

## Education

# A Guide to Writing Quality Case Reports

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## Abstract

### Description

Case reports play an essential role in the dissemination of knowledge in medicine. A published case is typically an unusual or unexpected presentation in which the outcomes, clinical course, and prognosis are linked to a literature review in order to place the case into the appropriate context. Case reports are a good option for new writers to generate scholarly output. This article can serve as a template for writing a case report, which includes instructions for creating the abstract and crafting the body of the case report—introduction, case presentation, and discussion. Instructions for writing an effective cover letter to the journal editor are also provided as well as a checklist to help authors prepare their case reports for submission.

### Keywords

case report; scholarly activity; scholarly communication; journal; graduate medical education; GME; publishing

## Introduction

Case reports are time-honored and play an essential role in disseminating knowledge in medicine. Case reports are "...a detailed report of the symptoms, signs, diagnosis, treatment, and follow-up of an individual patient."<sup>1</sup> A published case typically involves an unusual or unexpected presentation, new treatment, or alternative diagnostic imaging in which the outcomes, clinical course, and prognosis are linked to a literature review in order to place the case into the appropriate context.<sup>2</sup> Case reports often provide the first discovery of, or insight into, an emerging or rare disease. For example, the first mention of HIV/AIDS in the medical literature came from a case series in 1980.<sup>3</sup> Relative to randomized controlled trials, case reports reside near the bottom of the "hierarchy of evidence" pyramid.<sup>4</sup> In other words, they are not expected to contribute to clinical guidelines in the same way as randomized controlled trials or observational studies. However, case reports can provide insight into new diseases, associations, or treatments that might otherwise be overlooked. Thus, they play a vital role in in-

creasing what we know and what we can learn about new, emerging diseases, and they help improve our management of patient care.<sup>5</sup> In an effort to improve the quality of case report submissions, we will describe the key elements of a well-written case report.

## How to Get Started

This article can serve as a template for writing a case report for any publication. However, the following details highlight specific requirements for case reports submitted to the *HCA Healthcare Journal of Medicine*. When submitting to another journal, one should read the author guidelines carefully before submitting.

The first step is selecting an appropriate case that may merit publication as a case report. The case may be a rare or unique clinical condition, intervention, complication, or outcome. The important point is that you have identified something worthy of communication to the journal readership. For example, a clinician might ask, "Would the findings from this case cause me to consider a change in my practice?"

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Next, it is beneficial to perform a literature search to determine if the case is novel and will interest readers. Starting points include finding the diagnosed condition on UpToDate®, which will provide links to individual references.<sup>6</sup> Subsequently, a more in-depth search of specialty-specific references on free public databases such as PubMed and the Cases Database should be completed.<sup>5,7,8</sup> After these initial searches, the authors should have the information they need to determine if their case is suitable for publication.

The literature search should show that the case meets one of the following criteria highlighted in the *Journal of Medical Case Reports*:<sup>5</sup>

- The case is unique in either the course or treatment of the disease or describes a unique presentation not previously described in the medical literature.
- The patient's side effects or reactions to medication are unique and have not been previously described in the literature.
- The patient's symptoms were resistant to conventional treatment, or the patient responded to a novel or previously unreported treatment.
- The patient's symptom complexes were not previously associated with a disease, or there was an uncommon link between the disease and symptoms.

A case report may be accepted for publication even if it does not strictly meet one of the above criteria. Adhering too tightly to the above criteria could prevent valuable information from being disseminated to the medical community. The case should be unusual, but it is more important that it adds something to the medical literature.

Word count limits vary by journal, with some as low as 500 words or as high as 3000 words. The word count of a case report submitted to the *HCA Healthcare Journal of Medicine* should be around 2000 words from the introduction to the conclusion, excluding references, tables, figures, and figure legends. The number of tables, figures, or images should be limited to 5, and the references should be limited to 20. The *HCA Healthcare Journal of Medicine* is an online journal where length is not a major issue as with a printed journal, but a concise case report is essential for an audience of busy physicians.

Videos or additional figures/images may be useful for the reader and can be included as supplementary material for *HCA Healthcare Journal of Medicine* submissions. Learning objectives provide helpful information for the reader and may be required for some journals. The authors should consider including learning objectives in their case reports or case series.

## Patient Consent

Most journals that publish case reports require patient consent, and some journals have their own consent form. It is important to note that consent is required to disclose protected health information (PHI), which includes case information and patient images. The *HCA Healthcare Journal of Medicine* requires authors to submit a patient consent form along with the case report manuscript.

## The Cover Letter

When required, a cover letter gives the editor an introduction to the manuscript. The cover letter is uploaded separately into the *HCA Healthcare Journal of Medicine* submission portal and must include the title of the manuscript. The authors should clearly and concisely state why the case report qualifies for publication in the journal. This step is where the authors can make a compelling argument as to why the case is important and why it should be published. Naturally, the introduction section of the case report provides a more detailed description of case-related literature. Thus, authors should only provide the key elements in the cover letter for the benefit of the editor. Finally, include all authors' full names, institutions, and email addresses in the cover letter and identify at least one corresponding author along with their address.

## The Title

Provide a clear and concise description of the case that is not more than 15 words in length. Avoid abbreviations and redundancies in the title and avoid hyperbole such as "Unique Case" or "First Reported." The title is the reader's introduction to the case, likely the first or only part they will read, and it should provide a clear and accurate description of the case. It is tempting to create a cute or clever title, but researchers have reported that amusing titles can obscure the important elements of the

case and make it less likely that the manuscript will be read.<sup>9,10</sup> Remember that the case report represents a patient, and their dignity should be protected. A pertinent example is the title from the paper, “A lucky catch: Fishhook injury of the tongue.”<sup>11</sup> We contend that the title cleverness is inappropriate when it is considered that the patient described was 13 months old.

### **The Abstract**

Use headings in the abstract that match the manuscript headings and provide a succinct description of the case. As with the title, the abstract should provide enough information to ensure that the reader understands the scope of the work before investing their time in reading it. Ideally, the abstract should encourage the reader to go further and read the details of the case. The abstract is entered separately into the *HCA Healthcare Journal of Medicine* submission portal, but it should also be included in the submitted manuscript file.

Abstract length and style differ by journal. An abstract for the *HCA Healthcare Journal of Medicine* must be a succinct description of the key elements of the case and, therefore, should not greatly exceed 300 words. References and citations should not be used in the abstract and only a small number of abbreviations should be included. The abbreviations should be defined for the first use and match those used in the main manuscript.

The abstract should be presented in 3 sections: introduction, case presentation, and conclusion. The abstract's introduction section illustrates the importance of the case and the rationale for reporting it. The case presentation section should be concise and focused, providing the important details of the patient presentation, including the patient's age, biological sex, and gender identity. Finally, the conclusions section should provide a short statement that illustrates key elements of the case and its clinical impacts.

### **Keywords**

Provide 3 to 10 keywords that reflect the primary content of the article. Keywords are essential for indexing the manuscript and facilitating easy online retrieval. However, finding and selecting appropriate keywords can be a challenge. Checking keywords from abstracts

describing similar cases can be helpful, as can using the National Library of Medicine (NLM) Medical Subject Headings (MeSH) site. The latter is the NLM-controlled vocabulary thesaurus for indexing PubMed citations.<sup>12</sup>

## **Elements of a Case Report**

The main text file of the case report should begin with the title and the abstract. The *HCA Healthcare Journal of Medicine* uses a double-blind peer review process in which the authors and the reviewers are anonymous. Thus, no author-identifying content should be included in the main file, which is why it is important to include the authors' information in the cover letter. The main sections of the actual case report are the introduction, the case presentation, and the discussion and conclusion. Each of these elements is described below. If you are submitting to another journal, read their guidelines carefully as some journals may have different rules for what to include in the main text file.

### **The Introduction**

The introduction should describe the background of the case, including the disease or disorder, its typical presentation and progression, an explanation of the presentation in the case, and whether it is a new disease. The introduction provides an opportunity to grab the reader's attention and reiterate the importance of the case. It should be concise and compel the reader to go further. Make sure that all statements of fact in the introduction are properly cited.

### **The Case Presentation**

When presenting the case, start with the patient's de-identified demographic information, including age, biological sex, and gender identity. We contend that the patient's race should not reflexively be included in the first paragraph of the case description, unless race is directly relevant to the case. In support of this argument is a recent commentary in the *New England Journal of Medicine* in which the authors stated, “Clinically relevant and patient-specific socioeconomic considerations, cultural beliefs, and race-related barriers to high-quality health care should be acknowledged and addressed later in the case presentation.”<sup>13</sup>

Deidentifying a patient case in accordance with the Health Insurance Portability and Accountability Act (HIPAA) goes beyond simply removing the patient's name and date of birth. The Safe Harbor method for deidentification includes 18 items to remove, including geographic divisions smaller than a state, all elements of date (including date of service), age above 90 (refer to the patient as "elderly" or "over 89"), and any unique identifying number (eg, medical record number [MRN]).<sup>14</sup>

Describe the case concisely and in chronological order, starting with the chief complaint and significant family, occupational, and social history.<sup>5</sup> Provide key details of the patient's presentation and clinical findings from the physical exam, vitals at the time of examination, and any images. Follow with significant labs and tests and describe any treatments, procedures, or interventions. Use standard measurement units and include the normal range for positive labs. When using abbreviations, spell out the word for the first use, and use standard abbreviations when available. Also, use the generic name for all medications unless a specific name brand is the emphasis of the case.

Focus the case presentation on positive findings from the history or exam, including negative findings only when relevant to the case or the diagnosis. Finish with a prognosis, follow-up results, if available, and long-term outcomes. Avoid superfluous or other extraneous facts that detract from the understanding of the case.<sup>5</sup>

Tables are an effective way to present content when there is a long list of tests/labs or significant demographic or exam data to present. Figures (or images) should be used to show physical, microscopic, histological, or other visual representations of the disease. After making sure that no identifiable information is included in a patient image, consider adding arrows or another means of helping the reader locate specific aspects of the images referred to in the description. Refer to any tables or figures in this section using targets or callouts (eg, "Figure 2"). Tables and figures should be numbered sequentially in the order they are described in the text. Tables should have a descriptive title, and figures should include a caption that describes the image in complete sentences.

## The Discussion

The discussion is the authors' opportunity to distinguish key features of their case, highlight its uniqueness, and identify and compare their case to similar cases in the literature. Appropriate comparisons can only be made if the literature is relevant and up to date. A similar case in the literature does not necessarily detract from the current case. Instead, it provides an opportunity to contrast and define unique elements between cases. All statements of fact and any literature presented must be properly cited in the text.

Beyond these basics, the discussion provides an opportunity to compare the current case to previous literature, contrast findings with previous treatment strategies or outcomes, and provide reasons for possible outcome differences. Authors of previously published works likely had similar challenges and applied similar strategies but may or may not have had the same patient outcomes. The discussion also provides the authors a chance to explain the unique responses of their patients to medications or treatment and provide limited speculation about their success or failure. In short, the discussion is a chance for the authors to employ their clinical expertise to help the reader understand the significance of their case and how to respond should they see a similar case.

## The Conclusion

The conclusion starts with a summary, including key elements of the case and its clinical impacts. Do not reiterate case details, but provide a short statement to describe the case, course of treatment, and outcomes. A concluding statement should follow that highlights the relevance of the case, whether it is generalizable, and the contributions the case makes to the literature or potential changes in treatment. Construct your conclusion carefully, avoiding overzealous statements, and make sure your conclusion matches the content and tone expressed in the abstract conclusion.

## References

The *HCA Healthcare Journal of Medicine* follows American Medical Association (AMA) guidelines for formatting and referencing. Briefly, references are numbered consecutively by first use in the main text, using commas to separate when multiple sources are cited.<sup>15</sup>

## Authorship and Other Contributions

As a general practice, case report authorship is limited to physicians directly involved in the case, and some journals limit the number of authors. For a submission to the *HCA Healthcare Journal of Medicine*, there should be no more than 6 authors, without substantial justification from the lead author.

An author is generally considered someone who has made meaningful and substantive intellectual contributions to a published study. The International Committee of Medical Journal Editors (ICMJE) has established guidelines for authorship.<sup>16</sup> To qualify as an author, one should have met the following 4 criteria:

- “Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
- Drafting the work or revising it critically for important intellectual content; AND
- 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”<sup>16</sup>

Each author should have participated sufficiently in the work to take public responsibility for the content. It should also be noted that acquiring or providing funding, data collection, technical or lab support, providing access to space, or supervision do not justify authorship. Rather these activities meet the criteria for a contributor to be acknowledged at the end of the work.

It is highly recommended to use a medical journal writing style and not typical prose that is better left to college essays. Do not be overly verbose but rather clear and concise. Authors should enlist the help of colleagues (both clinical and non-clinical) to act as proofreaders for their manuscripts. Such editing is crucial for presenting a clean and error-free manuscript, giving the work a favorable reception from editors and reviewers. It is recommended that someone fluent in English review the manuscript for style, syntax, and fluidity. Editing or

proofreading by itself does not qualify a person to be an author, but these efforts can be acknowledged at the end of the work.

## Journal Submission and Review Outcomes

The authors should carefully review the journal information for authors prior to submitting to a journal. The information for authors for the *HCA Healthcare Journal of Medicine* can be accessed using the following URL: <https://scholarlycommons.hcahealthcare.com/hca-healthcarejournal/styleguide.html>.

After the manuscript peer reviews are completed, the typical journal editor decisions are: accept with minor revisions, major revisions required, or reject. When major revisions are required, the manuscript is not accepted but may be accepted if suitable revisions are made. In this situation, authors should carefully respond to each reviewer's comment in a point-by-point fashion in a separate letter, providing a list of responses for the reviewer to assess. Authors should understand that reviewers are making suggestions based on their experience and knowledge. In most cases, the reviewer is trying to help the authors improve the manuscript, not being abusive or demeaning, but there are all too frequent cases of the latter.<sup>17</sup> In either case, the authors' responses to a reviewer should be polite and positive without being obsequious. Whenever possible, the authors should revise the manuscript as suggested by the reviewers or they must provide a careful explanation and their rationale when they disagree with the reviewer. Follow the journal instructions for uploading your revised manuscript and reviewer letter(s).

Despite the authors' best attempt to select a unique case, it may be rejected if it is poorly written or the editor or reviewers did not find it compelling. Do not get discouraged by rejection. Take the advice offered in the rejection letter and look for another journal that might better fit the case. It is also possible that a portion of the case, usually the images, could be published in a journal that features visual media or as a clinical image in the *HCA Healthcare Journal of Medicine*.



## A Final Checklist for Case Reports

The HCA Healthcare Journal of Medicine has created a checklist to ensure the submitted case report meets all the requirements for publication in the journal (**Appendix A**). The checklist includes the elements presented in this article, and completing it will help the editor to move the work more quickly to peer review.

### Conflicts of Interest

The authors declare that they have no conflicts of interest.

Dr Chait is an employee of HCA Florida JFK Hospital, a hospital affiliated with the journal's publisher.

Dr Michael G. Flynn and Graig Donini are employees of HCA Healthcare Graduate Medical Education, an organization affiliated with the journal's publisher.

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# HCA Healthcare Journal of Medicine

## Appendix A: HCA Healthcare Journal of Medicine Checklist for Case Reports<sup>18</sup>

Topic	Description	Reported on line	
<b>Cover Letter</b>	Submit a separate cover letter written to the editors should accompany the case report	Yes	No
<b>Title</b>	Provide a clear and concise description of the case that is not more than 15 words in length	_____	
<b>Keywords</b>	Provide up to 10 keywords, including the diagnosis and treatments	_____	
<b>Informed consent</b>	a. Is patient permission provided with the submission?	Yes	No
	b. Is patient information, including images, de-identified?	Yes	No
<b>Abstract (shouldn't have citations)</b>	a. Background: illustrate the importance of the case/rationale for reporting it	_____	
	b. Case presentation: provide key details of patient's presentation	_____	
	c. Conclusion: illustrate the key elements of the case and its clinical impacts	_____	
<b>Introduction (should have citations)</b>	Describe the background of the case, including the disease or disorder, its typical presentation and progression, an explanation of the presentation, and whether it is a new disease	_____	
<b>Case presentation</b>	a. Patient information: Symptoms, relevant demographics, relevant medical history	_____	
	b. Clinical findings: physical exam and any images	_____	
	c. Assessments: testing and diagnosis	_____	
	d. Treatment: interventions and treatment plan	_____	
	e. Follow-up and prognosis: follow-up information and outcomes if available	_____	
<b>Discussion (should have citations)</b>	a. Describe other cases in the literature	_____	
	b. Distinguish key features of the case, highlight its uniqueness, and identify and compare the case to similar cases in the literature	_____	
<b>Conclusion</b>	Include a paragraph that provides the 'take home' message the case provides	_____	