

INTERNATIONAL HIGHER SCHOOL OF MEDICINE

DEPARTMENT PEDIATRICS

SYLLABUS

PEDIATRIC GASTROENTEROLOGY

2022-2023 academic year

for students of medical faculty

3 course VI semester, groups ____

0,9 credits (lectures 10h, practice class 10h, independent work – 16 h)

Lecturer:

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Venue:

Zoom

Practical classes:

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Venue:

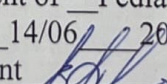
City Clinical Children's Hospital of Emergency Medicine
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Practical classes:

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Venue:

National Center Maternity and Childhood Welfare
Str Togolok Moldo, 1A

The Syllabus is considered
at the meeting of the department of __Pediatrics__
Protocol № __8__ dated __14/06__ 2023
Head of the department 

Course Objective of Pediatric Gastroenterology

To form students' understanding of the etiology, pathogenesis of the main diseases of the gastrointestinal tract in childhood, the features of their clinical manifestations and course in children of different ages.

To teach the skills and abilities of diagnosis, differential diagnosis, treatment and prevention of diseases of the digestive system

After study of the discipline the student must:

Knowledge:

The diseases of the gastrointestinal tract:

- etiology, predisposing factors, pathogenesis, main clinical symptoms and syndromes
- methods of laboratory and instrumental examination, the most likely complications,
- methods of treatment and prevention taking into account the characteristics of the child's body

Able to (Skills):

Examine a patient with diseases of the digestive system,
gastric probing, collecting and analyzing gastric juice,
washing the stomach and intestines,
determining the boundaries (sizes) of the liver and spleen,
preparing the patient for studies of the gastrointestinal tract,
interpreting data obtained from endoscopic, x-ray examination of the patient,
prescribing a diet for various disorders of the gastrointestinal tract,
calculating the dosages of the necessary drugs in accordance with the weight and age of the child.

Attitude: to inform and demonstrate understanding of questions

Pre-requisites:

- Anatomy (macro- microanatomy)
- pathological anatomy
- Topographic anatomy
- normal physiology
- pathological physiology
- Biochemistry
- Microbiology, virology and immunology
- Basic pharmacology
- Bioethics

Post-requisites:

- Childhood diseases
- Pediatric surgery
- Children's infectious diseases
- Pediatric neurology
- Family medicine
- Medical genetics
- About public health

THEMATIC PLAN OF LECTURES

№	Theme of lectures	hours	№
1.	Gastritis and gastroduodenitises in children. Peptic ulcer and duodenal ulcer.	4	1.
2.	The gallbladder diseases and bile ducts disorders in children.	2	2.
3.	Colitis (NEC, IBD: ulcerative colitis and Crohn's disease)	2	3.
4.	Malabsorption syndrome in children	2	4.
	Total:	10	

THEMATIC PLAN OF PRACTICAL CLASSES

№	Theme of practical classes	hours
1.	Gastritis and gastroduodenitises in children. Peptic ulcer and duodenal ulcer.	4
2.	The gallbladder diseases and bile ducts disorders in children.	2
3.	Colitis (NEC, IBD: ulcerative colitis and Crohn's disease)	2
4.	Malabsorption syndrome in children	2
	Total:	10

THEMATIC PLAN OF INDEPENDENT WORK OF STUDENTS

Student may choose one of the following themes and prepare the presentation/poster/essay/infographics/clinical case:

№	Theme of independent work	Hours	Date
1.	A medical history of a child with chronic Helicobacter pylori gastritis	1 h	
2.	A medical history of a child with duodenal ulcer on the background of Helicobacter pylori infection.	1 h	
3.	A medical history of a child with ulcerative colitis.	1 h	
4.	A medical history of a child with Crohn's disease with the localization of the process in the small and large intestines.	1 h	
5.	A medical history of a child with hypomotor dyskinesia of the biliary tract.	1 h	
6.	A medical history of a child with acute cholecystitis.	1 h	
7.	An essay on the characteristics of chronic gastritis and peptic ulcer disease in children in modern conditions.	1 h	
8.	An abstract on the significance of the state of the biocenosis of the large intestine in the development of autoimmune and allergic conditions	1 h	
9.	An essay on celiac disease in children and adults.	1 h	
10.	An abstract on lactase deficiency in children and adults.	1 h	
11.	An essay on diet therapy of diseases of the gastrointestinal tract in childhood.	1 h	
12.	An essay on the importance of mother's nutrition and the characteristics of the course of pregnancy in diseases of the digestive tract in children.	1 h	

Recommended reading for the discipline:

Basic:

N o	Authors	Title	The year of publishing	publishing house	Availability in the IHSM library (number)
1	Kliegman RM, Geme III JW	Nelson textbook of pediatrics. Vol.1.-21th ed.	2020	9 996 128 296	50
2	Ghai OP, Paul VK, Bagga A.	Essentials of pediatrics.-8th ed.	2013	978-81-239-2334-5	9
3	Rafikova S., Alekseev V.	Children's Nutritional Abnormalities	2013	978-9967-27-179-1	109
4	Alekseev.V ., Starodubetz.U ., Isakova F.	Introduction to Pediatrics: Compendium for foreign student	2012	978-9967-26-670-4	342
5	Ghai OP, Paul VK, Bagga A.	Essentials Pediatrics.-6th ed.	2005	81-239-1163-7	94
6	Behraman RE	Nelson essentials of pediatrics. -4th ed.	2002	0-7216-9406-3	12
7	Nelson., Richard E. Berhman , Robert M. Kliegman	Essentials of Pediatrics	2000	4th	12
8	A Parthasarathy	Case Scenarios in Pediatric and Adolescent Practice	2014	1st edition -	http://library.ism.edu.kg/Online_Library/eBooks/Details.aspx?id=288

9	Graham TP	Recommendations for Training in Pediatric Cardiology	2005	7th -E d -	http://library.ism.edu.kg/Online_Library/eBookDetails.aspx?id=938
10	William W. Hay Jr, et al By McGraw	Current Pediatric Diagnosis & Treatment	2002	16th Ed	http://library.ism.edu.kg/Online_Library/eBookDetails.aspx?id=57
11	Kenneth B Roberts MD By Lippincott Williams & Wilkins Publishers	Manual of Clinical Problems in Pediatrics	October 2000	5th edition	http://library.ism.edu.kg/Online_Library/eBookDetails.aspx?id=230
12	Pervez Akber Khan	"Basis of Pediatrics"	2000	7th -E d -	https://ketabton.com/book/14837

Additional:

13. Walker-Smith J, Barnard J, Bhutta Z, Heubi J, Reeves Z, Schmitz J. "Chronic diarrhea and malabsorption (including short gut syndrome): Working Group Report of the First World Congress of Pediatric Gastroenterology, Hepatology, and Nutrition". *J. Pediatr. Gastroenterol. Nutr.* 35 Suppl 2, 2002: S98–105.
14. Dixon MF, Genta RM, Yardley JH, Correa P. Classification and grading of gastritis. The updated Sydney System. International Workshop on the Histopathology of Gastritis, Houston 1994. *Am J Surg Pathol.* Oct 1996;20(10):1161-81.
15. Chan FKL, Lau JYW. Peptic ulcer disease. In: Feldman M, Friedman LS, Brandt LJ, eds. *Sleisenger & Fordtran's Gastrointestinal and Liver Disease*. 9th ed. Philadelphia, Pa: Saunders Elsevier; 2010:chap 53.
16. Strasberg, S. M. Acute Calculous Cholecystitis. *New England Journal of Medicine* 358 (26), 2008: 2804–2811.
17. Bai J. Malabsorption syndromes. *Digestion* 59(5), 2017: 530–46.
18. <http://emedicine.medscape.com>
19. <http://medline.com>
20. www.aap.org

Grading policy and procedures for all types of work

For the period of studying the discipline, the student gains points for the relevant parameters (per unit):

current score - 40 points

independent work - 20 points

control score (final assessment of knowledge per unit) - 40 points

Maximum score - 100 (40+20+40)

Grading system for student's achievements

Criteria for grading for the discipline				
Maximum score	Intervals			
	«unsatisfactory»	«satisfactory»	«good»	«excellent»
Current control - 40	0-23	24-30	31-35	36-40
Interval Criteria	Does not complete the task, does not know and does not understand the lecture material of the lesson, which prevents further assimilation of the program; cannot apply the acquired knowledge to solving situational problems, test questions. Does not answer teacher's questions Does not have practical skills	Performs the task not in full, has gaps in the assimilation of lecture material, has difficulty in applying knowledge to solve situational problems, test questions; does not fully and accurately answer the questions of the teacher. When examining a patient, he has poor practical skills	Completes the task in full, knows the lecture material, but sometimes makes mistakes when solving situational problems and test questions, understands the main content of the lecture material, gives correct answers to the teacher's questions. When examining a patient, he partially possesses practical skills	Completes the task in full, easily applies knowledge and skills in solving situational problems and test questions, rarely makes mistakes, gives complete and correct answers to the teacher's questions. When examining a patient, he has full practical skills

	when examining a patient			
Independent work - 20	0-11	12-14	15-17	18-20
Interval Criteria	Presentation, report, table, situational task are missing	The content of the presentation, report, tables partially correspond to the given topic, the sequence of presentation of theoretical issues is violated: etiology, pathogenesis, epidemiology, clinic, differential diagnosis, laboratory diagnosis, treatment and prevention. Situational tasks contain little description of a clinical case	The content of the presentation, report, tables does not fully correspond to the given topic, the sequence of presentation of theoretical issues (etiology, pathogenesis, epidemiology, clinic, differential diagnosis, laboratory diagnosis, treatment and prevention) is not fully preserved. Situational tasks incompletely contain a description of a clinical case	The content of the presentation, report, tables correspond to the given topic, the sequence of presentation of theoretical issues (etiology, pathogenesis, epidemiology, clinic, differential diagnosis, laboratory diagnosis, treatment and prevention) is fully preserved. Situational tasks contain a description of the clinical case in its entirety
Line control (module) - 40	0-23	24-30	31-35	36-40
Interval Criteria	Does not know the answers to test questions and situational tasks	Poor knowledge of answers to test questions and situational tasks	Knows well the answers to test questions and situational tasks	Knows the answers to test questions and situational tasks

Conduct Policy: (lateness, absence, behavior in the auditorium, late submission of work).

- Punctuality and completion of tasks.
- Mandatory attendance of classes.
- Attending class in a clean medical uniform.
- Eliminating conversations on a cell phone in the classroom.
- Active participation in the learning process.
- Doing homework on time.
- Academic detention at the time specified by the teacher.

For violations of the Conduct Policy, the total points for discipline might be reduced to 1-5 points.

Academic Ethics Policy.

- Be tolerant, respect the opinions of others.
- Formulate objections in the correct form.
- Constructively support feedback in all classes.
- Plagiarism and other forms of dishonest work are unacceptable. Plagiarism includes the following: the absence of references when using printed and electronic materials, quotes, thoughts and works of other authors or students.
- Prompting and cheating during tests, exams, classes is unacceptable as well as passing an exam for another student, unauthorized copying of materials.

For violations of the Academic Ethics Policy, the total points for the discipline may be reduced to 1-5 points.

Guidelines for the lessons of the discipline

Key questions covered in lesson #1.

1. Anatomical and physiological features of the structure and functioning of the upper gastrointestinal tract in children (oral cavity, esophagus, stomach, duodenum).
2. Mechanisms of synthesis, secretion, and regulation of gastric juice in children's body.
3. Definitions: gastritis and peptic ulcer disease.
4. The main causative factors of acute gastritis in childhood. Clinical manifestations, diagnosis and treatment of acute gastritis and duodenitis in children.
5. Chronic gastritis in children. Etiology and pathogenesis: disbalance between aggressive and protective factors.
6. Helicobacter pylori-associated gastritis in children. Clinical picture of the H.pylori gastritis, course of disease, endoscopic parameters. Methods of detecting H. pylori infection and methods of therapy (two-, three - and quadruple therapy).
7. Gastritis and peptic ulcer disease as a manifestation of other diseases.

8. History taking in children with a stomach diseases and duodenal ulcer. Characteristics of the main symptoms and syndromes.
9. Etiopathogenesis of acute and chronic gastritis, peptic ulcer disease in childhood. Classification of gastritis (Sydney 1990).
10. H. pylori gastritis in children. Main features of the pathogen. The role of bacterial enzymes in the pathogenesis.
11. Histological and endoscopic picture of complicated and uncomplicated forms of gastritis and peptic ulcer disease. Transformation of acute gastritis in children.
12. Clinical manifestations of gastritis and peptic ulcer disease in children. Basic and advanced diagnostic methods. Evaluation of gastric acidity .
13. Reactive gastropathy as a symptom of other diseases (biliary dyskinesia, ingestion of foreign bodies, parasitic invasion).
14. The management of gastritis and peptic ulcer disease in children. Mechanisms of action and dosage of drugs regulating gastric acidity (H2 inhibitors, PPIs, antacids).
15. Eradication therapy of acute gastritis and peptic ulcer disease. Inefficiency of the eradication therapy in children with chronic gastritis.
16. Possible complications of chronic gastritis and peptic ulcer disease in children. Prevention of complications. Zollinger-Ellison syndrome.
17. Chronic autoimmune gastritis . B12-deficiency anemia as a complication of chronic gastritis.
18. Indications for surgical treatment of the peptic ulcer disease. Approaches and complications (dumping syndrome).
19. Control of baseline knowledge and prepare students for the practical class (test control).

Recommended reading for this discipline:

1. Lecture "GIT dis" materials Alekseev Vladimir P
2. O.P. Ghai. Essential Pediatrics- 6th Edition 2004 y.
3. Nelson. Essentials of Pediatrics / Richard E. Berhman, Robert M. Kliegman – 4th ed.2002
4. Case Based Pediatrics For Medical Students and Residents/
Department of Pediatrics, University of Hawaii John A. Burns School of Medicine, 2003
5. <http://emedicine.medscape.com>
6. <http://medline.com>
7. www.aap.org

Key questions covered in lesson #2.

1. Anatomical and physiological features of the biliary system in children.
2. The bile: composition, properties and functions.
3. Biliary dyskinesia. Definition and clinical manifestation. Predisposing factors. Types of dyskinesia and methods of their correction.
4. The cholecystitis in children. Etiology and pathogenesis of cholecystitis. Acute and chronic cholecystitis.
5. Chronic calculous cholecystitis: causes, clinical manifestation.
6. Mechanisms of stone formation. The role of hemolysis and congenital metabolic disorders in the gallstone formation. Types of gallstones.
7. Diagnostic methods of gallbladder diseases and bile ducts disorders in children.
8. The management of gallbladder diseases and bile ducts disorders in children. Correction of eating habits and dietary recommendations.
9. Treatment of cholecystitis in children. Mechanisms of action and dosage of drugs used in cholecystitis in children.
10. Complications of cholecystitis.
11. Indications for surgical treatment. Types of surgery in gallbladder diseases and bile ducts disorders.
12. Complications of Hemophilia
13. To prepare Recipes (in copybook) on Medicine on each theme according scheme, this must be prepared:

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1. Lecture "GIT dis" materials Alekseev Vladimir P
2. O.P. Ghai. Essential Pediatrics- 6th Edition 2004 y.
3. Nelson. Essentials of Pediatrics / Richard E. Berhman, Robert M. Kliegman – 4th ed.2002
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5. Strasberg, S. M. Acute Calculous Cholecystitis. New England Journal of Medicine 358 (26), 2008: 2804–2811.
6. <http://emedicine.medscape.com>
7. <http://medline.com>
8. www.aap.org

Key questions covered in lesson #3.

1. Anatomical and physiological features of the small and large intestine in children.
2. Predisposing factors to the inflammatory bowel disease in children. The functional and morphological immaturity of the intestine as a main predisposing factor to IBD.
3. The characteristics of the immune response and nonspecific resistance in young children. Mechanisms of autoimmune inflammation.
4. Acute and chronic forms of the inflammatory diseases of the large intestine.
5. Etiology, pathogenesis, epidemiology and risk factors for the IBD in childhood.
6. Classification of the IBD in children. Pathophysiological differences.
7. Necrotizing enterocolitis. Causes, pathogenesis, main clinical forms. Laboratory and instrumental methods of diagnosis of NEC. Radiographic features in NEC. The management of the NEC.
8. Infectious colitis in children. Causes, pathogenesis, clinical manifestations of the most common forms. Diagnosis and treatment.
9. Idiopathic inflammatory bowel disease: ulcerative colitis and Crohn's disease. The idiopathic inflammation - definition.
10. Ulcerative colitis. Causes, pathogenesis and histological findings of the main clinical forms. Laboratory and instrumental methods of diagnosis.
11. Crohn's disease. Causes, pathogenesis, histological picture. The clinical manifestations, laboratory and instrumental methods.
12. The complications of chronic inflammatory bowel diseases.
13. Treatment and prevention of inflammatory bowel disease. The basic medications, dosage and mechanism of action.
14. Step-by-step treatment of chronic colitis, depending on the severity and the effectiveness of previous therapy.

Recommended reading for this discipline:

1. Lecture "GIT dis" materials Alekseev Vladimir P
2. 1 O.P. Ghai. Essential Pediatrics- 6th Edition 2004 y.
3. Nelson. Essentials of Pediatrics / Richard E. Berhman, Robert M. Kliegman – 4th ed.2002
4. Case Based Pediatrics For Medical Students and Residents/
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5. <http://emedicine.medscape.com>
6. <http://medline.com>
7. www.aap.org

Key questions covered in lesson #4.

1. The physiological and biochemical regulating mechanisms of the digestion processes.
 2. Factors predisposing to disorders of digestion in children.
 3. The main phases of digestion and absorption of food, possible causes of disbalance at the different stages.
 4. The definition of malabsorption syndrome.
 5. Malabsorption syndrome classification: a) primary and secondary; b) a selective, partial and total; c) according to severity; d) depending on type of food intolerance.
 6. The main causes and pathogenesis of malabsorption syndrome in children.
 7. Pathophysiological phases. Histological picture in various forms of malabsorption.
 8. Clinical manifestations of disorders in digestion and absorption of protein, carbohydrates, fats and vitamins.
 9. Marasmus and kwashiorkor. Clinical manifestations. Evaluation of nutritional status (BMI, an index Chulitsky etc.). Assessment the severity of the condition.
- Particular causes of malabsorption syndrome: pancreatitis, lactose intolerance, celiac

Recommended reading for this discipline:

1. Lecture "GIT dis" materials Alekseev Vladimir P
2. O.P. Ghai. Essential Pediatrics- 6th Edition 2004 y.
3. Walker-Smith J, Barnard J, Bhutta Z, Heubi J, Reeves Z, Schmitz J. "Chronic diarrhea and malabsorption (including short gut syndrome): Working Group Report of the First World Congress of Pediatric Gastroenterology, Hepatology, and Nutrition". *J. Pediatr. Gastroenterol. Nutr.* 35 Suppl 2, 2002: S98–105.
4. Bai J. Malabsorption syndromes. *Digestion* 59(5), 1998: 530–46.
5. <http://emedicine.medscape.com>
6. <http://medline.com>
7. www.aap.org

Methodological instructions for the implementation of independent work on the discipline

Each student of group must prepare project of THE ONE THEME consisting of 10 slides with less text and in view pictures, scheme, charts

The first slide should include "IHSM", "Department of pediatrics", "the theme of presentation", "the full name of the student", group, semester, "the data of teacher", the filing date, and the last slide - list of references, resources. Assessment of Independent work includes: design, content, and answering.