods (radiology, thoracoscopy, spirometry, bronchography, mediastinal puncture and mediastinal drainage, tomography, mediastinography, scintigraphy, mediastinoscopy, angiocardiology, ultrasound, three-dimensional tomography, magnetic resonance imaging, bronchoscopy, esophagus, Stages of the diagnosis of mediastinal tumors Contemporary methods of treatment of surgical pathology of the mediastinum

1. Mediastinal tumors Thymoma and upper cavity syndrome Classification Clinical picture Positive and differential diagnosis Methods of surgery

2. Mediastinal cysts. Thymoma and upper cavity syndrome. Classification. The clinical picture. Positive and differential diagnosis. Methods of surgery.

3. Mediastinal traumas. Mediastinal emphysema. Etiopathogenesis. Classification. The clinical picture. The diagnosis. Indications in emergency surgical treatment. Methods of surgery. Postoperative complications. The treatment.

4. Mediastinitis. Definition. Etiopathogenesis. Forms of acute mediastinitis (abscess and phlegmon). Primitive mediastinitis and secondary mediastinitis. Unsuppurative acute mediastinitis. Chronic mediastinitis. The clinical picture. Positive and differential diagnosis. Methods of surgery.

Surgical pathology of the esophagus.

Anatomy and physiology of the esophagus. Preoperative evaluation of patients with esophageal pathology. Clinical examination, standard and contrast radiological examination. Computer tomography. Nuclear magnetic resonance. Positron emission tomography. Endoscopic examination. Endoscopic ultrasound



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(congenital diseases of the esophagus, benign esophageal diseases, diverticular disease, acute esophagitis and postcaustic esophageal stenoses) and functional disorders;
- to integrate in the medical practice the methods of diagnosis, treatment and prophylaxis in the surgical pathology of the esophagus and the functional disorders.

examination. Functional tests (esophageal manometry). Investigations for gastroesophageal reflux. Esophageal scintigraphy with Technetium99 with identification of esophageal capacity of benign and malignant tumors. Booth and Skinner test. Bernstein-Baker acid infusion test, pH-metry and manometry. Chromoscopy with the use of different colors (solution Lugol, methylene blue), in order to contrast the surface of the mucosa. Classification of surgical diseases of the esophagus. Functional pathology of the esophagus.

1. Congenital esophageal disorders. Etiopathogenesis. Pathological anatomy. Classification. Symptomatology. Positive diagnosis. The treatment.
2. Benign diseases of the esophagus. Achalasia. Classification. Etiopathogenesis. Pathological anatomy. Symptomatology. Positive and differential diagnosis. The treatment.
3. Diverticular disease of the esophagus. Classification. Etiopathogenesis. Symptomatology. Positive and differential diagnosis. Complex treatment. Complications of esophageal diverticula.
4. Acute chemical esophagitis. Etiopathogenesis. The clinical picture in the acute period. First aid. Strict prophylaxis. Early blinking.
5. Postcaustic esophageal stenoses. Epidemiology. Etiopathogenesis. Classification. Corrosive substances. Explorations and investigations. Radiological tests. Endoscopy. Strict prophylaxis. Therapeutic principles and methods. Late bougienage. Treatment of scarring of the esophagus. Esophageal reconstruction techniques (Bypass technique, esophageal resection, Gavrilu procedure (stomach), Roux technique, Herzen technique, Yudin-Papo technique (jejunum), Roith technique, Kelling technique, Orsoni technique (colon). Esophagoplasty.
6. Reflux esophagitis. Etiopathogenesis. Classification. Symptomatology. Positive diagnosis. Medical and surgical treatment. Barrett's esophagus - notion, diagnosis, treatment. Medical-surgical tactics.
7. Traumatic injuries and foreign bodies of the esophagus Spontaneous perforation of the esophagus (Boerhaave syndrome). Esophageal perforations caused (after endoscopic examinations of esophageal dilatation) accidental wounds. Esophageal foreign bodies.

Topic 8. Peripheral arteriopathies. Acute vascular insufficiency.

-to define the basic concepts of peripheral arteriopathies;
- to know the research methods in the pathology of peripheral arteriopathies;
- to demonstrate skills of analysis and systematization of knowledge

Peripheral arteriopathy.

Anatomical-physiological data of the vascular system. Methods of examination of patients with pathology of the aorta and its branches, peripheral arteries, (clinical examination, functional and paraclinical tests (arterial oscillography, sphygmography, plethysmography, rheovasography, phonoangiography, capillaroscopy, cutaneous electrothermography, echo-



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in the pathology of chronic limb ischemia syndrome;

- to apply the criteria for differentiating of different pathologies acquired heart disease (obliterating thromangitis, nonspecific aorto-arteriitis, angioneurosis, Raynaud's disease, Raynaud's syndrome, Leriş syndrome, diabetic angiopathy, aortic aneurysms, functional aneurysms and vasculitis);
- to integrate in medical practices the methods of diagnosis, treatment and prophylaxis in the pathology of peripheral arteriopathy and functional disorders.
- to define the fundamental concepts of the vascular system;
- to know the methods of examination in the pathology of the vascular system;
- to demonstrate skills of analysis and systematization of knowledge in the pathology of acute ischemic syndrome;
- to apply the criteria for differentiating of different pathologies of the vascular system (entero-mesenteric infarction, acute peripheral ischemic syndrome, arterial trauma, arterial and venous embolism, gas embolism) and functional disorders;
- to integrate in the medical practice the methods of diagnosis, treatment and prophylaxis in the pathology of the vascular system and the functional disorders.

doplerography, radioisotope, aortography) skin, radioisotope angiography, lymphography).

1. Obliterating atherosclerosis. Etiopathogenesis. Fontaine classification. The clinical picture. Diagnosis. Differential diagnosis. Indications for surgical treatment. Methods of surgery.

2. Obliterating thrombangitis (Winniwarter-Buerger disease). Definition as a type of thrombangitis obliterans (characteristics of the onset of the disease, location of arterial obstructions, peculiarities of the evolution of the obliteration syndrome, frequency and risk factors evaluation).

Etiopathogenesis. Fontaine classification. Positive diagnosis. Differential diagnosis. Indications for surgical treatment. Methods of surgery. Expertise of work ability.

3. Nonspecific aortic arteritis (Takayasu's disease).

Etiopathogenesis. Pathological anatomy. Clinical picture. The diagnosis. Characteristic syndromes. Differential diagnosis. Indications for surgical treatment. Methods of surgery.

4. Angioedema. Raynaud's disease. Raynaud's syndrome. Etiopathogenesis. The clinical picture. Diagnosis. Differential diagnosis. Treatment.

5. Leriche syndrome. Etiopathogenesis. Classification. Clinical signs. Positive diagnosis. Differential diagnosis. Indications for surgical treatment. Methods of surgery. Expertise of work ability.

6. Diabetic angiopathy. Etiopathogenesis. The clinical picture. Positive diagnosis. Differential diagnosis. Indications for surgical treatment. Methods of surgery. Expertise of work ability.

7. Atherosclerotic lesions of the abdominal aorta branches. Chronic entero-mesenteric ischemic syndrome. Classification. Clinical signs. Positive and differential diagnosis. Methods of surgical treatment.

8. Aortic aneurysms. Etiopathogenesis. Classification. The clinical picture. The diagnosis. Differential diagnosis. Indications for surgical treatment. Methods of surgery.

9. Vascular aneurysms. Etiopathogenesis. The clinical picture. The diagnosis. Differential diagnosis. Indications in surgical treatment. Methods of surgery. Expertise of work ability.

Acute vascular insufficiency.

1. Acute entero-mesenteric ischemia. Etiopathogenesis. Classification. Symptomatology. Paraclinical diagnosis. Surgical treatment. Complications.

2. Peripheral acute ischemic syndrome. Definition. Etiopathogenesis. Pathological anatomy. Causes of acute peripheral ischemic syndrome (arterial trauma, arterial embolism; acute arterial thrombosis; frostbite; massive venous thrombosis (phlegmasia coerulea dolens) accompanied by acute



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ischemia.

3. Arterial injuries. Arterial injuries include three categories of anatomico-clinical lesions: contusions, wounds (linear, transverse, oblique, stellated, irregular), section or arterial disruption.

4. Arterial emboli. Embolism of cardiac origin. Embolism of arterial origin are caused by: arterial aneurysms, atheromatous plaques, vegetative aortic luetic.

5. Embolism of venous origin (parodic embolism).

6. Gas embolism. Pathophysiology. Biochemical changes. Functional changes. Clinical picture.

7. Aortic dissection. Definition. Epidemiology.

Morphopathology. Classification of aortic dissections. Etiology. Clinical manifestations and diagnosis. The natural evolution of aortic dissection. Indications and contraindications for surgical treatment in acute aortic dissection. Surgical treatment.

Complications.

Topic 9. Non-varicose acute digestive hemorrhages. Operated stomach disease (BSO).

- to define the fundamental concepts of upper digestive hemorrhage;
- to know the methods of examination in the pathology of the stomach and duodenum, erosive gastritis, Mellory-Weiss syndrome;
- to demonstrate skills of analysis and systematization of knowledge in the pathology of the liver, bile ducts and pancreas, hemobilia;
- to apply the criteria for differentiating between different pathologies, systemic diseases and blood vessels and lower gastrointestinal bleeding and functional disorders;
- to integrate in the medical practice the methods of diagnosis, treatment and prophylaxis in the pathogenesis of acute digestive hemorrhage and hemorrhagic shock and functional disorders.
- to define the fundamental concepts of ulcer disease;
- to know the research methods in the pathology of the operated stomach;
- to demonstrate skills of analysis

Acute upper gastrointestinal bleeding (UGB). Definition. Etiology of UGB. Diagnosis of non-varicose upper gastrointestinal bleeding.

1. **Pathology of the esophagus:** benign and malignant tumors, ulcerative esophagitis, burns, trauma, diverticula.

2. **Pathology of the stomach and duodenum:** erosive gastritis, Mellory-Weiss syndrome, acute stress ulcers (Curling ulcer, Cushing ulcer), and medicamentouse gastric and intestinal ulcers, benign and malignant tumors, hiatal hernia, erosive duodenitis, diverticula, leymomyoma.

3. **Pathology of the liver, bile ducts and pancreas.** Hemobilia.

4. **Systemic diseases:** blood diseases (leukemia, hemophilia, pernicious anemia) and blood vessels (hemangiomas, Rendu-Weber-Osler syndrome, hemorrhagic vasculitis), uremia, amyloidosis, etc.

Positive and differential diagnosis. UGB severity assessment (Orphanidi classification). Predictors of persistent or recurrent bleeding. Endoscopic classification of hemorrhage activity by Forrest. Hemorrhagic shock secondary to acute digestive hemorrhage. Pathogenesis, Symptomatology, therapeutic attitude. Risk of recurrence of ulcerative haemorrhage (Baylor score). Emergency aid. UGB diagnostic algorithm. UGB management.

5. **Hemorrhagic ulcer.** Algorithm for the diagnosis and treatment of chronic hemorrhagic ulcer. The evolution and surgical tactics of ulcerative and non-ulcerative hemorrhage. Principles of therapeutic management. Surgical treatment of patients with ulcerative and non-ulcerative hemorrhage. Complications.



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and systematization of knowledge in the pathology of ulcer disease;
- to apply the criteria for differentiation of different pathologies of recurrent peptic ulcer of anastomosis, operated stomach disease and postvagotomy syndrome, afferent loop syndrome, gastritis and postoperative reflux esophagitis, stenoses of anastomosis, biliary-hepato-pancreatic disorders, dismetabolic and disnutritional disorders, primary malignancy of remnant gastric stump, functional and organic postvagotomy disorders;
- to integrate in the medical practice the methods of diagnosis, treatment and prophylaxis in the pathology of the postoperative ulcer disease and the functional disorders.

6. Low digestive hemorrhage (LDH). Definition. Etiopathogenesis. LDH diagnosis and treatment algorithm. The evolution and surgical tactics of LDH. Surgical treatment of patients with LDH.

Operated stomach disease (OSD).

Anatomy, histology and physiology of the stomach and duodenum. Phases of gastric secretion. Examination methods and their importance in establishing indices and types of surgery.

1. OSD and postvagotomy syndrome. Definition. Classification. Contemporary conceptions of the pathogenesis of postvagotomy syndrome and OSD. Early and late complications.

2. Recurrent peptic ulcer of anastomosis. Gastrocolic fistula. Etiopathogenesis. The clinical picture. Positive and differential diagnosis. Surgical treatment.

3. Dumping syndrome. Definition. Classification. Symptomatology. Positive diagnosis. Medical and surgical treatment.

4. Afferent loop syndrome. Definition. Classification. Symptomatology. Positive diagnosis. Medical and surgical treatment.

5. Postoperative reflux gastritis and esophagitis. Stenoses of gastro-jejunoanastomosis. Definition. Classification. Symptomatology. Positive diagnosis. Medical and surgical treatment.

6. Bilio-hepato-pancreatic disorders. Dysmetabolic and malnutrition syndromes. The primitive neoplasm of the remnant gastric stump. Definition. Classification. Symptomatology. Positive diagnosis. Medical and surgical treatment.

7. Functional postvagotomy syndrome: gastroesophageal reflux, biliary reflux gastritis, gastric atony, agastral asthenia. Etiopathogenesis. Symptomatology. Positive diagnosis. Medical and surgical treatment.

8. Organic postvagotomy syndrome: recurrent ulcer, late dysphagia, gallstones, diarrhea. Etiopathogenesis. Symptomatology. Positive diagnosis. Medical and surgical treatment.

Topic 10. Surgical pathology of the liver. Mechanical jaundice. Postcholecystectomy syndrome (PCES).

-to define the fundamental concepts of the liver;
- to know the research methods in liver pathology;
- to demonstrate skills of analysis and systematization of knowledge in liver pathology;
- to apply the criteria for differentiating of different

Surgical pathology of the liver.

Anatomo-physiological notions of the liver. Classification of pathological processes of the liver. Methods of examination in liver pathology.

1. Non-parasitic cysts. Classification. Etiopathogenesis. The clinical picture. Positive and differential diagnosis. Methods of treatment (medical, surgical, endoscopic). Complications. Prophylaxis.

2. Parasitic cysts (hepatic hydatidosis). Etiopathogenesis.



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pathologies of the liver (parasitic and non-parasitic cysts, hepatic alveolar echinococcosis, liver abscesses, benign and malignant tumors of the liver and functional disorders;

- to integrate in medical practice the methods of diagnosis, treatment and prophylaxis in liver pathology and functional disorders.

-to define the fundamental concepts of the extra and intrahepatic biliary system;

- to know the research methods in the pathology of the biliary system;

- to demonstrate skills of analysis and systematization of knowledge in the pathology of PCES syndrome;

- to apply the criteria for differentiating of different pathologies of the biliary system (unsatisfactory causes that motivate PCES; endoscopic interventions; postoperative complications; mechanical jaundice and angiolocolitis) and functional disorders;

- to integrate in the medical practice the methods of diagnosis, treatment and prophylaxis in the pathology of the biliary system and the functional disorders.

Classification. The clinical picture. Positive and differential diagnosis. Treatment methods (medical, surgical, endoscopic). Complications. Prophylaxis. Rare diseases: opisthorosis, alveococcosis, lambliosis.

3. Hepatic alveolar echinococcosis. Etiopathogenesis.

Classification. The clinical picture. Positive and differential diagnosis. Treatment methods.

4. Abscesses of liver. Classification. Etiopathogenesis. The clinical picture. Positive and differential diagnosis. Methods of treatment (medical, surgical, endoscopic). Complications. Prophylaxis.

5. Benign and malignant tumors of the liver. Etiopathogenesis.

Classification. The clinical picture. Positive diagnosis.

Differential diagnosis. Surgical treatment. Principles of liver resection for benign and malignant tumors.

Postcholecystectomy syndrome (PCES).

Notion. Surgical anatomy of the intra- and extrahepatic biliary system. Anatomical variants of the biliary system. PCES classification according to Galperin E 1. The groups of conditions included in the PCES:

- a) diseases of the bile ducts and large duodenal papilla (LDP);
- b) diseases of the liver and pancreas;
- c) diseases of the duodenum;
- d) diseases of other organs and systems;
- e) the cause is unknown.

Etiopathology. Clinical manifestations of SPCE. Clinical diagnosis (acute bile duct obstruction syndrome, intermittent bile duct obstruction syndrome, acute and chronic angiolocolitis syndrome, biliary fistula).

Laboratory investigations: general biochemical and radiological examination of the abdomen: gastroduodenography, contrast-enhanced duodenography, duodenography in conditions of hypotonia, fistulography, cholangiography, retrograde cholangiopancreatography, percutaneous transhepatic cholangiography, ultrasound, CT, FGS.

2. Unsatisfactory causes of PCES: (diagnostical, technical, tactical errors). Symptomatology. Positive pre-intraoperative diagnosis. Patient's preparing for the endoscopic examination - ERCP. Endoscopic interventions in PCES: papillofincerotomy with / without stone extraction, dissection of previous biliary-digestive anastomoses, recanalization of the main bile ducts, nasobiliary drainage, removal of foreign bodies from the bile ducts.

Mechanical jaundice

Pathophysiology. Bilirubin formation; conversion of heme to bilirubin (toxicity of bilirubinemia; transport, uptake, and excretion of bilirubin by hepatocytes. Disorders of bilirubin formation and excretion (jaundice with unconjugated



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hyperbilirubinemia and conjugated hyperbilirubinemia). Bile secretion and its disorders (bile composition, bile flow with bile acid dependent secretion and bile acid independent secretion. Notion of cholestasis (partial, total, dissociated intrahepatic and extrahepatic). Immune autoimmune mechanisms in the pathology of obstructive jaundice. Classification of jaundice: hemolytic jaundice, hepatocellular jaundice, mechanical jaundice. Diagnosis and surgical evolution of the patient with obstructive jaundice. Positive and differential diagnosis. Peculiarities of preoperative training of patients with mechanical jaundice. Complex medical and surgical treatment of mechanical jaundice. Surgery. The concept of operability and radicalism in the surgery for pancreatic head neoplasm. Early and late postoperative evolution. Evaluation of the quality of life. Diagnostic and curative endoscopy. Rare causes of mechanical jaundice (adenomas, non-Hodgkin's lymphoma, malignant melanomas, diffuse papillomatosis, nodular polyarthritis)

Topic 11. Portal hypertension syndrome (PHS). Surgical pathology of the spleen.

- to define the basic concepts of the portal venous system;
- to know the methods of investigation in the pathology of the portal venous system;
- to apply the criteria for differentiation of different pathologies of the portal venous system (porto-systemic shunts, direct interventions of esophageal varices, periteno-venous shunt, intrahepatic porto-systemic shunt, surgical pathology of the spleen, primary and secondary hypersplenism, surgical splenopathies, malignant tumors and benign spleen) and functional disorders;
- to integrate in the medical practice the methods of diagnosis, treatment and prophylaxis in the pathology of the portal venous system and the functional disorders.

Portal hypertension syndrome (PHS).

Pathological anatomy of the portal venous system in the conditions of portal hypertension. Pathophysiological changes of portal hemodynamics (portal hemodynamics, splanchnic territory). Anatomical-clinical forms of PHS. Prehepatic, intrahepatic, suprahepatic, mixed portal blockage. Diagnosis of evolutionary complications of PHS (upper digestive hemorrhage; ascites; hepato-renal syndrome; porto-systemic encephalopathy). Paraclinical explorations of PHS. Radioisotopic examination, non-invasive imaging examinations of PHS, invasive explorations in PHS: evaluation of pressure in the portal system (direct and indirect measurements; splanchnic flows (hepatic, collateral portal).

Principles of multimodal treatment of PHS and its complications:

- emergency treatment of the acute hemorrhagic episode;
- drug and endoscopic treatment of PHS;
- surgical treatment of portal hypertension. Principles, maneuvers, multimodal management.

A Porto-systemic shunts:

- selective shunts (distal spleno-renal shunt, meso-caval shunt).

B Direct interventions on esophageal varices:

- Ligature of esophageal varices and gastric varices;
- Esophageal transection;
- Devascularization procedures.

C. Surgical treatment of ascites - peritoneal-venous shunt.

D. Transjugular Intrahepatic porto-systemic

Surgical pathology of the spleen.

Surgical anatomy. Physiology and functions of the spleen.



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Clinical and paraclinical examination of the spleen.
Primary and secondary hypersplenism. Characteristics of hypersplenism.
Surgical splenopathies:
1. Splenic abnormalities (mobile spleen, accessory spleen);
2. Inflammatory splenomegaly (abscesses, tuberculosis, malarial splenomegaly, Egyptian splenomegaly, Still-Chauffard syndrome and Felty syndrome);
3. Vascular splenopathies (arterio-venous aneurysms, splenic vein thrombosis, splenic infarction);
4. Splenomegaly due to overload (hoarding or rare hereditary diseases) (Neiman-Pick disease, Gancher disease, Tay-Sacks);
5. Splenomegaly from systemic diseases (acute leukemias, chronic myeloid leukemias, chronic lymphoid leukemias, mononucleosis, essential polyglobulia or Vaquez's disease);
6. Splenomegaly in hematological diseases:
-Idiopathic thrombocytopenic purpura (Werlhoff's disease);
-Congenital hemolytic anemia (Minkowsky-Chauffard disease);
-Hemoglobinopathies (thalassemia);
- Enzymopathies;
- Primary splenic pancytopenia (Doan-Wright disease);
- Primary splenic neutropenia;
7. Splenic cysts - parasitic and non-parasitic cysts, splenic pseudocysts;
8. Malignant spleen tumors - primary solids (fibrosarcoma, lymphosarcoma, reticulosarcoma, malignant hemangiosarcoma and endotheliosarcoma.
9. Malignant secondary solid tumors (Hodjkin and Non-Hodjkin lymphomas, metastases from malignant melanoma, bronchopulmonary carcinoma, breast, pancreatic, ovarian.
10. The main benign tumors - hamartomas, vascular tumors, lipomas, fibroids.
Principles of treatment. Surgical treatment: indications for splenectomy (absolute, relative, tactical diagnoses). Classical splenectomy. Laparoscopic splenectomy. Contraindications. Partial splenectomy. Early and late complications after splenectomy .

Topic 12. Surgical pathology of the pancreas.

- to define the fundamental concepts of chronic pancreatitis;
- to know the research methods in pancreatic pathology;
- to demonstrate skills of analysis and systematization of knowledge in the pathology of chronic pancreatitis syndrome;
- to apply the criteria for differentiating different

Chronic pancreatitis.

Historical aspect. Anatomical and physiological data of the pancreas.
1. Chronic pancreatitis (CP). Definition. Epidemiology. Etiology. Causes of chronic pancreatitis (toxic and metabolic, ideopathic, genetic, autoimmune, severe acute pancreatitis and recurrence, obstructive). Obstructive factors involved in CP production. Pathogenesis. Classification (clinical, morphological, etiopathogenetic criteria, complications). Etiopathogenetic classification of CP according to M. Kuzin,



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pathologies of the pancreatic system (pancreatic cysts, fistulas and tumors of the pancreas;
- to integrate in the medical practice the methods of diagnosis, treatment and prophylaxis in the pathology of the pancreas and the functional disorders.

1984. Clinical picture (pain syndrome, exocrine and endocrine disorders of the pancreas, biliary hypertension syndrome, clinical signs induced by cysts and fistulas). Differential diagnosis. CP medical treatment. Surgical treatment. Indications and contraindications. Types of CP surgeries (pancreatic surgeries, biliary tract surgeries, stomach and duodenum surgeries, vegetative nervous system surgeries, endoscopic surgeries.
2. Pancreatic cysts. Notion. Classification. Morphological features. The degree of maturation of the pancreatic cyst. The clinical picture. Diagnosis of pancreatic cysts. Differential diagnosis. Medical-surgical treatment. Pancreatic pseudocyst diagnostic algorithm. Surgical management of pancreatic cysts. Expertise. Prognosis.
3. Pancreatic fistulas. Notion. Etiology. Classification. Evolutionary periods of the pancreatic fistula. Positive diagnosis (objective and instrumental). The treatment. Medico-surgical tactics in the treatment of pancreatic fistulas.
4. Pancreatic tumors. Etiopathogenesis. Classification. Positive and differential diagnosis. Medico-surgical treatment. Complications of chronic pancreatitis.
5. Endocrine surgical pathology of the pancreas. Categories of endocrine pancreas tumors:
Insulinomas - insulin-secreting tumors;
Zollinger-Ellison syndrome - gastrin-secreting tumors (gastrinomas) responsible for endocrine-induced digestive ulcers;
Glucagonoma, vipoma, somatostatinoma, pipoma, carcinoid. Clinical diagnosis (Whipple triad). Paraclinical, biochemical, imaging, ultrasound diagnosis, computed tomography, MRI, ultrasound with operator translator, selective angiography, scintigraphy, biopsy. Surgical treatment.

Topic 13. Surgical pathology of the small intestine and colon.

-to define the fundamental concepts of the small and large intestine;
- to know research methods in the pathology of the small and large intestine;
- to demonstrate skills of analysis and systematization of knowledge in bowel pathology, diverticular disease, Crohn's disease, dolichomegacolon, Hirschprung's disease, colonic diverticulitis, ulcerative-hemorrhagic rectocolitis;
- to apply the criteria for differentiating different

Surgical pathology of the small intestine and colon.
Anatomic-physiological data of the small intestine and colon.
Methods of examining the small intestine and colon: radiological, endoscopic, morphological, bacteriological exploration.
I. Surgical pathology of the small intestine.
Intestinal tuberculosis. Intussusception. Intestinal volvulus. Chronic mesenteric ischemia. Root enteritis. Tumors of the small intestine. Polyps and polyposis of the small intestine. Familial adenomatous polyposis. Spontaneous perforations. Meckel's diverticulum. Etiopathogenesis. Clinical picture. Positive and differential diagnosis. Medical and surgical treatment.
Complications
II. Surgical pathology of the colon.
1. Crohn's disease. Etiopathogenesis. Clinical picture. Positive and differential diagnosis. Medical and surgical treatment.



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pathologies of the small and large intestine and functional disorders;
- to integrate into medical practice the methods of diagnosis, treatment and prophylaxis in small and large intestine pathology and functional disorders.

Complications.

2. Megacolon. Types of megacolon. Congenital megacolon - Hirschsprung's disease. Acquired megacolon-obstructive, psychogenic, endocrine, toxic, neurogenic, idiopathic. Etiopathogenesis. Clinical picture. Positive and differential diagnosis. Complications. Medical-surgical treatment.
3. Colonic diverticular disease. Etiopathogenesis. The clinical picture. Positive and differential diagnosis. Complications. Medical-surgical treatment.
4. Ulcer-hemorrhagic rectocolitis. Classification. Etiopathogenesis. The clinical picture. Positive and differential diagnosis. Local and general complications. Medical and surgical treatment.
5. Familial adenomatous polyposis. Classification. Etiopathogenesis. The clinical picture. Positive and differential diagnosis. Local and general complications. Medical and surgical treatment.
6. Intestinal polyposis syndromes: Gardner syndrome, Turcot syndrome, Peutz-Jeghers syndrome, Bannayan-Riley-Ruvacaba syndrome, Gorlin syndrome, Cronkhite-Canada syndrome, Cowden syndrome.

Topic 14. Ano-perineal and rectal surgical pathology. Intestinal fistulas.

- to define the fundamental concepts of rectal pathology;
- to know the methods of research in pathology;
- to demonstrate skills of analysis and systematization of knowledge in acute rectal pathology;
- to apply the criteria for differentiating the different pathologies of the rectum and intestinal fistula, hemorrhoidal disease, anal fissure, acute perirectitis, pilonidal sinus, polyps and rectal trauma and functional disorders;
- to integrate into medical practice the methods of diagnosis, treatment and prophylaxis in the pathology of the rectum, small intestinal and colon fistulas and functional disorders.

Surgical pathology of the rectum.

- Anatomic-physiological data of the rectum and perineum. Clinical, radiological, endoscopic, bacteriological, morphological exploration methods.
1. Hemorrhoidal disease. Notion. Physiopathology. Vascular theory and mechanical theory. The triggering factors. Classification. Pathological anatomy. The clinical picture. Complications of hemorrhoidal disease. Positive and differential diagnosis. Medical and sclerosing treatment. Surgical treatment.
 2. Anal fissure. Notion. Etiopathogenesis. Pathological anatomy. Classification. The clinical picture. Positive diagnosis. Medical and surgical treatment.
 3. Acute perirectitis. Etiopathogenesis. Classification. The clinical picture. Positive diagnosis. Medical and surgical treatment.
 4. Chronic perirectitis. Etiopathogenesis. Classification. The clinical picture. Positive diagnosis. Medical and surgical treatment.
 5. Pilonidal sinus. Etiopathogenesis. The clinical picture. Positive diagnosis. Medical and surgical treatment.
 6. Rectal prolapse. Etiopathogenesis. Classification. The clinical picture. Positive diagnosis. Medical and surgical treatment.
 7. Rectal polyps. Etiopathogenesis. Classification. The clinical picture. Positive diagnosis. Medical and surgical treatment.



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8. Traumatism of the rectum Etiopathogenesis. Classification. The clinical picture. Positive diagnosis. Medical and surgical treatment.

Intestinal fistulas.

Notion. Anatomic-physiological notions of the small intestine and colon.

1. Fistulas of the small intestine and colon. Main features of the pathology. Etiology. Pathogenesis. Pathophysiological aspects of intestinal fistula. Causes of physiopathological disorders of intestinal fistulas. Classification of intestinal fistulas according to V. Opel. The structure of external intestinal fistulas and clinical varieties. Local and general clinical manifestations. Clinical features of proximal and distal intestinal fistulas. The technical factors that contribute to the occurrence of postoperative fistulas. Preoperative and postoperative conduct. The curative tactic. The positive diagnosis in determining the site and assessing the level of intestinal fistulas according to the nature of the eliminations: location on the abdominal wall; radiological samples with dyes: fistulography, passage with BaSO₄ on the gastrointestinal tract, irrigoscopy; endoscopy through FEGDS, RRS, colonoscopy, laboratory investigations. Local and general treatment. Indications for surgical treatment. Postoperative complications. Tactical, diagnostic and technical errors in the treatment of ileo-colic intestinal fistulas.

2. Curative fistulas. Notion. Classification of curative fistulas. Complications of curative fistulas (retraction, prolapse, eventration, parastomach evisceration, stomal necrosis). Medical expertise and patient rehabilitation.

Topic 15. Intra-abdominal infections

- to know the anatomy and physiology of the peritoneum;
- to define the fundamental concepts of acute surgical abdomen and false acute abdomen;
- to demonstrate analysis skills and the systematization of knowledge in acute abdomen pathology;
- to apply the criteria for differentiating acute abdomen pathologies (general diseases with the clinical picture of peritonism, extraperitoneal diseases that mimic acute abdomen, peritonitis and functional disorders;
- the specificity of the clinical

Intra-abdominal infections. Definition. Uncomplicated and complicated intra-abdominal infections. Classification of intra-abdominal infection.

1. Peritonitis. Definition. Anatomical - physiological characteristics of the peritoneum. Pathophysiology. Classification of peritonitis (according to etiology, pathogenesis, extension of the inflammatory process, clinical evolution, according to the character of the peritoneal exudate). Methodology of clinical diagnosis. Evolutionary clinical forms of peritonitis. Differential diagnosis. Principles of surgical treatment. Principles of pre- and postoperative management in peritonitis. Indications for the application of prolonged recovery methods (laparostomy, scheduled relaparotomy, relaparotomy when necessary). Syndromes in the pathogenesis of intra-abdominal infections - intoxication syndrome, compartment syndrome, enteral insufficiency syndrome, immunodeficiency syndrome, reperfusion syndrome. Rational use of antibiotics in



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picture, dynamics and diagnosis of peritonitis depending on the etiology, prevalence and phases of the pathology;

- surgical tactics and methods of early diagnosis of peritonitis
- the specific evolution and diagnostic difficulties of peritonitis: cryptogenic, biliary, postoperative
- the principles of surgical treatment of peritonitis of different etiology
- diagnosis and treatment of complications of peritonitis: subphrenic, interintestinal and pelvic abscesses, intestinal occlusion, liver abscesses. Operative indications, access routes, drainage technique;
- initiation of the postoperative period depending on the peritonitis phase;
- the particularities of diagnosis and treatment of acute and chronic peritonitis.

the treatment peritonitis. The concept of extracorporeal detoxification methods. Postoperative complications. The efficiency of prognostic scores: APACHE II, III (Acute Physiology And Chronic Health Evaluation) ., SAPS, SAPS II (Simplified Acute Physiology Score) ., MODS (Multiple Organ Dysfunction Score) ., SOFA (Sequential Organ Failure Assessment).

2. Intra-abdominal abscesses. Definition. Etiopathogenesis. Classification. Positive diagnosis. Differential diagnosis. Principles of treatment. Evolution. Complications.

II. PROFESSIONAL COMPETENCES (SPECIFIC (CP) AND TRANSVERSAL (CT)) AND STUDY OBJECTIVES

Professional skills (CP):

- CP1. The responsible execution of professional tasks with the application of the values and norms of professional ethics, as well as the provisions of the legislation in force.
- CP2. Adequate knowledge of the sciences about the structure of the body, the physiological functions and the behavior of the human body in various physiological and pathological states, as well as the existing relationships between the state of health, the physical and the social environment.
- CP3. Solving clinical situations by developing the diagnosis, treatment and rehabilitation plan in various pathological situations and selecting the appropriate therapeutic procedures for them, including the provision of emergency medical assistance.
- CP4. Promoting a healthy lifestyle, applying preventive measures and self-care.
- CP5. Interdisciplinary integration of the doctor's work in the team with the efficient use of all resources.
- CP6. Conducting scientific research in the field of health and other branches of science.

Transversal competences (CT):

CT1. Autonomy and responsibility in activity.

Study purposes

-To know the particularities of prescribing medicines in medicinal forms;



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- To acquire the prescription of mandatory preparations and the selection of drugs in diseases and pathological conditions;
- To understand the necessity of the material from the previous and tangential disciplines for the acquisition of pharmacology;
- To form skills to use knowledge in carrying out tests, tables and problem situations;
- To be able to implement the knowledge gained in the activity of a researcher.

III. THE STUDENT'S INDIVIDUAL WORK

Nr.	Expected product	Realization strategies	Evaluation criteria	Realization deadline
1.	Working with information sources	a) Reading the lecture and the material from the textbook on that topic, carefully. b) Reading the questions from the assignment, which do not require a reflection on the subject the c) Familiarize yourself with the list of sources of additional information on the respective topic. d) To select the source of additional information on that topic. e) Reading the text in its entirety, carefully and writing the essential content. f) Formulation of generalizations and conclusions regarding the importance of the theme/subject.	The ability to extract the essentials; interpretive skills; the volume of work.	During the course of the module
2.	Working with online materials.	Studying online materials from the discipline's WEB page and from other sites with databases and specialized literature.	Presentation of results at practical works and seminars.	During the course of the module.
3.	The activity of examining patients during practical work and guards.	Examination of patients, correct assessment of the data obtained in the direct examination of the patient, in the laboratory and instrumental examination, acquisition of diagnostic tactics, differential diagnosis and individual treatment.	The correct formulation and argumentation of the diagnosis, investigation and treatment plan of the specific patient.	Daily, during the module



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4.	Preparing and supporting presentations/reports.	Selection of the theme of the presentations/reports and the terms of the realization. Peer reviews. Teacher reviews.	The amount of work, the degree of penetration into the essence of the theme of the presentation/report, the level of argumentation, the quality of the conclusions, elements of creativity, the formation of personal attitude, the presentation of graphics, the method of presentation.	During the course of the module
5.	Preparation and support of a group project - clinical case	a) Clinical and paraclinical examination of a patient, individual investigation and treatment plan, establishment and argumentation of presumptive and final clinical diagnosis, indication of individualized treatment. b) Establishing the components of the project / PowerPoint presentation and final support.		

III. METHODOLOGICAL SUGGESTIONS FOR TEACHING-LEARNING-ASSESSMENT

- Teaching and learning methods used

The discipline of Surgical Diseases is taught in the classic way: with lectures and practical work. The theoretical course will be read during the lectures. The practical work consists of:

Cleaning the sick. The student treats 4-5 patients daily under the control of the lecturer or an experienced orderly. Complete observation sheets, extracts from observation sheets, medical certificates and other medical documents. Presents the patients to the visits of the Head of Department, the lecturer, the professor. Participates in paraclinical examinations (radiography, endoscopy, CT, MRI, FGDS, biochemical investigation, irrigoscopy, colonoscopy, etc.) and specialist consultations.

The diaries and other notes in the observation sheet are to be checked and signed by the lecturer or the clinic's physician.

The lecturer visits the patients together with each student, checking the student's mastery of taking the anamnesis, physically examining the patient, completing the clinical observation sheet, formulating the diagnosis, indicating the treatment, etc. Special attention will be paid to clinical thinking, differential diagnosis, treatment (choice of medicine, doses, recipe, avoidance of polypharmacy, etc.).



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The student studies the peculiarities of the evolution of the disease in the treated patients and the effectiveness of the treatment. In lethal cases, he assists in the autopsy, participates in clinical-anatomical conferences.

At the seminars, the most important chapters of internal medicine are discussed and analyzed, such as disease etiology, physiopathology, clinical picture, diagnosis and differential diagnosis, treatment, prophylaxis, work capacity expertise.

The lesson proceeds in the form of a discussion, during which the lecturer evaluates the students' knowledge, explains the unclear material. At the end of each discussed chapter, the lecturer makes a generalization.

Analysis of clinical cases. Patients with diseases, the diagnosis of which is complicated, or patients with rare pathologies, which are of theoretical and practical interest, will be selected for analysis.

The particularities of the evolution of the disease and the causes of the atypical evolution of the disease will be analyzed. The diagnosis will be argued and the differential diagnosis will be made. The treatment will be indicated with the reasoning of each indication. Disease prophylaxis and work capacity expertise will be discussed.

The guards in the clinic. During the study of the discipline, each student does 2 shifts in the clinic, during which, together with the doctor on duty, he makes the evening visit of the sick, corrects the treatment if necessary, provides emergency medical aid, perfects his knowledge in the field of diagnosis and differential diagnosis, improve their practical skills, etc.

At the morning conference (the next day), he reports on the patients hospitalized the day before, the change in the condition of serious patients and those under supervision, the provision of emergency medical assistance, the work of the on-call staff.

Clinical conferences. The students actively participate in the conferences organized according to the plan of the clinic with referential reports on current events in internal medicine, illustrative material, with the presentation of patients with complicated pathologies in terms of diagnosis and differential diagnosis, rare cases of interest.

- The didactic and research activity consists in the preparation by students of referential materials from various fields of gastroenterology and hepatology, illustrative materials, synthesis reports, participation with communications at clinical, scientific-practical conferences, etc.
- **Didactic strategies/technologies applied (discipline specific):**
- Group interview, case study, round table, working in pairs, clinical project, practical work at the patient's bedside.
- • Evaluation methods (including indicating the method of calculating the final grade)
- • Current: frontal or/and individual control through:
 - an interrogation;
 - an analysis of clinical case studies;
 - solving clinical problems/cases;
 - application of docimological tests;
 - control works.
- In the field of Surgical Diseases, students' knowledge will be evaluated daily, and at the end of



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each practical lesson, the grade will be announced.

- Final: passing exam.
- The promotion exam for the discipline Surgical diseases consists of 4 stages:
 - Annual note,
 - Practical skills,
 - Control test,
 - The oral interview,
 - with coefficient 0.3; 0.2; 0.2; 0.3 correspondingly.

The method of rounding grades at the evaluation stages

Intermediate grade grid (yearly average, exam stage grades)	National grading system	Equivalent ECTS
1,00-3,00	2	F
3,01-4,99	4	FX
5,00	5	E
5,01-5,50	5,5	
5,51-6,0	6	
6,01-6,50	6,5	D
6,51-7,00	7	
7,01-7,50	7,5	C
7,51-8,00	8	
8,01-8,50	8,5	B
8,51-8,00	9	
9,01-9,50	9,5	A
9,51-10,0	10	

The annual average mark and the marks of all stages of the final examination (computer-assisted, test, oral answer) - all will be expressed in numbers according to the marking scale (according to the table), and the final mark obtained will be expressed in numbers with two decimal places, which it will be entered in the grade book.

Failure to appear at the exam without valid reasons is recorded as "absent" and equates to a grade of 0 (zero). The student has the right to 2 repeated submissions of the failed exam.

IV. RECOMMENDED BIBLIOGRAPHY:



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