REVIEW ARTICLE

Successful Manuscript Preparation: An Editorial Perspective

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Abstract

When you have finally completed your research, documented your findings, observations, conclusions and future considerations, the time has come to add your work to that of the larger nuclear cardiology community. But how can you share your work with other scientists? For a young physician new to the world of publishing, the task of putting together an illuminating, cohesive and yet succinct manuscript can appear daunting. Even so, the "publish or perish" imperative remains if you are to advance your career while contributing to the worldwide pool of knowledge, so try you must. Luckily, there are some concrete principles you can follow that will remove some of the mystery and, from an editorial point of view, improve your chances of having your manuscript accepted for submission. Presenting findings in a way that has the best possible chance of being accepted for publication means paying close attention to clarity, accuracy and suitability of both content, in terms of science, and presentation, in terms of language, style and format. This review will address the role that editing plays in the submission and publication process and will provide some practical approaches for improving your manuscript.
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For any written work, audience is one of the greatest considerations. Styling a document appropriately involves constantly bearing the reader in mind (1, 2). While neologisms and breezy speech patterns may be appropriate for popular discourse in the digital age (e.g., on social media or in blogs about myriad subjects), compilations of research findings demand more formality and technical exactitude given their educational and scientific importance and their expected gravitas. Through convention, scientific journals follow a fairly standard format for a very simple reason: readers and researchers need to be able to locate and process vast amounts of information as quickly and efficiently as possible. It is therefore important that information in a research manuscript be presented in a way that makes it clear as well as easy to find and understand.

If you are early in your career and hope to be published, you should be aware that every journal will have a set of "fields" into which information must be inserted (abstract, introduction, materials and methods, results, discussion, conclusions, etc.). They form the skeleton that must be fleshed out. Dividing your work up along those lines will also allow you to consider the presentation of each area separately and will help you avoid trying to "eat the whole elephant" at once.

Fill in the blanks

Within scientific manuscripts, each section will have its own logic (Table 1). The title should be descriptive but concise and precise, focusing on the novelty of the information presented (3).

As the first thing an editor looks at (after the title), the abstract is very important since it acts as an advertisement for what your article contains (1, 3, 4). The abstract should briefly state what you did and your main findings with just enough detail to pique a potential reader's attention. It should be interesting and easily understood, presenting the key results with minimal experimental details. Select keywords that are specific rather than general (4), and bear in mind that editors may assign reviewers for your manuscript based on the

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Table 1 Points for consideration in manuscript preparation

Section	Key issues
Title	・Concise but identifies subject matter ・No question marks ・No dashes
Abstract	・Brief synopsis of research findings ・Importance within existing research
Keywords	・Specific not general ・Not contained in name of journal ・Alphabetical order
Introduction	・Context of current research ・Research questions being addressed
Materials and methods	・Patient characteristics (including exclusion characteristics) ・Pharmaceuticals－types, brand, dose(s), frequency ・Equipment details
Results	・Exact results per patient population involved plus controls ・Results often summarized in table form
Discussion	・Analysis and interpretation of outcome(s)
Conclusions	・Final results, how they position research within overall community ・How they add novelty ・Future directions
References	・Use EndNote, Mendeley, RefWorks or Zotero to format
Conflict of interest	・Disclose any and all for every author
Acknowledgments	・All non-authors who have contributed to manuscript preparation
Sources of funding	・Disclose any grants or funding authors have received in relation to the study on which the article is based
Figures and tables	・Include examples of most important data in figure form, e.g., samples of imaging for imaging-related journals ・Follow maximum number of figures specified by journal ・Follow style conventions for titles, legends, abbreviations
Overall	・Body text in 12 point Times New Roman ・Text double-spaced ・Research and text peer-reviewed ・Language reviewed by native speaker of English ・Whole manuscript proofread

keywords you specify.

The introduction should give the context into which your research fits, while clearly pointing out how it adds to existing research in a way that is new and that adds value (1, 5-7). It should indicate the research questions or motivation for your study. These descriptions may attract the interest of a reviewer.

While the methods section may require a listing of patient groups according to condition, age, and so on (3, 4), as well as a chronology of dose administration and strength of a radiotracer, for example, the flow and narrative of the discussion section should be more general to specific in nature and should lead logically to the conclusions and future considerations sections (1, 4). Tables are used as in-document appendices to present actual results and data, while figures may present actual imagery samples or may be used to compare your results with values from previous work or theoretical values (4). Figures should be clear and as uncluttered as possible (Table 1) (2-4). The format of a graph should be appropriate to the data in question (e.g., pie chart vs. bar graph).

The discussion section should provide the “meat of the matter.”Against the backdrop of already established information from previous studies, details of materials, methodology, and patient populations, the discussion section briefly reiterates the main motivation(s) for the study and states the outcome(s) (4). It provides details of results or findings and an analysis and interpretation of these that should ultimately help position the study within the research of the larger nuclear cardiology or scientific community, including how it is significant or useful (4).

The acknowledgments section should note help provided by anyone not listed as a co-author. Any grants, including organization and grant number, or other funders that have provided compensation should be listed under sources of funding (4).

For the overall article format, follow very carefully the instructions for authors provided by the individual journal (1, 3, 4). Not following the format specified for a particular journal may be taken as carelessness on the part of the author, and reviewers may meet such a lack of attention to detail with

a commensurate lack of enthusiasm for reviewing the submitted article. In this regard, manuscript formatting plays an important role in determining your success (1-3).

Read before you write

As is the case with any writing, a good example is a good teacher. Thoroughly and regularly reading the work of respected experts in your field, as presented in authoritative sources with high impact factor, is not only necessary to expand your subject-matter knowledge but is also a good way to learn how a research paper is put together and to absorb set forms and concise and effective ways of expressing findings (2, 6, 8). As Philip E. Bourne, editor-in-chief of *PLOS Computational Biology* recommends, “Read many papers, and learn from both the good and the bad work of others” (8). With the vast number of studies vying for publication and the limited number of pages available in any journal, economy of speech is paramount (1). Contrary to the practice in many other areas of writing and publishing, given the audience for and the nature of a specialized medical journal, the use of jargon, short forms and well-known acronyms is acceptable provided no room is left for ambiguity. Good writing is timeless, and the same holds true for research presentation. Findings should be presented in an easy-to-read yet suitably formal manner. For both native and non-native English speakers, the substance of a manuscript should be the star of the piece and should not be overshadowed by trendy, antiquated or clichéd usages of language, any of which can be halting and distracting to a reader and off-putting to a reviewer. While being clear about your purpose, you should not make statements that are overly emphatic or opinionated, but instead should use nuanced language. Words like “may” and “might” are less likely to be objectionable to reviewers than are those such as “definitely” or “the very best” when used in descriptions of your own work (5).

The devil is in the details

While the subject matter of your study will ultimately determine whether a journal chooses to accept your submission, your initial attention to some details of how it is presented may help smooth the path towards success (1-3, 8). Turning in an article that is as polished as possible is key. Ana Marusic, editor-in-chief of the *Croatian Medical Journal*, notes that “the essence of a good paper is science... but [sometimes] people do great things, but they manage to destroy [them] by very poor presentation” (7).

While the editing stage is important, trying to edit while you write will ultimately impede your productivity (1, 5, 6). Get the words into each section and then go back over them to begin the editing process (8). Read each section carefully and critically, and note passages with confusing or halting structures. Reword or reorder phrases as necessary to clarify your meaning. Once you have smoothed out the language as much as you can, leave your document for a day or two before going back to it. Read it once again to make sure it is clear, and then ask a colleague (preferably one who has been published) to read it over for sense and flow (and to point out any obvious scientific errors) (1, 3, 6). If you are submitting to an English-language journal and English is not your first language, ask a native English speaker to read it or, better yet, hire a professional English-language editor (3, 6). The expense will be well worth it in the long run. As Mary Jane Curry of the Margaret Warner Graduate School of Education and Human Development at the University of Rochester observes, “the pressure on scholars around the world to publish in English is really growing. A lot of governments and institutions do use it as a marker of quality” (9). Finally, following the checklist below will help remove many possible distractions and stylistic strikes against acceptance.

1. Ensure the accuracy of any quotations, spelling of names, organizations, equipment, and studies, and include appropriate units of measurement for any numerical values.
2. Verify that reference numbers in the text correctly correspond to those in the references section at the end of the article. Follow the particular journal’s usual formatting in the references section. Use a tool such as EndNote or Mendeley to help format your references (4, 5).
3. In most published work, specific terms should be used in full initially with abbreviations provided in parentheses immediately following and then used subsequently throughout. For example, initially write out “positron emission tomography (PET)” and then use “PET” throughout. Some journals require a separate list of abbreviations used in the article while others provide expansions of any abbreviations used in a table or figure as part of the legend for each. Pay attention to the exigencies of the journal in question.
4. Determine whether American or British English is being used and follow the appropriate spelling conventions.
5. In scientific journals, the use of 2 (instead of “two”) or Ann Nucl Med (instead of *Annals of Nuclear Medicine*) is not only acceptable but necessary to meet word or character limits. However, at the beginning of a sentence, numbers should be written in words instead of digits (“Sixteen” instead of “16”).
6. When submitting a manuscript, use Times New Roman 12 point font for body text, with minor modifications to font size for tables and figures as required to accommodate labels (which should be clearly legible

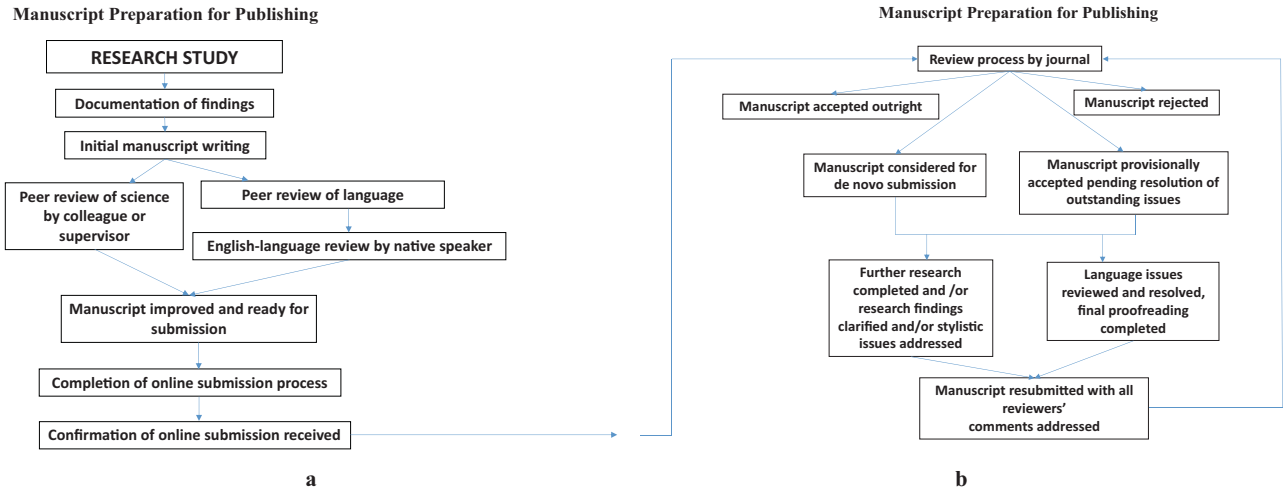

Fig. 1

a : The publication process from the time of initial research until original submission. In order to be accepted for publication, a manuscript must contain not just good science but findings documented in an acceptable format that is free from the distractions of stylistic and grammatical errors.

b : The publication process from time of confirmation of receipt until publication. Immediate acceptance for publication is extremely rare, and therefore it is to be expected that the manuscript will have to be resubmitted following initial review by the journal, and all questions and comments of reviewers will have to be satisfactorily addressed before the article will be reconsidered for publication. Perseverance and timely resubmission along with an improved manuscript will greatly increase chances of eventual publication.

in any case) (4) (Table 1). Manuscripts are normally double-spaced for submission.

7. To the extent possible, use consistent fonts on tables and figures (and make sure that point size is both uniform and big enough to read within labels). The same goes for figure and table legends. Observe and follow the journal's set formatting of headings for figures and table columns (centred, flush left, upper and lower cased, bolded, italicized, etc.).
8. Note the journal's format for reference notation within the body of the article (i.e., "…study[1]." "…study.[1]" "…study (1)." and so on).
9. Follow the publication's use of "et al" or "et al." or "*et al*" and "vs." or "vs" and "P=" or "*P*=" in the text, tables and figures.
10. Proofread, proofread, proofread. Before you hit the send button, make sure you give yourself the best outcome possible by sending in what you intend to (instead of discovering an error after the fact). Sometimes during document conversion from one file format to another (e.g., from Microsoft Word to Adobe PDF) within the online submission process, errors may be introduced. It is therefore important to closely examine the converted file before hitting the "submit" button. The same holds doubly true of the letter to the editor-in-chief that will accompany your submission. Take the time to make sure the name of the person you are addressing and the publication he or she represents are spelled correctly; it's worth the effort to get such a professional relationship off to the best possible start.

Your submission has been sent. Now what?

Once your article has been polished and proofread and sent, you should receive acknowledgment that it has been received for consideration by the journal. In the unlikely circumstance that after the manuscript undergoes initial review you learn that it is accepted for publication outright without any modifications (3, 10), you are to be congratulated. In the more realistic scenario in which reviewers have asked for certain issues to be resolved before further consideration will be given to publication, you can increase your chances of ultimate success by very carefully noting and responding to the comments of each reviewer, indicating within your response to the reviewers how (and specifically where within the article) you have addressed their points (Fig. 1) (1, 8, 10). Suggestions for things like a larger sample size or a more thorough literature review may cause you to go back to the basics with your research or your research colleagues, whereas a recommendation to have your work reviewed by a native speaker of English means there is still hope of publication if problem areas can be addressed. At a minimum, you would likely be able to improve the quality of your manuscript through having a colleague who is a native English speaker (and, ideally, who has had medical articles published) read through your work with a view to smoothing out any language-usage issues. The best-case scenario would be to hire a professional editor who is familiar with your subject matter. However, doing so cannot be left until the last minute. Time

must be allotted for a dialogue on the manuscript, as it goes from author to editor to author to editor until all issues are worked through (8).

If at first you don't succeed…

Getting published involves a learning curve just as does trying anything for the first time. While initially the process seems overwhelming, working with more experienced authors, as part of a team, helps build experience and confidence. Receiving a rejection notice is not the end of the world nor should it be viewed as a failure (3). The comments of reviewers should be taken as suggestions for improvement and can form the basis of better submissions to come (3). Experience, persistence and exactitude, along with a fundamentally sound research basis, will eventually lead to success (5, 6). As Philip Powell, managing editor of the *Information Systems Journal*, notes,"when you read published papers you see the published article, not the first draft, nor the first revise and resubmit, nor any of the intermediate versions －and you never see the failures" (1).

Conclusions

Having a published article will allow you to share your scientific findings with the world and may eventually gain you prestige and impact factor. Presenting your information in a way that is acceptable from an editorial perspective will help make getting published a reality.

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