

**MINISTRY OF HEALTH CARE OF UKRAINE
ODESA NATIONAL MEDICAL UNIVERSITY**

**Faculty medical number 1
Department of Anesthesiology, intensive care and emergency medicine**

**Syllabus of the elective educational discipline
«ACUTE POISONING: DIAGNOSTICS AND INTENSIVE THERAPY»**

Amount	180 hours (6 credits)
Semester, year of study	IX - X semesters, 5th year of study
Days, time, place	The educational discipline is conducted according to the approved class schedule Clinical bases of the department - ORH, Center of Reconstructive and Restorative Medicine (University Clinic)
Teacher(s)	Associate professor, MD Inna Serhiyivna Hrychushenko Associate professor, MD Volodymyr Mykhailovych Nosenko Associate professor, MD Lyudmila Oleksiiivna Sobitnyak Assistant Yurii Oleksandrovykh Potapchuk Assistant Hanna Oleksandrivna Danylova Assistant Denis Serhiyovych Volodychev Assistant Oleksandr Olegovich Korotkov
Contact number phone	Hrychushenko I.S. 093-797-13-53 Nosenko V.M. 050-628-42-98 Sobitnyak L.O. 097-207-76-23 Potapchuk Yu.O. 093-305-24-51 Danylova G.O. 066-286-01-68 Volodychev D.S. 096-797-59-79 Korotkov O.O. 093-911-24-57
E-mail	Hrychushenko I.S. sherlokfox@gmail.com Nosenko V.M. volodymyrnosenko@gmail.com Sobitnyak L.O. ludmilasobitniak@gmail.com Yu.O. Potapchuk dr.potapchuck@gmail.com Danylova G.O. emergencyanna@gmail.com Volodychev D.S. denis.volodychev@onmedu.edu.ua Korotkov O.O. sashakorotkov58@gmail.com
Workplace	ORH base Center of Reconstructive and Restorative Medicine (University Clinic)
Consultations	Face-to-face consultations: Thursday – from 2:00 p.m. till 4:00 p.m.; Saturday - from 9.00 till 13.00. Online consultations: Thursday - from 14:00 till 16:00; Saturday - from 9.00 till 13.00 Microsoft Teams or through Telegram/Viber .

	The link to the online consultation is provided to each group during classes separately.
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COMMUNICATION

Communication with the applicant will be carried out in the classroom (face-to-face).

During distance learning, communication is carried out through the Microsoft platform Teams , as well as e-mail correspondence, Telegram/Viber messengers (through created groups, separately through the head of the group).

ABSTRACT OF THE ELECTIVE EDUCATIONAL DISCIPLINE

Subject of discipline study

The subject of study of the academic discipline «**Acute poisoning: diagnostics and intensive therapy**» is: awareness of current scientific advances in epidemiology, causes, diagnostics, clinics and the main directions of uncomplicated assistance and intensive care of acute exogenous poisoning.

Course prerequisites and post-requisites (The place of the discipline in the educational program)

Intensive care, as a science, is closely related to other fundamental medical disciplines and:

a) is based on the study of human anatomy; histology, biochemistry, physiology, pathomorphology; pathophysiology; internal medicine, pediatrics, pharmacology and integrates with these disciplines, etc.;

b) lays the foundations for the training of intensive care practitioners in complex conditions that arise in the clinic of internal medicine, pediatrics, surgery, traumatology and orthopedics, neurosurgery medicine, urology, obstetrics and gynecology and other primary disciplines, where intensive care methods are established, which conveys integration with these disciplines and formation be able to retain knowledge in the process of further learning and professional activity;

c) it is possible to learn practical skills and formulate professional skills for diagnosis and provision of uncomplicated medical assistance and intensive care for specific pathological conditions.

The purpose of discipline

Acquisition by the student of higher education of knowledge and formation of elements of professional competences in the field of intensive therapy and improvement of skills and competences acquired during the study of previous disciplines.

Discipline's target:

- mastering the basic measures necessary for the organization of work in the intensive care unit

- acquisition of practical skills for providing medical assistance in emergency situations
- acquisition of practical skills for preparing and carrying out placement of an oro- and nasogastric tube; gastric lavage; establishment of reliable venous access using venous catheters (peripheral or central); insertion of a permanent urethral catheter (Foley type); adjustment of oxygen inhalations; connection of the patient to monitor observation; maintenance of free patency of the upper respiratory tract (head position, oral or nasal airways, laryngeal masks, etc.).
- acquisition of skills and abilities for examination of the patient and registration of the results in the relevant medical documentation;
- formation of moral, ethical and deontological qualities during professional communication with the patient.

Expected results:

As a result of studying the academic discipline, the applicant must to:

Know:

- Main groups of poisonous substances;
- Ways of poison entering the human body;
- The essence of the concept of "lethal synthesis";
- Clinical stages of acute exogenous poisoning;
- Main areas of medical assistance in case of poisoning;
- The main ways of detoxification of poisonous substances in the human body;
- Methods of diagnosis of acute exogenous poisoning;
- The essence of the therapeutic effect of the method of forced osmotic alkaline diuresis;
- The main ways of detoxification of poisonous substances in the liver;
- International table of antidotes

Be able:

1. oro- and nasogastric tube placement;
2. gastric lavage;
3. establishment of reliable venous access with the help of venous catheters (peripheral or central);
4. introduction of a permanent urethral catheter (Foley type);
5. adjustment of oxygen inhalations;
6. connecting the patient to monitor observation;
7. maintenance of free patency of the upper respiratory tract (provision heads, oral or nasal airways, laryngeal masks, etc.).
8. make a preliminary diagnosis and make an examination plan for a patient with acute exogenous poisoning;
9. carry out differential diagnosis with similar diseases symptoms;
10. assess the general condition of the victim based on monitoring his main physiological functions;

11. prescribe antidote therapy;
12. draw up a plan for osmotic forced alkaline diuresis;
13. to determine the qualitative and quantitative composition of replacement infusion therapy;
14. prescribe drugs to strengthen the detoxification capacity of the liver;
15. determine indications for extracorporeal detoxification methods

DESCRIPTION OF THE EDUCATIONAL DISCIPLINE

Forms and methods of education

The discipline will be taught in the form of practical classes (60 hours), organization of the applicant's independent work (120 hours).

Teaching methods: practical classes, independent work of the applicant

- **Practical classes:** conversation, role-playing, solving clinical situational problems, practicing the skills of patient examination, practicing the skills of performing manipulations according to the list, instruction and practicing skills on simulation dummies, training exercises on the differential diagnosis of the most common diseases. The teacher uses interactive teaching methods such as "Microphone", "Unfinished sentence", "Discussion", "Method of competitive groups", "Brainstorming", "Case", etc.
- **Independent work (self-assessment work, SW) of the applicant** with the active consultation of the teacher: independent work with the recommended basic and additional literature, with electronic information resources, independent work with the bank of test tasks Step-2, independent mastering of the algorithms of communication with the patient.

Content of the academic discipline

Topic 1. Concept of acute poisonings, classification of acute poisonings

The concept of acute poisonings, classification of acute poisonings; the essence of the concept «lethal synthesis»; clinical stages of acute exogenous poisonings.

Topic 2. Pathogenesis, clinic and intensive therapy in case of poisoning with methyl, ethyl alcohol and its surrogates.

Pathogenesis, clinic and intensive therapy for poisoning by methyl and ethyl alcohol and its surrogates.

Topic 3. Pathogenesis, clinic and intensive therapy in case of poisoning with opiates and barbiturates, carbon monoxide.

Pathogenesis, clinic and intensive therapy for poisoning by opiates, barbiturates and carbon monoxide

Topic 4. Pathogenesis, clinic and intensive therapy in case of poisoning with organophosphorus substances, acids and alkalis.

Pathogenesis, clinic and intensive therapy for poisoning by organophosphorus substances, acids and alkalis.

Topic 5. Pathogenesis, clinic and intensive therapy in case of poisoning with poisonous mushrooms.

Pathogenesis, clinic and intensive therapy for poisoning by poisonous mushrooms.

Topic 6. Epidemiology of different types of acute poisonings.

Epidemiology, causes, diagnosis, clinic and main directions of emergency aid and intensive therapy of different types of acute poisonings; main groups of toxic substances; ways of poison entering the human body.

Topic 7. Methods of diagnosis in different types of acute poisonings.

Methods of diagnosing different types of acute poisonings

Topic 8. Clinic, diagnosis and intensive therapy in case of acute poisonings.

Diagnosis, clinic and main directions of emergency aid and intensive therapy of different types of acute poisonings;

Topic 9. Basic principles of intensive therapy for acute poisoning

Main directions of medical assistance in poisonings; main ways of detoxification of toxic substances in the human body; classification of types of detoxification therapy.

Topic 10. Basic principles of forced diuresis

The essence of the therapeutic effect of the method of forced osmotic alkaline diuresis; basic principles of forced diuresis; classification of the severity of the patient's condition who will undergo forced diuresis; pharmacology and dosage of solutions and drugs used in forced diuresis.

Topic 11. Methods of supporting and enhancing usual detoxification

Placement of oro- and nasogastric tube; gastric lavage; establishment of reliable venous access using venous catheters (peripheral or central); insertion of a permanent urethral catheter (Foley type)

Topic 12. Principles of antidote therapy.

Main ways of detoxification of toxic substances in the liver; international antidote table; classification and diagnosis depending on symptom complexes and laboratory data.

Topic 13. Detoxification intensive therapy.

Placement of oro- and nasogastric tube; gastric lavage; establishment of reliable venous access using venous catheters (peripheral or central); insertion of a permanent urethral catheter (Foley type); setting up oxygen inhalations; connecting the patient to monitor observation; maintaining free patency of the upper respiratory tract (head position, oral or nasal airways, laryngeal masks, etc.).

Topic 14. Extracorporeal methods of detoxification, indications and contraindications.

Extracorporeal methods of detoxification (hemodialysis, hemosorption, hemofiltration, plasmapheresis, electrochemical detoxification), indications and contraindications; types of methods of extracorporeal detoxification; criteria for evaluating the effectiveness of extracorporeal detoxification methods.

Topic 15. Extracorporeal methods of detoxification, technical means, technique of execution.

Extracorporeal methods of detoxification (hemodialysis, hemosorption, hemofiltration, plasmapheresis, electrochemical detoxification), technical means, technique of execution; types of methods of extracorporeal detoxification; criteria for evaluating the effectiveness of extracorporeal detoxification methods.

Topic 16. Application of extracorporeal detoxification methods at the prehospital stage
Application of extracorporeal detoxification methods (hemodialysis, hemosorption, hemofiltration, plasmapheresis, electrochemical detoxification) at the prehospital stage; indications for the use of detoxification methods; criteria of effectiveness at the prehospital and hospital stages.

List of recommended literature :

Basic literature:

1. Anesthesiology, intensive care and emergency conditions: textbook: edited by Prof. Vladyki A.S. and Z.D.N.T. of Ukraine, Doctor of Medicine, prof. Tarabrina O.O. Sumy: University book, 2017
2. Anesthesiology, intensive care and intensive care: a study guide (university I - III r.a.) A.A. Ilko. - 2nd ed., revised and supplemented, "Medicine", Kyiv, 2018
3. Anesthesiology and intensive therapy / L. P. Chepkii, L. V. Usenko, Yu. Yu. Kobelyatskyi, S. O. Dubrov; edited by FS Glumcher. - Kyiv: VSV "Medicine" 2021, pp. 310-318.
4. Anesthesiology and intensive care: textbook / F.S. Glumcher, L.P. Chepky, L. V. Usenko, etc.; ed. F.S. Glumcher – 4th edition, - K.: VSV "Medicine", 2021. – 360 p.
5. Emergency and urgent medical care. In VI Vol. IV. Clinical routes (protocols) of the patient during the provision of emergency medical care at the pre-hospital stage: textbook for students. Higher Education Closed / Krylyuk V.O. etc. - Kyiv: Ozhiva. - 2020. - 300 p.
6. Order of the Ministry of Health of Ukraine dated March 15, 2022 No. 488 "On approval
7. Methodological recommendations for the provision of emergency medical care to victims at the pre-hospital stage in the conditions of hostilities/martial law".

Additional literature:

1. 30 emergency conditions in therapy: study guide: edited by Prof. Yu.M. Mostovoy Kyiv, 2017
2. Morgan JE, Mikhail MS Clinical anesthesiology. McGraw-Hill Education| Medical; 6 th Edition, 2018
3. Pediatric Anesthesiology Review: Clinical Cases for Self Assessment Robert Holzman, Thomas Mancuso, Joseph Cravero, James DiNardo Edition 3 (2021)

Electronic Information Resources

1. <https://moz.gov.ua/> [Ministry of Health of Ukraine], register of medical and technological documents
2. <http://www.nbu.gov.ua/> [V.I. Vernadsky National Library of Ukraine]
3. <http://www.esicm.org> [European Society of Intensive Care Medicine]
4. <https://www.cochrane.org> [Cochrane Library]: Cochrane Reviews - Cochrane Database of Systematic Reviews
5. <http://www.nlm.nih.gov/> U.S. National Library of Medicine (NLM)] Resources for Researchers / Biomedical Literature
6. <https://www.ncbi.nlm.nih.gov/> [National Center for Biotechnology Information (NCBI)]
7. <http://www.pubmed.gov> [PubMed] electronic database of medical and biological publications
8. <http://www.library.gov.ua/> [National Scientific Medical Library of Ukraine]
9. <http://testcentr.org.ua/> [Testing Center of the Ministry of Health of Ukraine]
10. <http://www.pubmed.com/> [PubMed] - English language text database of medical and biological publications
11. <https://emedicine.medscape.com/> [eMedicine] - English language web resource for doctors and other health professionals
12. <http://www.esicm.org> [European Society of Intensive Care Medicine] - Official website
13. <http://www.espen.org> [European Society for Clinical Nutrition and Metabolism (ESPEN)] - Official website
14. <http://www.ncbi.nlm.nih.gov/PubMed/> [PubMed] - Medical literature search resource

EVALUATION

Forms and methods of control:

Current control:

tests of the initial and final level of knowledge on the topic of practical training;
oral answer to standardized questions based on the material of the current topic,
previous topics and lecture material;
solving typical and atypical clinical situational problems;
control of practical skills;
control of the acquirer 's activity while working in small groups.

Final control: credit.

Evaluation of the current educational activity in a practical session:

1. Evaluation of theoretical knowledge on the subject of the lesson:
 - methods: survey, solving a situational clinical problem
 - the maximum score is 5, the minimum score is 3, the unsatisfactory score IS 2.
 2. Evaluation of practical skills and manipulations on the subject of the lesson:
 - methods: assessment of the correctness of the performance of practical skills
 - the maximum score is 5, the minimum score is 3, the unsatisfactory score IS 2.
- The grade for one practical lesson is an arithmetic average of all components and can only have a whole value (5, 4, 3, 2), which is rounded according to the statistical method.

Current evaluation criteria in practical training

Rating	Evaluation criteria
"5"	The graduate of high education is fluent in the material, takes an active part in discussing and solving a situational clinical problem, confidently demonstrates practical skills during the examination of a patient and the interpretation of clinical, laboratory and instrumental research data, expresses his opinion on the topic of the class, demonstrates clinical thinking.
"4"	The graduate of high education has a good command of the material, participates in the discussion and solution of a situational clinical problem, demonstrates practical skills during the examination of a patient and the interpretation of clinical, laboratory and instrumental research data with some errors, expresses his opinion on the topic of the class, demonstrates clinical thinking.
"3"	The graduate of high education acquirer does not have sufficient knowledge of the material, is unsure of participating in the discussion and solution of the situational clinical problem, demonstrates practical skills during the examination of the patient and the interpretation of clinical, laboratory and instrumental research data with significant errors.

"2"	The graduate of high education does not possess the material, does not participate in the discussion and solution of the situational clinical problem, does not demonstrate practical skills during the examination of the patient and the interpretation of clinical, laboratory and instrumental research data.
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The credit is given to the graduate of high education who has completed all the tasks of the working program of the educational discipline, took an active part in practical classes, completed and defended an individual task and has an average current score of not less than 3.0 and has no academic debt.

The credit is carried out: at the last class before the start of the examination session - with the ribbon system of education, at the last class - with the cyclic system of education.

The score for the credit is the arithmetic mean for all components according to the traditional four-point scale and has a value that is rounded according to the method of statistics with two decimal places after the comma.

Self-assessment work of higher education students

Tasks for independent work:

- ***preparation for practical classes***
 - theoretical training
 - performance of test tasks
 - solving situational problems
 - practical skills training

ELECTIVE EDUCATIONAL DISCIPLINE POLICY

Deadlines and Rescheduling Policy:

- Absences of classes for non-respectable reasons will be worked out according to the schedule of the teacher on duty.
- Absences due to valid reasons are processed according to an individual schedule with the permission of the dean's office.

Academic Integrity Policy:

Applicants must observe academic integrity, namely:

- independent performance of all types of work, tasks, forms of control provided for by the work program of this educational discipline;
- references to sources of information in the case of using ideas, developments, statements, information;
- observance of legislation on copyright and related rights;
- provision of reliable information about the results of one's own educational (scientific) activities, used research methods and sources of information;

Unacceptable in educational activities for participants of the educational process are:

- the use of family or official ties to obtain a positive or higher grade during any form of control of study results or advantages in scientific work;
- use of prohibited auxiliary materials or technical means (cheat sheets, notes, micro-earphones, telephones, smartphones, tablets, etc.) during control measures;
- passing procedures for control of training results by fake persons.

For violation of academic integrity, students may be held to the following academic responsibility:

- reduction of assessment results of individual survey, use of test tasks, assessment for solving situational tasks, use of individual task, credit, etc.;
- repeated assessment (test tasks, situational tasks, individual task, assessment, etc.);
- appointment of additional control measures (additional situational tasks, individual tasks, tests, etc.);
- conducting an additional inspection of other works authored by the violator.

Attendance and Tardiness Policy:

State of health : candidates suffering from acute infectious diseases, including respiratory diseases, are not allowed to attend classes.

Lateness to classes is not acceptable. A student who is late for a class can attend it, but if the teacher has put "nb" in the journal, he must work it out in the general order.

Use of mobile devices in :

The use of any mobile devices is prohibited. In case of violation of this point, the student must leave the class and the teacher will write "nb" in the journal, which he must work out in the general order.

Mobile devices may be used by the applicant with the permission of the instructor if they are required for the completion of the assignment.

Behavior in the audience:

The behavior of applicants and teachers in the classrooms should be working and calm, strictly comply with the rules established by the Regulations on academic integrity and ethics of academic relations at Odessa National Medical University, in accordance with the Code of Academic Ethics and University Community Relations of Odessa National Medical University, Regulations on Prevention and detection of academic plagiarism in the research and educational work of students of higher education, scientists and teachers of Odessa National Medical University.