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Peer-Review Essentials: Reviewing Manuscripts for the *Journal of VitreoRetinal Diseases*

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Abstract

The thoughtful process of peer review allows for the vetting and improvement of scientific work that leads to quality research and, eventually, advancement of the field of retina. Progress in medicine would not occur without dedicated researchers, but just as important are the peer reviewers who take the time assess their work, weigh in on their validity, and help bring these papers to life. Here, we discuss how to effectively review a journal manuscript in a way that helps both the beginning reviewer and the seasoned expert develop a framework to provide meaningful peer review. Although this guide was specifically written with *JVRD* aims in mind, these suggestions can be broadly applied to the process of manuscript review in general.

Keywords

JVRD, peer review, retina, research

Introduction

Peer review remains the cornerstone of scholarly communication, ensuring the rigor, integrity, and quality of published research. The process of peer review is a relatively recent phenomenon that began in the early 1900s, when medical journals began to outgrow the scope of knowledge that a single editor could reliably validate.[1] As medical literature became increasingly specialized, editors employed the assistance of expert peers to assess a work's suitability for publication. Since then, the process of scientific publication has become intrinsically tied to peer review.

As modern information becomes increasingly accessible, exciting, and instant, quality peer-reviewed literature plays a critical role in validating, to the best of our abilities, the science that we are putting out into the world. Peer review is quite time-intensive. Indeed, new phenomena such as preprint repositories, non-peer-reviewed online publications, and social media are becoming progressively prevalent ways to disseminate knowledge rapidly and effectively. However, peer review remains the gold standard to publish information that has been validated by impartial and knowledgeable experts, and its survival is critical to the maintenance of scientific integrity. We are fortunate in the field of retina to have many experienced reviewers and colleagues who choose to contribute their time and expertise to uphold the peer-review process. Here, we suggest some guidelines for approaching manuscript review to provide meaningful, helpful, and ethical review of submitted research works.

Role of the Peer Reviewer

The goals of peer review are to assess the validity of a scientific work, to reduce bias and improve the quality of a manuscript, and to help maintain the integrity of the journal and scientific knowledge. Reviewers play an important role in improving a work by suggesting changes and ideas that will enhance the clarity and coherence of a paper. In turn, this process benefits reviewers by keeping them current on cutting-edge research, improving their own research and writing skills, and allowing them to play a substantial role in the process leading to high-quality research in the scientific and clinical community. Any author who contributes a scientific publication essentially becomes a "peer" and can therefore be expected to join the community of reviewers who make such communication possible.

Journal Specifics

JVRD uses single-blind peer review, which allows the author names to be known to the reviewer but not the other way

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around. This is in contrast to open peer review or double-blind peer review. The author names can be helpful when reviewing a paper to allow the work to be placed in the appropriate context of the researchers, institution, and geography. Furthermore, it allows for a more immediate identification of possible conflicts of interest that may exist. Keeping the reviewer names blinded, meanwhile, allows reviewers to provide honest feedback and recommendations without undue pressure or fear of repercussion.

The editorial staff first screens the submitted papers to ensure that the manuscript is potentially suitable for the peer-review process. The editor-in-chief selects the section editor who then selects appropriate reviewers. A minimum of 2 independent reviewers are typically selected for each manuscript.

Guidelines for Peer Reviewers

Before agreeing to review a paper, please ensure the following:

- *You are the appropriate reviewer for the manuscript.* Only agree to review manuscripts that are within your area of expertise so that you can perform a well-informed assessment and provide valuable feedback. The editors who have invited you are typically aware of your expertise and have specifically identified you as someone who could contribute to the peer-review process. Also, ensure that you can review the paper in a timely manner so as not to delay the publication unnecessarily. This is especially important in the era of online-first publications. If you know that you are not planning on reviewing, a prompt declination is appreciated so that other reviewers can be identified.
- *You agree to respect the confidentiality of the peer-review process.* Peer review is vital to science and relies on reviewers who are unwaveringly respectful of the confidentiality of the work of others. Do not discuss a submitted work with others before official publication.
- *You do not have any conflicts of interest.* Conflicts of interest can unfairly affect a decision on a manuscript submission. Please ensure that any affiliations, financial relationships, or competing research ideas do not positively or negatively influence a manuscript's review. If there are any questions about a potential conflict, please reach out to the section editor to discuss them. It is important to remain objective in the review.

When submitting a review of the paper, it is important that your comments and suggestions are organized in an effective manner. Feedback from *JVRD* reviewers is separated into two sections—1 that is confidential and viewable by the editors only, and 1 that is seen by both authors and editors. Confidential comments to the editor are helpful to report general concerns, such as that a paper does not meet basic standards for review, there are potential conflicts of interest, the reviewer has recommendations for language editing, or the reviewer requests statistical review. This section is also intended as a location for reviewers to provide a summary assessment of the manuscript and justifications for their recommendation to accept, revise, or reject.[2]

Comments to the authors are the most important part of the review. We suggest a templated approach that starts with an overall impression and lists suggestions by section. In general, aim to demonstrate that you have read the paper by being specific, objective, and constructive. Suggest any changes clearly in an organized fashion, and be explicit about what needs to be revised. You can use citations to justify your comments and suggestions when needed. Put yourself in the authors' shoes, and think about what kind of actionable feedback would be most useful.

A typical manuscript review should not require impractical amounts of time from the reviewer. It is not your job to rewrite the manuscript that requires significant editing. Your goal is to help the authors understand what issues have to be addressed to improve their manuscript. In general, time spent beyond 3 hours does not increase review quality as rated by editors and authors.[3]

Initial Impressions

By the time a paper has made it to the *JVRD* reviewer, it has undergone an initial screening process and been deemed potentially publishable by the section editor, which should save the reviewer from having to review works that have glaring issues or are inappropriately submitted. That being said, should a reviewer believe that a paper does not meet basic standards, he or she can communicate this to the section editors before further in-depth review. The initial impression entails evaluating the manuscript's adherence to journal guidelines, assessing its alignment with the journal's scope and objectives, and gauging its overall suitability for publication. This is also the time to perform a second check for potential conflicts of interest in regard to the reviewer based on the content of the work.

An initial quick read through of the paper is recommended to become acquainted with the work and answer general questions, such as the following:

- Why are the authors pursuing these research questions? Are the key messages clear?
- How does it contribute to our understanding of the field of retina?
- Does this work advance our knowledge of the subject and/or have the potential to improve clinical practice?
- Is the work novel, original, and valuable?
- Is this paper relevant and appropriate for a clinical retina journal such as *JVRD* and its mission statement?
- Is the language of the paper easy to understand? You may recommend that a paper undergo language editing services if the writing detracts from comprehension of the study. The reviewer need not spend unnecessary time correcting grammatical errors or typos.

Authors must disclose any potential conflicts of interest. Although the presence of a relationship or activity does not preclude publication, perceptions of conflict may erode reader

trust. Fully transparent disclosures are mandatory to allow readers to make their own judgments regarding potential conflicts and their impact on the credibility of a paper. International Committee of Medical Journal Editors (ICMJE) guidelines recommend that authors disclose relationships with commercial entities that have supported the work, any entity that could be viewed as having an interest in the general area of the work (in the past 36 months), or any personal, professional, political, or religious association that a reasonable reader would find possibly relevant.[4]

Look for major flaws with regard to factual errors or ethical issues. Ensure that the paper is original and not a duplication of previous work. Authors must disclose whether artificial intelligence or language models were used to assist in writing the paper.

In-Depth Review

After the initial impression, an in-depth analysis of the paper in a systematic manner is performed by reviewing individual sections.

Title, Keywords, and Article Type

Do the title and keywords reflect the content of the paper appropriately? Is the title objective and substantiated by content? Is the paper an appropriate length? Is the paper submitted under the appropriate type? Papers that were not invited for submission by the journal may be submitted as 1 of the 3 following categories: original manuscript, case report, or case series. Original manuscripts are clinical research papers that include a patient cohort(s) of sufficient size to allow valid statistical analysis. For the purposes of *JVRD* submission, a case report can include up to 3 separate cases, while a case series is a grouping of more than 3 similar case studies. Paper categories that are not accepted without invitation by the journal include literature reviews, policy papers, letters to the editor, editorials, opinion articles, retina controversies, and clinical practice guidelines.

Abstract

The abstract is arguably the most important portion of the paper because it is what most readers will access. Is the abstract clear, well-written, and structured? Is it a concise representation of the content of the paper? The results section must present sufficient data so that a reader can quickly understand the study findings because many readers may view only the abstract. Are the conclusions supported by the data?

Introduction

The introduction should allow readers who do not have an intimate knowledge of the topic to understand the context, existing questions, and aim of the study. Literature reviews should remain relevant and focused. Ensure that the authors appropriately and correctly cite primary studies.

Methods

In general, the methods section is the portion of a paper that requires the most attention from the reviewer. Make note of your initial impressions of the study design and ensure that the methods are presented in a manner that allows readers without an intricate understanding of the topic to follow. Note what assumptions the authors made in designing their study and whether they seem appropriate.

You may be asked to review articles of varying methodologies. There exists a widely accepted hierarchy of levels of evidence, with randomized controlled trials at the top.[5] Although randomized controlled trials are often most suitable to determine causal relationships, the evidence level does not automatically imply the quality of a given paper. Reviewers should assess each individual submission's methodology carefully and compare it with the existing literature. Articles of any kind, including prospective cohort studies, retrospective case-control studies, case series, and single case reports, may all contribute to the field if they are novel and thoughtfully conceived.

Authors of prospective studies should include enough information on their study design, sampling and randomization methods, and data retrieval to convince the reviewer that efforts were made to limit biases. Current reporting standards for randomized clinical trials defined by the Consolidated Standards of Reporting Trials (CONSORT) criteria should be followed,[6] and reviewers can ask for clarification from the authors if desired as part of their peer review.

A large proportion of submissions are performed through medical chart review. One must keep in mind that the electronic medical record is not primarily designed for research. Authors should provide information on how cases were selected, how data were abstracted from the medical record, and whether steps were taken to ensure the accuracy of data collection.

The methods section should include a clearly stated hypothesis and study design. Authors should clearly define primary outcomes that are clinically relevant if possible, and any surrogate outcomes that are used should be well-linked to clinically relevant ones in the literature. Samples should be adequately powered to study the question they are attempting to answer. In some situations (rare diseases or presentations), sample sizes may be unavoidably small but still provide some valuable scientific or clinical insight.

Authors should demonstrate that the research has been conducted ethically and that any regulatory issues have been addressed. Case reports of a single patient may not require institutional review board (IRB) approval, depending on the institution.[7] All other papers reporting animal and/or human studies must have received (or waived) approval from the relevant ethics committee or IRB, with the full name and institution of the review committee given and ideally the approval

number documented. Patient informed consent should have been obtained when applicable.

Authors should clearly state inclusion and exclusion criteria that help limit biases and capture a sample reasonably reflective of the study. Make note of whether patient follow-up is adequate to support the claims the authors are making. If a significant number of patients were lost to follow-up, were the demographics of these patients similar to those who did follow up? Consider potential reasons for patients being lost to follow-up, and be wary of attrition bias.

Some reviewers may not feel comfortable assessing the quality of the statistical tools used in a study. This does not necessarily indicate that you are an inappropriate reviewer; you may review the paper for its other merits and recommend that a statistician review the details of the analysis to assist with the review. Be on the lookout for major flaws such as insufficient data, statistical methods that are incorrectly used to analyze the data, and unclear or contradictory data.

For smaller samples, unexpected outliers and asymmetry of data distribution may skew results unless nonparametric statistical testing is used. A few examples of commonly used nonparametric statistical tests include the Wilcoxon signed rank test and the Spearman rank correlation coefficient. Conversely, using parametric statistical testing in a large sample with likely normal distribution is preferred.[8] In general, small samples or skewed data should be described with the median and interquartile range as opposed to the mean and standard deviation.

Many papers attempt to include the data from both eyes of a single patient. It is important that authors correct for any inter-eye correlation because most traditional statistical methods assume that each datapoint is independent. It is still quite commonplace for even randomized clinical trials in popular journals to have not adequately accounted for this in the study design.[9,10] Some statistical tools to correct for inter-eye correlation include a mixed-effects model and generalized estimating equations. If the authors chose to include one eye of a patient when both eyes may have been eligible, a discussion on how the eye was selected is appropriate.

Results

Articles should include information on basic demographics. The data presented should be objective and relevant to the aforementioned aims. Ensure that the numbers add up to the appropriate totals and that analyses did not inadvertently leave out patients. Results should be properly formatted to facilitate comprehension. Reviewers may suggest a figure or table be created if that would improve understanding of the results; these may be preferred to text when presenting complex data and making comparisons. Are units and notations used correctly? For manuscripts regarding therapies and interventions, are the complications discussed?

Discussion/Conclusions

In *JVRD*, the discussion and conclusions appear under the heading "Conclusions." In general, the discussion is first, with the conclusions following.

The discussion should not be a mere reiteration of the results; instead, the data should be put into context of the authors' overarching question and goals. Have they expanded on the introduction to provide relevant citations of important papers? Do you follow the authors' logic? Are the conclusions backed by their data? A good discussion confirms similarities in the literature and expands on how their work differs from previously published manuscripts. Speculation should be kept reasonably limited and supported by data. Authors should demonstrate that they recognize the limitations of their study. A more complete and transparent discussion will allow readers to assess the credibility and generalizability of the work on their own.

Conclusions should summarize the key findings of the study, and hyperbole should be avoided. Unless the study was a randomized controlled trial, authors should refrain from making claims of causality. Studies should be appropriately powered to corroborate the conclusions the authors are drawing. To allow readers to make informed judgments, authors should clearly define their threshold of safety and efficacy if they are making such claims. Studies with smaller samples should be wary of calling a therapy safe simply because they reported no adverse outcomes. A commonly used mathematical "cheat" to estimate the true incidence of an adverse event is the following: If zero patients suffer an adverse event out of x sample size, the true rate of this event in the population is likely no more than $3/x$ (with 95% confidence).[11,12]

Tables and Figures

Ensure that any included tables and figures are concise. Are they helpful additions to the paper, or simply a reformatting of data presented elsewhere? Are the captions well-written and descriptive? It is important that figures can be understood with only their figure legend. Tables require significant space and therefore should be used judiciously. If all the data in a table can be described in a few lines, the table is not required.

References

Do not forget to review references to ensure their accuracy and appropriateness. In general, original research articles need no more than 20 to 30 references. Check that the authors have cited the correct primary work as opposed to "citing a citation." If there are other papers in the literature that the reviewer has missed, feel free to suggest them. It is not appropriate to expect the authors to cite every published study on the subject of their submission. We find it helpful to perform our own literature review on the topics as a way to stay informed, current, and aware of important papers to reference. This also serves to ensure that the submitted manuscript is novel. Any recommendations for additional citations should be made without personal bias of your own.

Reviewer Recommendation

Ultimately, a reviewer should decide whether they believe that the paper is appropriate for publication in *JVRD* or should be rejected. If the paper is not suitable for submission as-is (most

are not), are the ideas and work done by the authors worth developing further with either minor or major revisions? Ultimately, the section editors and editor-in-chief will make the final decision based on at least 2 reviewers' comments and recommendations in the context of other submissions, available journal space, and the timing of topics.

As a reviewer, ensure that your comments to the editor and authors match the final recommendation. It is confusing for the editor to receive a recommendation to "reject" a manuscript that has only positive comments attached to the review. Avoid making a "minor revision" recommendation if significant changes, such as reworking of study design, extensive reanalysis of data, major statistical revisions, or additional patient enrollment, are suggested. Even if the recommendation is to reject the manuscript for publication in *JVRD*, clear feedback helps educate the authors and improve their future research.

Finally, it is helpful for the editors to know whether you would be willing to review a revision of this manuscript (if you are recommending revisions). This is strongly encouraged as part of your role as the initial reviewer. These subsequent reviews of revised manuscripts are, in general, not as time-consuming because a point-by-point response to each comment is required from the manuscript authors. Upon receiving revisions, reviewers should be easily able to identify whether each concern or suggestion was addressed. New revision requests that were not made originally should usually be avoided unless there was a significant issue that was overlooked on the initial review.[13] Reviewers can decide whether the revisions and responses from the authors are adequate for acceptance, and if not, suggest further revisions or clarification.

Final Thoughts

Remember that this process is confidential and that you should refrain from discussing any work until it is published. The Reviewer-in-Training mentoring initiative allows new reviewers to become involved and learn from seasoned experts. A good reviewer is prompt, organized, detail-oriented, and provides ample justification and constructive feedback.

We value the essential work of peer reviewers who ensure publication excellence and drive quality research. Meaningful peer review is highly cherished by *JVRD*. We are grateful for your efforts and advice. Our reviewers help authors improve their research, our understanding of the field of retina and, ultimately, our patients.

Authors' Note

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Ethical Approval

This study was exempt from institutional review board/ethics board approval.

Statement of Informed Consent

Informed consent was waived for the present study.

Declaration of Conflicting Interests

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References

1. Burnham JC. The evolution of editorial peer review. *JAMA*. 1990; 263(10):1323-1329.
2. DeMaria AN. What constitutes a great review? *J Am Coll Cardiol*. 2003;42(7):1314-1315.
3. Black N, van Rooyen S, Godlee F, Smith R, Evans S. What makes a good reviewer and a good review for a general medical journal? *JAMA*. 1998;280(3):231-233.
4. Drazen JM, Van der Weyden MB, Sahni P, et al. Uniform format for disclosure of competing interests in ICMJE journals. *JAMA*. 2010;303(1):75-76.
5. Wang JJ, Attia J. Study designs in epidemiology and levels of evidence. *Am J Ophthalmol*. 2010;149(3):367-370.
6. Butcher NJ, Monsour A, Mew EJ, et al. Guidelines for reporting outcomes in trial reports: the CONSORT-outcomes 2022 extension. *JAMA*. 2022;328(22):2252-2264.
7. Panda M, Heath GW, Desbiens NA, Moffitt B. Research status of case reports for medical school institutional review boards. *JAMA*. 2007;298(11):1277-1278.
8. Mishra P, Pandey CM, Singh U, Keshri A, Sabaretnam M. Selection of appropriate statistical methods for data analysis. *Ann Card Anaesth*. 2019;22(3):297-301.
9. Dong R, Ying G. Characteristics of design and analysis of ophthalmic randomized controlled trials: a review of ophthalmic papers 2020–2021. *Ophthalmol Sci*. 2023;3(2):100266.
10. Lee CF, Cheng ACO, Fong DYT. Eyes or subjects: are ophthalmic randomized controlled trials properly designed and analyzed? *Ophthalmology*. 2012;119(4):869-872.
11. Schachat AP, Chambers WA, Liesegang TJ, Albert DA. Safe and effective. *Ophthalmology*. 2003;110(11):2073-2074.
12. Hanley JA, Lippman-Hand A. If nothing goes wrong, is everything all right? Interpreting zero numerators. *JAMA*. 1983;249(13):1743-1745.
13. Rosenfeld RM. How to review journal manuscripts. *Otolaryngol Head Neck Surg*. 2010;142(4):472-486.