

# The Painful Publishing Process: A Request to Simplify Bureaucratic Requirements

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Publishing research is paramount to the advancement of medicine, and the peer-review process is critical for checks on research integrity. Although this process is over 300 years old and ubiquitous to scientific journals,<sup>1</sup> it remains decentralized and disjointed in a way that inhibits timely reporting of data. Many scientific journals require authors to format papers prior to submission, but this formatting is not standardized across journals. Formatting is arduous work—details that must be attended to prior to submission include line spacing, tables, and figures, among others. Attention to even minute details, such as whether superscripted numbers or parentheses are used for references, is required. Citation styles vary widely, from the American Psychological Association (APA), to Modern Language Association (MLA), to American Medical Association (AMA) style. Within six major anesthesiology-related journals, for example, four different reference styles and formatting requirements are requested (Table 1). After spending a day or more formatting a publication for submission, authors may be told days later the journal is not interested in publishing their article, and the time-intensive process of reformatting for another journal submission begins. This process is not cost effective, with an estimated US \$272–\$1400 per day lost in opportunity costs, costing the scientific community millions per year.<sup>3</sup> Further, in an era of increased scrutiny on publishing practices,<sup>4</sup> an inefficient submission process focuses energy away from assessing submission quality and integrity.

The current process adds unnecessary steps to academician workload at a time when burnout perception is high.<sup>5</sup> While manuscript formatting is not in and of itself a cause of burnout, young physicians in particular appear to be predisposed to burnout, and the pressure to publish

for academic promotion is a substantial factor in this trend.<sup>6</sup> Physician burnout leads to fewer publications—an estimated 14.9% reduction over a 15-year period in one specialty alone.<sup>7</sup> In the absence of burnout, these young researchers may contribute to higher quality publications compared to their more established peers, making the loss of scientific discovery even more marked.<sup>8</sup> A system that actively facilitates the process for publication, rather than unintentionally obstructs it, could be an encouragement for young researchers and boon to publication and promotion.

Publishers have many reasons for developing and maintaining the guidelines that exist including electronic and print formats that evolved independently, a desire to appear distinctive among the plethora of available journals, and a lack of individual responsibility to incur the cost and time required to initiate change. An industry that relies on independent authors to produce its content, however, has a collective incentive to maximize efficiency in order to allow those authors to focus more on the quality of the content they produce. A few journals are leading the way to change this burdensome process, such as the *Journal of Pain*. Articles are reviewed prior to formatting and authors are informed of the journal's interest in the manuscript. This pre-peer-review process minimizes unnecessary time spent by the authors on bureaucratic tasks, which can be particularly frustrating when they learn their publication is not accepted shortly thereafter. We suggest all journals move to this pre-review process. Manuscripts should be read by journals to determine their interest in the topic and research prior to the authors spending time formatting. Further, the manuscript format for submission should be standardized. A multidisciplinary task force should be created to make recommendations for a standardized format to be adopted across the scientific community. The authors suggest the format in Appendix A as a first draft of this effort. Publication requirements and formatting may appropriately vary between journals, but a standardized and efficient process would shift the step of meeting these requirements from the period before submission to a point after acceptance for publication.

Optimizing the publication process could decrease opportunity costs and academician burnout, increase

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**Table 1.** Selected author guidelines from six anesthesiology-related journals collected from submission websites.<sup>a</sup>

Journal (Publisher)	Sections	Reference Style	Citation Format	Submission Method	Other
<i>Anesthesiology</i> (Lippincott Williams & Wilkins)	Title page, structured abstract (most), body	Examples on website; list all authors	Numeral superscript	Editorial Manager®	Figures as .tif, .jpg, .pdf
<i>Anesthesia &amp; Analgesia</i> (Wolters Kluwer Health)	Title page, abstract (most), body	AMA style; list authors up to 6, then first 3 followed by et al.	Numeral superscript	Editorial Manager®	EQUATOR checklist required; figures as .tif, .jpeg, .pdf, .pptx
<i>Regional Anesthesia and Pain Medicine</i> (Wolters Kluwer Health)	Title page, abstract, body	Examples on website; list authors up to 6, then first 3 followed by et al.	Numeral superscript	Editorial Manager®	EQUATOR checklist required; figures as .tif, .eps, .jpg, .pdf, .ppt, .doc
<i>Critical Care Medicine</i> (Wolters Kluwer Health)	Title page, structured abstract, body	Examples on website; refer to ICMJE.com	Numeral in parentheses in line with text	Editorial Manager®	Figures as .tif, .eps
<i>Pediatric Anesthesia</i> (Wiley)	Title page, structured abstract or summary, body	AMA style	Numeral superscript	ScholarOne Manuscripts™	Figures as .tif, .eps
<i>Journal of Clinical Anesthesia</i> (Elsevier)	Title page, structured abstract, body with numbered subsections	Examples on website; see ref. 2; list first 6 authors	Numeral in brackets in line with text	https://www.Evise.com	Figures as .eps, .pdf, .tiff, .jpeg

<sup>a</sup>AMA = American Medical Association, EQUATOR = Enhancing the Quality and Transparency of health Research Network.

physician satisfaction and the rate of research publication, and advance the field of medicine. As young scientists, we would like to initiate the conversation and request this positive peer-reviewed manuscript publishing system change. We request all scientific journals agree to a standardized submission format so we can focus on contributing to scientific knowledge and innovation.

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## **Appendix A. Suggestions for Standardized Manuscript Submission Format**

### Title Page

Author names in order of authorship, affiliations, author contributions, keywords, word counts, conflict of interest statement, manuscript type.

Abstract

Introduction

Methods

Results

Discussion

Conclusions

References and acknowledgements

References in National Library of Medicine (NLM) format  
(see <http://www.nlm.nih.gov/citingmedicine>)

Tables

Figures (submitted separately in .tiff, .jpeg, or .pdf)

Appendices

All manuscripts should be in .doc format, double spaced, use Times News Roman font size 12, and have page numbers.