

**MINISTRY OF HEALTH OF UKRAINE**  
**ODESA NATIONAL MEDICAL UNIVERSITY**

Departments of Pediatrics №2

**CONFIRMED by**

Vice-rector for research and educational work

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**METHODOLOGICAL RECOMMENDATIONS  
ON PRACTICAL CLASSES FOR STUDENTS**

International Medical Faculty, course 6

Educational discipline "**PEDIATRICS**"

**Approved**

at the meeting of the department of Pediatrics №2

Protocol No. 11 dated 28/08/2022

Head of the department of Pediatrics №2 \_\_\_\_\_

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## Topic 7. Practical and lessons No. 18 - 20

**Topic 7. Practical lesson 18 - 20 .** Abdominal pain syndrome in children. Differential diagnosis. Tactics of the doctor. Abdominal pain syndrome in children: a problem-oriented approach in pediatrics. Pathophysiology of abdominal pain in children. The main causes of abdominal pain in children. Differential diagnosis. Tactics of the doctor. Differential diagnosis of diseases accompanied by abdominal pain syndrome in children. Laboratory and instrumental examinations of children with abdominal pain syndrome. Tactics of the doctor. Indications for consultation with a pediatric surgeon. Treatment of abdominal pain syndrome of various genesis in children. Emergency care for life-threatening conditions accompanied by abdominal pain in children.

**Purpose:** To determine the most common causes of abdominal pain syndrome in children. Collect complaints, disease history, life history, family history of a child (and/or his relatives/guardians) with abdominal pain syndrome. Conduct an objective examination of a child with abdominal pain syndrome, taking into account age characteristics. Interpret the data of an objective examination of a child with abdominal pain syndrome. Establish a preliminary diagnosis for a child with abdominal pain syndrome. Make a plan for laboratory and instrumental examination of a child with abdominal pain syndrome. Carry out differential diagnosis of abdominal pain syndrome in children. Establish a final clinical diagnosis for a child with abdominal pain syndrome. Prescribe treatment for diseases in children accompanied by abdominal pain syndrome. Provide emergency care to a child with abdominal pain syndrome. Conduct prevention of diseases accompanied by abdominal pain syndrome in children. Demonstrate mastery of the moral and deontological principles of a medical specialist and the principles of professional subordination in pediatrics.

### Basic concepts:

Term	Definition
Pain	An unpleasant sensation and emotional experience associated with actual or possible tissue damage or described in terms of this damage
Acute abdominal pain	up to 3 months
Chronic abdominal pain	more than 3 months
Recurrent abdominal pain	Pain, repeated within 3 months at least 3 times
Noniceptive pain	Occurs when nociceptors are disturbed
Neuropathic pain	It develops when the ends of sensitive nerve fibers are damaged
Intra-abdominal pain	Occurs with diseases of organs that are localized within the abdominal cavity
Extra-abdominal pain	It develops in diseases of organs that are localized outside the abdominal cavity
Visceral pain	It comes from organs whose sensitive innervation is provided by the parasympathetic and sympathetic nervous systems. Occurs in the presence of pathological stimuli in internal organs
Parietal pain	Caused by involvement in the pathological process of the parietal peritoneum, abdominal wall
Radiating pain	It is a manifestation of the reflex mechanism of conducting visceral pain along sensitive cerebrospinal nerves

Psychogenic pain	Occurs in the absence of a visceral or somatic cause, or when the latter play the role of a triggering or provoking factor
Sharp stomach	a clinical <u>syndrome</u> that develops with damage and acute diseases of the abdominal organs and which often requires urgent surgical assistance. Acute abdominal syndrome can be caused by: damage to the organs of the abdominal cavity; acute inflammatory diseases of the abdominal organs, including peritonitis; perforation of a hollow organ; mechanical intestinal obstruction; acute disturbances of mesenteric arterial and venous blood circulation, leading to intestinal infarction and gangrene and accompanied by dynamic intestinal obstruction; internal bleeding into the lumen of the alimentary canal and into the peritoneal cavity; acute inflammatory processes in the appendages of the uterus, ectopic pregnancy, ovarian apoplexy, torsion of the pedicle of a cyst or ovarian tumor, necrosis of a myomatous node of the uterus or ovarian tumor.

**Equipment:** laptop, infant auscultation simulator Infant auscultation trainer and smartscope LF01201 W44743 (Inv. No. 101475072), multipurpose pediatric care trainer (S157) W45178 (Inv. No. 101475075), multimedia presentation on the topic of practical training, educational videos

**Plan:**

1. Organizational activities (greetings, verification of those present, announcement of the topic, purpose of the lesson, motivation of higher education seekers to study the topic).
2. Control of the reference level of knowledge (written work, written test, frontal survey, etc.) is not foreseen.
3. Formation of professional abilities and skills (mastery of skills, conducting curation, determining the treatment scheme, conducting laboratory research, etc.):
  - a) Oral survey, conversation, collective discussion and discussion on the subject of the lesson;
  - b ) A list of educational practical tasks that must be completed during practical classes: based on the proposed clinical situations, perform the main steps to ensure the effective management of a sick child
  - c) Solving a clinical task, for example:

Task 1. A 13-year-old girl lost 4 kg of weight in 3 months, an increase in body temperature to 37.8-38.4 °C, spasm-like pain in the lower and lateral parts of the abdomen is observed. Defecation 10 times a day (liquid, bloody stool). The results of a general blood analysis: erythrocytes  $2.5 \times 10^{12} / l$ , hemoglobin 99 g/l, reticulocytes 1%, platelets  $150 \times 10^9 / l$ , leukocytes  $24.8 \times 10^9 / l$ , rod cells 10%, segment cells 19%, eosinophils 3%, basophils 1%, lymphocytes 61%, monocytes 6%, ESR 45 mm/h.

**What indicates in favor of the organic nature of the disease in this child?**

**Answer:** Fever , weight loss , blood in stool. from the mine in the general blood test (leukocytosis, decrease in the level of erythrocytes and hemoglobin, increased ESR).

*Nelson Textbook of Pediatrics, 2-Volume Set, 20th Edition, 2016. Part XVIII. The Digestive System Chapter 342. Functional Abdominal Pain (Nonorganic Chronic Abdominal Pain). P. - 1884 -1885.*

Recommendations (instructions) for the performance of tasks (professional algorithms, orientation maps for the formation of practical skills and abilities, etc.):

- a) Questions for self-control:
  1. Classification of abdominal pain in children.
  2. Etiology of abdominal pain syndrome in children.

3. Pathophysiology of abdominal pain in children.
4. Laboratory and instrumental examination of children with abdominal pain syndrome.
5. Differential diagnosis of diseases accompanied by abdominal pain syndrome in children.
6. Peculiarities of abdominal pain in functional and organic diseases of digestive organs in children.
7. Features of abdominal pain during acute surgical pathology in children.
8. Indications for consultation with a pediatric surgeon.
9. Treatment of abdominal pain syndrome of various genesis in children.
10. Emergency care for life-threatening conditions accompanied by abdominal pain in children.

b) Orientation map for independent work with literature

No	Main tasks	Instructions	Answers
1	2	3	4
1.	Familiarize yourself with the literature and the purpose of the lesson	Get acquainted with modern concepts of etiopathogenesis, classification, clinical course and additional methods of diagnosis of diseases accompanied by abdominal pain in children	Know the development factors, classification, clinical picture of disease manifestations, hematological, immunological, radiological and functional signs of diseases and conditions.
2.	Epidemiology	To know the prevalence of diseases accompanied by abdominal pain among children.	Know: the prevalence of the most frequent diseases and pathological conditions in the children's population.
3.	Etiopathogenesis	To know the causes and mechanism of diseases that are accompanied by abdominal pain in children	Know that these conditions can be caused by the action of medical factors, pathogens of infectious diseases
4.	Clinic	Describe the clinical picture of diseases accompanied by abdominal pain in children	Remember 'the leading clinical symptoms of the main conditions in children with abdominal pain
5.	Diagnostics	Know the schemes of diagnosis and treatment of diseases accompanied by abdominal pain in children	Use schemes for diagnosis and treatment of diseases accompanied by abdominal pain in children

in) Requirements for the results of the work, including the design : the written work must be written or printed, have a neat appearance, the date, topic, task number, name of the performer must be indicated at the beginning, the text must be legible, structured ;

4. Summing up: announcement of grades based on the results of the lesson. The grade for one practical lesson is the arithmetic average of all components and can only have a whole value (5, 4, 3, 2), which is rounded according to the statistical method.
5. List of recommended literature:  
- *main:*

1. Pediatrics: a textbook for students of higher medical educational institutions of the IV level of accreditation / edited by prof. O.V. Heavy - View. the 5th – Vinnytsia: New Book, 2018–1152 p.
2. Differential diagnosis of the most common childhood diseases. Tutorial of pediatrics / edited by V.M. Bagpiper - 1st edition. - Vinnytsia: "Nilan-LTD" LLC, 2017. - 560 p.
3. Nelson Textbook of Pediatrics, 2-Volume Set, 20th Edition, 2016 by Robert M. Kliegman, Bonita MD Stanton, Joseph St. Geme and Nina F Schor, 5315 p.

- *additional:*

1. Maydannik V.G. Criterion of Rome IV (2016): What's New? International Journal of Pediatrics, Obstetrics and Gynecology. 2016;10(1): 8–18.
2. Rome IV pediatric criteria: changes and comparison with Rome III criteria S.I. Yesipova, B. Ya. Dmytryshyn, O.A. Bovkun, O.A. Dmytryshyn C and Maine medicine \_ 2018; 75(1): 20–23.
3. Benninga MA, Nurko S., Faure Ch. et al. Childhood Functional Gastrointestinal Disorders: Neonate/Toddler. Gastroenterology. 2016; 150(6):1443–1455.
4. Hyams JS, Lorenzo CD, Saps M. Childhood Functional Gastrointestinal Disorders: Child/Adolescent. Gastroenterology. 2016; 150(6):1456–1468.
5. Square In \_ G. , Ivanyshyn L. \_ M. \_ Clinical recommendations with diagnostics and treatment functional gastrointestinal disorders in children. -Kyiv. -2013. -66 p.

- *electronic information resources :*

1. <http://moz.gov.ua> – Ministry of Health of Ukraine
2. [www.who.int](http://www.who.int) - World Health Organization