



MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION  
Federal state autonomous educational institution  
of higher education  
«Far Eastern Federal University»  
(FEFU)

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**SCHOOL OF BIOMEDICINE**

«AGREED»

Head of education program  
«General medicine»

  
\_\_\_\_\_  
(signature) Khotimchenko Yu.S.  
(Full name)  
«09» of July 2019

«APPROVED»

Director of the Department of Clinical  
Medicine



  
\_\_\_\_\_  
(signature) Geltser B.I.  
(Full name)  
«09» of July 2019

**WORKING PROGRAM OF ACADEMIC DISCIPLINE (WPAD)**

«Forensic Medicine»

Education program

Specialty 31.05.01 «General medicine»

**Form of study: full time**

year 6, semester C  
lectures 17 hours  
practical classes 34 hours  
laboratory works not provided  
total amount of in-classroom works 51 hours  
independent self-work 93 hours  
including preparation to exam 27 hours  
control works ()  
credit not provided  
exam year 6, semester C

The working program is drawn up in accordance with the requirements of the Federal state educational standard of higher education (level of training), approved by the order of the Ministry of education and science of the Russian Federation from 09.02.2016 № 95.

The working program of the discipline was discussed at the meeting of the Department of fundamental and clinical medicine. Protocol No. 8, 09 of July 2019

Authors: d.m.sc., professor Usov V.V., c.m.sc., Nedobylskaya Y.P.

## ANNOTATION

Academic discipline " Forensic medicine " is designed for students enrolled in the educational program of higher education 31.05.01" General medicine", included in the basic part of the curriculum, implemented in the 6<sup>th</sup> year in the C semesters. The total complexity of the discipline is 144 hours, 4 credits. Federal state educational standard of higher education in the specialty 31.05.01 "General medicine" (level of training specialty) was used in the development of the working program of this discipline.

The course program is based on the medical knowledge obtained by students:  
the ability to use the basics of economic and legal knowledge in professional activity (GPC-3)

the readiness to maintain and report medical documents (GPC – 6)

the capacity for the assessment of morphological and physiological states and pathological processes in the human body for solving professional tasks (GPC – 9)

the ability of determining the patient's basic pathological conditions, symptoms, syndromes, diseases in accordance with the International Statistical Classification of Diseases and problems related to health, the 10<sup>th</sup> review. (PC – 6)

**Purpose of discipline** is to form students ' knowledge of theoretical and practical issues of forensic medicine to the extent necessary for the successful performance of specialist duties.

### **Objectives:**

- To acquaint students with the legal regulation and organization of forensic medical examination, the responsibility of the doctor for causing harm to health in the process of providing medical care and committing professional and professional offenses;
- To acquaint students with the morphological features of the pathological processes in various types of external influences and extreme conditions.

As a result of studying this discipline, the following professional competencies (elements of competencies) are formed in students.

<b>Code and formulation of competence</b>	<b>Stages of competence formation</b>	
the readiness to collect and to analyze patient complaints, data of its history, the results of laboratory, instrumental, postmortem and other examinations to recognize the incidence or the absence of diseases (PC – 5)	Knows	<ul style="list-style-type: none"> <li>-working with magnifying devices (microscopes);</li> <li>- to justify the nature of the pathological process and its clinical and morphological manifestations in the most common diseases;</li> <li>- analyze the patterns of functioning of various organs and systems in various diseases and pathological processes;</li> <li>- analyze morphological manifestations of the main pathological symptoms and syndromes of diseases</li> </ul>
	Able to	<ul style="list-style-type: none"> <li>-pathologic conceptual apparatus;</li> <li>- skills of the analysis of laws of functioning of various bodies and systems at diseases and pathological processes;</li> <li>- skills of analysis of morphological changes in tissues and organs in various diseases and pathological processes, taking into account the requirements of the International statistical classification of diseases and health-related problems (ICD)</li> </ul>
	Masters	<ul style="list-style-type: none"> <li>-working with magnifying devices (microscopes);</li> <li>- justify the nature of the pathological process and its clinical and morphological manifestations in the most common diseases;</li> <li>- analyze the patterns of functioning of various organs and systems in various diseases and pathological processes;</li> <li>- to analyze morphological manifestations of the main pathological symptoms and syndromes of diseases</li> </ul>
the ability of determining the patient's basic pathological conditions , symptoms, syndromes, diseases in accordance with the International Statistical Classification of Diseases and problems related to health , the 10th review. (PC – 6)	Knows	<ul style="list-style-type: none"> <li>- the basic laws of development and life of the body on the basis of the structural organization of cells, tissues and organs;</li> <li>- histological and functional features of tissue elements, methods of their research; structure, topography and development of cells, tissues, organs and systems of the body in interaction with their function in the norm, especially the organizational and population levels of life.</li> </ul>
	Able to	<ul style="list-style-type: none"> <li>-work with magnifying devices (microscopes);</li> <li>- to justify the nature of the pathological process and its clinical and morphological manifestations in the most common diseases;</li> <li>- analyze the patterns of functioning of various organs and systems in various diseases and pathological processes;</li> <li>- to analyze morphological manifestations of the main pathological symptoms and syndromes of diseases</li> </ul>

	Masters	- pathologic conceptual apparatus; - skills of the analysis of laws of functioning of various bodies and systems at diseases and pathological processes; - skills of analysis of morphological changes in tissues and organs in various diseases and pathological processes, taking into account the requirements of the International statistical classification of diseases and health-related problems (ICD)
readiness for the examination of temporary disability, participation in the conduction of medical and social expert reviews, detection of human biological death (PC – 7)	Knows	Signs of human biological death
	Able to	To ascertain the biological death of a person
	Masters	Skills ascertaining human biological death

The following methods of active/ interactive training are used to form the above mentioned competencies within the discipline "Forensic medicine":

1. Execution of practical training with the use of computer training programs is supposed.
2. For organization of the independent self-work it is proposed to prepare essays and reports for presentation in the group and at the student conference; as well as preparation for practical classes, work with additional literature, preparation of essays and lesson-conference.

The share of practical training conducted in interactive forms is 10% of the whole classroom time; independent extracurricular self-work – 50% of the whole time.

## **I. THE STRUCTURE AND CONTENT OF THE THEORETICAL PART OF THE COURSE (16 HOURS)**

### **Module 1. Subject and content of forensic medicine. Procedural and organizational issues of forensic examination (4 hours)**

#### **Theme 1. Definition of forensic medicine (forensic dentistry) (2 hours)**

The subject of forensic dentistry, system of the subject. Objects and methods of forensic examination. A brief history of forensic medicine. The role of domestic and foreign scientists in the development of forensic medicine. The main directions of development of forensic medicine at the present time.

#### **Theme 2. Concept of expertise (2 hours)**

Expertise in criminal and civil proceedings in Russia. Mandatory examination. Expert. Duties and rights of the expert. Withdrawal of expert. The responsibility of the expert. Types of expertise. The procedure for appointment and examination. Examination at the preliminary investigation and in court. Organization of forensic dental examination. The role of forensic dental examination in solving the problems of the health care system to improve the quality of dental care

### **Module 2 Dying and death. Early and late cadaveric changes (2 hours)**

#### **Theme 1. Concept of death (2 hours)**

Terminal state. Clinical and biological death. Statement of death. The concept of thanatogenesis. Classification of death. Early and late cadaveric changes. Methods of study of cadaveric changes. determination of prescription of death.

### **Module 3 Forensic examination (10 hours)**

#### **Theme 1. Reasons for forensic (research) corpse (2 hours)**

The basic requirements of the "Rules of forensic examination of the corpse." The technique of autopsies. Study of damage to soft tissues of the face, maxillofacial bones and teeth.

#### **Theme 2. Inspection of the corpse at the place of its detection (2 hours).**

Concept of forensic medical thanatology. Dying and death; their general biological, medical and legal assessment. The concept of thanatogenesis. Variants of transition from life to death (terminal states, agony, clinical and biological death).

Morphological signs of the pace of death. A statement of death and its medico-legal classification (category, gender, species). Early and late changes of the corpse, their diagnosis and significance. The influence of environmental factors on the timing of their development. Thanatogenetic evaluation of the experience of the organs of the moment of cardiac arrest. The concept of resuscitation and transplantation. Medical and legal aspects of human organ and tissue transplantation. Artificial preservation of corpses. Destruction of corpses by animals, insects, plants. Determination of the period of limitation of death by expert.

### **Theme 3. Definition of "damage" (2 hours)**

Injuries and its types. Causes and prevention of injuries. Classification of means of causing damage.

Features of damage to the facial soft tissues. Morphological characteristics of abrasions, bruises and wounds from the action of blunt objects, expert value.

Morphological features of fractures depending on the mechanism and types of deformation. Dislocations and fractures of teeth. The general idea of the damage induced by gas gun and explosive trauma.

Definition of damage limitation. Life-and-death injuries. The sequence of damage.

Causes of death in injuries of the maxillofacial region.

Ideas about the possibilities of laboratory methods of damage research.

### **Theme 4. General and local effects of high and low temperature on the body (2 hours)**

General information on the effect of penetrating radiation on the body.

General information on poisons and poisonings. Chemical burn of the face and oral mucosa from the action of caustic substances (acids and alkalis).

### **Theme 5. Legal qualification of the severity of harm to health (2 hours)**

"Rules of forensic medical examination of the severity of harm to health." Criteria of severity of harm to health. Methods of causing damage (beatings, torture).

## **I. THE STRUCTURE AND CONTENT OF THE PRACTICAL PART OF THE COURSE (32 HOURS)**

### **Theme 1. The concept of death (4 hours)**

Terminal state. Clinical and biological death. Statement of death. The concept of tanatogenesis. Classification of death.

Early and late cadaveric changes. Methods of study of cadaveric changes. Determination of time of death occurrence.

### **Theme 2. Procedural regulation of inspection of the scene and the corpse at the place of its detection (4 hours)**

Organization of inspection of the crime scene. Participants of the inspection, their responsibilities. Order, technique, stage of examination of the corpse. Documentation of the scene inspection. Features of inspection of a corpse of the unknown person. Features of the autopsy scale natural disasters. The tasks of a specialist in the field of forensic dentistry in the aftermath of mass disasters.

### **Theme 3. Reasons for forensic (research) corpse (4 hours)**

The basic requirements of the "Rules of corpse forensic examination" The technique of autopsies. Study of damage to soft tissues of the face, maxillofacial bones and teeth.

Features of the study of dental status in the examination of an unidentified corpse, dismembered, skeletal corpses and bone wasps-tanks. Production of a plaster mask. Making casts and plaster models of teeth, hard palate and tongue of the corpse. Removal from the corpse of the upper and lower jaws.

### **Theme 4. Mechanical damage (4 hours)**

Features of damage caused by human and animal teeth. General concepts of transport injury and injury from falling from a height and on a plane. Damage to the soft tissues of the face, maxillofacial bones and teeth with sharp objects and firearms.

### **Theme 5. Damage from physical and chemical factors (4 hours)**

Thermal burns and frostbite on the face. Radiation damage to the soft tissues of the face, maxillofacial bones and teeth. Lesions of the oral cavity during poisoning with destructive poisons (mercury, arsenic, lead, bismuth, etc.).)

**Theme 6. Examination of living persons (4 hours)**

Legal qualification of the severity of harm to health. "Rules of forensic medical examination of the severity of harm to health." Criteria of severity of harm to health. Methods of causing damage (beatings, torture) Course, outcomes and assessment of the severity of harm to health in damage to the soft tissues of the face, maxillofacial bones and teeth. Expert assessment of dental trauma in diseases of the dental system. Simulation of tooth injury.

**Theme 7. Principles of identification (4 hours)**

Methods of identification. Features of identification of unknown entities. The features that characterize the physical characteristics of a person.

Comparative methods of identification by dental status. Identification of personality characteristics of the structure of the teeth and dentition. Extended odontogram. The establishment of sex, age, and race tough. Personal identification by dental prostheses. Identification of the person by traces and prints of teeth.

Identification of a person by the peculiarities the tongue mucous membrane pictures, the relief of the hard palate, the traces of the lips.

Features of forensic dental examination in large-scale disasters.

**Theme 8. Credit lesson (4 hours)**

**III. TRAINING AND METHODOLOGICAL SUPPORT INDEPENDENT  
SELF-WORK OF STUDENTS**

The main content of the topics, evaluation tools are presented in the WPAD: terms and concepts necessary for mastering the discipline.

During the mastering the course “Forensic medicine”, the student will have to do a large amount of independent self-work, including preparation for seminars and writing an essay.



Practical classes help students to deeper learn the material, to acquire the skills of creative work on documents and primary sources.

Plans for practical classes, their topics, recommended literature, the purpose and objectives of its study are communicated by the teacher at the introductory classes or in the curriculum for the discipline.

Before starting to study the topic, it is necessary to familiarize yourself with the basic questions of the practical training plan and the list of recommended literature.

Starting the preparation for the practical lesson, first of all it is necessary to refer to the lecture notes, sections of textbooks and teaching aids in order to get a general idea of the place and significance of the topic in the course being studied. Then work with additional literature, make notes on the recommended sources.

In the process of studying the recommended material it is necessary to understand the construction of the topic being studied, highlight the main points, trace their logic and thereby get into the essence of the problem being studied.

It is necessary to keep records of the material being studied in the form of an outline, which, along with the visual, includes the motor memory and allows you to accumulate an individual fund of auxiliary materials for a quick repetition of what you read, to mobilize accumulated knowledge. The main forms of writing: a plan (simple and detailed), extracts, theses.

In the preparation process, it is important to compare the sources, think over the material being studied and build an algorithm of actions, carefully consider your oral presentation.

At a practical lesson, each participant should be ready to speak on all the questions posed in the plan, to be as active as possible in their consideration. The speech should be convincing and reasoned, and simple reading of an essay is not allowed. It is important to show own attitude to what is being said, express your personal opinion, understanding, substantiate it and draw the right conclusions from what has been said. Student can refer to notes of references and lectures,

directly to primary sources, use the knowledge of monographs and publications, facts and observations of modern life, etc.

A student who did not have time to speak at a practical lesson can present a prepared summary to the teacher for verification and, if necessary, answer the teacher's questions on the practical lesson to get a credit score on this topic.

The teaching and methodological support of students' independent work in the discipline "Forensic medicine" is presented in Appendix 1 and includes:

- characteristics of tasks for independent self-work of students and methodological recommendations for their implementation;
- requirements for the reports and presentation of the results of independent self-work;
- criteria for assessment of execution of the independent self-work.

## IV. MONITORING THE ACHIEVEMENT OF THE COURSE OBJECTIVES

Competence and its code		Stages of competence formation			
No.	Controlled sections / topics of disciplines	Codes and stages of the formation of competencies	Evaluation tools		
			Current control	Intermediate certification / exam	
1	<b>Module 1.</b> Subject and content of forensic medicine. Procedural and organizational issues of forensic examination <b>Module 2</b> Dying and dying. Early and late cadaveric changes <b>Module 3</b> Forensic examination	- the readiness to collect and to analyze patient complaints, data of its history, the results of laboratory, instrumental, postmortem and other examinations to recognize the incidence or the absence of diseases (PC – 5)	Knows	OA-1 Interview	Question for credit 4 semester - 1-20
			Able to	OA-1 Interview	PW-1 Test
			Masters	PW-1 Test PW-11 case study task	OA-2 Colloquium
2	<b>Module 1.</b> Subject and content of forensic medicine. Procedural and organizational issues of forensic examination <b>Module 2</b> Dying and dying. Early and late cadaveric changes <b>Module 3</b> Forensic examination	the ability of determining the patient's basic pathological conditions , symptoms, syndromes, diseases in accordance with the International Statistical Classification of Diseases and problems related to health , the 10th review. (PC – 6)	Knows	OA-1 Interview	Question for credit 4 semester - 1-20
			Able to	OA-1 Interview	PW-1 Test
			Masters	PW-1 Test PW-11 case study task	OA-2 Colloquium
3	<b>Module 1.</b> Subject and content of forensic medicine. Procedural and organizational issues of forensic examination <b>Module 2</b> Dying and dying. Early and late cadaveric changes <b>Module 3</b> Forensic examination	readiness for the examination of temporary disability, participation in the conduction of medical and social expert reviews, detection of human biological death (PC – 7)	Knows	OA-1 Interview	Question for credit 4 semester - 1-20
			Able to	OA-1 Interview	PW-1 Test
			Masters	PW-1 Test PW-11 case study task	OA-2 Colloquium

*Approximate types of assessment tools: interview on situational tasks, written or computer testing, standard calculations, individual tasks, abstract, essay, etc.*

Control and methodological materials as well as criteria and indicators necessary for the assessment of knowledge and skills and characterizing the stages of the formation of competencies in the process of mastering the educational program are presented in Appendix 2.

## V. A LIST OF TEXTBOOKS AND METHODOLOGICAL SUPPORT OF THE DISCIPLINE

### Main literature

1. Forensic Medicine / Springer-Verlag Berlin Heidelberg 2014  
<https://link.springer.com/book/10.1007/978-3-642-38818-7#authorsandaffiliationsbook>
2. Forensic Histopathology / Springer International Publishing AG, part of Springer Nature 2018 <https://link.springer.com/book/10.1007/978-3-319-77997-3#authorsandaffiliationsbook>
3. Pediatric Forensic Evidence / Springer International Publishing Switzerland 2017 <https://link.springer.com/book/10.1007/978-3-319-45337-8#authorsandaffiliationsbook>

### Additional literature

1. Forensic Medicine and Human Cell Research / Springer Nature Singapore Pte Ltd. 2019 <https://link.springer.com/book/10.1007/978-981-13-2297-6#editorsandaffiliations>
2. Essentials of Autopsy Practice / Springer International Publishing AG 2017 <https://link.springer.com/book/10.1007/978-3-319-46997-3#editorsandaffiliations>

## LIST OF INFORMATION TECHNOLOGIES AND SOFTWARE

The location of the computer equipment on which the software is installed, the number of jobs	List of licensed software
Multimedia auditorium Vladivostok Russian island, Ayaks 10, building 25.1, RM. M723 Area of 80.3 m2 (Room for independent work)	Windows Seven enterprise SP3x64 Operating System Microsoft Office Professional Plus 2010 office suite that includes software for working with various types of documents (texts, spreadsheets, databases, etc.); 7Zip 9.20 - free file archiver with a high degree of data compression; ABBYY FineReader 11 - a program for optical character recognition;

	Adobe Acrobat XI Pro 11.0.00 - software package for creating and viewing electronic publications in PDF; WinDjView 2.0.2 - a program for recognizing and viewing files with the same format DJV and DjVu.
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In order to provide special conditions for the education of persons with disabilities all buildings are equipped with ramps, elevators, lifts, specialized places equipped with toilet rooms, information and navigation support signs

## **VI. GUIDELINES FOR LEARNING OF THE DISCIPLINE**

In the process of studying the discipline "Forensic medicine" various methods and tools for learning the educational content are offered: lecture, practical exercises, tests, testing, independent work of students.

The lecture is the main active form of performing the classroom studies, explaining the fundamental and most difficult theoretical sections of human anatomy, which involves intense mental activity of student and this is especially difficult for first-year students. A lecture should always be informative, educational, and organizing. Lecture notes help to learn the theoretical material of the discipline. Listening to a lecture it is necessary to take note of the most important and preferably by student's own formulations, which allows to memorize the material better. Synopsis is useful when it is written by a student. Student can develop his/her own word reduction scheme. The name of the paragraphs can be highlighted with colored markers or pens. In a lecture the teacher gives only a small fraction of the material on one or other topics that are given in textbooks. Therefore, when working with the lecture notes, it is always necessary to use the main textbook and additional literature that are recommended in this discipline. It is such serious work of a student with lecture material that allows him to achieve success in mastering new knowledge. For the presentation of the lecture course on the discipline "Otorhinolaryngology", the following forms of active learning are used: lecture-conversation, lecture-visualization, which are made on the basis of knowledge obtained by students in interdisciplinary disciplines: "Human Anatomy", "Normal Physiology" "Pathological anatomy", "Pathological physiology". Presentations, tables, charts on a blackboard are used to illustrate the verbal information. In the course of the presentation of the lecture material posed questions or questions with elements of discussion.

### **Lecture – visualization**

Lecture is accompanied by tables, slideshows, which contributes to a better perception of the material. Lecture - visualization requires certain skills - verbal

presentation of the material must be accompanied and combined with visual form. The information presented in the form of diagrams on the board, tables, slides, allows you to form problematic issues, and contributes to the development of professional thinking of future specialists.

### **Lecture - conversation.**

Lecture-conversation, or it is also called in pedagogy a form of education “dialogue with the audience,” is the most common form of active learning and allows you to involve students in the learning process, as there is direct contact with the teacher audience. Such contact is achieved in the course of the lecture, when students are asked questions of a problem or informational matter, or when invite students to ask the questions themselves. Questions are offered to the entire audience, and any of the students can offer their own answer, another can complement it. At the same time, from lecture to lecture it is possible to identify more active students and try to activate students who are not participating in the work. This form of lecture allows teacher to engage students in work, increase their attention, thinking, gain collective experience, learn how to formulate questions. The advantage of the lecture-conversation is that it allows to attract the attention of students to the most important issues of the topic, to determine the content and pace of presentation of educational material.

### **Lecture - press conference**

At the beginning of the lesson, the teacher announces the topic of the lecture and invites students to ask him in writing questions on this topic. Each student must formulate the most interesting questions on the topic of the lecture within 2-3 minutes, write them on a piece of paper and pass the note to the teacher. The teacher within 3-5 minutes sorts the questions according to their semantic content and begins to give a lecture. The presentation of the material is presented in the form of a coherent disclosure of the topic, and not as an answer to each question asked, but during the lecture the corresponding answers are formulated. At the end of the lecture, the



teacher conducts a final assessment of the questions, revealing the knowledge and interests of the students.

### **Practical classes in the discipline "Forensic medicine"**

Practical classes is a collective form of consideration of educational material. Seminars, which are also one of the main types of practical classes designed for in-depth study of the discipline, held interactively. At the workshop on the topic of the seminar, questions are sorted out and then, together with the teacher, they hold a discussion, which is aimed at consolidating the material under discussion, developing skills to debate, develop independence and critical thinking, the students' ability to navigate through large information flows, develop and defend their own position on problematic issues academic disciplines. As active learning methods are used in practical classes: a press conference, a detailed conversation, a dispute. A detailed conversation involves preparing students for each issue of the lesson plan with a uniform list of recommended and additional literature recommended for all. Reports are prepared by students on pre-proposed topics.

Dispute in the group has several advantages. The dispute may be called by the teacher during the course of the lesson or planned by him in advance. In the course of the controversy, students form resourcefulness, quick thinking reaction.

Press conference. The teacher instructs 3-4 students to prepare short reports. Then one of the participants from this group makes a report. After the report, students ask questions that are answered by the speaker and other members of the expert group. Based on the questions and answers, a creative discussion takes place along with the teacher.

## **VII. MATERIAL AND TECHNICAL MAINTENANCE OF DISCIPLINE**

Forensic medicine	Anatomical museum Training class of human anatomy and physiology (models, phantoms, tablets, anatomical preparations)	690922, Primorsky Krai, Vladivostok, island
	Training class of histology, Cytology and embryology	

	<p>(tables, posters, histological preparations) Microscope Altami BIO 4– 12 PCs, personal computer</p> <p>Monoblock Lenovo C360G-i34164G500UDK; projection Screen Projecta Elpro Electrol, 300x173 cm; Multimedia projector, Mitsubishi FD630U, 4000 ANSI Lumen 1920 x 1080; Flush interface with automatic retracting cables TLS TAM 201 Stan; Avervision CP355AF; lavalier Microphone system UHF band Sennheiser EW 122 G3 composed of a wireless microphone and receiver; Codec of videoconferencing LifeSizeExpress 220 - Codeonly - Non-AES; Network camera Multipix MP-HD718; Two LCD panel, 47", Full HD, LG M4716CCBA; Subsystem of audiocommentary and sound reinforcement; centralized uninterrupted power supply</p> <p>KGBUZ "Vladivostok clinical hospital №2»</p>	<p>Russian, the Saperny Peninsula, the village of ayaks, 10, RM. M 608</p> <p>Multimedia audience</p> <p>690922, Primorsky Krai, Vladivostok, island Russian, the Saperny Peninsula, the village of ayaks, 10, RM. M 421</p> <p>690049, Vladivostok, street Russian 55</p>
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**SCHOOL OF BIOMEDICINE**

**TRAINING AND METHODOLOGICAL SUPPORT OF INDEPENDENT  
WORK OF STUDENTS  
on discipline «Forensic medicine»**

**Direction of training (specialty) 31.05.01 General medicine  
Form of training: full-time**

Vladivostok  
2018

Independent self-work includes:

- 1) library or homework with educational literature and lecture notes,
- 2) preparation for practical classes,
- 3) preparation for testing and control interview (credit)

The procedure for the performance of independent self-work by students is determined by the schedule for the performance of independent self-work on the discipline.

### **Schedule of independent work on the discipline**

<b>No.</b>	<b>Date / Deadline</b>	<b>Type of independent work</b>	<b>Estimated norms of time for execution (hour)</b>	<b>Form of control</b>
1	2-3 week	Essay	33	OR-3-Report
2	4-15 week	Presentation on the essay topic	33	POA-3-Report
3	17-18 week	Preparation for exam	27	OA-1-Interview PW-1 - Test
		Total	93	

### **Topics of reports and abstracts**

There are 33 hours of independent work within the discipline, within the framework of these hours 1 oral reports are must be carried out on the proposed topics.

1. The concept of expertise. Expert opinion as a source of evidence.
2. Mandatory examination of the criminal code of Russia. The purpose of the examination.
3. Objects and methods of forensic medical examination.
4. Different types of expertise.
5. The role of a specialist doctor in investigative actions: examination of the scene, investigative experiment, etc.

6. Duties, rights and responsibilities of the expert during the examination of the corpse at the scene. Withdrawal of expert. The limits of the expert's competence.
7. Duties, rights and responsibility of an expert at the preliminary investigation and at the court session. Withdrawal of expert. The limits of the expert's competence.
8. Definition and concept of the body harm. The basic classification of injuries.
9. Injuries and its types. The importance of forensic materials in the prevention of various types of injuries.
10. Abrasions, bruises, wounds as objects of examination.
11. Bone fractures, internal injuries as objects of examination.
12. Objectives and methods of injury analysis in forensic medicine. The order of description of injuries.
13. Features of technique of dissection under various mechanical injuries.
14. Types of blunt objects, the mechanism of action, the origin of injury, the possibility of examination.
15. Documentation of forensic medical examination.
16. Organization and structure of the forensic service.
17. Forensic medical examination after fall from a great height.
18. Forensic medical examination after fall from the body height on a plane.
19. Differential diagnostics of the blunt force injuries.
20. Differential diagnostics of injuries caused a car accidents and fall from a height.

### **Guidelines for writing and design of an essay**

Essay is a creative activity of the student reproducing in its structure the research activities to solve theoretical and applied problems in a particular branch of scientific knowledge. That is why the course certification work is an essential component of the educational process in higher education.

The essay is a model of scientific research, independent self-work in which a student solves a problem of a theoretical or practical nature, applying the scientific

principles and methods of a given branch of scientific knowledge. The result of this scientific search may have not only subjective, but also objective scientific novelty, and therefore can be presented for discussion by the scientific community in the form of a scientific report or presentation at scientific-practical conferences, as well as in a form of research article.

Essay involves the acquisition of skills for building business cooperation, based on ethical standards of scientific activity. Purposefulness, initiative, disinterested cognitive interest, responsibility for the results of their actions, conscientiousness, competence - personality traits that characterize the subject of research activities corresponding to the ideals and norms of modern science.

The essay is an independent educational and research activity of the student. The teacher assists in a consultative manner and assesses the process and the results of the activity. Teacher provides an approximate topic of the essay work, specifies the problem and topic of research with a student or intern, helps to plan and organize research activities, assigns time and a minimum number of consultations.

The teacher receives the text of the essay for verification at least ten days before the defense.

Generally there is a certain structure of the essay, the main elements of which in order of their location are the following:

1. Title page.
2. Goal.
3. Table of Contents
4. List of abbreviations, symbols and terms (if necessary).
5. Introduction.
6. Main part.
7. Conclusion.
8. Reference list.
9. Appendixes.

The title page contains educational institution, graduating department, author, teacher or supervisor, research topic, place and year of the essay.

The title of the essay should be as short as possible and fully consistent with its content.

The table of contents (content) reflects the names of the structural parts of the essay and the pages on which they are located. The table of contents should be placed at the beginning of work on one page.

The presence of a detailed introduction - a mandatory requirement for the abstract. Despite the small volume of this structural part, its preparation causes considerable difficulties. However, this is a qualitatively executed introduction that is the key to understanding the entire work, which testifies to the professionalism of the author.

Thus, the introduction is a very crucial part of the essay. The introduction should start with a justification of the relevance of the chosen topic. As applied to the essay, the concept of "relevance" has one feature. From how the author of the essay can choose a topic and how correctly he understands and evaluates this topic from the point of view of modernity and social significance, characterizes his scientific maturity and professional preparedness.

In addition, in the introduction it is necessary to isolate the methodological basis of the essay, name the authors, whose works constituted the theoretical basis of the study. A review of the literature on the topic should show the author's thorough acquaintance with special literature, his ability to systematize sources, critically examine them, highlight the essential and determine the most important in the up-to-date state of knowledge of the topic.

The introduction reflects the importance and relevance of the chosen topic, defines the object and subject, purpose and objectives, and the chronological framework of the study.

The introduction ends with a statement of the general conclusions about the scientific and practical significance of the topic, the degree of its knowledge and sources, and the hypothesis being put forward.

The main part describes the essence of the problem, reveals the topic, determines the author's position, factual material is given as an argument and for display of further

provisions. The author must demonstrate the ability to consistently present the material while analyzing it simultaneously. Preference is given to the main facts, rather than small details.

The essay ends with the final part called "conclusion". Like any conclusion, this part of the essay serves as a conclusion due to the logic of the study which is a form of synthesis accumulated in the main part of scientific information. This synthesis is a consistent, coherent presentation of the results obtained and their relation to a common goal and specific tasks set and formulated in the introduction. At this place there is a so-called "output" knowledge, which is new in relation to the original knowledge. The conclusion may include suggestions of practical matter, thereby increasing the value of theoretical materials.

So, the conclusion of the essay should contain: a) presents the conclusions of the study; b) theoretical and practical significance, novelty of the essay; c) indicated the possibility of applying the results of the study.

After conclusion it is acceptable to place the reference list of the literature used throughout. This list is one of the essential parts of the essay and reflects the independent creative work of the author of the essay.

The list of sources used is placed at the end of the work. It is made either in alphabetical order (by the name of the author or the name of the book), or in the order in which the references appear in the text of the prepared work. In all cases, the full title of the work, the names of the authors or the editor of publication are indicated if the writing team involved a group of authors, data on the number of volumes, the name of the city and publisher in which the work was published, year of publication, number of pages.

### **Methodical recommendations for the presentation preparation**

For preparation of presentation it is recommended to use: PowerPoint, MS Word, Acrobat Reader, LaTeX-bev package. The simplest program for creation of presentations is Microsoft PowerPoint. To prepare a presentation, it is necessary to process the information collected while writing the essay.



The sequence of preparation of the presentation:

1. Clearly state the purpose of the presentation.
2. Determine what the presentation format will be: live presentation (then how long it will be) or e-mail (what will be the context of the presentation).
3. Select the entire content of the presentation and build a logical chain of presentation.
4. Identify key points in the content of the text and highlight them.
5. Determine the types of visualization (pictures) to display them on slides in accordance with the logic, purpose and specificity of the material.
6. Choose the design and format the slides (the number of pictures and text, their location, color and size).
7. Check the visual perception of the presentation.

The types of visualization include illustrations, images, charts, tables. The illustration is a representation of a real-life visual. The images - as opposed to illustrations - are metaphor. Their purpose is to cause an emotion and create an attitude towards it, to influence the audience. With the help of well-designed and presented images, information can remain permanently in a person's memory. Chart is visualization of quantitative and qualitative relationships. They are used for convincing data demonstration, for spatial thinking in addition to the logical one. Table is a specific, visual and accurate data display. Its main purpose is to structure information, which sometimes facilitates the perception of data by the audience.

*Practical hints on preparing a presentation*

- printed text + slides + handouts are prepared separately;
- slides -visual presentation of information that should contain a minimum of text and maximum of images that bring a meaning, to look visually and simply;
- textual content of the presentation - oral speech or reading, which should include arguments, facts, evidence and emotions;
- recommended number of slides 17-22;

- mandatory information for the presentation: the subject, surname and initials of the speaker; message plan; brief conclusions from all that has been said; list of sources used;

- handouts should be provided with the same depth and coverage as the live performance: people trust more what they can carry with them than disappear images, words and slides are forgotten, and handouts remain a constant tangible reminder; handouts are important to distribute at the end of the presentation; Handouts should be different from slides, should be more informative.

### **Methodical instructions on preparation for practical classes**

Control of the results of the independent self-work is performed in the course of practical training, oral interviews, interviews, solving case study tasks, control work, including testing.

1. For practical training student must prepare: repeat the lecture material, read the desired section on the topic in the textbook.

2. The lesson begins with a quick frontal oral questioning on a given topic.

3. In classroom students work with lecture notes, slides.

4. For classes it is necessary to have a notebook for writing theoretical material, a textbook.

6. At the end of the lesson the homework is given on a new topic and is invited to make tests on the material just studied in the classroom (summary).

7. Performances and activity of students are evaluated by the current assessment.

### **Guidelines for the preparation of the report**

1. Students have independent choice of the topic of the report.

2. Selection of literary sources on the selected topic from the recommended main and additional literature is offered in the working program of the discipline, as well as work with the resources of the information and telecommunication network "Internet" specified in the working program.

3. Working with the text of scientific books textbooks must not be reduced to the reading of material, it is also necessary to analyze the selected literature, compare the presentation of the material on the topic in different literary sources, choose materials, so that the disclose the topic of the report.
4. The analyzed material is to be summarized, the most important thing is that it should not be just a conscientious rewriting of the source texts from selected literary sources without any comments and analysis.
5. On the base of analysis and synthesis of literature data, student makes a plan of the report, on the base of which the text of the report is prepared.
6. The report should be structured logically, the material is presented integrally, coherently and consistently, conclusions must be made. It is desirable that the student could express his/her opinion on the formulated problem.
7. The report takes 7-10 minutes. The report is told, not read on paper.

### **Guidelines for working with literature**

1. We need to make an initial list of sources. The basis can be a list of literature recommended in the working program of the course. For convenience, you can create your own card file of selected sources (author's name, title, characteristics of the publication) in the form of a working file in the computer. This electronic file has the advantage, because it allows you to add sources, replace the need for one to the other, to remove those that were not relevant to the subject. The initial list of literature can be supplemented using the electronic catalogue of the FEFU library, and do not hesitate to ask for help from the library staff.
2. Working with literature on a particular topic, it is necessary not only to read, but also to learn the method of its study: to make a brief summary, algorithm, scheme of the read material, which allows you to understand it faster, remember. It is not recommended to rewrite the text verbatim.

### **Criteria for evaluation of the oral report**

Oral report on the discipline "Otorhinolaringology" are evaluated by the grade system: 5, 4, 3.

"grade 5" is given to a student if he expressed the opinion on the formulated problem, reasoned it, having its contents and components precisely defined, able to analyze, generalize material and draw correct conclusions using the main and additional literature, freely answers questions that testifies that he knows and owns material.

"grade 4" is designated to a student, if he/she presents material on the chosen topic coherently and consistently, gives arguments to prove a particular position in the report, demonstrates the ability to analyze the main and additional literature, but admits some inaccuracies in the wording of concepts.

"grade 3" is given to the student if he/she had performed independent analysis of the main and additional literature, however those or other provisions of the report are not always enough reasoned, mistakes are allowed at the presentation of material and not always fully answers additional questions on the subject of the report.

### **Evaluation criteria for essays.**

The stated understanding of the essay as a holistic copyright text defines the criteria for its evaluation: the novelty of the text; the validity of the source choice; the degree of disclosure of the issue essence; compliance with the requirements for registration.

**Essay novelty:** a) the relevance of the research topic; b) novelty and independence in the problem formulation, formulation of a new aspect of the well-known problem in the establishment of new connections (interdisciplinary, intra-subject, integration); c) ability to work with research and critical literature, systematize and structure research material; d) the appearance of the author's

position, independence of assessments and judgments; d) stylistic unity of the text, the unity of genre features.

**The degree of disclosure of the question essence:** a) the plan compliance with an essay; b) compliance with the content of topic and plan of an essay; c) completeness and depth of knowledge on the topic; d) the validity of the methods and techniques of work with the material; e) ability to generalize, draw conclusions, compare different points of view on one issue (problem).

**The validity of the source choice:** a) evaluation of the used literature: whether the most famous works on the research topic are involved (including recent journal publications, recent statistics, reports, references, etc.)

**Compliance with the requirements for registration:** a) How true are the references to the used literature, quotes; b) assessment of literacy and presentation culture (including spelling, punctuation, stylistic culture), knowledge of terminology; c) compliance with the requirements for the volume of essay.

**The reviewer should clearly state** the remarks and questions, preferably with references to the work (possible on specific pages of the work), to research and evidence that the author did not take into account.

**The reviewer may also indicate:** whether student has addressed the topic earlier (essays, written works, creative works, olympic works, etc.) and whether there are any preliminary results; how the graduate has conducted the work (plan, intermediate stages, consultation, revision and processing of the written or lack of a clear plan, rejection of the head recommendations).

**The student submits** an essay for review no later than a week before the defense. The reviewer is the teacher. Experience shows that it is advisable to acquaint the student with the review a few days before the defense. Opponents are appointed by the teacher from the students. For an oral presentation a student needs about 10–20 minutes (approximately as long as he answers with tasks for the exam).

**Grade 5** is given if all the requirements for writing and defending an essay are fulfilled: the problem is indicated and its relevance is justified, a brief analysis

of different points of view on the problem under consideration is made and one's own position is logically presented, conclusions are formulated, the topic is fully disclosed, the volume is met, external requirements are met design, given the correct answers to additional questions.

**Grade 4** is given if the basic requirements for the essay and its defense are met, but there are some shortcomings. In particular, there are inaccuracies in the presentation of the material; or there is no logical sequence in the judgments; not sufficient volume of the essay; there are omissions in the design; additional questions for the defense are accompanied with incomplete answers.

**Grade 3** is given if there are significant deviations from the requirements for referencing. In particular: the topic is covered only partially; factual errors in the content of an essay or when answering additional questions; there is no output c.

**Grade 2** - the topic of an essay is not disclosed, a significant misunderstanding of the problem is found.

**Grade 1** - student's essay is not presented.



MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION  
Federal state autonomous educational institution  
of higher education  
**« Far Eastern Federal University »**  
(FEFU)

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**SCHOOL OF BIOMEDICINE**

**ASSESSMENT FUND**  
**on discipline «Forensic medicine»**

**Direction of training (specialty) 31.05.01 General medicine**  
**Form of training: full-time**

Vladivostok  
2018

## Passport of assessment fund

Completed in accordance with the Regulations on the Funds of Evaluation Assets of Educational Programs of Higher Education - Bachelor's Programs, Specialties, FEFU Magistrates, approved by order of the Rector No. 12-13-850 of May 12, 2015.

Competence and its code		Stages of competence formation			
No.	Controlled sections / topics of disciplines	Codes and stages of the formation of competencies	Evaluation tools		
			Current control	Intermediate certification / exam	
1	<b>Module 1.</b> Subject and content of forensic medicine. Procedural and organizational issues of forensic examination <b>Module 2</b> Dying and dying. Early and late cadaveric changes <b>Module 3</b> Forensic examination	- the readiness to collect and to analyze patient complaints, data of its history, the results of laboratory, instrumental, postmortem and other examinations to recognize the incidence or the absence of diseases (PC – 5)	Knows	OA-1 Interview	Question for credit 4 semester - 1-20
			Able to	OA-1 Interview	PW-1 Test
			Masters	PW-1 Test PW-11 case study task	OA-2 Colloquium
2	<b>Module 1.</b> Subject and content of forensic medicine. Procedural and organizational issues of forensic examination <b>Module 2</b> Dying and dying. Early and late cadaveric changes <b>Module 3</b> Forensic examination	the ability of determining the patient's basic pathological conditions, symptoms, syndromes, diseases in accordance with the International Statistical Classification of Diseases and problems related to health, the 10th review. (PC – 6)	Knows	OA-1 Interview	Question for credit 4 semester - 1-20
			Able to	OA-1 Interview	PW-1 Test
			Masters	PW-1 Test PW-11 case study task	OA-2 Colloquium
3	<b>Module 1.</b> Subject and content of forensic medicine. Procedural and organizational issues of forensic examination <b>Module 2</b> Dying and dying. Early and late cadaveric changes <b>Module 3</b> Forensic examination	readiness for the examination of temporary disability, participation in the conduction of medical and social expert reviews, detection of	Knows	OA-1 Interview	Question for credit 4 semester - 1-20
			Able to	OA-1 Interview	PW-1 Test
			Masters	PW-1 Test PW-11 case study task	OA-2 Colloquium



		human biological death (PC – 7)			
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## MONITORING THE ACHIEVEMENT OF THE COURSE OBJECTIVES

Competence and its code		Stages of competence formation			
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			Able to	OA-1 Interview	PW-1 Test
			Masters	PW-1 Test PW-11 case study task	OA-2 Colloquium

		human biological death (PC – 7)			
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### Scale of assessment of the level of competence formation

Competence and its code	Stages of competence formation		criteria	parameters	points
the readiness to collect and to analyze patient complaints, data of its history, the results of laboratory, instrumental, postmortem and other examinations to recognize the incidence or the absence of diseases (PC – 5)	knows (threshold)	The main anti-epidemic measures, bases of the organization of protection of the population in the centers of especially dangerous infections, at deterioration of a radiation situation, natural disasters and other emergency situations	Knows how to use ready-made plans of anti-epidemic measures in the development of an unfavorable situation for OOI and the deterioration of the radiation situation in natural disasters and emergencies	The ability to use standard plans of anti-epidemic measures in the development of an unfavorable situation for OOI and the deterioration of the radiation situation in natural disasters and emergencies	65-71
	able to (advanced)	to use methodical materials for carrying out anti-epidemic measures, organization of protection of the population in the centers of especially dangerous infections, at deterioration of a radiation situation, natural disasters and other emergency situations	use methodical materials for execution of anti-epidemic measures, organization of protection of the population in the centers of especially dangerous infections, at deterioration of a radiation situation, natural disasters and other emergency situations	ability to list and apply the basic principles of organization of anti-epidemic measures, organization of protection of the population in the foci of particularly dangerous infections, with the deterioration of the radiation situation, natural disasters and other emergencies	71-84
	Masters (high)	Bases of planning anti-epidemic measures, organization of protection of the population in the centers of especially dangerous infections, at deterioration of a radiation situation, natural disasters and other emergency situations	ability to use this knowledge to make plans for anti-epidemic measures, organization of protection of the population in the foci of particularly dangerous infections, with the deterioration of the radiation situation, natural disasters and other emergencies	ability to make plans of anti-epidemic measures, organization of protection of the population in the centers of especially dangerous infections, at deterioration of a radiation situation, natural disasters and other emergency situations .	85-100
the ability of determining the	knows (threshold)	Basics of organization of medical care in	Knowledge of the basics of medical care organization	Ability to correctly use methodological	65-71

patient's basic pathological conditions , symptoms, syndromes, diseases in accordance with the International Statistical Classification of Diseases and problems related to health , the 10th review. (PC – 6)		emergency situations, including participation in medical evacuation	in emergency situations, including participation in medical evacuation	information for first aid, methods of protection in emergency situations	
	able to (advanced)	Provide elements of assistance in emergency situations, including medical evacuation	Ability to provide medical care in emergency situations, including medical evacuation under control	Ability to apply skills in emergency medical care under control, including participation in medical evacuation	71-84
	Masters (high)	skills of rendering medical care at emergency situations, including at medical evacuation	Ability to provide medical assistance in emergency situations, including medical evacuation	Ability to independently provide medical assistance in emergency situations, including participation in medical evacuation	85-100
readiness for the examination of temporary disability, participation in the conduction of medical and social expert reviews, detection of human biological death (PC – 7)	knows (threshold)	The simplest ways to organize medical care in emergency situations, including medical evacuation	Ability to organize medical care in emergency situations, including medical evacuation	Ability to independently provide medical assistance in emergency situations, including participation in medical evacuation	61-71
	able to (advanced)	Methods of organization of medical care in emergency situations, including medical evacuation	Ability to independently organize medical care in emergency situations, including medical evacuation	Ability to independently provide medical assistance in emergency situations, including participation in medical evacuation	71-84
	Masters (high)	use systematic theoretical and practical knowledge to provide medical assistance in emergency situations, including participation in medical evacuation	The ability to use this knowledge in solving problems of medical care in emergency situations, including participation in medical evacuation	Ability to work with databases and various catalogues, independently provide medical assistance in emergency situations, including participation in medical evacuation	85-100

### **Questions to assess preliminary competencies**

**Control tests** are designed for students studying the course "Forensic medicine". Tests are necessary for both the control of knowledge in the process of

the current interim certification, and for the assessment of knowledge, the result of which can be set off.

When working with tests, the student is asked to choose one answer out of three or four proposed. At the same time, the tests vary in their complexity. There are tests among the proposed ones containing several options for correct answers. The student must provide all correct answers.

Tests are designed for both individual and collective solutions. They can be used in the process and classroom, and independent self-work. The selection of tests necessary for the control of knowledge in the process of interim certification is made by each teacher individually.

Results of performance of the test tasks are evaluated by a teacher using a five-grade scale for certification or on system "credit" - "no credit". Grade "excellent" is given if the number of correct answers is more than 90% of the tests offered by the teacher. Grade "good" is given if the number of correct answers is more than 70% of the tests. Grade "satisfactory" is given if the number of correct answers is more than 50% of the tests offered to the student.

### **Questions to the test in the discipline**

1. Outstanding scientists of forensic medicine: P. A. Minakov, I. S. Bokarius, S. A. Gromov. N. Value And. Pirogov in development of forensic medicine.
2. Role of the works of I.N. Popova, M. I. Raysky, V.V. Smolyaninova in the development of forensic medicine. Forensic doctors during the Great Patriotic War.
3. The concept of expertise. Expert opinion as a source of evidence.
4. Mandatory examination of the criminal code of Russia. The purpose of the examination.
5. Objects and methods of forensic medical examination.
6. Different types of expertise.
7. The role of a specialist doctor in investigative actions: examination of the scene, investigative experiment, etc.

8. Duties, rights and responsibilities of the expert during the examination of the corpse at the scene. Withdrawal of expert. The limits of the expert's competence.
9. Duties, rights and responsibility of an expert at the preliminary investigation and at the court session. Withdrawal of expert. The limits of the expert's competence.
10. Definition and concept of the body harm. The basic classification of injuries.
11. Injuries and its types. The importance of forensic materials in the prevention of various types of injuries.
12. Abrasions, bruises, wounds as objects of examination.
13. Bone fractures, internal injuries as objects of examination.
14. Objectives and methods of injury analysis in forensic medicine. The order of description of injuries.
15. Features of technique of dissection under various mechanical injuries.
16. Types of blunt objects, the mechanism of action, the origin of injury, the possibility of examination.
17. Documentation of forensic medical examination.
18. Organization and structure of the forensic service.
19. Forensic medical examination after fall from a great height.
20. Forensic medical examination after fall from the body height on a plane.
21. Differential diagnostics of the blunt force injuries.
22. Differential diagnostics of injuries caused a car accidents and fall from a height.
23. Car injury and its types. Features of the examination.
24. Differential diagnosis of various types of car injury.
25. Examination of car injury when moving the wheel of the car through the human body.
26. Examination of the car injury inside the cabin of car.
27. Examination of motorcycle injury.

28. Examination of the railway injury, its types. Causes of injuries.
29. Examination of the aircraft injury, its types, Rolling of FME to determine the causes of aircraft damage.
30. Causes of death from injuries caused by sharp objects.
31. FME of injuries caused by stabbing objects.
32. Examination of injuries caused by cutting objects. Weapon identification.
33. Examination of injuries caused by destructive weapons. Identification of weapons,
34. Examination of injuries caused by piercing and cutting tools. Weapon identification.
35. Differential diagnostics of injuries caused by sharp tools. The ability to identify the characteristics of damage.
36. Firearms, its types. The mechanism of shots. Additional factors of a shot. Expert value.
37. The mechanism of action of a firearm, especially damage.
38. Forensic examination at point-blank range.
39. Features of injuries when fired from close range.
40. The origin and characteristics of injuries caused by firearms when fired from a short distance. Diagnostics of entrance and exit gunshot wounds.
41. Features of gunshot injuries from a hunting rifle (blank, bullet, shot charges).
42. The ability to determine the type of weapon damage properties.
43. Comparative characteristics of wounds.
44. Establishing the number and sequence of injuries caused by gunshot and sharp weapons.
45. Types of mechanical asphyxia, tanatogenesis, the main features.
46. Expertise of strangulation asphyxia. Differential diagnostics of hanging and strangulation.
47. Examination of compression asphyxia, tanatogenesis, morphological features.

48. Obturation asphyxia, tanatogenesis, main signs.
49. Examination of drowning, types of drowning, tanatogenesis, the main features.
50. Differential diagnosis of drowning and death in water.
51. Examination of the corpses extracted from the water.
52. Local and general action of high temperature.
53. Examination of the corpses found in fire places.
54. General and local action of low temperature.
55. Death from hypothermia and its signs on the corpse. Freezing corpses.
56. Features of scene inspection and corpse examination in cases of defeat by technical and atmospheric electricity.
57. Examination of death under the action of high and low pressure of the gas environment on the body.
58. The effect of ionizing radiation on the body. Features of the study of the corpse.
59. Forensic classification of poisons and poisonings. The concept of poisons.
60. Dependence of the course of poisoning on the properties of the poison, the characteristics of the body, the conditions of administration.
61. Features of scene inspection if poisoning suspected.
62. Forensic-medical investigation of a corpse at suspicion on a poisoning.
63. The main stages of forensic examination of poisoning.
64. Examination of fatal and non-fatal acid poisoning.
65. Mercury poisoning.
66. Arsenic poisoning.
67. Carbon monoxide poisoning.
68. Poisoning with technical liquids (ethylene glycol, dichloroethane, etc.).
69. Poisoning with organophosphorus and other toxic chemicals.
70. Peculiarities of examination in cases of poisoning drugs.
71. Examination of fatal poisoning with ethyl alcohol (toxicokinetics, forensic diagnostics).

72. Examination of non-fatal poisoning with ethyl alcohol. Clinical and laboratory diagnostics.
73. Poisoning with alcohol-containing liquids. Forensic diagnostics.
74. FME of poisoning by alcohol surrogates.
75. Forensic medical diagnostics of death from alcohol intoxication.
76. The importance of alcohol intoxication in the development of violent and nonviolent revenge.
77. Examination of methyl alcohol poisoning.
78. The conditions of the poison and importance of therapeutic measures used in poisoning.
79. Comparative characteristics of morphine poisoning, atropine, strychnine.
80. Expert evaluation of the results of forensic research of human secretions and internal organs of the corpse.
81. Forensic medical diagnostics of poisonings by poisonous plants.
82. Examination of fatal and non-fatal alkali poisoning.
83. Examination of cyanide poisoning.
84. Poisoning with narcotic poisons.
85. Poisoning with sleeping pills.
86. Poisoning convulsive poisons (strychnine, cicuta).
87. Poisoning with cardiovascular toxicant (atropine, nicotine, aconitine).
88. Forensic classification of death (category, genus, species).
89. Legal and medical aspects of resuscitation and transplantation. Forensic medical assessment of possible injuries during resuscitation.
90. Terminal conditions and their forensic significance. Initial and reliable signs of death.
91. Determination of prescription of death.
92. Supravital reactions and their forensic significance.
93. Early cadaverous changes and their forensic importance.
94. Cooling and drying of the corpse. Forensic value.
95. Natural preservation of corpses and its forensic significance.



96. Forensic medical examination of corpses with traces of damage and destruction of animals, insects, plants.
97. Tasks of the doctor-specialist at survey of a corpse on the place of its exposure.
98. Features of the corpse inspection at the place of detection in car injury, falling from a height.
99. Features of corpse inspection on a place of detection at gunshot damages.
100. Features of examination of a corpse at the place of its finding in injuries by sharp weapons (objects).
101. The reasons for judicial medical expertise of the corpses (of research).
102. Tasks of forensic medical examination of the corpse and its difference from the pathoanatomical (arguments, equipment, documents).
103. Determination of lifetime damages.
104. Forensic medical examination of the violent death of newborns.
105. The possibility of errors in forensic examination in practice when establishing a newborn.
106. Reasons for forensic examination of victims, accused and other persons, its organization and conduct.
107. Classification of severity of injuries to the criminal code.
108. Examination of grievous body harm under the criminal code.
109. Peculiarities of the expertise of agony, torture, beatings.
110. At least grievous bodily harm under the criminal code.
111. Light injuries to the criminal code.
112. Medical and biological characteristics of serious injuries (life-threatening at the time of application).
113. Examination of health and simulation, aggravation, etc.
114. FME of age determination.
115. Examination of artificial diseases, self-harm and self-injuries.
116. Examination of the definition of puberty and productive capacity.
117. Examination of violations of the hymen and former copulation.

118. Examination to establish pregnancy, former traces and abortions.
  119. Forensic medical examination of criminal abortion.
  120. Examination of rape cases.
  121. Forensic medical examination in sodomy.
  122. FME on cases of sexual abuse of minors.
  123. SME blood when the paternity is disputed.
  124. The evidence studied in forensic laboratories.
  125. Detection and removal of blood from the scene as evidence.
  126. The importance and methods of clothing research in forensic practice.
  127. FME of hair as physical evidence.
  128. FME of materials from investigative and judicial cases.
  129. Forensic medical examination of sperm as evidence.
  130. Forensic aspects of violation of principles in ethics and medical deontology.
- Iatrogenic diseases.
131. Professional offenses of medical workers under the criminal code.
  132. The official offences of medical workers to the criminal code.
  133. Unintentional professional and official misconduct of medical personnel.
  135. Intentional professional and official offences of medical personnel.
  136. Organization and conduct of expertise in cases of criminal liability.

### **Case study tasks for credit**

#### **Task 1**

Protocol of inspection of the crime scene states that the examination commenced at 10 h 30 min at the place of detection of a corpse of citizen V. that is indoor unit in the garage cooperative. There is a strong smell of burning in the room. The car engine is warm, the key is in the ignition in the position "ignition on". The corpse of citizen B. is in the car cabin in a sitting position, leaning back in the driver's seat. The head is inclined forward, the chin touches the chest, hands are hanging along the body. Legs are bent in hip and knee joints. Rigor mortis is expressed in all

muscle groups. Dead spots are abundant, bright pink, arranged on the rear surface of the buttocks and thighs, fading with pressure and restoring its color in 4 minutes. Temperature in rectum - 28 °C at an ambient temperature of 15 °C. Time of the study (fixation) of cadaveric signs 11 o'clock. Temperature of the corpse in the rectum in 1 h is 27.3°C. At the point of impact with the edge metal ruler on the front surface of the shoulder is formed an impression. Eyes closed, pupils diameter is 0.5 cm, the connecting membrane of eye is pink with no hemorrhages. Pilocarpine test: reduction in pupil diameter from 0.5 to 0.3 cm in 15 s. Mouth, nose, ears apertures are clean and free. The bones of the cranial vault, facial skeleton, upper and lower limbs are intact to the touch. Inspection is finished at 13 o'clock.

#### Questions and tasks

1. What are the reliable signs of death?
2. Set the time of death.
3. Determine cause of death.
4. Are there any signs of the corpse moving?
5. Is there any physical evidence of biological origin, and what?

#### **Task 2**

Protocol of inspection of the crime scene states that the place of inspection is the area in front of the entrance to the private bath. The men's body lies on his back, feet in the direction of the door of the bath. Face turned up. There is pants on the corpse with no other clothing. Rigor mortis is expressed in the masticatory muscles, weakly expressed in the muscles of the neck, upper and lower extremities. The skin is pale. Cadaveric spots are scanty, pale-cyanotic, located on the back surface of the body, they disappear under pressure and restore their color in 15 seconds. Rectal temperature - 34,6 °C, 1 h later - 33,9 °C at an ambient temperature 20 °C. at the site of the impact with a metal rod on the front surface of the shoulder is an idiomuscular swelling of 2 cm with a height formed. Eyes are half-open, pupils are 0.4 cm in diameter, the connective membrane of the eyes are

gray without hemorrhages. Pilocarpine test: reduction in pupil diameter from 0.4 to 0.2 cm in 5 s. The mouth aperture has dried blood streaks from front to back. External auditory meatus is clean. There is a wound of a rounded shape, 0.5 cm in diameter on the front surface of the thorax at a distance of 1.5 cm down from the left nipple. There is an overlay of black color in the form of a ring up to 1 cm wide on the edge of it, outside of which there are multiple small dark particles penetrated into the skin. The edges of the damage are scalloped, the around skin is diffusely covered with dried reddish overlays similar to blood. Red liquid Under the body with parcels to form puddles on the plot 0,7x0,6 m is determined

#### Questions and tasks

1. What are the reliable signs of death?
2. Set the time of death.
3. Specify the error made at drawing up (registration) of the examination protocol of the crime scene relating to the second question.
4. What are the signs indicating the nature of injury, the mechanism of their formation, the form of a traumatic object.
5. Is there any physical evidence of biological origin, and what?

#### **Task 3**

Corpse B. with stab wounds to the chest was found in the stairwell 1 floor of an apartment house.

Examination, which began at 22 hours of the same day, has found the following: the corpse lying on his back in a pool of blood, repeating the contours of the body, warm by touch, cadaveric spots and rigor mortis are absent. The corpse dressing is sweater, pants, panties, socks, sneakers. On the front surface of the sweater there are three damages of a linear form with sharp ends and equal edges, 2 cm long each located one above the other, to the left of the middle line, and the top damage is located vertically and from the lower end to the left at right angles an additional cut of 3 cm long, ending with a sharp end. The other two injuries are horizontal.

The injuries on the clothing correspond to three wounds on the front of the chest on the left. The upper wound is located vertically along the left edge of the sternum at the level of the 4th rib has a fusiform shape, sharp ends and smooth edges, 2 cm long at the reduced edges. From the lower end to the left is an additional cut length of 2.5 cm, ending with a sharp end. In the 5th and 6th intercostal spaces are two linear wounds with smooth edges and sharp ends located horizontally along the mid-clavicle line, 2 cm long each. The skin of the chest around and below the wounds is stained with blood. Horizontal and vertical blood stains are shown on the sweater and the front surface of the pants.

1. Using the data from the examination of the corpse, set the time of death.
2. Is it possible to cause damage by the victim's own hand?
3. Was the corpse moved after death or not?
4. Is it possible to tell about the mutual location of the victim and the attacker and whether it changed in the process of causing damage?

#### **Task 4**

Protocol of inspection of the crime scene states that the examination commenced at 10 h 30 min at the place of detection of a corpse of citizen V. that is indoor unit in the garage cooperative. There is a strong smell of burning in the room. The car engine is warm, the key is in the ignition in the position "ignition on". The corpse of citizen B. is in the car cabin in a sitting position, leaning back in the driver's seat. The head is inclined forward, the chin touches the chest, hands are hanging along the body. Legs are bent in hip and knee joints. Rigor mortis is expressed in all muscle groups. Dead spots are abundant, bright pink, arranged on the rear surface of the buttocks and thighs, fading with pressure and restoring its color in 4 minutes. Temperature in rectum - 28 °C at an ambient temperature of 15 °C. Time of the study (fixation) of cadaveric signs 11 o'clock. Temperature of the corpse in the rectum in 1 h is 27.3°C. At the point of impact with the edge metal ruler on the front surface of the shoulder is formed an impression. Eyes closed, pupils diameter is 0.5 cm, the connecting membrane of eye is pink with no hemorrhages.

Pilocarpine test: reduction in pupil diameter from 0.5 to 0.3 cm in 15 s. Mouth, nose, ears apertures are clean and free. The bones of the cranial vault, facial skeleton, upper and lower limbs are intact to the touch. Inspection is finished at 13 o'clock.

Questions and tasks

1. What are the reliable signs of death?
2. Set the time of death.
3. Determine cause of death.
4. Are there any signs of the corpse moving?
5. Is there any physical evidence of biological origin, and what?

### **Task 5**

Corpse B. with stab wounds to the chest was found in the 1 floor stairwell of an apartment house.

Examination began at 22 o'clock of the same day and found out the following: the corpse lying on his back in a pool of blood, repeating the contours of the body, warm at touch, cadaveric spots and rigor Mortis are absent. The corpse is dressed in sweater, pants, panties, socks, sneakers. There are three damages of a linear form with sharp ends and equal edges on the front surface of the sweater, 2 cm long each, located one above the other, to the left of the middle line, and the top damage is located vertically and from the lower end to the left at right angles an additional cut of 3 cm long, ending with a sharp end. The other two damages are horizontal.

The clothing damages correspond to three wounds on the front of the chest on the left. The upper wound is located vertically along the left edge of the sternum at the level of the 4th rib has a fusiform shape with sharp ends and smooth edges, 2 cm long at the reduced edges. From the lower end to the left there is an additional cut 2.5 cm long ending with a sharp end. In the 5th and 6th intercostal space there are two linear wounds with smooth edges and sharp ends, located horizontally along the mid-clavicle line 2 cm long each. The skin of the chest around and below the

wounds is stained with blood. Horizontal and vertical blood stains are seen on the sweater and front surface of the pants.

1. Using the data from the examination of the corpse, set the time of death.
2. Is it possible to cause damage by the victim's own hand?
3. Was the corpse moved after death or not?
4. Is it possible to speak about the mutual location of the victim and the attacker and whether it changed in the process of causing damage?

### **Task 6**

Protocol of the crime scene examination showed the corpse of G. that was discovered this morning in the workshop back room on the couch in the clothes on (not broken) lying on the back. The skin outside the cadaver spots pale gray color, cool at the touch in the open areas of the body and lukewarm on covered clothes. Cadaveric spots on the back of the neck, torso and extremities are spilled, abundant with saturated grayish-brown color. When pressing on them with a finger in the lumbar region become pale, restoring the original intensity of color in 5-8 minutes. In the chest and abdomen there are cadaveric spots slightly noticeable of pale grayish-brown color, when pressed with a finger – disappear and recover in 50 seconds. Muscle rigor mortis are well expressed in the masticatory muscles, muscles of the neck and extremities. When a metal plate hits the outer surface of the right shoulder, a dent is formed at the point of impact. The temperature in the rectum measured by an electrothermometer at the depth of immersion of the probe 10 cm is + 26 ° C at an ambient temperature at the level of the corpse + 22°C. When re-measuring in 1 hour the rectal temperature was found to be decreased by 0.5°C in case of partial corpse undressing of any damage on the clothing and body revealed no signs of violent death were found.

Questions:

1. What is the probable cause and time of death?
2. Are there signs on the corpse's clothing and body indicating that the corpse has moved or changed its posture?

Answers:

1. Given the grayish-brown color of the cadaveric spots, the suspected cause of death is methemoglobin-producing poison.
2. Taking into account the severity of postmortem changes, the time of death is more than 10-12, but less than 24 hours ago.
3. The presence of cadaveric spots on the anterior and intensely colored on the posterior surface of the body indicates the inversion of the corpse from the abdomen to the back after 10-12 hours after the death of Mr. G.
4. No signs of movement of the corpse were found.

### **Task 7.**

**The circumstances of the case:** Mr. D., 37 years old on Dec. 5 in the bus was slammed with fist on the right ear by drunk man. Visited otolaryngologist on December 6. From the outpatient card it is known that on December 6, when examined on the right auricle, a common dark cyanotic bruise is seen. In the auditory canal is with dark red blood clots. Tympanic shows large traumatic perforation with irregular edges and bruises. During the examination was found that hearing is almost completely lost. Diagnosis: traumatic otitis media. He was in outpatient treatment until January 2, the phenomena of acute inflammation gradually subsided, hearing on the right ear was not restored. Hearing in the left ear is preserved.

**Data examination:** January 10. Right ear: perforation of the tympanic membrane was tightened by a rough scar with formed adhesions with the inner wall of the tympanic cavity. On the audiogram: a sharp decrease in hearing by type due to the damage of the sound-conducting system. Hears scream at the auricle. Hearing in the left ear is preserved. Diagnosis: right-sided adhesive otitis media.

### **Questions:**

1. Character and localization of damage.
2. The remoteness of the damage.
3. The mechanism of causing damage.
4. The degree of severity of harm to health, indicating the qualifying characteristic.

### **Answers:**



1. Traumatic right-sided otitis media (perceives the cry at the auricle).
2. Perhaps within the time specified by the victim.
3. The damage was caused by a blunt, hard object, possibly a punch.
4. Harm to health of moderate severity, resulting in a permanent loss of general working capacity of more than 10% , but less than 1/3.

## **Task 8**

**Case circumstances.** From the decision made by forensic medical examination follows: "10.03.. during a fight on the street Mr.P. hit Mr.B. with a brick on the head. Soon Mr. B. have vomiting, dizziness, loss of consciousness. During transportation to the hospital Mr. B. died."

**External examination.** ... In the frontal-parietal region to the left 4 cm from the median line and 8 cm from the superciliary arc there is a wound in the form of a three-beam star with a length of rays of 1, 2.5 and 3 cm, oriented at 12, 4 and 8 hours of the clock face. The edges of the wound are uneven evenly besieged along the entire length, the ends are rounded. The walls of the wound are steep represented by mashed, soaked in blood, soft tissues, the hair follicles are distinguishable. There is a connective-tissue bridge in the area of the wound margins between the walls. The bottom of the wound is the soft tissue of the head. Wound depth up to 1 cm.

**Internal research.** In the soft tissues of the fronto-parietal region on the left, respectively, of the cutaneous wound, a dark red hemorrhage 6x5 cm, thickness of 0.5, bones of the skull are shown to be not damaged. The dura mater is tense, beneath it, on the surface of the left hemisphere, is a hemorrhage in the form of soft dark red convolutions and liquid blood with a total volume of about 130 ml. Left hemisphere is reduced in comparison with the right. Sulcus of the right hemisphere is flattened; the convolutions are flattened. Under the soft meninges and in the substance of the brain, within the cortex, in the left frontal-parietal region are focal dark red hemorrhages. There are small focal hemorrhages in the thickness of the stem part of the brain.

**The data of laboratory researches.** Ethyl alcohol in a concentration of 2.7% and 2.4%, respectively, detected in the blood and urine from the corpse of Mr. B. using gas chromatographic method.

**Questions:**

1. What is the origin and location of the damage?
2. Was the damage done in vivo?
3. What are the mechanism of formation of damage and properties of the traumatic weapon (or its contact surface)?
4. What was the cause of death? Is there a causal relationship between injury and death?
5. Whether there is in blood and urine of a corpse alcohol if Yes, what degree of alcoholic intoxication?

**Answers:**

1. Closed craniocerebral trauma: focal brain contusion and focal subarachnoid hemorrhages in the left frontal-parietal region; subdural hematoma (130 ml) on the surface of the left hemisphere of the brain with signs of dislocation and compression of the brain; secondary hemorrhages in the brain stem; bruised wound of the left frontal-parietal region with hemorrhage in the underlying soft tissues.
2. The injuries have signs of live origin in the form of hemorrhages in the soft tissues and under the membranes of the brain.
3. The damage was formed as a result of the impact of solid blunt object with a limited contact surface in the form of a three-sided angle. The place of application of force was the left frontal-parietal region, the direction of impact - from top to bottom, and from front to back.
4. The death of Mr. B. came as a result of squeezing the brain with blood with closed craniocerebral trauma. Thus, there is a causal link between head injuries and death.
5. In a forensic chemical study of blood and urine from the corpse found ethyl alcohol in a concentration of 2,7‰ and 2,4‰. This concentration of ethyl alcohol in

the blood of living persons usually corresponds to a strong degree of alcohol intoxication.

### **Criteria for the assessment of "credit" at the end of the semester:**

1. No missed lectures and practical classes
2. Active work in the classroom.
3. Preparation of a presentation and reports on the proposed topic
4. Passes test credit

### **Criteria for evaluation of oral response, colloquia**

"grade 5" is given to student if he/she gives the correct answers to the discussed questions with difference in depth and completeness of disclosure of a subject, is able to draw conclusions and generalizations to give the reasoned answers which are logical and consecutive.

"grade 4" is assigned to a student if he/she is on the issues under discussion provides the right answers, is the depth and completeness of the topic, knows how to make conclusions and generalizations, but allowed one or two mistakes in the answers.

"grade 3" is given to a student if he/she gives answers to the discussed questions which insufficiently open it, there is no logical construction of the answer, admits several mistakes.

"grade 2" is given to a student if he gives answers to the discussed questions, which show that he does not own the material of the topic, can not give reasoned answers, serious errors in the content of the answer are allowed.

### **Evaluation tools for current certification**

**Control tests** are designed for students studying the course "Forensic medicine". Tests are necessary for both the control of knowledge in the process of the current interim certification, and for the assessment of knowledge, the result of which can be set off.

When working with tests, the student is asked to choose one answer out of three or four proposed. At the same time, the tests vary in their complexity. There

are tests among the proposed ones containing several options for correct answers. The student must provide all correct answers.

Tests are designed for both individual and collective solutions. They can be used in the process and classroom, and independent self-work. The selection of tests necessary for the control of knowledge in the process of interim certification is made by each teacher individually.

Results of performance of the test tasks are evaluated by a teacher using a five-grade scale for certification or on system "credit" - "no credit". Grade "excellent" is given if the number of correct answers is more than 90% of the tests offered by the teacher. Grade "good" is given if the number of correct answers is more than 70% of the tests. Grade "satisfactory" is given if the number of correct answers is more than 50% of the tests offered to the student.

### **Examples of test tasks.**

01. The basis of the chronological definition of age are the following signs:

- A. anthropological;
- B. anthroponymic;
- C. anthroposcopic;
- D. anthroponotic;
- E. antropogenic.

02. Anthropometric characteristics for age determination include:

- A. the length of the hair;
- B. the length of the nail plates;
- C. body weight;
- D. the condition of the skin;
- E. waist circumference.

03. The approximate timing of the appearance of nasolabial wrinkles:

- A. 50 years.;
- B. 25 years;

- C. about 30 years;
- D. 40 years;
- E. about 20 years.

04. Full erasing of the incisor crowns or erasing them to the total cross section roughly see at:

- A. 30 years;
- B. 60-70 years;
- C. 55-58 years;
- D. 40–50 years;
- E. 20 years.

05. Loss of skin turgor, appearance of brown pigment spots on the back surface of the bones of the hands are characteristic of persons aged:

- A. after 90 years;
- B. after 30 years;
- C. only after 80 years;
- D. after 40 years;
- E. after 60 years.

06. The yellowish tint of enamel, its abrasion on incisors and molars, the beginning of hair graying on the temples are characteristic of age:

- A. 70 years;
- B. 60 years;
- C. 50 years;
- D. 40 years;
- E. 30 years.

07. Approximate terms of appearance of wrinkles at the outer corners of the eyes are typical for age:

- A. 25–30 years;
- B. 20 years
- C. 50 years;
- D. 40 years;

E. 60 years.

08. In the examination of living persons a bone age is determined by:

A. weighing;

B. anthropometry;

C. puncture;

D. radiographically;

E. visual.

09. The appearance of the first signs of incisor enamel fading is noted in:

A. 40 years;

B. 30 years;

C. 22-25 years;

D. 20 years;

E. 16 years.

10. The abrasion of canine enamel to detect the total cross section of the crown is typical for the age:

A. 70 years;

B. after 60 years;

C. after 40 years;

D. 50–55 years;

E. 30 years.

11. In infancy (1st year of life) the typical error in determining the age of life can be approximately:

A. + 1 year;

B. few weeks;

C. one month;

D. few days;

E. 0.5 years.

12. Pigmented areas on the skin of the hands and forearms appear in the age:

A. 20 years.;

B. 25-30 years;

C. 35-40 years;

D. after 50 years;

E. 55 years.

13. The development of the pelvis in girls ends at the age:

A. 18 years;

B. 14 years;

C. 12 years;

D. 16 years;

E. 20 years.

14. Initial signs of scuffing on only enamel of incisors appear at the age of:

A. 18 years;

B. 13-14 years;

C. 12 years;

D. 16 years;

E. 20 years.

15. In determining the bone age in old seniors it should be taken into account the degree of:

A. growth of cartilage;

B. increase in fontanelles;

C. nuclei of ossification;

D. osteoporosis, the degree of overgrowing the skull sutures;

E. the appearance of nuclei and ossification of fontanelles.

16. Under 20 years the age can be determined by the degree of:

A. expression of nuclei of ossification;

B. severity of callus in the places of fractures;

C. overgrowth of the joints of the arch and the base of the skull;

D. osteoporosis;

E. germination of fontanelles.

17. Examination of age is made according to the CPC:



- A. by decision of the investigator;
- B. by decision of the expert;
- C. obligatory;
- D. optional;
- E. aAt the agreed request of the parties concerned.

18. Section of criminology, studying the structure of skin patterns of fingers hands is called:

- A. anthropology;
- B. dermatoglyphics;
- C. identification;
- D. dactyloscopy;
- E. dermatology.

19. Papillary patterns may vary:

- A. as a result of the posthumous drying of the skin;
- B. as a consequence of somatic diseases;
- C. with age;
- D. as a result of the softening of tissues caused by rotteing;
- E. never change.

20. To restore turgor of eyeballs due to putrefaction the what have to be administered:

- A. hypertonic glucose solution;
- B. 96° alcohol;
- C. solution of glycerol with alcohol;
- D. formalin solution;
- E. distilled water.

21. Private identifying signs include:

- A. head circumference;
- B. signs of dental fillings;
- C. body weight;
- D. race;

E. height.

22. Hair samples from an unknown body take from:

- A. one area;
- B. two areas;
- C. arbitrarily;
- D. six areas;
- E. four areas.

23. Description of the person appearance with special rules using unified terms are called:

- A. identification;
- B. fingerprinting;
- C. verbal portrait;
- D. external inspection;
- E. examination of an unknown person.

24. At detection of an unknown person corpse the investigator together with forensic expert in the morgue do the following:

- A. reasoned conclusion;
- B. map of an unidentified corpse;
- C. inspection report;
- D. outer inspection;
- E. Act of corpse examination.

25. A necessary condition for the photo placement is:

- A. pre - interviewing relatives;
- B. presence of several lifetime photos;
- C. the same scale and angle of the objects of photo-placement;
- D. the presence of special signs of identifiable persons;
- E. uniformity of the photo paper used.

26. Essential for identification purposes in medical documents is the following information:

- A. complaints at hospitalization;

- B. home address;
- C. record of injuries suffered;
- D. date of hospitalization;
- E. full name.

27. Essential for identification purposes in medical documents is the following information:

- A. complaints at hospitalization;
- B. home address;
- C. record of hospitalization;
- D. blood type record;
- E. full name

28. The dynamic features of verbal portrait include:

- A. the size of the shoulders;
- V. the shape of the face;
- C. features of facial expressions;
- D. the details of the structure of the face;
- E. special features.

29. The following information is essential for identification purposes in medical documents:

- A. data on prosthetics;
- B. full name;
- C. record of hospitalization;
- D. ARVI diseases;
- E. home address.

30. Fingerprinting a corpse in the morgue is executed by:

- A. medical examiner who conducted the autopsy;
- B. doctor on duty; expert;
- C. guidance of the policy.;
- D. a local policeman or criminal investigator;
- E. expert-criminologist.

31. Determining the length of the body from the bone remains is made by:

- A. bones of the skull;
- B. pelvic bones;
- C. individual vertebrae;
- D. ribs and sternum;
- E. long tubular bones.

32. Approximate time of appearance of the frontal and nasolabial wrinkles is characteristic of age:

- A. 25–30 years;
- B. 20 years;
- C. 50 years;
- D. 40 years;
- E. 60 years.

33. To determine the size of the shoes of an unknown person, it is necessary:

- A. the length of the foot and add one;
- B. add one to the length of the foot, multiply by two;
- C. the length of the foot, multiply by three;
- D. add one to the length of the foot multiply by 1.5;
- E. add one to the length of the foot and divide by 1.5.

01	02	03	04	05	06	07	08	09	10
C	C	E	B	E	D	A	D	E	B
11	12	13	14	15	16	17	18	19	20
C	E	A	B	D	C	C	D	D	C
21	22	23	24	25	26	27	28	29	30
B	D	C	B	C	C	D	C	A	E
31	32	33							
E	B	D							

MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION

Federal state autonomous educational institution

of higher education

« Far Eastern Federal University »

(FEFU)

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SCHOOL OF BIOMEDICINE

**GLOSSARY**

on the discipline «Forensic medicine»

Specialty – 31.05.03 General medicine (specialty level)

Vladivostok

2018

**Abduction phenomenon** - the contraction of the pupil under intense abduction of the eye; observed in some lesions of the central nervous system.

**Aberrant** - deviating from the normal structure, location or condition.

**Abortion criminal** - artificial termination of pregnancy outside the hospital. The most common cause of death in a criminal abortion is shock, embolism, bleeding, sepsis.

**The absolute increase (decrease)** in crime is an indicator of the dynamics of crime, characterized by an increase (decrease) in the volume of crime (i.e., the absolute number of crimes or persons who committed them) for a certain period. For example, the absolute increase in the number of crimes registered in Russia in 1995 compared to 1994 amounted to 4.3 thousand crimes.

**Abstinence** - a condition that occurs as a result of a sudden discontinuation of substances that have caused substance dependence, or after the introduction of their antagonists, characterized by mental or other painful disorders, the severity of which depends on the nature of the substance, its dose and duration of use.

**Abscess** - a cavity filled with pus and limited by the surrounding tissue pyogenic membrane.

**Abusus (abuse)** - short (for one or several days) drinking of large amounts of alcohol or drugs, leading to severe intoxication.

**Accident** - an extraordinary event that occurs due to man-made (structural, industrial, technological and operational) reasons, as well as due to accidental external influences and consists in damage, failure, destruction of technical devices or structures.

**Accident large (production, transport accident)** - the accident, which resulted in numerous human casualties, significant material damage and other serious consequences.

**Air injury** - a complex of damage caused to a person by the outer or inner parts of the aircraft in a flight accident, most often in an aircraft accident (fall, explosion of the aircraft, etc.).

**Car injury** is the most common type of transport injury. In case of an car injury the body is exposed not only to parts of the car, but also to other factors (the fall of the victim to the ground, sliding it on the road surface, etc.). A uniform definition of car accident does not exist:

- A. A. Matyshev, A. A. Solokhin, SI. Khristoforov and V. A. Safronov (1968) state it as a complex of the injuries caused by external or internal parts of the moving car (trolleybus, etc.), and also the damages arising at falling from the moving vehicle.

- \* A. I. Mukhanov (1974) defines an car injury as a set of mechanical effects on the body of a moving vehicle with associated effects of other objects and the resulting injuries.

During forensic examination of the corpse according on the base of morphological characteristics the doctor should establish the fact of car accident, identify the factors (e.g., hitting, moving, injury inside the car, etc.), identify the mechanism of damage formations, express their opinion about the type of vehicles that caused the injury, and solve other important issues.

**Agglutinin** - sediment generated in the process of agglutination.

**Agglutination (gluing)** - gluing and precipitation of suspended particles - bacteria, erythrocytes, leukocytes, platelets, tissue cells as well as surface active particles with antigens and antibodies adsorbed on them.

**Agglutinins** - adhesive particulate and soluble antibody gluing antigens adsorbed on erythrocytes or an inert carrier particles.

**Aggravation** is a deliberate exaggeration of the symptoms of a really existing disease or a painful condition, as well as an understatement of the results of treatment. Aggravation can be intentional or pathological (with mental illness, hysteria).

**Agnosia** - a violation of the processes of recognizing objects and phenomena in clear consciousness and maintaining or a slight disturbance of sensation (vision, hearing, touch, smell) due to lesions of the cerebral cortex.

**Agony** is a terminal state that precedes the onset of death. It is characterized by a profound dysfunction of the higher parts of the brain especially the cerebral cortex, with simultaneous excitation of the centers of the medulla oblongata.

**Accelerogram** - damage caused by exposure to sudden strong acceleration, characterized by excessive displacement of the otoliths, hemorrhage into the semicircular canals, vestibular syndrome.

**Algorithm** - an instruction (system of rules) that determines the content and sequence of operations that provide solutions to problems of a certain class.

The algorithm for solving the problem of a specific expert study (a specific expert task) - a rule that prescribes the commission of actions in a sequence that provides under certain conditions, the resolution of the question posed to the expert.

**Alibi** (lat. aibi - elsewhere) - proof of innocence, which means that at the time of the crime the accused (or suspect) was in another place and could not directly participate in the crime.

**Alimony** - money that in cases prescribed by law one family member is obliged to pay for the maintenance of other family members in need (children, incapacitated spouses, parents).

**Alkaloids** are nitrogen-containing organic compounds of natural, mainly plant origin, many of which are toxic and have physiological activity.

**Alcoholism** - systematic excessive use of alcoholic beverages in doses that cause alcohol intoxication.

**Alcoholism chronic** - a form of substance abuse with a predilection for the use of substances containing ethyl alcohol, and the development of chronic intoxication in this regard.

**Alcohol** (English. alcohol; him. Alkohoi; Spanish alcohol) - alcohol-containing substance. In forensic practice methyl (methanol-wood alcohol) and ethyl alcohol (ethanol) are essential. Methyl alcohol leads to poisoning, in particular, in the falsification of alcoholic beverages. Ethyl alcohol is most often of interest when assessing the condition of road users who are drunk; when committing offenses under the influence of alcohol.; in case of fatal alcohol poisoning (cause of death,



forensic autopsy). Even moderate doses of alcohol affect the body and mind causing significant violations of auditory perception, vision, skills (change of handwriting, suitability for driving), change in reaction speed, violation of attentiveness, observation. There is disinhibition, frivolity, risk-taking. Stages of intoxication are different: from a simple form to complete intoxication with a deep violation of consciousness. Alcohol is absorbed immediately after administration through the gastrointestinal tract (resorption). It is distributed in the body mainly with blood flow and is contained in urine, exhaled air, saliva, eye vitreous fluid, sweat, etc.

**Allergy** - a state of reactivity of the body in the form of increasing its sensitivity to repeated exposure to any substances or components of its own tissues. There are food, drug, professional, cold, bacterial allergies.

**An alternative conclusion (conclusion)** of the expert is a strictly dividing judgment, indicating the possibility of the existence of any of the mutually exclusive facts listed in it and the need for the investigator (court) to choose one of them and recognize it as having taken place in reality. Alternative conclusions are acceptable when all alternatives are named without exception; each of them should exclude the others (and then from the falsity of one can logically come to the truth of the other, from the truth of the first - to the falsity of the second).

**Outpatient clinic (lat. ambulatorius-mobile) forensic** - one of the departments of the bureau of forensic medical examination (Department of forensic medical examination of victims, accused and other persons), where citizens are examined to determine the origin and extent of harm to health, age, about sexual crimes, etc. in the outpatient clinic, a separate room is desirable for obstetric and gynecological examination. Clinical equipment: desk, chairs, couch, safety deposit boxes, medical cabinets, typewriter, medical scales, height chart, X-ray film viewer, stethoscope, chair gynecological microscope binocular (operating), magnifier, etc.

**Amygdalin** - glucoside contained in the seeds of a number of plants (bitter almonds, peaches, cherries) is toxic due to the formation of" hydrocyanic acid during its decomposition.

**Ammonia** is a gas with a characteristic behind the groin, strongly irritating the mucous membranes. Soluble in water forming the hydroxide solution or ammonium hydroxide ammonia (ammonia). Ammonia causes a superficial inflamed reaction with the formation of strong edema. With more prolonged exposure, a detachment of the mucosa with the formation of necrosis is formed. Ammonia diffuses easily through the tissues, enters the blood, causing general signs irritating the central nervous system. Severe poisoning can cause paralysis of the nervous system death occurs with the phenomena of asphyxia (seizures, cyanosis, respiratory arrest). When poisoning occurs hemolysis and alkaline hematin is formed in the liver, which causes its fatty degeneration. Clinical signs: the leading symptoms are: severe pain in the places of contact with the poison (especially in the stomach), vomiting blood and parts of the mucous membrane of the stomach, the characteristic smell of vomit, disorders of the gastrointestinal tract, runny nose, tear, strong cough, abundant salivation, rapidly increasing swelling of the larynx, mental and motor! excitement, convulsions, delirium, which are replaced by collapse and paresis of the lower extremities. As complication pneumonia may occur. Lethal dose of ammonia 10-15 ml. At the autopsy are found the following: painted in bright red mucous membranes of the mouth, pharynx, esophagus, with layers of areas. Gastric mucosa is often bright red or red-brown with areas of detachment. The blood becomes paint. The diagnosis is not difficult.

**Amnesia** - forgetfulness, memory loss - memory impairment in the form /waste of the ability to preserve and reproduce previously acquired knowledge.

**Immorality** - rejection of the moral foundations of society, nihilistic attitude to moral norms, spiritual disintegration of the individual. The extreme form of immorality is cynicism - contempt for the whole culture of society, its spiritual values, mockery of ideals, social foundations.

**Amputation** is a surgical operation of cutting off the limb (its peripheral part with the intersection of the bone), as well as the removal of an organ (uterus, breast, etc.). In forensic medicine: excision (RAS-articulation) of an organ or limbs as a result of injury (more often railway).

**Analysis** (Greek. analysis-analysis, decomposition)

\* determination of the composition and properties of any substances, the study of their;

\* the method of scientific research, consisting in the dismemberment of the whole into constituent elements; analysis, consideration of something.

**Document analysis** is a method of research based on the study of objects intended for the transfer or storage of criminological information. For example, analysis of criminal cases of banditry.

**Spectral (emission) analysis** is a type of scientific research that allows to determine the composition and quantitative content of elements in any substances. It is based on the fact that the red-hot substance emits light consisting after decomposition by a prism of separate lines, the location of which in the spectrum is strictly defined for this element. Each of these lines is characterized by a corresponding wavelength. By determining the wavelength it is possible to figure out what elements are contained in the substance, and by measuring the intensity of spectral lines - the quantitative content of these elements. The spectral analysis performed by spectrograph ISP-22, ES-28, etc.

**Forensic chemical analysis** - qualitative and quantitative determination of chemicals in organs, tissues, biological fluids - face, lips turn blue, there comes a state of intoxication, weakness, vomiting, dizziness, shortness of breath, there may be convulsions, coma. The lethal dose of solo 20-25 ml. Morphological signs of: blood dark brown - (chocolate) color of, phenomena jade, dystrophic changes parenchymal organs.

**Questionnaire** - the list of questions, subject to self-completion by the correspondent. Types of questionnaires:

- mail;

- distributing;

- \* Express - quickly filled;

- \* questionnaire - a small questionnaire about the volume, which fits in one sheet of paper and contains, as a rule, no more than 10 questions.

Questionnaire - a type of survey based on the indirect interaction of the responding and the respondent, in which the latter independently fills out a form containing a list of questions (questionnaire).

**Anoxia** (Greek. an-negative prefix + oxygen-oxygen) - the complete absence of oxygen in tissues (almost never observed).

**Anomia** - disturbances in the value-normative systems of the individual and social groups, the value-normative vacuum, the inefficiency of social and, above all, legal norms. The premise of deviant (deviant) behavior, the state of consciousness caused by the inability to achieve goals by legal means. Abnormal personality is characterized by social irresponsibility, extremism, marginality.

**Australian antigen** - virus-like particles with specific antigenic properties found in human blood in serum hepatitis. The Australian antigen remains in the body after treatment. It has a certain expert value in the specification of the individual.

**Antigens (Greek. anti - against + genes - incident)** - natural and synthetic substances, which parenteral administered results in developing specific products, antibodies. Antigens have two main properties: 1) when administered parenterally, they cause a kind of reaction of cellular elements, resulting in the body appear specific antibodies; 2) react with antibodies strictly specific, i.e. antigen is connected only with the antibody, which arose in response to its introduction into the body. The structure of the antigen is complex. Antigens are important in determining the species and group of blood.

**Antidepressants** - drugs used in psychiatric practice for the treatment of depression in various nosological forms. It is also used in neurological practice.

**Anticoagulants** - tools that prevent blood clotting, widely used in medical practice (heparin, neodikumarin, phenylin, etc.).

**Antibodies** - proteins globulin fraction of human blood serum and warm-blooded animals, formed in response to the introduction of various antigens and specifically interact with the antigens that caused their formation. The ability to produce antibodies have only higher animals - mammals, birds, to a lesser extent reptiles.

**Antifreeze** (Greek. anti-against + persistent. freeze-freeze) - the common name of non-freezing liquids used instead of water in the cooling system of internal combustion engines; widely used in the automotive industry. As a rule, 40-50% aqueous solution of ethylene glycol with glycerol or ethyl alcohol is used as antifreeze

**Anthropometric points** - strictly localized points on the human body, the distance between which allows us to judge the total and partial dimensions of the body.

**Anthropometry** (from gr. **anthropos** man + **metreo**-measure; eng. **anthropometric**) is recommended in the mid-nineteenth century by the Belgian Quetelet A. method of measuring body parts for identification.

Anthropometry serves as a statement based on observations and statistical calculations that the dimensions of individual parts of the human body, starting from a certain age, remain unchanged and there are no two people with the same body size. In 1888. Bertillon introduced the Paris police that he developed a way of measuring of body parts, which was performed 11 measurements: body length (height), distance from crown to point of buttock (height seated), arm span, length of head, width of head, length of right ear width of right ear, length of left foot, length of the middle finger of the left hand, the length of the ring finger of the left hand, the length of the left forearm (elbow). From 1895 until the introduction of fingerprinting, the identification of criminals, particularly in Germany, was carried out using anthropometry.

**Anthroposcopy** - a set of methodological techniques to describe the features of the structure of the human body, based on the assessment in points of the severity of individual characteristics. In judicial medical practice it is used for identification of the person.

**Anencephaly** is an anomaly of development: complete or almost complete absence of the brain.

**Apoplexy** (Greek. apoplexia, paralysis, stroke) is suddenly occurring hemorrhage in any organ.

**Argue** (lat. argumentari) - to bring evidence to support the views expressed.

**Arteriole** - the blood vessel that ends the branching of the artery.

**Arteriosclerosis** is a lesion of arterioles and small arteries of muscular type, characterized by thickening of vessel walls with significant narrowing of their lumen.

**An artery** is a blood vessel through which blood moves from the heart to organs and parts of the body.

**Artifact** - education or processes that occur sometimes in the study of biological objects due to the impact on them of the conditions of the study.

**Posttraumatic arthritis** is a disease of the joints as a result of mechanical damage to the joint capsule, cartilage, meniscus, ligamentous apparatus, muscles, tendons, fascia and characterized by the development of dystrophic changes.

**Asymmetry (disproportion)** - in biology - disordered distribution of similar (paired) parts of the body or organs relative to a certain point or plane. In forensic science, asymmetry is used to identify a person.

**Asocial setting** - underlying illegal behavior deformation of the legal consciousness of the individual, unable to keep from socially dangerous behavior.

**Aspermatism** is a pathological condition characterized by the fact that during sexual intercourse the seminal fluid is not released at all. Aspermatism may be due to bilateral obliteration of the vas deferens and epididymis due to inflammatory disease (eg, gonorrhoea). May be observed after prostatectomy when sperm enters the bladder. As a temporary phenomenon, aspermatism may be associated with the fact that previously there were repeated sexual intercourse with ejaculation and therefore sperm is no longer allocated. In the presence of true aspermatism a man is not capable of fertilization.

**Aspermia** - a pathological condition in which the sperm does not contain any spermatozooids or previous forms of spermatogenesis. Aspermia can occur after radiation damage to the body or when the spermatogenic tissue of both testicles is atrophied. Aspermia completely eliminates the possibility of fertilization.

**Aspiration** - penetration of a foreign body into the respiratory tract as a result of suction by the flow of inhaled air.

**Asthenospermia** - a pathological condition in which the ejaculate contains a large number of painful modified forms of sperm with weakened motion in which translational motion they are almost absent.

**Asphyxia (SYN. suffocation)** - a pathological condition caused by acute or subacute oxygen deficiency and excessive carbon dioxide and manifested by severe disorders of the nervous system, breathing and blood circulation.

**Asphyxia mechanical** - due to a mechanical obstacle to breathing (obstruction of the respiratory openings and paths, compression of the neck, chest, abdomen).

**Asphyxia traumatic** - looks like a picture of asphyxia - a syndrome caused by compression of the chest, abdomen or whole body (soil during collapse, building construction, etc.), characterized by extensive venous stasis and multiple hemorrhages in parts of the body located around the compression.

**Atelectasis** - a condition of the lung or part of it, in which the alveoli do not contain or almost do not contain air and appear to have collapsed.

**Atherosclerosis** - a chronic disease characterized by fat infiltration of the inner lining of the artery, followed by the development of connective tissue in their wall.

**Atropine** is an alkaloid contained in plants of the family Solanaceae - belladonna, belém, datura etc. In the medical practice, atropine sulfate. The minimum lethal dose of atropine sulfate 0,05-0,1 g. Death occurs at the phenomena of asphyxia from paralysis of the respiratory center.

**Certificate** (from lat. attestor-testify, certify; persistent. certificate) - written official document:

- about the educational institution termination;
- \* certifying the right of the serviceman to receive monetary and ware allowance or the right of his dependent to receive part of the monetary allowance.

**Certification** (from lat. Attestation - evidence of; persistent. certification, promotion, reference)

- \* determination of qualification, level of knowledge of the employee, specialist or student, as well as the quality of products, jobs;

\* review of abilities, knowledge, business and other qualities of any person; characteristics.

**Autism** is a social alienation of a person, his / her departure from social contacts, orientation of an individual only on his / her own criteria for assessing events, is associated with inadequate emotional response, increased aggressiveness.

**Autolysis** (decomposition, SYN. self-digestion) - disintegration of cells and tissues of the body under the influence of hydrolytic enzymes contained in them.

**Postmortem autolysis** - after the onset of death, occurring without the participation of microorganisms and due to the activation of hydrolytic enzymes in a shift in the reaction of the medium in the acidic side. with age, not under the influence of the environment, some of its features are inherited. These properties of dermatoglyphics are widely used in criminology and forensic medicine, as well as in clinical medicine for the diagnosis of \achromosomal diseases, 1 study of heredity, etc.

dactyloscopy of relatives has a great similarity, which allows it to be used in the examination of disputed paternity, disputed motherhood l replacement of children.

**Determinants** - specific factors (circumstances) that give rise to the phenomenon, cause.

**Determination** - objectively existing conditionality of things, processes. Any phenomenon does not arise by itself, outside the surrounding reality, but, on the contrary, is associated with it, generated by specific factors and circumstances. Determinism is the doctrine about the objective logical relationship of causation all Zanini.

**Detonation** (lat. detonare -thunder) - instant ignition of any explosives caused the explosion of this substance or shaking.

**Infanticide** is the killing by the mother of her child during the birth of PI immediately after birth. Active infanticide - infanticide, carried out by causing violence. Infanticide is a passive infanticide carried out by deliberately leaving hobos born without the necessary help.

**Detritus** (lat. detritus-worn) the product of tissue decay.



**Tissue defect** (lat. delectus flaw, defect, drawback) the area of skin embossed by bullet or gas, reliable sign of a gunshot entrance wound. At first tissue defect was described in 1849 N.I.Pirogov. M. I. Rayski called this sign "minus fabrics". The tissue defect is determined by comparing the edges of the wound: if they approach due to the tension of the skin with the formation of folds or do not approach, it indicates the presence of tissue defect. It is possible to prove the presence of a tissue defect in gunshot wounds by weighing the target or graphically.

**Definition** - a brief scientific description of a concept or phenomenon.

**Defloration** - violation of the integrity of the hymen

**Defoliants** - chemicals from the group of pesticides used in agriculture for pre-harvest removal of sheets (defoliation) of plants, such as cotton. Defoliants are poisonous to humans and warm-blooded animals. As defoliants often use cyanamide calcium cyanamide free, chlorine magnesium, butifos, folex, silicon-fluoride sodium and other substances

**Deformation** - changing the size and shape of the body under the influence of an external force (without changing the mass). Deformation is called elastic if it disappears after the termination of the impact, and plastic if it does not disappear completely. During deformation in the body there is a special condition called stress. The greatest stress at which the deformation retains an elastic character is called the elastic limit. The stress at which the body collapses is called tensile strength. The limits of fracture strength of the rib (young man) - 85-110 kg/cm, the elderly - 40, rib cartilage - respectively 13-42, vertebrae -26, intervertebral discs- 69-137 kg/cm<sup>2</sup>. The simplest types of deformation of the body: stretching, compression, shear, bending or torsion. In most cases, deformation is a combination of several types of deformation at the same time. However, any deformation can be reduced to the two most simple - stretching (or compression) and shear. The deformation is investigated by means of tensometry, as well as resistance strain gauges, x-ray structural analysis and other methods.

**Act, action, deed, behavior.** The latter may manifest itself in action or inaction. Criminal action is an active form of human behavior, for example. Intentional

infliction of bodily harm. Criminal inaction is a passive form of behavior of a person when the subject could and was obliged to perform certain actions by virtue of the law or the obligation assumed, but did not do so. For example, the failure to help a sick person medical staff.

**Diagnosis** - a medical report on the state of health of the subject, the existing disease (or injury) or cause of death, expressed in terms of the name of the disease (injury), their form, course options, etc.

**Diagnosis** (Greek. diagnosis - the definition, recognition) forensic brief conclusion in judicial - the medical expert after his study; prepared for the forensic medical examination (study) of the body and is usually written after the narrative part of the act (prior to the conclusion, conclusions). The diagnosis of forensic facilitates the construction of conclusions (conclusions). The diagnosis judicial-medical must be full, clear, built according to the nosological principle, and to have a forensic focus (in its specifics) and summative in nature. It is made according to the pathogenetic principle, i.e. in it are specified:

- \* underlying damage or disease;
- \* complications of major injury or disease;
- \* collateral damage or disease.

**Nails** - a derivative of the skin, Horny plates on the back side of the end phalanges of human fingers and primates. Perform a protective function. Grow on average 0.1-0.15 mm per day. A full upgrade takes approximately 100 days. Nails examination can be an expert study to identify the individual by matching the cut or by broken pieces with the nails of a living person or a corpse, sometimes by matching terrain pieces of lacquer that have fallen from the surface of the nail, with a relief corresponding to the nail plate. Identification of nails on a system of mutual arrangement of the longitudinal ridges that occur on the nails in the process of their growth. Matter is a cosmetic treatment and nail diseases, progress work, etc. there are characteristic traces left by nails on the body of the person - linear, arcuate (Crescent) abrasion, allowing to ascertain the damage caused by fingers, often

determine the form of violence. Particles of the stripped epidermis, traces of blood can be found under the fingernails of the assailant.

**Accused** - a person who, in accordance with the procedure established by law, is brought to criminal responsibility if there is sufficient evidence of the commission of crime. The accused on trial is called the defendant; the accused on whom a conviction has been imposed is called the convicted person. The accused has legally guaranteed rights as well as obligations. So, at appointment and production of examination the accused has the right: to challenge to the expert, to ask about appointment of the expert from among the persons specified by him, to submit additional questions for receiving "about him the expert opinion, "to be present at production of examination and to give explanations to the expert, to get acquainted with the expert opinion.

**Detection of traces** - in forensics a special kind of search traces. The manifestation of traces is possible in cases where the substances transferred in the event of traces have other properties (adhesive or reflective) than the carrier. Hidden traces can be made visible by optical means, powders, glass or liquids. The method used to detect traces depends on the investigator. In dactyloscopy, in particular, are used such methods as reflected artificial light, means for pollination (magnetic brush, soot powder, argentorate, soot slurry powder), etc.

**Summary indicators of crime** - relative or average crime rates, characterize all or a certain part of the aggregate statistics on crime, the identity of criminals, the causes and conditions of crime, the results of prophylactic activities.

**Rim (belt) of drying** - one of the objective signs of the entrance gunshot wound in the skin. It is a dense dark-brown border 2-5 mm wide along the edge of the hole. The rim of drying is observed only on the corpse 12-24 hours after death. It is usually slightly wider than the rim of the sedimentation, as not only the sedimentation zone is exposed to drying, but also part of the adjacent unadulterated skin in the zone of molecular concussion.

**The Bockler core** - the nucleus of ossification in the lower epiphysis of the femur, appearing usually on the 10 lunar month and having a diameter of 0.5-0.6 cm

**The core of the identity of the culprit** - a set of persistent moral-psychological properties of the individual offender.

**The core of ossification** - the primary element from which the bone tissue is formed in and smaller and encontrarnos types of ossification. Nuclei of ossification arise through the activities of osteoblasts (young cells costestimate) that produce extracellular matrix, which is later deposited calcium salts. The origin and development of cores ossification is done in a certain time and a certain after-dovalidate. This circumstance is the basis for determining the maturity of the fetus, the establishment of age. In the lower epiphysis of the femur, the ossification nucleus appears at the beginning of the 9th month of intrauterine life. When opening the corpse of the baby ossification core looks dark red, irregularly rounded island, located on a whitish-bluish background of cartilage. Its size is not less than 5-7 mm in diameter and indicates the maturity of the newborn. This symptom remains even after considerable decay of the corpse. The nucleus of ossification in the lower epiphysis of the femur, described by Böckler in 1819, bears his name

**Intracardial poisons** - poisons acting directly on the nervous apparatus and the heart muscle are of the greatest importance is drugs from digitalis - digoxin, digitoxin, as well as corglicon, strophanthin, etc., used as medications. Toxic doses of intracardial poisons block a membrane adenosine triphosphate disrupting the return of potassium released during muscle contraction and sodium excretion, which hit the cell at the time of excitation of the membrane e. As a result, the concentration of potassium ions in the myocardium decreases and the concentration of sodium ions increases, which worsens the energy, contractile and automatic functions of the myocardium. This leads to a reduction of shock cardiac output, blood pressure, development of hypoxia, acidosis, the appearance of cyanosis shortness of breath, congestion in the lungs, bradycardia, etc., Fatal poisoning with intracardiac poisons is very rare. Morphological changes are not specific.

**The iatrogenic** (gr. iatros - physician genes - incident) - the occurrence of diseases generated by the improper, careless, thoughtless statement from a physician, and

often insensitive and inconsiderate behavior of the doctor towards the patient.  
Iatrogenic contribute: familiarity with the patient's medical records.

**Legal conflictology** is a branch of knowledge that studies the nature, causes and dynamics of legal conflicts, legal mechanisms for their prevention and resolution. Society and the state create and actively use a number of mechanisms: the court, the Prosecutor's office, parliamentary procedures, etc., designed to reconcile the conflicting parties or forcibly stop their confrontation.

**Jurisprudents (lat. jus-law + prudentia-knowledge, science)** - law, a set of rules of law; a set of knowledge relating to legal norms in their practical application.

**Justice** (lat. justice) - justice; system of judicial institutions; judicial Department.

**Poison (lat. venerium, toxinum)** - a substance that has entered the body in a minimal amount and acting in it chemically or physico-chemically, under certain conditions, causes poisoning, i.e., health disorder or death.

**Poisons (persistent. poisons)** - in forensic toxicology chemicals that have harmful (toxic) effects on the living organism. As a poison in a particular situation, not only a substance specially created and intended for poisoning can be used, but also a substance used for medicinal or other purposes, with intentional or careless dose excess (some drugs, drugs, alcohol, etc.). Poisons vary in time of action, place of action (neurotoxic, nephrotoxic, etc.), intensity of toxic effects and other characteristics. The art of making poison was well known in the Ancient East. Poisons were extracted mainly from wild herbs and mushrooms. Along with plant poisons of animal and mineral origin were known: snake, toad, salamander, copper greens, lead whitewash, arsenic, lead minium, mercury, cinnabar. The strongest poison was considered "golden lime". Poisons were used as a detector of guilt in trials ("the verdict of the gods"). In Athens the poisonous juice of the Hemlock was used for the execution of the death sentence. To combat poisoning along with simple means (quince, lemon, gold, begonia) used teriak, one of the antidotes, sometimes consisting of 100 ingredients.

**Nuclear crime** - a set of crimes that remain unchanged or little changing in time and space.