PARACLINICAL METHODS OF INVESTIGATION AND SEMEIOLOGY OF THE RESPIRATORY SYSTEM DISEASES IN CHILDREN

Academic discipline «Pediatric Propedeutics»

Self-study guide for the 3rd year

English medium students

ПАРАКЛІНІЧНІ МЕТОДИ ОБСТЕЖЕННЯ ТА СЕМІОТИКА УРАЖЕНЬ СИСТЕМИ ДИХАННЯ У ДІТЕЙ

З дісципліни «Пропедевтика педіатрії»

Методичні вказівки
до самостійної роботи студентів 3-го курсу
медичного факультету

МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
Харківський національний медичний університет

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Compiled by: Klymenko V.A.
Sirenko T.V.
Plakhotna O.M.
Sivoplyas-Romanova H.S.

Параклінічні методи обстеження та семіотика уражень системи дихання у дітей: метод. вказ. до самост. роботи студентів 3 курсу медичних факультетів / упор. В.А.Клименко, Т.В. Сіренко, О.М.Плахотна, Г.С. Сивопляс-Романова – Харків, ХНМУ, 2016. – 16 с.

Упорядники: Клименко В.А.
Сіренко Т.В.
Плахотна О.М.
Сивопляс-Романова Г.С.

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

Contents

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.). Semelology of respiratory system affections: difficulty in breathing, obstruction of respiratory tract, suffocation, cough, sputum, change of voice, stridor, croup, laryngospasm, inspiration type of dysponoe, expiration type of dyspnoe, pathological change of thorax shape, extention of thorax, pathological change of nose, low jaw, cousing disorder of extermun breathing; symptoms of aspiration, change of skin and mucous membranes color, adenoids and tonsil's changes, cousing the external breathing disorder, pathological types of breathing , tachypnea, bradypnea, changes of topographic borders of lungs, changes of percussion sounds (slightly dulled sound, absolutely flat sound, dulled sound, tympanic overtone, handbox resonance, etc.), auscultation (vesicular, puerile breathing, bronchial respiration, decreased vesicular respiration, amphorics respiration, rales-dry, moist rales, crepitation, pleural friction rub), symptoms of pneumothorax, piopneumothorax. Pathological syndromes: respiratory insufficiency syndrome, obstructive syndrome, croup syndrome..

Specific goals

- to prescribe the number of laboratory and instrumental investigations in case of respiratory system diseases in children.
- to provide syndrome-based diagnosis of respiratory system diseases in children.

To know:

1. Methods of respiratory clinical examination of children (visual inspection, palpation, comparative and topographic percussion, auscultation of the lungs).
2. Comparative auscultation of the lungs.
3. Semeiology of main disorders of respiratory system in children.

4. Respiratory distress syndrome and respiratory failure syndrome, main symptoms.
5. The spirography

Be able to:

1. to collect anamnesis for a patient with diseases of the respiratory system.
2. to prescribe the number of laboratory and instrumental investigations in case of respiratory system diseases in children.
3. to provide syndrome-based diagnosis of respiratory system diseases in children.
4. to interpret the survey data.

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 are the features of the respiratory system examination in Pediatric practice?
2. Describe the semeiology of the respiratory system diseases.
3. What are the main symptoms of obstractive syndrome?
4. What are the main symptoms of croup syndrome?
5. What are the main symptoms of respiratory failure syndrome?
6. What are the main symptoms of respiratory distress syndrome?
7. What are the main symptoms of pneumonia?
8. What are the main symptoms of pleurisy?
9. What are main pathological syndromes of respiratory system diseases?
10. What do you know about pathology of the respiratory system in children?
11. What do you know about the care of children with respiratory system diseases?

Tests for self-control:

1. Which type of dyspnoea appears in case of foreign body?

A. Inspiratory
B. Expiratory
C. Combined
D. Mixed
E. Shik's dyspnoea

2. Which type of dyspnoea is typical for bronchial asthma?

A. Inspiratory
B. Expiratory
C. Combined
D. Mixed

E. Shik's dyspnoea

3. Typical percussion sound for pneumonia is:

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

4. What can cause high frequency of lung's collapse in infancy?

A. Surfactant insufficiency
B. Elastic tissues insufficiency
C. Abundant development of connective tissue
D. Abundant development of blood vessels
E. Bronchioles narrowness

5. Which complaints doesn't typical for respiratory diseases?

A. Forced position
B. Cough
C. Dyspnea
D. Change of voice
E. Icteritiousness of the sclera

6. Typical symptom of laryngitis is:

A. Brassy paroxismal cough
B. Barking [whooping] cough
C. Reprise cough
D. Snuffling [hypernasal] voice
E. Expiratory dyspnea

7. True croup is caused by:

A. Viruses
B. Streptococcus infection
C. Diphtheria
D. Quinsy
E. Chlamidia trachomatis and mycoplasma

8. Which type of dyspnea is absent?

A. Inspiratory
B. Expiratory
C. Combined
D. Mixed
E. Shik's dyspnoea

9. The typical dyspnoea for pneumonia is:

A. Inspiratory
B. Expiratory

C. Combined
D. Mixed
E. Shik's dyspnoea

10. Voice trembling becomes stronger at:

A. The infiltrates in the lungs
B. The pulmonary collapse
C. The presence of exudates in the lung
D. The pleural tumor
E. The pneumothorax

11. Which method of diagnosis don't used in infancy?

A. X-RAY of thorax
B. Spirography
C. Bronchoscopy
D. Rhinoscopy
E. Sputum investigation

12. Name typical symptom of upper respiratory tract affection:

A. Cough
B. Rhinitis
C. Crackling
D. Dull sound
E. Dyspnea

13. Which symptom haven't attitude to the bronchitis?

A. Cough
B. Fine moist [small bubbling] rales
C. Dullness percussion sound
D. Resonance sound
E. Exaggerated breathing

14. What kind of symptoms is pathological for a 3 month baby?

A. Respiratory rate up to 35-40 per min
B. Nose breathing complicated
C. Small thorax excursion
D. Superficial breathing
E. All mentioned above

15. Which symptom is the most typical for pneumonia in a 10 month baby?

A. Deep productive cough
B. Nasolabial triangle cyanosis
C. Local fine moist [small bubbling] rales in the lungs
D. Body temperature 37,8C
E. Respiratory rate 70 per min

16. What kind of forced position take a patient with exudative pleurisy?

A. On a back
B. On a healthy side
C. On a sick side
D. On abdomen
E. With shoulder girdle fixing

17. What kind of symptoms evidence about affect of the lung parenchyma?

A. Resonance percussion sound
B. Dull percussion sound
C. Exaggerated breathing
D. Vesicular breathing
E. Pueril breathing

18. Pleura friction murmur may be auscultated at:

A. Pneumonia
B. Tracheitis
C. Pleurisy
D. Bronchial asthma
E. Whopping cough

19. Crackles may be auscultated at:

A. Pneumonia
B. Pleurisy
C. Emphysema
D. Collapse of the lung
E. Pneumothorax

20.What kind of pathological type of respiration ia absent?

A. Cheyne-Stokes
B. Adams's
C. Biot's respiration
D. Kussmaul's
E. Grocco-Frugony

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

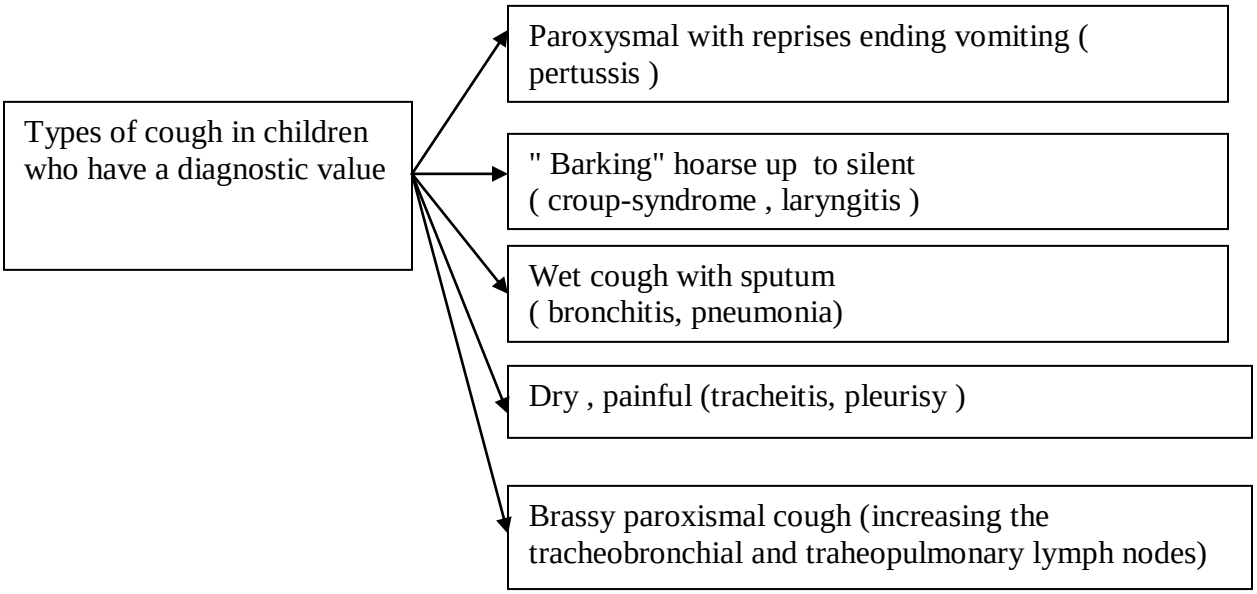
The grade "Satisfactory" is given to the student based on his satisfactory level of knowledge and understanding of the entire subject. The student is able to solve modified tasks with the help of hints; solves cases and applies practical skills experiencing difficulties in simple cases; is unable to 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:

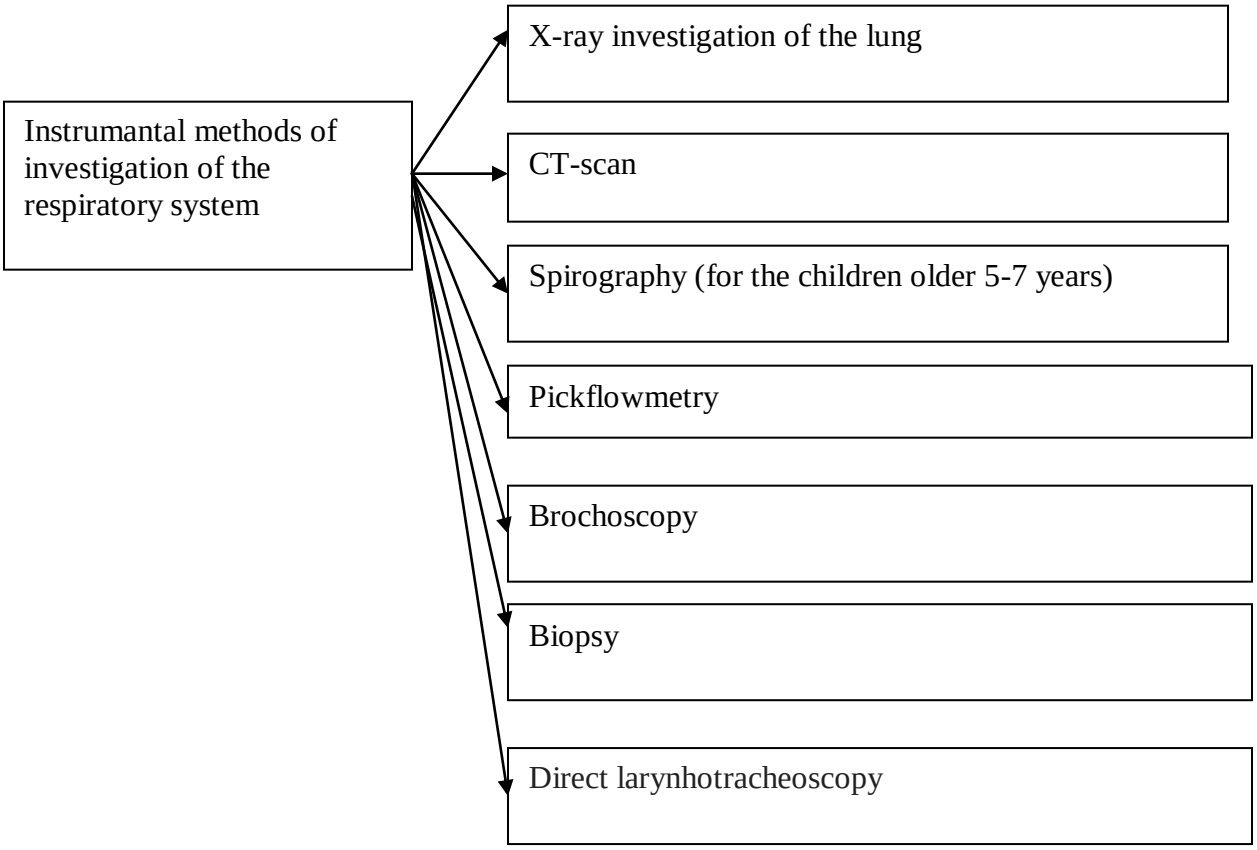
The mark "Excellent" – 72-80 scores
The mark "Good" – 60-71 scores
The mark "Satisfactory" – 50-59 scores
The mark "Unsatisfactory" – 0 scores

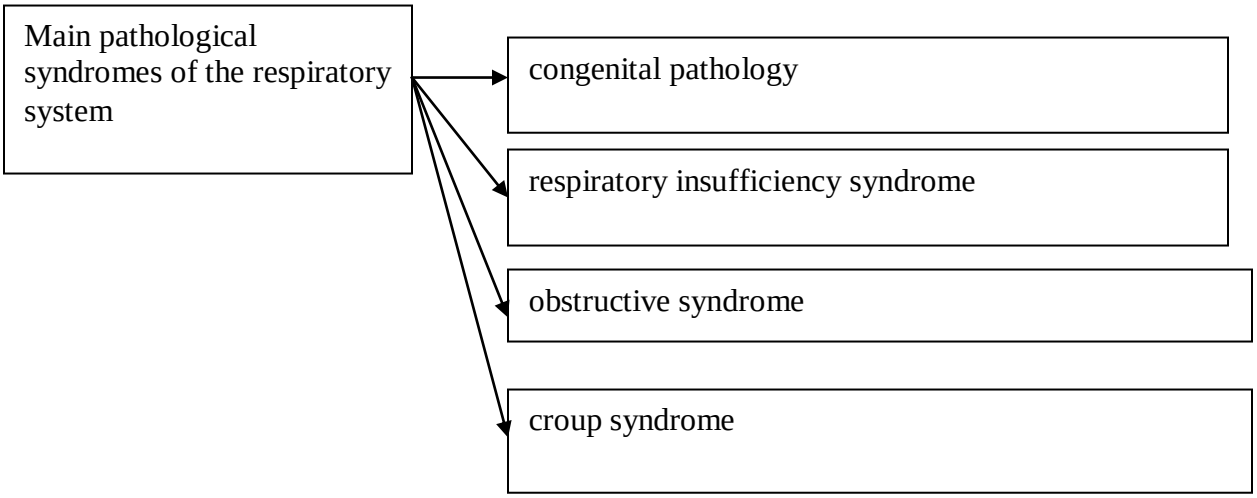
Graflogic sructure for topic "The resiratory system. Auscultation of the lungs. Semiology of the respiratory system diseases in children»



Appendix 2.

Graflogic sructure for topic "The resiratory system. Auscultation of the lungs. Semiology of the respiratory system diseases in children»





Для нотатків

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Навчальне видання

Параклінічні методи обстеження та семіотика уражень системи дихання у дітей

Упорядники: Клименко Вікторія Анатоліївна
Сіренко Тетяна Вадимівна
Плахотна Ольга Миколаївна
Сивопляс-Романова Ганна Сергіївна

Відповідальний за випуск: Клименко В.А.

Комп'ютерна верстка

Ум. друк. арк.___. Тираж____ прим. Зам. №____.