

European Council of Legal Medicine (ECLM) principles for on-site forensic and medico-legal scene and corpse investigation

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Abstract Forensic medical practitioners need to define the general principles governing procedures to be used for the on-site examination of a body where the death has occurred in unnatural, violent or suspicious circumstances. These principles should be followed whenever a medical expert is required to perform an on-site corpse inspection and should be utilised as a set of general guidelines to be adapted to the specific situation in hand and interpreted using common sense and scientific knowledge of the relevant procedures and facts of the case. The aim of these principles is to ensure that forensic evidence at the scene of a death is properly observed and assessed and all necessary relevant evidence gathered in order to ensure that a comprehensive report is available to the judicial

authority (investigating judge or coroner) in the justice system. The on-site corpse inspection by a forensic practitioner is a mandatory and essential stage of the forensic and medico-legal autopsy, as it may provide important information for subsequent investigation stages.

Keywords On-site forensic scene and corpse investigation · European Council of Legal Medicine · Forensic medical practitioner · Procedures and materials

Introduction

Forensic medical practitioners need to define the general principles governing procedures to be used for the on-site examination of a body where the death has occurred in unnatural, violent or suspicious circumstances. These principles should be followed whenever a medical expert is required to perform an on-site corpse inspection and should be utilised as a set of general guidelines to be adapted to the specific situation in hand and interpreted using common sense and scientific knowledge of the relevant procedures and facts of the case. Thus, not all steps are justified in particular situations, and in some cases, may be performed in a different sequence to how they are presented here. The aim of these principles is to ensure that forensic evidence at the scene of a death is properly observed and assessed and that all necessary relevant evidence is gathered by a forensic practitioner independent of the authorities in order to ensure that a comprehensive report is available to the judicial authority (investigating judge or coroner) in the justice system to whom the forensic practitioner owes an overriding duty.

The on-site corpse inspection by a forensic practitioner is a mandatory and essential stage of the forensic and medico-legal autopsy, as it may provide important information for

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subsequent investigation stages. Consequently, it is important to ensure the quality of the investigations carried out. This document has been drawn up to aid the experts involved by providing a series of recommendations for how to perform this examination with accuracy and rigour. This document must be read in conjunction with two other documents published by the European Council of Legal Medicine (ECLM): the Principles and Rules Relating to Medico-Legal Autopsy Procedures—“Harmonisation of Medico-Legal Autopsy Rules” [1] and the “ECLM Accreditation of Forensic Pathology Services in Europe” [2]. It must also be read with regard to jurisprudence in different jurisdictions and in particular where some of the procedures may by law be carried out by police officers under the direction of the investigating judicial officer rather than by the forensic medical expert. The roles and authority of the independent forensic practitioner and of the police investigators should be set down clearly and recognised in accordance with the applicable national or local laws and must not compromise forensic medical principles [3, 4].

Procedures

The forensic expert should approach the scene where the corpse is lying and endeavour to carry out the following procedures in sequence. They must of course be modified in accordance with national and local forensic and jurisprudential practices.

Initial assessment on arrival at site

1. Identify the person responsible for site preservation and introduce yourself;
2. Set out your forensic role and what you have come to do as appropriate;
3. Try to obtain some preliminary information to guide your investigation and enable you to assess if any alterations, artefacts or contaminations could have been produced in the meantime;
4. Note the time of your arrival at the site, the exact address and the identity and contacts of the person responsible for site preservation with whom you have spoken;
5. Ask who found the body and under what circumstances, recording that person's name and contacts. If the person is still at the scene, try to find out some initial information and gauge if any alterations, artefacts or contaminations could have been produced;
6. In accordance with the specific situation and any authorities present, confirm who will have custody of any evidence found in accordance with pre-determined protocols and local practice;

7. Treat the site as a crime scene until there is secure evidence to the contrary and remain attentive and vigilant at all times;
8. Assess the security of the site before entering and confirm clearance to do so from the person responsible for site preservation and safety;
9. Confirm the access and exit route with the person responsible for site preservation and safety as appropriate;
10. Enter carefully, taking precautions and using appropriate equipment (physical and biochemical) to ensure the protection of personnel and of the site, when necessary;

Viewing and examining the body and site

11. Locate and view the body/bodies in situ;
12. Confirm the fact of death, if that has not yet been done by a qualified practitioner;
13. Photograph the body position, with and without measuring scale, and take panoramic shots of the site and surrounding areas; photograph immediately before collecting any visible physical evidence that may be fragile, if appropriate (this may be done by you or by a member of the police depending on the circumstances and type of evidence); also photograph the scene even if the body or evidence has been removed but if that has happened, do not replace it for the photographs;
14. Record any evidence observed and its relationship to the body, taking measurements if necessary, and photograph it with and without measuring scale;
15. For evidence such as blood or other bodily fluids, note the approximate volume, patterns, location and other characteristics before removing/collecting it;
16. Record any environmental characteristics that could be relevant (smells, lighting, ventilation, etc);
17. Note anything that suggests the body might have been previously handled (such as evidence of transportation/moving) and how that might have been done;
18. Study the body, clothing, remains and site, comparing these different levels in order to assess consistencies/inconsistencies (in the distribution of evidence, for example) and noting any possible artefacts;
19. Photograph the body and adjacent site close up, with and without measuring scale. Also photograph the victim's face (without cleaning it) and any details of the body, clothing or adjacent site that could prove relevant; take additional photographs after the removal of any objects that could interfere with the photographic record;
20. Proceed to a preliminary examination of the body, assessing livor mortis (colour, location, mobility, intensity and consistency/inconsistency with the body position), stiffness (state/intensity, location and consistency/inconsistency with the body position) and any signs of

dehydration and decomposition (these should be described);

21. Determine the temperature of the body and the environment (record the method and exact time in each case); the body temperature should be measured by placing a chemical thermometer in the rectum unless there are relevant reasons (e.g. suspected sexual assault and tight clothing) for delaying the measurement or using an alternative site).
22. Before undertaking the procedures described in the previous two points, consider carefully if they are worth doing, bearing in mind the risk of evidence being lost and/or contaminated;
23. Assess any signs of post-injury activity or of any animal interference which should be confirmed by collateral history;
24. Record the presence/absence of any clothing and personal objects that could be relevant, the condition they are in and any damage presented; record the victim's physical characteristics, giving particular attention to anything that could aid identification, when this is not clearly established, such as distinguishing marks, scars and tattoos
25. Record any signs of treatment and resuscitation attempts which should be confirmed by collateral history;
26. Record the presence or absence of lesions/trauma, petechiae etc;
27. Constantly, bear in mind the need for any supplementary assessment by other colleagues/professionals including first response professionals;
28. Place the hands and/or feet of the corpse in paper bags, if appropriate;

Collection and preservation of relevant evidence

29. Gather evidence (blood, fibres, hair, etc) before removing the body, if appropriate;
30. In consultation with the police investigators, procedures to catalogue, collect and establish the chain of custody for any illegal drugs, paraphernalia, medication, money and personal property etc existing on the body or at the site should be completed by the designated person who is usually a member of the police present at the site;
31. Ensure that the body is protected from any further trauma or contamination;
32. Ensure that the corpse and body bag are properly identified, with mention of any increased risk or contamination that exists. If you are able to remain longer, oversee the bagging of the body and its removal from the site;
33. Photograph the surface under the body after it has been removed, when indicated;

34. Ensure, by supervising as appropriate, the proper preservation and transportation of the evidence;
35. Try to obtain and secure any relevant ante-mortem samples available;

Obtaining relevant collateral information

36. Obtain any relevant information from family members and other people, if appropriate;
37. Noting the sources of information and specific statements made by witnesses, establishing how they knew the facts, taking the contacts of the people that provided information and noting down their relationship to the victim are usually tasks carried out by the police investigators;
38. In the gathering of relevant information, record the circumstances surrounding the discovery of the body (bearing in mind the W-rule: *who, when, what, where, which manner, why*); if there is information from the person that first discovered the body, these details should already have been obtained by the police and made known to you;
39. Record *when, where, how, by whom* and under *what* circumstances the victim was last seen alive;
40. According to the circumstances, try to obtain information about any relevant incidents or complaints/symptoms present prior to death;
41. Review any medical records available and note down anything relevant, particularly as regards emergency treatment or hospital or clinic attendances;
42. Information should have been sought by the police investigators from family members and witnesses (recording their names and contacts) and made known to you about the following:
 - a. the victim's physical characteristics (scars, tattoos, dental prostheses, etc);
 - b. the victim's medical history, including medication, consumption of alcohol and other toxic substances, etc;
 - c. any psychiatric antecedents, including hospitalizations and medication;
 - d. any history of suicide (attempts, gestures and/or ideas); family history, including mental health;
 - e. family background;
 - f. work and financial history;
 - g. sexual history;
 - h. daily routines, habits and activities;
 - i. relationships, friendships, associations, etc;
 - j. educational qualifications;
 - k. religion;
 - l. criminal background.

43. Try to confirm details of the victim's medical history and treatment with any doctor and/or health centre attended by the deceased;
44. Record the name and contacts of health professionals (particularly mental health) that had been accompanying the victim; the police investigators should obtain written statements, if appropriate and possible, and provide such relevant information to you;

Consequential matters

45. Consider whether the intervention of other professionals is required;
46. Share the information with the other professionals present;
47. Mention any particular requirements to relevant forensic, police or health authorities;
48. In accordance with local and national practices and requirements, inform the family about the need for an autopsy (if that is the case), its importance, the laws regulating it and who will bear the respective costs and about any European Union procedures that need to be followed; also inform the family of when the autopsy will probably take place and the general procedures regarding when the body will be released, when the report will be issued (in accordance with the complementary and supplemental examinations planned) and how they might gain access to the report;
49. Do not trust your memory; carefully fill out the standard corpse inspection form at the site. Allow the investigating authorities to retain a copy if necessary;
50. If you have a voice recorder, make sure you acquire permission from people before recording their statements;
51. Contact the technician on duty at your Legal Medicine department, if necessary and appropriate, to warn that a body will be arriving, alerting them to any special care that is required.

Materials and equipment

Without prejudice to other more elaborate materials and equipment that might be needed, the expert should consider bringing to an on-site corpse inspection the following as appropriate to the scene to be examined and in accordance

with local and national operational and jurisprudential requirements but noting that not all may be necessary:

- a) Official identification
- b) Calling cards
- c) Telephone contacts
- d) Communication equipment
- e) Notebook
- f) Writing material
- g) Recording equipment
- h) Camera
- i) Reflective vest or fluorescent strip
- j) Material for personal comfort
- k) Mask (air filter)
- l) Disinfectant
- m) First aid kit
- n) Containers
- o) Medical equipment (scissors, scalpel, slides, syringes and needles, swabs, etc.)
- p) Material for evidence collection (gunpowder, dried blood, etc)
- q) Measuring instruments
- r) Measuring scale
- s) Torch
- t) Magnifying glass
- u) Body diagrams and forms
- v) Checklists
- w) Paper envelopes
- x) Identification tags
- y) Sealing material

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