

MINISTRY OF HEALTH OF UKRAINE  
ODESA NATIONAL MEDICAL UNIVERSITY

Faculty: international

*(faculty name)*

Department of Pediatrics

*(name of department)*

APPROVED

Vice-rector for scientific and educational work

Eduard **BURIACHKIVSKYI**

" 01 "

09

2024

METHODICAL RECOMMENDATION  
FOR PRACTICAL LESSON  
FROM THE EDUCATIONAL COMPONENT

Faculty international, course 5 \_\_\_\_\_

Educational component - "PEDIATRICS"

*(name of the educational component)*

Approved:

Meeting of the Department of Pediatrics \_\_\_\_\_  
Odesa national medical university

Protocol № 1 of " 29 " 08 2024

Head of the department \_\_\_\_\_ (Mykola ARYAYEV)  
*(signature)* *(name, surname)*

Перезатверджено:

Засідання кафедри педіатрії

Одеський національний медичний університет

Протокол № 1 від 26 08 2025 р.

Завідувач кафедри  Микола АРЯЄВ

**Developers:**

*(indicate surnames, scientific degrees, scientific titles and positions of developers; all those who teach the specified academic discipline must be among the developers)*

*Associate professors PhD: Larysa KAPLINA, Victor BIRYUKOV, Lyudmila Lyudmila SENKIVSKA, Maxim FEDIN., Roman PAPINKO, Doctor of Philosophy associate professor Daria Kolomiets, assistant PhD, Vera KOROPETS, assistant Liubov BRATKOVA*

*Note.*In the case of publication of methodological developments as an independent printed work, the academic council of the faculty provides a recommendation for publication in the presence of two reviews, one of which is external — from a reviewer of another institution of higher education.

## PRACTICAL LESSONS

### Content module № 1 "The most common diseases of newborns".

*Practical lesson №1,2*

**Topic 1: Organization of neonatal care in Ukraine. Premature babies. Children with intrauterine growth retardation.**

*Practical lesson №3,4*

**Topic 2: Asphyxia of a newborn. Birth trauma.**

*Practical lesson №5,6*

**Topic 3: Diseases of respiratory organs.**

*Practical lesson №7,8*

**Topic 4: Hemolytic disease of the newborn (HDN). Hemorrhagic disease of newborns.**

*Practical lesson №9,10*

**Topic 5: Intrauterine infections and bacterial infections and sepsis of newborns.**

**Goal:** Acquisition by the applicant of higher education of knowledge and formation of elements of professional competences in the field of pediatrics from the neonatology unit.

**Topic 1.** Organization of neonatal care in Ukraine. Medical care for a healthy newborn baby. Premature babies. Children with intrauterine growth retardation. Criteria for determining prematurity. Peculiarities of adaptation of prematurely born children. Emergency care for the main emergency conditions in premature newborns: hypothermia, respiratory failure, hypoglycemia

**Topic 2.** Asphyxia of a newborn. Birth trauma.

**Topic 3** Respiratory diseases.

**Topic 4.** Hemolytic disease of newborns (HDN). Hemorrhagic disease of newborns.

**Topic 5.** Intrauterine infections and bacterial infections and sepsis of newborns.

#### **Basic concepts:**

**Topic 1.** Determining the volume of neonatal care in Ukraine. Classification of premature babies according to birth weight and the ratio of physical development and gestational age. Assessment of morphological and neuro-functional maturity of prematurely born children (according to the Ballard scale). Principles of raising premature babies. Peculiarities of feeding premature babies.

Intrauterine growth retardation: causes, postnatal diagnosis, features of early neonatal adaptation. Emergency care for the main emergency conditions in premature newborns: hypothermia, respiratory failure, hypoglycemia.

**Topic 2.** Establishing a neonatal diagnosis of asphyxia: etiology, pathogenesis,

classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Algorithm of primary resuscitation of newborns. Definition of etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. with birth trauma.

**Topic 3.** Establishing a neonatological diagnosis in diseases of the respiratory organs. Respiratory distress syndrome of newborns: etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Pneumonia of newborns: etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis.

**Topic 4.** Establishing a neonatological diagnosis in hemolytic disease of the newborn (HCN). Etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Determination of the neonatological diagnosis of hemorrhagic disease of newborns. Etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis.

**Topic 5. Intrauterine infections and bacterial infections and sepsis of newborns**

TORCH-infections of newborns: etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Purulent-inflammatory diseases of the skin and subcutaneous fat of newborns, diseases of the umbilical cord, umbilical wound and umbilical vessels: classification, etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Neonatal sepsis: definition, classification, etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis.

**Equipment:** a dummy of a newborn child, a newborn patient according to the subject of the lesson (upon availability).

**The duration of each class is 2 hours**

**Plan:**

1. Organizational activities (greetings, verification of those present, announcement of the topic, purpose of the lesson, motivation of higher education seekers to study the topic).

2. Control of the reference level of knowledge:

**Topic 1. Organization of neonatal care in Ukraine.**

Organization of neonatal care in Ukraine. Issues of bioethics in modern neonatology. Medical care for a healthy newborn baby. Premature babies. Criteria for determining prematurity. Peculiarities of adaptation of prematurely born children. Etiological factors of prematurity. Anatomical and physiological features.

Classification of premature babies according to birth weight and the ratio of physical development and gestational age. Assessment of morphological and neuro-functional maturity of prematurely born children (according to the Ballard scale). Principles of raising premature babies. Peculiarities of feeding premature babies.

Intrauterine growth retardation: causes, postnatal diagnosis, features of early neonatal adaptation. Emergency care for the main emergency conditions in premature newborns: hypothermia, respiratory failure, hypoglycemia.

## **Topic 2. Asphyxia of a newborn. Birth trauma**

Asphyxia of the newborn: etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Primary resuscitation of newborns. Birth injury: etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis.

## **Topic 3. Diseases of respiratory organs**

Respiratory distress syndrome of newborns: etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Pneumonia of newborns: etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis.

## **Topic 4. Hemolytic disease of newborns (HDN). Hemorrhagic disease of newborns.**

Hemolytic disease of newborns: etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis.

Hemorrhagic disease of newborns: etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis.

## **Topic 5. Intrauterine infections and bacterial infections and sepsis of newborns**

TORCH-infections of newborns: etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Purulent-inflammatory diseases of the skin and subcutaneous fat of newborns, diseases of the umbilical cord, umbilical wound and umbilical vessels: classification, etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Neonatal sepsis: definition, classification, etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis.

**Formation of professional skills and abilities (mastery of communication skills, clinical examination, determination of treatment regimen, laboratory research, etc.) mastering skills:**

1. Survey, examination and clinical examination of a premature newborn child.
2. Evaluation of a premature baby according to the Ballard scale.
3. Survey, examination and clinical examination of a newborn child with intrauterine growth retardation.
4. Survey, examination and clinical examination of a newborn child born with asphyxia.
5. Estimates of the degree of asphyxia according to the Apgar scale.
6. Implementation of the newborn resuscitation algorithm.
7. Survey, examination and clinical examination of a newborn child with birth trauma.
8. Survey, examination and clinical examination of a newborn child for diseases of the respiratory organs.
9. Assessment of respiratory disorders according to the Dovnes and Silverman scale.
10. The technique of conducting respiratory therapy for asphyxia and diseases of the respiratory organs.
11. Survey, examination and clinical examination of a newborn child with hemolytic and hemorrhagic diseases of newborns.
12. Evaluation of hyperbilirubinemia according to the Kramer scale.
13. The technique of replacement blood transfusion in hemolytic disease of newborns.

14. Assessment of laboratory and instrumental research data necessary for diagnosis and differential diagnostics for asphyxia and birth trauma, respiratory diseases, hemolytic and hemorrhagic diseases in newborns, intrauterine infections, bacterial infections and sepsis.
15. Solving clinical situational problems, practicing patient examination skills, demonstrating and practicing the skills of performing manipulations according to list 5, training and practicing skills on simulation dummies, training exercises on the diagnosis of the most common neonatal diseases in children.

**Summing up:** testing, differential assessment (at the end of the module).

**List of recommended literature** (main, additional, electronic information resources):

**Main:**

1. Nelson Textbook of Pediatrics, 2-Volume Set, 22nd Edition, 2024. Robert M. Kliegman, Joseph W. St. Geme III, Nathan J. Blum, et al.
2. Nelson textbook of pediatrics, 2 volume set. Edition: 21st, 2019. PDF format. <http://pediacalls.com/e-books/nelson-textbook-of-pediatrics-21st-edition/>
3. Nelson Pediatric Antimicrobial therapy. 2022  
URL: <https://apps.apple.com/ru/app/nelson-pediatric-abx-2022/id1611269134>
4. Nelson textbook of pediatrics with access code 2 vol set 22ed (hb 2025) (25 April 2024); Elsevier <https://www.amazon.in/NELSON-TEXTBOOK-PEDIATRICS-ACCESS-CODE/dp/0323883052>
5. Neonatology: textbook: in 3 volumes / [Vol. K. Znamenska, Y. G. Antipkin, M. L. Aryaev, etc.] ; under the editorship T. K. Znamenskaya. – Lviv: Publisher Marchenko TV. 2020, T1. 407 s; T2 .455 p.; T3. 379 p

**Additional:**

1. Unified clinical protocol of secondary (specialized), tertiary (highly specialized) medical care "Respiratory distress syndrome in premature babies", NAMNU, Association of Neonatologists of Ukraine, State Expert Center of the Ministry of Health of Ukraine, 2018. - 116 p.
2. Unified clinical protocol of secondary (specialized), tertiary (highly specialized) medical care "Enteral nutrition of premature infants", NAMNU, Association of Neonatologists of Ukraine, State Expert Center of the Ministry of Health of Ukraine, 2017. - 66 p.
3. Jaundice in newborns, an evidence-based clinical guideline. Ministry of Health of Ukraine, State Enterprise "STATE EXPERT CENTER OF THE MINISTRY OF HEALTH OF UKRAINE, 2023 <https://www.dec.gov.ua/mtd/home>
4. PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV AN ADAPTED EVIDENCE-BASED CLINICAL GUIDELINE. [https://www.dec.gov.ua/wp-content/uploads/2019/11/2016\\_449\\_akn\\_prof\\_vil.pdf](https://www.dec.gov.ua/wp-content/uploads/2019/11/2016_449_akn_prof_vil.pdf)

**Electronic information resources:**

1. <http://moz.gov.ua>– Міністерство охорони здоров'я України
2. [www.ama-assn.org](http://www.ama-assn.org) – Американська медична асоціація / American Medical Association
3. [www.oapn.od.ua](http://www.oapn.od.ua)- ГО "Одеська Асоціація лікарів-педіатрів та неонатологів"
4. [www.who.int](http://www.who.int) – Всесвітня організація охорони здоров'я
5. [www.dec.gov.ua/mtd/home/](http://www.dec.gov.ua/mtd/home/) - Державний експертний центр МОЗ України
6. <http://bma.org.uk>– Британська медична асоціація
7. [www.gmc-uk.org](http://www.gmc-uk.org)- *General Medical Council (GMC)*
8. [www.bundesaerztekammer.de](http://www.bundesaerztekammer.de) – Німецька медична асоціація
9. [https://www.who.int/workforcealliance/members\\_partners/member\\_list/ipa/en/](https://www.who.int/workforcealliance/members_partners/member_list/ipa/en/) - Міжнародна асоціація педіатрів / International Pediatric Association (IPA).
10. [https://ginasthma.org/wp-content/uploads/2024/05/GINA-2024-Strategy-Report-24\\_05\\_22\\_WMS.pdf](https://ginasthma.org/wp-content/uploads/2024/05/GINA-2024-Strategy-Report-24_05_22_WMS.pdf) GINA Global Initiative For Asthma. 2024
11. [https://kdigo.org/wp-content/uploads/2017/02/KDIGO-2021-Glomerular-Diseases-Guideline\\_English\\_LN-2024-Update.pdf](https://kdigo.org/wp-content/uploads/2017/02/KDIGO-2021-Glomerular-Diseases-Guideline_English_LN-2024-Update.pdf) KDIGO 2021 Clinical Practice Guideline for the Management of Glomerular Diseases
12. <https://aamsmedacademy.com/> American Academy of Medical Sciences (AAMS)
13. <https://nam.edu/> The National Academy of Medicine (NAM)
14. <https://cutt.ly/utqqt7I> Підручник Нельсона з педіатрії - електронна книга Elsevier на VitalSource, 21-ше видання
15. <https://www.amazon.com/Averys-Neonatology-Pathophysiology-Management-Pathophusiology/dp/1451192681>