

**ANATOMO-PHYSIOLOGICAL PECULIARITIES, METHODS  
OF EVALUATION, PARACLINICAL METHODS OF  
INVESTIGATION AND SEMEIOLOGY OF THE DIGESTIVE  
SYSTEM DISEASES IN CHILDREN**

**Academic discipline «Pediatric Propedeutics»**  
*Self-study guide for the 3<sup>rd</sup> year*  
*English medium students*

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ОБСТЕЖЕННЯ ТА СЕМІОТИКА ЗАХВОРЮВАНЬ  
СИСТЕМИ ТРАВЛЕННЯ У ДІТЕЙ**

**З дисципліни «Пропедевтика педіатрії»**  
*Методичні вказівки*  
*до самостійної роботи студентів 3-го курсу*  
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**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ**  
**Харківський національний медичний університет**

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Затверджено  
Вченою радою ХНМУ  
Протокол № від

**Харків**  
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Compiled by: Klymenko V.A.  
Sirenko T.V.  
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Анатомо-фізіологічні особливості, методи обстеження та семіотика захворювань системи травлення у дітей: метод. вказ. до самост. роботи студентів 3 курсу медичних факультетів / упор. В.А.Клименко, Т.В. Сіренко, Ю.В.Карпушенко. – Харків, ХНМУ, 2016. – 16 с.

Упорядники: Клименко В.А.  
Сіренко Т.В.  
Карпушенко Ю.В.

## Contents

Digestive system of children has certain anatomical and physiological peculiarities that determine the features of feeding, as well as the specific pathology of this system. This pathology takes one of the leading places in the incidence of both infants and older children. Knowledge of these features and the gradual maturing of the system is required for doctor during the diagnosis, treatment and prevention of diseases of the digestive system in children of all ages. It helps to organize a rational food regime and care of children.

### Specific goals

- To know about embryogenesis of the digestive system in children.
- To know main morphofunctional peculiarities of the digestive system in children.
- To get skills of clinical and paraclinical methods of examination of the digestive system in children.

### To know:

1. The embryogenesis of the digestive system in children
2. The main morphofunctional peculiarities of the digestive system in children.
3. Peculiarities in the digestion of children in different age.
4. Main symptoms and syndromes of the digestive system diseases in children.
5. How to interpret results of laboratory and instrumental methods of examination of the digestive system of children.

### To be able to:

1. To demonstrate the technique of interrogation, inspection, palpation and percussion of the abdomen.
2. To interpret the results of clinical and paraclinical investigations.
3. To appoint laboratory and instrumental methods of investigations of the digestive system of children.
4. To conduct syndromic diagnosis of the digestive system diseases of children.
5. To get skills of care of children with diseases of the digestive system.

### 1. Basic skills and knowledge, necessary for the topic study (intradiscipline integration)

Name of the previous discipline	Skills
1. Normal human anatomy	Morphofunctional peculiarities of the digestive system of children in different age.
2. Normal physiology	To know the features of functioning of the digestive organs and systems of child's body in dependence of the age of the child.
3. Pathophysiology	To identify pathophysiological processes which arise in gastrointestinal tract of children.

3. Biochemistry	To have idea of techniques of carrying out some laboratory investigation in pathology of the gastrointestinal system.
4. Care for children	Nursing of children with disease of gastrointestinal system.

## **Graphical structures of individual issues of the topic.**

### **The list of study materials:**

#### **Main:**

1. Propaedeutics of Paediatrics: Manual for foreign students / V. A. Fjoklin, V. A. Klymenko, O. M. Plakhotna, T. V. Sirenko, A. I. Kojemiaka, O. V. Sharikadze. – Kharkiv: 2010. – 356 p.
2. Kapitan T. Propaedeutics of children's diseases and nursing of the child / T. Kapitan. – The state cartographical factory, 2006. – 734p.

#### **Additional:**

1. Nelson textbook of pediatrics.—19th ed./ [edited by] Robert M. Kliegman... [at. ol], p. SM
2. Ghai O.P. Essential pediatrics (fourth edition). – New Delhi, India: Interpint, 1996.—476 p.
3. Gupte S. The short textbook of pediatrics, 8<sup>th</sup> edition. – New Deli, India.: Iaypee Brthe others. Medical publishers (P) hTD, 1998. – 617 p.
4. Bickley L.S., Hockelman R.A. Physical examination and History Taking. – Philadelphia, New York, Baltimor.: Lippincott, 1999. – 789 p.

### **Test questions to the class:**

1. What do you know about the embryogenesis of the digestive system?
2. Tell about functions of the digestive system and main morphofunctional peculiarities of the digestive system in children.
3. Describe morphofunctional peculiarities of organs of the gastrointestinal system of children:
  - a) the oral cavity
  - b) the esophagus
  - c) the stomach
  - d) the small, large intestine
  - e) the pancreas
  - f) the liver
4. Peculiarities of the digestion of children at different age.
5. Point out the main clinical and paraclinical methods of examination of the digestive system of children.
6. Describe the semiotics of diseases of the digestive system of children.
7. What do you know about main pathological syndromes of the digestive system of children?
8. What do you know about diseases of the digestive system in children?

9. How will you take care of children with gastrointestinal diseases?

**Tests for self-control:**

1. Formation of the digestive system of the fetus begins:
  - a) at 7-8 day of gestation
  - b) at 14 days of gestation
  - c) at 1 month of gestation
  - d) at 2 month of gestation
  - e) at 5 month of gestation.
2. What are features of microflora of intestines at newborns?
  - a) the intestinal stick dominates
  - b) the coccal flora dominates
  - c) dominates a lactobacilli
  - d) the fungoid flora dominates
  - e) dominates a bifidumflora
- 3 . What can be disintegrated partially in a mouth cavity?
  - a ) proteins
  - b) fats
  - c) carbohydrates
  - d) proteins, fats, carbohydrates
  - e) no disintegration
- 4 . Mezogastrium is a:
  - a) top part of a forward belly
  - b) lower part of a forward belly
  - c) average part of a forward belly wall
  - d) back part of a forward belly
  - e) is in lumbar area
5. What is volume of stomach of the child age at 12 months?
  - a) 80-100 ml.
  - b) 300 ml.
  - c) 500 ml.
  - d) 800 ml.
  - e) 700 ml.
6. The peculiarity of oral cavity of a child is:
  - a) It is relatively small
  - b) mucus is well vascularized
  - c) buccal fat is good developed
  - d) all above is correct

e) all above is wrong

7 . Ratio of indirect and direct bilirubin is:

- a) 1:3
- b) 1:2
- c) all answers are correct
- d) 3:1
- e) 1:1

8. Meconium is allocated:

- a) In 1 month
- b) In 2 months
- c) At newborns in 1-2 days
- d) In 6 months
- e) In 1 year

9. Ker's point is:

- a) Point of a gall bladder
- b) Point of a body of a pancreas
- c) Point of a tail of a pancreas
- d) Point of an output channel of a pancreas
- e) Painful point of an appendix
- e) all answers are correct

10. The liver is located in the abdomen and performs many functions. What of the following is NOT a function of the liver?

- a) Storing food
- b) Manufacturing insulin
- c) Producing digestive juices
- d) Healing itself when it is damaged
- e) all answers correct

11 . Standard indicators elastazy-1 in stool:

- a) it is more than 10 mkg/l
- b) it is less than 10 mkg/l
- c) it is more than 200 mkg/l
- d) 100-200 mkg/l
- e) it is less than 100 mkg/l

12. In case of gastritis the pain is allocated:

- a) In the right hypochondrium
- b) In the left hypochondrium
- c) In the epigastric region
- d) In the left iliac region

e) In the umbilical region

13. What test is the best for diagnostics of gastritis?

- a) general blood test
- b) general urine analysis
- c) Immune-enzyme analysis on *Helicobacter pylori*.
- d) Fibrogastroscopy
- e) bilirubin in blood sera

14. What changes can be found at a superficial palpation of a stomach:

- a) tension of muscles
- b) morbidity
- c) all answers correct
- d) Hyperesthesia
- e) relaxation of a belly wall

15 The pain is localized in case of cholecystitis:

- a) In the right hypochondrium
- b) In the left hypochondrium
- c) In the epigastric region
- d) In the left iliac region
- e) In the umbilical region

16. What test is necessary for diagnostics of gastritis?

- a) common blood test
- b) common urine analysis
- c) Immune-enzyme analysis for *Helicobacter pylori*.
- d) Gastroscopy
- e) Level of bilirubin in serum blood

17. What symptom is not typical for biliary tract dysfunction during palpation of abdomen?

- a) Murphy's symptom
- b) Ortner's symptom
- c) Shchetkina-Blyumberg's symptom
- d) Symptom Lepine
- e) Ker's symptom

18. Standard method for examination of the upper digestive tract mucus is:

- a) endoscopy
- b) colonoscopy
- c) USD
- d) X-ray



e) manometry

19. The main clinical sign of malabsorption syndrome is:

- a) chronic diarrhea
- b) enlargement of abdomen
- c) bloating
- d) all answers are correct
- e) exhaustion

20. Tympanic sound over all surface of abdomen is revealed during inspection of digestive system at the 2-year-old boy. What is possible reason of tympanic sound?

- a) peritonitis
- b) colitis
- c) enteritis
- d) ascites
- e) bloating

#### **Tasks for individual work of students:**

Work at the bedside, collection of complaints, medical case history, clinical examination of the patient. Analysis of paraclinical laboratory and instrumental methods.

#### **Standards of responses to tests:**

1-A; 2- E; 3-C; 4-C; 5- B; 6-D; 7- D; 8- C; 9- A; 10- E; 11- C; 12- C; 13- D; 14- C; 15- A; 16- D; 17- D; 18- A; 19- D; 20- E.

The **maximum number of points** which may be consequently obtained by students is 200 points; this includes 120 points for current educational activity and 80 points for the final lesson.

**Current educational activity of students** is controlled during practical classes according to specific goals in the course of each practical class as well as during self-training in the hospital department. It is recommended to apply the following means of diagnostics of the students' level of readiness: control of practical skills, solving cases and test control of theoretical knowledge.

The current assessment of students on respective topics is conducted in the traditional 4-point grade scale ("excellent", "good", "satisfactory" and "unsatisfactory") with further conversion into a multiscore scale.

**The grade "Excellent"** is given when the student knows the program in toto, illustrating the answers with various examples; gives clear and comprehensive answers without any hints; delivers the material without any inaccuracies or errors; performs practical tasks of a different degree of complexity.

**The grade "Good"** is given when the student knows the whole program and understands it well, gives correct, consistent and structured but not completely comprehensive answers to questions, although he is able to answer additional questions without

mistakes; solves all cases and performs practical tasks experiencing difficulties only in the most complex situations.

**The grade "Satisfactory"** is given to the student based on his satisfactory level of knowledge and understanding of the entire subject. The student is able to solve modified tasks with the help of hints; solves cases and applies practical skills experiencing difficulties in simple cases; is unable to deliver a consistent answer, but answers direct questions correctly.

**The mark "Unsatisfactory"** is given when the student's knowledge and skills do not meet the requirements of the grade "satisfactory".

Given the number of practical classes the grades are converted into the multiscore scale as follows:

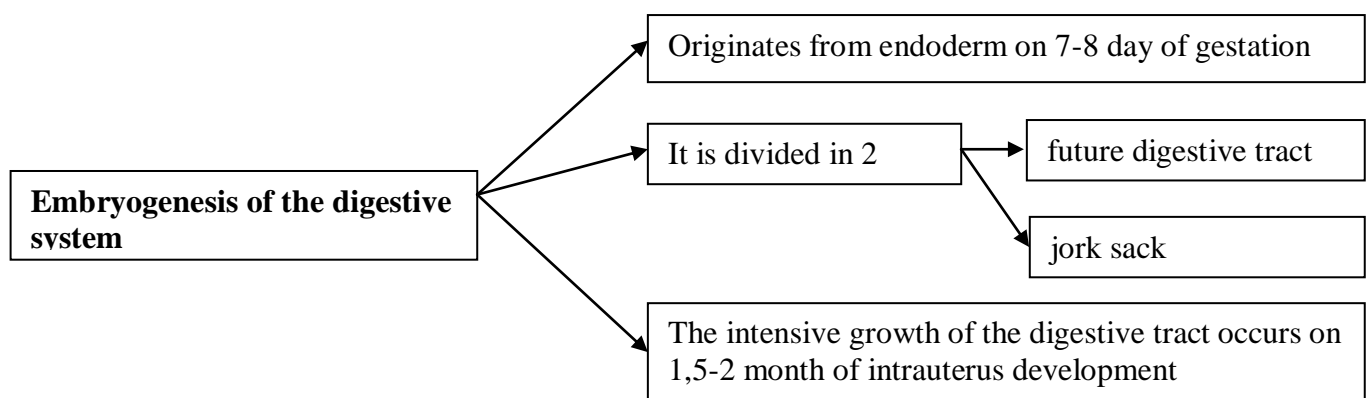
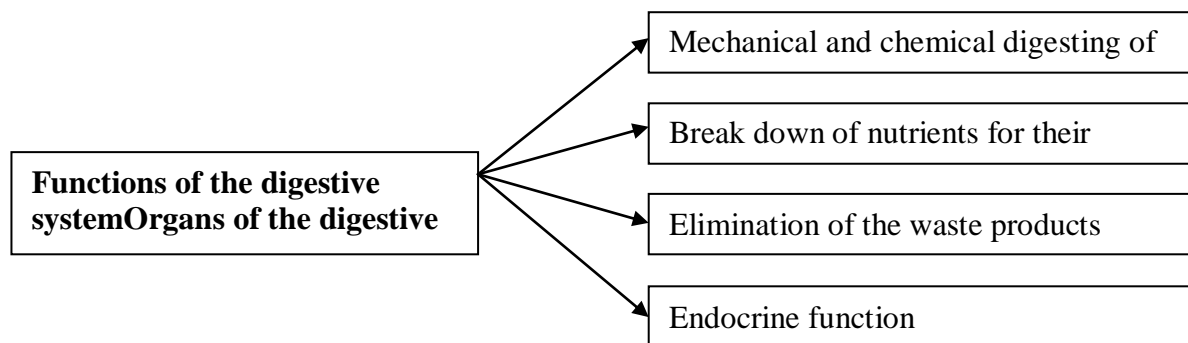
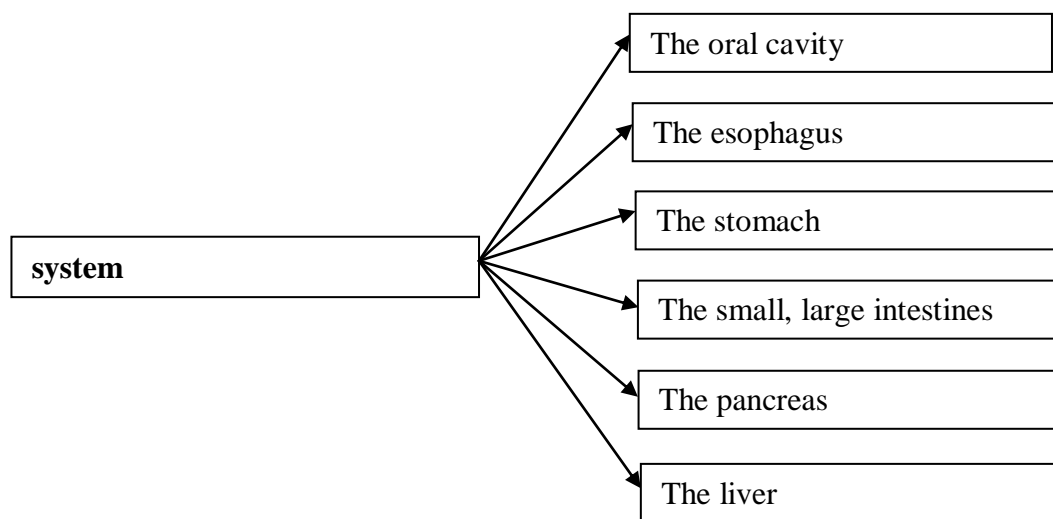
**The mark "Excellent" – 72-80 scores**

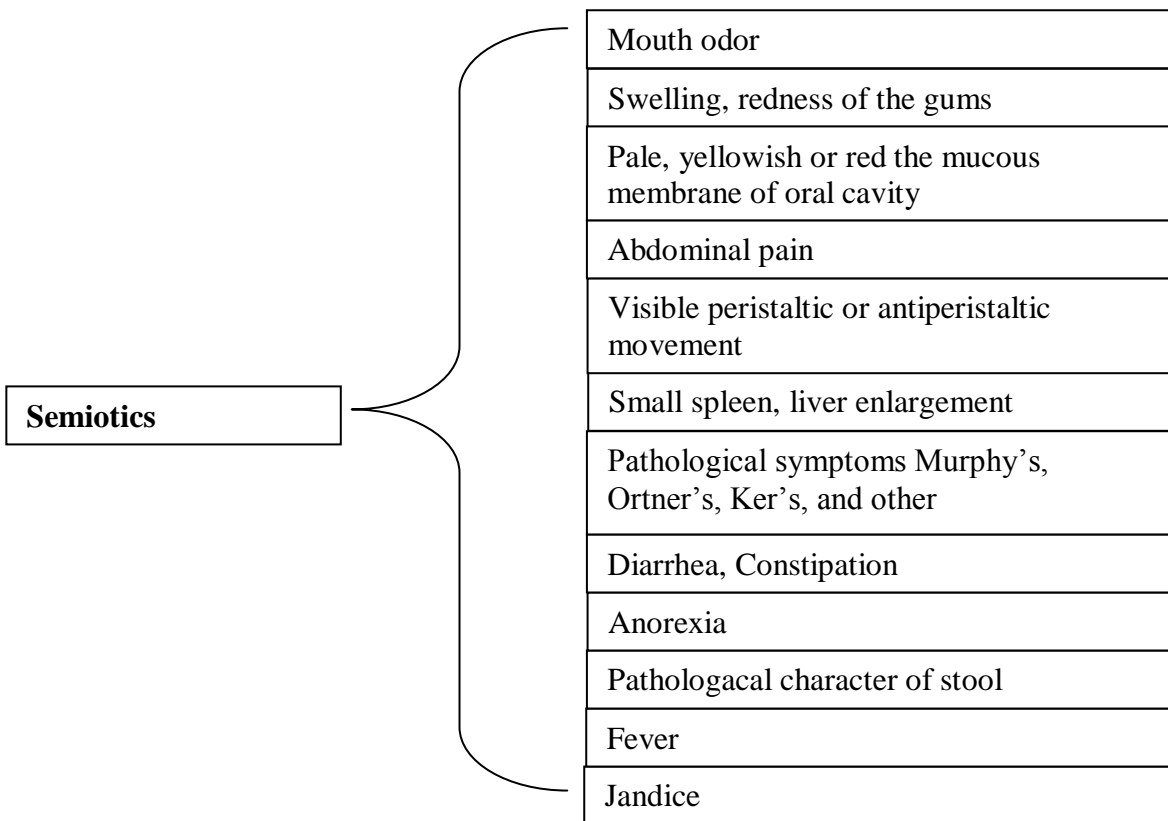
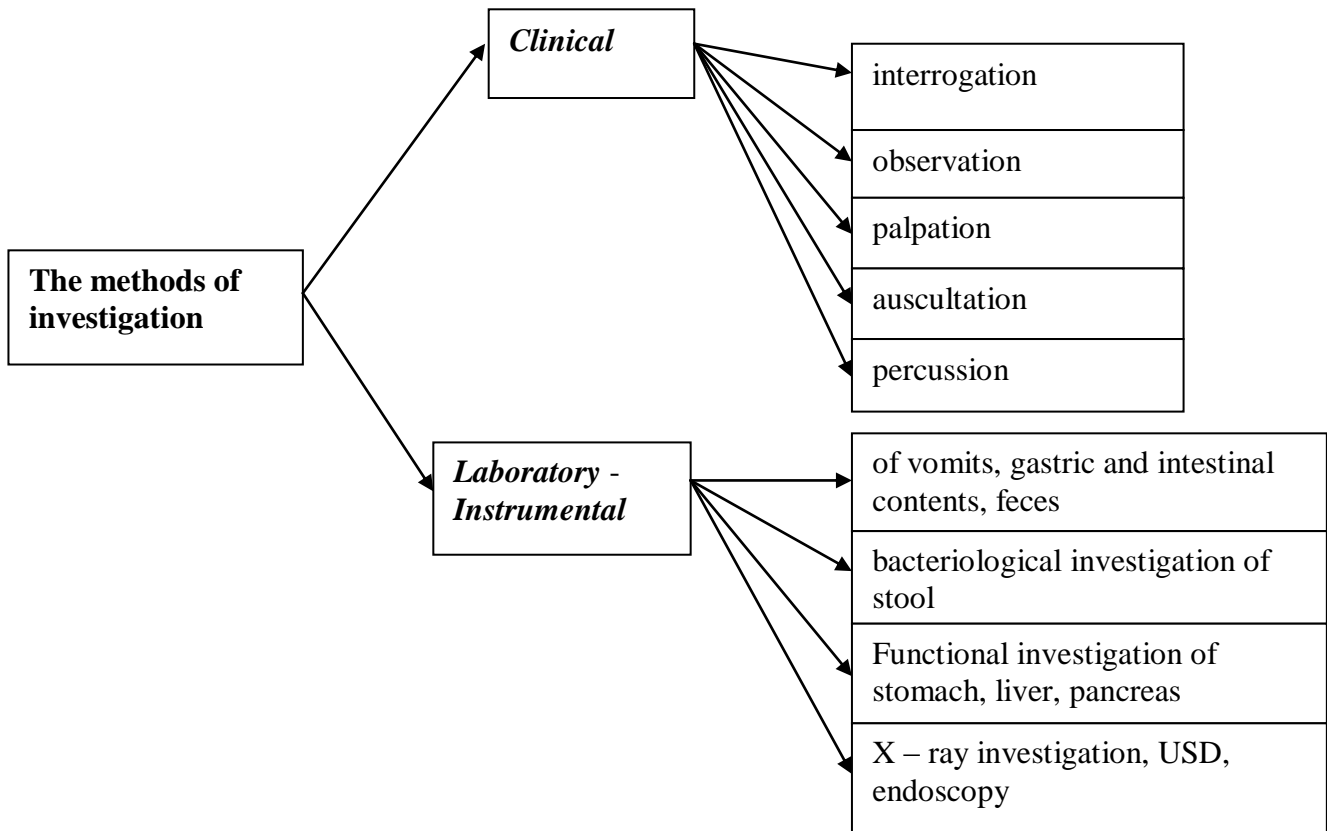
**The mark "Good" – 60-71 scores**

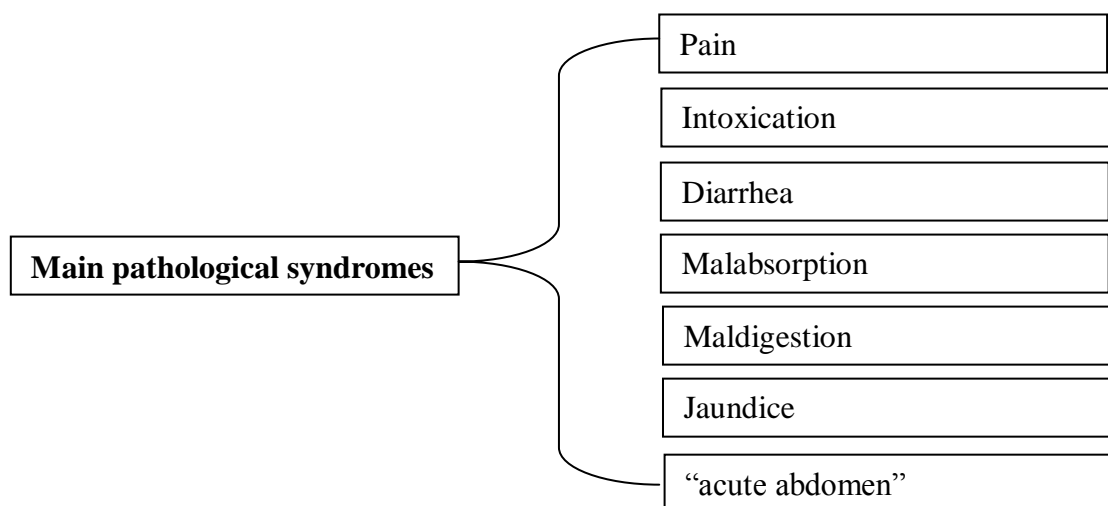
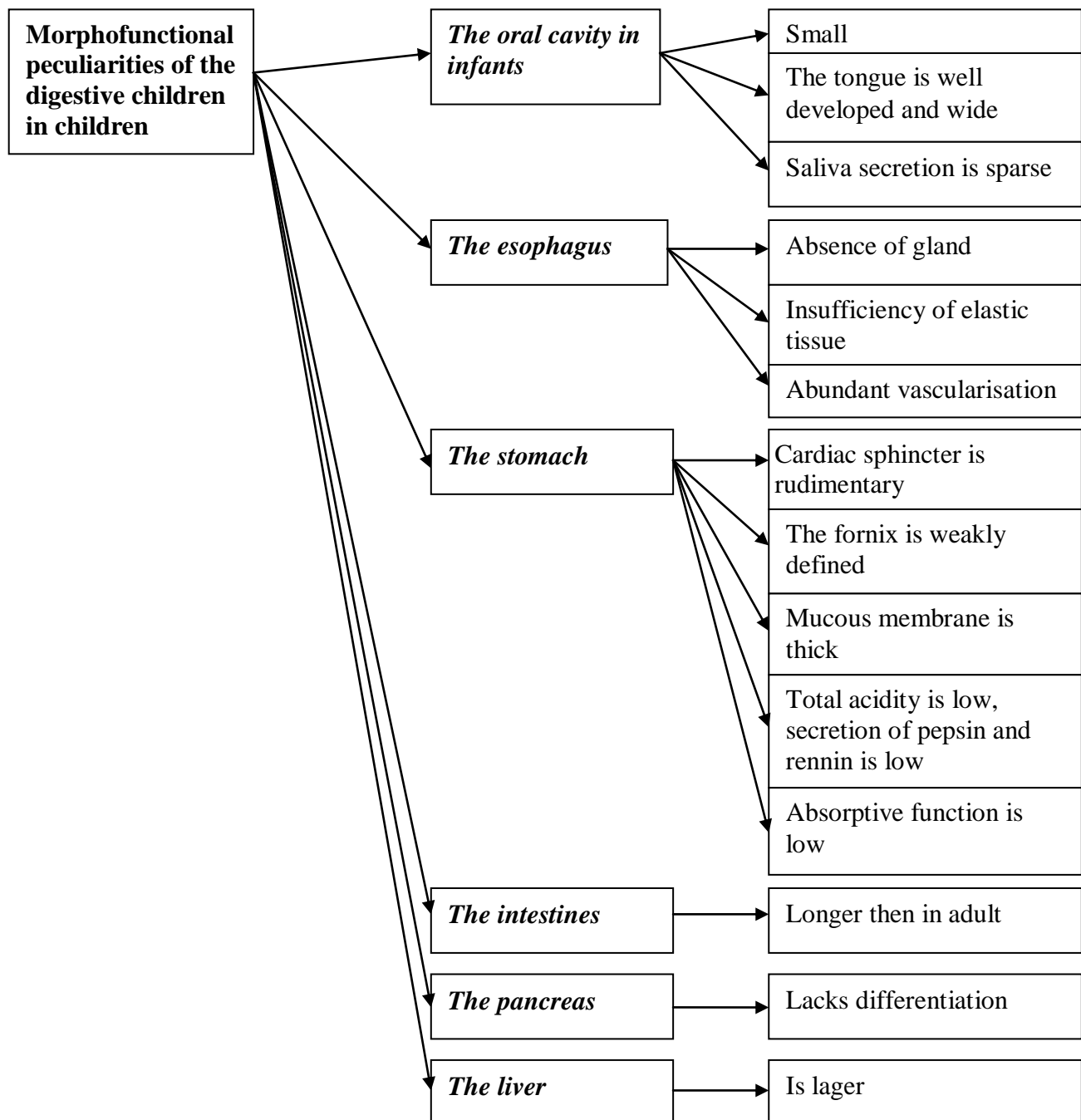
**The mark "Satisfactory" – 50-59 scores**

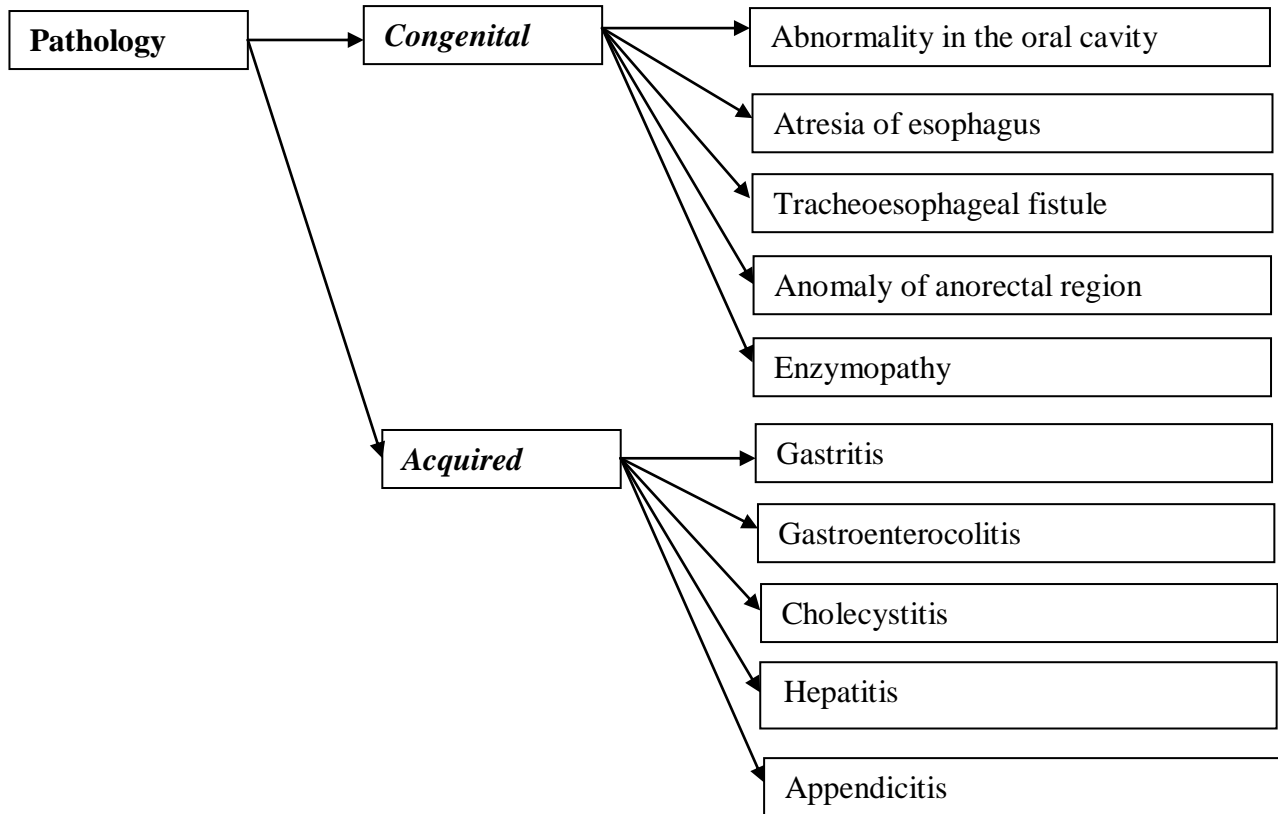
**The mark "Unsatisfactory" – 0 scores**

**Graphological structure to the topic “Anatomophysiological peculiarities of the digestive system in children”.**









*Для нотатків*

*Навчальне видання*

**Анатомо-фізіологічні особливості, методи обстеження та  
семіотика захворювань системи травлення у дітей**

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Комп'ютерна верстка

Ум. друк. арк. \_\_\_\_ . Тираж \_\_\_\_ прим. Зам. № \_\_\_\_ .

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