

**ANATOMO-PHYSIOLOGICAL PECULIARITIES, METHODS
OF EVALUATION OF THE RESPIRATORY SYSTEM IN
CHILDREN**

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

**АНАТОМО-ФІЗІОЛОГІЧНІ ОСОБЛИВОСТІ, МЕТОДИ
ОБСТЕЖЕННЯ СИСТЕМИ ДИХАННЯ У ДІТЕЙ**

**З дисципліни «Пропедевтика педіатрії»
*Методичні вказівки
до самостійної роботи студентів 3-го курсу
медичного факультету***

МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
Харківський національний медичний університет

**ANATOMO-PHYSIOLOGICAL PECULIARITIES, METHODS
OF EVALUATION OF THE RESPIRATORY SYSTEM IN
CHILDREN**

Academic discipline «Pediatric Propedeutics»
Self-study guide for the 3rd year
English medium students

**АНАТОМО-ФІЗІОЛОГІЧНІ ОСОБЛИВОСТІ, МЕТОДИ
ОБСТЕЖЕННЯ СИСТЕМИ ДИХАННЯ У ДІТЕЙ**

З дисципліни «Пропедевтика педіатрії»
Методичні вказівки
до самостійної роботи студентів 3-го курсу
медичного факультету

Затверджено
Вченою радою ХНМУ
Протокол № від

Харків
ХНМУ
2016

Anatomo-physiological peculiarities, methods of evaluation of the respiratory system in children: self-study guide for the 3rd year English medium students / compiled by.: V.A., Klymenko T.V. Sirenko, O.M. Plakhotna – Kharkiv: KhNMU, 2016. – 16 p.

Compiled by: Klymenko V.A.
Sirenko T.V.
Plakhotna O.M.

Анатомо-фізіологічні особливості, методи обстеження системи дихання у дітей: метод. вказ. до самот. роботи студентів 3 курсу медичних факультетів / упор. В.А.Клименко, Т.В. Сіренко, О.М.Плахотна. – Харків, ХНМУ, 2016. – 16 с.

Упорядники: Клименко В.А.
Сіренко Т.В.
Плахотна О.М.

Amount of educational hours: self-dependent work – 4;
practical training – 4.

Content

Embryogenesis of the respiratory system. Critical period of development. Morpho-functional characteristic of the respiratory system. The respiratory system's parts: the upper respiratory tract, the lower respiratory tract. Functions of the respiratory system: respiratory function gas exchange and nonrespiratory functions of lungs – hormone, regulation of blood reology, water metabolism, termoregulation, etc. The main regularity of morpho-functional development on tissue and organ levels is permanent growth and development. Growth and development in intrauterin period, term of surfactant maturity, adaptation of function of the respiratory system in postnatal period, completion of tissue maturity to 7-12 years. Peculiarity of formation of congenital pathology. Tissue reconstruction in postnatal period. Correlation morphological structure and pathology. Peculiarities of external breathing.

The main clinical and paraclinical methods of investigation: interrogation, inspection, palpation, percussion (comparative, topographical), auscultation, counting respiratory rate movements, clinical investigation of nose, throat secret, sputum, pleurisy exudates, bacteriological and virusological investigation of the same materials, roentgenological methods of investigation of lungs paranasal sinuses, bronchoscopy, bronchography, investigation of function of external breathing, routine methods of sick child investigation (blood count, urinalyses, etc.). The role of respiratory system examination in Pediatrics practice.

Specific goals

- to collect anamnesis for a patient with diseases of the respiratory system.
- to conduct an objective examination of the respiratory taking into account the child's age characteristics.
- to interpret the survey data.

To know:

the morpho-functional peculiarities of the respiratory system in children;
- the embryogenesis of the respiratory system, anomalies of development;
- the methods of examinations, semiotics of the respiratory system diseases;
- characteristics of the basic pathology of the respiratory system;
- the main symptoms of the respiratory system diseases

Be able to:

- to be able to fulfil examinations of the respiratory system, taking into consideration peculiarities in the methods of examination in children;

- to be able to fill in a case history for performing an objective examination of the respiratory system in children;
- to prescribe a complex of methods for laboratory and instrumental examinations of the respiratory system;
- to interpret the received data of examination with taking into consideration morphofunctional peculiarities of a child's organism;
- to make syndromic diagnosis in children with pathology of respiratory system.

Basic knowledge, abilities, and skills, which are necessary for studying the topic (interdisciplinary integration).

The names of previous disciplines	Skills
1. General anatomy	To know the structure of the organs and systems of child's body. Clarifying the meaning of certain anatomical features of child's organism in the organizing of childcare.
2. Normal physiology	To know the features of functioning of the organs and systems of child's body in dependence of the age of the child.
3. Bases of psychology.	To analyze the emotions of the patient, interpersonal relationships, and children's behavior.

Graphical structures of individual issues of the topic.

1. Graphical structure of the topic «Methods of examination and the main symptoms of affection of the respiratory system in children» - Appendix 1.

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, 8th 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 embryogenesis of the respiratory system?
2. Tell about peculiarities of morphological structure of the child respiratory system.
3. Tell about adaptation to postnatal atmospheric breathing.
4. What do know about postnatal development of the respiratory system?
5. Indicate main respiratory system function.
1. 6. Describe the peculiarities of certain parts of the respiratory system.
2. a) Upper respiratory organs – the nose, pharynx, larynx.
3. b) Lower respiratory organs – trachea, bronchi, lungs.
6. What do you know about the physiology of the respiration in children?
7. Tell about the main clinical methods of examination of the respiratory system.

Tests for self-control:

1. The bronchial tree forms to:

- A. 16 weeks of gestation
- B. 20 weeks of gestation
- C. 28 weeks of gestation
- D. 32 weeks of gestation
- E. 38 weeks of gestation

2. The surfactant system insufficiency is the base of:

- A. The lung's agenesis
- B. The congenital cysts of the lungs
- C. The intrauterine pneumonia
- D. The respiratory distress syndrome
- E. The intrauterine infection

3. The respiratory system is composed of:

- A. The upper, middle and lower respiratory tract
- B. The anterior, middle and lower respiratory tract
- C. The upper, anterior and posterior respiratory tract
- D. The anterior, middle and posterior respiratory tract
- E. The upper, right and left respiratory tract

4. There are features of the upper respiratory tract in newborns, except:

- A. Relatively small size
- B. Narrowness of the nasal passages
- C. The abundant vascularization of the mucous membranes
- D. Absence of all paranasal sinuses
- E. No lack of lymphatic vessels

5. Functions of the nose are, except:

- A. Air warming
- B. Air moistening
- C. Air cleaning
- D. Immunoglobulin G secretion
- E. Mucous secretion

6. Normal percussion sound is:

- A. Tympanic
- B. Dullness
- C. Resonance
- D. Bend box
- E. Sound of the «cracked pot»

7. Which type of the lung's percussion is absent?

- A. Topography
- B. Comparative
- C. Indirect
- D. Straight
- E. Direct

8. Typical percussion sound for emphysema is:

- A. Tympanic
- B. Bend box
- C. Dullness
- D. Sound of the «cracked pot»

E. Resonance

9. Normal auscultation sound in children of elder age is:

- A. Vesicular
- B. Diminished
- C. Amphoric
- D. Puerile
- E. Rough [exaggerated]

10. Which method isn't clinical?

- A. Examination
- B. Palpation
- C. Interrogation
- D. Auscultation
- E. X-RAY

11. What is normal for the newborn baby of a 7 days life?

- A. Breathing rate up to 40 per min
- B. Superficial , arhythmic breathing
- C. Dullness percussion sound
- D. Depressed respiratory noises
- E. Intensified voice trembling

12. Normal respiratory rate of a healthy 2-years-old child is:

- A. 40-50
- B. 30-35
- C. 25-30
- D. 18-20
- E. 15-16

13. What kind of breathing is normal for a 4 month child?

- A. Depressed vesicular
- B. Pueril
- C. Bronchial
- D. Amphoric
- E. Exaggerated

14. Describe pueril breathing:

- A. Only inhalation can be auscultated
- B. Only exhalation can be auscultated

- C. All inhalation and exhalation can be auscultated
- D. All inhalation and slight exhalation can be auscultated
- E. All exhalation and slight inhalation can be auscultated

15. In a 2-year old child in normal can be auscultate:

- A. Depressed vesicular breathing
- B. Pueril breathing
- C. Exaggerated breathing
- D. Vesicular breathing
- E. Bronchial breathing

16. From which age palatine tonsils rise out of the arches?

- A. At ones after birth
- B. After 1 year
- C. After 2 years
- D. After 3 years
- E. After 4 years

17. The lower respiratory tract consist of:

- A. Nose, pharynx , larynx
- B. Larynx, trachea, lobes and segments bronches
- C. Lobes, segments bronches, bronchioles
- D. Segments bronches, bronchioles
- E. Bronchioles, alveoles

18. There are features of the upper respiratory tract in newborns, except:

- A. Relatively small size
- B. Narrowness of the nasal passages
- C. The abundant vascularization of the mucous membranes
- D. Absence of all paranasal sinuses
- E. No lack of lymphatic vessels

19. Respiratory volume in children less because of:

- A. Intensive vascularization of the lung
- B. Narrowness of the tracheobronchialis tree
- C. The features of the thorax structure
- D. The respiratory center depression
- E. The low oxygen needs

20. The middle respiratory tract consist of:

- A. Nose, pharynx , larynx
- B. Larynx, trachea, lobes and segments bronches
- C. Lobes, segments bronches, bronchioles
- D. Segments bronches, bronchioles
- E. Bronchioles, alveoles

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

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:

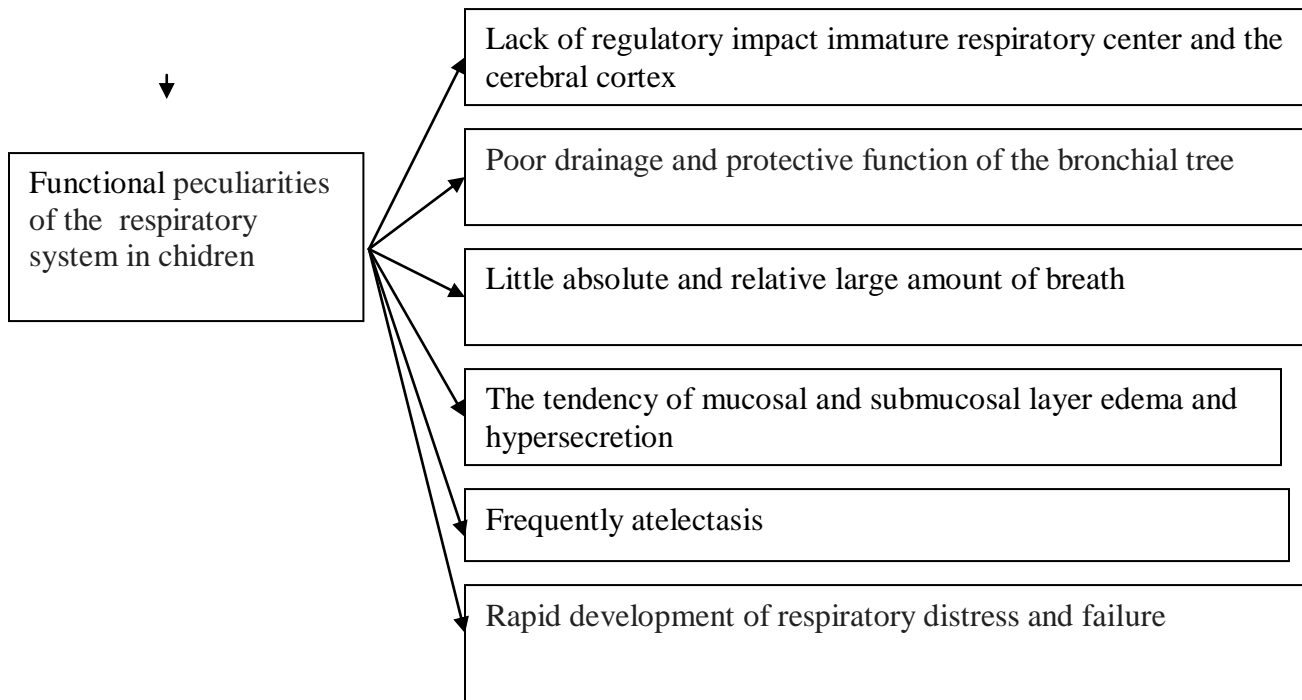
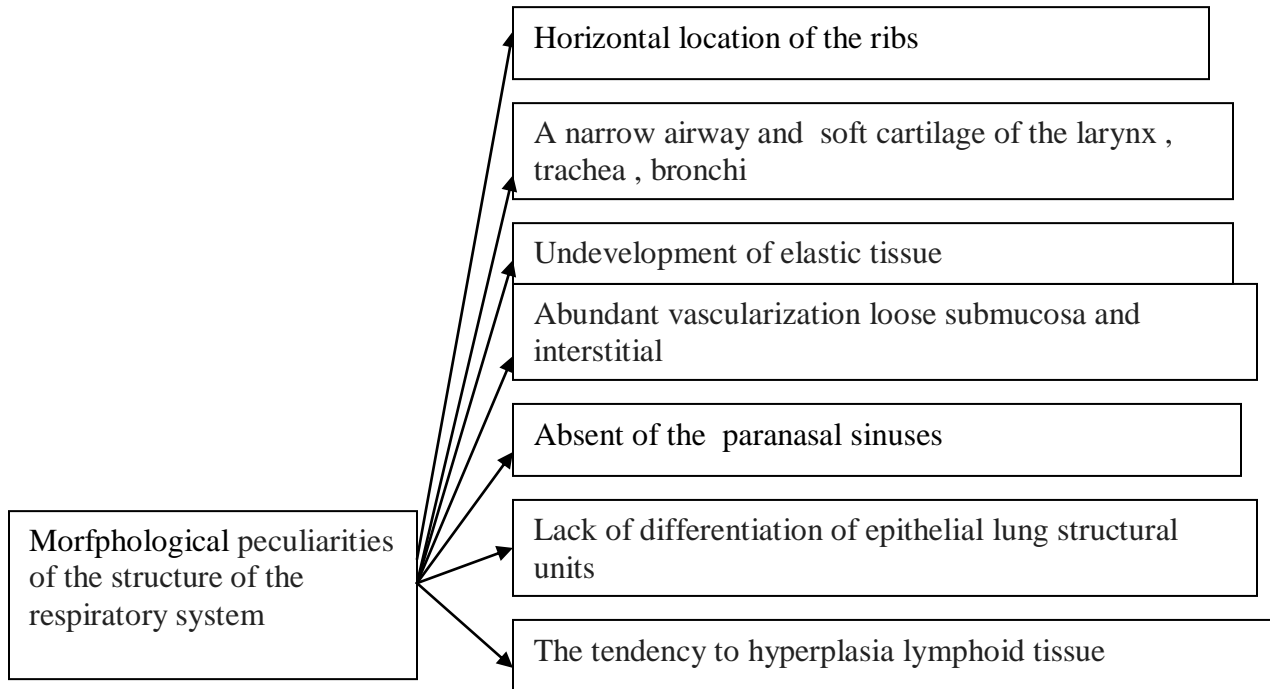
The mark "Excellent" – 72-80 scores

The mark "Good" – 60-71 scores

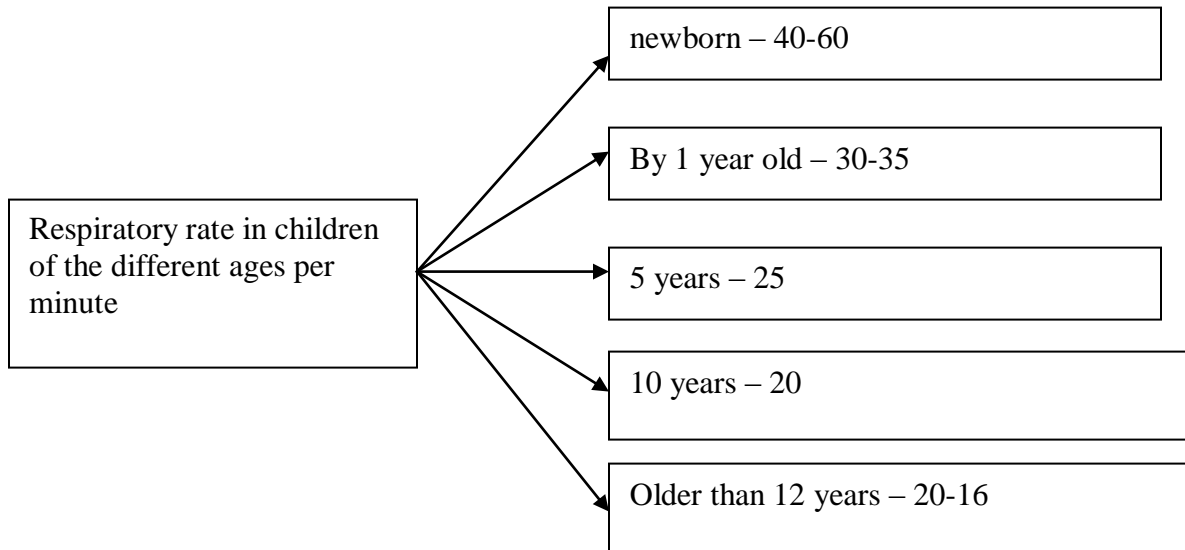
The mark "Satisfactory" – 50-59 scores

The mark "Unsatisfactory" – 0 scores

Graflogic sructure for topic “The resiratory system. Anato-physiological peculiarities, methods of evaluation of the respiratory system in children»



Graflogic sructure for topic “The resiratory system. Anato-physiological peculiarities, methods of evaluation of the respiratory system in children»



Для нотатків

Для нотатків

Навчальне видання

Анатомо-фізіологічні особливості, методи обстеження системи дихання у дітей

Упорядники: Клименко Вікторія Анатоліївна
Сіренко Тетяна Вадимівна
Плахотна Ольга Миколаївна

Відповідальний за випуск: Клименко В.А.

Комп'ютерна верстка

Ум. друк. арк. ____ . Тираж ____ прим. Зам. № ____ .
