Guide to Publication

This brief guide is intended to help you prepare papers for professional publication. Whether you are new to academic writing or an experienced writer, we invite you to review these suggestions. We hope that they help you enhance the quality of your writing and even your enjoyment of the process of getting your papers published.

To be a successful academic writer you must fulfill at least 2 general requirements:

1. You must have some ideas, findings or other information that are worth reporting
2. You must present your ideas, findings and information clearly and succinctly; in a manner that conforms to the expectations of the publication you hope will accept your work.

We deal with the first of these requirements (the *contents* of your writing) only briefly. We devote most of this document to the second requirement (the *presentation* of your writing).

Having Worthy Content to Offer

Content involves such matters as the worthiness, timeliness, uniqueness, generalizability and quality of the ideas, research findings, and other information that you intend to present in your paper. Many physicians and others devote years to learning the skills of thinking through ideas systematically and creatively, or doing worthy, reportable research. This brief document can't substitute for all the specialized experiences needed for becoming someone who develops information that is ready for publication, whether as a reflective practitioner who assembles fresh insights, a scientist who does worthy research, or a thinker who produces important new ideas.

Here we offer some questions that we suggest you ask yourself when beginning to prepare a new paper. These questions can help you review and refine whatever material you want to use, as the basis of a paper you hope will be published:

- Is the information I intend to present timely and up-to-date?
- Have I carefully reviewed the current and relevant literature?
- Have I acknowledged (cited) the foundation work done by others that underlies my work?
- Am I confident that all of the data and information I will present are accurate?
- Have I ensured that the facts that I will present are consistent?
- Have I provided the information readers will need for assessing the merits of my work or ideas?
- Have I provided the information readers will need if they want to try replicating my work?
- Has the research or other work on which my paper will be based been conducted according to widely accepted standards? If not, have I justified the non-standard procedures that I followed?
- Have I eliminated non-essential information and ideas?

- Does the information in the text match the information in the tables, figures and references?
- Have I followed (and reported) all of the requirements regarding the informed consent of patients or other subjects, if relevant for my work?
- (NOTE: The following suggestion is meant mainly for "idea pieces" and other non-research papers. Research reports should be able to stand on their own merits.) Have I identified my role (and the role of any co-authors) in the work described in the paper? Understanding your vantage point, your role in the project, your experience with the issues at hand, and your "right" to be making any assertions you offer helps reviewers and readers decide how much importance to attach to your presentation. Consider saying something early in the paper about your background with the topic and your responsibilities in doing whatever is the basis of your paper. This self-introduction should be matter-of-fact, neither boastful nor excessively self-effacing.
- Have I checked to ensure that my conclusions are all supported by (don't go beyond the limits of) the findings and background information that I have presented?
- Have I made clear how the findings and conclusions of my work are relevant to and can be applied in other conditions, situations or settings? (Am I confident that my conclusions can be generalized beyond the specific context in which they were developed? If so, have I been sufficiently clear and complete in specifying the circumstances to which my conclusions and recommendations apply?)
- Have I acknowledged the known and potential limitations of the work that I am presenting?
- Have I offered suggestions for follow-up and further work in this area when appropriate?

Presenting Your Paper

Presentation is concerned with the way you convey your findings, observations, ideas and conclusions. Although a well-done presentation rarely succeeds in overcoming deficient content, a poorly done presentation can keep worthy content from ever being published.

The following are some questions for your reflection as you prepare for and do the actual writing itself:

- Have I followed all of the Instructions (Guidelines) for Authors of the journal to which I intend to submit my paper?
- Have I stated my objectives clearly?
- Does my abstract contain a good, clear summary of the key content of the paper?
- Does the journal expect/prefer a structured abstract? If so, have I structured my abstract appropriately? (See below for more about preparing a structured abstract.)
- Is the information in the paper presented in a logical, interesting way?
- Have I grouped similar ideas together?
- Are there effective transitions between the various segments of the paper?
- Have I used headings to help readers more easily follow the material I'm presenting?
- If there is more than one author, should the final paper be in one voice or a group voice?
- If I am the only author, have I made sure that the paper is in a consistent voice?

- Have I used an active rather than a passive voice whenever possible. ("The researchers found…" or, even better, "We found…" is the active voice. "It was found…" is the passive voice.)
- Have I made sure that when I use pronouns (e.g., it, they) the readers will be clear about what or to whom these words are referring?
- Have I removed any unnecessary redundancies?
- Have I removed unnecessary words, sentences and paragraphs?
- Have I carefully checked the grammar and spelling throughout the document?
- Have I checked every sentence to make sure that I have removed all possible sources of confusion, misunderstanding or ambiguity?

Presentation includes both macro and micro issues. "Macro" (global) issues include organization, sequence, clarity, and interest. "Micro" issues involve the detailed elements of writing, such as: grammar, sentence structure, vocabulary, spelling, "voice" choice, consistency and redundancy. In the sections that follow, we provide some detail in both these areas to help you fulfill the expectations implied in the list above.

Preparing For Writing

The following are some key steps that you need to take before doing any actual writing:

- Define your topic.
- Clarify your purposes.
- Identify and read what has already been written about your topic.
- Satisfy yourself (and perhaps some colleagues) that the article you propose to write will provide a worthy addition to existing knowledge and understandings in your field.
- Identify your intended audience.
- Identify the journals that are the most appropriate possible outlets for your work.
- Before choosing JSLS or any other journal as the potential outlet for your paper, make sure that you are familiar with the types of articles that journal publishes, the range of topics that tend to be covered over time, and the areas of professional interest of those who read the journal. You should seek as good a match as possible between the focus of your planned paper and the priorities of the journal you choose.
- Carefully study the journal's "Guidelines (Instructions) for Authors."

If you aren't sure that you understand every point made in the "Guidelines" document, ask a colleague, or write to the journal's editor and ask for clarification.

Types of Articles

Scientific medical journals publish numerous types of articles, including letters to the editor, editorials, news reports, case reports, review articles, commentaries, "think pieces", and research articles. The research article is the most common type of article published in medical journals. However, some medical and other scientific journals, such as engineering and humanities journals, may publish other types of articles and use different formats from those used in medical science journals. Before you begin writing, decide to which journal you want to submit your manuscript and study some recent copies of that journal. Decide what type of article you will

write and be sure to follow the appropriate format for that type of article, as published in your chosen journal. This preplanning will save you time later.

Outlining Your Paper

Plan your paper carefully before you begin any detailed writing. Unless you have a good reason for not doing so, follow the conventional organizational scheme used by most papers in your target journal, such as Introduction, Methods, Results, and Discussion, referred to as the so-called "IMRAD" format. This format, or some variation of it, is used by four leading internal medicine journals: the *British Medical Journal*, *JAMA*, *The Lancet*, and the *New England Journal of Medicine* for original research papers. IMRAD is also the organizational system recommended by the International Committee of Medical Journal Editors in the *Uniform Requirements for Manuscripts Submitted to Biomedical Journals*, to which many medical journals subscribe. The key point is that your organizational scheme should clarify, not obscure, the information and ideas you want to convey.

Reviewing & Editing Your Paper

Always review your paper multiple times and be ready to do several re-writes. Virtually all good writing is the result of careful re-writing. Postpone at least one re-write for several days or longer so that you can bring something of a "newcomer's" eyes to your review of your material. This strategy can help you find problems that may be sources of ambiguity and confusion to your paper's reviewers and readers. Almost all writers find that their first drafts are less clear than they need to be, or than they seemed when first drafted. Most of us tend to make unwarranted assumptions about other people's familiarity with information or perspectives that seem obvious to us while doing our initial writing.

We strongly recommend that you have one or more trusted colleagues, especially some who are experienced academic writers, review and comment on your draft document. Encourage them to be candid about all of their questions and concerns. Invite them to identify every word, phrase and sentence that is unclear and any structural problems that need attention. As you prepare your paper you need colleagues who will provide details and candor, not sweeping generalities or compliments.

Abstracts

Your abstract is important. It should provide readers with a condensed version of the primary information that is presented in your paper. It should succeed in helping readers decide if your paper is relevant to their interests. Most people read only those journal articles that have a title that captures their interest and an abstract that confirms the paper's relevance to their work or areas of concern. Abstracts can be either **structured** or **unstructured** and usually range from 50 to 300 words. Check the authors' guidelines of the journal to which you plan to submit your paper to determine if they require a specific type of abstract, and, if so, which type they require. For most current biomedical journals, your abstract needs to be "structured." Even if not required by the journal, structuring your abstract will likely improve your presentation. Appropriate structuring enhances reader comprehension and speeds up their decision about whether to read

the full paper. Structuring also increases the likelihood that they will actually read your abstract and your paper. Generally, the subheadings for a structured abstract are best when they are the same as the subheadings used in the paper itself. If you are writing an original research article for a medical journal, you should probably use the Introduction, Methods, Results and Discussion (IMRAD) structure. (See below for links to sites that explain IMRAD.) You are certainly free to use a modified set of subheadings in your abstract if you believe that communication will be better served by doing so. Be sure to check for and comply with your target journal's word limit for abstracts. An "unstructured" abstract is a well-developed paragraph with a topic sentence, several sentences describing the study, and a concluding sentence that tells the significance of the study findings. Neither structured nor unstructured abstracts should include references, figures, tables, sources, or information not included in the paper.

For Further Information

JSLS, Journal of the Society of Laparoendoscopic Surgeons primarily publishes original research articles about various aspects of newer procedures in minimally invasive surgery. JSLS authors' guidelines can be found at http://www.sls.org/i4a/pages/index.cfm?pageid=3320

For your research needs and for examples of the type and format of articles published in JSLS, click here to search the journal online.

For further general information about writing for biomedical journals, see the following:

American Medical Association. *Manual of Style: A Guide for Authors and Editors*. 9th ed. Baltimore, MD: Williams & Wilkins; 1998.

Council of Biology Editors. (1994). *Scientific Style and Format. The CBE Manual for Authors, Editors, and Publishers*. 6th ed. Cambridge, UK: Press Syndicate of the University of Cambridge

Day, Robert A. (1992). *Scientific English. A Guide for Scientists and Other Professionals*. Phoenix, AZ: Oryx Press

Day, Robert A. (1988) *How to Write & Publish a Scientific Paper*. 3rd ed. Phoenix, AZ: Oryx Press

Haynes RB, Mulrow CD, Huth EJ, Altman DG, Gardner MJ. (1990). *More informative abstracts revisited*. Ann Intern Med. 113:69-76.

Huth, Edward J. (1987). *Medical Style & Format. An International Manual for Authors, Editors, and Publishers*. Philadelphia, PA: ISI Press

Huth, Edward J. (1990). *How to Write and Publish Papers in the Medical Sciences*. 2nd ed. Baltimore, MD: Williams & Wilkins

Mackerle J. Linköping Institute of Technology, Linköping, Sweden. http://www.solid.ikp.liu.se/fe/JM/sld001.htm

IMRAD. For general information about this organizational approach, see:
http://www.wisc.edu/writing/Handbook/SciRep_Abstract.html

Sollaci LB, Pereira MG. The introduction, methods, results, and discussion (IMRAD) structure: A fifty-year survey. *J Med Libr Assoc*. 2004;92(3):364-371.

Uniform requirements for manuscripts submitted to biomedical journals: http://www.icmje.org/

University of Wisconsin. The Writing Center.
http://www.wisc.edu/writing/Handbook/ScienceReport.html

prepared by Hilliard Jason, MD, EdD and Jane Westberg, PhD
Clinical Professors, University of Colorado
Educational Consultants to the Society of Laparoendoscopic Surgeons