MINISTRY OF HEALTH OF THE REPUBLIC OF BELARUS
INSTITUTION OF EDUCATION
"GOMEL STATE MEDICAL UNIVERSITY"

Department of Pathological Anatomy

PROCEDURAL AND ORGANIZATIONAL FOUNDATIONS OF FORENSIC MEDICAL EXAMINATION IN THE REPUBLIC OF BELARUS. FORENSIC THANATOLOGY. DYING AND DEATH. FORENSIC EXAMINATION OF A CORPSE. FORENSIC EXAMINATION OF NEWBORN CORPSES. INSPECTION OF THE CORPSE ON THE M OF NATURAL OCCURRENCE (DETECTION).

Educational-methodical recommendation
for 5th year students of medical and physical science faculties
in the discipline "Forensic medicine"

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PROCEDURAL AND ORGANIZATIONAL FOUNDATIONS OF FORENSIC MEDICAL EXAMINATION IN THE REPUBLIC OF BELARUS. FORENSIC THANATOLOGY. DYING AND DEATH. FORENSIC EXAMINATION OF A CORPSE. FORENSIC EXAMINATION OF NEWBORN CORPSES. INSPECTION OF THE CORPSE AT THE SCENE OF THE INCIDENT (DETECTION).

(total lesson time - 6 academic hours).

RELEVANCE OF THE TOPIC

The knowledge acquired on this topic is necessary for a deeper understanding of the patterns of development, interrelation and interdependence of pathophysiological and pathomorphological changes in the human body during the process of dying. Acquaintance with the patterns of development of cadaveric phenomena, the signs necessary for ascertaining death, the peculiarities of the forensic medical examination of the corpse, the tasks of the forensic expert when examining the corpse at the place of its discovery.

THE OBJECTIVES OF THE LESSON

To familiarize students with the procedural regulation and the procedure of appointing a forensic medical their expertise, the structure of forensic examinations of the State Committee of the Republic of Belarus, the processes occurring in the human body in the process of dying, the basic techniques of the forensic examination of the corpse, the expert tasks at the examination of the corpse at the scene. Show the basic principles of conducting forensic medical examination of newborn corpses.

TASKS

1. To master the procedural regulations and the procedure for the appointment of forensic medical examinations.
2. To get acquainted with the structure of the State Committee for Forensic Expertise of the Republic of Belarus.
3. To be able to distinguish the features of terminal conditions, signs of clinical and biological death.
4. To be able to use in practice the use of probable and reliable signs of death to ascertain death.
5. To be able to answer questions that are resolved during the forensic medical examination of a corpse, including a forensic medical examination of a newborn corpse.
6. To be able to use requirements normative x document s, regulatory inspection procedure corpse on the spot of detection (a scene).

KEY LEARNING QUESTIONS

1. Purpose, tasks and objects of forensic medical examination. Types, grounds and procedure for the appointment of forensic medical examinations.
2. The main regulatory documents of the State Committee for Forensic Expertise in the Republic of Belarus. "Instruction on the procedure for the production of a forensic medical

examination of a corpse in the State Committee for Forensic Expertise of the Republic of Belarus" (dated July 13, 2015).
3. Expertise at the preliminary investigation and in the court session. The rights and obligations of the state medical forensic expert.
4. The doctrine of death. Imaginary death.
5. Terminal conditions and their forensic medical significance. Clinical and biological death.
6. The rate of dying. Morphology of acute and agonal death. Forensic medical assessment of injuries during resuscitation.
7. Statement of the fact of death, it's probable and reliable signs, their definition and forensic medical significance.
8. Early cadaveric changes. Cooling of a corpse, thermometry of a corpse. Phenomena of partial (local) drying. Cadaveric spots, stages, terms of their development, research methods. Rigor mortis, mechanisms and timing of development. Autolysis.
9. Late cadaveric changes. Rotting corpse. The influence of environmental conditions and other factors on the course of decay processes. Conservative forms of late cadaveric changes: mummification, fat wax, peat tanning. Development of fauna and flora on a corpse. Damage and destruction of corpses by representatives of the animal world.
10. Reasons for a forensic examination of a corpse. Differences of a forensic medical examination of a corpse from its pathological examination.
11. Documentation of a forensic medical examination of a corpse: "Expert opinion", its structure and content. Requirements for the expert's conclusions.
12. Exhumation, examination of the exhumed corpse. The difference between intravital and postmortem injuries.
13. Forensic clinical and anatomical conferences: the main tasks and forms of conferences. The value of materials of forensic medical examination of sudden death for improving the quality of medical care to the population.
14. Sudden death, causes, factors contributing to the onset of sudden death of adults and children.
15. Features of autopsy in case of suspected death from especially dangerous infections and AIDS.
16. The main issues to be resolved during the examination of newborn corpses. Causes of nonviolent death of fetuses and newborns before, during and after childbirth.
17. Reasons and grounds for the inspection of the scene, the main objectives of the inspection. Cases of mandatory participation of a state medical forensic expert or other doctor in the examination of the scene.
18. Assistance to the investigator in the detection, seizure, packaging and direction for examination of material evidence of biological origin.

MATERIALS FOR CONTROL OF THE TOPIC ASSEMBLY

Terminology

Forensic medicine is a branch of medical science that deals with: the study of medical and biological problems encountered by the forensic authorities and the improvement of the health care system.

A forensic medical examination is a procedurally conditioned study of an object aimed at resolving issues of a medical and biological nature that arise from judicial investigative bodies during the investigation of a specific criminal case or consideration of a civil case.

The State Committee for Forensic Expertise of the Republic of Belarus (SCSE) is a centralized system of state bodies exercising powers in the field of forensic expertise in accordance with legislative acts (including conducting forensic medical examinations).

Beloglazov's sign is a change in the shape of the pupil when the eyeball is compressed (the phenomenon of "cat pupil").

Early cadaveric changes - cadaveric cooling, local drying, cadaveric spots, rigor mortis, and autolysis.

Late cadaveric changes - destructive (rotting) and preserving (mummification, fat wax and peat tanning).

Place of incident - a part of the area or a room where traces of an event requiring investigation were found.

Inspection of the scene of the incident - an investigative action consisting in the inspection of a site or premises where a crime was committed or traces of it were found.

Examination of the corpse to the place of its discovery - an investigative action of the crime scene.

Purpose, tasks and objects of forensic medical examination. Types, grounds and procedure for the appointment of forensic medical examinations.

Introduction.

Forensic medicine - a branch of medical science, which deals with:

- the study of medical and biological problems arising from the judicial and investigative authorities;
- improving the health care system.

A forensic medical professional with a medical degree, special training and certification is designated as a *state medical forensic expert.*

A forensic medical examination is a procedurally conditioned study of an object aimed at resolving issues of a medical and biological nature that arise from judicial investigative bodies during the investigation of a specific criminal case or consideration of a civil case.

On July 1, 2013, the State Committee for Forensic Expertise, which was established by the Decree of the President of the Republic of Belarus No. 202 of 22.04.2013, began its activity in the Republic of Belarus.

The structure was created on the basis of the State Service for Medical Forensic Expertise, expert subdivisions of the Ministry of Internal Affairs, the Ministry of Emergency Situations, the Ministry of Defense and the Ministry of Justice of the Republic of Belarus.

The State Committee for Forensic Expertise of the Republic of Belarus (SCCE) is a centralized system of state bodies exercising powers in the field of forensic expertise in accordance with legislative acts (including conducting forensic medical examinations).

The State Committee is a paramilitary organization and reports directly to the President of the Republic of Belarus.

It is headed by the Chairman of the State Committee for Forensic Expertise of the Republic of Belarus, who is appointed and dismissed by the President of the Republic of Belarus.

One of the Vice-Presidents is Mr. Lavna State medical examiner of the Republic of Belarus.

The structure and apparatus of the GKSE:

- Central office;
- Office for the Brest region;
- Department of the Vitebsk region;
- Office of the Gomel region;
- Department of the Grodno region;
- Office for the Minsk region;
- Office for the city of Minsk;
- Office of the Mogilev region.
- State educational institution "Institute for Advanced Studies and Retraining of Belarus GKSE»;
- State institution "Scientific-Practical Center GKSE the Republic of Belarus»;
- Republican Unitary Enterprise "Belsudekspertobespechenie".

Structural subdivisions of the medical profile as part of the regional department of the SCSE of the Republic of Belarus:

- Department of forensic medical examinations (USME), which includes:

• department of general examinations (forensic outpatient clinic, forensic morgue);
• department of medical and forensic examinations.

- Department of Forensic Psychiatric Expertise (USPE).
- Directorate of laboratory research of biological evidence (ULIVDBH), which includes:

• department of forensic biological and forensic genetic examinations;
• department of forensic histological examinations;
• department of forensic chemical expertise.

- Interdistrict (district) departments, which may include:

• Department of medical forensic examinations, and (or) sectors forensic medical and forensic psychiatric examinations

Purpose, tasks and objects of forensic medical examination.

The purpose of the forensic medical examination is to establish factual data based on the application of special knowledge in the field of forensic medicine, the application of approved research methods and methods, and in compliance with all the requirements of the Law.

The objects of forensic medical examination are:

I. Corpses. The examination of corpses is carried out in the event of a violent death, as well as upon reasonable suspicion of a violent death.

II. Physical persons (n about born with the accused and other persons). An examination is carried out to determine the nature and severity of bodily harm, age (in criminal and civil cases), sexual conditions and crimes, as well as to resolve other issues that require special knowledge in forensic medicine.

III. Physical evidence. Organs, tissues, secretions of a person, as well as traces of traumatic objects on the body, clothing and shoes of a person.

IV. Materials of criminal and civil cases, as well as cases of administrative offenses.

The tasks of forensic medical examination.

The tasks of forensic examinations should be classified into identification and non-identification.

For *identification* include the task of establishing a group or individual accessories (Installed species, sex, group and individual indicators of blood and other biological tissues; determination of sex, age and other family characteristics of an unidentified corpse or his remains, personal identification of the corpse or its remains; the identification of traumatic subject according to the characteristics of damage, etc.).

Non-identification tasks, in turn, can be subdivided into the following groups:

1) diagnostics and reconstruction of the event and its parameters (establishment of the mechanism of causing bodily harm; determination of the possibility of receiving specific injuries in a fall, car injury, etc.; determination of the distance of the shot, the sequence of causing damage, etc.);

2) diagnostics of the general properties of the object and identification of the reasons why the object acquires certain properties (examination of the state of health, disputable sexual conditions, etc.);

3) establishment of the time of the event (determination of the prescription of the onset of death, the prescription of the formation of bodily injury);

4) establishing the causes and conditions of the event, causal relationships between events (determining the causes of health disorders, the relationship between bodily injury and death, between the complication of treatment and the characteristics of the actions of a medical worker, etc.).

Types, grounds and procedure for the appointment of forensic medical examinations.

Grounds for the appointment of an examination.

According to the Law, an examination is appointed in cases where, in the course of an inquiry, preliminary investigation or court session, there is a need for special knowledge in the field of science, technology, art, and craft.

The reason for the forensic medical first examination the body and are the direct indication or suspicion of violent death, so as the expertise required to be appointed in the following cases:

The procedure for appointing an examination.

Having found it necessary to carry out an expert examination, the investigator or another person who has the right to do so draws up a resolution on this, which indicates the grounds for the appointment of an expert examination, the name of the expert or the name of the institution in which the expert examination is to be carried out, the questions posed to the expert and the materials provided at the disposal of an expert. When appointing an examination, the investigator finds out the necessary data on the specialty and competence of the person who is entrusted with the production of the examination.

The person who appointed the forensic medical examination has the right to indicate personally the forensic medical expert, who is entrusted with the production of the expert examination. If this instruction is not available, the issue is decided by the head of the expert structural unit.

These persons, on behalf of the investigator, explain to the forensic expert, who is entrusted with the production of the expert examination, the procedural rights, duties and responsibilities of the expert, determined by the Criminal Procedure Code and the Criminal Code of the Republic of Belarus, about which his signature is taken away. This subscription is included in the introductory part of the conclusion or drawn up as a separate document.

Types OF FORENSIC their expertise.

* *Primary examination.*

It is carried out for the first time by one or more experts, if necessary by experts of different specialties. The need for several specialists to participate in the examination is determined by the nature and complexity of the study. For example: a large amount of research; examination of the corpse of a foreign citizen; primary examination of an exhumed, previously not opened corpse, etc.

* *Additional expertise.*

Appointed in cases of insufficient clarity or completeness of the conclusion, as well as if the investigation has additional questions. She, as a rule, is entrusted to the expert who conducted the initial examination, or another expert.

* *Repeated examination.*

Appointed in cases of unfounded expert opinion or doubts about its correctness. It is entrusted to a commission of experts.

The decision on the appointment of a re-examination must indicate a reasoned reason for the need for it.

The forensic expert who performed the initial examination may be involved in the re-examination to clarify the circumstances that have changed or disappeared as a result of his research, other issues related to the initial examination, as well as the ways in which he came to conclusions.

Due to the fact that the re-examination does not at all predetermine its greater evidentiary value in comparison with the primary examination, the assessment of the expert opinions in accordance with procedural legislation is ultimately made by the court, taking into account all the materials of the case.

Repeated examinations are carried out in the central office, regional departments of the SME Service and the central forensic laboratory of the Ministry of Defense, and in the central office, these examinations are carried out, as a rule, after such examinations are carried out in the regional departments of the EMS and the central forensic laboratory of the Ministry of Defense.

* *Commission examination.*

It is carried out when it is necessary to perform complex expert studies.

The personal composition of the expert commission is determined by the person who appointed the examination, or the head of the structural unit of the Service, if the composition of the commission is not specified in the resolution.

The participation of several experts is mandatory in the production:

a) expert examinations in cases of criminal prosecution of medical workers for professional offenses;

b) repeated examinations on the materials of criminal, civil cases and cases of administrative offenses;

c) expert examinations of age determination;

d) expert examinations, including primary, in difficult and especially difficult cases;

e) expertise in relation to foreign citizens.

Forensic medical examinations in cases of bringing medical workers to criminal responsibility for their professional offenses are carried out only in the central office of the State Committee for Forensic Expertise of the Republic of Belarus.

* *Comprehensive expertise.*

It is carried out when, in addition to medical knowledge, special knowledge in science, technology, art or craft is required.

It is carried out in those cases in which the establishment of a particular circumstance is impossible by conducting separate examinations, or this goes beyond the competence of one expert or a group of experts. Carried out by several experts from different fields of special knowledge.

The main regulatory documents of the State Committee for Forensic Expertise in the Republic of Belarus. "Instruction on the procedure for the production of a forensic medical examination of a corpse in the State Committee for Forensic Expertise of the Republic of Belarus" (dated 13.07.2015).

The main regulatory documents of the State Committee for Forensic Expertise in the Republic of Belarus.

1. Decree of the President of the Republic of Belarus dated April 22, 2013 No. 202 “On the formation of the State Committee for Forensic Expertise of the Republic of Belarus”.
2. Decree of the President of the Republic of Belarus dated July 01, 2013 No. 292 "Questions of the State Committee for Forensic Expertise of the Republic of Belarus».
3. Law of the Republic of Belarus dated July 15, 2015 No. 293-3 "On the State Committee for Forensic Expertise of the Republic of Belarus".
4. Instructions on the procedure for the production of various types of forensic medical examinations in the State Forensic Expertise Committee of the Republic of Belarus.

"Instruction on the procedure for the production of a forensic medical examination of a corpse in the State Committee for Forensic Expertise of the Republic of Belarus" (dated July 13, 2015).

A forensic medical examination of a corpse is carried out by forensic experts of expert structural subdivisions of the bodies of the State Committee, who have the appropriate qualifications of a forensic medical expert.

An autopsy is carried out in forensic morgues of the State Committee bodies or in morgues of health care organizations after the formation of early cadaveric phenomena (cooling, cadaveric spots, rigor mortis).

In exceptional cases, it is allowed to perform an autopsy of an exhumed corpse in the open air during the warm season in dry weather, provided there is sufficient natural light and other necessary conditions for work.

The objects of research within the framework of the examination of a corpse are the body of a deceased person, its parts, remains. During the examination of a corpse, clothing, medical documents, case materials and other items delivered with the corpse may also be examined.

The examination of the corpse is carried out to establish the cause of death, the presence of bodily injuries and the mechanism of their formation, as well as to resolve other issues set out in the resolution (determination) on the appointment of the examination. If there are questions about the nature and severity of bodily injuries in the resolution (ruling) on the appointment of an examination, they are established in the manner prescribed by the legal acts of the State Committee.

E tapas and sequence of production of the corpse examination.

Stages of examination of a corpse. The examination of a corpse is carried out solely by an expert who has received this examination, except for cases established by legislation and legal acts of the State Committee: a corpse received from a healthcare organization, in the presence of circumstances indicating shortcomings in the provision of medical care; the corpse of a child who died before reaching the age of one year; an exhumed corpse, as well as in other cases established by legislation and legal acts of the State Committee.

1. Acquaintance with the resolution (determination) on the appointment of an examination and other documents (medical history, case materials or checks, etc.) presented to the forensic expert, their study.

2. Before the start of the forensic medical examination of the corpse, it is necessary to notify the body (person) that appointed the examination of the corpse about the time and place of the autopsy of the corpse, if it is provided for by the resolution (determination) on the appointment of the examination. If this person (body), after the appropriate notification, does not appear at the specified time and place of examination of the corpse, the examination is carried out without the above-mentioned person.

3. Determination of the order of examination of the corpse. The scope and methods of expert research are determined by a forensic expert, based on the issues put for permission in the resolution (determination) on the appointment of an expert examination.

4. Organization of work of personnel with secondary specialized medical education, medical forensic medical registrars and orderlies (hereinafter referred to as auxiliary personnel) for the preparation of the necessary equipment, tools, dishes, inventory, packaging and other material.

5. Direct autopsy, including external and internal examination of the corpse.

6. Withdrawal of biological and other objects (hereinafter referred to as biological material) during autopsy for the direction and production of examinations in other structural divisions of the State Committee bodies:

- pieces of organs for forensic histological examination,
- blood, urine and other biological media for forensic examination,
- skin flaps containing elements of bodily injury for forensic examination, etc.

If the necessary research cannot be performed in the bodies of the State Committee, the forensic expert conducting the examination of the corpse, in the prescribed manner, transfers the seized biological material to the body (person) that appointed the examination.

7. Immediately after the opening, the introductory and research parts of the expert's conclusion are drawn up.

8. If there is a need to study additional materials and documents required for giving an opinion, appropriate petitions are made to the body (person) that appointed the examination to provide the missing information.

9. After the submission and study of the requested additional materials and documents, as well as the results of the examinations of the seized biological material, necessary for giving an opinion, a forensic medical diagnosis, conclusions are drawn up and the expert's opinion is finalized. Also, illustrating tables of external injuries and marks on clothes and shoes are compiled, which are applied to the contour schemes of the human body.

Corpse examination sequence

Outdoor research. External examination of a corpse begins with an examination of clothing. In the course, which lists and names its individual objects and their position on the

corpse at the time of inspection, color, degree of deterioration, safety of loops, buttons and fasteners (drawings, marks, factory labels and other features are also described on the clothes of the corpses of unknown persons), the presumptive form indicates the type of material (silk, wool, etc.). The contents of the pockets are listed and described.

Indicate and describe other items delivered with the corpse (bedspreads, polyethylene fragments, etc.).

In the presence of damage and dirt on the clothes, they are photographed, their exact location, the distance from the seams and other specific parts of the clothes (pockets, valves, edges of the sides, etc.) are indicated, their shape (oval rectangular, arcuate, other), sizes, direction relative to the body, the nature of the edges and ends, the relative position of damage and dirt on clothing with damage and marks on the corpse is established, as well as other features.

In the case of damage or contamination on clothing, which can be used to identify the object with which this damage, or damage on the corpse was formed, or the mechanism of their formation (tears, cuts, sliding marks, fabric defects, falling off, tread marks, lubrication, particles paints, soot, and others), as well as if traces similar to blood, vomit, medicines, caustic or other chemicals are detected, the forensic expert is obliged to take measures to preserve them for subsequent examination by forensic experts of other specialties and to exclude the possibility of additional damage, dirt or deformation of these marks. For this purpose, the clothes, if necessary, are dried, packed and, in accordance with the established procedure, transferred to the body (person) that appointed the examination.

Before removing clothes, cadaveric phenomena are investigated (indicating the exact time of the study):

- The degree of cooling of the corpse is determined by palpation in the covered with clothing and open parts of the body, in the groin and axillary areas.

If necessary, thermometry of the corpse is performed at least twice with an hour interval in the armpit, rectum, and, if possible, in the liver tissue.

- The features of rigor mortis are established: the presence or absence of rigor mortis, its prevalence and severity in the muscles of the face, neck, upper and lower extremities.

After taking off your clothes:

- It is noted according to external signs (if any), gender, age, physique (strong - athletic, hypersthenic; medium - normosthenic; weak - asthenic) degree of fatness, the length of the corpse's body is measured, if necessary, the parameters of individual parts of the body are noted.

- In case of age up to one year, the corpse is weighed.

- It is noted (indicating the exact time of the study) the presence or absence of cadaveric spots, their localization, prevalence, intensity (insular, confluent, abundant, scarce), character, color, the presence of hemorrhages on their background, described areas devoid of spots (clothing prints and objects), their dynamometry and fixation of the recovery time of the original color (in seconds, minutes) is performed , the preservation of the ability to move cadaveric spots when changing the position of the body and the degree of difference from the initially arisen cadaveric spots are noted . If necessary, differentiation of cadaveric spots and bruises is performed.

- The signs of cadaveric drying in the area of the sclera and corneas (Larchet spots), in the area of the red border of the lips, tip of the tongue, scrotum, glans penis, labia

minora, fingertips and other localizations are described in detail, parchment spots are also described.

When describing the signs of cadaveric drying, the shape, size, severity of the contours, the level of location (protrude, sink) in relation to the unchanged surrounding skin, etc., are indicated.

- A sign of Beloglazov is diagnosed (change in the shape of the pupil when pressing on the eyeball). And also, if necessary, supravital reactions are established: pupillary test, mechanical irritation of the muscles of the shoulder or thigh, irritation of skeletal muscles with electricity, if necessary, prints or smears of blood, secretions of the mammary gland, corneal surface, pieces of skin and muscles are taken and sent for laboratory research.

- In the case of late cadaveric phenomena, they are also subject to detailed description: there is a putrid odor, an increase in the size of the corpse, the severity and localization of cadaverous greenery, putrefactive venous network, putrefactive blisters, putrefactive emphysema, their color, size, shape are indicated. Also, prolapse of the rectum, uterus, the presence of areas of a fat wax, localization, consistency, color and preservation of the tissue structure against the background of this area are noted, signs of mummification are established (the degree of drying of the corpse, skin color, density, sound upon impact on the skin, reduction in size and weight corpse) and peat tanning (color, density of the skin, reduction in the size of the corpse). If necessary, flies found on the corpse, their larvae, pupae are placed in test tubes and sent for laboratory entomological research, the localization, color, height, size of colonies and areas of mold on the skin and clothing of the corpse are indicated, the mold is carefully removed with sterile tweezers, placed in a sterile test tube for determining the time of development.

- A detailed description of the skin is made: their color and features are noted (dry, wet, cyanotic, "goose", etc.), the severity and type of hair growth (including the length, color and color of hair on the head, the presence of bald patches), the presence of traces of injections, rashes, swelling, scabs, manifestations, congenital and acquired anatomical and other individual characteristics (scars, birthmarks, tattoos, etc.).

- Next, the head is examined: it is palpated, during which the state of the bones of the skull, the presence of mobility, deformation, the presence of puffiness of the face and other features are noted. When examining the head, including, it is indicated:

1) whether the eyes are open, the color of the irises, the diameter of the pupils, the consistency of the eyeballs are determined, the color of the sclera is noted, the presence or absence of hemorrhages;

2) the absence or presence of discharge from the external openings of the mouth, nose and ears is indicated, if any, the nature of the discharge is indicated;

3) the transitional border, the mucous membrane of the lips is examined, it is noted whether the mouth is open, whether the teeth are closed, whether there is an infringement of the tongue between the teeth, the color and characteristics of the teeth, the presence and number of crowns and prostheses, indicating their color, are listed. and describes the state of the surface of the gums in their place;

4) the presence or absence of blood, particles of food masses, any other foreign objects in the oral cavity is indicated;

5) if necessary, the condition of the tympanic membranes is examined using a frontal mirror and an ear funnel.

- Examines the areas of the neck, chest, abdomen, back, upper and lower extremities, armpits, skin folds under the mammary glands, perineum and anus. When examining the corpses of women, the shape and size of the mammary glands, pigmentation of the areolae and the white line of the abdomen, the presence of discharge from the nipples when pressing on the mammary glands, pregnancy scars and other features are determined.

- The external genital organs are examined. In men, the condition of the foreskin, the external opening of the urethra, and the scrotum is determined; in women, the pubic area, large and small labia, clitoris, external opening of the urethra, the entrance to the vagina, hymen, perineum, anus are examined. Indicates the absence or presence of discharge, damage, scarring, ulcers and other features.

- The bones of the skeleton are palpated, the presence of pathological mobility, crepitus, deformity is noted.

The next stage in the study of the corpse is the description of external injuries. Initially, the study is performed with the naked eye, and if necessary, with the help of a magnifying glass, stereomicroscope or operating microscope. For each injury, its type (bruise, abrasion, wound), exact anatomical localization, shape, size, direction along the axis of the body, color, nature of the edges and ends, features of the relief of abrasions, the presence of a wound channel, signs of inflammation or healing, overlapping and pollution, the condition of the surrounding tissues. In the presence of many lesions of the same type, it is allowed to group them when describing according to individual anatomical regions in compliance with the above requirements.

In this case, damage is indicated taking into account the following features:

1) when determining the localization of damage, the corresponding anatomical region and the distance from the damage to the nearest anatomical landmarks are indicated using a system of rectangular coordinates, and, if necessary (transport injury, gunshot, stab-cut injuries and others), the distance from the lower level of each damage is measured to the plantar surface of the feet;

2) the shape of the damage is indicated in relation to geometric shapes (triangular, round, oval and others);

3) primary colors and shades are used to indicate the color of damage;

4) the dimensions of damage are indicated only in metric system of measures using rulers made of solid material;

5) when examining overlaps and contaminants in the area of damage, their alleged nature (blood, soot, lubricating oils, paints, sand, etc.) and their localization are noted.

- To clarify the nature and characteristics of injuries or painful changes in the bones of the skeleton, at first, before internal examination, if possible and necessary, their radiography is performed, then soft tissues are dissected and bones and surrounding tissues are examined. If necessary, the damaged bone is removed, cleaned of soft tissues and glued for further examination.

- In the event of a transport injury or suspicion of it, when falling from different heights (including when walking or from a standing position), as well as in other cases when the possibility of damage to the muscles, ligaments, and bones, the back surface is not excluded the body, as well as the extremities, incisions are made in the soft tissues of the posterior surface of the body - from the occipital protuberance to the sacrum along the line of the spinous processes of the vertebrae and then through the buttocks along the posterior surface of the thighs

and lower legs, followed by their dissection to detect or exclude these injuries. Depending on the characteristics of the death case, examination of the tissues of the posterior surface of the body may be performed after the end of the internal examination of the corpse.

- All injuries on the body and clothing are photographed with the obligatory use of a scale ruler.

- Photographs of injuries on body and clothing are taken by a forensic expert or support staff under the direction of a forensic expert.

After describing the external damage, the material is removed, which can be contaminated or changed as a result of evisceration: the skin is removed to examine the presence of traces of lubricants, paint, metal overlays, smears are taken of the contents of the oral cavity, vagina, rectum, hair samples, slices of free edges nail plates, washings are made from the skin surface.

Internal research. With an internal examination of a corpse, the cranial cavity, chest and abdominal cavities are necessarily examined. The vertebral canal and spinal cord should be examined in the presence of their injuries or diseases, as well as in traumatic brain injury, traffic accidents, falls from different heights, in other cases - if necessary.

The sequence and techniques for examining cavities and organs is determined by a forensic expert, guided by preliminary information about the circumstances of death, specific features of the death case, research objectives and relevant teaching materials, adhering to a systemic order if possible.

Anatomical incisions, separation of soft tissues, isolation and examination of internal organs are performed by the forensic expert himself.

Sawing of the bones of the skull, spine and selection of other bones of the skeleton can be performed by the orderly under the guidance of a forensic expert and always in his presence. Injuries caused in the course of sectional examination of a corpse that are not related to the standard methods of sectional studies (fractures of ribs, laryngeal cartilage, skull bones, etc.) must be reflected in the research part of the expert's conclusion.

If you suspect pneumothorax, air or gas embolism (in case of the likelihood of damage to the heart, lungs, large blood vessels, as well as in cases of surgical operations on these organs, punctures, cannula insertion, catheterization of large vessels, when examining the corpses of women of fertile age, who died under unknown circumstances with suspected abortion, during the sectional examination, appropriate samples are made according to the established methods.

Soft tissue incisions are made, if possible, without affecting external injuries, surgical wounds, fistulas, drains, catheters, cannulas, graduates, etc., as well as foreign objects left in wounds. The color of the muscles, the greatest thickness of the subcutaneous fat layer, the presence (absence) of traumatic or pathological changes are noted.

Before the organs of the neck, chest and abdomen are removed, they are inspected in situ. At the same time, the correct location of organs, malformations, the degree of fulfillment of the pleural cavities by the lungs, the height of the diaphragm, the presence of adhesions in the pleural and abdominal cavities, the condition of the parietal pleura and peritoneum, mesentery, lymph nodes, the solar plexus region, swelling or collapse of the stomach and intestinal loops are indicated., the degree of blood filling of the superior and inferior vena cava. Indicates the presence or absence of a foreign smell from cavities and organs. When a retroperitoneal hematoma is detected, its size and level of location are determined.

For the removal of organs, the method of separate or complete evisceration can be used at the discretion of the forensic expert and, depending on the specific circumstances, (organs are removed as a single complex and examined by incisions without separating them). If necessary, it is possible to use the methods of Virchow, Abrikosov, Chiari-Marish, Lutelyu and others. At the same time, full access to the organs is provided, the possibility of their detailed examination and, if necessary, the topographic relationships between them and injuries are preserved. In particularly difficult cases, the following methods are used:

1) exclusion method - used to determine the primary focus of the tumor, with dense adhesions of the complex. After a detailed examination of the extracted organocomplex, first all organs that are not related to the main process are examined, and then the remaining unexplored organocomplex is studied by the "search" method;

2) the "search" method - used in very dense conglomerates of adhesions between organs. With the help of long soft metal probes, beak-shaped metal bougues and catheters, the anatomical and topographic ratio of the organs welded to each other is determined, which are separated by incisions after finding the most optimal direction along the lines of the probes and catheters (the method must be used for complex ulcerative processes, fistulas, abnormal fistulas etc.);

3) the method of planar combinations - used in cases of massive extensive adhesions that deform the relationship between organs. The organocomplex (conglomerate) is dissected by deep parallel incisions to form thin tissue plates in the form of an open book.

All organs are measured and examined from the surface and from the incisions.

Wherein:

1) their consistency, the severity of the anatomical structure, color, blood filling, specific smell is noted;

2) changes and damages are carefully investigated and described;

3) the nature and volume of the content is determined in the hollow organs;

4) if necessary, the brain, heart, lungs (separately), liver, spleen, kidneys (separately) are weighed;

5) if the presence of pathological changes is suspected, the thyroid, thymus and pancreas, adrenal glands, pituitary gland, pineal gland and other organs are weighed.

When examining the head, the state of the inner surface of the soft integument is noted: color, moisture, consistency, blood filling, absence or presence of hemorrhages, their localization, color, shape and size (including thickness); the temporal muscles are examined from the surface and on the cut.

The bones of the cranial vault are sawn completely, forcible separation of the vault and the base of the skull with incomplete sawing of the bones is not allowed.

The thickness of the frontal, temporal, parietal and occipital bones is measured on the cut, as well as, in case of traumatic brain injury, the longitudinal and transverse dimensions of the skull. Investigated damage to the cranial vault, noted the state of the seams of the skull.

The degree of tension and color of the dura mater, the density of its adhesion to the bones, the blood filling of the vessels and sinuses, the transparency and blood filling of the pia mater, the nature of the subarachnoid contents and cisterns, the symmetry of the hemispheres, the severity of the relief of the grooves and convolutions, the absence or presence of pressure bands are noted the edge of the crescent bone, tentorium of the cerebellum, foramen magnum. On the transverse or longitudinal (depending on the method chosen by the forensic

expert) sections of the brain, the severity of the general pattern of the structure of the brain tissue and its anatomical structures, especially in the stem section, as well as the degree of its moisture content and blood filling are noted. The contents of the ventricles, the state of the ependyma and plexuses are described, it is determined whether the ventricles are dilated. The vessels of the base of the brain are examined, the presence of anatomical anomalies, atherosclerotic changes, aneurysms are noted.

When intracranial hemorrhages, foci of softening or bruises of the brain, tumors are detected, their exact localization within the hemisphere, lobe and its surface, size, mass, volume, appearance and shape from the surface and on cuts, the state of the brain substance along the periphery of the focus are indicated.

After removal of the dura mater, the bones of the base of the skull are examined and their damage and features are noted, if necessary, the paranasal sinuses are opened, the absence or presence of contents in them is noted.

When examining the spinal canal, attention is paid to the presence of fluid or blood in it, the state of the hard membrane of the spinal cord.

The spinal cord is removed, the type of membranes and the state of the brain tissue are described in sequential (by segments) cross sections. The vertebrae and intervertebral discs are examined from the side of the spinal canal and their features, injuries, deformations, painful changes are noted. The area of the atlanto-occipital joint is examined to detect or exclude hemorrhages, ligament ruptures, and fractures.

If necessary, the main arteries of the neck are opened. The presence or absence of their pathological tortuosity, compression by osteophytes, tears of the inner lining of the vessels are noted, soft tissues and neurovascular bundles of the neck are examined to exclude hemorrhages.

The tongue, tonsils, larynx, trachea, pharynx, thyroid and parathyroid glands, lymph nodes are examined, the integrity of the hyoid bone and cartilage of the larynx is checked.

Examination of the chest cavity organs includes examination of the anterior and posterior mediastinum, examination of the thymus gland, lungs, heart, aorta, esophagus and bronchi. Wherein:

1) the pulmonary pleura is examined, the presence of overlaps, hemorrhages, their shape, size, multiplicity, localization is noted;

2) the airways are opened to small branches of the bronchi, the absence or presence of contents in them is indicated, the color and blood filling of the mucous membrane are noted. It is necessary to pay attention to the color of the lungs from the surface and on the cuts, the degree of airiness and blood filling of the lung tissue, the nature of the fluid flowing from the surface of its incisions when pressed, the presence and nature of focal changes. Paratracheal and bronchial lymph nodes are described;

3) the method of opening the heart and aorta provides for the study of the coronary arteries throughout and the myocardium in all sections. The state of the pericardium, the number and nature of its contents, the blood filling of the heart cavities and the nature of blood clots, the state of the epicardium, endocardium, myocardium, coronary arteries, valves, papillary muscles are described. The thickness of the walls of the ventricles and the septum is measured. The circumference of the aorta above the valves, the state of its inner membrane is examined throughout. In the presence of pulmonary pathology, separate weighing of the parts of the heart is performed.

When examining the area of the abdominal cavity and retroperitoneal space:

1. The stomach is examined, its shape, quantity and type of contents (color, smell, consistency, size and nature of the available food particles), the state of the shell (color, severity of folding, the presence of hemorrhages, ulcers, scars, etc.) are noted.

2. The intestines are opened along the entire length, the nature and amount of the contents of its various departments, color, condition of the mucous membrane and other features are described, the location and type of the appendix are noted. If it is necessary to establish the prescription of death, special attention is paid to the nature and amount of the contents of the stomach and various parts of the intestine - the distance from the beginning of the small intestine to the place where food particles similar to those in the stomach are found in it is measured, the contents of the intestine and stomach are removed for subsequent microscopic examination.

3. When examining the pancreas, liver, spleen, adrenal glands, attention is drawn to the appearance of the organ (shape, color), the density of the tissue to the touch, the severity of its anatomical structure, the degree of blood filling, the nature of scraping from the spleen incisions, the type and amount of the contents of the gallbladder are noted, the state of its mucous membrane, the patency of the ducts.

4. When examining the kidneys, their shape and size are determined, the color, tissue density, the nature of the surface after removing the capsule, the severity of the cortical and medullary layers, the state of the mucous membrane of the pelvis, determine the patency of the ureters and the state of their mucous membrane.

5. When examining the pelvic organs:

- The amount of urine in the bladder, its color, transparency, the type and color of the mucous membrane, the presence of calculi are noted.

- In women, the condition of the vagina and its vaults, the shape of the uterus, its cervix and external pharynx are described, the size and consistency of the uterus are determined, the presence of a mucous plug, the opening of the cervix (if any, with a designation of the degree of opening) is indicated, discharge and damage are examined, the condition mucous and muscular layers of the uterus, tubes, ovaries, peri-uterine tissue with blood vessels. If there is an uncharacteristic fluid in the uterus, it is sent for a forensic chemical examination.

- In men, the prostate gland is examined, the consistency and type of tissue, the degree of filling the seminal vesicles with secretion, the features of the testicular tissue are noted.

- Examination of the pelvic bones begins with an examination of the sacroiliac joints, the lateral masses of the sacrum, the wings of the iliac bones and the bones of the anterior pelvic semi-ring, previously cleaned of soft tissues, are examined. In the presence of damage, if necessary, the bones of the anterior half-ring are cut out, corresponding to the outer ends of the upper branches of the pubic bones.

The removal of biological material from the corpse for the production of examinations in other structural divisions of the bodies of the State Committee is carried out directly by the forensic expert who carries out the autopsy of the corpse, who determines the number and nature of the objects seized, as well as the types of their research, based on the questions put to the examination of the corpse and the circumstances of death ...

The following are subject to mandatory withdrawal:

1. Blood and urine to determine the presence and quantitative content of ethyl alcohol in all cases of death (except for cases of death of adults who are in a healthcare organization in stationary conditions for more than one day).

2. Blood for biological research and placement in archives - in case of violent death, accompanied by external injuries or bleeding, murders or suspicions of them, sexual crimes or suspicions of them, examination of the corpses of unknown persons.

3. Pieces of internal organs and tissues for histological (histochemical) research.

4. About corpse tissues and tissues to determine the presence and quantitative content of toxic substances.

5. Free edges of the nail plates with the subungual contents of the fingers - in case of murder or suspicion of it, sexual crimes.

6. Smears of the contents of the vagina for the detection of sperm, the study of the morphological features of the vaginal epithelium and others - in case of sexual crimes or suspicion of them. If there is a suspicion of having intercourse in a perverted form, smears are taken from the mucous membrane of the mouth and rectum from corpses of both sexes. If a sexual offense is suspected, swabs are taken from the skin from the circumference of the genitals and anus.

7. Hair from the head (frontal, temporal, parietal, occipital regions) and pubis for comparative research - in case of murders or suspicion of them, sexual crimes or suspicion of them, transport injuries, damage to the scalp, examination of the corpses of unknown persons.

8. Hair from the head, nails, molar (6-7-8 teeth on the upper jaw) without painful changes, a fragment of a tubular bone with bone marrow, muscle tissue to determine group-specific antigens - in the study of putrefactive, mummified, dismembered and skeletal corpses of unknown persons or, if necessary, identified corpses.

9. Fluid from the sinus of the main bone, blood from the right ventricle of the heart for testing for diatom plankton, if drowning is suspected.

10. Pieces from various areas of the uterus, tubes, ovaries and vessels of peri-uterine tissue for histological examination, the contents of the cavity and part of the uterine wall for forensic chemical examination, smears of vaginal and mammary gland secretions for cytological examination - in case of suspected death as a result of an abortion performed outside the healthcare organization. In an abortion complicated by sepsis, material is additionally removed for bacteriological examination.

11. Clothes, skin, parts of cartilage and bones with damage, parenchymal organs with a wound channel for medical and forensic research - upon death from gunshot injury, injuries with sharp, chopping, cutting, stabbing and blunt objects.

12. Bone remains of skeletonized and unidentified charred corpses after examination in the morgue - to determine the type, sex, age and height of the deceased.

13. If there is a corresponding prescription, hands or fingers with postmortem changes in the skin of the terminal phalanges - for fingerprinting, the severed head of an unidentified corpse - for subsequent identification research.

In the event that during the examination of the corpse, injuries are established, other circumstances that are important for the criminal case (for resolving the issue of initiating a criminal case), which were not known to the body (person) that appointed the examination, the forensic expert immediately informs his immediate supervisor of such circumstances, which makes a decision on informing the body (person) that appointed the examination.

In the event that a particularly dangerous infectious disease is found in a corpse during its lifetime, the head or forensic expert shall inform the territorial center of hygiene, epidemiology and public health and (or) the health authority in accordance with the established procedure.

If, during the autopsy process, deficiencies in diagnostics and treatment in a healthcare organization are revealed (for example, the presence of tampons, medical products, etc. in the tissues and cavities of the corpse), the forensic expert immediately suspends him and notifies his immediate supervisor. Upon receipt of an instruction on the need for further examination of the corpse by a commission of forensic experts, the autopsy shall be resumed after the formation of a commission of forensic experts in the prescribed manner. The foreign bodies found during the autopsy in the tissues and cavities, after their description and photographing, are removed and transferred to the person (body) who appointed the examination of the corpse.

At the end of the examination of the corpse, under the supervision of a forensic expert, auxiliary personnel place the internal organs in the corpse. The main and additional cuts on the corpse are sutured, except in cases of advanced late cadaveric changes, or when this is technically impossible.

About formlenie expert opinion

Based on the results of the examination of the corpse, an expert opinion is drawn up.

The introductory and research parts of the expert's conclusion, which constitute the protocol part, are drawn up within five working days after the autopsy on the basis of the data recorded directly during the autopsy (it is allowed to issue them directly during the autopsy).

The introductory part of the expert's conclusion also indicates:

1. Information about the deceased person, if known: surname, proper name, patronymic (if any), year of birth (age), place of residence.

2. The circumstances under which the death occurred, the name and details of the documents that became the source of such information.

3. Place, time of commencement and conditions in which the autopsy was carried out.

The research part of the expert's conclusion is an objective basis for drawing up and substantiating expert conclusions. In the research part, the forensic expert consistently describes the process of examining the corpse, materials and documents provided for the examination, all the facts established in the course of the research. The research part consists of the sections "External research", "Internal research".

The description of the research progress in the research part should be clear and understandable. It reflects all additional and diagnostic external cuts. The use of diagnostic terms (for example, "abscess", "entrance gunshot wound"), as well as general expressions (for example, "normal", "no peculiarities") is not allowed. It is necessary to describe in detail the pathological, anatomical and physiological phenomena, indicating in detail their structural elements.

The research part of the expert's conclusion also indicates:

1. Data of medical documents examined before the autopsy, with the following information reflected:

- the name of the healthcare organization in which the medical document was drawn up, its number and date of preparation;
- the time of admission and the duration of the patient's stay in the healthcare organization;
- the state of health of the patient upon admission to the health care organization and its dynamics;

- the results of medical examination of the state of alcoholic intoxication and (or) the state caused by the consumption of narcotic drugs, psychotropic substances, their analogues, toxic or other intoxicating substances, the results of toxicological studies of biological media;

- performed surgical interventions and other diagnostic and therapeutic measures;

- complications resulting from the disease (injury), iatrogenic complications;

- date and time of biological death registration;

- information about the operation of explanation of internal organs from a cadaveric donor (date, time, grounds for its implementation, removed organs, their recorded features);

- final clinical diagnosis.

2. Condition of clothes, shoes and other items delivered with the corpse.

3. Description of the external and internal examination of the corpse.

4. Samples made for air embolism, pneumothorax, live birth and others.

5. Research carried out by a forensic expert using special devices (for example, a stereomicroscope) or special techniques for sectional examination of individual areas or organs of a corpse.

6. The list of biological objects sent for examination to other structural divisions of the bodies of the State Committee.

7. The list of objects transferred to the person (body) that appointed the expertise to ensure the conduct of other studies.

8. Results of laboratory examinations, number and date of the expert's conclusion.

9. Other information obtained in the course of the forensic medical examination of the corpse.

In cases of collection of organs and (or) tissues as transplants, as well as for clinical, scientific or educational purposes, the forensic expert indicates in the research part of the report the medical intervention performed, what was removed and by whom, the date and number of the removal protocol, a description of the traces of the intervention, to whom and to which organizations the collected organs and (or) tissues were transferred.

In the research part of the expert's opinion, not only the detected traumatic or painful changes, the state of individual organs and tissues, foreign smells and other signs, but also the absence of changes or features that are significant for the criminal case (verification material) (for example, the absence of hemorrhages, injuries or smell).

A forensic diagnosis is made on the basis of objective data obtained during an autopsy, the results of examinations performed in other structural divisions of the State Committee, and clinical, instrumental and laboratory data obtained from medical documents of healthcare organizations (for example, from an inpatient's medical record and (or) an outpatient's medical record). A forensic diagnosis should be structured, rubricated, written in the following form: the underlying disease, complication of the underlying disease and concomitant diseases.

It is mandatory to put down disease codes according to the ICD 10th revision. When ethyl alcohol is detected, after these headings, its concentration in biological tissues is indicated.

A forensic diagnosis is made on the basis of the introductory and research parts of the expert's opinion. The definition of nosological forms of diseases and causes of death is carried out in accordance with the International Statistical Classification of Diseases and Related Health Problems.

After carrying out all the studies related to the examination of the corpse and completing the forensic medical diagnosis, the forensic expert draws up conclusions in accordance with the requirements of legislative acts and instructions.

Registration pins.

Conclusions are formulated in accordance with the questions posed to the expert. It is allowed to combine questions that are close in meaning and change their sequence (without changing the original wording of the questions). If the content of the questions is unclear, the expert indicates how he understands this or that question. The expert has the right to apply to the person who appointed the forensic medical examination of the corpse with a request to clarify the essence of the issue.

The conclusions of a forensic expert should be scientifically grounded, motivated answers to the questions posed, to which he comes on the basis of his special knowledge and as a result of a comprehensive and objective analysis and generalization of the data obtained during the examination of the corpse and recorded in the protocol part and diagnosis, the results of additional and laboratory research, study of medical documentation and the use of other materials submitted by the person (body) who appointed the examination.

If the expert used normative materials or reference data, indicate which ones.

Conclusions should be stated clearly and specifically, if possible in a categorical form, avoiding their different interpretation.

The expert does not have the right to give an answer to questions that go beyond the limits of his special knowledge. In the conclusions, the expert indicates these issues.

If the possibilities of forensic science and practice or the nature of the objects under study do not allow giving a categorical, well-founded answer to the question posed, the expert has the right to refuse to answer this question, motivating his refusal accordingly.

In the absence of an opportunity to give answers to all the questions posed to the expert (including due to the fact that the questions go beyond the limits of his special knowledge), a motivated message is drawn up about the impossibility of giving an opinion.

The state medical forensic expert has the right to indicate in the conclusions the circumstances established by him during the performance of the examination that are significant for the case, if the relevant issues were not raised in the decision.

Avoid additional fitting into the text of the conclusion of the expert individual words or sentences, strikethrough words, patches and so on.

The doctrine of death. Imaginary death.

The doctrine of death.

Thanatology (from the ancient Greek θάνατος -. See ert and λόγος - teaching) - the science that studies the issues of dying.

Death is the inevitable natural ending of the individual existence of every living organism.

In all cases, refer ert organism as a whole comes after the cessation of cardiac activity. As long as the heart contracts or its activity is maintained artificially, the person is alive. It is an irreversible final stop of the heart gives the physician the right to state death.

The duration of the transition process from birth to death - dying - may vary within wide limits. In some cases, death comes very quickly, in a matter of minutes and even seconds (death

from pulmonary trunk and pulmonary arteries). In other cases, dying can take tens of minutes or even several hours. Resuscitation can prolong death by many days or even weeks.

Imaginary death.

Imaginary death, lethargy (from ancient Greek λήθη - oblivion, and ἀργία - inaction) is a state of pathological sleep, characterized by respiratory arrest, seeming absence of reflexes and heart contractions.

Lethargic sleep, as a rule, lasts from several hours to several weeks, and in rare cases - months or years.

Orienting features death (pallor, reduced body temperature, absence of a pulse, respiration, heart rate) can be observed both in the case of true death and imaginary.

Reasons imaginary death may be several.

Bleeding. Large blood loss can cause circulatory failure, in which respiratory and cardiac activity is inhibited so much that it is almost impossible to identify them.

Stroke. If the respiratory center is affected (for example, due to a stroke), similar symptoms may appear.

Defeat by atmospheric and technical electricity. Ventricular fibrillation can develop as a result of electric shock (or lightning). In this case, the pulse is not detected, breathing becomes rare and stops after a few seconds.

Poisoning. Often this condition is observed with poisoning with chloroform, hydrocyanic acid, hypnotics or belladonna berries.

Aspiration of liquid. When drowning, water enters the throat, which causes a reflexive contraction of the neck muscles. This leads first to respiratory arrest, and then to cardiac arrest.

Epilepsy. Symptoms of imaginary death can occur due to epileptic seizures (or seizures of another etiology).

Alcohol and drugs. Due to the intake of large amounts of alcohol or drugs, paralysis of the respiratory center can occur. Provision of cardiac muscle oxygen deteriorates so that circulatory failure appears, symptoms occur imaginary death.

Hypothermia. With severe hypothermia, almost all vital functions of the body disappear. In this case, there is a spasm of blood vessels, a violation of cardiac activity, loss of consciousness.

Similar symptoms can occur in newborns when too little breathing leads to inadequate oxygenation of the blood. This condition leads to apnea (temporary cessation of breathing). It can be life threatening. Apnea is most commonly seen in premature newborns.

The main methods for detecting lethargy are the study of the electrical potentials of the human brain and heart (electroencephalography, electrocardiography) and its cerebral circulation.

Terminal conditions and their forensic medical significance. Clinical and biological death.

Terminal conditions and their forensic medical significance.

Preagonal state. The initial stage of dying is the preagonal state. During preagony, the activity of the central nervous system is disrupted, consciousness is often absent. There are pronounced disorders of hemodynamics and respiration, leading to the development of tissue hypoxia and acidosis: characterized by low blood pressure (up to 60 mm Hg), rapid pulse and respiration, cyanosis or pallor of the skin.

The duration of the preagonal state can be different (from several hours to several days), it mainly determines the duration of the entire dying process.

Terminal pause. The preagonal state is followed by a terminal pause, which is most pronounced when dying from blood loss, which is characterized by a sudden cessation of breathing, a sharp suppression of heart activity, cessation of the bioelectrical activity of the brain, and extinction of corneal reflexes. The pause duration can range from 5-10 seconds to 3-4 minutes.

Agony. After the terminal pause, agony (struggle) begins - the last outburst of the organism's struggle for life, lasting from several minutes to half an hour or more. In the agonal period, the functions of the higher parts of the brain are turned off, consciousness is lost and can be restored only for a short time. At the same time, the activity of the centers of the medulla oblongata is noted, which is accompanied by a short-term increase in the function of respiration and blood circulation.

The beginning of the agony after the terminal pause is the appearance of the first breath. Agonal breathing differs sharply from ordinary breathing - the entire respiratory, including the auxiliary, muscles (muscles of the neck and mouth) is involved in the act of inhalation.

The heartbeat during the agony period becomes somewhat more frequent, the level of blood pressure may rise to 30-40 mm Hg. Art., which, of course, does not ensure the normal functioning of the brain. A kind of change in blood flow occurs - the arteries of the heart and arteries that carry blood to the brain expand, and the peripheral vessels and vessels of the internal organs are sharply narrowed. Thus, the dying forces of the heart are directed mainly towards maintaining the life of the brain and the heart itself.

The appearance of a dying person changes dramatically: the face becomes pale, sallow, the nose is pointed, the eyeballs sink, the corneas lose their luster, the mouth opens slightly (facies Hippocratica - "Hippocratic mask").

Usually, at the end of the agony, breathing is the first to stop, and the heartbeats continue for some time. Primary cardiac arrest is less common.

Clinical and biological death.

Clinical death. With the cessation of heart rate and respiration occurs clinical condition of the so-called death. At this stage of dying, the organism as a whole no longer lives, however, the vital activity of individual tissues and organs is preserved, irreversible changes in them do not yet occur. Therefore, with vigorous rendering medical assistance to a person in a state of clinical death, sometimes it is possible to return the life.

The duration of the clinical death determined by the experience of the cerebral cortex in the absence of circulation and respiration. On average, for a person, this time does not exceed 3-6 minutes. The duration of the clinical death influenced by many factors: the length of the dying, the presence of severe wasting disease, the age of the dying, etc. The study and determination of the clinical. Death as a reversible state were of great importance for medicine and led to the emergence of medical science - intensive care, or the science of resuscitation ...

Biological death. The last stage is a biological death which is a permanent state. In different tissues and organs, irreversible changes do not develop simultaneously. First of all, they occur in the cerebral cortex. This moment, when disturbed integrating CNS activity, and should be considered the beginning of the biological death. The vital activity of other organs and tissues, including the brain stem, can still be restored.

The length of time from the occurrence death organism as a whole prior to final destruction of individual organs and tissues is in forensic medicine importance. It was during this period of time commencing on about 20 hours, experiencing tissues respond to various stimuli (mechanical, chemical, electrical, and some others) so-called *supravital reactions,* the identification of which helps to establish the onset of limitations, death.

The ability of different tissues and organs experience death organism as a whole allows their use in transplantation. The removal of organs and tissues is carried out only with permission and in the presence of an expert in cases when this does not prevent him from conducting a full forensic medical examination of the corpse.

The rate of dying. Morphology of acute and agonal death.

The rate of dying.

Depending on the rate of development of the process of dying, two types of it are distinguished - fast, called *acute death,* and slow, with terminal states, one of which is agony (agonal *death).*

Morphology of acute and agonal death.

Acute death. Characterized by only one, lasting minutes, the state of the terminal (typically a terminal pause), leading to clinical death.

Morphological characteristics of acute death.

1. Abundant, well-defined, early appearing cadaveric spots. Cadaveric spots in acute death appear after 1-2 hours after onset death, due to the liquid state of the blood. As a rule, cadaveric spots are abundant, spilled, have a bluish tint due to the fact that there has been a complete utilization of oxygen and there is venous blood in the vessels, containing only reduced hemoglobin.
2. Subconjunctival hemorrhages are punctate dark red hemorrhages in the connective membranes of the eyelids, caused by increased pressure and increased permeability of the vascular walls.
3. Good expressed rigor mortis, the first signs of which appear after 1-2 hours after the onset death.
4. Dilatation of the pupils.
5. Involuntary defecation, urination and ejaculation are associated with spastic contractions of the smooth muscles of the sphincters and subsequent paresis and relaxation of the sphincters.
6. Cyanosis of the face.
7. Liquid dark (hypervenous) blood.
8. Subpleural and subepicardial hemorrhages, which are called "Tardier spots", and generally subserous and submucous hemorrhages. These dark red punctate hemorrhages are the result of a violation of microcirculation, tone and permeability of the vascular wall and pressure drops in the capillary network. The most characteristic localization of Tardier's spots are the interlobar fissures and the diaphragmatic surface of the lungs, and the posterior surface of the heart.
9. Venous plethora of internal organs, due to the liquid state of the blood and congestion in the large and small circle of blood circulation.
10. Pulmonary edema, which has the same genesis as the previous symptom.

11. Edema and swelling of the brain, edema of the pia mater. These phenomena are associated with hypoxia and brain anoxia, which is always evolving to death and cause irreversible changes in the higher brain centers. In addition, hemodynamic disorders inevitably play a role in the development of this sign.

12. The expulsion of the mucous plug from the cervical canal has the same genesis as the ejaculation detected during external examination of the corpses of males.

Agonal death (slow). It is characterized by the presence of all terminal states (preagonal state, terminal pause, agony).

Morphological characteristics agonistic death.

1. Low expressed pale cadaveric spots that appear over a considerably larger time interval after death (3-4 hours and sometimes more). This phenomenon is due to the fact that the agonistic death blood in the carcass is in the form of bundles. The degree of blood coagulation depends on the duration of the terminal period, the longer the terminal period, the weaker the cadaveric spots are, the longer it takes for them to appear.

2. Rigor mortis is weak, while the corpses of dead people which was preceded by a lengthy process of dying, it may even be practically absent. This phenomenon is due to the fact that with prolonged dying in the terminal period, all energy substances (ATP, creatine phosphate) of muscle tissue are almost completely consumed.

3. Presence of blood clots (red and white) in large vessels, heart cavities. Detection of large vessels in the heart and red, white thrombus expert can inform the terminal about the duration of the period.

Edema of the brain, lungs and plethora of internal organs can be observed both in acute death (in the overwhelming number of cases) and in prolonged agonal death, if there were manifestations of cardiovascular insufficiency.

Forensic medical assessment of injuries during resuscitation.

During resuscitation actions, injuries appear, which are attributed to the pathology of resuscitation. When assessing, the lifetime of their application should be determined. These are abrasions of the anterior surface of the chest, fractures of the ribs and sternum with damage to the parietal pleura during chest compressions, damage to the epiglottis and trachea due to intubation, damage to the wall of the right ventricle of the heart and tamponade during deep catheterization of the subclavian veins, a change in blood composition, leading to an incorrect estimate of the amount in vivo alcohol intake observed during infusion and shock therapy. With a closed traumatic brain injury, craniotomy is performed, with abdominal operations of the chest and abdomen, damaged organs (spleen, kidneys) can be removed, and the edges of the wounds are excised. The indicated injuries from medical manipulations, as well as the removed damaged organs and excised edges of the wounds, if not preserved for forensic medical examination, should be studied according to the medical history. In addition to the medical history and other medical documents, the doctor's interrogation protocols should be used.

With studying medical examiners have to examine the corpses of people who in the course of treatment, the methods of intensive care. At the same time, a forensic expert has to solve extremely difficult questions: to differentiate pathological processes caused by trauma or disease from the consequences of the intensive therapy methods used, to determine their role in the onset of death.

Statement of the fact of death, it's probable and reliable signs, their definition and forensic medical significance.

To establish the facts of death, have to doctors of various specialties, and in the hospital this issue is usually solved easily - death recorded in the absence of the cardiovascular, respiratory and central nervous systems. Ascertaining death thereby facilitating constant medical supervision for patients who are in the terminal and the agonal state. Furthermore, in the hospital to determine when to death various instrumental methods can be used (electrocardiography, electroencephalography, etc.). However, despite the relative ease of diagnosis death in a hospital environment, in accordance with the existing state of the bodies of persons who died in hospital, transferred to a mortuary no sooner than 2 hours after the onset death, t. E. Not earlier appearance on the body verified signs death - cadaveric spots.

Currently, detection death doctors use *orienting (probable)* and *reliable (absolute)* signs.

The *orienting* signs include:

- motionless passive position of the body;
- pallor of the skin;
- lack of consciousness;
- lack of sensitivity to pain and olfactory irritation;
- lack of corneal reflex and pupil response to light;
- lack of breathing, pulse and heartbeat.

Reliable signs:

- the presence of cadaveric spots;
- rigor mortis;
- decrease in body temperature below + 20 ° C;
- drying of the sclera and cornea (Larshe spots), mucous membranes, skin;
- Beloglazov's sign (change in the shape of the pupil when the eyeball is squeezed - the phenomenon of "cat's pupil").

The fact of death also indicates the presence of injuries incompatible with life, visible in outdoor study.

Particularly acute problem of ascertaining death acquired in recent years in connection with the development of transplantation. Transplant success largely depends on the time elapsed since death before removing the necessary material from the cadaver: the smaller this time, the more reason to expect a positive result of the operation. Therefore, surgeons and intensivists in many countries are in the process of searching for signs that would provide the basis to establish the fact, death as soon as possible.

Early cadaveric changes. Cooling of a corpse, thermometry of a corpse. Phenomena of partial (local) drying. Cadaveric spots, stages, terms of their development, research methods. Rigor mortis, mechanisms and timing of development. Autolysis.

After the onset of biological death cadaver tissue and organs are subjected to changes that are divided into early and late.

Early include cooling of the corpse , local drying , cadaveric spots, rigor mortis, and autolysis; to the late ones - destructive (decay) and preserving (mummification, fat wax and peat tanning).

Early cadaveric changes .

Cooling a corpse . Cooling of the distal extremities can occur already in the agonal period due to circulatory disorders and a decrease in the heat generation process. After the termination of life and the reactions associated with it, accompanied by the release of heat, the cooling of the corpse begins.

The cooling rate depends on many endogenous and exogenous factors fatness deceased character his clothes, body temperature to see ertyu, temperature and humidity environment, surface properties, which is dead, etc. At temperatures below 0 ° C cooling body. goes into freezing. Sometimes even cause death influences the cooling rate. Thus, in death tetanus and some infectious diseases cadaver temperature during the first hours after death may even increase.

Cooling begins on exposed parts of the body. The face and hands are cold to the touch after 1-2 hours after death. After 4-5 hours, you can determine the cooling of the parts of the body covered with clothing. It is believed that at room temperature (+ 18 ° C) the corpse of a normally dressed person cools down at a rate of about 1 ° C per hour, and by the end of the day the temperature of the corpse is compared with the ambient temperature. In other studies, the temperature drop through 6-8 hours after the onset death slows down and its reduction to 1 ° C occurs over longer 1 hour and for 1.5-2 hours. Since the processes of life can be maintained at a fairly deep hypothermia, the initial degree of cooling is not absolute sign death and may indicate it only in combination with other features.

Cadaveric drying . This posthumous change is associated with the evaporation of moisture from the surface of the body. Since the epidermis protects well from evaporation, on corpses under normal conditions, first of all, those parts of the body that are wet during life dry out (red border and mucous membrane of the lips, cornea and conjunctiva of the eyes, scrotum, head of the penis), or areas of damaged skin devoid of epidermis (abrasions, wound edges, strangulation grooves).

The time of appearance and severity of cadaveric drying primarily depends on the temperature and humidity of the environment, as well as on other reasons. The corneas and conjunctiva dry out especially quickly if the eyes of the corpse are not closed. At the same time, after 2-3 hours, corneal opacity becomes noticeable, and yellowish-brown areas of drying (Lyarshe spots) are revealed on the conjunctiva.

By the end of the first - the beginning of the second day, the dried-up areas of the skin become significantly denser and acquire a red-brown or yellow-brown color. Through the process of drying, even minor damage, badly visible shortly after the onset death become clearly visible.

Not only intravital, but also postmortem injuries dry out. Dried post-mortem abrasions are called parchment stains because of their density and yellowish color. Drying spots on the lips, scrotum, and other places can sometimes be misinterpreted as life-long injuries.

Cadaveric spots . With the cessation of cardiac activity, blood pressure drops to zero and, under the influence of gravity, the blood partially flows into the lower parts of the body. It overflows blood vessels (capillaries, venules, veins) that have lost their tone and expanding under its pressure and shines through under the skin in the form of purple or lilac cadaveric spots.

When the color of the blood changes as a result of, for example, poisoning with poisons that act on hemoglobin, the color of the cadaveric spots changes accordingly. So, in case of poisoning with carbon monoxide due to the formation of carboxyhemoglobin, cadaveric spots

become pinkish-red; in case of poisoning with methemoglobin-forming poisons, they acquire a brownish color.

Localization of cadaveric spots depends on the position of the corpse. If the latter lies on his back, then cadaveric spots appear on the posterolateral surfaces of the body, with the exception of places subject to pressure (scapular regions, buttocks, calves), into the vessels of which blood cannot penetrate.

There are three stages in the development of cadaveric spots:

- *hypostasis (leakage);*
- *stasis (stop);*
- *imbibition (soaking).*

It is impossible to establish clear time boundaries between the stages, since they pass one into the other gradually.

The first stage - *hypostasis* - appears on average 1,5-2 hours after onset death, sometimes a little later, and continued for 6-10 hours aces (8-12 h aces after onset death), gradually turning into stasis. In the stage of hypostasis, the blood, which has almost not changed its properties, is in the vessels, therefore, when pressing on the area of the cadaveric spot with a dynamometer or a finger, it moves into the vessels of the surrounding areas and the cadaveric spot at the place of pressure disappears. After the cessation of pressure, the blood quickly returns through the vessels and the color of the cadaveric spot is restored.

Since blood at hypostasis retains mobility in the blood vessels, change the initial position of the corpse for the first 8-12 hours after the onset death leads to the fact that the corpse spots disappear from its original location, and appear on the new downstream locations.

In the stage of *cadaveric stasis,* blood, which has thickened due to the sweating of plasma into the surrounding tissues, gradually loses its ability to move through the vessels, and cadaveric spots are fixed at the sites of formation. When the corpse is turned over, they no longer disappear, but at the beginning of the stage, new spots may form on the lower parts of the body. It takes a long time for them to appear. At this stage, cadaveric spots do not disappear when pressed, but only turn pale and slowly restore their color. Duration stasis - from 8-12 hours to 24-36 hours after the onset death.

In the stage of *cadaveric imbibition* , the autolytic and putrefactive decay of erythrocytes begins and the impregnation of the walls of blood vessels and surrounding tissues with hemoglobin escaping through the vascular walls together with plasma. Therefore, in the imbibition stage, cadaveric spots do not move and, when pressed, do not even fade.

In some cases, it is necessary to differentiate cadaveric spots with bruising. For this, cross-shaped skin incisions are made (so as not to confuse these incisions with injuries, for example, cut wounds). In cadaveric spots, blood is in the vessels or (in the imbibition stage) diffusely impregnates the cellulose; the bruise consists of poured into the tissue and clotted blood.

The speed of formation and the severity of cadaveric spots depend on a number of reasons. For example, when massive blood loss, they appear later, after 3-4 hours or more after death, and there are the slim. They are also weakly expressed during prolonged dying due to the fact that a significant amount of blood coagulates and blood vessels. Conversely, if the sudden death from cardiovascular diseases in rapidly ensuing death from asphyxia, electrocution and m. P. Whole blood remains in cadaver vessels in liquid form, cadaveric patches are formed rapidly (the end of the first hour refer erti) and are abundant ...

The forensic value of cadaveric spots is very high.

Firstly, the presence of stains cadaver is a sure sign of biological death.

Secondly, in terms of their development can roughly judge the timing of the death.

Thirdly, the localization of cadaveric spots makes it possible to establish the duration of the presence of a corpse in a certain position and to decide whether it has not been changed by anyone before the examination of the corpse by an investigator and a doctor.

In addition, the unusual color of cadaveric spots gives the doctor a reason to suspect poisoning with poisons that change blood hemoglobin, and accordingly plan and conduct an autopsy.

Cadaveric hypostases and imbibition are also observed in internal organs. So, if the corpse lies on its back, then the posterior parts of the internal organs become saturated with blood, become denser than the anterior parts and acquire a darker color. At autopsy after 2 days after death and later observed imbibition aortic intima and endocardial who purchase first rose and then dirty-red color.

During the development of hypostasis in the internal organs, part of the plasma leaving the vessels sweats through the serous membranes and accumulates in the pleural, abdominal and pericardial cavities. This transudate is initially yellow, and then, due to the admixture of hemoglobin, turns red. At the end of 3-4 days after death can detect cavities in 50-100 ml of fluid. All these changes are posthumous and are not associated with any intravital injuries or painful processes.

Rigor mortis . Immediately after the onset death corpse relaxes the body, all the muscles are soft, passive movements of the joints can be easily achieved in full.

Some time after death corpse muscles begin to spontaneously condense, solidify, joints due to stiffness of the case, fixed one or another corpse pose - rigor mortis occurs. Now it is necessary to make an already significant effort in order to open the mouth of the corpse, to bend its arm or leg.

The breakdown of adenosine triphosphoric acid (ATP) is of great importance in the onset and development of rigor mortis. Active muscle contraction during life is the result of the interaction of muscle protein with ATP, which is broken down with the release of a large amount of energy. This energy is used by the muscle to perform mechanical work. Muscle relaxation is associated with ATP re-synthesis. In muscle ATP corpse decomposition occurs gradually, and since the muscle tissue undergoing cm ert body, simultaneously with the breakdown of ATP developed rigor mortis.

Mortis appears usually 1-3 hours after onset death. In most cases, it is initially detected in the muscles of the face, in particular in the chewing muscles. Then it covers the muscles of the neck, trunk, upper and lower extremities (descending type of development of rigor mortis according to Nisten).

Approximately 5-6 hours after death rigor mortis group encompasses all skeletal muscle, and by the end of day reaches a maximum expressiveness, being kept in this form for several days, after which spontaneously begins to fade. The process of resolving rigor mortis is associated with autolysis and putrefaction. Therefore, if the body is in a warm room, softening the muscles can be found by the end of the second - the beginning of the third day after death. At low ambient temperatures, rigor mortis lasts longer (up to 6-7 days or more).

Rigor mortis develops not only in striated, but also in smooth muscles. Therefore, the walls of many internal organs (stomach, intestines, bladder) become denser, which is sometimes well noticeable at autopsy.

Rigor mortis, mechanically disturbed shortly after its formation, is usually restored, however, it is expressed in this case is much weaker than in the surrounding muscles. Breach through the 10-12 hours after death later rigor mortis no longer be restored.

The timing and degree of development of rigor mortis is influenced by many factors. Thus, rigor mortis is very well expressed in muscular subjects. In emaciated, long-term ill, in the elderly and children, it is expressed to a much lesser extent. When death is accompanied by seizures (strychnine poisoning, tetanus, electric shock), as well as in cases where death preceded by heavy physical work, there is a rapidly growing and well-marked stiffness. The ambient temperature has a significant influence on the development of rigor mortis: with an increase in temperature, the timing of the development and resolution of rigor mortis is accelerated.

Forensic importance of rigor mortis is that it, like the corpse spots, is a reliable sign of death.

In addition, the degree of rigor mortis and the number of muscle groups covered by them may be about to judge the occurrence of the time death of the corpse pose and its possible changes.

Autolysis. The activity of intracellular enzymes in the body and the other does not stop immediately after the onset death and can lead to autolytic changes of some internal organs. The most pronounced processes of autolysis develop in the stomach and pancreas. There is, as it were, self-digestion of the gastric mucosa. The blood in its vessels under the influence of hydrochloric acid and enzymes of gastric juice changes, becomes dark brown. The mucous membrane itself is loosened and in places exfoliates from the submucosa. Posthumous ingestion of gastric juice into the esophagus, pharynx, trachea leads to the digestion of their mucous membrane, which is loosened, easily separated from the submucosa. Such changes can be mistaken for the action of corrosive poisons.

Autolytic processes in the pancreas sometimes lead to partial melting of its tissue. These changes against the background of congestive or hypostatic plethora may be incorrectly regarded as acute hemorrhagic necrosis. Other organs (adrenal glands, brain, small and large intestine, etc.) are also subjected to autolysis to one degree or another.

Late cadaveric changes. Rotting corpse. The influence of environmental conditions and other factors on the course of decay processes. Conservative forms of late cadaveric changes: mummification, fat wax, peat tanning. Development of fauna and flora on a corpse. Damage and destruction of corpses by representatives of the animal world.

Late cadaveric changes.

Rotting. Decay is called a complex set of processes of decay of the corpse tissue occurring as a result of vital activity of micro-organisms to proliferate after death person disappear when all protective and immune barriers to this reproduction in life. Decay mainly occurs from the action of aerobic bacteria that live in the human body during his life: E. coli, Proteus groups, cocci, etc. Anaerobic microorganisms have a lesser effect. The specific putrid smell is mainly due to hydrogen sulfide and its derivatives mercaptans formed during the breakdown of proteins.

The first clear signs of rotting corpse may appear a day after death. They are expressed in a dirty green coloration of the skin of the iliac regions due to the formation of sulfhemoglobin in the vessels of the abdominal wall (a product of the combination of hemoglobin with hydrogen sulfide). Further, at an ambient temperature of + 20-35 ° C, decay usually develops as follows. The dirty green staining spreads to the trunk, head and limbs and by the end of the second week covers the skin of the entire corpse. Against this background, brown stripes of a tree-like branching subcutaneous venous network often appear.

As a result of the formation of a large amount of putrefactive gases, the corpse swells, its facial features change. All corpses at this stage of decay acquire almost the same appearance, which makes it difficult to identify them. When palpating the corpse, a crunch is felt from the developed subcutaneous putrefactive emphysema. Because fluid extravasation approximately 4-6 days after death begin to form bubbles filled with malodorous content.

A sharp swelling of a corpse can lead to tears of clothes, in places the skin of a corpse also bursts, sometimes simulating damage. Increased intra-abdominal pressure can cause posthumous "childbirth" in deceased pregnant women and posthumous "vomiting" from squeezing food out of the stomach. Hair, nails and epidermis are detached from rotten corpses with minor mechanical stress.

Simultaneously with the external manifestations of decay, the decay of the internal organs occurs. The brain decomposes faster than others, it turns into a greenish structureless mushy mass.

Due to the destruction of the skin and muscle tissue, gases are released from the corpse into the environment, it gradually decreases in size, and the ongoing decay processes lead to the complete destruction of soft tissues. The skeleton remains, covered with a dirty, sticky mass. Cartilage and ligamentous apparatus are destroyed most recently, and bones can be preserved for many years. Under favorable conditions, the soft tissues of a corpse on the surface of the earth can completely decompose within 3-4 summer months. Rotting occurs somewhat slower in water and even slower in corpses buried in the ground. The soft tissues of a corpse in a wooden coffin are completely destroyed in 2-3 years.

The rate of corpse decomposition affects a large number of endogenous and exogenous factors, so the judge on the severity of the decay-old offensive Death almost impossible. Optimal conditions for the life of bacteria and, accordingly, for the development of decay are in a certain ratio of temperature and humidity. Rotting develops most rapidly at an ambient temperature of about + 30-40 ° C and moderate humidity. It completely stops at temperatures around 0 ° C and above + 55 ° C and slows down sharply in the temperature ranges from 0 ° C to + 10 ° C. In winter, corpses can be kept in cold rooms for several weeks without signs of decay.

With decay, significant changes in the concentration of alcohol in the tissues and fluids of the corpse occur, and this is associated only with the posthumous diffusion of alcohol from the stomach, but also with its posthumous formation and destruction in the decaying tissues. Therefore, in the examination of alcohol intoxication cases in the study of corpses in a state of pronounced putrefaction, it can be resolved only one question - whether to accept the deceased shortly before death spirits.

Mummification. When corpses are buried in dry sandy soil and in crypts, when they are in summer attics under iron roofs and in other similar conditions with sufficient ventilation in the presence of dry warm air, the decay processes quickly stop and the corpse is

mummified. During mummification, the corpse dries up, its soft tissues become hard, the skin becomes brownish-brown, sometimes almost black, its mass decreases sharply.

The corpses of children and emaciated persons are more quickly mummified. Distinguish between artificial and natural mummification. An example of the first is not only the mummies of the ancient Egyptians, but also the mummification that occurs after the modern conservation of the corpse.

The forensic medical significance of mummification lies primarily in the fact that it preserves, to one degree or another, the external appearance of the corpse, and this makes it possible to determine its sex, height, age, to reveal damage and individual anatomical features, and to make identification in some cases.

Meaning mummification for establishing prescription death small, since the rate of drying depends on a combination of many factors difficult identifiable. It is believed that complete mummification of an adult corpse occurs in 6-12 months, but it can occur even faster, even in 30-35 days.

Adipocere. If the corpse gets into cold water or wet clay soil, then rotting also soon stops, and after a while the soft tissues of the corpse turn into a fatty tissue.

The process of formation of a fat wax consists in the decomposition of fats into glycerin and fatty acids (oleic, palmitic, stearic), and the latter, reacting with calcium and magnesium salts contained in water or soil, form solid and water-insoluble soaps. Therefore, adipocere is by its chemical composition, composed of solid fatty acids and their salts (soaps).

The tissues of the corpse, which are in the state of a fat wax, are presented in the form of a dense homogeneous amorphous mass, in which only in places it is possible to identify single elements of their histological structure. Outwardly, the fatty wax looks like a gray-pink or gray-yellow mass of a rather dense consistency, crumbling in places and emitting an unpleasant rancid odor.

The formation of a fat wax begins within 2-3 months after the corpse enters the appropriate conditions, and it takes about 1 year for the complete transformation of all tissues and organs into a fat wax. Children's corpses turn into a fat wax faster - after 4-5 months.

In the absence of any patterns in the rate of formation of grave wax this phenomenon can be used to determine the prescription death with great care.

The forensic meaning of a lipstick is similar to that of mummification.

The fat wax to some extent preserves the appearance of the corpse and the damage it has on it.

In a forensic chemical study, poisons, in particular alcohol, can be detected.

Peat tanning. This type of late preservation change occurs when a corpse enters a peat bog. A large amount of humic (humic) acids and other tanning substances found in peat are dissolved in the water of such bogs. The corpse under their influence seems to be tanned, the skin becomes denser and acquires a dark brown color, the internal organs sharply decrease in size, the bones become soft.

A peat-tanned corpse is preserved for many years.

Other types of natural preservation of corpses . Corpses are well preserved at low ambient temperatures, when they get into water with a high concentration of salts, into oil and other liquids with preservative properties. Frozen corpses persist indefinitely.

Development of fauna and flora on a corpse. Entomological study found the corpse of eggs, larvae, pupae and adults of insects have long been proposed to use to determine the onset of limitations, death.

Having carried out a large number of experiments with animal corpses placed on the soil surface at different times of the year and in different biotopes (1973-1978), M.I. proposed an original classification of the process of decomposition of a corpse.

If the corpse is accessible to insects, the author proposes to divide the process of its destruction into IV periods, which, in turn, are subdivided into 8 stages.

I period - microbial decomposition - extends from points death before the development of putrefactive emphysema (from 1-2 days to 1.5 weeks, depending on ambient temperature). It is divided into 4 stages:

1. "fresh" corpse - before the development of early cadaveric changes;
2. early cadaveric changes lasting up to 2-3 days;
3. early putrefactive changes - the appearance of cadaverous greenery and putrid venous network;
4. putrid swelling of the corpse.

In the first period, during the first 2 days, the corpse is colonized by insects, mainly by flies, which lay a large number of eggs, and by dead-eating beetles, with the arrival of which the flies usually finish their massive egg-laying.

II period - active destruction of the corpse by insects - lasts from 15-20 days to 2 months. It is divided into 2 stages:

1. The early destruction of soft tissues, mainly due to the activity of fly larvae (up to 30 days);
2. late destruction of soft tissues, when the activity of the larvae of necrophage beetles begins (development period is 30-45 days) and predatory beetles (development period is 45-60 days). This stage ends with almost complete destruction of soft tissue.

Period III - incomplete skeletonization - lasts until the end of the warm season of a given year, but can also go on to the next year. At this time, necrophages and predators finish their development on the corpse, which are joined by insects feeding on dehydrated organic matter - skin beetles and moths.

Period IV - complete skeletonization - lasts for years and ends with complete destruction of bones. It is divided into 2 stages:

1. destruction of organic matter bones;
2. destruction of the mineral base of bones.

In this period, insects are almost never found on the skeletonized corpse.

The duration of each specified period and stage depends on many conditions, which are not always possible to take into account. Therefore, the definition of time, death of cadaveric entomofauna can only be very approximate.

Corpses in the water are largely damaged. Some fish, crustaceans and other representatives of the aquatic fauna take part in eating their soft tissues. In this case, parts of the body covered by clothing are usually not damaged.

Damage and destruction of corpses by representatives of the animal world. A corpse located in an open area, in a field, in a forest is often exposed to various animals, more often rodents or predators. They eat soft tissues of exposed parts of the body, and sometimes destroy the corpse almost completely.

It is known that rats can eat the soft tissues of the face of corpses if proper measures are not taken to preserve them.

Corpses are also damaged to a large extent by birds (crows, vultures, vultures, etc.). Damage caused by both birds and animals can, in some cases, resemble damage from various weapons. So, a wound inflicted by a raven's beak may resemble a stab wound.

Damage to a corpse by rodents and predators is usually easily recognized both by the characteristic type of wounds with scalloped edges, and by the marks from the teeth of animals, which remain on the bones.

Significant destruction of corpses is done by insects and their larvae. Soon after, death during the warmer months in the eye of the circle, in the nasal orifices, mouth, wounds can see a large number of eggs of flies. Under natural conditions, when the first signs of decay appear, “orderlies” - dead-eating beetles - gather to the corpse. The larvae of flies and other insects, devouring soft tissues, contribute to the rapid destruction of corpses. The corpse of an adult can be skeletonized by fly larvae in a few weeks, and the corpse of a child even in 1-2 weeks. Cockroaches and ground beetles can eat the skin of fresh corpses, which leads to disfigurement of the face and the formation of lesions that can be mistaken for lifetime.

Participation of a medical specialist in the field of forensic medicine in the examination of a corpse at the place of its discovery

The participation of a doctor - a specialist in the field of forensic medicine (state medical forensic expert) (hereinafter referred to as a doctor (expert)) in the examination of a corpse is due to the need to resolve special issues that require special (medical) knowledge and enable the investigator to begin an active investigation at this stage.

Place of incident - a part of the area or a room where traces of an event requiring investigation were found.

Inspection of the scene of the incident - an investigative action consisting in the inspection of a site or premises where a crime was committed or traces of it were found.

Inspection of the corpse at the place of its discovery is an integral part of the inspection of the scene.

Inspection of the scene is one of the urgent initial investigative actions that can be carried out before the initiation of a criminal case.

This is due to the need for a timely inspection, since even a slight delay can lead to a fundamental change in the situation, the irreversible loss of important material evidence, which negatively affects the course of the investigation and the establishment of the truth. For the same reason, an inspection of the scene of the incident is carried out at any time of the day.

The grounds for the inspection of the scene of the incident are provided for in Article 203 of the Criminal Procedure Code of the Republic of Belarus: “The basis for the inspection of the scene of the incident, corpse, terrain, premises, dwelling and other legal possession, objects and documents is the availability of sufficient data to believe that during these investigative actions may reveal traces of a crime and other material objects, clarify other circumstances that are important for the criminal case. "

Objectives of the inspection of the scene:

- direct study of the situation of the incident;

- identification, fixation, seizure and assessment of material evidence and traces, indicating the presence or absence of a crime, the method, motive and persons who committed it;

- clarification of other circumstances relevant to the investigation of the crime.

Persons involved in the inspection of the scene:

1. Conducting inspection (supervising inspection):

— investigator (interrogator).

2. Participants in the inspection (required):

— doctor and other specialists (criminologist, fire technician, etc.).

Participants in the inspection (optional):

— victim;

— the accused;

— witness.

3. Those present at the examination (required):

— attesting witnesses (at least two).

Those present at the examination (optional):

— representatives of the administration of the institution or enterprise on the territory of which the scene of the incident is being inspected.

The inspection of the scene is supervised by representatives of law enforcement agencies. They are personally responsible for the timeliness, completeness and quality of the inspection, the execution of the relevant documentation.

The involvement of specialists, provided for in article 200 of the Criminal Procedure Code of the Republic of Belarus, is due to the need for qualified production of an investigative or other procedural action using the relevant special knowledge.

In accordance with Article 62 of the Criminal Procedure Code of the Republic of Belarus, "a specialist is a person who is not interested in the outcome of a criminal case and has special knowledge in science, technology, art, craft and other areas of activity, caused by the body conducting the criminal procedure to participate and provide assistance in the production of investigative and other procedural actions".

Attesting witnesses are adults who are not interested in the outcome of a criminal case, whose duty is to certify the fact of an investigative action, its course and results (Article 64 of the Criminal Procedure Code of the Republic of Belarus).

Cases of mandatory participation of a doctor (expert) in the inspection of the scene.

Presence at the scene:

— corpse (corpses);

— victim (s);

— material evidence subject to forensic medical examination (blood, hair, semen, etc.).

To effectively participate in the inspection of the scene of the incident, the doctor (expert) must have the appropriate equipment that can be stowed in a suitcase.

The procedure for examining a corpse.

Arriving at the place the body was discovered (the incident), a doctor (expert) must first verify whether there are signs refer erti. In their absence, the doctor (expert) is obliged to notify the person conducting the investigative action (examination) about this in order to call an ambulance.

In cases where at the place of detection of a corpse (incident) there are no necessary conditions for a complete and high-quality examination, the doctor (expert) is obliged to carry out the maximum possible set of actions aimed at detecting, describing and fixing circumstances that are significant, and then initiate in front of the person, conducting an investigative action, delivering the corpse to the morgue for the purpose of further examination.

When examining a corpse at the place of its discovery (incident), the doctor (expert) is obliged to establish and inform the person conducting the investigative action, for entering into the protocol, the following information:

1. the position of the corpse, its posture (the relative position of body parts in relation to each other), objects located on the corpse or under it, as well as in the immediate vicinity of it;

2. the condition and position of clothing and shoes on the corpse (its intactness, contamination, overlapping, blots, the condition of fasteners and loops, the presence of traces similar to blood, and other secretions of biological origin);

3. sex, physique, color of skin, visible mucous membranes, condition of pupils, corneas, condition of natural openings, if there are foreign bodies and secretions in natural openings, indicate their nature, color and features. In this case, you should not take off your clothes, it is only allowed to unbutton and (or) lift it;

4. the nature of early cadaveric phenomena with an indication of the time of their study. In this case, it must necessarily be reflected:

— location and nature of cadaveric spots (color, intensity, color changes at metered pressure and time (in seconds) required to restore the original color);

— the degree of cooling of closed and open parts of the body to the touch;

— rigor mortis (with indication of localization and severity);

— cadaveric drying, indicating its signs;

— if technically feasible, body temperature (with mandatory double measurement at the beginning and after completion of the examination, if it lasts more than an hour, indicating the area of the body and the time of measurement), as well as the ambient temperature. The body temperature and the environment is not measured during the inspection bodies, exposed to extreme temperatures, and in cases where the time of occurrence death indicated in medical instruments after resuscitation;

5. the presence of late cadaveric phenomena (decay, mummification, fat wax, peat tanning, etc.), indicating the degree of their severity and localization;

6. the presence of foreign odors, including from the mouth, which are most clearly felt when pressing on the chest;

7. the presence of insects and their larvae on the corpse and clothing (the place of greatest accumulation and their nature). To establish the occurrence of limitations, death doctor (expert), if necessary, is required to initiate before the person conducting the investigative action, removal of insects and their larvae for further entomological studies;

8. the condition of the hands, the contents of the palms (clenched in a fist and between the fingers);

9. the presence of injuries on the body of the corpse, their localization, nature, approximate size, shape, features of the edges, the nature of overlaps, inclusions, drips, similar to blood or secretions of biological origin;

10. condition of the corpse bed.

When inspecting damage, it is forbidden to probe them and other actions that entail changes in their original appearance or properties, as well as wash, wipe or otherwise remove dried blood or other secretions in order to avoid the loss of small particles (fragments of glass, metal, soot, other foreign inclusions and overlaps).

If tools, objects or foreign bodies are found in the area of damage and natural openings of the body, the specialist should initiate, in front of the person conducting the investigative action, their removal in accordance with the established procedure.

The doctor (expert) is obliged:

— when describing traces that could have formed from blood or sperm, indicate their location, nature, size and relative position;

— when looking for hair:

use bright lighting, including additional sources of artificial lighting, magnifiers, tweezers with tips, test tubes, bags and other technical means and (or) tools that provide an effective search for objects;

be careful when removing and storing them, as the object can easily be lost with a slight movement of air.

Hair must be looked for on instruments of injury, clothing, in hands, under a corpse and other objects within the boundaries of the investigative action (inspection of the scene of the incident), taking into account the circumstances of the incident and the situation.

In the course of the investigative action, the doctor (expert) also:

advises the person conducting the investigative action on issues related to the external examination of the corpse, its subsequent forensic medical examination and laboratory tests necessary during its conduct, as well as other issues within the competence;

provides the person conducting the investigative action with assistance in the detection, fixation and seizure of traces of biological origin, substances similar to medicines, items or tools that can cause damage, and other objects of interest for the circumstances to be clarified;

draws the attention of the person conducting the investigative action to all the circumstances that are relevant to a particular case.

On examination of the corpse in the cases of nonviolent death (sudden, sudden) in the place of its discovery (accidents) the expert is obliged to draw attention to the absence or presence of lesions, their character.

At the end of the external examination of the corpse and the study of the environment, the doctor (expert) has the right to orally express his assumptions:

1. of limitations occurrence death (approximately);
2. to change the position of the corpse after death;
3. on the mechanism of causing bodily harm and the alleged weapon (weapon) of injury;
4. whether the place where the body was found is the scene of the incident;
5. about the mechanism of formation of traces of blood and reconstruction of events after external bleeding;
6. the reason for death.

In the event of a reasonable suspicion to death of especially dangerous infections (plague, smallpox, cholera, and other forms) doctor (expert) shall immediately notify the person conducting the investigative action, for the adoption of the notice immediate health organizations measures of hygiene and epidemiology centers, as well as the finding of all

participants in the investigative action on the spot before the arrival of the specialists of the sanitary and epidemiological service.

Features of work (expert) in various types of incidents

On examination of the corpse in case of violent death (death) at the site of its discovery (incident) doctor (expert) is obliged to establish and inform the person conducting the investigative action, to be included in the following features of the protocol.

In case of a **road traffic injury** - the posture of the corpse, its position in relation to parts of the road, surrounding objects, a vehicle or the tracks of the latter, as well as the distance between them; the condition of the clothes, the presence of damage on it, glass fragments, contamination with paint, street dirt, particles of the road surface, as well as traces of dragging or treads, tracks and other parts of the vehicle; the condition of the shoe, the presence of damage on it, traces of slipping on the soles; the nature of injuries on the corpse, their localization, places of abnormal bone mobility, the presence of crepitus, deformation of individual parts of the body, shortening of the limbs, traces of dragging, embedded foreign particles; on the road section there are substances of biological origin, individual items of clothing and footwear or their scraps, things; the presence on the vehicle of traces of blood, hair, skin particles, brain matter, pieces of tissue and organs, flaps and fibers of clothing fabrics, prints of the latter, their height from the road surface and other significant circumstances.

When railway injury - posture, location of a corpse and its portions relative to the rail filaments mound roadway and railway transportation facilities (under any carriage or wheel set), the distance between the body parts; the presence of damage on clothing, characteristic contamination (lubricants, antiseptics), embedded particles of the ballast layer of the track, "folded smoothing", pressure bands; the nature and localization of injuries on the corpse, contamination of the edges and bottom of the latter, signs of bleeding on clothing and terrain, the color of pressure and sediment stripes and other signs; the presence of traces of body dragging on the section of the railway track; presence of traces of biological origin on railway transport and the height of their location.

In case of an aviation injury - the relative position of corpses or their parts relative to each other and the wreckage of the aircraft; traces of movement of bodies or their parts on the ground; condition of clothes, foreign odors; the belonging of parts to each corpse (tags with serial numbers and, if known, the surname of the deceased are attached to the parts; it is strictly forbidden to seize documents, valuables and other items from the remains of the corpse, since they will further significantly help in identification), types of damaging effects on corpses or parts, the presence of marks and injuries on the body from the impact of seat belts, the nature and characteristics of damage to the crew members (possible signs of gunshot injuries, carbon monoxide poisoning and other factors of external influence on the body);

When falling from a height - strip-like dirt on clothes, scuffs of fabrics or decorative parts (buttons, buckles) from sliding along the wall, coincidence of the features of clothing pollution with the nature of the pollution of the place from which the victim fell, strip-like tears along the seams; prints of the tissue pattern on the skin of the corpse, the predominant location of bodily injuries on the protruding parts of the face and body, one-sided localization of injuries (provided there is no stepped fall); symmetry of injuries when falling on the upper or lower extremities; soft tissue damage, respectively, to one or both heel areas; shortening of one of the lower limbs and rotation of the foot;

In case of damage with **blunt and sharp objects** - the condition of the clothing and the nature of the damage on it; the nature of injuries on the body of the corpse, anatomical localization, shape, edges, approximate dimensions, other features, correspondence to damage on clothing; with homogeneous damage - their number, relative position; the presence of traces similar to blood, hair, textile fibers, pieces of soft tissue, medulla on a corpse, its clothes, environmental objects, alleged instruments of trauma; the presence of traces, similar to blood, on the soles of shoes and the plantar surface of the feet.

In case of gunshot injuries - damage to clothing, their localization, shape, presence of a defect, approximate dimensions, the presence of bullets, shot, wads and traces of additional factors between the layers of clothing or in its folds (if found, they must be removed for special research); the presence of shoes on the feet; the number of injuries on the body of the corpse, the shape and approximate dimensions, the presence of a defect (minus the tissue), the imprint of the muzzle end of the weapon, tears of tissue in the area of the inlet, the presence of foreign bodies in the wound the nature of the injury and its features; traces suspicious of blood on the body, clothing of the corpse, surrounding objects, their location and features.

In case of an **explosive injury** - the position of the corpse in relation to the explosive funnel (the epicenter of the explosion), the relative position of the corpse and its individual parts with an indication of the distance between them, the presence of free-lying fragments between the layers of clothing, parts of the exploded device, particles of an explosive substance; the nature of the damage on the clothes of the corpse, the presence of burning, subsidence, soot.

In case of asphyxiation from mechanical reasons - the presence of puffiness of the face, hemorrhages in the connective membranes of the eyes; position of the tongue, cyanosis of the skin; traces of feces, urine, semen on the body and clothing, as well as the following specific features:

— **when the neck is squeezed with a noose** - the pose of a corpse; with free hanging of the body - the distance from the floor to the feet of the corpse, the free (lower) and fixed ends of the loop, the presence of objects that could be used as supports, traces on them (for example, shoes and traces from them on the floor (carpet), ground) ; in case of incomplete hanging of the body - which parts of the body have points of support, the distance from the floor to the free (lower) and fixed ends of the loop; features of fastening the end of the loop to the support, traces of sliding on the support and the rope; loop (type, number of turns, material, the presence of knots, buckles, holes in the material and other available features, the location of the loop on the neck, the location of the knot, the nature of knots knitting); localization of cadaveric spots, complexion, the presence of punctate hemorrhages in the connective membranes of the eyes, the position of the tongue, the nature and features of the strangulation groove, the correspondence between it and the loop;

— **while squeezing the neck organs hands of suspected death by closing the opening of the mouth and nose with your hands or other objects** - pose of the corpse, the state of clothes, the presence of her injuries and overlays; an impression on an object covering the openings of the nose and mouth, in the place where the face fits, the imposition of saliva, vomit; gag in the mouth - the material, how much protrudes from the vestibule of the mouth, how tightly it is fixed; a plastic bag (bag) on the head - position, places of tight fit, presence on the inner surface of the package of overlapping substances, droplets of moisture, traces of fogging, after removal - foreign smell, shape, size; damage to the skin of the neck, face, around

the openings of the nose and mouth, the condition of the mucous membrane of the lips, oral cavity; the presence of injuries in other areas of the body, especially on the hands. If there is a gag in the mouth, it is strictly forbidden to remove it;

— **when squeezing the chest and abdomen** - the nature, size of the squeezing objects; imprints of clothing and other items on the skin; the nature and characteristics of mechanical damage; coloration of the skin, hemorrhages in the mucous membrane of the eyelids and the white membrane of the eyes, skin of the face, neck, upper body, exophthalmos;

— **in case of drowning in water** - the presence of objects that hold the body on the surface of the water (life belt, vest and other items) or, conversely, that contributed to immersion, indicating their size, nature and methods of attachment; which parts of the body are immersed in water; the presence and condition of clothing, the imposition of sand, silt, algae on it, the presence and localization of mechanical damage and their nature, areas of skin maceration; the presence of persistent foam at the openings of the nose and mouth.

In case of poisoning - traces of the effects of poison on the skin and clothing (burns, vomit on and around the corpse), items with chemical residues (bottles, glasses, ampoules, drug containers, powders, tablets, liquids) next to the corpse or in the pockets of clothes, the presence of a syringe and a needle, the color of the skin, features of cadaveric changes, the state of the pupils, bad breath, the presence of traces from injections.

Under the action of low temperature - the posture of the corpse, the state of the surface on which the corpse was located, with a description of the nature of the "bed"; the condition of the clothes (according to the season, dilapidation, humidity and other important characteristics); features of cadaveric changes; the presence of frost and pieces of ice in the eyes, mouth and nose openings; "Goose bumps" and the presence of frostbite of varying degrees, their localization, size and other features. In this case, the examination of the frozen corpse must be carried out with caution to prevent damage to the fragile frozen parts of the body (fingers, ears, nose, etc.).

When exposed to high temperatures - the absence or partial preservation of clothing (according to which areas of the body), its condition, the presence of a specific smell (gasoline, kerosene, other flammable liquids), scorching or burning, traces similar to blood; posture of the corpse, localization, prevalence and degree of burns on the corpse; the presence of soot at the openings of the nose and mouth, on the mucous membrane of the mouth, tongue, teeth, on the tops of the folds of the skin. Damage not related to flame. When examining fires, the remains of a corpse can be in different places, which is due to the removal of body parts during extinguishing of the structure.

When struck by atmospheric electricity (lightning) - the presence of damage to clothing and the body: burning of clothing, burns or scorching of hair, "figures of lightning" on the skin, as well as the melting of metal objects.

In case of **damage by technical electricity** - the position of the corpse and its individual parts in relation to current-carrying and grounded objects, the presence of pieces of epidermis, blood, hair, textile fibers and clothing particles on the sources and conductors of current, features of clothing that favor the conduction of current (moisture, nails on the soles shoes); the presence of damage from the thermal and mechanical action of the current (scorching, burning, tearing of tissues, melting of nails in shoes, metal and plastic objects in pockets); signs of current action: electric switches at the points of contact with the conductor and the expected

output of current. It is not allowed to proceed with the inspection without making sure that the corpse and the surrounding objects are not under the influence of electric current.

In case of a criminal abortion - the presence of syringes, cups, basins, medical instruments, chemicals, medicines that could be used for the purpose of abortion; traces similar to blood on linen and objects of the environment; the posture of the corpse, the signs of pregnancy, the condition of the external genital organs and the perineum (mechanical damage, blood, foreign objects introduced into the genital tract); the need to inspect the places where the discarded or hidden placenta, fetus and its parts may be located.

Upon detection of dead neonates or parts thereof - the presence and nature of the package, the method ligation, generic tumor blood traces or meconium, features baby care (ligation cord, bandage, etc.), Foreign bodies in vivo holes, the condition of the umbilical cord and children's place, damage to them.

If a corpse of an unidentified person is **found** - clothes (in detail), related items near and under the corpse; gender, anthropological type, approximate age, physique, hair, teeth condition, special signs (developmental defects, consequences of injury and diseases, scars, tattoos, birthmarks, physical disabilities, etc.).

When parts of a dismembered corpse are found, the presence and nature of the packaging, clothing (in detail), the method of dressing, the anatomical nature of the severed body parts found, cadaveric phenomena, contamination with foreign substances, the presence of traces similar to blood, special signs, localization, character, surface of the edges and other features of the sites of dismemberment; shape, approximate dimensions and other characteristics.

When a skeletonized corpse is found, the relative position of the bones, compliance with the normal position in the skeleton, damage and overlap on the surface of the bones. If a skeletonized corpse is found in the ground, the skeleton should be freed from the soil, and then the remains should be removed completely. It is allowed to extract the bones separately with layer-by-layer photographing if it is impossible to clean them from soil.

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