

**GUIDELINES**  
**for practical classes**  
**for students**

Educational discipline: «Pediatric gastroenterology, pulmonology and nephrology»

Field of knowledge: 22 "Health care"

Specialty: 222 "Medicine"

Department of Pediatrics No 2

Approved at the meeting of the Department of Pediatrics No. 2 on August 26, 2024, protocol No. 1

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**Subject of the lesson:**

**" Wheezing syndrome in children. Foreign bodies of the respiratory tract in children "**

## **Competencies:**

Ability to collect medical information about the child and analyze data (complaints, life history, medical history)

The ability to distinguish and identify leading clinical symptoms and syndromes in diseases accompanied by wheezing, and foreign bodies in the respiratory tract in children.

Ability to determine indications for bronchoscopy in case of suspicion of a foreign body of the respiratory tract, determination of the list of instrumental studies for the diagnosis of foreign bodies of the respiratory tract.

The ability to determine the necessary list of laboratory and instrumental studies for the diagnosis of diseases accompanied by wheezing syndrome.

Ability to determine the principles and nature of treatment of wheezing syndrome in children.

Ability to diagnose signs of impaired airway patency and determine the degree of respiratory insufficiency.

The ability to determine tactics and provide emergency medical care in severe respiratory failure. Ability to abstract thinking, analysis.

The ability to master and process modern knowledge.

Understanding the peculiarities of working with children of different ages.

The ability to make decisions when studying the discipline "Fundamentals of pediatric gastroenterology, pulmonology and nephrology"

## **The purpose of practical class**

Formation of students' professional competencies for achieving program learning outcomes by controlling the initial level of knowledge in the process of discussing theoretical issues and testing, performing practical tasks and conducting control of the final level of training in solving situational problems on diagnosis, treatment and prevention of diseases accompanied by wheezing, and foreign bodies in the respiratory tract in children

**Equipment:** PC with appropriate information support, reference materials, methodological recommendations, extracts from medical histories, a set of laboratory test results, manikin.

## **Lesson plan and organizational structure**

Stage name	Description of the stage	Levels of assimilation	Timing
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Prepa- ratory	<ul style="list-style-type: none"> <li>- Organizational issues</li> <li>- Learning motivation:</li> </ul> <p>Wheezing (wheezing, dry distant wheezing) is a common symptom in young children with BOS. Therefore, when the classic symptoms of respiratory tract obstruction, such as wheezing and/or wheezing, appear at first glance, for a clearer understanding of the cause of their occurrence, instead of the term "broncho-obstructive syndrome", it is recommended to use the world-wide term wheezing (wheezing syndrome).</p> <p><i>Control of the initial level of knowledge - test control and oral survey.</i></p> <p><b>Examples of test tasks:</b></p> <p><b>1. What respiratory viruses are the causative agents of episodic (viral) wheezing:</b></p> <p>A. Respiratory syncytial virus  B. Corona virus  C. Parainfluenza  D. Rhinovirus  E. All answers are correct</p> <p><b>2. A foreign body is usually located in the bronchi:</b></p> <p>A. In the upper part on the right  B. In the middle destiny  C. In the lower part on the right  D. In the upper left corner  E. In the upper lingual segment</p> <p><b>3. What drug is primarily prescribed for exacerbation of vision:</b></p> <p>A. Antihistamines  B. Systemic glucocorticoids  C. Cytostatic agents  D. Inhaled bronchodilators  E. All answers are correct</p> <p><b>4. To assess the state of the child's breathing, we perform the following actions:</b></p> <p>A. I hear  B. I see  C. I feel</p>	Introductory	15 min
		Reproductive	

	<p>D. All answers are correct</p> <p>E. All answers are incorrect</p> <p><b>5. List the clinical manifestations of a foreign body of the larynx:</b></p> <p>A. Acute onset</p> <p>B. Inspiratory shortness of breath, cyanosis</p> <p>C. Pronounced stridorous breathing</p> <p>D. Paroxysmal whooping cough.</p> <p>E. All answers are correct</p>		
Main	<p>Formation of professional competences:</p> <ul style="list-style-type: none"> <li>- demonstration of a thematic patient or review of extracts from medical histories of patients with diseases accompanied by wheezing, and foreign bodies in the respiratory tract</li> <li>- evaluation of the results of laboratory studies;</li> <li>- on the basis of anamnesis, data of a clinical examination and the results of laboratory studies, the establishment of a preliminary clinical diagnosis</li> <li>- determining of factors and pathogenetic mechanisms of disease development;</li> <li>- appointment of treatment and management of the disease;</li> </ul>	<p>Introductive</p> <p>Reproductive Creative</p> <p>Reproductive Creative</p> <p>Reproductive Creative</p>	100 min
Final	<p>Control of the final level of preparation</p> <p>Clinical cases</p> <p><b>Task 1.</b> A 2-year-old child became acutely ill, when the temperature rose to 37.5C, on the 3rd day, breathing difficulties appeared with prolonged exhalation with distant whistling. Cough is frequent and unproductive. Shortness of breath up to 50 breaths per minute with the participation of auxiliary muscles, blowing the wings of the nose. With percussion - a box tone of the percussion tone. During auscultation, a mass of dry distant rales with a whistle is heard against the background of prolonged exhalation. In X-ray examination of the lungs, the horizontal location of the ribs, increased transparency of the lung fields, flattening of the dome of the diaphragm, strengthening of the lung pattern. What is the</p>	Creative	20 min

	<p>child's previous diagnosis? Prescribe a treatment plan.</p> <p><b>Answer standard</b></p> <p>Acute obstructive bronchitis. AOB episodes are characterized by occurrence during ARVI, gradual development with an increase in body temperature. Treatment: <math>\beta_2</math> adrenomimetics, vibration massage</p> <p><b>Task 2.</b> Girl 9 months old girl and her older brother in the emergency room with an old necklace, suddenly one of the nurses brought you a girl, she has difficulty breathing, mainly inhalation. Your actions?</p> <p><b>Answer standard</b></p> <p>Place the baby on your arm or on your thigh with its head down. Strike (sliding strokes/movements) 5 times on the child's back in the middle part with the base of the palm. If the obstruction persists, turn the child over and press 5 times with a jerking motion of two fingers on his chest in the lower third of the sternum. If the obstruction persists, check the child's mouth for an obstruction that can be removed. If necessary, repeat the entire procedure sequentially, starting with tapping on the back</p> <p><b>Task 3.</b> The boy is 4 years old. Complaints of the mother about cough after the acute respiratory viral infection. The disease began after an increase in body temperature, headache, dry cough, which after a few days became wet. Cough increased in the morning, accompanied by difficult exhalation. On examination: a condition of moderate severity. Pronounced paleness of the skin, lacrimation, rhinorrhea. Cough wet, frequent. Above the lungs, a box tone of the lung sound. Auscultatively - scattered dry whistling rales against the background of prolonged exhalation. The tones of the heart are muffled, rhythmic. Abdomen is soft, painless. The liver +1.5 cm below the edge of the costal arch, the edge is elastic, painless. Defecation - without deviations. When carrying out X-ray of the organs of the chest cavity -</p>		
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	strengthening and enrichment of the lung pattern. Establish a preliminary diagnosis. <b>Answer standard</b> ARVI. Acute obstructive bronchitis. RF 0		
	General assessment of educational activity		

### Recommended Books

1. Nelson Textbook of Pediatrics, 2-Volume set, 21-th edition. By Robert M. Kliegman, Bonita M.D. Stanton, Joseph St. Geme and Nina F Schor. – Philadelphia, PA : Elsevier Inc., 2020 - 4264 p. (pp. P. 2211-2213, 2217-2220) ISBN-10 : 032352950X ISBN-13 : 978-0323529501
2. Pediatrics : textbook / O. V. Tiazhka, T. V. Pochinok, A. M. Antoshkina [et al.] ; edited by O. Tiazhka. – 3 rd edition, reprint. – Vinnytsia : Nova Knyha, 2018. – 544 pp. (pp. 245-265, 511-528) : il. ISBN 978-966-382-690-5

### Additional

1. GINA Pocket Guide 2019  
<https://ginasthma.org/wp-content/uploads/2019/04/GINA-2019-main-Pocket-Guide-wms.pdf>

### Questions for student self-preparation for practical classes

1. To define visage, multitrigger wheezing and episodic viral wheezing.
2. Classification of foreign bodies of the respiratory tract.
3. Algorithm of examination of the patient during wheezing.
4. Clinical picture when a foreign body enters the respiratory tract
5. Assessment of the patency of the respiratory tract when a foreign body enters
6. Treatment of exacerbation of wheezing.
7. Basic therapy for wheezing in children.
8. Emergency care for aspiration of a foreign body in infants.
9. Emergency care for aspiration of a foreign body in older children.
10. Differential diagnosis of wheezing.
11. Algorithm for providing assistance in the case of a foreign body in the respiratory tract during loss of consciousness.
12. Indications for oxygen therapy.
13. Methods of supplying oxygen, technique of installation of air ducts
14. List the signs of severe respiratory failure.

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