

Ministry of Healthcare of Ukraine
Poltava state medical university

Department of surgery № 2

«**AGREED**»

Guarantor of the academic program
in specialty 222 «Medicine»

_____ I. Skrypnyk

“ _____ ” _____ 2023 year

«**APPROVED**»

Chairman of the Academic Council of the
Faculty № 1

_____ M. Riabushko

Minutes as of _____ 2023 No.____

SYLLABUS

surgery, including pediatric surgery

(title of the academic discipline)

compulsory

(compulsory / selective discipline)

academic and professional level
field of knowledge
specialty
academic qualification
professional qualification
academic and professional program
mode of study
course(s) and semester(s) of study of the
discipline

the second (master's) level of higher education
22 «Healthcare»
222 «Medicine»
Master of Medicine
Medical Doctor
«Medicine»
full-time
VI course, XI and XII semesters

Module 2. Congenital malformations in children

«**RESOLVED**»

at the meeting of the Department of surgery № 2

Head of the Department _____ V. Sheiko

Minutes as of _____ 2023 No.

Poltava – 2023

INFORMATION ABOUT LECTURERS WHO DELIVER THE ACADEMIC DISCIPLINE

Surname, name, patronymic of the lecturer (lecturers), scientific degree, academic title	Ksonz Ihor Volodymyrovych Doctor of Medicine, Professor Grytsenko Ievgen Mykolayovych PhD, Associate Professor Ovchar Oleg Volodymyrovych Pylypiuk Yevhen Viktorovych
Profile of the lecturer (lecturers)	https://surgery-two.pdmu.edu.ua/team
Contact phone	Grytsenko Ievgen Mykolayovych (066) 7137283 Ovchar Oleg Volodymyrovych (095) 7714726 Pylypiuk Yevhen Viktorovych (066) 4166477
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Department page at the website of PSMU	https://surgery-two.pdmu.edu.ua

MAIN CHARACTERISTICS OF THE ACADEMIC DISCIPLINE

The scope of the academic discipline (module)

Number of credits / hours - 1 / 30, of which:

Lectures (hours) -

Practical (seminars) (hours) - 16

Self-work (hours) - 14

Type of control: final module control (FMC)

The policy of the academic discipline

The policy of the academic discipline is regulated by a system of requirements that a lecturer imposes on a recipient of higher education (further - recipient) in the study of the discipline and is based on the principles of academic integrity.

Recipients are required to attend all the classroom activities (lectures and practical classes). Delays are unacceptable. Medical clothing (medical gown, cap, change shoes) and a personal stethoscope are required. Rules of conduct at classes are: active participation of recipient, fulfillment of the required minimum of educational work, switching off phones during the class, incentives and penalties (in what cases points can be accrued or deducted, etc.).

It is recommended to develop the policy of academic discipline taking into account the norms of the legislation of Ukraine on academic integrity, the Statute, the Regulations of PSMU and other normative documents.

When organizing the educational process at PSMU, lecturers and recipients act in accordance with:

- Regulation on the organization of the educational process at Poltava state medical university (https://www.pdmu.edu.ua/storage/department-npr/docs_links/65GC4bRqLembOGII7xon3ISIR7hQtFXcxUrSjdCA.pdf)
- Regulation on the academic integrity of recipients of higher education and employees of Poltava state medical university (https://www.pdmu.edu.ua/storage/sections_nv/docs_links/Sj670MBVmC9qGVuTmHU8k9ZGKuX3DlzIwRNR8pBu.pdf)
- Internal code of conduct for recipients of Poltava state medical university (https://www.pdmu.edu.ua/storage/department-npr/docs_links/OaN2nwysLPFAUDRvuDPvFSpzM1j9E9CwQQkgr93b.pdf)
- Regulation on the organization of self-directed work of recipients at Poltava state medical university (https://www.pdmu.edu.ua/storage/basic_pages/docs/bf7cHeVZuJJew2ZIMYkxkIVC7ib6LdHMTa2bQttX.pdf)
- Regulation on retaking missed classes and making up unsatisfactory grades by the recipients of higher education at Poltava state medical university (https://www.pdmu.edu.ua/storage/department-npr/docs_links/d2v3WhcBOWnuedYRoBKRe7k1xnl4KtbB2r2NR2CG.pdf)
- Regulation on the procedure of forming the individual educational trajectories for the recipients of higher education at Poltava state medical university (https://www.pdmu.edu.ua/storage/basic_pages/docs/MRpYKrZEpBlfiu2LYjYAHuM9d8YJibtPVMTJDRRD.pdf)
- Regulation on the procedure of credit transfer for academic disciplines and calculation of academic difference (https://www.pdmu.edu.ua/storage/department-npr/docs_links/BGUZVLhZvFmIMvpYzHnEFfb9IIwhTrEjOaaFdpTd.pdf)
- Regulation on the appeal claim for the results of final control of academic performance for recipients of higher education (https://www.pdmu.edu.ua/storage/department-npr/docs_links/DDgFa7zhzJAcNHnKamWyKPDd1P2msJNfrEAv36Bu.pdf)
- Regulation on rating the recipients of higher education at Poltava state medical university (https://www.umsa.edu.ua/storage/department-npr/docs_links/wWPIR7Hyj5fbvBsmPqLqR9nB5RTIDUkPuyDtsEJp.pdf)
- Regulation on the financial incentives for academic success of recipients at Poltava state medical university (https://www.pdmu.edu.ua/storage/department-npr/docs_links/RmhZx0Lx1V0c6zZkg1mCkcW6omo3enMM4uB6C5bT.pdf) and others.

Course description. Mastering the discipline "Surgery, including pediatric surgery" is important for future professional medical activities, as it allows to determine the etiological and pathogenetic factors of congenital malformations in children, to classify and analyze the typical clinical picture, to make a survey plan and analyze the data of additional examinations in the typical course of the disease, demonstrate mastery of the principles of treatment, rehabilitation and prevention of diseases, diagnose and provide emergency care in major emergencies, make a differential diagnosis and make a preliminary diagnosis in the typical course of the disease, assess the prognosis,

demonstrate mastery of moral and deontological principles of a medical professional and the principles of professional subordination in pediatrics.

Prerequisites and post-requisites of the discipline. The study of the discipline "Pediatric surgery" in the 6th year is based on the knowledge gained in the study of "Propedeutics of pediatrics" and discipline "Surgery" in the 4th year, module "Pediatric surgery" in the 5th year. The module studied in the 6th year is a successor of the study of the main surgical diseases of childhood on the principle of differential diagnosis. Particular attention is paid to the analysis of tasks from the database of the licensing exam "Step 2. General medical preparation".

The study of the discipline is based on modern principles of evidence-based medicine and standards adopted in international clinical practice.

The main tasks of studying the discipline "Surgery, including pediatric surgery" are to gain knowledge about congenital anomalies in children.

The purpose and objectives of the discipline:

- The purpose of studying module 2 "Developmental anomalies in children" of the discipline "Surgery, including pediatric surgery" is to train doctors in the sections of pediatric surgical diseases in accordance with the professional requirements for graduates of medical universities (developmental defects in children)
- The main tasks of studying module 2 "Developmental anomalies in children" of the discipline "Surgery, including pediatric surgery" is to gain knowledge about congenital malformations in children.

Competences and learning outcomes in accordance with the educational and professional program, the formation of which is facilitated by the discipline (integral, general, special)

Integral competence. The ability to solve typical and complex specialized problems and practical problems in a professional health care activity, or in a learning process that involves research and/or innovation and is characterized by the complexity and uncertainty of conditions and requirements.

General competencies.

1. Ability to abstract thinking, analysis and synthesis, the ability to learn and master modern knowledge.
2. Ability to apply knowledge in practical situations.
3. Knowledge and understanding of the subject area and understanding of professional activity.
4. Ability to adapt and act in a new situation.
5. Ability to make informed decisions; work in a team; interpersonal skills.

6. Ability to communicate in the state language both orally and in writing; ability to communicate in a foreign language. Ability to use international Greco-Latin terms, abbreviations and clichés in professional oral and written speech.
7. Skills in the use of information and communication technologies.
8. Definiteness and perseverance in terms of tasks and responsibilities.
9. The ability to act socially responsibly and consciously.
10. The desire to preserve the environment.

Special competencies.

1. Patient interviewing skills.
2. Ability to determine the required list of laboratory and instrumental studies and evaluate their results.
3. Ability to establish a preliminary and clinical diagnosis of the disease.
4. Ability to determine the required mode of work and rest in the treatment of diseases
5. Ability to determine the nature of nutrition in the treatment of diseases.
6. Ability to determine the principles and nature of treatment of diseases.
7. Ability to diagnose emergencies.
8. Ability to determine the tactics of emergency medical care.
9. Skills in providing emergency medical care
10. Ability to carry out medical and evacuation measures
11. Skills to perform medical manipulations.
12. Ability to carry out sanitary and hygienic and preventive measures.
13. Ability to determine the tactics of management of persons subject to dispensary supervision.
14. Ability to conduct a performance examination.
15. Ability to keep medical records.
16. Ability to analyze the activities of a doctor, department, health care institution, to take measures to ensure the quality of medical care and improve the efficiency of medical resources.

Program learning outcomes.

1. To know the structure and functions of individual organs and systems and the human body as a whole in the norm, with the development of pathological processes, diseases; be able to use the acquired knowledge in further training and in the practice of the doctor.
2. Collect data on patient complaints, life history (professional history in particular) in a health care facility and/or at the patient's home, according to the standard survey scheme.
3. Assign and analyze additional (mandatory and optional) examination methods (laboratory, radiological, functional and/or instrumental). Evaluate information for the purpose of differential diagnosis of diseases, using knowledge about the person, his organs and systems, based on the results of laboratory and instrumental research.
4. Establish preliminary and clinical diagnosis of the disease on the basis of leading clinical symptoms or syndromes by making an informed decision and logical analysis, using the most probable or syndromic diagnosis, laboratory and instrumental examination of the patient, conclusions of differential diagnosis, knowledge of human, his organs and systems, adhering to the relevant ethical and legal norms.

5. To determine the necessary mode of work and rest in the treatment of the disease in a health care facility, at home of the patient and at the stages of medical evacuation, including in the field, on the basis of a preliminary clinical diagnosis, using knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision according to existing algorithms and standard schemes.
6. Prescribe the necessary medical nutrition in the treatment of the disease, in a health care facility, at the patient's home and at the stages of medical evacuation, including in the field on the basis of a preliminary clinical diagnosis, using knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision according to existing algorithms and standard schemes.
7. To determine the nature of treatment of the disease (conservative, operative) and its principles in the conditions of the health care institution, at the patient's home and at the stages of medical evacuation, including in the field on the basis of a preliminary clinical diagnosis, using knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision according to existing algorithms and standard schemes.
8. Carry out diagnostics of emergencies and establish the diagnosis by making an informed decision and assessing the human condition under any circumstances (at home, on the street, in a health care facility), including in emergency situations, in field conditions, in conditions of lack of information and limited time, using standard methods of physical examination and possible anamnesis, knowledge about a person, his organs and systems, adhering to the relevant ethical and legal norms.
9. Determine the tactics of emergency medical care, under any circumstances, using knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision, based on the diagnosis in a limited time using standard schemes.
10. Provide emergency medical care under any circumstances, using knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision, based on the diagnosis of emergency in a limited time according to certain tactics, using standard schemes.
11. Organize and conduct medical and evacuation measures among the population and servicemen in emergency situations, including in the field, during the detailed stages of medical evacuation, taking into account the existing system of medical and evacuation support.
12. Perform medical manipulations in a health care facility, at home or at work on the basis of a previous clinical diagnosis and/or indicators of the patient's condition, using knowledge of the person, his organs and systems, adhering to relevant ethical and legal norms, by making an informed decision and using standard techniques.
13. To determine the tactics of management of persons subject to dispensary supervision in a health care institution or at the patient's home on the basis of the obtained data on the patient's health, using standard schemes, using knowledge about the person, his organs and systems, and legal norms, by making an informed decision.
14. Carry out examination of working capacity by determining the presence and degree of disability, type, degree and duration of incapacity for work with the execution of relevant documents in a health care facility on the basis of data on the disease and its course, features of professional activity.

15. Maintain medical records of the patient and the population on the basis of regulations, using standard technology. Prepare reports on personal production activities, using official accounting documents in the standard form.
16. Assess the impact of the environment, socio-economic and biological determinants on the health of the individual, family, population. Analyze the incidence of the population, identifying risk groups, risk areas, time and risk factors in the health care facility, using statistical and laboratory methods.
17. To analyze the activities of a doctor, department, health care institution, to identify defects in the activities and the reasons for their formation. Take measures to ensure the quality of medical care and improve the efficiency of medical resources.
18. Adhere to a healthy lifestyle, use the techniques of self-regulation and self-control.
19. To be aware of and guided in their activities by civil rights, freedoms and responsibilities, to constantly improve their professional and cultural levels.
20. Adhere to the requirements of ethics, bioethics and deontology in their professional activities.
21. Ensure the necessary level of individual safety (own and those cared for) in the event of typical dangerous situations in the individual field of activity.

Learning outcomes for the discipline:

upon completion of the study of module 2 "Developmental anomalies in children" discipline "Surgery, including pediatric surgery" recipients of higher education are required

to know:

1. Leading clinical symptoms or syndromes accompanying surgical pathology in children (anemic syndrome, hypertension, arterial hypotension, chest pain, abdominal pain, pain in the extremities and back, perineal pain, vomiting, effusion in the pleural cavity, fever, hemorrhagic syndrome, dysuria, dyspepsia, dysphagia, diarrhea, jaundice, shortness of breath, constipation, cough, intestinal obstruction, hemoptysis, lymphadenopathy, portal hypertension, dehydration syndrome, indigestion syndrome, cyanosis, gastrointestinal).
2. The clinical picture of the most common malformations in children, namely
 - congenital malformations of the respiratory system,
 - congenital malformations of the digestive system,
 - congenital malformations of the urinary system,
 - congenital and acquired malformations of the musculoskeletal system.
3. Tactics of emergency medical care in acute respiratory failure, acute urinary retention, acute bleeding, renal, biliary colic.
4. Methods of laboratory and instrumental research (analysis of pleural fluid, analysis of urine according to Zymnitsky, analysis of urine according to Nechiporenko, activity of alpha-amylase in blood and urine, fecal elastase 1, blood proteins and their fractions, C-reactive protein, creatinine, urea blood and urine, glomerular filtration rate, blood electrolytes, blood aminotransferases, total blood bilirubin and its fractions, coagulogram, blood uric acid, blood alkaline phosphatase, histomorphological examination of lymph node biopsy, endoscopic examination of the bronchi, endoscopic examination of the digestive tract, general analysis of feces, general blood test, general analysis of urine, methods of instrumental imaging of the abdominal cavity, thoracic

cavity, methods of instrumental imaging of the genitourinary system, methods of instrumental imaging of the skull, spine, spinal cord, bones and joints).

5. Technique of performing medical manipulations (performing indirect heart massage, performing artificial respiration, temporarily stopping external bleeding, performing primary surgical treatment of the wound, dressing, removal of skin sutures, bandaging, installation of nasogastric and orogastric probes, administration of drugs (intravenous jet and drip, intraosseous), providing peripheral venous access, measuring blood pressure, restoring airway patency, catheterization of the bladder with a soft probe, finger examination of the rectum and rectal mirror, determining the pleural puncture blood, rhesus affiliation, transfusion of blood components and blood substitutes).

be able:

1. To carry out clinical examination (medical history, examination, palpation, percussion, auscultation) in children with congenital anomalies in children.

2. To determine the etiological and pathogenetic factors of the most common congenital anomalies in children.

3. To plan the examination of the patient, to interpret the results of laboratory and instrumental studies in the typical and atypical course of surgical diseases in children and their complications.

4. Carry out differential diagnostics, substantiate and formulate a preliminary clinical diagnosis of the most common congenital anomalies in children.

5. Determine the therapeutic tactics of managing a child with most common congenital anomalies in children.

6. To interpret the general principles of treatment, rehabilitation, prevention in surgical diseases and the most common congenital anomalies in children.

7. To diagnose the most common congenital anomalies in children in the pediatric surgery clinic and to determine the tactics of providing urgent medical care to children the most common congenital anomalies in children.

8. Demonstrate mastery of the morally-deontological principles of a medical specialist and the principles of professional subordination in pediatrics.

Thematic plan of lectures (in modules) with the main issues discussed at the lectures

№	Name of the topic	Number of hours
	Not provided by the program	-

Thematic plan of seminar classes

№	Name of the topic	Number of hours
	Not provided by the program	-

Thematic plan of practical classes by modules and content modules, indicating the main issues addressed in the practical training

№	Name of topics	hours
Module 2. Congenital anomalies in children		
1.	<p>Topic 1. Developmental disorders accompanied by respiratory failure: respiratory and lung developmental defects, esophageal atresia, diaphragmatic hernias.</p> <ol style="list-style-type: none"> 1. Pathophysiology of the respiratory tract and the possibility of diagnosis. 2. Agenesis, aplasia, lung hypoplasia. 3. Congenital lung cysts. 4. Congenital emphysema. 5. Pulmonary sequestration. 6. The main methods of diagnosis of lung defects. 7. Principles of treatment. Complications and their prevention. 8. Esophageal atresia. Prenatal diagnosis. Emergency care of the newborn. Preoperative preparation. Surgical treatment based on defect. 9. Gastric-esophageal reflux. Reasons. Clinical manifestations. Principles of diagnosis and treatment. Complication. 10. Hernia proper diaphragm; esophageal esophageal hernia, diaphragm event (relaxation). Kowna and paraesophageal hernia. Emergency care of the newborn in the delivery room. Features of clinical course and surgical intervention. Postoperative complications, prognosis. 	2
2.	<p>Topic 2. Developmental defects accompanied by high intestinal obstruction.</p> <ol style="list-style-type: none"> 1. Congenital hypertrophic pilorostenosis. Features of clinical course, modern methods of diagnostics. 2. Duodenal intestinal obstruction (stenosis, atresia, duodenal membrane, annular pancreas). Prenatal diagnosis, a diagnostic algorithm in a newborn. 3. Anomalies of rotation and fixation of the bowel. Physiological rotation of the intestine. Features of the clinical course. Radiological diagnostics of anomalies of rotation and fixation of intestines. 4. Ladd's Syndrome (Triad); middle bowel rotation. 5. Complications of rotational anomalies, their prevention and treatment. 	2
3.	<p>Topic 3. Developmental defects accompanied by low intestinal obstruction.</p> <ol style="list-style-type: none"> 1. Atresias and stenoses of the small and large intestine. Types. Pre- and postnatal diagnosis. Principles of treatment. 2. Hirschsprung's disease. Etiology. Clinical manifestations. Diagnosis (anatomy, radiography, biopsy). Principles of surgical treatment. Complications and their prevention 3. Meconial intestinal obstruction. Etiology, pathogenesis, clinical manifestations. Conservative and surgical treatment. Complications (gastrointestinal and pulmonary). 4. Anorectal malformations. Anatomical classification based on therapeutic tactics and prognosis. 5. Anorectal defects in boys (perineal fistula, recto-urethral fistula, rectomyric fistula, atresia without fistula, rectal atresia, combined defects). 6. Anorectal defects in girls (perineal fistula, vestibular fistula, persistent cloaca, atresia without fistula, rectal atresia, combined defects). Clinical manifestations and primary care. 	2
4.	<p>Topic 4. Defects of development of anterior abdominal wall: gastroschisis, omphalocele, umbilical, inguinal hernias, fistula of the umbilicus.</p>	2

	<ol style="list-style-type: none"> 1. Omphalocele. Gastroschisis. Prenatal diagnosis. Differential diagnostics. Emergency aid. Principles of surgery. 2. Rare forms of defects of the anterior abdominal wall. Plum Belly Syndrome. 3. Fistula of the umbilicus, anomalies of obliteration of the yolk and urinary duct. 4. Navel and groin care. Features of clinical manifestations. Complication. Principles of treatment in children. Features of surgery in young children. 	
5.	<p>Theme 5. Defects in the development of the urinary system and genital system. Anomalies of position and development of kidneys.</p> <ol style="list-style-type: none"> 1. Genesis, hypoplasia, kidney dysplasia. 2. Cystic kidney disease: autosomal dominant polycystic kidney disease; autosomal recessive (infantile) polycystic ulcer; kidney mulchosis. Clinical manifestations, diagnosis, prognosis. 3. Kidney ectopy (pelvic, lumbar, thoracic), fusion (horseshoe) kidney. Megaureter, hydronephrosis. Pathogenesis, pathophysiology Disorders of the patency of the urethra-pelvic segment. 4. Bladder-ureteric reflux. Clinical manifestations Diagnosis (ultrasound, radiological, radionuclide). Principles of treatment. Complications and their prevention. 5. Cryptorchidism, testicular ectopia. Embryology. Clinical manifestations. Diagnosis. Principles of treatment. 6. Phimosis (physiological, pathological), paraphimosis (causes, first aid, complication). 7. Hypospadias; epispadias. Definitions, types, clinical manifestations. 8. Varicocele. Clinical manifestations, principles of diagnosis and treatment. 9. Bladder extrophy. Prenatal and postnatal diagnosis. Treatment Principles Prognosis. 	2
6.	<p>Topic 6. Defects of development of a liver and bilious ways.</p> <ol style="list-style-type: none"> 1. Biliary atresia. Etiology, pathophysiology. 2. Clinical manifestations, possibilities of early diagnosis. 3. Principles of surgical treatment. Portoentrostomy (Kasai surgery) and liver transplantation. Postoperative management of patients. Possibilities of improvement of the results of treatment of biliary atresia. 4. Liver and choledochus cysts. Classification. Etiology, pathophysiology. Diagnosis. Surgical treatment. Complications, prognosis. 	2
7.	<p>Topic 7. Defects of the development of the musculoskeletal system.</p> <ol style="list-style-type: none"> 1. Congenital hip dislocation. Physical examination. Diagnosis (ultrasound, radiological). Principles of treatment at different ages (0 - 6 months, 6 - 12 months, older than 1 year). Complications, their prevention and treatment. 2. Congenital ticking. Diagnosis, Principles of treatment. 3. Congenital muscle curvature. Reasons. Clinical manifestations of Complication. Principles of conservative treatment, indications for surgery. 4. Congenital malformations of the hand and foot: syndactyly, polydactyly, ectrodactyly. Amniotic constrictions, blood-curdling. Maldevelopment and pseudarthrosis of the tibia. 5. Congenital and acquired deformities of the spine in children. Youthful kyphosis. Congenital scoliosis. Idiopathic scoliosis. Schoermanman-Mau disease. Calve disease. Ethiopathogenesis. Clinical manifestations. Diagnosis. Complication. Principles of conservative treatment. Indications for surgery. 6. Congenital malformations of the chest in children. Chest deformity of the chest. Reasons. Clinical manifestations, respiratory and cardiovascular disorders. Diagnosis. Modern principles of surgical treatment. Cervical deformity. Clinical manifestations, principles of treatment. 	2

8.	Final module control	2
9.	Total	16

Self-work

№	Name of topics	Hours
1	Preparing to the practical lessons	10.5
2	Preparing to the final classes	3.5
	Total	14.0

Individual task.

1. Participation in the work of the student scientific circle and appearances in scientific forums.
2. Participation in student Olympiad in discipline.
3. Selection of literature on relevant topics of the discipline.
4. Selection of visual materials from the sections of the discipline.

List of theoretical questions for preparing students for final module control

Module 2. Congenital anomalies in children

1. Clinical manifestation of tracheal atresia of newborn.
2. VACTERL association for esophageal atresia. Clinical manifestations, principles of diagnosis and treatment.
3. Clinical manifestations of congenital diaphragmatic hernia (CDH) of newborn.
4. Assistance to a newborn with congenital diaphragmatic hernia in the delivery room.
5. Clinical manifestation of gastroschisis.
6. Differential diagnosis of omphalocele and gastroschisis.
7. Ladd's syndrome(triad). Definitions, clinical manifestations, principles of treatment.
8. Features of clinical manifestation and modern methods of diagnosis of congenital hypertrophic pyloric stenosis.
9. Hirschsprung's disease. Definition, anatomical forms.
10. Conservative and surgical treatment of meconial intestinal obstruction.
11. Anorectal malformations in girls. Types, clinical manifestations.
12. Causes, features of anatomic structure of umbilical hernia in children. Principles of surgical treatment.
13. Clinical manifestations of choledochal cyst.
14. Biliary atresia: clinical manifestations and diagnostic measures.
15. Congenital hydronephrosis: causes, clinical manifestations.
16. Bladder-ureteric reflux in children: causes, clinical manifestations, complications, principles of treatment.
17. Cryptorchidism: definition, classification, clinical manifestations, principles of

treatment.

18. Epispadia: definitions, clinical manifestations, principles of treatment.
19. Hypospadia: definitions, types, clinical manifestations, principles of treatment.
20. Phimosis: definitions, causes, complications, treatment principles. Physiological phimosis.
21. Paraphimosis. Definitions, causes, clinical manifestations, first aid.
22. Idiopathic scoliosis: principles of treatment depending on the stage of deformation.
23. What is the muscular crooked neck?
24. Modern treatment of clubfoot.

List of practical skills for final module control

Module 2. Congenital anomalies in children

1. Collection of anamnesis. Conducting examination of the patient, palpation, auscultation.
2. Description of objective status and definition of clinical and radiological symptoms in major surgical diseases.
3. Rationale for the examination and treatment plan.
4. Preparation of the plan of examination and treatment.
5. Determination of indications and contraindications to surgery, features of postoperative management.
6. Determination of blood group and rhesus factor.
7. Venous puncture, venesection, intramuscular, intravenous and subcutaneous injections.
8. Temporary stop of bleeding.
9. Restoration of airway patency.
10. Fixation of the tongue.
11. Carrying out artificial ventilation of the lungs "mouth to mouth", "mouth to nose" (on the mannequin).
12. Indirect heart massage (on the mannequin).
13. Performing puncture of the pleural cavity, joints in infants, hematomas, pus and long tubular bones, measurement of intraosseous pressure.
14. Performing laparocentesis, laparoscopy.
15. Implementation of novocaine blockades.
16. Imposition of aseptic, burn, correcting gypsum dressings.
17. Cutting of pus, panaritic, primary surgical treatment of wounds, imposition and removal of sutures.
18. Gastric lavage, intestines. Production of enemas.
19. Conducting a finger examination of the rectum, examination of its mirror, evaluation of data.
20. Provision of first aid for shock, insects, colic, drowning, sudden cardiac attack, bleeding.
21. Bladder catheterization.
22. Interpretation of radiographs, blood, urine, gastric analysis.
23. Registration of medical documentation of surgical patients.
24. Methods of endoscopic diagnosis and endoscopic surgery on abdominal and chest organs.

Learning methods

- verbal (lectures cover the basic theoretical material of a single or several topics of the discipline, reveal the main problematic issues of the relevant sections of pediatrics, practical classes provide detailed consideration of students of certain theoretical provisions of the discipline with the teacher and the formation of skills and counseling of their practical;) are held to help applicants for higher education identify and explain difficult issues for self-mastering, solve complex problems, arising from the independent study of the training material in preparation for the practical training, the final module control);
- visual (demonstration of performing manipulations, excerpts of thematic patients, results of laboratory and instrumental examination methods, photographic materials);
- practical (practical classes);
- analysis of specific situations (case method);
- simulation tasks;
- presentations;
- job-oriented games.

Control methods

- oral control;
- written control;
- test control;
- practical check;
- self-control;
- self-esteem.

Types of control:

- the previous one;
- current;
- final module control.

Form of final control of the study process is final module control (FMC).

Evaluation of current educational activities is carried out by scientific and pedagogical employees during seminars and practical classes, industrial practice. The main purpose of current control is to provide feedback between the researcher and the graduate in the learning process and the formation of learning motivation of higher education. The information obtained during the current control is used both by the researcher and pedagogical worker - to adjust technologies, methods and teaching aids, and by higher education recipient - to plan independent work. Ongoing control can take the form of an oral interview, solving situational tasks, assessing the performance of manipulations, written control, written or software computer testing in practical classes, assessing the performance of higher education students in discussions at seminars, discussions, etc. Forms of current control and evaluation criteria are defined in the work program specifically for each discipline (Table 1).

Table 1. Standardized generalized criteria for assessing the knowledge of the recipients of higher education in PSMU

Grade on a 4-point scale	Grade of ECTS	Evaluation criteria
5 (Excellent)	A	Recipient of higher education shows special creative abilities, is able to acquire knowledge independently, without the help of a teacher finds and processes the necessary information, is able to use the acquired knowledge and skills to make decisions in unusual situations, convincingly argues answers, independently reveals their talents and inclinations, has at least 90% knowledge of the topic both during the survey and all types of control.
4 (Good)	B	Recipient of higher education is fluent in the studied amount of material, applies it in practice, freely solves exercises and problems in standardized situations, independently corrects errors, the number of which is insignificant, has at least 85% knowledge of the topic as during the survey , and all types of control.
	C	Recipient of higher education is able to compare, summarize, systematize information under the guidance of a scientific and pedagogical worker, in general, independently apply it in practice, control their own activities; to correct mistakes, among which there are significant ones, to choose arguments to confirm opinions, has at least 75% of knowledge on the topic both during the survey and all types of control.
3 (Satisfactory)	D	Recipient of higher education reproduces a significant part of the theoretical material, shows knowledge and understanding of the basic provisions with the help of research and teaching staff can analyze educational material, correct errors, among which there is a significant number of significant, has at least 65% knowledge of during the survey, and all types of control.
	E	Recipient of higher education has the educational material at a level higher than the initial, a significant part of it reproduces at the reproductive level has at least 60% knowledge of the topic both during the survey and all types of control.
2(Unsatisfactory)	FX	Recipient of higher education has the material at the level of individual fragments, which make up a small part of the material, has less than 60% knowledge of the topic both during the survey and all types of control.

	F	Recipient of higher education has the material at the level of elementary recognition and reproduction of individual facts, elements, has less than 60% knowledge of the topic as during the survey, and all types of control.
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The final module control is carried out upon completion of the study of the program material of the module in the discipline and is carried out, as a rule, at the last lesson of the module. Usually the number of modules in one discipline does not exceed three. Compilation and re-compilation of the final modular control is carried out in accordance with the "Regulations on the organization and methodology of assessment of educational activities of higher education in the Poltava state medical university" Applicants of higher education who have scored the required minimum number of points during the current control (average grade point average 3.0 and above), do not have missed vacancies for lectures, seminars and practical classes, have mastered the topics for independent work within the module and completed all requirements for each academic discipline, which are provided by the working curriculum for the discipline (protection of medical history, positive assessments of meaningful modules, received permission to compile final module control during the test control, etc.). The hours provided in the working curriculum are used for final module control. Final module control is accepted by scientific and pedagogical (pedagogical) employees appointed by the head of the department. In order to objectively impartial assessment of knowledge of higher education students, it is recommended to involve in the reception of final module control scientific and pedagogical staff of the department who did not conduct practical classes in these academic groups in this category of the recipients of higher education. The final module control score is evaluated in points and is not converted into a traditional 4-point score. The maximum number of final module control points is 80 points. The minimum number of final module control points at which the control is considered completed is 50 points. The maximum number of points per module is 200 points (of which up to 120 points for current performance).

The assembly of FMC is in writing.

The module 2 ticket has the following structure:

1. 2 situational tasks, each with three questions. The correct answer to each question is estimated at 10 points, that is, for each task a student can get 30 points ($10 \cdot 3 = 30$ points for a task, i.e. 2 tasks - 60 points).
2. Practical skill. The student must describe the algorithm of manipulation or give a comprehensive interpretation of the results of instrumental or laboratory tests. A score of 0-20 points.

The questions (tasks, situational tasks) that are submitted to the final module control should be formulated in such a way that the reference answer of the higher education recipient to each lasts approximately 3-5 minutes. The questions should cover the most important sections of the working curriculum, which are sufficiently covered

in the literature sources recommended as the main (basic) in the study of the discipline. Examination tickets for final module control are formed on the issues, which are approved at the meeting of the department. The total number of questions (tasks, situational tasks) in each ticket should not exceed three. The PMC must be asked questions, which are determined for self-study within the module. In case of violation by the applicant of higher education of the rules of academic integrity (p.2.2.5. Of the Rules of Procedure), the evaluation results obtained during the preparation of the final module control to the applicant for the answer is graded "unsatisfactory". Applicants of higher education who during the study of the module, which is the final control, had an average score of current performance from 4.50 to 5.0 are exempt from final module control and automatically (by consent) receive a final grade in accordance with table 2, with the presence of the applicant education at the final module control is mandatory. In case of disagreement with the assessment, this category of higher education seekers is final module control according to the general rules. The obtained points for the module are presented by the research and pedagogical worker in the "Statement of final module control" and the individual curriculum of the recipient of higher education.

Table 2. Unified table of correspondence of scores for current performance, scores for final module control, exam, and traditional four-point score.

Average score for current performance (A)	Points for current success in the module (A * 24)	Points for final module control from the module (A*16)	Points for the module and / or exam (A*24 + A*16)	Category ECTS	By 4-point scale
2	48	32	80	F FX	2 unsatisfactory
2,1	50	34	84		
2,15	52	34	86		
2,2	53	35	88		
2,25	54	36	90		
2,3	55	37	92		
2,35	56	38	94		
2,4	58	38	96		
2,45	59	39	98		
2,5	60	40	100		
2,55	61	41	102		
2,6	62	42	104		
2,65	64	42	106		
2,7	65	43	108		
2,75	66	44	110		
2,8	67	45	112		
2,85	68	46	114		
2,9	70	46	116		
2,95	71	47	118		

3	72	50	122	E	3 satisfactory
3,05	73	50	123		
3,1	74	50	124		
3,15	76	50	126		
3,2	77	51	128		
3,25	78	52	130	D	
3,3	79	53	132		
3,35	80	54	134		
3,4	82	54	136		
3,45	83	55	138		
3,5	84	56	140	C	4 good
3,55	85	57	142		
3,6	86	58	144		
3,65	88	58	146		
3,7	89	59	148		
3,75	90	60	150		
3,8	91	61	152		
3,85	92	62	154		
3,9	94	62	156		
3,95	95	63	158		
4	96	64	160	B	
4,05	97	65	162		
4,1	98	66	164		
4,15	100	66	166		
4,2	101	67	168		
4,25	102	68	170		
4,3	103	69	172		
4,35	104	70	174		
4,4	106	70	176		
4,45	107	71	178		
4,5	108	72	180	A	5 excellent
4,55	109	73	182		
4,6	110	74	184		
4,65	112	74	186		
4,7	113	75	188		
4,75	114	76	190		
4,8	115	77	192		
4,85	116	78	194		
4,9	118	78	196		
4,95	119	79	198		
5	120	80	200		

Information about students who are not enrolled in final module control, with the exact reason for non-enrollment is also included in the "Statement of final module control" and individual curricula of students. The reasons for non-enrollment may be the

following: a) the applicant for higher education has unfulfilled absences from classes and (or) lectures, industrial practice. Mark "n / v" (failed) in the column "points for final module control "; b) the applicant of higher education attended all classes (practical, seminar, lecture), but did not score the minimum number of points for the current educational activity and is not allowed to final module control. Mark "n / a" (not allowed) in the column "points for final module control "; c) recipient of higher education attended all classes, scored points for current educational activities and was admitted to the final module control, but did not appear at the final module control. The mark "n / z" (did not appear) in the column "points for final module control ". The recipient for higher education has the right to compile and re-compile final module control. Permission for reorganization of final module control is issued by the dean, director of the institute (or his deputy) in the form of "Personal statement of reorganization of final control" which the student receives in the dean's office under personal signature upon presentation of individual curriculum and (if necessary) information from the debt liquidation department. (absence or "nb", average grade point average of 3.0 or more). In the case of organized reorganization of the final module control by a group of applicants for higher education, the general statement is used. The personal list of rearrangement of the final modular control (general statement) is filled in by the head of the department or his authorized person in two copies, one of which remains at the department, the other is returned to the dean's office by the head of the educational part (responsible teacher). Applicants for higher education have the right to retake final module control, until the end of the study of the discipline. If the applicant for higher education has not passed the final module control, in the discipline, except for the semester control in the form of an exam, he(she) cannot be admitted to the semester control in the relevant discipline. An uncompiled final module control in one discipline is not a ground for not admitting a recipient for higher education to take the final semester control in another discipline, except for admission to the final certification. If the discipline ends with a credit, the credit will be given only to those applicants for higher education who have attended all classes (or completed missed classes in the prescribed manner) and scored a convertible amount of points not less than the minimum (72 points). In the "Statement of final module control" in the column "Current control (points)" the researcher enters points after their conversion from the average score according to table 2, in the column "Final control (points)" the teacher makes a record "credited". If the applicant has not passed at least one final module test before the beginning of the new semester, he receives for the discipline the traditional grade "2" and ECTS grade "F", which is the basis for deduction. With the permission of the rector or the first vice-rector of the academy, individual applicants for higher education may be individually determined an additional term for compiling (re-compiling) the final module tests.

Methodological support

1. Methodical development of lectures.
2. Methodical instructions for independent work of students in the preparation for practical training and in class.
3. References.
4. Videos.
5. Multimedia presentations.

6. Tests from the Bank of the licensing exam “Step-2. General medical training”.
7. Tests of different difficulty levels.
8. Methodical materials presented on the page of the department on the PSMU website.

Recommended Books Basic (available at PSMU Library)

Basic:

1. Pediatric Surgery: textbook / V.A. Dihtiar, V.I. Sushko, D.Yu. Kryvchenia et al. Видавництво: Всеукраїнське спеціалізоване видавництво «Медицина». Мова: англійська. Рік: 2019. Кількість сторінок: 368 + 14 кол. вкл. ISBN: 978-617-505-752-0.

Additional:

1. ISBN 966-7733-51-3 ПЕДІАТРИЧНА ХІРУРГІЯ PEDIATRIC SURGERY Н. Г. Ніколаєва Навчальний посібник (англ. мовою).
2. Bodnar B. M., Khoma M. V., Vakhotskyi M. M., Bodnar H. B., Unguryan A. M. Brief manual on Pediatric Surgery. Chernivtsi. 2009.
Pediatric Surgery : textbook for medical students / V. B. Davidenko, S. Y. Shtyker, V. A. Belopaschentcev, Y. V. Paschenko, V. V. Vjun ; Kharkiv National Medical University. – Kharkiv : KhNMU, 2011. – 168 p.
3. Basics of intensive care handbook: methodical manual [for the 5th year students of medical faculty] / Belozarov I.V., Chernyaev N.S. – Kh.: V.N. Karazin Kharkiv National University, 2014. – 120 pp.
4. Basics of intensive care workbook: methodical manual [for the 5th year students of medical faculty] / Belozarov I.V., Chernyaev N.S. – Kh.: V.N. Karazin Kharkiv National University, 2014. – 40 pp.
5. Belozarov I.V., Safronov D.V. Methodological Instructions for the 5th year students. «Pediatric surgery» Part 1. — V.N. Karazin Kharkiv National University, Kharkiv, 2014. – 75 pp.
6. Belozarov I.V., Safronov D.V. Methodological Instructions for the 5th year students. «Pediatric surgery» Part 2. — V.N. Karazin Kharkiv National University, Kharkiv, 2014. – 85 pp.
7. Belozarov I.V., Safronov D.V. Methodological Instructions for the 5th year students. «Pediatric surgery». Workbook— V.N. Karazin Kharkiv National University, Kharkiv, 2014. – 55 pp.
8. Birth Defects Compendium. D. Bergsma (ed.). Second Edition. New York, 1979:987.
9. Jones KL. Smith's Recognizable Patterns of Human Malformations. 6th edition. W.B. Saunders Company. Philadelphia. 2002:572.
10. Welch KJ, Randolph JG, Ravitch MM, O'Neill JA, Rowe MI. Pediatric Surgery. 4th edition. Chicago. Year Book Medical Publishers. 1986
11. Ashcraft KW, Holder TM. Pediatric Surgery. 2nd edition. Philadelphia. W.B. Saunders Co. 1993
12. An Illustrated Guide to Pediatric Surgery. Authors: Al-Salem, Ahmed H. – 2014. - 440 pages.

13. Ashcraft KW, Holder TM. Pediatric Esophageal Surgery. 1st edition. Orlando. Grune & Stratton, Inc. 1986
14. Congenital Anomalies of the Penis. Authors: Fahmy, Mohamed - 2017. – 464 pages.
15. Consent in Pediatric Urology. Editors: Godbole, Prasad, Wilcox, Duncan T., Koyle, Martin A. – 2016. - 528 pages: illustrations
16. Coran AG: Vascular Access and Infusion Therapy. Seminars in Pediatric Surgery 1(3): 173-241, 1992
17. Fundamentals of Pediatric Surgery. Second Edition. Editors: Mattei, P., Nichol, P.F., Rollins, II, M.D., Muratore, C.S 2011. 480 pages: illustrations
18. Gans SL, Grosfeld Jay L: Current Concepts of Pediatric Oncology. Seminars in Pediatric Surgery 2(1): 1-82, 1993
19. Grosfeld JL. Common Problems in Pediatric Surgery. 1st edition. St Louis. Mosby Year Book. 1991
20. Jani J., Nicolaides K.H., Reller R.L. et al. Observed to expected lung area to head circumference ratio in the prediction of survival in fetuses with isolated diaphragmatic hernia.- Ultrasound Obstet. Gynecol.-2007.- Vol.30.- P.67-71.
21. Pediatric Kidney Disease. Editors: Geary, Denis F, Schaefer, Franz (Eds.) - 2016. - 562 pages.
22. Pediatric surgery: diagnosis and treatment. Responsibility Christopher P. Coppola, Alfred P. Kennedy, Jr., Ronald J. Scorpio, editors. Publication Cham: Springer, 2014. XXVIII, 482 pages: illustrations

Informational resources

http://www.surgicalneed.nl/wp-content/uploads/2016/08/help_pedsurgeryafricavolume01.pdf
https://www.academia.edu/19792343/Fundamentals_of_Paediatic_Surgery
https://www.academia.edu/36856852/Handbook_of_pediatric_surgery
<https://medtextfree.wordpress.com/2012/02/22/pediatric-surgery-handbook/>
<https://www.pdfdrive.com/pediatric-surgery-e27401255.html>
https://www.researchgate.net/publication/26116817_An_Aid_to_Paediatic_Surgery
https://www.researchgate.net/publication/325654406_Essentials_of_Pediatric_Surgery

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