

Petro Mohyla Black Sea National University

Medical Institute

Department of Surgical Disciplines



Director
N.M.

2019

CURRICULUM OF THE TRAINING DISCIPLINE
SURGERY, INCLUDING PEDIATRIC SURGERY, NEUROSURGERY, with DEEP
STUDY IN THORACO-ABDOMINAL SURGERY

Specialty 222 "Medicine"

Developer
Head of the Department
Guarantor of Educational Program
Director of the Institute

Head of TDD

Nedieliev O.I.
Zack M.U.
Klymenko M.O.
Hryshchenko H.V.

Shkirchak S.I.

Description of training discipline

Name of the indicator	discipline profile	
Name of discipline	Surgery	
field of expertise	22 "Health".	
specialty	222 "Medicine"	
Specialization (if any)		
education programme	Surgery	
Level of higher education	Master	
discipline status	Normative	
training course	Year 5	
school year	2020/2021	
Semester numbers:	Daytime Form	extramural form
	9th, 10th.	
Total number of ECTS credits / hour	7.5 credits (4 / 3.5) / 225 hours	
Course Structure: – lectures – practical exercises – hours of students' independent work	Daytime Form	extramural form
	20 hours (12/8)	
	110 hours (60/50) 95 hours (50/45)	
Percentage of class workload	58%; independent work of students 42%	
Language of instruction	English	
Form of intermediate control (if any)	Attestation for semester 9	
Form of final control	Exam - 10th semester	

2. Goal, objectives and planned learning outcomes

purpose: assimilation of theoretical and practical knowledge of etiology, pathogenesis, clinic of typical and atypical symptomatology of surgical diseases of certain nosology, methods of diagnostics, conservative and operative treatment, rehabilitation of surgical pathology according to training program of general practitioner.

Learning objectives: acquisition of competencies, knowledge, skills and abilities by the student to carry out professional activities in the specialty

- To assimilate the anatomical and physiological features of the thoracic cavity and endocrinology;
- Interpret the etiology, pathogenesis and classification, clinical presentation of diseases of the thoracic cavity and endocrinology;
- determine methods of diagnostics, methods of conservative and surgical treatment of the mentioned diseases;
- identify indications and contraindications for lung and heart transplantation;
- Define the principles of postoperative treatment and rehabilitation of patients with endocrine organ and thoracic cavity pathology;
- to learn the risk factors for complications;
- interpret the results of laboratory and instrumental examination;
- Demonstrate mastery of the moral and ethical principles of a medical specialist and the principles of professional subordination in surgery;
- to carry out prognosis of life and performance in the specified surgical diseases;
- Interpret the general principles of treatment, rehabilitation and prevention of surgical diseases of the endocrine organs and thoracic cavity;
- Demonstrate proficiency in medical record keeping in the surgical clinic;
- provide emergency medical care for urgent surgical diseases of the thoracic cavity.
- learn the anatomical and physiological features of the vascular system;
- Interpret the etiology, pathogenesis and classification, clinical presentation of diseases of the vascular system;
- Identify methods of diagnosis, methods of conservative and surgical treatment of diseases of the vascular system and injuries of great vessels;
- to highlight the principles of postoperative treatment and rehabilitation of patients with vascular pathology;
- identify risk factors for complications;
- interpret the results of laboratory and instrumental examination;
- Demonstrate mastery of the moral and ethical principles of a medical specialist and the principles of professional subordination in surgery;
- perform prognosis of life and disability in surgical diseases of the vascular system;
- interpret the general principles of treatment, rehabilitation and prevention of the most common surgical diseases of the vascular system;
- Demonstrate proficiency in medical record keeping in the surgical clinic;
- Provide emergency medical care in urgent conditions of surgical diseases of the vascular system (trauma of the main vessels).

Expected learning outcomes. As a result of studying the discipline students should: to know:

- etiological and pathogenetic factors of the most common surgical diseases according to OKC list 1;
- various clinical variants and complications of the most common surgical diseases of the thoracic cavity, cardiovascular and endocrine systems;
- Diagnostic and treatment algorithm of medical care for emergency conditions in the clinic of surgical diseases;
- indications and contraindications to surgery in elective and urgent thoracic, cardiovascular, endocrine surgery, management of the postoperative period;
- know the indications and contraindications for lung and heart transplantation;

To be able to:

- Identify the most common clinical symptoms and syndromes in the thoracic, cardiovascular, endocrine surgery clinic
- diagnose and provide medical care for emergencies in the clinic of thoracic, cardiovascular, endocrine surgery
- Demonstrate mastery of the moral and ethical principles of medical specialist and the principles of professional subordination in surgery
- Interpret the general principles of treatment, rehabilitation and prevention of the most common diseases of thoracic, cardiovascular, endocrine surgery
- Perform prognosis of life and disability in the most common diseases of thoracic, cardiovascular, endocrine surgery
- Identify the main etiological and pathogenetic factors of the most common diseases of thoracic, cardiovascular, endocrine surgery
- Classify and analyze the typical clinical picture of the most common diseases of thoracic, cardiovascular, endocrine surgery
- Make an examination plan and analyze the data of laboratory and instrumental examinations in the typical course of the most common diseases of thoracic, cardiovascular, endocrine surgery
- Determine indications and contraindications for surgery in elective and urgent thoracic, cardiovascular, endocrine surgery
- Determine the tactics of the post-operative period, prescribe the necessary treatment
- Demonstrate ability to perform necessary medical manipulations

mother of competence

The developed program corresponds to the educational and professional program (EPP) and focuses on the formation of competencies:

general (GK) - GK1 to GK3 of the SRB:

- ability to think abstractly, analyze and synthesize; ability to learn and master modern knowledge;
- ability to apply knowledge in practical situations;
- knowledge and understanding of the subject area and understanding of professional activities;

professional competencies: (FC) - FC1-FC9, 11, 14, 15, 18 OP

- Patient Interviewing Skills.
- ability to determine the required list of laboratory and instrumental examinations and to evaluate their results.
- ability to establish a preliminary and clinical diagnosis of the disease.
- the ability to determine the necessary work and rest regimes for the treatment of diseases.
- the ability to determine the nature of nutrition in the treatment of diseases.

- the ability to determine the principles and nature of disease management.
- ability to diagnose emergencies.
- the ability to determine emergency medical care tactics.
- Emergency medical care skills.
- Skills in performing medical manipulations.
- ability to carry out sanitary and preventive measures.
- ability to plan and carry out preventive and anti-epidemic measures for infectious diseases.

The developed program is consistent and focused on the formation and provision of program learning outcomes (PLO) of the PGP:

Program Learning Outcomes (PLO): 11; 13 - 18; 22; 25; 28; 30; 32; 33; 35; 41 PLOs:

<p>PLO 11</p>	<p>Collect data on patient complaints, medical history, life history (including professional anamnesis), in conditions of health care facility, its unit or at home of the patient, using the results of the interview with the patient, according to the standard scheme of interviewing the patient. In all circumstances (in a health care facility, its unit, at the patient's home, etc.), using knowledge of the person, his organs and systems, according to certain algorithms: collect information about the patient's general condition (consciousness, constitution) and physical appearance (examination of skin, subcutaneous fat globules, palpation of lymph nodes, thyroid and mammary glands); assess the child's psychomotor and physical development; examination of the cardiovascular system (examination and palpation of the heart and superficial vessels, percussion of the heart and vessels, auscultation of the heart and vessels) examine the respiratory system (chest and upper respiratory tract examination, palpation of the chest, percussion and auscultation of the lungs) examine the condition of the abdominal organs (abdominal examination, palpation and percussion of the intestines, stomach, liver, spleen, palpation of the pyloric gland, kidneys, pelvic organs, palpation of the rectum); examine the musculoskeletal system (examination and palpation) to examine the condition of the nervous system; examine the condition of the genitourinary system; assess the state of fetal intrauterine development with fetal weight and fetal heartbeat auscultation.</p>
<p>PLO 13</p>	<p>In the setting of a health-care facility, its subdivision and among the attached population: Identify and report the leading clinical symptom or syndrome (List 1) by making an informed decision using initial history of the patient, physical examination of the patient, knowledge of the individual, his or her organs and systems, and adhering to relevant ethical and legal standards. Be able to establish the most probable or syndromic diagnosis Diagnose the most likely or syndromic case (List 2) by making an informed decision, comparing standards, using initial history and physical examination data, based on the leading clinical symptom or syndrome, using knowledge of the individual, his/her organs and systems, and adhering to appropriate ethical and legal guidelines.</p>
<p>PLO 14</p>	<p>In the setting of a health care facility, its subdivision: - • Prescribe laboratory and/or instrumental examination of the patient (according to list 4) by making an informed decision, based on the most probable or syndromic diagnosis, according to a standardized scheme, using knowledge of the person, its organs and systems, adhering to relevant ethical and legal rules. - • Carry out differential diagnosis of diseases (on list 2) By making an informed decision, according to a defined algorithm, using the</p>

	<p>most probable or syndromic diagnosis, given a laboratory and instrumental examination of the patient, knowledge of the person, its organs and systems, adhering to appropriate ethical and legal standards.</p> <p>- • Establish a provisional clinical diagnosis (List 2) by informed decision-making and logical analysis using the most probable or syndromic diagnosis, laboratory and instrumental examination of the patient, findings of referential diagnosis, knowledge of the person, his or her organs and systems, and appropriate ethical and legal standards.</p>
PLO 15	Determine appropriate work and rest patterns for the treatment of illness (List 2) in the health care setting, in the patient's home and during medical evacuation phases, including in the field, based on a preliminary clinical diagnosis, using knowledge of the person, their organs and systems, following appropriate ethical and legal standards, by making informed decisions based on existing algorithms and standard schemes.
PLO 16	Determine appropriate therapeutic nutrition for disease management (List 2), in the healthcare setting, in the patient's home and during medical evacuation phases, including. In the field based on a preliminary clinical diagnosis, using knowledge of the person, his/her organs and systems, adhering to relevant ethical and legal standards, by making informed decisions based on existing algorithms and standard schemes.
PLO 17	<p>Determine the nature of treatment (conservative, surgical) of the disease (list 2), in the health care facility, at the patient's home and during medical evacuations, including. In the field based on a preliminary clinical diagnosis, using knowledge of the person, its organs and systems, adhering to the relevant ethical and legal standards, by making an informed decision on the existing algorithms and standard schemes.</p> <p>Determine principles of disease management (List 2), in the health care setting, at home and during medical evacuations, including in the field. In the field, based on a preliminary clinical diagnosis, using knowledge of the person, his/her organs and systems, adhering to relevant ethical and legal standards, by making informed decisions based on existing algorithms and standard schemes.</p>
PLO 18	Establish a diagnosis (List 3) by making an informed decision and assessment of the person's condition, in all circumstances (home, street, health facility, its unit), including in an emergency, in the field, under conditions of lack of information and limited time, using standard techniques of physical examination and possible anamnesis, knowledge of the person, its organs and systems, adhering to relevant ethical and legal standards.
PLO 22	Perform medical manipulations (list 5) in a facility, home or workplace setting based on a preliminary clinical diagnosis and/or patient measures, using knowledge of the person, their organs and systems, adhering to appropriate ethical and legal standards, by making informed decisions and using standard techniques.
PLO 25	<p>Shape, in the context of a health care facility, its units in the workplace, using a generalized human health assessment procedure, knowledge of the human being, its organs and systems, adhering to appropriate ethical and legal standards, by making informed decisions, among the assigned population :</p> <p>dispensary groups of patients;</p> <p>groups of healthy people subject to dispensary monitoring (Newborns, children, adolescents, pregnant women, representatives of professions, must undergo compulsory dispensary monitoring).</p>
PLO 28	Organize secondary and tertiary prevention activities among the assigned population using a generalized health assessment procedure (screening, preventive health examinations, seeking medical care), knowledge of the human being, its organs and systems, adhering to relevant ethical and legal standards, by making informed decisions, in the health facility setting in particular:

	form dispensary observation groups; organize therapeutic and recreational activities differentiated by the dispensary group.
PLO 30	Carry out in the setting of a health care facility, its subdivision: - • Detection and early diagnosis of infectious diseases (according to list2) * primary anti-epidemic measures in the focus of infectious disease.
PLO 32	In a health care facility or in the patient's home, based on the patient's health status, using standardized charts, using knowledge of the person, their organs and systems, adhering to appropriate ethical and legal standards, by making an informed decision: determine the tactics of examination and secondary prevention of patients, to be subject to dispensary observation; Determine screening and primary prevention tactics for healthy individuals subject to dispensary care; calculate and prescribe appropriate foods for infants and toddlers.
PLO 33	Determine the presence and degree of disability, type, degree and duration of disability with registration of appropriate documents, in the conditions of health care facilities on the basis of data on the disease and its course, the peculiarities of professional activity of the person.
PLO 35	In the service area according to standard descriptive, analytical epidemiological and medico-statistical research methods: conduct screening to detect important noncommunicable diseases; assess in dynamics and in comparison with statistical averages the indicators of morbidity, including chronic non-infectious diseases, disability, mortality, integral health indicators; Identify risk factors for the occurrence and course of diseases; form at-risk populations.
PLO 41	In the setting of a health care facility or its subdivision, according to standard methods: select and use evidence-based standardized clinical protocols for the delivery of health care; Participate in the development of local medical protocols; conduct quality control of health care based on statistical data, expert assessment and sociological data using structure, process and outcome indicators; identify barriers to improving the quality and safety of medical care.

3. Programme of study discipline

The educational process is organized according to the European Credit Transfer and Accumulation System (ECTS).

The curriculum of the discipline consists of two blocks:

unit 1

Topic 1. Acute appendicitis and its complications. Acute appendicitis. Anatomical and physiological data. Etiology and pathogenesis. Classification. Clinical picture of the typical course of acute appendicitis. Diagnosis and differential diagnosis of acute appendicitis. The tactics of treatment of acute appendicitis. Types of appendectomies. Peculiarities of the course of acute appendicitis in pregnant and elderly patients. Atypical forms of acute appendicitis. The diagnostic and treatment program. The role of laparoscopic techniques in the diagnosis and treatment of patients with acute appendicitis. Complications of acute appendicitis: appendicular infiltrate, appendicular abscess, interstitial, subhepatic, pelvic and subdiaphragmatic abscesses,

appendicular peritonitis, retroperitoneal phlegmon. Pelephlebitis. Sepsis. Clinic, diagnosis, modern therapeutic tactics. Complications of appendectomy.

Topic 2. Acute complications of peptic ulcer disease of the stomach and duodenum. Etiology and pathogenesis of perforative gastroduodenal ulcers. Clinic of typical and atypical perforative gastroduodenal ulcer. Diagnostic program for perforating ulcer. Differential diagnostics of typical and atypical perforative ulcer. Treatment tactics for perforative gastroduodenal ulcer. Preparation of the patient to surgical intervention and choice of optimal method of surgical treatment. Conservative therapy in postoperative period. Etiology and pathogenesis of gastroduodenal ulcer bleeding. Clinic of peptic ulcerous bleeding. Laboratory and endoscopic methods of diagnostics of peptic ulcer bleeding. Differential diagnostics of gastrointestinal bleeding. Therapeutic tactics in peptic ulcer bleeding: indications for the choice of conservative treatment, endoscopic methods of hemostasis, surgical intervention. Blood transfusion in peptic ulcer bleeding. Choice of surgical intervention in peptic ulcer

Topic 3. Acute cholecystitis and its complications. Anatomical and physiological features of the biliary tract. Definition, etiology and pathogenesis of acute cholecystitis. Classification. Clinic, diagnosis, differential diagnosis. Surgical tactics. Peculiarities of clinical course, clinical picture of acute cholecystitis and diagnostic and treatment program in elderly patients with concomitant pathology. Complications of acute cholecystitis (gallbladder perforation, perivesical infiltrates and abscesses, cholangitis, cholangiogenic liver abscesses, biliary peritonitis, liver failure, mechanical jaundice, cholecystopancreatitis). Complications of cholecystectomy (intraoperative damages of extrahepatic bile ducts, vessels, abdominal cavity organs). Diagnostics and surgical tactics. Role of minimally invasive techniques in diagnosis and treatment of complications of acute cholecystitis and cholecystectomy.

Topic 4. Acute pancreatitis and its complications. Etiology and pathogenesis of acute pancreatitis. Periods of clinical course of acute pancreatitis. Clinic of mild and severe acute pancreatitis. Diagnostic methods of acute pancreatitis: clinical, laboratory, instrumental - ultrasound, CT, laparoscopy. Differential diagnostics of acute pancreatitis. Complications of acute pancreatitis: acute pancreatic pseudocyst, pancreatic abscess, widespread peritonitis, necrosis of cavity walls, bleeding into the abdominal cavity, acute ulcers of the digestive tract, bleeding from acute ulcers into the digestive tract, perforation of acute ulcers. Current therapeutic tactics in acute pancreatitis. Conservative therapy. Indications for surgical treatment. Methods of minimally invasive and open surgical interventions.

Topic 5. Acute intestinal obstruction, features of its course in children. Relevance of the problem. Definition of the concept. Etiology and pathogenesis. Typical clinical picture. Classification (etiology, anatomical localization, clinical course). differential diagnosis. Features examination of the patient with acute intestinal obstruction. Mechanical intestinal obstruction. Early clinical signs of mechanical intestinal obstruction. Features of clinical course of various forms of mechanical intestinal obstruction. Modern methods of diagnostics. peculiarities of preoperative preparation: correction of water-electrolyte disturbances and acid-base balance. Features of general anesthesia. Surgical tactics in acute intestinal obstruction and types of surgical interventions according to its cause. Peculiarities of the postoperative period. Consequences of surgical treatment. Dynamic intestinal obstruction. Classification. Features of the clinic. The principles of conservative and surgical treatment. Adhesive disease. Etiology, pathogenesis. Classification. Clinic. Indications for surgical treatment. Features and types of surgical interventions.

Topic 6. Acute appendicitis, peritonitis in children. Anatomical and physiological features of the abdomen in children. Complicated forms of acute appendicitis: appendicular abscess, peritonitis, infiltrate. Primary peritonitis. Peritonitis of newborns. Necrotic enterocolitis. Causes, clinical classification. Surgical complications. Principles of surgical treatment. Features NEC in newborns with extremely low birth weight. Polyclinic. Rehabilitation after surgical interventions. Acquired intestinal obstruction. Spastic obstruction. Intussusception. Classification, pathogenesis, prevention of postoperative adhesive intestinal obstruction. Principles of treatment of adhesive intestinal obstruction. Etiology, pathogenesis, clinic, diagnostics of idiopathic intussusception in children. Differential diagnosis with infectious diseases. Indications for conservative and surgical

treatment, prevention of complications. Short bowel syndrome. Principles of intestinal transplantation.

Topic 7. Congenital intestinal obstruction. Pylorostenosis, pylorospasm. Hirschsprung's disease. The causes of the disease. Methods of early diagnosis and treatment. Atresia of the esophagus. Posterior atresia. Pathogenesis, clinical manifestations of pylorostenosis, pylorospasm, methods of diagnosis, methods of treatment. Congenital bowel agangliosis, forms, clinical, methods of diagnosis and treatment. Urgent pediatric urology. Obstructive defects and diseases of the urinary system: hydronephrosis, urethrohydronephrosis, vesicoureteral reflux, megaureter, infravesical obstruction. Urolithiasis renal colic, calculus pyelonephritis. Etiopathogenesis, clinical manifestations, differential diagnosis, principles of treatment and prevention. Scrotal edema syndrome: trauma of the external genitalia, inguinal hernia and strained hydrofunikulocele, torsion of the testicle and spermatic cord, testicular hydatidial torsion, orchitis, orchopididymitis. Etiopathogenesis, clinical manifestations,

Topic 8: Polytrauma in children: Traumatic illness; traumatic shock. Mutual aggravation syndrome, types of traumatic injuries. Severity of traumatic shock: diagnostic criteria, emergency treatment. Closed injury of the abdominal cavity and post-cranial space: hollow organs trauma: mechanism of injury, clinical manifestations, diagnostic algorithm, emergency care. Principles of surgical treatment. Trauma parenchymatous organs: trauma pancreas, liver, spleen, kidney, bladder, urethra. Pancreatic pseudocyst, traumatic pancreatitis. Signs of intra-abdominal bleeding. Indications for conservative and surgical treatment. Hemobilia. Diagnosis, principles of treatment.

Theme 9: Trauma of the thorax and thoracic cavity organs. Definition of basic concepts. Etiology. Pathogenesis. Classification. Clinic. Psychological features of the patients. The course. Complications. Methods of investigation, diagnosis, differential diagnosis. Surgical tactics. The principles of surgical treatment. Methods of surgical interventions. Methods of sanitation of the tracheobronchial tree. Puncture of pleural cavity. Drainage of the pleural cavity. Consequences of surgical treatment. Lesions of the esophagus, burns and foreign bodies. Rehabilitation of patients. Bleeding of the gastrointestinal tract in children. Portal hypertension. Peculiarities of the clinic and differential diagnostics of gastro-intestinal bleeding in children with gastric reflux, hemorrhagic gastritis, portal hypertension, gastric and 12 duodenal ulcers, Meckel's diverticulum, polyps and polyposis of the intestine (Peut-Jeghers disease). Variants of surgical interventions,

Topic 10. Malformations that are manifested by intestinal obstruction. Congenital hypertrophic pylorostenosis. Duodenal intestinal obstruction (stenosis, atresia, duodenal membrane, annular pancreas). Abnormalities of intestinal rotation and fixation. Physiologic bowel rotation. Ladd's syndrome (triad); middle intestinal twist. Rotational anomalies, their prevention and treatment. Atresia and stenosis of the small and large intestine. Types. Pre- and postnatal diagnosis. Principles of treatment. Hirschsprung's disease. Etiology. Clinical manifestations. Diagnosis (anomalometry, radiography, biopsy). Principles of surgical treatment. Complications and their prevention. Intestinal dysgangliosis, hypogangliosis and other intestinal motility disorders. Meconial intestinal obstruction. Etiology, pathogenesis, clinical manifestations. Conservative and surgical treatment. Complications (gastrointestinal and pulmonary). Anorectal malformations. Anatomical classification, basics of treatment tactics, prognosis.

Block No. 2

Topic 11. Combined and combined craniocerebral trauma (CMT), features of the clinic and diagnosis. Modern methods of diagnosis, assessment of their informative. Principles of emergency care for patients with open, combined and combined CMI at various stages of evacuation. The use of modern research methods in the diagnosis of CMT. Conservative and orthopedic treatment. Emergency care for patients with traumatic lesions of the spine and spinal cord, the main methods and principles of transport immobilization of patients depending on the level of injury.

Theme 12. Open traumatic brain injury. Classification, clinic, diagnosis. Combined and combined traumatic brain injury, features of the clinic and diagnosis. Principles of emergency care for patients with open, combined and combined CMI at various stages of evacuation. The use of modern research methods in the diagnosis of CMT. Primary surgical treatment of open penetrating

and non-penetrating wounds of the skull and brain. Early and late complications in open cranial trauma, the principles of surgical treatment. Modern methods of plastic cranial bone defects. Peculiarities of the course of CMT depending on the age and somatic condition of patients. Maternity trauma, emergency care, principles of treatment and prevention.

Topic 13. Spinal cord injury (SCI). Etiopathogenesis of traumatic lesions of the spine and spinal cord. Classification. Clinic of different types of spinal cord and spinal cord injuries depending on the level of injury. Modern methods of clinical and instrumental diagnosis. Evaluation of detected changes in the application of auxiliary diagnostic methods of traumatic injuries of the spinal cord and spine. Emergency treatment of patients with traumatic lesions of the spine and spinal cord, the main methods and principles of transport immobilization of patients depending on the level of injury. Indications for surgical treatment for spinal and spinal cord injuries. Modern methods of treatment of spinal cord and spinal cord injuries. Prevention and treatment of complications in the acute and remote periods. Rehabilitation treatment of patients.

Topic 14. Tumors of the brain. Classification. Clinic. Diagnostics. Pathophysiological mechanisms of hypertension syndrome formation. General and focal symptoms. Pathogenesis of primary and secondary symptoms in brain tumors. Application of modern auxiliary examinations (ophthalmological examination, craniography, ultrasound, ECHO, EEG, pneumoencephalography, angiography, computer tomography, MRI, SPECT) in diagnostics of the brain tumors. Modern methods of surgical treatment of brain tumors depending on the histostructure and localization. Radical and palliative surgeries and their principles. Combined and radiosurgical treatment of brain tumors. Emergency treatment for acute intracranial hypertension and dislocation syndromes. Rehabilitation and reintegration of patients after surgical intervention for brain tumors. Significance of bad habits in the occurrence of volumetric lesions of the brain

Topic 15. Tumors of the spine and spinal cord. Classification. Features of the clinic depending on the location of the tumor and the nature of its growth. Modern methods of diagnostics of spinal cord tumors. Significance of auxiliary methods in examination of patients with spinal cord tumors and differential diagnosis of this pathology. Methods of surgical treatment of spinal cord tumors. Technique of laminectomy. Prevention of complications in spinal cord tumors (urosepsis, sepsis, bedsores). Rehabilitation treatment in the postoperative period. Rehabilitation of patients after removal of spinal cord tumors.

Topic 16. Abnormalities of the CNS. The most common malformations of the CNS requiring neurosurgical care. Early diagnosis of malformations of the CNS. Promotion of a healthy lifestyle as a method of preventing CNS malformations. Craniostenosis. Clinic, diagnosis, modern methods of neurosurgical treatment. Craniocerebral and spinal hernias. Clinic, diagnostics, indications for surgical treatment. Modern principles of craniocerebral and spinal hernia treatment.

Topic 17. Malformations of the esophagus. Atresia of the esophagus. Prenatal diagnosis. Emergency treatment of the newborn. Preoperative preparation. Surgical treatment based on the type of malformation. Prospects of thoracoscopy. Gastrostomy. Methods of plasty of the esophagus. Congenital stenosis of the esophagus. A- and chaliasia of cardia. Gastroesophageal reflux. Causes. Clinical manifestations. Principles of diagnostics and treatment. Complications.

Topic 18. Congenital diaphragmatic hernia: hernia of the diaphragm proper; hernia of the esophageal opening of the diaphragm, euentration (relaxation) of the diaphragm. Embryology of the diaphragm, its relationship to the development of the lungs and esophagus. Advantages of prenatal diagnosis. Opportunities for fetal surgery. Emergency care for the newborn in the delivery room. Preoperative stabilization. Opportunities for correction of pulmonary hypertension. Surgical treatment. Postoperative complications, prognosis. Covina and paraesophageal hernia. Features of the clinical course and surgical intervention.

Topic 19. Congenital defects of the musculoskeletal system. Terminology. Pathophysiology. Congenital dislocation of the hip. Physical examination. Diagnosis (ultrasound, radiological). Principles of treatment in different age groups (0 - 6 months, 6 - 12 months, over 1 year). Complications, prevention and treatment. Congenital Clubfoot. Diagnosis, principles of treatment. Congenital muscular torticollis. Causes. Clinical manifestations Complications. Principles of conservative treatment, indications for surgical intervention. Congenital hand and foot malformations: syndactyly, polydactyly, ectrodactyly. Amniotic malformations, crank-

handedness. Underdevelopment and pseudoarthrosis of the tibia. Terminology, clinical manifestations, principles of treatment.

Structure of the training discipline

topic titles	lectures	Practical training / seminars	Student's independent work	IRS
unit I				
Topic 1. Acute appendicitis and its complications. Acute appendicitis. Anatomical and physiological information. Etiology and pathogenesis. Classification. Clinical picture of the typical course of acute appendicitis. Diagnosis and differential diagnosis of acute appendicitis. The tactics of treatment of acute appendicitis. Types of appendectomies. Peculiarities of the course of acute appendicitis in pregnant and elderly patients.	2	6	6	
Topic 2. Acute complications of peptic ulcer disease of the stomach and duodenum. Etiology and pathogenesis of perforative gastroduodenal ulcers. Clinic of typical and atypical perforative gastroduodenal ulcer. Diagnostic program for perforating ulcer. Differential diagnostics of typical and atypical perforative ulcer. Treatment tactics for perforative gastroduodenal ulcer.		6	6	
Topic 3. Acute cholecystitis and its complications. Anatomical and physiological features of the biliary tract. Definition, etiology and pathogenesis of acute cholecystitis. Classification. Clinic, diagnosis, differential diagnosis. Surgical tactics. Peculiarities of clinical course, clinical picture of acute cholecystitis and diagnostic and treatment program in elderly patients with concomitant pathology.	2	6	6	
Topic 4. Acute pancreatitis and its complications. Etiology and pathogenesis of acute pancreatitis. Periods of clinical course of acute pancreatitis. Clinic of mild and severe acute pancreatitis. Diagnostic methods of acute pancreatitis: clinical, laboratory, instrumental - ultrasound, CT, laparoscopy. Differential diagnostics of acute pancreatitis. Complications of acute pancreatitis: acute pancreatic pseudocyst, pancreatic abscess, widespread peritonitis, necrosis of cavity walls, bleeding	2	6	6	
Topic 5. Acute intestinal obstruction, features of its course in children. Relevance of the problem. Definition of the concept. Etiology and pathogenesis. Typical clinical picture. Classification (etiology, anatomical localization, clinical course). differential diagnosis. Features examination of the patient with acute intestinal obstruction. Mechanical intestinal obstruction. Early clinical signs of mechanical intestinal obstruction. Features of clinical course of various forms of mechanical intestinal obstruction. Modern methods of diagnosis.	2	6	6	

Topic 6. Acute appendicitis, peritonitis in children. Anatomical and physiological features of the abdomen in children. Complicated forms of acute appendicitis: appendicular abscess, peritonitis, infiltrate. Primary peritonitis. Peritonitis of newborns. Necrotic enterocolitis. Causes, clinical classification. Surgical complications. Principles of surgical treatment. Features NEC in newborns with extremely low birth weight. Polyclinic. Rehabilitation after surgical interventions. Acquired intestinal obstruction. Spastic obstruction.	2	6	5	
Topic 7. Congenital intestinal obstruction. Pylorostenosis, pylorospasm. Hirschsprung's disease. The causes of the disease. Methods of early diagnosis and treatment. Atresia of the esophagus. Posterior atresia. Pathogenesis, clinical manifestations of pylorostenosis, pylorospasm, methods of diagnosis, methods of treatment. Congenital bowel agangliosis, forms, clinical manifestations, methods of diagnosis and treatment. Urgent pediatric urology. Obstructive defects and diseases of the urinary system: hydronephrosis, urethrohydronephrosis, vesicoureteral reflux, megaureter, infravesical obstruction.	2	6	5	
Topic 8. Polytrauma in children traumatic illness; traumatic shock. Mutual aggravation syndrome, types of traumatic injuries. Traumatic shock severity: diagnostic criteria, emergency treatment. Closed injury of the abdominal cavity and post-cranial space: hollow organs trauma: mechanism of injury, clinical manifestations, diagnostic algorithm, emergency care. Principles of surgical treatment. Trauma of parenchymatous organs: trauma of pancreas, liver, spleen, kidneys, bladder, urethra.		6	5	
Theme 9. Trauma of the thorax and thoracic cavity organs. Definition of basic understandings. Etiology. Pathogenesis. Classification. Clinic. Psychological features of the patients. Overexposure. Methods of research, diagnosis, differential diagnosis. Surgical tactics. The principles of surgical treatment. Methods of surgical interventions. Methods of sanitation of tracheobronchial tree. Puncture of pleural cavity. Drainage of the pleural cavity. Consequences of surgical treatment.		6	5	
Topic 10. Malformations that manifest themselves as intestinal obstruction. Congenital hypertrophic pylorostenosis. Duodenal intestinal obstruction (stenosis, atresia, duodenal membrane, annular pancreas). Abnormalities of intestinal rotation and fixation. Physiologic bowel rotation. Ladd's syndrome (triad); middle intestinal twist. Rotational anomalies, their prevention and treatment. Atresia and stenosis of the small and large intestine.		6	5	
Total for Block No. 1	12	60	50	
total hours	135			

block #2				
Topic 11. Combined and combined traumatic brain injury, features of the clinic and diagnosis. Modern methods of diagnosis, evaluation of their informative . Principles of emergency care for patients with open, combined and combined traumatic brain injury at various stages of evacuation. The use of modern research methods in the diagnosis of CMT. Conservative i orthopedic treatment.	2	5	5	
Topic 12. Open craniocerebral injury (CCI). Classification, clinic, diagnosis. Combined and combined CMI, features of the clinic and diagnosis. Principles of emergency care for patients with open, combined and combined CMI at various stages of evacuation. The use of modern research methods in the diagnosis of CMT.		5	5	
Topic 13. Spinal cord injury (SCI). Etiopathogenesis of traumatic lesions of the spine and spinal cord. Classification. Clinic of various types of spinal cord and spinal cord injuries depending on the level of injury. Modern methods of clinical and instrumental diagnosis. Evaluation of identified changes in the application of auxiliary diagnostic methods of traumatic injuries of the spinal cord and spine.		5	5	
Topic 14. Brain tumors. Classification. Clinic. Diagnostics. Pathophysiological mechanisms of hypertension syndrome formation. Generalized and focal symptoms. Pathogenesis of primary and secondary symptoms in brain tumors. Application of modern auxiliary examinations (ophthalmological examination, craniography, ultrasound, EchoEG, EEG, pneumoencephalography, angiography, computer tomography, MRI, SPECT) in the diagnosis of brain tumors.	2	5	5	
Topic 15. Tumors of the spine and spinal cord. Classification. Features of the clinic depending on the location of the tumor and the nature of its growth. Modern methods of diagnostics of spinal cord tumors. Significance of auxiliary methods in examination of patients with spinal cord tumors and differential diagnosis of this pathology. Methods of surgical treatment of spinal cord tumors. laminectomy technique	2	6	5	
Topic 16. Malformations of the CNS. The most common malformations of the CNS requiring neurosurgical care. Early diagnosis of malformations of the CNS. Promotion of a healthy lifestyle as a method of preventing CNS malformations. Craniostenosis. Clinic, diagnosis, modern methods of neurosurgical treatment.		6	5	
Topic 17. Malformations of the esophagus. Atresia of the esophagus. Prenatal diagnosis. Emergency treatment of the newborn. Preoperative preparation. Surgical treatment based on the type of malformation.	2	6	5	
Topic 18. Congenital diaphragmatic hernia: hernia of the diaphragm proper; hernia of the esophageal opening of the		6	5	

diaphragm, euentration (relaxation) of the diaphragm. Embryology of the diaphragm, its relationship to the development of the lungs and esophagus. Advantages of prenatal diagnosis. Opportunities for fetal surgery. Emergency care for the newborn in the delivery room. Preoperative stabilization.				
Topic19. Congenital defects of the musculoskeletal system. Terminology. Pathophysiology. Congenital dislocation of the hip. Physical examination. Diagnosis (ultrasound, radiological). Principles of treatment in different age groups (0 - 6 months, 6 - 12 months, over 1 year). Complications, prevention and treatment. Congenital Clubfoot. Diagnosis, principles of treatment. Congenital muscular torticollis. Causes. Clinical manifestations Complications.		6	5	
Total for block number 2	8	50	45	
Total hours in the discipline	20	110	95	
Total hours at unit nos. 1 and 2	225			

4. Content of the training discipline

4.1. lecture plan

№	topic	number of hours
Block No. 1		
1	Acute appendicitis and its complications. 1. anatomico-physiological information. Etiology and pathogenesis. 2. Classification. Clinical picture of the typical course of acute appendicitis. 3. Diagnosis and differential diagnosis of acute appendicitis. Treatment tactics of acute appendicitis. Types of appendectomies. 4. peculiarities of the course of acute appendicitis in pregnant and elderly patients.	2
2	Acute cholecystitis and its complications. 1. anatomical and physiological features of the biliary tracts. 2. definition, etiology and pathogenesis of acute cholecystitis. 3. Classification. Clinic, diagnosis, differential diagnosis. 4. surgical tactics. Features of the clinical course, clinical picture of acute cholecystitis	2
3	Acute pancreatitis and its complications. 1. etiology and pathogenesis of acute pancreatitis. Periods of the clinical course of acute pancreatitis. 2. Clinic of mild and severe acute pancreatitis. 3. Diagnostic methods of acute pancreatitis: clinical, laboratory, instrumental - ultrasound, CT, laparoscopy. 4. Differential diagnosis of acute pancreatitis. complications	2
4	Acute intestinal obstruction, features of its course in children. 1. etiology and pathogenesis. Typical clinical picture. 2. Classification (according to etiology, anatomical localization, clinical course). 3. Differential diagnosis. 4. peculiarities of examination of the patient with acute intestinal	2

	obstruction. 5.Mechanical bowel obstruction.	
5	Acute appendicitis, peritonitis in children. 1.Anatomical and physiological features of the abdominal cavity in children. 2. Complicated forms of acute appendicitis: appendicular abscess, peritonitis, infiltrate. 3. Initial peritonitis. Neonatal peritonitis. Necrotizing enterocolitis. Causes, clinical classification. 4. surgical complications. Principles of surgical treatment.	2
6	Congenital intussusception. 1. Pylorostenosis, pylorospasm. Hirschsprung's disease. 2. Causes of occurrence. Methods of early diagnosis and treatment. 3. Atresia of the esophagus. Posterior atresia. 4. Pathogenesis, clinical manifestations of pylorostenosis, pylorospasm, methods of diagnosis, methods of treatment.	2
Block No. 2		
7	Combined and co-morbid trauma 1. peculiarities of clinic and diagnostics. 2.Modern methods of diagnosis, evaluation of their informativeness 3.The principle of emergency care for patients with open, combined and combined traumatic events at different stages of evacuation.	2
8	Brain tumors. 1. Classification. Clinic. Diagnostics. 2. Pathophysiological mechanisms of hypertension syndrome formation. 3. General cerebral and focal symptoms. 4. Pathogenesis of primary and secondary symptoms in brain tumors	2
9	Tumors of the spine and spinal cord. 1. Classification. Features of the clinic depending on the localization of the tumor and the nature of its growth. 2. Current methods of diagnosis of spinal cord tumors. 3.The importance of auxiliary techniques in the examination of patients with spinal cord tumors 4. Differential diagnosis of this pathology.	2
10	Esophageal malformations. 1.Esophageal atresia. Prenatal diagnosis. 2.Emergency care for the newborn. 3.Preoperative preparation. 4.Surgical treatment based on the type of malformation.	2
9	in total:	20

4.2 Practical lesson plan

№	topic	number of hours
unit 1		
1	Topic 1. Acute appendicitis and its complications.	6
2	Topic 2. Acute complications of peptic ulcer disease of the stomach and duodenum.	6
3	Topic 3. Acute cholecystitis and its complications. Anatomical and physiological features of the biliary tract.	6
4	Topic 4. Acute pancreatitis and its complications. Etiology and pathogenesis of acute pancreatitis.	6
5	Topic 5. acute intestinal obstruction, peculiarities of its course in	6

	children. relevance of the problem	
6	Topic 6. Acute appendicitis, peritonitis in children. Anatomical and physiological features of the abdomen in children. Complicated forms of acute appendicitis:	6
7	Topic 7. Congenital intestinal obstruction. Pylorostenosis, pylorospasm. Hirschsprung's disease.	6
8	Topic 8: Polytrauma in children Traumatic illness; traumatic shock.	6
9	Theme 9: Trauma of the thorax and thoracic cavity organs.	6
10	Topic 10. Malformations that manifest themselves as intestinal obstruction. Congenital hypertrophic pylorostenosis.	6
	Final control work No. 1	2
	in total:	62
	block #2	
11	Topic 11. Combined and combined traumatic brain injury, features of the clinic and diagnosis. Modern methods of diagnosis, assessment of their informativeness.	6
12	Topic 12. Open craniocerebral injury (CCI). Classification, clinic, diagnosis. Combined and combined traumatic brain injury	6
13	Topic 13. Spinal cord injury (SCI).	6
14	Topic 14. Brain tumors. Classification. Clinic.	6
15	Topic 15. Tumors of the spine and spinal cord. Classification	6
16	Topic 16. CNS malformations. The most common malformations of the CNS	4
17	Topic 17. Malformations of the esophagus. Atresia of the esophagus.	4
18	Topic 18. Congenital diaphragmatic hernia: Hernia of the diaphragm proper; Hernia of the esophageal opening of the diaphragm	4
19	Topic 19. Congenital defects of the musculoskeletal system. Terminology. Pathophysiology. Congenital dislocation of the hip	4
	Final control work No. 2	2
	in total:	48
	Total practice sessions:	110

4.3 Assignments for independent work

No. of items.	THEME	number of hours
BLOCK 1		
1.	Preparation for practical classes (theoretical training, practicing practical skills)	12
2.	Taking online courses and online testing	12
3.	Independent study of topics that are not included in the plan of classroom lessons Block 1 (the list is attached)	12
4.	individual work	13
5.	Preparation for the final control paper No. 1	5
	INCLUDING:	54
BLOCK 2		
1.	Preparation for practical classes (theoretical training, practicing practical skills)	11
2.	Taking online courses and online testing	10
3.	Independent study of topics that are not part of the classroom plan	10

	Block 2 (list attached)	
4.	individual work	5
5.	Preparation for the final control paper No. 2	5
TOGETHER:		41
TOTAL BLOCK #1-2:		95

List of topics for independent work

unit 1

1. atypical forms of acute appendicitis.
2. Diagnostic and treatment program for acute appendicitis.
3. The role of laparoscopic techniques in the diagnosis and treatment of patients with acute appendicitis.
Complications of acute appendicitis: appendicular infiltrate, appendicular abscess, interstitial, subhepatic, pelvic and subdiaphragmatic abscesses, appendicular peritonitis, retroperitoneal phlegmon. Pelephlebitis. Sepsis.
5. Clinic, diagnosis, modern therapeutic tactics. Complications of appendectomy.
6. etiology and pathogenesis of gastroduodenal ulcer bleeding.
7. Clinic of peptic ulcer bleeding. Laboratory and endoscopic methods of diagnosis of peptic ulcer bleeding.
8. Differential diagnosis of gastrointestinal bleeding. Therapeutic tactics for peptic ulcer bleeding: indications for the choice of conservative treatment, endoscopic methods of hemostasis, surgical intervention.
9. Blood transfusion in peptic ulcer bleeding. Choice of surgical intervention in peptic ulcer disease
10. Modern therapeutic tactics in acute pancreatitis. Conservative therapy. Indications for surgical treatment. Methods of minimally invasive and open surgical interventions.
11. performing general anaesthesia pr. UCL. Surgical tactics in acute intestinal obstruction and types of surgical interventions depending on its cause. Peculiarities of postoperative period management.
12. Consequences of surgical treatment. Dynamic intestinal obstruction. Classification. Features of the clinic.
13. Principles of conservative and surgical treatment. Adhesive disease. Etiology, pathogenesis. Classification. Clinic. Indications for surgical treatment. Features and types of surgical interventions.
14. Intussusception. Classification, pathogenesis, prevention of postoperative adhesive intestinal obstruction.
15. Principles of treatment of adhesive intestinal obstruction. Etiology, pathogenesis, clinic, diagnosis of idiopathic intussusception in children.
16. Differential diagnosis with infectious diseases. Indications for conservative and surgical treatment, prevention of complications. Short bowel syndrome. Principles of intestinal transplantation.
17. Damage to the esophagus, burns and foreign bodies. Rehabilitation of patients. Bleeding of the gastrointestinal tract in children. Portal hypertension.
18. Urolithiasis renal colic, calculous pyelonephritis. Etiopathogenesis, clinical manifestations, differential diagnosis, principles of treatment and prevention.
19. Clinic and differential diagnosis of gastrointestinal bleeding in children with gastric reflux, hemorrhagic gastritis, portal hypertension, stomach ulcers, 12 duodenal ulcers
20. Principles of treatment. Hirschsprung's disease. Etiology. Clinical manifestations. Diagnostics (anomalometry, roentgenography, biopsy). Principles of surgical treatment.

unit 2

21. Emergency treatment of patients with traumatic lesions of the spine and spinal cord, the main methods and principles of transport immobilization of patients depending on the level of injury.
22. Primary surgical treatment of open penetrating and non-penetrating wounds of the skull and brain. Early and late complications of open traumatic brain injury, principles of surgical treatment.
23. Emergency care for patients with traumatic lesions of the spine and spinal cord, the main methods and principles of transport immobilization of patients depending on the level of injury.
24. Prevention of complications in spinal cord tumors (urosepsis, sepsis, bedsores). Restorative treatment in the postoperative period
25. Congenital esophageal stenosis. A- and chaliasia of the cardia. Gastroesophageal reflux. Causes. Clinical manifestations. Principles of diagnostics and treatment. Treatment options of pulmonary hypertension. Surgical Treatment. Postoperative complications, prognosis.
27. Covina and paraesophageal hernia. Features of the clinical course and surgical intervention.
28. Congenital hand and foot malformations: syndactyly, polydactyly, ectrodactyly.
29. amniotic retention, crookedness.
30. Underdevelopment and pseudarthrosis of the tibia. Terminology, clinical manifestations, principles of treatment

individual assignments

Selection and review of scientific literature on the topics of the program on surgery at the choice of the student with the writing of the abstract and its public defense.

Selection and review of scientific literature on the subjects of research work of the department with the preparation of the scientific report at the meeting of the SSS or at the student conferences.

Research on the subjects of research work of the department with the publication of the results in scientific journals.

Individual assignment is assessed in accordance with the criteria and grades of the individual practical session (see section 6 below).

Typical test problems to be solved in practical classes:

1. A 54-year-old patient presented with tachycardia 30 min after a right-sided pneumonectomy. 140/min. The pulse is weakly filled. AO decreased to 60/20 mmHg on percussion right thorax blunting in the recesses of the thorax was detected case. What is the most likely complication that occurred in the patient?
A Right-sided hemopneumothorax.
B Right-sided hydrothorax
C Cardiopulmonary shock
D Right-sided hemothorax.
E Myocardial infarction
2. A 38-year-old patient suddenly had severe pain in the left side in the morning against the background of complete health.
half of thorax, dyspnea. Objectively: Breath rate 30/min, Cyanosis, involvement of auxiliary m / muscles in the act of breathing, asymmetry of the thorax. Above the left lung is determined a boxy sound, no breath sounds, a diminished vocal tremor.
the most likely diagnosis?
A Piopneumothorax
B Atelectasis of the lungs.
C Spontaneous pneumothorax
D exudative pleurisy.
E Intravenous pneumonia

3. A 53-year-old patient admitted to the hospital with gastrointestinal bleeding of ulcerative of severe genesis. Puncture and catheterization of the superior cavitory vein was performed, through the right subclavian vein, according to Seldinger. After an hour the patient complains of dyspnea, right respiration is not audible. What is the cause of the development of this condition?

- A Air embolism.
- B Pulmonary embolism.
- C Pulmonary oedema.
- D Acute emphysema.
- E Pneumothorax.

4. A patient, 32 years old, has intense persistent abdominal pain, nausea, fever. Has been ill for 3 days, taking painkillers. T 38.90C. Her tongue is swollen and dry. B the right iliac area has m \ muscle tension, sharp soreness, a rounded mass 10x7 cm is palpated, balloting, sharply painful. Shchetkin's symptom in this place is sharply positive. The menstrual periods were unchanged. The leukocytosis was $15.6 \times 10^9/l$. What should be suspected?

- B Acute pyelonephritis
- C iliac - slipoccygeal intussusception
- A Destructive appendicitis, para-apendicular abscess
- D Perforation of an ovarian cyst
- E Acute pancreatitis

5. A 63-year-old patient has been in the intensive care unit with transmural acute myocardial infarction for the third day. Suddenly the patient lost consciousness, convulsions developed. The ECG monitor shows ventricular fibrillation of the heart. Which of the following should be performed first?

- A- perform defibrillation (electrical, or at least mechanical - pre-cardiac shock). If no effect - initiate cardiopulmonary resuscitation
- B- call the emergency medical services team
- C- initiate CPR phase I with indirect cardiac massage
- D- proceed with stage I cardiopulmonary resuscitation with artificial lung ventilation
- E- intravenously administer 300 mg of amiodarone diluted in isotonic NaCl solution

6. A 3-year-old boy was admitted to the clinic of pediatric surgery in severe condition 36 hours after the disease onset with intestinal intussusception. The child's grandfather and father have hemophilia in their family. The child is indicated for immediate surgical intervention. What preoperative preparation should be done by the patient. Transfusion of blood products and cryoprecipitate

- A- Saline infusion therapy
- B- infusion therapy using colloidal solutions
- C- Hemostatic therapy during the intervention
- D- Plasma transfusion after surgical intervention

7. A 10-year-old boy, who is seen by a hematologist for hemophilia, injured his right knee joint during exercise. On examination one hour after the injury, the joint is significantly enlarged in size, and the symptom of patellar balloting is positive. What treatment tactics should be chosen in the patient.

- F- Hemostatic therapy, immobilization
- B- Joint puncture
- C- physiotherapeutic treatment
- D- Arthrotomy
- E- Alcohol-furacilin compress

4.4 Ensuring the educational process

1. Multimedia projectors, computers, screens for multimedia presentations, lecture presentations.
2. Demonstration screens, laptops, Power Point and Word files with "Croc-1" tasks for practical and final lessons.
3. examination tickets.
4. Simulators for performing medical procedures and manipulations
5. Clinical base

Final Control.

List of questions of final control (exam)

1. Classification of traumatic injuries of the thoracic clitoris.
2. Classification and diagnosis of posttraumatic hemothorax.
Therapeutic tactics for closed traumatic thoracic injuries complicated by small, medium and large hemothorax.
4. Signs of intrapleural hemorrhage. Indications for thoracotomy.
5. Therapeutic tactics for coagulated hemothoraxis.
6. Diagnosis and treatment of penetrating wound of the heart.
7. Classification of post-traumatic pneumothorax.
8. Causes of subcutaneous emphysema. Methods of liquation.
9. Causes and clinical course of mediastinal emphysema.
10. Treatment of mediastinal emphysema.
11. treatment of posttraumatic pneumothorax. Types of aspiration systems.
12. open pneumothorax treatment.
13. Treatment tactics in tension (valve) pneumothorax.
14. Differential diagnosis of air cyst and chronic lung abscess.
30. Methods of sanation of tracheobronchial tree.
31. Treatment of gangrenous lung abscess.
32. Treatment of acute lung abscess. Indications for operative treatment.
33. Treatment tactics of complicated acute lung abscess.
34. Acute pleural empyema. Etiology, pathogenesis, clinic.
35. Clinical manifestations of limited pleural empyema. Radiological picture.
36. Clinic of limited pyopneumothorax. Radiological signs.
37. Total pyopneumothorax. Etiology, clinical conversion.
38. Additional methods of examination in chronic purulent processes in the pleura.
39. Differential diagnosis of pleural empyema and pyopneumothorax.
40. Clinic of chronic empyema.
41. Additional methods of examination in pyopneumothorax.
42. Treatment tactics of patients with pyopneumothorax.
43. indications for pleural cavity puncture.
44. Technique of pleural cavity puncture.
45. Indications for drainage of pleural cavity.
46. Technique of drainage of pleural cavity.
47. Peculiarities of conservative treatment of pyopneumothorax.
48. Stages of mitral stenosis.
49. Clinical manifestations of stage I-II mitral stenosis.
50. Complication of mitral stenosis .
51. Additional methods of examination in mitral stenosis.
52. Surgical treatment of mitral stenosis.
53. Mitral insufficiency. Etiology. Classification.
54. Clinic, diagnosis, treatment of mitral deficiency.
55. Aortic stenosis. Clinic, diagnosis, treatment.
56. Pathogenesis and complications of complete atrioventricular block.
57. Complete blockage. Clinic. Diagnosis.

58. Sinus node weakness syndrome. Indications for surgical treatment.
59. Types and indications for temporary electrocardiostimulation.
60. Indications for permanent electrocardiostimulation.
61. Coronary heart disease. Clinic, diagnosis, surgical treatment.
62. Cardiac malformations. Clinic, diagnosis, surgical treatment.
63. Surgical aspects of anterior mediastinal anatomy.
64. Clinic of anterior mediastinal tumors.
65. Treatment of acute mediastinitis.
66. Aetiology, pathogenesis, clinic of superior vena cava syndrome.
67. Diagnosis of superior vena cava syndrome.
68. Surgical accesses during operations on the organs of the mediastinum.
69. Treatment tactics of patients with iatrogenic injuries of the scaphoid.
70. Treatment of iatrogenic perforation of the inferior thoracic cavity.
71. Surgical treatment of posterior mediastinal tumors.
72. Classification of esophageal hernia of the diaphragm.
73. Clinical course of sliding esophageal hernia of the diaphragm.
74. Radiological signs of a sliding esophageal hernia of the diaphragm.
75. Treatment of sliding hernia of the esophageal orifice of the diaphragm.
76. Treatment of paraesophageal hernia of the esophageal orifice of the diaphragm.
77. Clinical manifestations of diaphragmatic relaxation.
78. Diagnosis of diaphragmatic relaxation.
79. Treatment of complete diaphragmatic relaxation.
80. Anatomical and physiological constrictions of the ostrich
81. Clinical stages of achalasia of the ostrich.
82. Achalasia of the esophagus. Clinic, diagnosis.
83. Objective examination findings in achalasia stratum corneum.
84. Differential diagnosis of esophageal achalasia and oesophageal cancer.
85. Treatment of stages I-II achalasia.
86. Classification of the diverticulum of the oesophagus.
87. Complication of esophageal diverticulum. Therapeutic tactics.
88. Conservative and surgical treatment of achalasia of the scaphoid.
89. Complication of esophageal bifurcation diverticulum. Clinical overbite.
90. Surgical accesses for diverticular oesophagitis.
91. Surgical treatment of Zenker's diverticulum. Intraoperative and postoperative complications.
92. Clinical stages of ostrich burns.
93. Emergency treatment in case of burns to an ostrich.
94. Conservative treatment of ostrich burn.
95. Surgical accesses in ovoid surgery.
96. Types of plasty for cicatricial strictures of the ostium.
97. Surgical treatment of scarring strictures of the stratum corneum
98. Clinic of Epiphrenal diverticulum. Additional methods of examination.
99. Causes of embolism and acute thrombosis of the main arteries.
100. Clinical characteristics of embolism and acute arterial thrombosis.
101. Classification of acute ischemia of the lower extremities by V.S. Saveliev.
102. Differential diagnosis of embolism and acute arterial thrombosis.
103. Surgical tactics and methods of surgical treatment of thrombotic embolism of the main arteries.
104. The specific features of the postoperative period after surgical intervention for embolism and acute thrombosis of the main arteries.
105. Indications for conservative treatment, drugs, schovikoristovuyutsya.
106. Anticoagulants, fibrinolytic thrombolytics.
107. Methods of clotting system control, their characteristics.
108. Etiology, pathogenesis of obliterating atherosclerosis and endarteritis of the lower intestines.

109. Classification of chronic ischemia and the level of occlusion of the main arteries in obliterating atherosclerosis according to A.A. what is used.
110. Peculiarities of the structure of the abdominal cavity and appendix determining the clinical course
appendicitis in children.
111. Features of acute appendicitis in young children (under 3 years).
112. Peculiarities of the examination of young children with suspected acute appendicitis.
113. The differential diagnosis of acute appendicitis.
114. Diagnosis and treatment of appendicular infiltrates.
115. Atypical forms of acute appendicitis. The peculiarities of the clinic and diagnostics.
116. The initial pelvio-peritonitis. Diagnosis, treatment.
117. Peritonitis. Classification. Diagnosis.
118. Differential diagnosis of acute appendicitis and primary peritonitis.
119. Symptom of comparative doped percussion (by A.R. Shurinkom). Technique of examination and
Evaluation criteria.
120. Auxiliary methods of examination of children with suspected acute appendicitis, their informative value and diagnostic value.
121. Open and laparoscopic appendectomy: advantages and disadvantages.
122. Origin and location of Meckel's diverticulum.
123. Meckel's diverticulitis. Clinical manifestations, diagnosis, treatment.
124. The main causes, clinical manifestations of peritonitis in newborns.
125. Criteria of readiness of the patient for surgery in peritonitis.
130. Principles of preoperative preparation of the patient with peritonitis. Criteria of readiness of the child before surgery.
131. Principles of treatment of appendicular abscess.
132. Peculiarities of the clinic and treatment of peritonitis in newborns with extremely low body weight.
133. Classification of intestinal obstruction in children.
134. Basic clinical symptoms of idiopathic intussusception in children.
135. Give characterization of additional methods of diagnosis of intussusception in children.
136. Indications for conservative repair of intussusception in children.
137. Contraindications for conservative repair of intussusception in children.
138. Essence of conservative adjustment of intussusception in children.
139. Radiologic signs of high and low intussusception. 140. Complications of intussusception, their prevention and principles of treatment.
141. The main causes, classification of postoperative adhesive intestinal obstruction.
142. The main pathogenetic factors of early postoperative adhesive intestinal obstruction.
143. Principles of conservative treatment of early postoperative adhesive intestinal obstruction.
intestinal obstruction.
144. Main causes of spastic and paralytic intestinal obstruction.
145. Principles of preoperative preparation for mechanical intestinal obstruction.
146. Peculiarities of the preoperative preparation at the high and low intestinal obstruction.
147. The characteristic of the main medical preparations used for blood volume restoration.
circulating blood volume.
148. Bezoar as a cause of high intestinal obstruction. Clinical manifestations, methods of
treatment.
149. Foreign bodies of the gastrointestinal tract in children. Clinical manifestations, diagnosis,
possible complications.
150. Treatment tactics for foreign bodies of the gastrointestinal tract in children.
151. Post-burn stenosis of the esophagus and pyloric part of the stomach as a cause of
of pyloric stenosis of the gastrointestinal tract in children. Main causes, clinical manifestations.
152. Principles of treatment of post-burn stenosis of esophagus and pyloric part of the stomach in
children.

153. Characteristic clinical signs of bleeding from the upper parts of the digestive tract (esophagus, stomach, 12-tpal intestine).
154. Typical clinical signs of bleeding from the upper middle parts of the digestive tract (small intestine).
155. Characteristic clinical signs of bleeding from the lower sections of the SCC (rectum).
156. What is the cause of bleeding from esophageal varices?
157. What is the cause of bleeding in Meckel's diverticulum?
158. What is the cause of bleeding in intestinal intussusception?
159. What is the cause of bleeding when the intestine is rotated?
160. What is portal hypertension, forms of portal hypertension?
161. What are the most common causes of portal hypertension?
162. Methods of diagnosis of portal hypertension.
163. Characteristic features of portal hypertension in children.
164. Peculiarities of the Blackmore probe design and what it is used for. peculiarities of its installation in children.
165. Significance of Sandostatin for stopping GI bleeding in children.
166. Conservative and operative methods of interventions to stop bleeding in portal hypertension in children.
167. Causes of pre-precine form of portal hypertension syndrome in children.
168. The methods of portosystemic shunting.
169. Causes of bleeding at necrotic ulcerative enterocolitis in newborns.
170. The causes of bleeding at polyposis of intestine in children, methods of diagnosis.
171. Causes of gastroesophageal reflux hemorrhage (esophageal hernia diaphragmatic hernia, peptic structures, Barrett's esophagus).
172. Present and non-present gastroesophageal hemorrhage Causes in children.
173. Thoracic trauma in children. Variants. Probable signs of internal organ injury.
174. Peculiarities of thoracic trauma in childhood.
175. The pathogenesis of respiratory and circulatory disorders in thoracic trauma.
176. Methods of examination used in trauma of the thoracic cavity organs.
177. Tracheal injury. Clinical symptoms, treatment strategies. Extrapericardial tamponade of the heart.
178. Lung injury. Variants, diagnosis. Surgical tactics. 179. Pneumothorax. Classification, etiology, pathogenesis of respiratory distress. 180. Pneumothorax. Clinic, physical and radiological diagnosis, emergency care.
181. Hemothorax. The causes, treatment policy, indications for surgical intervention.
182. Trauma of the heart. Variants, pathogenesis of circulatory failure.
183. Traumatic heart defects. Variants, diagnosis, principles of treatment.
184. Cardiac tamponade. Variants, clinical symptoms, emergency surgical care.
185. Clinical symptoms of esophageal perforation. Causes of perforation, its complications.
186. Mediastinitis. Etiology, clinic, diagnosis.
187. Methods of diagnostics in cases of esophageal injuries.
188. Traumatic injuries of the diaphragm. Frequency, pathogenesis of respiratory distress, diagnosis.

"0" version of the examination ticket

Petro Mohyla Black Sea National University

"Approve."

Head of the Department of Surgical Disciplines

 Doctor of Medical Sciences,
 Professor Tarasenko O.N.

Discipline: Surgery (including
 pediatric surgery, neurosurgery)
 Specialty 222 - "Medicine"

Option No. 0

1. treatment tactics for tension (valve) pneumothorax (Maximal number of points - 20.)
2. coronary heart disease. Clinic, diagnosis, surgical treatment. (Maximal number of points is 20.)
3. Conservative and surgical interventions to stop bleeding in children with portal hypertension. (The maximum number of points is 20.)
4. Patient M, 50 years old, admitted to the hospital with abdominal pain, vomiting, weakness, examination found significant tension and painfulness in the right subcostal area. has a locomotive Schetkin's symptom in the right subcostal area. Blood leukocytes were $18.7 \times 10^9 / l$, 23% stablocular leukocytes. Acute cholecystitis was diagnosed. What treatment tactics should be chosen?
A Laparostomy for cholecystostomy
B Surgical intervention
C Infusion therapy
D Starvation, cold on stomach, peridural block
E Antibiotic therapy, cold, starvation
(The maximum number of points is 20.)

The sum of correct answers is 80 points.

Minutes of the meeting of the Department of Surgical Disciplines

No. ___ of "___" _____ 2021

6. Assessment criteria and means of diagnostics of learning outcomes

methods of control

- Questioning (testing of theoretical knowledge and practical skills).
- Test control.
- Writing reviews of scientific literature (abstracts), performance of individual assignments, their defense.

Current control. Check in practical classes of theoretical knowledge and assimilation of practical skills, as well as the results of independent work of students. Supervised by teachers in accordance with the specific purpose of the curriculum. Assessment of the level of students' training is carried out by: questioning students, solving and analysis of situational tasks and test tasks, interpretation of the results of clinical-instrumental and clinical-laboratory examinations, control of assimilation of practical skills.

Intermediate control. To check the students' ability to use for clinical-diagnostic analysis received theoretical knowledge and practical skills on all studied topics, as well as the results of students' independent work. Carried out at the last class on the topic by passing the practical skills, solving situational tasks and testing.

The final control work (FCW) is carried out at the end of studying all the topics of the block at the last, controlling, class on the block.

In order to assess the results of training in surgery final control in the form of exam, which is recommended for academic disciplines, is part of the integrated test examinations EBCI and "Croc-2".

The students who attended all the lectures and classes included in the curriculum, did full-time self-study and collected a minimum number of points during training, the first block - 70 points, the second - 40 points are allowed to have an exam.

Distribution of points awarded to students

The maximum number of points for a student's current learning activities in the first block is 120. Accordingly, in the first block the maximum score for each topic is 12 points: 10 topics = 120 points. The minimum score for each topic is 7 points: 10 topics = 70 points.

On PKR No. 1 a student can receive a maximum of 80 points. The PKR is considered enrolled if a student receives at least 50 points.

In the second block, the maximum number of points for a student's ongoing learning activities is 80. Accordingly, in the second block, the maximum score for each topic is 8.9 points: 9 topics = 80.9. The minimum score for each topic is 4.9 points: 9 topics = 44.1 points.

On PKR No. 2 a student can receive a maximum of 40 points. The PKR is considered enrolled if a student receives at least 30 points.

A student may receive a maximum of 80 points in the examination. A student is considered to have passed the exam if he/she scores at least 50 points. For the allocation of points in the examination, see the example of the examination ticket above.

Assessment of student performance

Type of activity (tasks)	Maximum number of points
Block No. 1	
Topics of practical sessions 1 to 10	12 points for each of the 10 topics
Together with the 10 themes	120
Final control work (FCW) No. 1	80
In conjunction with unit 1	200
Block No. 2	
Topics of practical sessions 11 to 19	8.9 for each of the 9 topics
Together with the 9 themes	80
PKR NO. 2	40
Together with Block 2	120
exam	80
Together with Block 2 and the exam	200

evaluation criteria

Students' knowledge is assessed from both theoretical and practical training according to the following criteria:

11-12 points for a topic in the first unit, 8-8.9 points for a topic in the second unit, 71-80 points in PKR No. 1, 38-40 points in PKR No. 2 and 71-80 points in the exam ("excellent" on the national scale, and on the ECTS scale) - the student correctly answers 90-100% of the tests of the Step-2 format. Correctly, clearly logically, and completely answers all standardized questions of the current topic, including questions from the lecture course and independent work or the test ticket. Closely relates theory to practice and correctly performs practical work and writes a conclusion on the results obtained. Reads laboratory results fluently, solves situational tasks of increased complexity, is able to summarize the material, owns the methods of laboratory research in the required volume.

9-10 points for a topic in the first unit, 6-7 points for a topic in the second unit, 61-70 points on PCR #1, 35-37 points on PCR #2 and 61-70 points on the exam ("good" on the national scale, B and c on the ECTS scale)-the student correctly answered 70-89% of the Crock-2 tests. Correctly and substantially answers standardized questions of the current topic, lecture course, and independent work or examination ticket. Demonstrates performance (knowledge) of practical skills. Correctly uses theoretical knowledge when solving practical

tasks. Is able to solve light and average complexity of situational tasks. Possesses the necessary practical skills and techniques to perform them to the extent exceeding the necessary minimum.

7-8 points for the topic in the first unit, 4.5-5 points for the topic in the second unit, 50-60 points in PKR № 1, 30-34 points in PKR № 2 and 50-60 points in the exam ("satisfactory" on a national scale, D and E on the ECTS scale) - the student correctly answered 50-69% of the test format Step-2. Incompletely, with the help of additional questions, answers standardized questions of the current activity, lecture course and independent work or examination ticket. Cannot independently construct a clear, logical response. When answering and demonstrating practical skills, the student makes mistakes. Student solves only the easiest problems, possesses only the required minimum of research methods.

Less than 7 points for the topic in the first unit, 4.5 points for the topic in the second unit, 50 points in PKR № 1, 30 points in PKR № 2 and 50 points in the exam ("unsatisfactory" on a national scale, Fx and F on the ECTS scale) - the student correctly answered less than 50% of the tests of the Step-2 format. does not know the material of the current topic or questions of the examination ticket, cannot build a logical response, does not answer additional questions, does not understand the content of the material. When answering and demonstrating practical skills makes significant, gross errors.

7. LITERATURE

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Information resources

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