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## Topical issues of forensic medical examination in the investigation of war crimes

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■ **Abstract.** The relevance of the study is conditioned by the importance of expert investigations into war crimes committed on the territory of Ukraine. Since many of these crimes result in the death or injury of victims, forensic examinations play a key role in investigations under the Criminal Procedure Code. The purpose of the study was to update the significance of the results of forensic medical examination in proceedings on war crimes, and to identify problematic aspects of the appointment of such an examination simultaneously with proposals for ways to overcome them. The methodological basis of the study was general scientific (dialectical, analysis, synthesis, induction and deduction) and special methods (system and structural, comparative legal, formal logical). It is established that modern capabilities of forensic medical examination contribute to achieving the goal of pre-trial investigation of military torts in limited conditions of forming a high-quality evidence base for such proceedings. However, the effective use of the potential of forensic medical examinations is hindered by a number of problems caused not only by the consequences of active military operations, but also by shortcomings in the legal regulation of this type of forensic examination, imperfect organisation of the structure and functioning of forensic medical institutions during the time of emergency. Possible ways to overcome the identified difficulties are proposed: reorganisation of the structure of forensic medical institutions, in particular, by establishing a department for forensic examination of corpses within a mobile military hospital with the involvement of specially trained forensic experts; simplification of the procedure for processing documents where the results of external examination of the corpse are recorded; updating the regulatory support for the activities of forensic doctors during martial law. The practical significance of the study lies in the fact that the conclusions obtained will help expand the understanding of pre-trial investigation officers of the possibilities of forensic medical examinations in the investigation of war crimes, and will also help identify the problems arising when appointing such examinations and suggest ways to solve them

■ **Keywords:** criminal proceedings; investigative action; expert; forensic medicine; evidence

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## ■ Introduction

The results of forensic examinations during pre-trial investigations of certain categories of crimes and criminal offences are important. In certain cases, these studies can not only determine the line of pre-trial investigation, but also ensure its effectiveness, form an evidence base, make procedural decisions and, accordingly, guarantee the fulfilment of the main task of criminal proceedings – bringing the perpetrators to criminal responsibility, restoring the rule of law and justice. The results of involving experts are particularly significant in the investigation of war crimes, in conditions when the pre-trial investigation bodies face unprecedented challenges caused by the consequences of waging a war of aggression on the territory of Ukraine. By the time of the large-scale invasion of the Russian Federation (hereinafter – RF) in Ukraine, there was virtually no practice of bringing to criminal responsibility for war crimes, and therefore, there were no scientific and methodological developments regarding the forensic support of their investigation.

As of 2023, prosecution for committing war crimes is extremely difficult. Among the reasons for this situation, in particular, the commission of some war crimes in the invaded territories and the inability to detain the persons who committed them and conduct investigative (search) actions with them, since these subjects are mostly located on the territory not controlled by Ukraine, and in case of capture they can be transferred for exchange as prisoners of war. In such circumstances, it is extremely difficult to ensure a full investigation of criminal offences committed by such persons.

The establishment of the evidence base and the procedural processing of evidence can be complicated by changes in the situation due to shelling, deaths or captivity, lack of access to the crime scene, the workload of law enforcement agencies and expert institutions, etc. In such situations, conducting expert examinations guarantees reliable forensically significant information, which creates an important basis for the evidence base in the investigation of war crimes. The results of forensic investigations are particularly relevant and important in this context. These examinations are most often assigned during investigations of bodily harm, murder, and sexual crimes, which can be either general or military, depending on the contextual element (Zack *et al.*, 2021).

The study of the problems of investigation of war crimes in connection with the beginning of a full-scale war in Ukraine has acquired unprecedented relevance, as evidenced by the rapid growth in the

number of scientific studies in this area among both Ukrainian and foreign scholars. Researchers drew attention to the problematic issues of proving a crime under Article 438 of the Criminal Code of Ukraine<sup>1</sup>, in particular, O.V. Taran *et al.* (2022), characterised the circumstances to be proved. A.V. Shulzhenko (2022) identified the problems of proving the objective side of violating the laws and customs of war. I.V. Glowyyuk & H.K. Teteryatnik (2022) substantiated contextual elements in war crimes proceedings. A.I. Melnychuk & S.M. Melnychuk (2022) analysed problematic issues of legal qualification of acts under Article 438 of the Criminal Code of Ukraine.

Features of mechanisms of responsibility for war crimes committed as a result of the Russian invasion of Ukraine were considered by O. Kaluzhna & K. Shunevych (2022). O.M. Dufeniuk (2022) revealed logistical and forensic issues of war crimes investigation. A. Salari & S.H. Hosseini (2023) critically examined the capacity of the International Criminal Court to investigate crimes of aggression. The problems of establishing an evidence base in investigations of crimes under martial law, as well as expert support for determining the amount of damage and losses from the destruction as a result of armed aggression of the RF were considered by A.A. Vozniuk & M.A. Hryha (2022) and M.M. Hryha (2022). The scientific and practical manual, which covers the issues of qualification and investigation of crimes under Article 438 of the Criminal Code of Ukraine<sup>2</sup> at a high scientific level, was distinguished by its comprehensive approach (Chernyavskiy *et al.*, 2023). Standards for the investigation of war crimes, in particular, illegal deprivation of liberty and torture, are presented in methodological recommendations prepared by the author's team of the Office of the Prosecutor General (Pashkovskiy *et al.*, 2023).

The purpose of the study was to outline the modern possibilities of forensic medical examination as one of the main means of forming an evidence base in the investigation of war crimes and to identify problems that arise during the appointment of these studies and develop possible areas for their solution.

## ■ Materials and Methods

To achieve the purpose of the research, a wide range of scientific methods was used, and an integration approach was applied, which allowed the combination of general scientific and special methods, including sources to ensure a comprehensive consideration of the problem. The dialectical method helped to analyse the problems of forensic medical examination from different angles, revealing contradictions and

<sup>1</sup>Criminal Code of Ukraine. (April, 2001). Retrieved from [https://ips.ligazakon.net/document/view/T012341?an=2339&ed=2009\\_01\\_01](https://ips.ligazakon.net/document/view/T012341?an=2339&ed=2009_01_01).

<sup>2</sup> Ibidem, 2001.

relationships between different aspects. It allowed considering the causes of problems and ways to solve them. The methods of induction and deduction were used to build a logical structure of research and solve the tasks set. Through induction, a general inference was made from specific examples, and deduction helped to apply laws to specific cases. The synthesis was used to summarise the current potential of forensic medicine in the investigation of war crimes and other torts. The synthesis helped to identify key aspects and establish connections between them. The method of analysis allowed identifying problematic aspects of forensic medical examination in war conditions and developing possible ways to overcome them. The analysis helped to understand the essence of the problems and find optimal solutions.

The system and structural method was used to classify the types of forensic examinations used in the investigation of war crimes. It helped to consider their structure and find out typical problems. Using the comparative legal method, an analysis of the legislation regulating the conduct of forensic medical examinations was carried out, in particular, in wartime conditions. Comparison with other legal norms helped to highlight the features and shortcomings of the current legislation. The formal and logical method was used to develop promising ways to overcome the complications associated with forensic medical examination in the investigation of war crimes. It helped to develop logically sound recommendations.

One of the key elements was the use of comparison to identify the provisions and practices of forensic medical examination in different countries or contexts, at different time intervals, which helped to understand unique aspects and identify possible approaches to solving problems. In the course of the study, papers by Ukrainian and foreign researchers who studied forensic medical examination and its role in the investigation of crimes were considered (Tatsiy *et al.*, 2019; Erhard *et al.*, 2022a; Cioffi & Cecannecchia, 2023). The use of forensic materials, including specific court decisions, has helped highlight and highlight real-world cases and challenges faced by practitioners. The analysis of the provisions of the Criminal Procedure Code and the legislation of Ukraine provided the legal basis for the study<sup>1</sup>.

Experts from the practical environment were involved to find out the current state of forensic medical support. The experience of practitioners (investigators and experts), their feedback and views have become valuable sources of information on the current state of forensic support for the investigation of war crimes and identification of problems.

## ■ Results and Discussion

After the beginning of the full-scale military aggression of the Russian Federation, forensic medical examination institutions were not prepared for such a large number of dead (deceased) persons (The war in..., 2023). This type of forensic examinations is designed to solve extremely important issues in criminal proceedings on war crimes, in particular, those related to the determination of the cause of death of victims, the nature and degree of injuries inflicted, which is covered by the competence of forensic medical examination.

Forensic medical examination is included in the list of urgent investigative (search) actions that are carried out primarily for the purpose of timely collection and preservation of evidence while documenting various types of war crimes, such as illegal deprivation of liberty, hostage-taking, inhuman treatment, humiliation of dignity, torture, use of civilians as a “human shield”, premeditated murder of civilians, etc. The main purpose of a forensic medical examination in such cases is to immediately document injuries that may disappear over time (Pashkovskiy *et al.*, 2023).

The range of areas of use of forensic medicine knowledge in the investigation of war crimes is quite wide. It covers:

1. Assistance to the investigator and prosecutor at the scene. This includes examinations of corpses and descriptions in the protocols of investigative (search) actions in relation to various injuries, such as gunshot wounds, burns of varying degrees, as well as other pathologies and injuries, considering anatomical data of the body structure and special terminology.
2. Conducting forensic medical examinations. This includes exhumation and examination of bodies from mass graves, autopsy of corpses to determine the causes of death, the duration of the postmortem period, the nature and characteristics of injuries, and the study of traces of biological origin.
3. Investigation of rapes and identification of persons from the remains.
4. Implementation of toxicological, medical-forensic, and other complex studies.
5. Conducting examinations for obtaining biological samples in cases of rape, suspected use of chemical weapons, and poisoning caused by environmental pollution as a result of active military operations.
6. Involvement of minors in questioning, especially if they have witnessed or suffered from violence.

These areas of forensic medicine play a key role in collecting and documenting evidence of war crimes, as well as in identifying the circumstances and perpetrators of these cases (Dufeniuk, 2022). It should be

<sup>1</sup>Criminal Code of Ukraine. (April, 2001). Retrieved from [https://ips.ligazakon.net/document/view/T012341?an=2339&ed=2009\\_01\\_01](https://ips.ligazakon.net/document/view/T012341?an=2339&ed=2009_01_01).

emphasised that the possibilities of forensic medical examinations today are quite sufficient to solve most of the tasks necessary to clarify the important circumstances of war crimes. This potential can become even more powerful if we work with experts from partner countries. It is appropriate to identify modern methods of identification in forensic medicine, which are improved, implemented in practice and can be used, among other things, to solve the problems of criminal proceedings in the investigation of war crimes. Determining the timing of the burial of corpses during the examination of skeletal remains is difficult and in demand in the current environment. The available methods do not solve this problem separately. For this purpose, it is proposed to use the method of infrared spectrophotometry (IRS) of bone tissue, the spectra of which are transformed depending on the duration of the post-mortem period.

Graphic reconstruction of the face is effective (more than 70%) in order to establish the identity of the victim when identifying remains that cannot be identified (Aleksandrenko, 2021). The methodology of dimensional characteristics of the auricles is considered to be effective, as it is characterised by the absence of subjectivity and guarantees the reliability of the research results, regardless of the professional skills and experience of the expert. The technique of creating 3D models (including traces, damage, traumatic objects, etc.) has significant potential for use in identification. In particular, this approach can be applied to portrait expertise based on metric and descriptive characteristics of appearance. Models of the auricle are used during comparative studies to supplement the database of facial identification signs. It is relevant that for the implementation of this technique, data obtained using UAVs can be used, and the preservation of 3D models in various formats allows placing them in graphic editors (Autodesk 3ds Max, etc.) and conducting subsequent modelling of various situations, considering the initial data of the pre-trial investigation (Aleksandrenko, 2021). The use of copy models significantly expands the possibilities and increases the level of visibility and evidentiary potential of the conducted examinations. The range of objects that can be modelled using digital images is extremely wide (clothing with injuries, a bone fragment with fractures, a corpse, etc.).

With the help of spectral analysis of speech signals, as one of the methods of person identification, it is possible to extract stable identification features that characterise the biometric parameters of the speaker's speech. Personal computers with specialised Justiphone software installed can be used as spectrum analysers. In some cases, such a method as Virtopsy (virtual autopsy), which is one of the modern areas of development of autopsies, can become indispensable. With its help, it is possible to get important

information about injuries to bones and soft tissues, without using a mechanical autopsy of the body. Virtopsy allows getting a 3D image and observing the event in virtual reality. Other methods used for the study of physical evidence include: the use of digital photographs as objects for forensic medical examination of traces-layers of blood; evidence-based methods for detecting traces of blood, the use of which clearly establishes the presence or absence of human blood on certain objects (Aleksandrenko, 2021).

In the context of the issue under study, it is also worth paying attention to the possibilities of methods used during forensic examination of gunshot injuries (Smiiivska & Savka, 2020; Jabara *et al.*, 2021), because it is this kind of damage that most often becomes the subject of forensic medical examinations during the investigation of war crimes. In particular, the method of forensic diagnostics of the type and characteristics of the main traumatic factor in gunshot injuries by three-dimensional spatial reconstruction deserves attention. This method allows creating a three-dimensional model of not only the entire human body, but also an individual body injury, which makes it possible to carry out a comprehensive assessment of external and internal injuries of the body and to conduct a retrospective diagnosis of the traumatic factors that caused them as accurately as possible (Zmiiivska & Savka, 2020).

Thus, the modern capabilities of forensic science are quite powerful, and their level is sufficient to meet the needs of pre-trial investigation, in particular, in proceedings on war crimes. However, the effective use of modern innovations and technologies in law enforcement activities is hindered by a number of complications, one of which is the basic lack of knowledge among employees of pre-trial investigation bodies about the capabilities and potential of forensic examinations and the range of issues resolved by forensic experts. As a result, important issues for pre-trial investigation are not raised (or incorrectly formulated), investigation is not conducted (or not conducted in full), which significantly limits the possibilities for forming a high-quality evidence base in criminal proceedings.

With the start of Russia's full-scale invasion, these problems have become even more acute. The practice has demonstrated the inability of territorial forensic medical examination bureaus to provide their own effective and timely execution of the required number of examinations, without using the help of additional forces and means from other territorial divisions, in particular, by sending some forensic experts to regions where a large number of investigations are conducted (Erhard *et al.*, 2022b; Kaluzhna & Shunevych, 2022). The way out of this situation may also be to involve representatives of expert institutions of partner states in conducting forensic medical

expert investigations in the de-occupied territories. It should be emphasised that the experience of organising such international special temporary missions already exists. Thus, E.Q. Reyes & M.I.B. Romero (2023), analysing the contribution of forensic anthropology to the investigation of war crimes by the International Criminal Tribunal for the former Yugoslavia during the armed conflict of 1992-1995, concluded that the work of these professionals provided evidence of systematic attacks during which civilians were killed as part of the implementation of the national policy of extermination of ethnic and religious groups in the region. In addition, the researchers also highlight the importance of involving Latin American specialists in these investigations, emphasising that such experience has enriched relevant research activities in Latin America itself.

O.M. Dufeniuk (2022) emphasised the importance of the participation in the work of the aforementioned tribunal of Danish and Swedish expert groups that conducted investigations in Kosovo in 1999. The researcher notes that as a result of autopsies conducted by such groups of bodies, it was confirmed that the death in the vast majority of cases was caused by gunshot wounds. There is a similar experience in Ukraine. In particular, French experts came to Ukraine to help investigate war crimes of the RF after the discovery of mass graves in the de-occupied territories. The mission arrived with a DNA laboratory and high-quality equipment to examine and identify the bodies. It operated in Ukraine for two weeks. The evidence obtained as a result of cooperation with French colleagues can be used both in national investigations and transferred to the International Criminal Court (French experts have..., 2022).

The war led to the effective organisation and improvement of international cooperation in this area. Before the start of a full-scale invasion, researchers stated (Tatsiy *et al.*, 2019) that cooperation in the field of forensic medical examination in criminal proceedings, in particular, between Ukraine and the Republic of Poland, is quite formal, which does not contribute to the effective use of the results of professional activities of experts in criminal proceedings. Under the influence of wartime conditions, problems in the legal regulation of the activities of forensic doctors also worsened. Thus, researchers and practitioners have previously noted that the current national

legislation in the field of forensic medical examination is riddled with numerous gaps and conflicts, filled with letters from the Ministry of Health (MOH) of Ukraine instead of regulatory decisions. Consequently, acute legal uncertainty creates difficulties in law enforcement, which negatively affects the protection of human rights and violates the rule of law standards (Senyuta *et al.*, 2020). There are also problems with the legal regulation of such an important area today as molecular genetic expertise, in particular, in terms of the need for legislative regulation of the procedure for selecting biological samples from various categories of persons and entering them into automated databases of DNA profiles (Stepaniuk *et al.*, 2019).

Neither the Order of the Ministry of Health of Ukraine “On the Development and Improvement of the Forensic Medical Service of Ukraine”<sup>1</sup> nor the Law of Ukraine “On Forensic Examination”<sup>2</sup> contain provisions on the organisation and support of the activities of forensic institutions in the area of damage both during active hostilities and other emergency periods (natural disasters, technological disasters, accidents, etc.). An attempt to urgently address the urgent needs of practice in the conditions that developed immediately after the start of full-scale aggression in February 2022 was the adoption of a joint order of the Ministry of Internal Affairs of Ukraine, the Ministry of Health of Ukraine and the Office of the Prosecutor General No. 177/450/46 of 09.03.2022 “On the Approval of the Procedure for Interaction Between the Bodies and Units of the National Police of Ukraine, Health Care Institutions and the Prosecutor’s Office of Ukraine When Establishing the Fact of the Death of a Person During Martial Law on the Territory of Ukraine”. This regulation gives the right to employees of health care institutions to issue medical death certificates and carry out the issuance/burial of bodies without a referral for forensic examination, provided that the examination of the corpse was carried out by an employee of the health care institution and the fact of absence of signs of violent death was established or based on medical documentation that is available (without clarification)<sup>3</sup>. However, this document, despite its reasonable purpose, caused a lot of questions among forensic doctors.

This refers, in particular, to the norm that provides that in the case when it is impossible to conduct an examination of the victim, it is allowed, in

<sup>1</sup>Order of the Ministry of Health of Ukraine No. 6 “On the Development and Improvement of the Forensic Medical Service of Ukraine”. (1995, January). Retrieved from <https://zakon.rada.gov.ua/laws/show/z0248-95#Text>.

<sup>2</sup>Law of Ukraine No. 4038-XII “On Forensic Examination”. (2022, January). Retrieved from <https://zakon.rada.gov.ua/laws/show/4038-12#Text>.

<sup>3</sup>Order of the Ministry of Internal Affairs of Ukraine, the Ministry of Health of Ukraine and the Office of the Prosecutor General No. 177/450/46 “On the Approval of the Procedure for Interaction Between the Bodies and Units of the National Police of Ukraine, Health Care Institutions and the Prosecutor’s Office of Ukraine When Establishing the Fact of the Death of a Person During Martial Law on the Territory of Ukraine”. (2022, March). Retrieved from <https://zakon.rada.gov.ua/laws/show/z0317-22#Text>.

some cases, to conduct an expert examination only on the basis of medical documentation (medical history, individual card of an outpatient patient, etc.), if the available documents are original and contain all the necessary information. However, practitioners emphasise (Erhard *et al.*, 2022b), that if there is a need to establish the exact time of receiving injuries, the forensic medical expert will not be able to provide an unambiguous answer based on incomplete/inaccurate data in medical documents. In addition, this Order<sup>1</sup> provides for the possibility of conducting a forensic medical examination (external examination) or forensic medical examination (autopsy) of a corpse “on the basis of a decision, referral, statement or other document drawn up by an authorised person of the military administration, the National Police of Ukraine, the Prosecutor’s Office, the Security Service of Ukraine, or other authorised bodies”. However, this contradicts the provisions of the Law of Ukraine “On Forensic Expertise”<sup>2</sup>, where the grounds for conducting a forensic examination are the relevant decision of the court or the pre-trial investigation body, or if ordered by other parties – the existence of a contract with an expert or expert institution.

Paragraph 4 of Section IV<sup>3</sup> of the above joint order states that “based on the results of the examination of the corpse, after clarifying the circumstances of death and in the absence of signs of violent death or suspicion of such, the territorial health care institution shall be notified of the need to issue a medical death certificate”. Informing the territorial health care institution is assigned to an authorised employee of the bodies and divisions of the National Police of Ukraine, according to which it is necessary to issue a medical death certificate. However, there are questions about the procedural implementation of these provisions, because the prospect of issuing a medical death certificate only from the words of an authorised employee of the bodies and divisions of the National Police of Ukraine seems doubtful. It is necessary for a doctor to directly examine the body before issuing a medical certificate of death, or at least after examining the puncture wound at the scene. There were cases when the National Police of Ukraine incorrectly established the category of death (for example, in the case of hanging, they mistakenly indicated “no signs of violent death”), did not show signs of a closed craniocerebral injury, or did not recognise poisoning, although there were corresponding indicators. In this context, it is considered legally wrong

for doctors to issue medical death certificates based solely on police reports without personally examining the body of the deceased person (Erhard *et al.*, 2022). Consequently, the mentioned order obviously requires revision to bring its provisions in line with the current legislation and the needs of practice.

The problematic issues of legal regulation of the activities of forensic doctors have already been considered by both foreign and Ukrainian researchers. A. Cioffi & C. Cecannecchia (2023), investigating the role of forensic medicine in the investigation of war crimes in the context of the Russian-Ukrainian conflict, focused on standardising the work of forensic doctors combined with reviewing the shortcomings identified in the Rome Statute. The findings of researchers can be considered when updating the Ukrainian legislation on the organisation of forensic medical examination. In this context, it is also worth paying attention to the study by V.Y. Tatsiy *et al.* (2019). Focusing on the importance of forensic examination in the investigation of crimes related to torture, the researchers analysed the compliance of the activities of forensic doctors with the Convention on Human Rights and Fundamental Freedoms, the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, and other international and Ukrainian legal acts. The inconsistency of the practice of forensic legal norms with the modern procedural needs in the qualification of crimes in the field of medical activity was pointed out by S. Lykhova *et al.* (2020). The researchers insisted on the need to introduce rules for conducting forensic medical examinations in cases of assessing the provision of medical care to unify approaches to conducting forensic medical examinations on the quality of medical care, in particular, establishing criteria for evaluating treatment, shortcomings in the provision of medical care and establishing a causal relationship with adverse consequences.

In addition to the above-mentioned complications, the effectiveness of forensic medical examinations in war crimes proceedings is negatively affected by other factors that characterise the process of pre-trial investigation of such acts as a whole. Among the most significant are the following: intensive changes in the operational situation; frequent changes in the location of military units; death, injury, captivity of participants in the proceedings during combat operations; distortion of the scene due to occupation, bombing, or shelling; limited access to the

<sup>1</sup>Order of the Ministry of Internal Affairs of Ukraine, the Ministry of Health of Ukraine and the Office of the Prosecutor General No. 177/450/46 “On the Approval of the Procedure for Interaction Between the Bodies and Units of the National Police of Ukraine, Health Care Institutions and the Prosecutor’s Office of Ukraine When Establishing the Fact of the Death of a Person During Martial Law on the Territory of Ukraine”. (2022, March). Retrieved from <https://zakon.rada.gov.ua/laws/show/z0317-22#Text>.

<sup>2</sup>Law of Ukraine No. 4038-XII “On Forensic Examination”. (2022, January). Retrieved from <https://zakon.rada.gov.ua/laws/show/4038-12#Text>.

<sup>3</sup>Ibidem, 2022.

scene due to mining or sniper attacks; a significant number of proceedings carried out simultaneously in a limited time; bringing to criminal responsibility of the parties to an armed conflict; the inability to identify corpses after a significant period of time from the moment of death to the beginning of the investigation; difficulties in collecting evidence due to shootings in places where the presence of undesirable witnesses was excluded; a limited amount of military information (documents, objects, photos from drones, transcribed recordings of radio intercepts, etc.), which is provided to the criminal justice authorities for investigation purposes (Batiuk & Dmytriv, 2021).

It follows from the above list that the main problems regarding the appointment of forensic medical expertise in war crimes proceedings are often associated with the inability to obtain high-quality materials and samples for expert investigation, primarily due to the lack of full access to the scene of the incident or too long a period of time that has passed since the commission of the crime, which leads to distortion or loss of a significant number of traces. Thus, O.M. Dufeniuk (2022) noted that during the investigation of war crimes, there is often a need to identify corpses, which can be done visually (by signs of appearance, related things and documents) or through research in the field of forensic odontology and/or genomic DNA. Significant complications of the work of a forensic doctor are caused by a long stay of the corpse in open moist air, burial in moist soils and “mass graves”, which cause the processes of rotting, autolysis, saponification of the corpse; fragmentation of the corpse as a result of explosions, firearms, and other injuries; repeated movement of the corpse by unauthorised persons, changing the place of burial, and thus – the trace pattern.

Thus, the most important challenge as of 2023 is the timely conduct of forensic medical examinations, especially in cases of prolonged occupation, where the real impossibility of performing such examinations arises due to the rapidly destructive nature of the objects under study. Obviously, a significant number of signs (identification and/or diagnostic) necessary for conducting a qualitative expert investigation disappear or are distorted due to inevitable physical processes (wound healing, tissue decomposition, disappearance of micro traces, etc.). At the same time, forensic examinations of corpses are often carried out after exhumation, while examinations in cases of sexual violence are generally meaningless after a long time. In this sense, the proposals on the expediency of making additions to Article 615 of the Criminal Procedure Code<sup>1</sup> are not devoid of logic, in particular, regarding the abolition of the requirement

to conduct a forensic medical examination during the investigation of war crimes in the event of an objective impossibility of its timely conduct and the irrationality of such from the standpoint of forming the evidence base of proceedings under occupation. Otherwise, war criminals may avoid criminal liability due to the lack of opportunities to prove their guilt in the form established by procedural law (Kaluzhna & Shunevych, 2022).

It is also worth focusing on the problem that arises due to the lack of a sufficient number and arrangement of morgues where the bodies of the dead are stored until a forensic medical examination is carried out. This issue became quite acute after the de-occupation of certain territories (Kyiv and Kharkiv oblasts) and the discovery of a significant number of people killed there, including in mass graves. It seems that the way out of this situation could be mobile refrigerated morgues, which, if necessary, would be sent to the appropriate locations. Another problem highlighted by N.M. Erhard *et al.* (2022b), is the improper organisation of the structure of forensic institutions in areas with special conditions (where active hostilities are taking place, as well as in de-occupied territories where mass graves have been discovered and a significant number of forensic examinations are required). Therefore, there is an urgent need to develop an effective organisational structure for such institutions and adjust their activities during a special period in order to ensure the most effective work of forensic medical institutions.

The most promising way out of the current situation is to establish a mobile forensic department for the examination of corpses as a separate component of the mobile military hospital, involving forensic experts who have undergone special training and are able to carry out expert work in the difficult conditions of active hostilities. To ensure the effectiveness of the mobile unit, it is necessary to develop a structure of units that would ensure not only speed and consistency, but also coherence of the work of forensic experts in such difficult conditions. It is necessary to simplify the procedure for documenting the results of the examination of the body of a deceased person in cases of violent and nonviolent death, when it is not possible to carry out photographic recording after a limited time. This will help speed up forensic investigations and increase their volume in the event of mass deaths during active hostilities.

## ■ Conclusions

Thus, the analysis of the current state of the scientific potential of forensic medical examination indicates that the use of the results of special knowledge in this

<sup>1</sup>Criminal Procedure Code of Ukraine. (2012, April). Retrieved from <https://zakon.rada.gov.ua/laws/show/4651-17#n5092>.

area for the needs of pre-trial investigation bodies of war crimes is a powerful tool for the formation of a high-quality evidence base, especially in conditions when the activities of law enforcement officers are extremely complicated by the consequences of active combat operations, which makes it impossible to carry out a significant part of investigative (search) measures. However, the most effective use of the capabilities of forensic medical examination in the studied proceedings is hindered by a number of problematic aspects. Firstly, this is conditioned by gaps in the regulatory support for the activities of forensic doctors and insufficient organisation of the structure of forensic medical institutions, which leads to a significant overload of these specialists. Secondly, the lack of knowledge of the capabilities of forensic medical examinations and the range of issues that can be resolved within the framework of these studies also complicates the situation.

The necessity of making changes to the current legislation regulating the activities of forensic medical experts and reorganising the structure of forensic medical institutions, considering the needs of practice in war conditions, is substantiated. To optimise the work of forensic doctors in regions where there is a need to conduct a significant number of forensic medical examinations (mass graves, victims of rocket attacks, etc.), it is proposed to attract

specialists from forensic medical institutions from other areas, as well as experts from partner countries within the framework of international cooperation.

The need to provide a sufficient number of mobile refrigerated morgues to preserve the bodies of the dead in the absence of the possibility of their placement in stationary morgues has been established. The author emphasises the need to conduct educational activities (publication of relevant methodological materials, scientific and practical events, and in-service training) among pre-trial investigation officers on the possibilities of forensic medical examinations in the investigation of war crimes, the range of issues addressed by forensic physicians and their correct formulation. Promising areas for further studies on this topic may include investigation of the development of effective mechanisms for improving the legal regulation of the activities of forensic medical experts during martial law and proposals for the restructuring of forensic medical institutions considering the requirements of war to maximise the rational use of their potential in war conditions.

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#### ■ Conflict of Interest

None.

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## Актуальні питання судово-медичної експертизи під час розслідування воєнних злочинів

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■ **Анотація.** Актуальність дослідження зумовлена важливістю експертних досліджень у воєнних злочинах, які вчиняють на території України. Оскільки чимало з таких злочинів призводять до смерті або тілесних ушкоджень потерпілих, судово-медичні експертизи відіграють ключову роль у розслідуванні відповідно до Кримінального процесуального кодексу. Мета дослідження полягала в актуалізації значення результатів судово-медичної експертизи в провадженнях про воєнні злочини, виявленні проблемних аспектів призначення такої експертизи одночасно з пропозиціями щодо напрямів їх подолання. Методологічним підґрунтям статті слугували загальнонаукові (діалектичний, аналізу, синтезу, індукції та дедукції) та спеціальні методи (системно-структурний, порівняльно-правовий, формально-логічний). Констатовано, що сучасні можливості судово-медичної експертизи сприяють досягненню мети досудового розслідування воєнних деліктів в обмежених умовах формування якісної доказової бази таких проваджень. Однак на заваді ефективному використанню потенціалу судово-медичних експертиз стоїть низка проблем, спричинених не лише наслідками ведення активних бойових дій, а й недоліками нормативно-правового регулювання цього виду судових експертиз, недосконалою організацією структури та функціонування судово-медичних установ в особливий період. Запропоновано можливі напрями подолання виявлених складнощів: реорганізація структури судово-медичних установ, зокрема шляхом утворення в складі мобільного військового шпиталю відділу судово-медичної експертизи трупів із залученням до його роботи спеціально підготовлених судово-медичних експертів; спрощення порядку оформлення документів, де фіксують результати зовнішнього огляду трупа; оновлення нормативно-правового забезпечення діяльності судових медиків у період дії воєнного стану. Практичне значення статті полягає в тому, що отримані в ній висновки сприятимуть розширенню розуміння працівниками органів досудового розслідування можливостей судово-медичних експертиз під час розслідування воєнних злочинів, а також допоможуть виявити проблеми, що виникають під час призначення таких експертиз, і запропонувати шляхи їх розв'язання

■ **Ключові слова:** кримінальне провадження; слідча дія; експерт; судова медицина; доказ