

LEADING ARTICLE

WRITING A CASE REPORT IN FORENSIC MEDICINE

Vadysinghe AN*, Ekanayake EMKB, Somathilaka HMDD, Wickramasinghe CU

Department of Forensic Medicine, Faculty of Medicine, University of Peradeniya, Peradeniya, Sri Lanka

ABSTRACT

Case reports (CRs) are an essential component of forensic medicine, providing detailed documentation of unique, unusual, or novel cases that can educate the medical and legal communities. If authors do not comply with the accepted guidelines, it will affect the quality and the scientific rigor and face ethical consequences. However, existing guidelines on CR writing do not address the unique issues specific to forensic medicine. This guide outlines the key components of writing a comprehensive CR in forensic medicine, developed from existing guidelines.

Keywords: Autopsy; case report; forensic medicine; informed consent; privacy

Corresponding author: Vadysinghe AN
amal_vadysinghe@yahoo.com
<https://orcid.org/0000-0002-1994-7830>

ARTICLE HISTORY

Received: 04.11.2025

Accepted: 07.01.2026

Available online: 30.06.2026



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lacking. It aids in medical education and the discovery of complications or effects of common treatment. It can be used as a valuable source of new and unusual information that can encourage future research studies with a higher level of evidence³⁻⁷. A CR can be published as an abstract in research conferences or as a full paper in peer-reviewed journals. In the level of evidence hierarchy, the highest position is secured by a systematic review or meta-analysis of all relevant randomised controlled trials, whereas CR is positioned at a low level of evidence^{8,9}. However, CR can be used as a valuable foundation for future research.

Additionally, a CR in forensic medicine provides sound medico-legal documentation. It plays a crucial role in improving the understanding of legal medicine and its applications. Forensic CR contributes to the identification of new forensic phenomena, mishaps of medical management, refinement and enhancement of investigative techniques, and medico-legal interpretation.

CR might depict some drawbacks, like the lack of a clear description and generalizability, the danger of over-interpretation of a single case or even a case series, limited/insufficient rigor due to inconsistency, incompleteness, or writing without adhering to guidelines, and rarely a lack of relevance or an emphasis^{1,6,7,10,11}.

INTRODUCTION

Case reports (CRs) describe an issue and its management for scientific/academic purposes¹. It is a detailed report of the diagnosis, treatment, and follow-up of an individual case. CRs also contain demographic information, including age, gender, ethnicity, geographical location, level of education, income, etc., of the presented case². CR plays a vital role in the recognition of new and rare diseases and in the evaluation, intervention, and management of areas where the current evidence base is

Distinct differences could be seen between a clinical and a forensic CR. The purpose of a clinical CR is to document and share clinical experiences, unusual cases, or novel treatments in the medical field which often educate and inform healthcare professionals about unique clinical findings or therapeutic approaches whereas, in forensic CR, it is to document findings from a forensic investigation often related to legal cases which are used to provide evidence in legal proceedings and help in determining the cause and manner of death. Forensic CRs focus more on the investigation process, evidence analysis, and legal implications. Emphasis is on the forensic and investigative aspect of the case, unlike in a clinical CR, which focuses on patient diagnosis, treatment, and outcome, with emphasis on the medical and therapeutic aspect of the case. Regarding content and structure, forensic CR comprises scene description, autopsy findings, evidence analysis, and legal implications; whereas in clinical CR, much attention is put toward patient history, clinical findings, and analysis of the case in the context of existing knowledge in discussion and follow-up of the patient in the context of progress and long-term outcomes. The audience for forensic CRs can range from medical professionals and forensic scientists to legal professionals and law enforcement officers, and these reports may be used in legal settings and even presented in courts as scientific evidence. Clinical CRs are mostly used by healthcare professionals, including doctors, nurses, and medical researchers.

Consent and privacy are two important components of ethical considerations in CRs. In a clinical CR, informed written consent is obtained from the patient, ensuring confidentiality and ethical standards. In a forensic CR, if the victim is alive, informed

written consent is obtained, like in a clinical case. The issue arises when the victim is deceased, where the consent must be taken from the next of kin. Victim anonymity is to be preserved by complying with institutional guidelines and ethical review board approval and recommendations.

PROCEDURE

This article provides a detailed guide on writing a CR in forensic medicine. It outlines the structure and components of a CR, including introduction, case description, methods, results, discussion, and conclusion. This was developed with the aid of CARE and SCARE guidelines, which were created as a guide for writing CRs. CARE guidelines were first published in 2013 and updated in 2017 to enhance the accuracy, transparency, and usefulness of CRs^{1,12}. Similarly, the SCARE guideline was first developed in 2016 following the identification of flaws in the field of surgery. It was created as a consensus-based tool for surgeons to document and report their surgical cases in a standardised manner, with subsequent updates in 2018 and 2023^{11,13,14}. However, unique issues in writing a CR in forensic medicine are not addressed in CARE or SCARE guidelines, such as identification of the victim, consent, and scene investigation details. Therefore, the authors present a guideline to fill the gap in reporting comprehensive CRs in forensic medicine.

Structure of a forensic case report

This guideline provides a standardised framework for reporting forensic cases. Its objective is to improve the quality and consistency of CR, making them more useful for practitioners in forensic medicine, other clinicians, and researchers. The basic structure of a forensic CR is detailed in Table 1.

Table 1: Structure of a forensic case report

Topic	Item	Description
Title	1	The words 'case report' should appear in the title, or the title should reflect that they are case reports or case series. The title should be concise and highlight the area of focus. (e.g. presentation, patient population, diagnosis, outcome, manner, and/or cause of death/injury)
Keywords	2	Include three to six keywords that identify what is covered in the case report while minimizing the repetition of terms used in the title and the abstract (e.g. medico-legal diagnosis, manner/cause of death or injury). Keywords should be arranged in alphabetical order. Services such as MeSH Browser can be used to generate appropriate keywords ¹⁵ .
Abstract	3	Can be structured or unstructured. If structured, include the following headings: (1) introduction (2) case presentation/history/records, and (3) conclusion. Introduction: Describe why the case is important to present over the existing forensic literature. Case presentation/history/records: Detail the presenting complaint/s, clinical and demographic details and background information regarding the presentation with forensic relevance. Detail the clinical/autopsy findings, investigations and results, and diagnosis with medico-legal interpretation. Conclusion: Highlight the relevance and impact of the report. State the main takeaway lessons or potential implications for forensic practice without reiterating already presented findings.
Full Manuscript		
Introduction	4	Background: Describe the area of focus and the relevant background contextual knowledge, stating the area which is going to be presented concerning the existing body of knowledge. Describe why the case is unique compared to available literature and why this case should be reported, especially in relevance to health care, legal and other stakeholders.
Timeline	5	Summarise the sequence of events, including the date, time and place of the incident, and status at the presentation with subsequent management, including lab investigations, treatments and outcomes.
Case presentation/ history/records Patient information	6	Socio-demographic profile of the subject, including age, sex, ethnicity, geographical location, and occupation. Further body mass index, handedness, habits (especially smoking, abuse of drugs or alcohol) and the status of the condition of the body need to be included where relevant.

		State how the presented case was referred for medico-legal investigation (self-presentation, by referral or produced by legal authority) Similar previous presentations and interventions, especially in cases of chronic abuse (e.g. gender-based violence, child abuse, drug abuse, etc.) or self-harm. Past medical, surgical, psychosocial and family history, where relevant.
Scene Investigation	7	Describe the important findings relevant to the case presented. Such findings can be illustrated with the use of photographs, sketches or diagrams.
Clinical/autopsy findings	8	Describe the significant findings based on observations, clothing, and external and internal examination with the adopted technique. (e.g. eye dissection in fatal child abuse, pelvic dissection in sexual abuse.) Reproduction of findings can be done with photographs obtained with a standard scale as a reference and colour code to minimize any size or colour distortions, respectively (ForensiGraph scale or American Board of Forensic Odontology (ABFO) scale with colour code/crosshair)^{16,17}. Anatomical location should be identified with a distant photograph, while details of injury or pathology should be visible in a close-up photograph, preferably with an indicator, such as an arrow or a circle. Use a scale reference to determine the actual size of the objects or distances within a photograph, which is essential for reconstructing a crime scene and understanding spatial relationships. Include the date and time in photographs as they serve as evidence for medico-legal purposes. Authors should respect the privacy of the victim while documenting findings. Patients' names and other identifying information should be removed from the figures. If any identifying details appear in text, tables, and/or figures, the author must provide proof of informed written consent received from the patient, i.e. a signed permission form. Facial photographs with bars placed over the eyes of patients should not be used in publication. If they are used, permission from the subject or next of kin is required. Photographs obtained from different authorities (e.g. Police, Scene of Crime Officers) should be acknowledged.
Ancillary investigations, results and interpretation	9	Diagnostics assessment: Laboratory investigations and imaging (antemortem and postmortem). Histopathology: stain type, magnification, and use of pointers to indicate pathology.

		Toxicology analysis: Equipment and analytical methods used with details of validation and accreditation. State the limitations of investigations and results.
Intervention	10	Referrals and psychosocial interventions, such as experts who are involved, change of custody in child abuse, socio-economic support, etc.
Follow-up and outcomes	11	Give details regarding the consequences of injuries, disabilities, compensation, death investigations and the outcome of legal proceedings.
Discussion	12	Brief the forensic findings with their interpretation and justification of conclusions in relation to existing relevant literature. Future implications: Describe the future implications for practice in forensic and other specialities and adaptability into guidelines and standards of practice. Takeaway lessons: Outline the key medico-legal (or clinical) lessons from the case presented.
Strengths and limitations	13	Describe the strengths and limitations encountered during the medico-legal investigation and how the limitations can be overcome in future cases.
Perspective of the patient or the next of kin	14	Special reference to abused/tortured victims or /and their next of kin in relation to medico-legal management and follow-up.
Consent	15	Informed written consent must be received for publication from the patient or next of kin/guardian where relevant. If the patient or family members are untraceable, then document the tracing efforts undertaken. It is wise to comply with the institutional guidelines, approval of the ethical review committee and follow international standards.
Additional information	16	State any author contributions, acknowledgements, conflicts of interest, sources of funding and where required, institutional review board or ethical committee. Care must be taken when formulating opinions on pending or ongoing court cases, and they should be handled sensitively.
References	17	According to a standard referencing style aligning with the requirements of the journal where the CR is to be submitted for publication (e.g. Harvard style, Vancouver style, APA (American Psychological Association) style).

CONCLUSION

This article provides authors with a guide aimed at writing a comprehensive CR in forensic medicine. This guide will help enhance the accuracy, standard, and outcome of a CR. This guide not only addresses current gaps in writing a CR in forensic medicine but also provides a structured approach to developing a CR in other clinical specialties. With the consensus of subject experts, this proposed structure can be further upgraded as a guideline for writing a CR in forensic medicine.

ACKNOWLEDGEMENTS

None.

CONFLICTS OF INTEREST

The authors declared no conflicts of interest.

DISCLOSURE

ANV, EMKBE and CUW are members of the Editorial Board of the Sri Lanka Journal of Forensic Medicine, Science & Law. Therefore, they did not participate in any way in the publication/decision-making process of this submission, as per journal policy.

ETHICAL ISSUES

None.

SOURCES OF SUPPORT

None.

AUTHOR CONTRIBUTIONS

ANV: Conception and design of the work; the acquisition, analysis, and interpretation of data for the work; drafting the work or revising it critically for important intellectual content; final approval of the version to be published; and agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. **EMKBE:** Conception and design of the work; the acquisition, analysis, and interpretation of data for the work; drafting the work or revising it critically for important intellectual content; final approval of the version to be published; and agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

HMDDS: Conception and design of the work; the acquisition, analysis, and interpretation of data for the work; drafting the work or revising it critically for important intellectual content; final approval of the version to be published; and agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. **CUW:** Conception and design of the work; the acquisition, analysis, and interpretation of data for the work; drafting the work or revising it critically for important intellectual content; final approval of the version to be published; and agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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