

BOHOMOLETS NATIONAL MEDICAL UNIVERSITY

**GUIDELINES
for lecture**

« The most common congenital heart defects in children »

Academic discipline

«Pediatrics, including medical practice (professional training) childhood diseases»

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

Considered and approved by: Cyclic methodological commission for pediatric disciplines
dated 29 August 2024, protocol No 1

Competencies that are formed during the lecture:

skills of survey and clinical examination of a child with pathology of the organs of the cardiovascular system. The ability to determine the necessary list of laboratory and instrumental studies and evaluate their results in the pathology of the heart and blood vessels in children. Ability to establish a preliminary and clinical diagnosis of heart and blood vessel disease in children. The ability to determine the necessary tactics of managing a patient with congenital heart and blood vessel defects in children.

The purpose of the lecture:

formation of skills and application of knowledge from the lecture "Congenital heart defects in children" (CHD), by familiarizing students with modern views on the problem for the further education of the student and in the professional activity of a doctor.

Equipment: lecture hall with acoustic amplification, equipment (tablets, laptops, stands for modeling).

The task of the lecture:

- 1) provide information about the cardiovascular system; stages of embryogenesis of the cardiovascular system; peculiarities of blood circulation in the fetus and newborn; terms of closure of fetal vascular communications;
- 2) Consider the etiology of CHD in children and the dependence of its formation on the period of gestation and the effect of a teratogenic factor on the fetus; the natural course of HF, mechanisms of compensation, classification of pulmonary hypertension, terms of mortality in the natural course of HF;
- 3) Familiarize with the modern classification of congenital malformations of the heart and blood vessels; acyanotic heart defects: - with volume overload of the small circulatory circle (left-right shunts: ventricular septal defect (VSD), atrial septal defect (ASD), open aortic duct (PDA); congenital heart defects acyanotic due to pressure overload (stenosis pulmonary artery, coarctation of the aorta, stenosis of the aortic valves); cyanotic: with a decrease in pulmonary blood circulation: tetrad of Fallot; cyanotic: with an increase in pulmonary blood circulation: transposition of the main vessels; hemodynamic changes in the listed defects of the heart and blood vessels.
- 4) Lecture plan:

Lecture plan

The name of the stage	Description of the stage	Levels of assimilation	Timing
1. The introductory part	- announcement of the plan and main issues of the lecture - motivation for studying the topic	*	5 min
2. The main stage	- teaching material, explanation, connection with practice;	* **	80 min

3. The final stage	- summing up - general conclusion; methodical advice, answers to questions; - tasks for independent work;	*	5 min
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* Introductory, **Reproductive, *** Reconstructive, **** Creative levels of assimilation.

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. (2340-2421)
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. 321-353) : il. ISBN 978-966-382-690-5

Additional:

1. Coarctation of the Aorta - Syamasundar Rao Patnana, MD; Chief Editor: Stuart Berger, MD, <https://emedicine.medscape.com/article/895502-overview>
2. Muscular Ventricular Septal Defect Michael D Taylor, MD, PhD; Chief Editor: Stuart Berger, MD, <https://emedicine.medscape.com/article/899873-overview>
3. Ostium Primum Atrial Septal Defects - Shannon M Rivenes, MD; Chief Editor: Syamasundar Rao Patnana, MD
<https://emedicine.medscape.com/article/890880-overview>
4. Ostium Secundum Atrial Septal Defects Ira H Gessner, MD; Chief Editor: Syamasundar Rao Patnana, MD <https://emedicine.medscape.com/article/890991-overview>
5. Patent Ductus Arteriosus (PDA) Luke K Kim, MD; Chief Editor: Stuart Berger, MD
<https://emedicine.medscape.com/article/891096-overview>
6. Pediatric Valvar Aortic Stenosis Howard S Weber, MD, FSCAI; Chief Editor: Syamasundar Rao Patnana, MD
<https://emedicine.medscape.com/article/894095-overview>
7. Tetralogy of Fallot With Pulmonary Atresia Michael D Pettersen, MD; Chief Editor: Howard S Weber, MD, <https://emedicine.medscape.com/article/899368-overview>

Questions for student self-preparation for the lecture

1. List the most frequent complications of tetralogy of Fallot.
2. Increased pulsation of the veins of the neck occurs in which malformations of the heart and blood vessels?

Questions for preparing for the current control, which the lecture material reveals:

1. Classification of congenital heart defects in children
2. Hemodynamic disturbances in cyanotic heart disease with reduced pulmonary circulation - tetralogy of Fallot.

Methodical development is completed by

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