

STATE UNIVERSITY OF MEDICINE AND PHARMACY
„NICOLAE TESTEMITANU”

Department of Forensic Medicine

Vasile Şarpe

Medico-legal examination of the person
(methodic and didactic guideline)

Chişinău 2013

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The guideline „Medic-legal examination of the person” is a methodic and didactic material addressed to the anglophone students and to the teachers of the Department of Forensic Medicine of the State University of Medicine and Pharmacy „Nicolae Testemitanu”. It is compiled according to the curricula of the chair and covers the following subjects: motives and methodology of person’s examination, assessment of degree of injury severity, examination of sexual states and crimes, and other kinds of person’s examination. Also a short glossary is included.

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INTRODUCTION

The forensic examination of persons is one of the most requested forensic investigations. It may be disposed by order or requested in written form, as well as with the other forensic research objects, and respectively there are two types of forensic investigations: medico-legal (forensic) expertise and forensic examination.

A forensic expertise is performed only upon a written order issued by the police officers, prosecutors or court decision.

Forensic examinations are done following a written request from the law enforcement officials (prosecutors, police, and court). Besides, the forensic examination of a person can be carried out at the request of the concerned person, but if there are serious and medium injuries, or other criminal actions (e.g. rape, torture) the forensic expert is obliged to inform the law enforcement bodies.

The forensic examination of a person is done as a rule in a medico-legal institution, but, due to exceptional circumstances (e.g. detention, health status) the person can be inspected in other places: hospitals, dispensary, places of detention, victim's home, etc. It is strictly prohibited to examine the person at the expert's home.

The expert conclusions are formulated on the basis of: medico-legal examination of the person's body, inspection of the clothes, supplementary studies (X-ray, laboratory, etc.), information obtained from medical records, etc. The medico-legal examiner must consider the circumstances too.

In exceptional cases (e.g. full recovery after being in the hospital), the person's examination can be done without examining the body and it is carried out on the base of original medical documents.

GLOSSARY

Aggravation – the state of becoming worse or more serious; exacerbation

Anamnesis – the collection of past events (case history) from a patient;

Anthropometric status – the sizes and proportions of the human body

Anthroposcopic status – the appearances of the skin, face, hair and other age conditions of the body

Artificial disease – an artificial self-induced disease

Beating – a kind of ill treatment by application of multiple and repeated blows

Case circumstances – the accessory information or details about the case (condition of time, place, mechanism of trauma, etc.)

Child abuse – the physical, sexual, or emotional ill-treatment or neglect of a child

Closed injury – the trauma doesn't communicate with the circumambience

Consequence – a result or effect of a trauma

Dangerous to life – the injury than can imminently, immediately, belatedly or potentially cause the death

Degree of injury severity – any of the four categories of injury gravity (health harm, damage)

Determination of the sex – the process of assessment of either of the two categories: male or female

Disfigurement – an unpleasant or unsightly appearance

Disputable sexual states – the condition (sexual) of a person capable of being argued or debatable

Dissimulation – concealing of an illness

Health disorder – an upset of health

Health status - the general condition of the body and mind

Homosexual action – the sexual relation with members of the same sex

Hymenal membrane (hymen, hymenal rim) – the membrane that covers the vaginal opening

Hymenal orifice – the hymenal opening

Identification – the process of identifying a person

Identity – the individual characteristics by which a person is recognized

Ill treatment (inhuman, degrading) – a cruel or harsh behavior towards someone

Injury – the physical damage or hurt

Injury severity – the medico-legal and juridical quality of an injury

Medical examination – an examination carried out to determine injuries

Open injury – the trauma communicates with the circumambience through a skin or a mucosa wound

Qualification criteria – a condition that limits the degrees of injury severity

Radiological status - the use of X-rays in the establishment of age of a skeleton

Rape – the sexual intercourse against the person's will

Reproductive capacity – the ability of reproducing (potentio coeundi, generandi, gestandi, parturiendi)

Self-mutilation – the act of injuring oneself

Sexual crime – the violent attack with sexual component against someone which is prohibited and punished by law

Sexual intercourse (normal) – the sexual contact between individuals involving insertion of a man's erect penis into a woman's vagina

Sexual intercourse (perverted) – any sexual contact or behavior, other than normal

Sexual maturity – the state of full sexual development when sexual life is harmless

Simulation – the assumption of a false illness

STD – sexually transmitted disease

Torment – a kind of ill treatment by deprivation of food or water, keeping in cold or moisture conditions

Torture – a kind of ill treatment by causing unbearable pain or suffering

Torture, inhuman or degrading (ill) treatment – a physical or mental anguish

Traumatic factor – an environment agent or phenomenon that inflicts on somebody an injury, health disorder or death

Virginity – the condition of being sexual untouched

REASONS AND METHODOLOGY OF PERSON'S EXAMINATION

The main purposes and matters

To know:

- ✓ the reasons of the person's examination
- ✓ the methodology of the person's examination
- ✓ the order of injury's description
- ✓ the scheme of injury's description

To be able to:

- ✓ check identity
- ✓ collect circumstances of the case and anamnesis
- ✓ study medical records and select main data from them
- ✓ do a medico-legal examination of a person
- ✓ correctly describe an injury
- ✓ use additional information in person's examination
- ✓ make a medico-legal conclusion

Didactic material

- ✓ this guideline
- ✓ lectures
- ✓ other didactic material (tests, situational problems, copies of medical records)
- ✓ injured persons (practical cases)

Methodic aids

1. Organizational issues
2. Quiz
3. Individual work
4. Solving problems
5. Checking the final level of knowledge
6. Summary and home tasks

Reasons of the person's examination

All crimes against health, security, dignity and human life usually require a forensic examination or expertise.

The reasons for forensic assistance of people can be:

- establishment of the presence the injury, its character, and mechanism of causing, the degree of injury severity
- torture, inhuman or degrading treatment
- determination of general and professional incapacity to work, generated by trauma
- health status assessment: simulation, dissimulation, aggravation, artificial disease or lesion, self-mutilation
- examination of disputable sexual states: determination of the sex, sexual maturity, virginity, reproductive capacity, diagnose of pregnancy, recent birth, abortion, contamination with STDs, etc.
- expertise of sexual crimes: signs of sexual intercourse in the case of rape, constrained homosexual actions, sexual intercourse with a minor, child abuse, etc.
- alcohol or drugs consumption
- age determination
- person identification
- parentage expertise

Methodology of person's examination

Forensic examination of a person is a somewhat medical inspection and assessment and it is performed according to special and respective regulation and legislation.

There are peculiarities of examination depending on the kind of investigation, but in all cases there is a sequence of general actions:

1. identity checks
2. analysis of case circumstances
3. advising the medical records
4. annotation the anamnesis
5. medical examination
6. utilization of supplementary and special investigative methods
7. making the medico-legal conclusions and report of medico-legal examination or expertise

The identity checks shall be carried out based on an official document (with photo). The main identification information is extracted and recorded in the medico-legal report. The identity also may be confirmed by the attendant law officials. In exceptional cases (loss of documents, no

proofs of identity) the person is inspected without documents check, but it is obligatory to be photographed and the photo is added to the report.

The circumstances of the case are studied starting with the writing request or order and then they are collect from person. If it is necessary, the expert can asks for supplementary materials from the officer.

The medical records are present, as a rule, when the person has received medical care. It should be checked the veracity of documents: the presence of official forms, stamps, signatures, etc. The inscriptions in the medical records have a great value in determining the injury severity, the initial state of corporal injury, the trauma progress, its complication, etc.

Medical files are presented by the police officer (authoritative), as well as other materials. In all cases must be examined the original medical files. Sometimes (e.g. in cases of full recovery) the medical documents are the main source of medico-legal documentation of the case and must be respectively fulfilled.

The annotation of the anamnesis should be short. The forensic doctor gains only the history about the case and current trauma, but the conversation must not be an interrogation and the patient is not induced to expected answers. The anamnesis data are compared with the objective information, but the expert does not express doubt with the person.

The medical examination (physical examination) is a process of objective investigation of the patient's body for signs of trauma. This data becomes the main part of the medico-legal report and together with the medical history, the medical records (if any), the supplementary investigation and others are the bases of the medico-legal conclusions.

Physical medico-legal examination includes general information about the patient and the detailed examination of injuries and inflicted parts of the body. When a complete physical or systemic examination is necessary, the expert appeals to the specialists (surgeon, gynecologist).

The examination of injuries is done in cranio-caudal order, from right to left, antero-posterior, and includes: localization, kind of injury, shape, dimensions, morphological appearance (margins, ends, walls, surface), and adjacent tissue.

Thus, lesions are described as follows:

1. the lesion localization (anatomical region is fixed and its surface);
2. the kind of injury (ecchymosis, excoriation, wound, fracture, etc.);

3. the lesion shape (compared to the geometric figures; if the form cannot be compared, the irregular shape should be indicated);
4. the lesion orientation towards the midline of the body (organ, bone);
5. the lesion size (length, width, depth, height) in centimeters;
6. the color of the lesion and the adjacent regions;
7. the character of the lesion surface (relief, color);
8. the character of edges, walls, ends, bottom of lesion;
9. the presence of heterogeneous deposits or impurities (in/on the lesion or around it);
10. the state of adjacent tissues;
11. the signs of tissue regeneration (changing the color of the bruise, the state of the crust of abrasions or wound).

Supplementary and special investigative methods are not used in all cases, but only if the additional information is needed. When it is necessary for the examination to be done by specialists (ENT, radiology, traumatology), the person is sent to the respective doctor.

The results of medical investigations and consultations are used in the forensic report and they are attached to it.

The last and the most important part of the forensic examination is *the conclusion*. The conclusion of the forensic examination of persons refers to the determination of the traumatizing object (agent), the time of trauma, the assessment of the degree of injury severity, etc.

The forensic conclusion is an important source of establishing the traumatizing agent. As you know there are mechanical, chemical, physical, biological, and psychological traumatic factors. From all of them most frequent is trauma due to mechanical objects as: blunt and sharp objects and fire-arms.

While establishing the kind of object or weapon, the forensic experts try to determine the basic characteristic of a particular object. In many cases, these researches provide results that can essentially limit the assemblage of crime instruments.

In order to establish the time after trauma forensic doctors use certain regularities in the development of pathological processes and wound healing in humans based on the individual characteristics of the organism.

ASSESSMENT OF THE DEGREE OF INJURY SEVERITY

The main purposes and matters

To know:

- ✓ the degrees of injury severity
- ✓ the general qualification criteria of injury severity
- ✓ the algorithm of assessment of the degree of injury severity
- ✓ the dangerous to life injuries
- ✓ the consequences not dangerous to life
- ✓ the qualification criteria of medium, slight and insignificant injuries

To be able to:

- ✓ apply the qualification criteria of injury severity
- ✓ assess the degree of injury severity
- ✓ differentiate the serious, medium, slight and insignificant injuries
- ✓ appreciate the relationship between the trauma and consequences
- ✓ differentiate the medical and juridical notion of the subject

Didactic material

- ✓ this guideline
- ✓ lectures
- ✓ other didactic material (tests, situational problems, copies of medical records)
- ✓ injured persons (practical cases)

Methodic aids

1. Organizational issues
2. Quiz
3. Individual work
4. Solving problems
5. Checking the final level of knowledge
6. Summary and home tasks

Beginnings of the degree of injury severity assessment

In the Republic of Moldova the assessment of injury severity is done in accordance with the Penal Code, Penal Procedure Code, Civil Code,

Regulation of assessment of the degree of injury severity, and other normative acts.

There are the following degrees of injury severity:

- serious injury;
- medium injury;
- slight injury;
- insignificant injury.

The severity of injury is assessed based on four qualification criteria:

1. the danger to life
2. the consequences not dangerous to life
3. the volume of permanent incapacity to work
4. the term of health disorder

which are applied as in *table 1*:

Table 1

The algorithm of assessment of the degree of injury severity

criterion	degree of injury severity			
	serious	medium	slight	insignificant
danger to life	+	-	-	-
not dangerous for life consequences	+	-	-	-
volume of permanent incapacity to work	> 33%	33%-10%	< 10%	-
term of health disorder	-	> 21 days	6 – 21 days	< 6 days

(+ applicable, – inapplicable)

To determine the severity of injury it is sufficient only a criterion. If there are several criteria, the most serious one is used, except for the criterion of incapacity to work, when it is determined by summing the percentages.

The volume of permanent incapacity to work is assessed in conformity with the existing regulations, and it is a must to use this criterion only after the treatment has finished. The term of health disorder is the time necessary to restore the health, which is estimated in days.

Serious injury

Serious injury can be qualified based on the following criteria: the presence of danger to life, the traumatic consequences not dangerous to

life, and the considerable volume of permanent incapacity to work (not less than 33%).

Dangerous to life are the following injuries:

a. Open fractures of the skull, including without brain or meninges damage.

b. Closed fractures of the skull, except facial section and isolated cracks of external lamina of the skull roof.

c. Serious and medium cerebral contusion with objective signs of bulbar damage.

All forms of clinical diagnosis "concussion, cerebral contusion" are appreciated based on special instruction, approved by the Ministry of Health.

d. Intracranial hemorrhages: extra- or subdural hematoma, subarachnoid or intracerebral hemorrhages - when they are associated with dangerous to life phenomena, certified by neurological and neurosurgical data.

e. Penetrating injuries of the spine, including without spinal cord injury.

f. Fracture-luxations of cervical vertebrae, their body or both arches fractures, unilateral arch fracture of the 1st and the 2nd cervical vertebrae and fracture of odontoid apophysis of the 2nd cervical vertebra, including without spinal cord disorder.

g. Dislocation and subluxation of cervical vertebrae, associated with dangerous to life phenomena, certified by neurological data.

h. Closed injuries of the cervical spinal cord, associated with spinal shock and other dangerous to life phenomena.

i. Fractures and fracture-luxation of one or several thoracic and lumbar vertebrae, closed spinal cord injuries associated with spinal shock or disturbance of pelvic organs functions, confirmed clinically.

j. Penetrating wounds of the pharynx, larynx, trachea, esophagus.

k. Closed fractures of the laryngeal or trachea cartilages with damage of mucosa, when they cause a severe shock or other dangerous to life phenomena.

l. Closed fracture of hyoid bone, thyroid and parathyroid glands lesions, accompanied by breath disturbance, brain hypoxia or other dangerous to life phenomena.

m. Chest injuries which have penetrated the pleural cavity, pericardium, with or without damage to internal organs.

Localized subcutaneous emphysema without pneumothorax cannot be considered a sure sign of penetrating chest lesion.

n. Penetrating abdominal wounds, with or without damage to internal organs; open wounds of retroperitoneal space organs (kidneys, adrenals, pancreas, etc.); penetrating injuries of the bladder, vagina, high and medium part of rectum.

o. Closed injuries of the largest vessels, diaphragm, organs of the chest, abdomen, pelvis, retroperitoneal space, including subcapsular ruptures, confirmed by dangerous to life phenomena.

p. Open fractures of long tubular bones (humerus, femur and tibia), open lesions of knee and hip joints, closed fractures of the femoral bone diaphysis.

Closed fractures of the femur head, neck, trochanter, condyles and epicondyle (without involving the medullary cavity). The closed marginal fractures are assessed based on the term of health disorder or the volume of permanent incapacity to work.

q. Open fractures of the radius, ulna and fibula, closed fractures of large joints (shoulder, elbow, wrist, and ankle) are estimated based on the term of health disorder or the volume of permanent incapacity to work.

r. Pelvic fractures associated with severe shock or rupture of the membranous part of urethra.

s. Injuries that are accompanied by a serious shock (gr.III-IV), an abundant internal or external bleeding resulting in a collapse, a fat or gas embolism confirmed clinically, a traumatic toxicosis with the phenomena of acute renal failure, and other dangerous to life conditions.

t. Injuries of large blood vessels: aorta, carotid arteries, subclavian, axillary, brachial, cubital, iliac, femoral, popliteal, and their accompanying veins.

The severity of other peripheral blood vessels injuries is assessed based on the presence of dangerous to life phenomena.

u. Thermal burns of the 3rd and 4th degree with damage of more than 15% of the body surface; third degree burns with over 20% of the body, second-degree burns which cover more than 30% of the body, and burns on a smaller area, but associated with severe shock, airway burns, edema, and stricture.

v. Barotrauma, electrocution, hypothermia, hyperthermal states (heatstroke, hyperthermal shock) and chemical burns (due to concentrated acids, alkalis, and other various substances), which have generated dangerous to life phenomena, beside local changes.

w. Compression of neck organs and other types of mechanical asphyxia, associated with a complex dangerous to life phenomena (disturbance of the cerebral blood circulation, loss of consciousness, amnesia, and others), confirmed by objective data.

x. Dangerous to life phenomena due to traumatic action on shockogenic regions – sinocarotidian zone, celiac plexus, male genitals etc.

Serious injury qualified based on consequences not dangerous to life:

1. Anatomical loss of an organ or of its function:

a. The loss of sight is a complete blindness of either eyes or a stable vision decrease when a person cannot count your fingers at a distance of two meters and less (visual acuity 0.04 diopters and less).

The loss of sight of one eye results in permanent incapacity to work more than one third, and it is also part of serious injuries.

The degree of severity of a blind eye injury requiring its enucleation is estimated based on the duration of health disorder.

b. The loss of hearing is a complete deafness or irreversible state when the victim cannot perceive the usual speech at a distance of 3-5 cm from the auricle.

The hearing loss in one ear results in permanent incapacity to work less than 1/3 (one third) and it belongs to the medium injuries.

c. The loss of speech is a loss of ability to express thoughts through clearly received and articulated sounds. This state may be determined by the loss of tongue, anatomo-functional disorders of the vocal cord or it may have a nerve origin (the respective centers of the central nervous system).

d. The loss of an arm or a leg is a state when they are detached from the trunk or when they lose of their functions (ex.: paralysis).

The anatomical loss of an arm is an amputation of this member from the wrist or upper it and anatomical loss of leg – from ankle and upper it. Other cases are considered as a loss of a part of the member and are assessed based on the volume of permanent incapacity to work.

e. The loss of reproduction capacity is the loss of cohabitation, fertilization, conception and birth ability on females and the loss of cohabitation and fertilization on males.

2. *Termination of pregnancy.*

Abortion is a criterion of serious injury, if it is not a consequence of individual peculiarities of the body (infantile uterus, plasmosis, pelvic abnormalities, etc.) and if it has a causal relationship with the trauma.

The medico-legal expertise of such cases is done in commission with an obstetrician-gynecologist.

3. *Irreparable disfigurement of the face.*

The irreparable disfigurement of the face includes adjacent regions (pinna, the front and anterolateral regions of the neck).

The forensic doctor does not qualify injuries of the face and adjacent regions as disfigurement, because this is a non-medical concept and it is not within the competence of medicine. The expert simply assesses the degree of injury severity in accordance with this Regulation, noting only whether it is or is not repairable.

The injury is repairable if the morphological changes (scar, distortion, mimic disturbance) can be considerably reduced by conservative treatment (non-surgical). If, however, to remove the lesion or its consequences a cosmetic surgery is needed, the injury is considered irreparable.

4. *Postaggression mental infirmity*

The mental infirmity (postaggression mental illness) is determined by a commission of psychiatrists together with the medico-legal expert, in accordance with respective Regulation, taking into account the causal relationship between trauma and mental illness.

5. *Considerable permanent loss of general working capacity*

If the corporal injury or posttraumatic health condition has generated a stable and considerable incapacity to work, but not less than 33%, it is qualified as serious injury.

The complete loss of professional work ability is established in accordance with Regulation in force, and only when it is necessary, being ordered by prosecution body or through a court decision.

The incapacity to work of invalids, caused by injury, is considered the same way as for practically healthy persons, regardless of invalidity and its group.

The children's working incapacity is assessed similarly as for the adults, according to this Regulation.

Medium injury

a. Qualification criteria of medium injury are:

- lack of danger to life
- lack of any consequences provided in this Regulation for serious injury
- long-term health disorder
- significant permanent incapacity to work

b. The forensic doctor evaluates the term of health disorder based on objective medical data, including those embodied during expertise.

c. The long-term health disorder is a consequence directly caused by the injury (diseases, functions disorders, etc.), which has a duration of more than three (3) weeks (more than 21 days).

d. The significant permanent incapacity to work is a general working inability of more than 10%, but till 33% (one third) inclusively.

Slight injury

a. Qualification criteria of slight injury are:

- short-term health disorder
- insignificant permanent incapacity to work

b. The short-term health disorder is caused directly by the injury and lasts more than 6 days but not more than 21 days (three weeks).

c. The insignificant permanent incapacity to work is a general working inability of less than 10% inclusively.

Insignificant injury

Insignificant injury includes injuries that do not generate a health disorder for more than six (6) days or a permanent incapacity to work.

EXAMINATION OF SEXUAL STATES AND CRIMES

The main purposes and matters

To know:

- ✓ the reasons of the obstetric-gynecologic examination
- ✓ the disputable sexual states
- ✓ the sexual anomalies
- ✓ the main criterions in determination of the female and male sexual maturity
- ✓ the sexual crimes
- ✓ the methodology of the obstetric-gynecologic examination
- ✓ the anatomical structure of the hymen
- ✓ the common kinds of hymen
- ✓ the signs of sexual intercourse at females and males in the case of vaginal and anal penetration

To be able to:

- ✓ check identity
- ✓ do a medico-legal obstetric-gynecologic examination of a person
- ✓ collect the obstetric-gynecologic case history
- ✓ determine the sex of the person
- ✓ determine de the sexual maturity of the female and male
- ✓ do the expertise of the virginity
- ✓ do the expertise in the case of sexual crimes
- ✓ establish the signs of sexual intercourse
- ✓ collect samples for laboratory examination
- ✓ use additional information in obstetric-gynecologic examination
- ✓ make a medico-legal conclusion

Didactic material

- ✓ this guideline
- ✓ lectures
- ✓ other didactic material (tests, situational problems, copies of medical records)

- ✓ injured persons (practical cases)

Methodic aids

1. Organizational issues
2. Quiz
3. Individual work
4. Solving problems
5. Checking the final level of knowledge
6. Summary and home tasks

The methodological principles of forensic obstetric-gynecologic examination

The medico-legal examination of sexual states and crimes is done based on an order or request from law authorities in cases of disputable sexual states: determination of the sex, sexual maturity, virginity, reproductive capacity, diagnose of pregnancy, recent birth, abortion, contamination with STDs and in cases of sexual crimes: rape, homosexual actions, sexual intercourse with a minor, child abuse, etc.

The effectiveness of the results of this examination is in relation to time duration from the event till examination. Thus, the victim of sexual crimes, as a way of exception, may be examined at its own request, but it is mandatory to notify the law enforcement bodies, as well.

The forensic obstetric-gynecologic examination is performed by the medico-legal expert or together with a specialist in obstetrics and gynecology. The victim is examined in specially arranged rooms of forensic institution or polyclinics.

To avoid possible infection (sexually transmitted disease) forensic experts recommend a dermatovenerological examination. These results should be communicated in writing to the forensic doctor and the expert uses the data in conclusions.

The garments that were on the victim at the time of the crime, on which there may be traces of semen and blood, are subject of compulsory forensic examination. The representatives of criminal investigation (police, prosecutors) take them and send to laboratory examination.

At the examination, in cases when the clothes had not been previously taken, we have to inform the victim not to wash the clothes and the law enforcement bodies to take them.

The obstetric-gynecologic case history must include special (gynecological) anamnesis: from what age the menstruation started, its character, duration, menstrual cycle length, the date of last menstrual period; sex life, including the last sexual intercourse; the number of pregnancies, abortions, childbirths, the postpartum illness; discharge; surgeries, diseases (e.g. meningitis, encephalitis, syphilis, tuberculosis, etc.).

Sexual states

Disputable sexual states are solved by the forensic examination if there are judicial or other contests: divorce, registration of civil status, military service, sexual aberrations and crimes, etc.

Determination of the sex does not present difficulties if the examined people have a normal and incontestable development of the sexual organs, and what we examine in this case is:

- the general development of the subject (constitution, skeletal structure, shape and size of the pelvis);
- the development and characteristics of external and internal genital organs;
- the formation and revelation of secondary sexual characteristics, including the character and features of hair growth on the head, face and genitals;
- the development of the larynx and voice tone;
- the presence and nature of sexual attraction;
- the mental development;
- the presence and nature of eliminations from the genitals (semen, menses)

In case of abnormal sexual development a complex forensic examination is required, involving diverse specialists: gynecologist, urologist, andrologist, endocrinologist, etc.

The most frequent sexual anomaly is hermaphroditism (after the Greek god Hermes and goddess Aphrodite) and it can be true or false.

True hermaphroditism is the presence in an individual of both ovarian and testicular tissues and of ambiguous morphologic criteria of sex. This kind of hermaphroditism is very rare.

Pseudohermaphroditism is more frequent and represents a state in which the gonads are of one sex, but secondary sex characters are of

another gender. False hermaphroditism is divided by its predominance of sexual attributes into masculine and feminine.

Feminine pseudohermaphrodite (androgynous) is a male with the significant female appearance (male gonads (testes) and female sexual characters).

Sexual maturity is the age when an organism can reproduce and sexual life is a harmless and physiological function. It is determined based on anthropometric indices and specific sexual function.

The female anthropometric indices are relative and the most important ones are: standing height – more than 150cm, sitting height – 80cm, chest circumference – 78-80cm, normal obstetrical pelvis size.

The main criterions in determination of the female sexual maturity is the sexual function: the ability of copulation, conception, gestation, and birth (lat. *potentio coeundi*, *generandi*, *gestandi*, *parturiendi*).

Potentio coeundi. The copulation ability is determined based on the proper development of the external genitalia, including the vagina, which enables the introduction of the penis into the vagina. However, the ability to have sexual intercourse may appear well before puberty.

Potentio generandi. The conception ability occurs together with the ovulation. The regular and correct menstrual cycle in girls usually indicates the presence of ovulation, and therefore the possibility of conception.

As the menstruation may sometimes appear very early, the conception ability may come early too.

Potentio gestandi. Woman's ability to be fertilized and get pregnant depends on the proper development, size and position of the uterus, but also on proper functioning of other organs (endometrium, ovaries, corpus luteum, endocrine organs, etc.).

Potentio parturiendi. The labour ability is the capacity of childbirths per vias naturalis and is assured, at last, by the normal size and form of pelvis. In most cases girls reach up this size at 16-17 years.

The establishment of sexual maturity in boys is very rare in forensic practice and the ability of copulation and conception (fecundation) is examined only in cases when this kind of medico-legal expertise is requested.

The expertise of virginity is usually performed in cases of sexual crimes (rape, attempted rape, sexual intercourse with a minor, etc.). The

virginity is the state of a person who has never engaged in normal sexual intercourse.

The normal sexual intercourse (copulation, coitus) is the insertion of a male's penis into a female's vagina - the physiological way of reproduction. There are other sexual penetrative acts, such as anal sex, oral sex, fingering, etc. which are described in this guideline as perversions.

In order to establish the virginity the medico-legal expert should know the important features and anatomical structure of the hymen.

The hymen is a membrane or a plica of vaginal mucosa that surrounds and partially or completely (if imperforate) covers the external vaginal opening. This membrane is located at the junction of the vestibular floor and the vaginal canal.

Its anatomical elements are:

1. base – vaginal or insertion margin;
2. free margin – the opposite edge of the hymen base;
3. hymenal orifice – the opening delimited by the free margin;
4. hymenal rim – the width of the hymenal membrane (the distance between the base and the free margin);
5. external and internal surfaces – the layers of hymen, oriented to the vestibular floor or vaginal canal;
6. membrane thickness – the relative amount of tissue between the internal and external surface of the hymenal membrane.

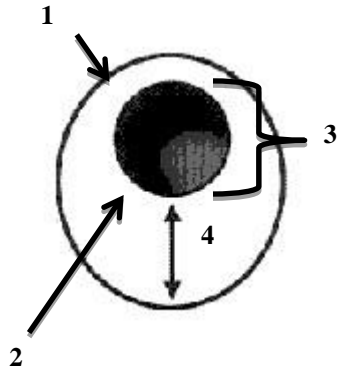


Fig.1. The anatomical elements of hymenal membrane (1-base, 2-free edge, 3-hymenal orifice, 4-hymenal rim)

Depending on hymenal rim, the membrane may be narrow, wide and redundant. When describing the hymen, one should comment on its general shape, which depends on hymenal rim too, but also on the appearance of free margin, thickness and others.

The following kinds of hymen are more common:

- *annular* – the hymenal rim is equal around the circumference
- *crescentic (semilunar)* – the posterior hymenal rim is wider than the anterior one and the membrane is *half-moon shaped*

- *imperforate* – the hymenal membrane has no orifice
- *septate* – the hymenal orifice is bisected by a band of hymenal tissue creating two (*bifenestratus*), three (*trifenestratus*) or more orifices
- *cribriform* – hymen with multiple small openings
- *appendicular* – to the hymen free edge is attached one or more limbs of hymenal tissue
- *fringed (denticular)* – the serrate-edged free margin of the hymen
- *redundant* – abundant hymenal tissue which tends to fold back on itself or to protrude
- *compliant* – the narrow hymenal rim and very elastic membrane

The loss of hymen integrity (virginity) is caused through vaginal penetration by the penis or other object (fingers, dildos, etc.) and may be one important sign of first sexual intercourse (assault).

Diagnosis of pregnancy, recent birth, abortion, STDs is done together with respective medical specialists.

Sexual crimes

According to the Penal Code of the Republic of Moldova there are the following sexual crimes:

Rape (art.171) is a sexual intercourse committed through physical or psychological coercion or taking advantage of a person's inability to defend itself or to express their will.

Violent actions of sexual nature (art.172) such as homosexual or other perverse forms of satisfying the sexual desire, committed through physical or mental coercion or by taking advantage of a person's inability to defend itself or to express their will.

Sexual harassment (art.173) is a physical, verbal or nonverbal behavior, which violates human dignity or creates an unpleasant, hostile, degrading, humiliating or offensive environment in order to induce a person to sexual intercourse or other sexual actions.

Sexual intercourse with a person under 16 years (art.174) is the act (other than rape) of vaginal penetration as well as anal, oral and others, committed on a person who is known with certainty that has not reached the age of 16.

Perverse actions (art.175) are activities committed against a person about whom one knew with certainty that he/she has not reached the age of 16, consisting of exhibition, indecent touch, obscene or cynical discussions, carrying on sexual relations with the victim, the victim's

determination to participate or assist in pornographic acts, and other sexual actions.

Children solicitation for sexual determinations (art.175¹) is a proposal, including through informational and communicational technologies, a meeting with a child for committing against him a sexual offense.

A part of crimes against sexual life has double character, namely medical like the following:

Illegal abortion (art. 159). The illegal performing of an abortion is the abortion committed outside the medical institutions, in unsanitary conditions, or by a person without special higher medical education.

Transmission of a venereal disease (art. 211) is penal punishable if a person who knows that suffers from a venereal disease, forwards it to another person.

Contamination with AIDS (art. 212) means being in danger of contamination or real contamination with AIDS by an informed person.

As can be seen the crimes listed above have juridical notions and interpretation, but most of them require medico-legal investigation. While dealing with sexual crimes we have to determine if there are corporal lesions, especially characteristic for violence and also if there are any signs of sexual intercourse.

Signs of sexual intercourse

Signs of vaginal penetration at females are:

Early

- acute lacerations of the hymen (if virgin)
- bleeding
- sensibility
- the presence of the semen in the vagina (incontestable)
- the presence of the partner's hairs in the vagina

Belated

- STDs
- pregnancy

Signs of vaginal penetration at partners (males) are:

Early

- partner's hairs, blood and vaginal content (cells) on the neck of the penis
- abrasions on glans penis (if brutal coitus)

- acute laceration of the frenulum (if brutal coitus)

Belated

- STDs
- scars (if there were lacerations)

Signs of acute (singular) anal penetration:

- sperm and hairs in anus
- acute anal fissure and laceration
- STDs

Signs of chronic anal penetration:

- anal dilatation (opening of the external and internal anal sphincters with minimal traction on the buttocks)
- cuneiform deformation of the anus
- flattened anal folds
- chronic inflammation of anal mucosa with venous congestion

OTHER KINDS OF PERSON'S EXAMINATION

The main purposes and matters

To know:

- ✓ the notions of simulation, dissimulation, aggravation, artificial disease and self-mutilation
- ✓ the notions of torture, inhuman or degrading treatment
- ✓ the signs of age determination (anthroposcopic, anthropometric and radiological status)
- ✓ the physical forms of torture
- ✓ the national and international legislation in the case of torture and ill-treatment

To be able to:

- ✓ assess the health status
- ✓ determine the status of simulation, dissimulation, aggravation, artificial disease and self-mutilation
- ✓ identify physical torture
- ✓ differentiate the medical or medico-legal and juridical areas of competence
- ✓ determine the age
- ✓ make a medico-legal conclusion

Didactic material

- ✓ this guideline
- ✓ lectures
- ✓ other didactic material (tests, situational problems, copies of medical records)
- ✓ injured persons (practical cases)

Methodic aids

1. Organizational issues
2. Quiz
3. Individual work
4. Solving problems

5. Checking the final level of knowledge

6. Summary and home tasks

Health status assessment

The reason for the forensic examination may be the necessity to assess the health status. The determination of health status may be required for the accused, victims or witnesses.

According to articles 95 and 96 of the Penal Code R.M. the detained person may be liberated from criminal punishment if the person is seriously ill or is pregnant.

While examining the individuals on different occasions it is necessary to admit the possibility of intentional expert's mislead.

Simulation (lat. simulatio – pretense) is an imitation of a disease or trauma by healthy persons. During simulation, the healthy subject only pretends to be ill, and sometimes applies for this different harmless means.

Dissimulation is the concealing of an illness. These are deliberate actions undertaken in order to obtain advantages. Dissimulation can also be made by replacing the examined person (e.g. blood sampling or other examination).

Aggravation is an exaggeration of the existing disease or trauma. It is more often than simulation and the person is trying to aggravate the condition through subjective signs.

Artificial disease is a real health disorder produced artificially by using mechanical, thermal, chemical and other traumatic agents. For example, ulcer can be caused by chemicals (e.g. acids) or tumors – injections of polymeric or oily substances inside tissue or organ, etc. At last, artificial diseases need a treatment.

Self-mutilation is an intentional physical harm or damage to oneself. It can be done by another person (on „victim's" request). These lesions are usually located in places accessible to injured persons.

In all cases of health status assessment the forensic doctor establishes only the corporal injuries and their peculiarities, but the intention and the other facts are determined by the police officer or other law enforcement bodies.

Torture, inhuman or degrading treatment

The torture, inhuman and other ill treatment are a serious violation of the human rights and are strictly prohibited by the Moldavian and

international laws. Such actions are contrary to the principles of the criminal law like the principle of humanity, which says that no one shall be subjected to torture or to cruel, inhuman and degrading treatment.

According to the Penal Code of the Republic of Moldova inhuman treatment (art.137) and torture (art. 309¹) are found as separated punishments, but also as aggravating circumstances included in a series of penal articles (151 – Intentional serious bodily or health damage, 152 – Intentional medium bodily or health damage, 165 – Human trafficking, 171 – Rape, and others).

There are two main kinds of torture: physical and psychological. As the forensic medicine mostly performs somatic and objective examination of the person, the physical torture and ill treatment are investigated preponderantly by it, and namely: the searing with hot irons, burning at the stake, electric shock treatment to the genitals, cutting out parts of the body, severe beatings, suspending by the legs with arms tied behind back, applying thumbscrews, inserting a needle under the fingernails, drilling through an unanesthetized tooth, making a person crouch for hours in the ‘Z’ position, waterboarding, etc.

In some local and Russian literature there are notions of torment, torture and beating.

The torment suggests persecution or the repeated infliction of suffering or annoyance (e.g. deprivation of food or water, keeping in cold or moisture conditions).

The torture adds the implication of causing unbearable pain or suffering (e.g. searing with hot irons, inserting a needle under the fingernails).

The beating is considered as application of multiple and repeated blows.

In any form of torture the forensic doctor determines only the objective signs or consequences and does not appreciate other facts of torture or other ill treatment, which is under the low jurisdiction.

Age determination

The examination of age is always done by a commission of experts at the request of law enforcement bodies in cases of doubt or when the documents are missing. The necessity of age determination appears as in criminal and in civil cases, especially when age is relevant in criminal punishment (e.g. depending on age the teen may be or may be not

criminal punishable). In addition, the need to establish the age occurs for other reasons as well: the substitution of children, the compulsory military service, the identification, etc.

Determining the age of living people is one of the most difficult examinations, because there are no any reliable sign. The results of forensic age assessment are classified as guidance and are only approximate.

Despite this, the complex use of more signs allows us to obtain good results.

In order to determine of the age the following signs are used:

- anthroposcopic (skin condition; signs of face and neck aging; the degree of hair distribution on the face, armpits, pubic; hair, eye, teeth status)
- anthropometric (body height and weight; circumferences of the head, chest and limbs)
- radiological status of the skeleton

Other forms of expertise of persons have more professional aspect and are not included in university curricula.

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