

INTERNATIONAL HIGHER SCHOOL OF MEDICINE

DEPARTMENT PEDIATRICS

SYLLABUS


Discipline NEONATOLOGY

2022-2023 academic year
for students of medical faculty
3 course VI semester, groups ____
1,3 credits (50 h, including auditorial 24 h, independent work – 26 h)

Lecturer: Zholdosheva I.M.
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Venue: Str. Akhunbaeva 190, Neonatology department

The Syllabus is considered
at the meeting of the department of __Pediatrics__
Protocol № __8__ dated __14/06__ 2023
Head of the department 

Course Objective:

- to teach students to monitor the harmonious development of the child, to diagnose, treat and prevent the most common childhood diseases, taking into account the age-related anatomical, physiological, morphological and immunological characteristics of the growing child's body.
 - develop independent clinical thinking aimed at the effective use of the acquired knowledge in the provision of timely, medical and medical and social assistance to children of all age groups
- to develop in the trainee practical skills of hospital and out-of-hospital diagnosis of common diseases and the provision of medical care to children.

Knowledge:

- Principles of organization of the treatment and diagnostic process
- Definition of nosological units
- Epidemiology and etiological factors leading to the development of the disease
- Pathomorphology and pathogenesis of the development of the disease
- The main clinical manifestations of the disease
- Criteria for diagnosis and differential diagnosis of the disease
- Basic principles of etio-pathogenetic therapy
- Forecast and prevention diseases

Be able to:

- Purposefully collect an anamnesis of the life and illness of the child in compliance with ethical principles and norms.
- Assess the psychosomatic development of the body.
- Determine deviations in the objective state of the child in the age aspect, depending on the nosological unit.
- Make a plan for examining the patient in accordance with the nosology.
- Interpret clinical results of laboratory, biochemical, immunological, electrophysiological, functional, radiological and other instrumental research methods
- Conduct differential diagnosis
- Determine the patient's treatment plan
- Prescribe, monitor, adjust and evaluate individualized patient therapy
- Determine a set of preventive, dispensary and rehabilitation measures
- Prepare medical documentation as required

Own:

- Medical skills of research and assistance to patients in accordance with nosology, including the skills of urgent, emergency (resuscitation) measures

Attitude: to inform and demonstrate understanding of questions

Pre-requisites:

- Anatomy (macro- microanatomy)
- pathological anatomy
- Topographic anatomy
- normal physiology
- pathological physiology
- Biochemistry
- Microbiology, virology and immunology
- Basic pharmacology
- Bioethics

Post-requisites:

- Childhood diseases
- Pediatric surgery
- Children's infectious diseases
- Pediatric neurology
- Family medicine
- Medical genetics
- About public health

THEMATIC PLAN OF LECTURES

№	Lecture	Hours	Date
1.	Introduction to neonatology	2	
2.	Intrauterine hypoxia	2	
3.	Birth trauma of newborns	2	
4.	Neonatal hyperbilirubinemia	2	
5.	Neonatal sepsis	2	
6.	Intrauterine infection of the fetus and newborn	2	
	Total	12	

THEMATIC PLAN OF PRACTICAL CLASSES

№	Theme of practical class	Hours	Date
1.	Examination of newborns	2	
2.	Asphyxia. Neonatal resuscitation	2	
3.	Birth trauma of newborns	2	
4.	Neonatal hyperbilirubinemia	2	
5.	Intrauterine infection of the fetus and newborn	2	
6.	Neonatal sepsis. Module	2	
	Total	12	

THEMATIC PLAN OF INDEPENDENT WORK OF STUDENTS

№	Theme of independent work	Hours	Date
1.	The main causes of prematurity. The modern artificial surfactant and its role in prophylaxis and treatment of respiratory disorders of the newborn	4h	
2.	Congenital and hereditary hyperbilirubinemias;	4h	
3.	Hereditary coagulopathies. Complications of early- and late-onset hemorrhagic disease of the newborn	4h	
4.	Total	12h	

Recommended reading for the discipline:

Basic:

N o	Authors	Title	The year of publishing	publishing house	Availability in the IHSM library (number)
1.	Kliegman RM, Geme III JW	Nelson textbook of pediatrics. Vol.1.-21th ed.	2020	9 996 128 296	50
2.	Ghai OP, Paul VK, Bagga A.	Essentials of pediatrics.-8th ed.	2013	978-81-239-2334-5	9
3.	Rafikova S., Alekseev V.	Children's Nutritional Abnormalities	2013	978-9967-27-179-1	109
4.	Alekseev.V., Starodubetz.U., Isakova F.	Introduction to Pediatrics: Compendium for foreign student	2012	978-9967-26-670-4	342
5.	Ghai OP, Paul VK, Bagga A.	Essentials Pediatrics.- 6th ed.	2005	81-239-1163-7	94
6.	Behraman RE	Nelson essentials of pediatrics. -4th ed.	2002	0-7216-9406-3	12
7.	Nelson., Richard E. Berhman, Robert M. Kliegman	Essentials of Pediatrics	2000	4th	12
8.	William W. Hay Jr, et al By McGraw	Current Pediatric Diagnosis & Treatment	2002	16th Ed	http://library.ism.edu/kg/Online_Library/eBookDetails.asp

					x?id=57
9.	Kenneth B Roberts MD By Lippincott Williams & Wilkins Publishers	Manual of Clinical Problems in Pediatrics	October 2000	5th edition	http://library.ism.edu/kg/Online_Library/eBookDetails.aspx?id=230
10	Pervez Akber Khan	"Basis of Pediatrics"	2000	7th -E d -	https://ketabton.com/book/14837

Additional:

1. Kattwinkel J (ed). Textbook of Neonatal Resuscitation, 4th Edition. 2000, Elk Grove Village, IL: American Academy of Pediatrics, American Heart Association..
2. Niermeyer S, et al. International Guidelines for Neonatal Resuscitation: An Excerpt From the Guidelines 2000 for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care: International Consensus on Science. Pediatrics 2000; 106(3):E29.
3. O.P. Ghai. Essential Pediatrics- 6th Edition 2004 y.
4. Nelson. Essentials of Pediatrics / Richard E. Berhman, Robert M. Kliegman – 4th ed.2002
5. Case Based Pediatrics For Medical Students and Residents/Department of Pediatrics, University of Hawaii John A. Burns School of Medicine, 2003
6. Pervez Akber Khan "Basis of Pediatrics» 7thed. P. 507 – 556
7. Essentials of neonatology , 2015
8. Essentials of Pediatrics 2nd Edition, Kumar Clark, p.247
9. <http://emedicine.medscape.com>
10. <http://www.aap.org/en/learning/neonatal-resuscitation-program/nrp-skills-video>
11. <http://medline.com>
12. <https://www.occupationaltherapy.com/articles/understanding-primitive-reflexes-they-impact-5409-5409>

Grading policy and procedures for all types of work

For the period of studying the discipline, the student gains points for the relevant parameters (per unit):

current score - 40 points

independent work - 20 points

control score (final assessment of knowledge per unit) - 40 points

Maximum score - 100 (40+20+40)

Grading system for student's achievements

Criteria for grading for the discipline				
Maximum score	Intervals			
	"unsuccessful."	"satisfying ."	"Fine"	"Great"
Current control - 40	0-23	24-30	31-35	36-40
Interval Criteria	Does not complete the task, does not know and does not understand the lecture material or applying knowledge to the lesson, which prevents further assimilation of the program; cannot apply the acquired knowledge to solving situational problems, test questions. Does not answer teacher's questions Does not have practical skills when examining a patient	Performs the task not in full, has gaps in the assimilation of lecture material, has difficulty in applying knowledge to solving situational problems, test questions; does not fully and accurately answer the questions of the teacher. When examining a patient, he has poor practical skills	Completes the task in full, knows the lecture material, but sometimes makes mistakes when solving situational problems and test questions, understands the main content of the lecture material, gives correct answers to the teacher's questions. When examining a patient, he partially possesses practical skills	Completes the task in full, easily applies knowledge and skills in solving situational problems and test questions, rarely makes mistakes, gives complete and correct answers to the teacher's questions. When examining a patient, he has full practical skills
Independent work 20	0-11	12-14	15-17	18-20

Interval Criteria	Presentation, report, table, situational task are missing	The content of the presentation, report, tables correspond to the given topic, the sequence of presentation of theoretical issues is violated: etiology, pathogenesis, epidemiology, clinic, differential diagnosis, laboratory diagnosis, treatment and prevention	The content of the presentation, report, tables does not fully correspond to the given topic, the sequence of presentation of theoretical issues (etiology, pathogenesis, epidemiology, clinic, differential diagnosis, laboratory diagnosis, treatment and prevention) is not fully preserved. Situational tasks contain a little description of a clinical case	The content of the presentation, report, tables correspond to the given topic, the sequence of presentation of theoretical issues (etiology, pathogenesis, epidemiology, clinic, differential diagnosis, laboratory diagnosis, treatment and prevention) is fully preserved. Situational tasks contain a description of the clinical case in its entirety
Line control (module) - 40	0-23	24-30	31-35	36-40
Interval Criteria	Does not know the answers to test questions and situational tasks	Poor knowledge of answers to test questions and situational tasks	Knows well the answers to test questions and situational tasks	Knows the answers to test questions and situational tasks

Conduct Policy: (lateness, absence, behavior in the auditorium, late submission of work).

- Punctuality and completion of tasks.
- Mandatory attendance of classes.
- Attending class in a clean medical uniform.
- Eliminating conversations on a cell phone in the classroom.
- Active participation in the learning process.
- Doing homework on time.
- Academic detention at the time specified by the teacher.

For violations of the Conduct Policy, the total points for discipline might be reduced to 1-5 points.

Academic Ethics Policy.

- Be tolerant, respect the opinions of others.
- Formulate objections in the correct form.
- Constructively support feedback in all classes.
- Plagiarism and other forms of dishonest work are unacceptable. Plagiarism includes the following: the absence of references when using printed and electronic materials, quotes, thoughts and works of other authors or students.
- Prompting and cheating during tests, exams, classes is unacceptable as well as passing an exam for another student, unauthorized copying of materials.

For violations of the Academic Ethics Policy, the total points for the discipline may be reduced to 1-5 points.

Guidelines for the lessons of the discipline

Key questions covered in lesson #1. Examination of newborn

1. Definitions of following terms: newborn, term, preterm and post-term neonate, live and still-birth neonate, low-birth weight, very low-birth weight and extremely low-birth weight neonates.
2. Routine neonatal care after the birth.
3. Minor clinical problems in neonatal period.
4. Criteria of preterm neonate, main causes of preterm birth.
5. Prophylactic procedures in the maternity house (vaccination, vitamin K injection, screening programs in detection of congenital and hereditary disorders).

Recommended reading for this discipline:

1. Kattwinkel J (ed). Textbook of Neonatal Resuscitation, 4th Edition. 2000, Elk Grove Village, IL: American Academy of Pediatrics, American Heart Association..
2. Niermeyer S, et al. International Guidelines for Neonatal Resuscitation: An Excerpt From the Guidelines 2000 for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care: International Consensus on Science. Pediatrics 2000; 106(3):E29.
3. O.P. Ghai. Essential Pediatrics- 9th Edition 2019 y.

4. Nelson. Essentials of Pediatrics / Richard E. Berhman, Robert M. Kliegman – 4th ed.2002
5. Case Based Pediatrics For Medical Students and Residents/Department of Pediatrics, University of Hawaii John A. Burns School of Medicine, 2003
6. Pervez Akber Khan "Basis of Pediatrics» 7thed. P. 507 – 556
7. General observation of healthy term newborn. <https://www.youtube.com/watch?v=cracmPo3iYo>
<https://www.youtube.com/watch?v=xeKvIFn6wjA>

Key questions covered in lesson #2. Asphyxia. Neonatal resuscitation.

1. Apgar score, its place in diagnosing of neonatal asphyxia.
2. Main causes of low Apgar score, indication to newborn resuscitation.
3. Newborn resuscitation (ABCD), indications, technique, duration and possible complications.
4. Complications of neonatal asphyxia.
5. Features of resuscitation in case of meconium aspiration.

Recommended reading for this discipline:

1. Kattwinkel J (ed). Textbook of Neonatal Resuscitation, 4th Edition. 2000, Elk Grove Village, IL: American Academy of Pediatrics, American Heart Association..
2. Niermeyer S, et al. International Guidelines for Neonatal Resuscitation: An Excerpt From the Guidelines 2000 for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care: International Consensus on Science. Pediatrics 2000; 106(3):E29.
3. O.P. Ghai. Essential Pediatrics- 6th Edition 2004 y.
4. Nelson. Essentials of Pediatrics / Richard E. Berhman, Robert M. Kliegman – 4th ed.2002
5. Case Based Pediatrics For Medical Students and Residents/Department of Pediatrics, University of Hawaii John A. Burns School of Medicine, 2003
6. Pervez Akber Khan "Basis of Pediatrics» 7thed. P. 507 – 556
7. <https://www.glowm.com/resourcetype/resource/video/title/neonatal-resuscitation-%E2%80%93-maf/resource-doc/905>
<https://globalhealthmedia.org/videos/teaching-points-for-newborn-resuscitation/>

Key questions covered in lesson #3. Birth trauma

1. Definition of birth trauma, classification, epidemiology, etiology.
2. Cefalohematoma, etiopathogenesis, clinical presentations, differential diagnosis, management.
3. Birth traumas affecting of CNS, etiology, clinical presentation, periods of diseases, treatment.
4. Birth traumas affecting peripheral nervous system and SMS.
5. Birth trauma affecting internal organs.

Recommended reading for this discipline:

1. Kattwinkel J (ed). Textbook of Neonatal Resuscitation, 4th Edition. 2000, Elk Grove Village, IL: American Academy of Pediatrics, American Heart Association..
2. Niermeyer S, et al. International Guidelines for Neonatal Resuscitation: An Excerpt From the Guidelines 2000 for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care: International Consensus on Science. Pediatrics 2000; 106(3):E29.
3. O.P. Ghai. Essential Pediatrics- 6th Edition 2004 y.
4. Nelson. Essentials of Pediatrics / Richard E. Berhman, Robert M. Kliegman – 4th ed.2002
5. Case Based Pediatrics For Medical Students and Residents/Department of Pediatrics, University of Hawaii John A. Burns School of Medicine, 2003
6. Pervez Akber Khan "Basis of Pediatrics» 7thed. P. 507 – 556
7. <http://emedicine.medscape.com>
8. <http://medline.com>

Key questions covered in lesson #4. Hyperbilirubinemia

1. Features of bilirubin metabolism, causes of physiological jaundice.
2. Connection between the metabolism of bilirubin and methods of management of jaundice.
3. Differential diagnosis of jaundice in neonatal period.
4. Hemolytic disease, etiopathogenesis, clinical forms, diagnosis. Prophylaxis of hemolysis in case of rhesus-conflict pregnancy.
5. Hemorrhagic disease. Role of vitamin K.

Recommended reading for this discipline:

1. Kattwinkel J (ed). Textbook of Neonatal Resuscitation, 4th Edition. 2000, Elk Grove Village, IL: American Academy of Pediatrics, American Heart Association..

2. Niermeyer S, et al. International Guidelines for Neonatal Resuscitation: An Excerpt From the Guidelines 2000 for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care: International Consensus on Science. Pediatrics 2000; 106(3):E29.
3. O.P. Ghai. Essential Pediatrics- 6th Edition 2004 y.
4. Nelson. Essentials of Pediatrics / Richard E. Berhman, Robert M. Kliegman – 4th ed.2002
5. Case Based Pediatrics For Medical Students and Residents/Department of Pediatrics, University of Hawaii John A. Burns School of Medicine, 2003
6. Pervez Akber Khan "Basis of Pediatrics» 7thed. P. 507 – 556
7. <https://globalhealthmedia.org/videos/jaundice/>
<https://www.youtube.com/watch?v=rQ21vJmTDz4>

Key questions covered in lesson #5. Intrauterine infection.

1. Definitions of “congenital” and “perinatal” infections, the main difference in resources, ways of acquiring and causative organisms.
2. Clinical manifestations of congenital and perinatal infections depending on time of acquiring: rubella, herpes simplex, cytomegalovirus, toxoplasmosis, syphilis and HIV-infection.
3. The main methods of investigation in case of congenital and perinatal infections: detecting of viruses, microscopic, PCR, immunological methods, ultrasound and X-ray examination.
4. Prophylactic procedures. The main groups of medicine for treatment of congenital and perinatal infections: indications, dosage, possible side-effects.

Recommended reading for this discipline:

1. Kattwinkel J (ed). Textbook of Neonatal Resuscitation, 4th Edition. 2000, Elk Grove Village, IL: American Academy of Pediatrics, American Heart Association..
2. Compendium Neonatal Care 2nd Edition, Mary Low White
3. O.P. Ghai. Essential Pediatrics- 6th Edition 2004 y.
4. Nelson. Essentials of Pediatrics / Richard E. Berhman, Robert M. Kliegman – 4th ed.2002
5. Case Based Pediatrics For Medical Students and Residents/Department of Pediatrics, University of Hawaii John A. Burns School of Medicine, 2003
6. Pervez Akber Khan "Basis of Pediatrics» 7thed. P. 507 – 556

Key questions covered in lesson #6. Neonatal sepsis.

1. Neonatal sepsis: definition, early- and late-onset sepsis, the main causative organisms and clinical manifestation of early- and late-onset sepsis.
2. The main factors predisposing to sepsis. Features of the barrier and cellular immunity and immunological response in neonates.
3. Diagnostic criteria of neonatal sepsis: clinical and laboratory criteria.
4. Treatment of neonatal sepsis: etiological and supportive care.

Recommended reading for this discipline:

1. Kattwinkel J (ed). Textbook of Neonatal Resuscitation, 4th Edition. 2000, Elk Grove Village, IL: American Academy of Pediatrics, American Heart Association..
2. Niermeyer S, et al. International Guidelines for Neonatal Resuscitation: An Excerpt From the Guidelines 2000 for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care: International Consensus on Science. Pediatrics 2000; 106(3):E29.
3. O.P. Ghai. Essential Pediatrics- 6th Edition 2004 y.
4. Nelson. Essentials of Pediatrics / Richard E. Berhman, Robert M. Kliegman – 4th ed.2002
5. Case Based Pediatrics For Medical Students and Residents/Department of Pediatrics, University of Hawaii John A. Burns School of Medicine, 2003
6. Pervez Akber Khan "Basis of Pediatrics» 7thed. P. 507 – 556
7. <http://emedicine.medscape.com>
8. <http://medline.com>

Methodological instructions for the implementation of independent work on the discipline

Each student of group must prepare project of THE ONE THEME consisting of 10 slides with less text and in view pictures, scheme, charts

The first slide should include “IHSM”, “Department of pediatrics”, “the theme of presentation”, “the full name of the student”, group, semester, “the data of teacher”, the filing date, and the last slide - list of references, resources.

Assessment of Independent work includes: design, content, and answering.