

## **CHARACTERISTICS OF THE NEONATAL PERIOD**

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

## **ОСОБЛИВОСТІ ПЕРІОДУ НОВОНАРОДЖЕНОСТІ**

**З дисципліни «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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**Харків**  
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Compiled by: Klymenko V.A.  
Sirenko T.V.  
Yanovska K.O.

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Упорядники: Клименко В.А.  
Сіренко Т.В.  
Яновська К.О.

**Number of class periods:** independent work– 3;  
practical trainings – 4.

### **Contents**

The course of the neonatal period defines not only adaptation of a child to new living conditions but also programs health parameters for the whole life. The basis of understanding of the neonatal period is knowledge of peculiarities of a newborn child and transient states. Aspects of care and nutrition of a newborn child should be particularly underlined.

### **Specific goals**

#### **To know:**

1. What do you understand by the term “newborn child”?
2. Physiological and transient states of the neonatal period.
3. Conception of maturity of a newborn child.
4. Signs of prematurity.
5. Primary hygienic care and patronage of a newborn child. Care of a newborn child.
6. Characteristic of investigational methods of a newborn child.
7. Vaccination against tuberculosis and hepatitis B.
8. Sanitary and hygienic conditions in neonatal departments.

#### **Be able to (list of practical skills):**

1. Collection of the medical history of a newborn child.
2. Evaluation of the state of a newborn child using Apgar score and Silverman score.
3. Determination of the maturity of a newborn child, maturity or prematurity.

4. Carry out anthropometric measurements, assessment of the physical development.
5. Carry out clinical examination of a newborn child.
6. Determination of transient states of newborn children.
7. Identification of high-risk newborn children (according to their medical history).
8. Carry out the primary hygienic care of newborn children.
9. Hygienic care of a newborn child (cleaning of eyes, ears, nasal passages, skin, mucus membranes, swaddling, feeding from the bottle, bathing).
10. Maintenance of the sanitary and hygienic conditions in the neonatal department.

**Basic knowledge, practices and skills necessary for the topic (interdisciplinary integration).**

Names of previous branches of learning	Acquired skills
1. General physiology	Knowledge of characteristics of organs and body systems functioning.
2. General anatomy	Knowledge of organs and body systems. Meaning of some anatomical features of the children's body for organization of the children's care.
3. Introduction to psychology. Introduction to pedagogics.	Analysis of patient's emotions, interpersonal relationships, children's behavior.

**Control questions to the lesson:**

1. What the term "gestation age" means?

2. What the terms “mature, premature and overmature newborn child” mean?
3. List the signs of maturity, prematurity and overmaturity.
4. What the term “low weight at the birth” means?
5. Characterize the physical development of a newborn child.
6. What do you know about the physiology of the cardiovascular system of a newborn child (the transition from the intrauterine to the postnatal circulation, specific features)?
7. What do you know about the physiology of the respiratory system of a newborn child  
(mechanism of the first breath, physiological tachypnea, abdominal type of breathing)?
8. What do you know about the physiology of the digestive system of a newborn child: (beginning of the enteral feeding, forming of the biocoenosis of the gastrointestinal tract)?
9. What do you know about the physiology of the urinary system of a newborn child: (physiological proteinuria, uric acid infarct of kidneys)?
10. What do you know about transient states of a newborn child (syndrome of a just born child (imprinting), transient hyperventilation, transient circulation, transient disbacteriosis, toxic erythema, transient lost of the primary body weight, uric acid infarct, transient hyperbilirubinemia, increased erythrogenesis, transient lymphocytolysis, insufficiency of the K vitamin-dependent blood coagulation factors, transient hypoglycemia, transient oliguria, proteinuria, sexual crisis, transient immunodeficiency).
11. List the characteristics of the clinical examination of a newborn child:
  - questioning;
  - visual inspection;
  - palpation;
  - percussion;
  - auscultation.

12. What is the purpose of Apgar score and Silverman score?
13. Which special features has care of a newborn child?
14. What the term “high-risk newborn” means?
15. How to feed a newborn child?
16. According to which order the sanitary and hygienic conditions in the neonatal department are complied?
17. Which are the requirements to the sanitary and hygienic conditions in the neonatal department?
18. At which age should be done vaccination against tuberculosis and hepatitis B.

**Graphical structures of individual issues of the topic.**

1. Graphological structure to the topic “Newborns”
2. Determinations of adaptation of the newborn.
3. Apgar score.

**Tests for self-control:**

1. Early neonatal period lasts:
  - A. first day of life of a child
  - B. first 7 hours of life
  - C. first 8 days of life
  - D. first 10 days of life
  - E. first 42 hours of life
2. To functional signs of prematurity belong:
  - A. umbilicus is lower than an average point of the body;
  - B. decreased muscular tonus
  - C. underdevelopment of nails
  - D. prevalence of the brain part of the skull over the facial part of the skull
  - E. divergence of rectus abdominis muscles
3. To transient states of a newborn child belong:
  - A. erythema of newborn children

- B. anaemia of newborn children
- C. pemphigus of newborn children
- D. mastitis of newborn children
- E. asphyxia of newborn children

4. Mature newborn child has:

- A. cyanotic skin
- B. skin of pink colour
- C. lanugo over the whole body, no hair on the head
- D. subcutaneous fat is increased
- E. auricle cartilages and nose cartilages are dense

5. The state of a newborn child is evaluated as moderately severe if it was assessed according to Apgar score as :

- A. score from 3 to 5
- B. score from 8 to 10
- C. score from 1 to 3
- D. score from 4 to 6
- E. score from 10 to 12

6. Immediately after the birth, the state of a newborn child is being assessed according to the score:

- A. Willebrand
- B. Apgar
- C. Silverman
- D. Shalkov
- E. Kisel-Johnson

7. Physiological decrease of body weight of a newborn child constitutes:

- A. 1-2%
- B. 3-4%
- C. 6-8%
- D. 11-12%



E.14-20%

8. To signs of maturity belong:
- A. development of subcutaneous fat
  - B. frequency of breathing
  - C. number of defecations
  - D. heart beat frequency
  - E. frequency of urinations
9. Sexual crisis of a newborn child is manifested by:
- A. obstruction of sebaceous glands
  - B. swelling of mammary glands
  - C. swelling of the face
  - D. fever
  - E. protein in urine
10. What is the name of the period of childhood from 28 weeks of gestation till the 7<sup>th</sup> days of life:
- A. prenatal
  - B. intranatal
  - C. postnatal
  - D. perinatal
  - E. neonatal
11. What is not typical for the healthy newborn child during first days after the birth:
- A. decrease of the initial weight by 6%;
  - B. general hyperaemia of skin
  - C. jaundice on the third day
  - D. swelling of mammary glands
  - E. absence of the sucking reflex
12. At the birth, the skin of a healthy newborn child is covered by:

- A. vernix caseosa
- B. impetigo
- C. naevus vasculosus
- D. seborrhoea
- E. acne vulgaris

**Task for the individual student's work:**

Prepare a report on the topic: "Premature babies "

**Reference responses at the test questions:**

1- C; 2- B; 3- A; 4- B; 5- D; 6- B; 7- C; 8- A; 9- B; 10- D, 11- E; 12-A

**List of learning literature:**

**Basic literature:**

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 diseases and nursing of the child / T. Kapitan. – The state cartographical factory, 2006. – 734p.
3. Lecture.

**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, 8<sup>th</sup> 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.

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**

**Graphological structure to the topic  
“Newborns”**

**Appendix 1**

The initial assessment of the newborn in the delivery room (at 1 minute after birth). Algorithm of assessment

Breathing	Normal	Not regular absent	Normal	Normal
Body weight Term of gestation	> 2500 > 37 weeks	> < 2500 > < 37 weeks	< 2500 > < 37 weeks	> < 2500 > < 37 weeks
Heartbeat	If the child is crying, breathing, muscle tonus is normal, heart beat rate not be counted	< 100/min	>100/min	>100/min
Congenital anomaly of development/ birth trauma	Absent	Absent	Absent	Present
Diagnosis	Healthy child	Asphyxia	How birth weight at birth	Congenital anomaly of development / birth trauma

## Determinations of adaptation of the newborn

## Appendix 2

Signs	Norm's limit
Heart beat rate	100-160 beats/min
Breathing rate	30-60/min
Color of skin	Pink, cyanosis is absent
Movements	Active
Muscles tone	Satisfactory
Temperature of newborn	36.5° – 37.5° C

### Appendix 3. Apgar score.

SIGNS	SCORE		
	0	1	2
Color of the skin	White or cyanotic	Pink, extremities are bluish	Pink
Heartbeats	Absent	Less than 100 per minute	More than 100 per minute
Breathing	Absent	Singular respiratory movements	Good, cry
Muscular tonus	Absent	Decreased	Active movements
Refractory excitation	Absent	Grimace or movements	Movements, loud cry

*Навчальне видання*

**ОСОБЛИВОСТІ ПЕРІОДУ НОВОНАРОДЖЕНОСТІ**

Упорядники: Клименко Вікторія Анатоліївна  
Сіренко Тетяна Вадимівна  
Яновська Катерина Олександрівна

Відповідальний за випуск: Клименко В.А.

Комп'ютерна верстка

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