

Selective discipline
«Primary resuscitation, intensive therapy, care and feeding of newborns with perinatal pathology»

Speciality code	222 – Medicine, 228 – Pediatrics
Speciality	Neonatology
Educational level	Second (master of science)
Study period (course)	VI course
Form of education	Full-time
Department	Department of Pediatrics, Neonatology and Perinatal Medicine

Summary of the subject:

The priority of modern medicine is to ensure the health of future generations. The demographic situation in Ukraine, according to the recent statistics, remains unfavorable due to negative population growth, in particular due to a significant decline in birth rates. Severe forms of perinatal pathology in newborns lead in future to the formation of functional and chronic pathology, which significantly reduces the quality of life.

In general, about 10% of children are born in a difficult condition, more than 5% of children have a premature birth. Such categories of newborns need resuscitation care for an effective beginning of life, as well as long-term and costly treatment with the involvement of a multidisciplinary team of specialists. The cost of the package of the National Health Service of Ukraine to provide assistance to newborns with perinatal pathology has the highest cost and is estimated from 26 087,72 UAH up to UAH 98 533,82 UAH according to the complexity of the case, which indicates understanding of authorities the value of health and quality of life of each newborn child.

The above mentioned defines the need to expand the professional competencies of graduates of higher state educational establishments of Ukraine in the framework of interdisciplinary integration. Students of VI courses, who choose the fields of pediatrics, neonatology, obstetrics and gynecology, pediatric anesthesiology and resuscitation, pediatric surgery, medical genetics, family medicine, etc., are recommended to gain modern theoretical knowledge and relevant practical skills in providing care for newborns according to the standard of international medical practice.

The purpose of the proposed selective course is to familiarize students of VI courses (Specialty Code: 222 - Medicine, 228 - Pediatrics) with the theoretical basis and practical skills of primary resuscitation, intensive therapy, care and feeding of newborns with perinatal pathology.

To teach the discipline were developed: working curriculum, methodological developments and instructions for preparation for classes, texts and presentations of lectures. In stock: textbooks, manuals, electronic teaching materials, including the MOODLE distance learning server. The training base of clinical cases according to the package of international standards for conducting practical classes on the basis of Case-based learning has been created. The department is equipped with appropriate lecture rooms and classrooms, computers, laptops, LCD projector.

On the basis of the department there is a Training Center of modern technologies of perinatal medicine (head of the Center - MD, Professor Godovanets Y.D.), equipped with modern mannequins to master the practical skills of helping newborns: mannequins for newborns for mechanical lung ventilation (2 pcs.), mannequins of the newborn for full resuscitation (4 pcs.), head for tracheal intubation and laryngeal mask (1 pc.), mannequin for the newborn for catheterization of umbilical and peripheral veins (1 pc.), and also sets of equipment for full resuscitation care, including mechanical lung ventilation with an Ambu mask and bag, tracheal intubation, heart massage, umbilical and peripheral vein catheterization; various methods of

administration of surfactant drugs to the newborn; breast mannequin and a set of equipment for various types of breastfeeding; kit for primary treatment of the newborn, etc.

Clinical bases of the department: Neonatal Intensive Care Unit, Neonatal Care Unit, and Post-Intensive Care Unit of the Regional Perinatal Center of Chernivtsi, Neonatal Intensive Care Unit and Neonatal Care Unit of "Clinical Maternity Hospital №2" Chernivtsi; Anesthesiology and Intensive Care Unit of "City Children's Clinical Hospital" Chernivtsi.

Approximate list of training topics (lectures, practical, seminar):

Lectures:

1. Peculiarities of adaptation of newborns under conditions of childbirth stress. Criteria for assessing of early neonatal adaptation.
2. Criteria for the diagnosis of disorders of adaptation in asphyxia of newborns. Primary resuscitation and post-resuscitation care in the early neonatal period. Recommendations of the American Heart Association and the European Council of Resuscitation 2015.
3. Physiology and pathology of premature babies. European standards for newborn health care in 2019. Principles of care directed on development.
4. Respiratory distress syndrome of newborns: etiopathogenesis, clinical manifestations, antenatal prevention and treatment. Recommendations of the European Consensus on the Management of Respiratory Distress Syndrome 2019.

Seminars:

1. Seminar-training "Primary resuscitation of newborns in the delivery room. Post-resuscitation care".
2. Seminar-training "Modern methods of surfactant therapy of newborns".
3. Pain and anesthesia. Methods of prevention and treatment of pain in newborns.
4. Principles of care and feeding of premature babies and newborns with perinatal pathology. Indications and methods of using of alternative feeding methods.

Practical trainings:

1. Modern methods of ensuring vascular catheterization in newborns.
2. Modern methods of ventilation support for sick newborns.
3. Basic principles of calculation of infusion therapy sheet and parenteral nutrition for patients of neonatal intensive care units.

The list of competencies that will be provided by the discipline:

1. Initial examination of the newborn in the delivery room.
2. Primary resuscitation care for the newborn in the delivery room and in the intensive care unit, including:
 - mechanical ventilation with a mask and Ambu bag,
 - heart massage,
 - tracheal intubation,
 - setting of the laryngeal mask,
 - umbilical vein catheterization.
3. Providing respiratory support to sick newborns, including:
 - free flow oxygen therapy,
 - CPAP therapy,
 - non-invasive lung ventilation,
 - invasive lung ventilation.
4. Modern methods of administration of surfactant drugs:
 - through the endotracheal tube,
 - minimally invasive LISA / MIST methods.
5. Vascular catheterization:
 - umbilical vein,
 - peripheral veins with short venous catheters,
 - central veins with a deep venous lines.
6. Calculation of the sheet of infusion therapy and parenteral nutrition, doses of drugs.

7. Implementation of the principles of care aimed at development (positioning, anesthesia, the method of "Mother Kangaroo", etc.).
8. Ensuring effective breastfeeding of newborns, including alternative methods (through a tube, from a syringe, from a horn, the method of "feeding finger").

The list of scientific and pedagogical employees who will ensure the conduct of the discipline:

1. Professor of the Department of Pediatrics, Neonatology and Perinatal Medicine of BSMU, Doctor of Medical Sciences, Professor Yuliya Godovanets, specialty: neonatology (highest category).
2. Associate Professor of Pediatrics, Neonatology and Perinatal Medicine BSMU, Doctor of Medical Sciences, Anastasia Babintseva, specialty: neonatology (highest category), pediatric anesthesiology.

**Head of the Department
of Pediatrics, Neonatology and Perinatal Medicine,
Professor, MD, PhD**

_____ **Nechitaylo Y.**