

Chapter 16

Forensic Investigations Into the Missing

Recommendations and Operational Best Practices

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Summary

Over the last 20 yr, a new and growing field for the application of forensic sciences has emerged in support of investigations of violations of human rights and international humanitarian law.

These investigations are often carried out under international jurisdiction and present challenges and opportunities for forensic practitioners worldwide.

The purpose of this chapter is to summarize international principles of best practice guiding forensic investigations into the missing, in particular the guidelines adopted by the International Committee of the Red Cross in 2003.

Key Words: Missing; identification; guidelines investigation; mass graves.

1. INTRODUCTION

The role of forensic sciences in helping clarify the fate of the missing, including the identification of the living and of the dead, has evolved remarkably over the past 20 yr. In addition, since the early 1990s, a series of

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forensic standards have been developed by the concerned scientific community and adopted by the United Nations to assist and guide investigations into deaths in custody, mass graves, and torture (1–3). In 2003, the International Committee of the Red Cross (ICRC) organized an international conference that adopted recommendations based on existing best practices worldwide, including on forensics, to help resolve the tragedy of the missing (4).

This chapter summarizes some of the relevant recommendations for forensic practitioners investigating the missing believed to be dead.

1.1. *The Tragedy of the Missing*

According to the ICRC, the missing are “people unaccounted for as a result of armed conflict or internal violence.” (5)

Worldwide, hundreds of thousands of families live in anguish as a consequence of a missing relative, struggling for their right to know about the whereabouts and fate of their loved ones.

Regardless of their cultural, religious, and social background, the relatives of the missing usually coincide in expressing that the death of a family member—however painful—can be accepted; but not knowing the fate of a loved one is far worse than almost any other possible experience.

The following testimonies help illustrate the above:

“When visiting my son’s grave and crying near his tombstone, I feel my grief become lighter. But I can’t find any comfort for the pain that constantly burns my heart, the pain of my missing son.”

—Testimony to the ICRC from a mother of two soldiers, one of whom was killed and the other went missing in 2001 during the armed conflict between Armenia and Azerbaijan over the territory of Nagorno Karabakh.

“During all these years I knew he could not be alive, but one can never completely give up the dream that he might come home one day. I don’t know if there is any worse torture than that. Burying my son, with his name on a gravestone above his tomb, has curiously, paradoxically, rescued him for us. He came out of the fog of persons unknown.”

—Testimony of Juan Gelman, Argentine poet, after the funeral of his son Marcelo Gelman, who went missing after his detention by the military in 1976 and whose remains, bearing skeletal injuries consistent with torture and execution-style trauma, were recovered and identified in 1989 (6).

1.2. Legal Framework

The emotional trauma caused by the disappearance of a person to his or her loved ones, particularly in the context of armed conflict, is growingly recognized and acknowledged, including by courts, as a cause of grave suffering, for which the authorities responsible for the disappearance also bear responsibility. It is also acknowledged that this suffering may be remedied, at least in part, by the truth about the whereabouts of the missing person (7). This has been established in jurisprudence of international human rights law.

For example, in 1999, the Inter-American Court of Human Rights ruled that: “The forced disappearance of Mr. Nicholas Blake caused his parents and brothers suffering, intense anguish, and frustration in the face of the Guatemalan authorities’ failure to investigate and cover up of what occurred. The suffering of the family members, in violation of Article 5 of the American Convention on Human Rights [prohibition of torture and ill-treatment], cannot be disassociated from the situation created by the forced disappearance of Mr. Nicholas Blake that lasted until 1992 when his mortal remains were located. The Court, in conclusion, holds that the grave moral damage suffered by the four family members of Mr. Nicholas Blake is completely proved.” (8)

International humanitarian law (IHL), the branch of law applicable at times of armed conflict, recognizes and protects the right of families to know the fate of their missing loved ones. The very detailed body of IHL is contained in the four Geneva Conventions (GCs) of 1949 and their two Additional Protocols (AP) of 1977. One hundred ninety-one countries are signatories of the GCs up to date.

The ICRC, a Swiss-based international organization established in 1863, is the originator and custodian of IHL worldwide. It directs and coordinates international relief activities in situations of conflict, and it endeavors to prevent suffering by promoting and strengthening humanitarian law and universal humanitarian principles around the world.

Acting on the basis of the mandate conferred on it by the four GCs and their two APs, the ICRC also aims to prevent all disappearances, to restore family ties when they have been broken, and help ascertain the whereabouts of people about whom their families have no news, including the need to identify the remains of those who die in direct or indirect relation to an armed conflict or internal violence.

In addition to specifically protecting the right of families to know the fate of their missing relatives (API: Art. 32), the treatment of the dead and graves is addressed in detail in the following provisions of IHL:

1. Whenever circumstances permit, and particularly after an engagement, all possible measures must be taken, without delay, to search for and collect the dead,

- without adverse distinction (GCI: Art.15; GCII: Art. 18; GCIV: Art. 16; API: Art. 33).
2. Each party to the conflict must treat the dead with respect and dignity and prevent their being despoiled (GCI: Art. 15; GCII: Art.18; GCIV: Art. 16; API: Art. 34).
 3. Each party to the conflict must take measures to identify the dead before disposing of their remains (GCI: Arts. 16, 17; GCII: Arts. 19, 20; GCIII: Arts. 120, 121; GCIV: Arts. 129, 131).
 4. The dead must be disposed of in a respectful manner and their graves respected (GCI: Art. 17; GCII: Art. 20; GCIII: Art. 120; GCIV: Art. 130; API: Art. 34[1]).
 5. Burial should be in individual graves, unless unavoidable circumstances require the use of collective graves. All graves must be marked (GCI: Art. 17; GCII: Art. 20; GCIII: Art. 120; GCIV: Art. 130; API: Art. 34).
 6. At the commencement of hostilities, the parties to the conflict must establish an official Graves Registration Service to see to the dead, including burials, and to record the particulars for identification of graves and those there interred (GCI: Art. 17[3]; GCII: Art. 20[2]; GCIII: Art. 120[6]; GCIV: Art. 130[3]).
 7. Each party to the conflict must take all possible measures to provide information to the appropriate authorities or to the family of the deceased regarding the deceased's identity, location, and cause of death (GCI: Arts. 16,17; GCII: Art. 19; GCIII: Art. 120; GCIV: Art.130; API: Art. 33).
 8. Upon the outbreak of a conflict and in all cases of occupation, each party to the conflict must establish an official Information Bureau:
 - a. To centralize, without adverse distinction, all information on the wounded, sick, shipwrecked, dead, protected persons deprived of their liberty, children whose identity is in doubt and persons who have been reported missing and to provide this information to the appropriate authorities, through the intermediary of the Protecting Powers and likewise of the ICRC Central Tracing Agency (GCI: Arts. 16, 17[4]; GCII: Arts. 19[2], 20; GCIII: Arts. 120, 122, 123; GCIV: Arts. 130, 136–138, 140; API: Art. 33[3]; HRIV: Arts. 14, 16).
 - b. To be responsible for replying to all enquiries concerning protected persons and for making any enquiries necessary to obtain information that is asked for if this is not in its possession (GCIII: Art. 122[7]; GCIV: Art. 137[1]; API: Art. 33[3]; HRIV: Art. 14).
 - c. To act as an intermediary for the free transport of matter, including correspondence, sent to and by protected persons (and whenever requested through the ICRC Central Tracing Agency) (GCIII: Art. 74; GCIV: Art. 110; HRIV: Art. 14).
 9. Information recorded on protected persons deprived of their liberty or on deceased persons must be of such a character as to make it possible to identify the person exactly and to advise the next of kin quickly (GCI: Art. 16; GCII: Art. 19; GCIII: Arts. 120, 122; GCIV: Arts. 129, 138[1], 139; API: Art. 34).

10. Within the shortest possible period, each of the parties to the conflict must transmit to the Information Bureau the following information, when available, on each wounded, sick, shipwrecked, or dead person (GCI: Art. 16; GCII: Art. 19):
 - a. Full name.
 - b. Army, regimental, personal, or serial number.
 - c. Date of birth.
 - d. Any other particulars figuring on the identity card or disc.
 - e. Date and place of capture or death.
 - f. Particulars concerning wounds/illnesses or cause of death.
11. In case of death, the following must be collected and transmitted to the Information Bureau with (GCI: Arts. 16, 17, 40[2]; GCII: Arts. 19, 20, 42[2]; GCIII: Art. 120; GCIV: Arts. 129, 130, 139; HRIV: Arts. 14, 19; API: Art. 34):
 - a. Date and place of (capture and) death.
 - b. Particulars concerning wounds/illnesses or cause of death.
 - c. All other personal effects.
 - d. Date and place of burial with particulars to identify the grave.
 - e. When applicable, half of the identity disc must remain with the body and the other half transmitted.
12. Each party to the conflict must endeavor to facilitate the return of the deceased's remains and personal effects to the home country at its request or at the request of the next of kin (API: Art. 34[2][c]).

Many of the above provisions of IHL also represent customary international law applicable to the management of human remains in wider contexts.

1.3. The ICRC and the Missing

In 2002, the ICRC launched a process aimed at better addressing the plight of people who are unaccounted for as a result of armed conflict or internal violence and of their relatives.

This was done in cooperation with government representatives, other components of the International Red Cross and Red Crescent Movement, international, regional, and national governmental and nongovernmental organizations, representatives of families of missing persons and a variety of experts.

The ICRC's objectives in launching this process were to:

1. Review all methods of preventing persons from becoming unaccounted for in armed conflict or internal violence, and of responding to the needs of families who have lost contact with their relatives.
2. Agree on common and complementary recommendations and operational practices with all those working to prevent persons from becoming unaccounted for, and to respond appropriately when people are missing because of armed conflict or internal violence.

3. Heighten concern about the issue among state authorities, the United Nations, and nongovernmental organizations.

The initial phase of the process, which comprised eight workshops and three studies, was carried out with the involvement of academic institutions, numerous experts, and representatives of governmental and nongovernmental organizations (9–18). It resulted in a series of practical recommendations on legal and operational matters designed to help prevent people going missing in the context of armed conflict, to ascertain the fate of missing persons, and assist their families.

In a second stage, the ICRC organized an international conference of governmental and nongovernmental experts that was held in Geneva from February 19–21, 2003, and that provided an opportunity to share the outcome of this work with a wide array of participants. The *Observations and Recommendations* (4) made at the conference were then included in the *Agenda for Humanitarian Action* (19) adopted by the 28th ICRC and Red Crescent in December 2003.*

Existing recommendations and best practices relate to topics such as international and domestic law, means of identification for civilians and noncivilians, the treatment of persons deprived of their liberty, the exchange of family news, and the proper handling of human remains and information on the dead.

The recommendations about forensic investigations into the missing are central to the ICRC's proposals to help resolve this humanitarian tragedy worldwide. These recommendations and best practices resulted from three specialized international workshops organized by the ICRC during the process (21). They recognize that humanitarian considerations are indispensable in forensic investigations into the missing, and they note the particularities of situations of armed conflict or internal violence, their effect on the role and responsibilities of humanitarian organizations, on forensic work, and how to adapt accordingly.

The ICRC is usually not directly involved in forensic investigations, but it endeavors to promote and support the implementation of standards of best practice, such as those reflected in this chapter, wherever in the world they might be needed. The ultimate responsibility for their implementation lies with the concerned authorities and, more specifically, with the forensic community, which is thus offered an additional challenge and opportunity to help remedy human suffering and failings.

* The ICRC and Red Crescent bring together not only the National Red Cross and Red Crescent Societies, but also the governments of the 191 states party to the GCs.

2. ROLE AND RESPONSIBILITIES OF FORENSIC SPECIALISTS INVESTIGATING THE MISSING

2.1. Introduction

The collective term “forensic sciences” used in this chapter includes a range of disciplines applicable to investigations into the missing, such as forensic pathology, forensic archaeology, forensic anthropology, forensic odontology, forensic entomology, forensic radiology, paleopathology, criminology, forensic fingerprint science, taphonomy, forensic photography, molecular biology, and mortuary science. They are truly complementary and evolving sciences in this field, from recovery to cause of death and, as importantly, for identification and proper management of the remains.

The role that forensic specialists play in their domestic context cannot be automatically extrapolated to an international context involving investigations into missing persons; there are some important differences. In the domestic context, forensic specialists work within the legal system of their country. Identification of remains is an integral part of medicolegal investigation and goes hand in hand with ascertaining the cause of death.

However, in the case of investigations into missing persons related to armed conflict or internal violence, especially when these involve exhumations of mass graves, the cause of death of victims buried in them may be far easier to ascertain, given the particular context, than their identity. In effect, in many such cases, identification of the victims is often the most difficult and resource-intensive forensic task. As a result, exhumations may readily satisfy the need for evidence of the cause and manner of death of the deceased, even if these are not identified. This can sometimes lead to the unfortunate situation whereby remains are exhumed and their cause of death established but because the process of identification is much more time- and resource-consuming, the bodies remain unidentified. This situation is unacceptable from a humanitarian point of view, as it prevents the concerned families from knowing the fate of missing relatives and from recovering their remains. Identification of human remains is therefore as important as the collection of evidence for criminal investigations. It is a duty of investigators, in recognition of the right to know of concerned families, as enshrined in IHL.

In summary, whereas forensic specialists may feel comfortable from an ethical perspective investigating violations of IHL and international human rights law, by helping secure evidence on the cause and manner of death of victims, they should also always endeavor to identify the victims.

2.2. General Challenges

Forensic specialists working in humanitarian contexts involving missing persons must demonstrate a level of professionalism that goes beyond simply assuring standards of practice. A highly professional approach to the sensitive issue of human remains can provide the necessary basis for a much-needed dialogue between two parties locked in conflict. In addition, professionalism among forensic specialists involved in such investigations can be a major factor in promoting IHL, international human rights law, accountability, and a process of reconciliation.

In particular, when applied to investigations into the missing, professionalism implies a degree of respect and impartiality that transcends conflict. For this purpose, correct guidelines can serve to empower forensic specialists working in new, difficult, or highly political circumstances.

Forensic specialists working in contexts involving missing persons have a duty to share and transmit their knowledge and experience to colleagues and professionals from other fields working with human remains, and should endeavor to promote local capacity building.

The authorities have well-defined and often clear legal and administrative obligations concerning the issue of missing persons in the context of armed conflict. Forensic practitioners interested in working in such cases should familiarize themselves with those obligations, among other things, to prevent any misuse or manipulation of the results of their work, which might affect or undermine their own professional standing.

Forensic practitioners investigating the missing should thus seek clarity from the authorities and other relevant stakeholders about some basic questions affecting their work before embarking on investigations in any particular context, namely:

1. How criminal justice works in the domestic and international contexts applicable to violations of IHL and international human rights law under investigation.
2. Applicable jurisdictions, laws, rules, regulations, and responsibilities concerning forensic investigations into the missing.
3. How to inform and return remains to families.
4. How to inform and return remains to the concerned authorities.
5. How their work will affect the legal and political process.

Forensic specialists must recommend that a mechanism be put in place whereby the remains that have been positively identified are swiftly returned to the family either by the authorities or by some other relevant stakeholder who is competent to do so. Thought must be given to the whole process before the forensic practitioner becomes involved; it cannot be assumed that the entire

chain of responsibility that usually exists in a domestic context is in place and will be effectively operational.

Forensic practitioners wishing to become involved in cases involving violations of IHL and international human rights law must be aware that they may be called on to work in difficult conditions. Their role and responsibilities may entail examining those who have been killed or injured in circumstances of torture or illegal imprisonment, or other circumstances that amount to such violations. This can place forensic specialists in extremely compromising situations, which in certain circumstances may be tantamount to helping to obstruct justice. Forensic practitioners could find themselves doing this:

1. Willingly, by consciously failing to record and effectively document findings, including signs of abuse, or by failing to ensure that abuse is reported to the appropriate authorities able to stop, investigate, and punish it.
2. Reluctantly, where their own or professional values are outweighed by pressure or threats from the state authorities or from others.
3. Unconsciously, where insufficient training or skills results in failure to recognize and properly record relevant findings.

Any form of involvement and/or complicity in the obstruction of justice amounts to a breach of the forensic practitioner's professional ethical obligations, as well as a violation of applicable law.

In short, it must be recognized that it is a mark of civilization to identify the dead. Forensic practitioners must be qualified and competent to work in contexts involving missing persons, and they should only work within their respective sphere of expertise; they have an ethical duty to advocate actively for an identification process (which includes the collection of ante-mortem data and in certain contexts of blood samples from the family). When examining remains, forensic specialists have an ethical duty to observe and record all information potentially relevant to identification, and the procedures followed must not destroy material that may be used later. Forensic practitioners must consider the families' rights and needs before, during, and after exhumation. Human remains comprise both complete bodies and body parts, and consideration must be given to the disposal of unidentified remains in a way appropriate to the context. Forensic practitioners must be familiar with the pertinent provisions of IHL and international human rights law, and should advocate their incorporation into the basic training of forensic specialists; they have a duty to abide by the ethics of their profession and be aware of the challenges and threats they might face in contexts involving missing persons (21).

2.3. Forensic Teams, Contracts, Employers

The authorities have ultimate responsibility for the management, exhumation, and identification of human remains. However, in contexts involving persons missing as a consequence of armed conflict, others may have to undertake this role and bring forensic specialists to the area.

When forensic practitioners move from their everyday domestic context to work in an international context and foreign jurisdiction, often for the first time, a specific person with relevant experience needs to be placed in charge of the examination of the remains. This person needs to have the qualifications, skills, and experience required to determine the identity of the human remains, the pathologies (including trauma) present, and the probable cause and manner of death.

The findings, conclusions, and reports signed by the forensic specialist in charge should be both formally valid and accepted as credible by local officials, the families, and (national and international) tribunals.

Before starting, the forensic specialists should make sure that the following questions are addressed when they are briefed or advised by the employer (whether a government service, international organization or other agency) and the relevant authorities. What is the legal framework within which they will be working? (The answers to other questions may determine this):

1. Which domestic and international law applies?
2. What part of the proposed work may be legal and what part may be illegal if performed by a foreign forensic specialist? For example, it may be lawful to watch a postmortem examination being performed by a local pathologist but unlawful under national law to conduct an exhumation.
3. Do the authorities recognize the forensic specialists' qualifications?
4. Is the contract with the employer recognized by the authorities?
5. What legal support is available if the forensic specialists are arrested (whether justifiably or unjustifiably) for doing their work?
6. Is the work, in fact, being done in a context that is unlawful or might be deemed unlawful in domestic law?
7. What is the mandate and legal standing of the employer (if not the authorities) in the context?
8. Can it be assumed that such work performed under the mandate of an international organization (i.e., the United Nations) automatically preempts domestic law?
9. Has the forensic work been incorporated into any kind of peace process to which the parties to the conflict are committed?

Forensic specialists must understand the different contexts and priorities the employer may attribute to their work. They must fully understand the employer's mission, including the broad legal and political framework of its

operations and whether the employer is recognized as competent and credible and is willing to work with others. Forensic specialists should also be aware of the wider agenda the employer organization may have:

1. The promotion of human rights and the investigation of violations (organizations involved in human rights advocacy, such as Amnesty International, Physicians for Human Rights, and Human Rights Watch).
2. The promotion of IHL while preserving neutrality and impartiality (for example, the ICRC).
3. The question of criminal accountability (such as in the case of the International Criminal Court).

Much of the above relating to the role and responsibilities of forensic practitioners should be recognized by the employer and reflected in the contract. A contract by which a forensic practitioner is engaged to work in a context specifically involving missing persons should include the following:

1. An affirmation of professional qualifications.
2. A commitment to work by standard guidelines relating to exhumation, autopsies, and identification.
3. A commitment to, if necessary, exhume the remains, identify the body, and establish the cause of death on an impartial and objective basis.
4. A commitment to give equal consideration to the family in all matters pertaining to human remains and to ensure that the authorities or the employer have done everything possible to make sure that the families are informed and supported.
5. A commitment to treat any remains with due respect.
6. A commitment to brief any forensic specialist replacing him/her and to affirm the obligation that that person must continue to work by the same guidelines.
7. An indication of how this work will fit in with the mandate and legal status of the employer.
8. A clear understanding of who bears ultimate responsibility for exhuming remains, making the identification, and issuing a death certificate if the authorities are unable or unwilling to do this.
9. An assurance that the employer has obtained or will obtain security guarantees from the authorities.
10. A reference to the handling and preservation of all evidence by standard means.
11. An understanding that exhumation will include both identification and establishing the cause of death.
12. A clear indication of whether or not the forensic specialist is expected to present findings in court.
13. A commitment that health and safety procedures will be followed.
14. A commitment that adequate insurance coverage—such as malpractice insurance—has been provided for all eventualities, as the coverage pertaining to the specialist's domestic work may not apply.

15. In keeping with standard forensic practice, an agreement that the practitioner has the right to copy documents and photos for which he/she was responsible, subject to an undertaking of confidentiality, and acknowledgement that copyright lies with the employer.
16. Work-load forecasts for any action or investigation must be both realistic and professional.

Consideration of these points will help forensic practitioners work within a sound and ethical framework while promoting the application of IHL and international human rights law and at the same time minimizing the families' distress.

Failure to take account of these points could undermine the forensic practitioner's own credibility.

In short, the terms of reference or contract must ensure that the employer's mandate is compatible with the ethical and professional practice of forensic specialists.

All forensic work must be carried out within the framework of a clear mandate. This includes consideration of the legitimacy and lawfulness of the work and other short- and long-term considerations.

The mandate must be underpinned by the principles of neutrality and impartiality.

The employer must recognize the role and responsibilities outlined previously and the need to adhere to best-practice guidelines.

The employer must provide adequate background information about the context, including political, cultural, and security information.

The security of the investigating team and contributors has priority over the provision of evidence and identification.

2.4. Specialized Guidelines

Specific best-practice guidelines help forensic practitioners to act within the ethical and professional boundaries applicable to investigations into the missing and ensure they are observed in all circumstances. They must therefore be disseminated and promoted within the forensic community.

Best-practice guidelines should, wherever possible, accommodate local skills and expertise, and they should also contemplate the need for local capacity building, including the training of nonspecialists and partially qualified personnel; such training should be planned in the early stages of any mission or project.

Well known international guidelines include the *UN Manual on the Effective Prevention and Investigation of Extra-Legal, Arbitrary and Summary Executions* (Minnesota Protocol) (22) and the Interpol Disaster Victim Identification (DVI) protocol (23).

The ICRC's own recommendations and operational best practices complement and expand existing references and guidelines for investigations into the missing.

One of the shared objectives of existing guidelines is, whenever possible, to subject human remains to one examination only. Examinations should not have to be repeated because previous examinations were incomplete. The same examination should serve to establish the cause and probable manner of death and to record the information needed to make a positive identification.

With regard to the use of the Minnesota Protocol (22), some of its advantages are that it is widely recognized and comprehensive, and it represents standards of best practice. Some of its disadvantages are that it describes a standard autopsy and, therefore, contains much information that is redundant for a qualified forensic pathologist; is difficult to apply to all situations; it does not provide the means to document findings; it is difficult to read as a checklist for an inexperienced examiner; it does not discuss in detail the examination of skeletal or partial remains; and it has no information technology support tool.

With regard to use of the Interpol DVI autopsy protocol in contexts involving missing persons, some of the advantages are as follows: it is widely recognized and adapted for international use, and it has been translated into a number of official languages; it is easily translatable into an electronic format; it serves as a checklist; it provides an easy means to document autopsy findings; and it has an effective information technology support tool.

Its disadvantages are twofold: the section relating to missing body parts is not useful in relation to the examination of partial remains in all contexts, and it does not permit the systematic documentation of findings pertaining to relevant case history, injuries, and cause of death in most contexts of the missing.

Concerning antemortem data and postmortem data forms for identification purposes, these can be developed and adapted for particular contexts (*ad hoc* forms), with due consideration of the relative advantages and disadvantages of existing models, including the Minnesota Protocol and the Interpol DVI autopsy forms. Such *ad hoc* forms should:

1. Be designed to serve as both checklist and data collection form.
2. Be designed to be compatible with the development of appropriate software.
3. Be mutually compatible.
4. Be written in an international language and be able to accommodate a local language.
5. Use recognized terms in a consistent manner permitting translation.
6. Permit the inclusion of an autopsy report and a conclusion.

7. Include a reference to the chain of custody for the samples taken.
8. Be able to accommodate future revisions.
9. Be accompanied by specific training in its use.

Disadvantages of developing *ad hoc* forms include the further work required to prepare them and the fact that development and implementation will slow down the overall process of investigations, a point to be borne in mind when planning and funding the corresponding mission.

2.5. Exhumation of Human Remains

The main general phases are listed here and should be followed in strict order whenever possible, or otherwise the reasons should be documented accordingly:

1. Locating the gravesite.
2. Establishing a security perimeter.
3. If permitted, photographing and documenting surface features/evidence.
4. Establishing the boundaries of the grave.
5. Removing the overburden and topsoil covering the remains.
6. Exposing the remains with forensic archaeology methods and techniques suitable for the case and context.
7. Mapping and photograph the remains.
8. Noting the position of the remains, labeling distinctly, and keeping separate any personal effects or other objects not attached to the remains (e.g., keys, bullets).
9. Labeling all remains distinctly and individually, whether parts or whole bodies.
10. Removing the remains (while keeping them as an entire body if possible).
11. Transporting and storing the remains in a safe container and place.
12. If appropriate and whenever possible, allowing the family immediate visual access for the purposes of identification (*see* discussion regarding steps for identification in the following subheadings).

2.6. Conducting Forensic Work When Only External Examination Is Possible

In contexts involving missing persons, forensic pathologists may sometimes find themselves unable to perform a full autopsy because of extreme constraints, including security. It may be necessary under such difficult conditions, with little time and without access to mortuary facilities, to examine a number of bodies with an aim to both identify them and establish the cause of death. This would pose a problem for any forensic specialist, but performing only an external examination would be compatible with professional conduct given the constraints, as long as the supporting reasons are duly noted and recorded.

The objective of such an abbreviated examination is to collect and preserve as much information as possible within the constraints of the case, with an aim to maximize the chances of later identification.

A forensic pathologist is best qualified to perform such an abbreviated examination of recently dead bodies, whereas forensic anthropologists might be best equipped to examine skeletal remains.

2.7. Responsibility and Accountability for the Identification of Human Remains

Identification is a central aspect of the investigation into a suspicious death, which complements the answers to other key questions, such as the cause, time, and manner of death.

Human remains are usually examined and identified by means of a team effort, under the overall responsibility of a professional with the necessary qualifications, skills, and experience required for identification procedures. It is therefore highly preferable that this person be a fully competent and qualified forensic practitioner, and normally (if available), a forensic pathologist, as this reflects legal arrangements in most parts of the world.

Ultimately, the authorities bear the responsibility of ensuring that human remains are identified by qualified and competent people.

It is the responsibility of the head of the forensic team to decide which methods of identification are most appropriate in a given context. It is also his or her responsibility to ensure that relatives, the community, and the authorities are well and fully informed about the limitations of the methods chosen to identify human remains, to minimize unrealistic or false expectations.

Constraints on resources—whether human, financial or logistical, or particular circumstances of a mission—may justify a lapse in the standards. This does not absolve the person in charge and/or the overall employer of responsibility for the approach and means used to identify human remains and the corresponding results.

When there is no competent authority, regional or international organizations can be instrumental in supporting families or close acquaintances through the process of identifying human remains and in preserving as much information as possible about missing persons, human remains that have not been identified officially, and unidentified human remains.

2.8. Means of Identifying Human Remains

Human remains are identified in three main ways: visually, by circumstantial evidence, and/or by scientific/objective methods.

1. Visual or customary (i.e., relatives or acquaintances viewing the remains, identity documents, or tags).
 - a. Visual identification may be the only pragmatic option (i.e., in difficult security situations, with recently killed, complete bodies, where the families are present and no other possibility for formal identification exists). However, it is known to carry a significant risk of misidentification, and should only be resorted to when the bodies are well preserved and there is a good idea as to who the victims are. Otherwise, more objective methods should be used.
 - b. Where visual identification is used, consideration should be given to collecting a sample for later DNA analysis should the need arise; however, even this apparently simple measure may be difficult to perform in the field.
2. The weight of circumstantial evidence (e.g., matching of antemortem data with information collected during the examination). When the identification is made by matching antemortem data with postmortem data and associated evidence (i.e., clothing), some “hard” features, such as previous medical conditions and frontal sinus radiology, equate with “scientific” means. Without such hard identifiers, there is a risk of misidentification (which, in fact, represents declaring a presumptive identification to be an identification, but also wrongly excluding a positive identification).
3. Scientific/objective methods (dental records, X-rays, fingerprints, unique medical conditions, or DNA).

These three steps do not necessarily follow one after another, but normal practice is that, as identification becomes more difficult, the emphasis moves from point 1 to point 2 to point 3.

The condition of the remains should be taken into account in order to adopt the most efficient means of identification in situations: whether the bodies are whole, few, or numerous, commingled or partial; degrees of decomposition; and whether there are few or numerous skeletal remains.

Means of identifying human remains may of course be combined for more-reliable results:

4. Identification by visual/normal/customary means plus matching of antemortem data with postmortem data. This is appropriate in situations similar to those described in 1, above, but where there is more time available, doubt about identity, or the family is not present immediately and scientific/objective means cannot be used. Any positive identification should be agreed on, if possible, by two qualified people.
5. Identification by visual/normal/customary means plus a scientific/objective means. This is appropriate in situations similar to point 1, above, but in which scientific/objective means can be used, there is more time or doubt about identity, or there is a dispute with legal implications. This may be appropriate in cases of re-exhumation.
6. Identification by matching antemortem data with postmortem data only. This means should only lead to positive identification if there are matching hard identification features. The identification should be concluded by agreement between

two qualified people. Without hard identification features, matching antemortem data with postmortem data may be used to supplement both 1 above and 2 below.

7. Identification by matching antemortem data with antemortem data plus scientific/objective means. Identification by these means is the most certain route to true identification.
8. Identification by scientific/objective means only. This refers to matching of fingerprints, matching of antemortem dental records with postmortem dental examination, or DNA analysis. Each has its advantages and disadvantages in contexts involving missing persons:
 - a. All require additional expertise and possibly laboratory resources:
 - b. Fingerprints can lead to the rapid identification of fresh bodies if antemortem prints are available; the principal disadvantages of using fingerprints are that it requires soft tissue on the hands of the remains and the existence of antemortem records, which are rarely available in the many contexts considered in this chapter.
 - c. Matching of antemortem dental records with postmortem dental examination is most appropriate when the remains are burned, skeletal, or in an advanced state of decomposition; as with fingerprints, antemortem dental records are a prerequisite, and they are rarely available in the contexts considered here.
 - d. DNA is the only means, apart from those alluded to in 2, above, of making an objective/scientific identification if there are skeletal remains but no antemortem records; DNA analysis sometimes provides the only reliable means of identifying and assembling partial remains.

Whenever possible, a visual (normal or customary) identification should be supplemented with identification by one of the other two methods.

Human remains should be identified with DNA analysis when other investigative techniques of identification are inadequate and the legal and ethical conditions defined for the use of DNA have been fulfilled (*see* Subheading 2.9.).

Governments, regional, and international intergovernmental and non-governmental organizations and the ICRC must exercise greatest care not to introduce double standards in the methods used to identify human remains, ensuring that whatever the approach to identification, it must be adapted to the context, a process that may have security, political, financial, cultural, legal technical and/or scientific ramifications, and it must be agreed to by all those involved before the identification process starts. In addition, it must:

1. Include decisions and protocols regarding the collection of antemortem data and, possibly, of samples for DNA analysis.
2. Include autopsy and identification protocols.
3. Be implemented under the responsibility of the head of the forensic team.

2.9. The Use of DNA Analysis to Identify Human Remains in the Contexts Considered in This Chapter

DNA analysis must not preclude the use of other objective means of identification and should therefore not be considered as the first and sole method available for making a positive identification because it is not always feasible from a financial and/or operational perspective; it raises unfounded expectations and demands from families of the missing, who might thus dismiss other sound methods of identification; and handling and laboratory errors (e.g., contamination, inadequate standards, incorrect labeling of samples, etc.) cannot be ruled out, thus making crosschecking of results, including the use of traditional methods of identification, mandatory.

The decision to use DNA analysis should therefore be based on sound scientific and practical considerations within the identification process strategy defined for a given context. It should not be based only on demands for DNA analysis generated by individuals, families, communities, organizations or governments; laws must not be enacted requiring mandatory DNA analysis for the purpose of identification; requests by governments, organizations or individuals for the re-exhumation of remains previously identified with traditional means for the purpose of DNA analysis should be decided on a case-by-case basis; and even if the laboratory is of the highest standard, it may not have the technical or personnel capacity to undertake an increased workload at short notice.

In the preliminary phases of investigations into the missing, the social, religious, and cultural characteristics of the community concerned must always be taken into consideration. The families and the community will accept the outcome more readily if they have confidence in the investigation, without undue demands for DNA analysis when this is not necessary.

When DNA analysis is deemed necessary for identification, it must be performed in laboratories that:

1. Are accredited with international standards of quality, such as the International Standard Organization (ISO) 17025.
2. Handle remains, samples, and data in accordance with the rules governing the protection of personal data and human remains, which include the protection of antemortem data and DNA samples and results.
3. The laboratory performing the analysis must not operate based on maximum profit.
4. Commercial considerations should be minimized, and the accounts must be externally audited.
5. Any contract with a laboratory must include a reference to the rules governing the protection of personal data and human remains.

6. The use of anonymous data collected during DNA analysis for the purposes of research, for example, to establish allele frequencies, should be duly consulted and be in full accordance with applicable national and international standards.

2.10. Preconditions for Including DNA Analysis in a Program to Identify Human Remains

The conditions under which DNA samples are collected should be clearly defined beforehand and in accordance with international standards, and investigators have a duty to ensure that donors of reference samples are duly informed about the rules governing the protection of personal and genetic information (informed consent). It is the responsibility of the head of the forensic team to seek compliance of these rules by all those involved in the investigations, including the laboratory.

An expert evaluation or appraisal of the need for DNA analysis must be carried out when the identification strategy for a given context is drawn up. This will determine, to some extent, the resources required. The DNA techniques proposed should be feasible and practicable in the given context, and they should be reliable and scientifically valid. The forensic laboratories and the DNA database used should be accredited or in compliance with standards such as the ISO Guide ISO/IEC 17025. The information technology used to analyze and match DNA samples must be appropriate for the context. The financial costs must also be considered; these will vary substantially depending on the number and type of analyses required (i.e., nuclear DNA, mitochondrial DNA, and so forth). The additional costs and complexity involved in using DNA must be outweighed by the anticipated results as well as by the additional social benefit of the investment.

Prior consideration should also be given to the positive and negative unintended impact on preexisting legal and forensic services. Strategies must be established for dealing with errors of identification and with partial, commingled, or unidentified human remains.

In relation to resources and logistics:

1. The logistical implications include collection, storage, transport, and a chain of custody agreed to by all those concerned.
2. The number of those involved, including the number of laboratories, should be kept to a minimum.
3. There is an important distinction between samples taken for DNA analysis to be performed within the country and those taken for analysis abroad.
4. If there is no overall coordinating body in charge of collecting and labeling samples, it should be clearly established how those samples are to be transported and analyzed, and this should be stipulated in advance according to competencies and in a written contract.

All those involved in the process must agree on communication, information, and counseling strategies for the communities and individuals concerned. The information must be realistic but should not discourage participation.

With regard to DNA, it should be mentioned that it is not always required for identification, it is not always possible to extract DNA from remains, and positive results will not always be achieved.

Appropriate mechanisms providing, for example, for confidentiality, follow-up, and services must be established for informing the families about the process.

Finally, there should be an “exit strategy” for any program using DNA analysis to identify human remains, including planned transfer of facilities and expertise once the investigation is completed.

2.11. Community and Family Involvement in an Exhumation and/or Identification Process: General Principles, Including for the Collection of Antemortem Data

All forensic investigations into the missing resulting from armed conflict or internal violence, including exhumations, must be carried out in constant interaction with the concerned communities and with the families or their representatives, who should be consulted accordingly and kept fully informed of the process and results. The notion of “family,” including its size and the roles of those included in it, may vary considerably in different cultural contexts. This needs to be borne in mind in order to help ensure the best possible interaction with the families of the missing persons, including for the optimal collection of antemortem data.

Communities and families are usually deeply traumatized when their members go missing in the context of armed conflict or internal violence, and the process of identifying remains may simply add to the trauma. The social and psychological affect of investigations on communities and families should therefore be assessed as part of their planning. Preventive measures should be adopted accordingly.

Investigators must be also aware that any undignified or unskillful handling of remains and information (real or perceived) may further traumatize the families of the missing.

The relationship between the forensic specialists and the communities and families is always complex. A forensic specialist may feel either constrained or empowered within this relationship, which is influenced by the following:

1. How information about investigations is transmitted to the communities and families.
2. The purpose of the investigation, i.e., whether it focuses on the identification of remains or on a criminal investigation.
3. The extent and timescale of the investigation.
4. Who is conducting the investigation—the police, the military, a government body, a nongovernmental organization, an international forensic team, a United Nations body, and so forth (forensic practitioners holding official positions in government alleged to be involved in atrocities may generate considerable suspicion or outright animosity).
5. Whether the perpetrators are still at large (this will affect the security of witnesses and may affect the relatives' own readiness to help locate graves, testify, or provide antemortem data).
6. Whether the families believe any information resulting from the investigation will be used for their benefit or in the genuine interests of justice.
7. Whether and how the forensic specialists and other team members interact with the community, including attending the funerals of the people whose remains they have identified.

The extent to which the communities or families are involved in the exhumation should be decided on a case-by-case basis taking into account:

1. The results of any consultation with the communities and families.
2. Whether the family wishes to be present or represented by a qualified person.
3. The overall possible benefit to the families.
4. The possibility that the investigation will be compromised, including by political interference.
5. The possibility that the families may suffer further trauma, especially if they perceive the investigation as being unnecessarily prolonged, the information collected in an insensitive way, or the remains perceived to be handled unprofessionally, in an undignified manner, or disrespectfully.
6. Security considerations.

In addition, the community or family may know where remains or graves are or are likely to be situated (including in territory controlled by the former enemy), facilitate identification of remains after recovery, provide security at the site of the investigation, and/or wish to veto the exhumation (this requires careful consideration).

Informing the communities and families about the exhumation requires a communication strategy. Realistic appraisals must be given of the outcome, and information should be updated regularly. Investigators should be aware that family observation of the exhumation process may lead to easier acceptance of the results; religious or community leaders (who are not connected to the authorities) should be contacted and consulted in some contexts; it may

be appropriate to discuss some form of memorial for the victims at an early stage; and any psychiatrists, psychologists, social workers, or traditional healers who might be working with the families addressing their particular needs should be contacted and consulted accordingly.

Establishing a good relationship with the families of those missing is essential for meaningful antemortem data collection.

The collection of antemortem data may not involve forensic specialists, but the data and samples collected will be of no value unless they can be compared with the findings of and by forensic specialists.

In principle, therefore, before any antemortem data are collected, a framework for the exhumation and identification process must be defined and agreed to by all those involved, particularly concerning the legal rules governing the protection of personal data and human remains, which include the protection of antemortem data, and ownership and management of the antemortem data.

In principle, therefore, antemortem data should not be collected outside the framework of a planned process to collect, exhume, and identify remains. The fact that antemortem data are collected from a family suggests that the missing relative is dead and induces great hope that the remains will be found; if no such data are being collected but there is a strong suspicion of death, the family's tracing request must be exhaustively completed as the recollection of important details fades with time.

Once the prerequisites have been met, the collection process must be well prepared and coordinated with all those concerned. Staff in charge of the collection process must be identified, selected, trained, and supported to avoid secondary trauma.

Psychological support for the families or individuals must be systematically planned and provided as an integral part of the collection process in order to help avoid retraumatization.

In principle, the aim should be to carry out only one interview with the family (even if conducted in several phases). Multiple interviews and subsequent requests for further information might further traumatize the family.

Whenever possible, the process of collecting antemortem data should be organized for groups of people who became unaccounted for in the same circumstances or during a specific event and/or whose remains might be expected to be found in the same location. This should facilitate the planning of exhumations and speed up the process of identification.

A communication strategy that is agreed to by all those concerned must be implemented. The communities and families must be realistically informed

about the processes by which antemortem data and DNA samples are collected and remains exhumed and identified.

3. CONCLUSION

In observing the humanitarian implications of their profession and following existing guidelines, recommendations, and operational best practices for investigations into the missing, such as those adopted by the ICRC, forensic practitioners help fulfill the right of the families to know the fate of their loved ones and to relieve their suffering. They also help develop and expand the value and scope of action of applicable and complementary forensic knowledge, including forensic archaeology, pathology, and anthropology.

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