Advantages and Potential Dangers of Presentation Before Publication

Third in a Series on Editorship

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In all fields of medicine, many investigators choose to present their research at scientific meetings before publication. In ophthalmology, a variety of organizations provide venues for such presentations, for example, at the annual meetings of the Association for Research in Vision and Ophthalmology or the American Academy of Ophthalmology. Presentations at scientific meetings provide an important venue for researchers to share their methods, results, and conclusions with some of their peers. Valuable feedback may result in the adoption of different methods, analysis of additional results, or restructuring of conclusions. The end result may be that the scientific community benefits as the work is refined and improved before publication.

**POTENTIAL DANGERS OF SCIENTIFIC PRESENTATIONS**

Scientific writers for the public (eg, newspaper reporters) or for eye care professionals (eg, writers for commercial publications, sometimes termed “tabloids” or “throwaway” journals, usually with little or no peer-review process) may publish information from scientific presentations. Information published in tabloids from scientific presentations often includes “top-line” results or brief summaries that may appeal to busy physician readers, but it usually does not include detailed methods or discussion of potential limitations of the research methods. Routine publication of research results from scientific presentations in non–peer-reviewed formats before publication in peer-reviewed journals could potentially endanger the viability of peer-reviewed journals.

How could that happen? If research is published in a newspaper or tabloid, then that newspaper or tabloid retains the copyright to the material. Publication of the material in a journal after it has been published elsewhere without permission of the entity that holds the copyright would be redundant or duplicate publication and would be a copyright infringement by the journal under US law. The mission of the newspaper or tabloid may be in conflict with the mission of the peer-reviewed scientific journal. Thus, the newspaper or tabloid may not grant permission for publication, or may grant publication with certain stipulations that may be in conflict with suggested revisions from the peer-review process. We are unaware of whether this concept has ever been the pretext for a copyright dispute, but it could be.

Even if the research is subsequently submitted for publication in a peer-reviewed journal with permission of the prior entity that holds the copyright, the material would not be original, and, therefore, the scientific community may be less likely to read the article in the journal. Readers of peer-reviewed journals assume that the material they are reading is original, peer reviewed, and not previously published (unless there is a clear statement to the contrary). If the scientific community no longer needs to purchase the services (publications) of peer-reviewed journals, the journals may not be able to survive economically.

What is so bad about not having peer-reviewed journals? Why not just get printed results of scientific investigations from sources that do not have peer review? Without a peer-review process...
available for the scientific community, the quality of scientific publications may diminish (few people submit a perfect paper that is not improved by the peer-review process). Peer reviews are provided by physicians and scientists who presumably have been trained to evaluate scientific methods critically and judge whether conclusions are warranted by the methods and results reported by the manuscript's authors. The authors of a manuscript submitted for publication in a peer-reviewed journal should benefit from an unbiased evaluation by journal reviewers; these reviewers should bring additional expertise to the authors' submission that presumably results in an improved manuscript credited to the authors. Readers of peer-reviewed publications also can benefit from peer review; specifically, readers should recognize that the articles they read in peer-reviewed journals have undergone a review independent of the articles' authors, potentially resulting in improved manuscripts based on these unbiased reviews.

Thus, publication of material from a scientific meeting in a format that is not peer reviewed before publication of the material in a peer-reviewed journal threatens the viability of peer-reviewed journals; loss of peer-reviewed journals would weaken the quality of literature available to the scientific community.

The critical, independent, expert evaluation provided by peer-reviewed journals usually is not a major concern of newspapers, tabloids, or, for that matter, the lay public. The process of organizing, reviewing, revising, and reporting medical research in full detail that results in a successful peer-reviewed journal submission is an integral part of clinical research, essential to quality control. Without journals that have peer review, publication could be determined by other, less scientific criteria, for example, which industry supplies the greatest financial support to a particular tabloid, or which result appears most sensational, regardless of whether the sensational results have scientific validity.

We agree with comments from a previous publication by Woloshin and Schwartz, who noted that data presented at scientific meetings before a peer review often use formats that may exaggerate the perceived importance of findings. Moreover, coverage of abstracts at scientific meetings or coverage of results in the peer-reviewed literature often receive substantial attention in high-profile media because the information is new and available to the public for the first time.

Unfortunately, the coverage is often incomplete, inaccurate, or both. For example, when the National Emphysema Treatment Trial Research Group presented and published results on study participants who were at high risk of death after lung-volume–reduction surgery, the title “Patients at High Risk of Death After Lung-Volume–Reduction Surgery” was interpreted as “Patients [Are] at High Risk . . .” rather than “Patients [Who Are] at High Risk. . .”. The Wall Street Journal headline read, “Study Casts Doubt on Surgery Used Against Emphysema,” and the article stated, “An increasingly used surgery . . . actually did more harm than good in a group of patients with very severe disease.” The results in the peer-reviewed publication had a different message:

... [W]e have identified a combination of physiological and radiographic characteristics in a group of patients with emphysema that places them at high risk of death after lung-volume–reduction surgery and who also are unlikely to have large improvements in functional status or the quality of life as a result of this procedure.6

Not only might coverage of scientific presentations by newspapers or tabloids be incomplete or inaccurate, but also a considerable number of abstracts or presentations remain unpublished in any of 25,000 medical journals, suggesting that they were judged not to be valid when subjected to a peer-review process.

Because oral presentations of scientific studies are allotted limited time (often 8 to 10 minutes at major ophthalmology meetings), the material presented at a scientific meeting often represents only part of the research story. For example, when randomized clinical trials are reported on, a detailed presentation of the methods, results, and conclusions usually is to follow the Consolidated Standards of Reporting Trials (CONSORT) statement. The specific information provided by these guidelines may expose potential biases or weaknesses and could affect the validity of the results or justification of the conclusions. Platform presentations usually do not provide enough time or adequate structure to present all of this information. The written publication is needed for such reports. The more complete reports may not be of interest to a newspaper or tabloid but are critical to the understanding of randomized clinical trial results, which represent one of the strongest lines of evidence that impact treatment of common conditions.

JOURNALS' POTENTIAL SOLUTIONS TO MINIMIZE DUPLICATE OR PRIOR PUBLICATION

To protect the viability of peer-reviewed journals in ophthalmology such as the American Journal of Ophthalmology, the Archives of Ophthalmology, and Ophthalmology, these journals follow the Ingelfinger rule and its revisions, first proposed in the 1970s by Franz Ingelfinger, an editor of the New England Journal of Medicine. The Ingelfinger rule stated that the New England Journal of Medicine would not publish a research report that already had been presented substantively elsewhere. Presumably, the definition of substantively must be determined on a case-by-case basis by the journal's editor. Extrapolating from this rule, only original material that has not been presented substantively elsewhere will be published in most peer-reviewed journals, including the American Journal of Ophthalmology, the Archives of Ophthalmology, and Ophthalmology. Authors should not distribute e-prints, preprints, or reprints of an article into the public domain before publication in a journal.

When authors submit material for publication in a peer-reviewed journal, they must transmit copyright of their material to that
journal. Authors also have the opportunity and responsibility to report when material has been presented at a scientific forum; journals will publish this information as an acknowledgment. Submission of presented material elsewhere simultaneously with submission to the journal (potentially resulting in a duplicate publication) or publication of this material elsewhere before submission to the journal (prior publication) threatens the viability of the journal for reasons described previously. Also as explained earlier, loss of peer-reviewed journals likely would not be desirable for authors and readers of a manuscript. Publication of the material (duplicate and prior publication) after transmitting copyright to a journal without permission of the journal that holds the copyright would be a copyright infringement under US law.

Some people perceive that the controls over publication desired by the peer-reviewed journals provide unwarranted influence for the editors of these journals on the shaping of public health policy.9,10 The rules against duplicate or prior publication may alter what scientists and clinicians, desiring to publish, choose to present at scientific meetings and in interviews, before submission of their manuscript. Therefore, journals could be criticized as indirectly controlling what and when important information related to clinical care is disclosed. This approach could restrict free flow of information to the public.

Publishers of peer-reviewed journals, including those of the American Journal of Ophthalmology, the Archives of Ophthalmology, and Ophthalmology, have undertaken many steps to try to minimize such restrictions without jeopardizing the perceived benefits of having peer-reviewed journals. To assist newspapers with their mission of presenting new scientific information in a timely fashion, publishers of peer-reviewed journals often provide embargoed information to science writers with the understanding that the information not be reproduced until after publication of the peer-reviewed information. This embargo process allows a reporter the opportunity to investigate and prepare reports and potentially make them more accurate and understandable for the reporter’s readers. Writers who break this embargo, though, risk losing the privilege of receiving future embargoed information. For ophthalmic clinical trials, this approach often allows eye care professionals to receive the information at the same time that the information is disseminated to the public by science writers for the press. For nonhuman studies research, this approach also disseminates new findings fairly, so that science writers for the press do not share the information before access through the peer-reviewed journals is available.

In addition, when very rapid publication is judged (eg, by the National Institutes of Health of the US Department of Health and Human Services) to be essential for scientific progress or public health reasons, some journals provide a structured expedited peer review and publication process (eg, Archives Express for the Archives of Ophthalmology). Furthermore, Internet access for selected, copyedited manuscripts before their printed publications is provided in the American Journal of Ophthalmology and soon will be available in Ophthalmology. Summaries of selected publications in Ophthalmology are also available through the American Academy of Ophthalmology’s EyeNet magazine and Academy Express e-mail. These options provide a mechanism for an article or parts of it to appear before the print publication without endangering the viability of the peer-reviewed journal that might be threatened by other, less structured approaches to disseminating scientific results in newspapers or tabloids.

SUGGESTIONS FOR RESEARCH PRESENTERS AT SCIENTIFIC MEETINGS

We believe that most eye care professionals and researchers want to preserve the peer review process of scientific journals for the reasons described earlier. What can presenters of research at scientific meetings do to preserve the mission of the peer-reviewed scientific journals when presenting information before publication of the material? First, most scientific meetings do not require that information be recorded by any means, so a researcher should not feel compelled to give permission to anyone to have material be recorded at a presentation prior to publication of the material being presented. Second, presenters who want to avoid duplicate or prior publication because they plan to submit information to a peer-reviewed journal should not share their slides, materials, or additional information with newspapers or tabloids before publication. If a science writer for a newspaper or tabloid asks for slides, materials, or additional information from a presentation, the presenter could ask the writer to make this request after the information has been published in the peer-reviewed literature. Third, if the presenter is given a preprint of a planned publication by a newspaper tabloid, the presenter again could ask the writer to withhold the information until after the information has been published in the peer-reviewed literature. Two of us (N.M.B. and A.P.S.) have made such requests successfully on numerous occasions; usually the writers for newspapers and tabloids want to maintain a positive relationship with the presenter so that they can get answers to questions that will assist them in providing an accurate story to their readers. Finally, editors, reviewers, authors, and readers of peer-reviewed journals who want to maintain the peer-review process should report violations of restrictions on duplicate publication to the journals.11 Such violations could result in public reprimand regarding copyright infringement at the least and may result in a presenter being subjected to greater scrutiny when future materials are considered for publication in the peer-reviewed journals.

In conclusion, presentations of research at scientific meetings are an excellent forum to shape the research and improve it through feedback received. This article is not meant in any way to discourage these presentations. However, the presenters at these meetings should be aware of the potential problems that may arise if the material presented is pub-
lished in a format that is not peer-reviewed before publication in a peer-reviewed journal. With adherence to these recommendations, however, those affected can maintain the usefulness of scientific presentations and the goals of newspapers and tabloids, as well as the viability of peer-reviewed journals.


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REFERENCES


We stumped you last month! The correct answer to our March challenge was orbital abscess due to infection following subtenon injection. For a complete discussion of this case, see the Clinicopathologic Reports, Case Reports, and Small Case Series section in the April ARCHIVES (Engelman CJ, Palmer JD, Egbert P. Orbital abscess following subtenon triamcinolone injection. Arch Ophthaml. 2004;122:654-655).

Be sure to visit the Archives of Ophthalmology Web site (http://www.archophthalmol.com) and try your hand at our Clinical Challenge Interactive Quiz. We invite visitors to make a diagnosis based on selected information from a case report or other feature scheduled to be published in the following month’s print edition of the ARCHIVES. The first visitor to e-mail our Web editors with the correct answer will be recognized in the print journal and on our Web site and will also be able to choose one of the following books published by AMA Press: Clinical Eye Atlas, Clinical Retina, or Users’ Guides to the Medical Literature.