

Information for Reviewers

Peer reviewers play an integral role in scholarly publishing. They help improve the quality and validity of both individual articles as well as the journals that publish those articles. Peer review feedback is indispensable in both helping authors revise manuscripts and assisting editors assess the suitability of a manuscript for publication.

Reviewers for the *Journal of the Advanced Practitioner in Oncology* (JADPRO) specialize in a variety of oncology topics and practice in different settings around the world. We thank you for your interest in being a part of our publication!

WHAT INFORMATION DO I NEED TO PROVIDE?

In order to best match your area of expertise with a manuscript under consideration, it would be helpful to provide the following:

- Your CV
- A short biography (a few sentences on your background, past/current role, any reviewing experience, particular interests, etc.)
- Key words to help us best pair your interest/expertise with the articles in need of review

Once you send these items to editor@advancedpractitioner.com, we will create an account for you on our online reviewer management system, ScholarOne.

HOW DOES THE JADPRO PEER REVIEW SYSTEM WORK?

All articles submitted to JADPRO are initially reviewed by the Editor-in-Chief or Associate Editors for relevance to the readership. Acceptance of all manuscripts is based on double-blind peer review by two or more reviewers. Authors and reviewers remain anonymous to each other. Manuscripts are reviewed for key concepts (e.g., topic relevance, importance to field of oncology, appropriateness of content for advanced practitioners, originality, quality and completeness of work, clarity, and priority of the article to the journal and JADPRO readership). The decision to publish any type of article is the sole responsibility of the Editors.

WHAT IS MY ROLE AS A PEER REVIEWER?

When the editors identify a manuscript in need of your input, you'll receive an email containing a link to the ScholarOne website.

You'll download a blinded (no identifying information included) PDF of the article, with line numbers inserted so you can specify to the author where a change is suggested. After you review the article, the system will ask you a few questions:

1. Does this paper present new and/or updated information that is evidence-based?
2. Is this paper appropriate and relevant to the needs of the advanced practitioner in oncology?
3. Does this paper exhibit any undue bias due to a particular product or drug?
4. Are there sections of this paper that could benefit from further explanation? Please describe.
5. Please choose your recommendation: Accept, Minor Revision, Major Revision, or Reject
6. Please list any confidential comments to the editor:
7. Please list any comments or suggestions for the author:

Please be aware that the author will only see the comments you put in the field for question 7. If you'd like to add any attachments (reference suggestions, PDF with electronic sticky notes, etc.), the system will let you do that. This is not required, but some reviewers like to provide more specific guidance.

WHAT IS THE TIME FRAME FOR A REVIEW?

The standard time frame for a peer review is 2 weeks, but if that does not work for your schedule, we will try to compromise on an appropriate time frame.

Every once in a while, we may appeal for a quick turnaround of a few days. However, that only occurs rarely, and you can feel free to decline the invitation.

Information for Reviewers

DO I HAVE TO REVIEW A CERTAIN NUMBER OF MANUSCRIPTS?

There is no obligation to accept a set amount of peer review invitations per year. We understand that you lead busy lives, and the number of times you decline does not affect your status as a peer reviewer.

WHAT ARE SOME EXAMPLES OF PEER REVIEW?

Below, you'll find an article from *JADPRO* on peer review and examples of peer reviews recommending acceptance, minor revision, and major revision, respectively.

Please email us at editor@advancedpractitioner.com if you have any questions!

Example of a Peer Review

Recommending Acceptance

MULTIDISCIPLINARY MANAGEMENT OF THE PATIENT WITH METASTATIC COLORECTAL ADENOCARCINOMA

Does this paper present new and/or updated information that is evidenced-based?

Yes, the author includes evidence-based information on the multi-disciplinary management of patients with metastatic colorectal carcinoma. However, some of the referred data are considered outdated (e.g. references under Surgical Resection on page 5).

Is this paper appropriate and relevant to the needs of the advanced practitioner in oncology?

Yes, APPs play a major role in multidisciplinary tumor conferences as discussed by the author, in particularly in providing unique clinical perspective that may impact care.

Does this paper exhibit any undue bias to a particular product or drug?

None

Do you believe there are sections of this paper that could benefit from further explanation? If yes, please describe.

Yes, but minor.

Case Review: why was liver resection not entertained as a option for recurrence (e.g. right hepatectomy)? if re-resection was not an option due to his recent cardiac arrest, then author should clarify that medical co-morbidities contributed significantly to multidisciplinary management and treatment options. There is definitely a role of liver- directed and/or loco-regional options, but the outcomes are generally inferior to complete resection of oligo- metastatic disease.

Surgical Resection (pg 5): should include more updated references, as 5 yo OS rates are greater than 50%, and recurrence rates are lower in the era of modern chemotherapy. Also, the cri-

teria for surgical resectability have also expanded in the era of modern chemotherapy (e.g. portal vein embolization, two-stage hepatectomy, etc.), allowing more patients to become candidates for complete resection.

Chemotherapy: (pg 7) nice summary. Systemic therapy remains the standard treatment for pts with metastatic disease. Not only has number of options expanded, but the response rates and outcomes have improved significantly. The benefits of chemo have impacted and expanded the number of local and loco-regional options (e.g. neoadjuvant, and adjuvant therapy).

Multidisciplinary Tumor Conference: nice paper to show benefits of multidisciplinary review. Are there any limitations or barriers to conference review? Is it ok if a consensus opinion is not reached, and how is this communicated to the patient? Is the conference opinion documented? What is the future role of MTC, and how might it change in the future?

Recommendation

Accept

Would you be willing to review a revision of this manuscript?

Yes

Confidential Comments to the Editor

See comments above.

Comments to the Author

Very nice paper, especially in regards to the role of multidisciplinary tumor conference in the management of patients with complex metastatic colorectal cancer. I also agree that APPs play a major role in the MTC.

I only have a few comments, and some suggestions:

Case Review: why was liver resection not entertained as a option for recurrence (e.g. right hepatectomy)? if re-resection was not an option due

to his recent cardiac arrest, then author should clarify that medical co-morbidities contributed significantly to multidisciplinary management and treatment options. There is definitely a role of liver- directed and/or loco-regional options, but the outcomes are generally inferior to complete resection of oligo-metastatic disease (e.g. high local recurrence rate after RFA).

Surgical Resection (pg 5): should include more updated references, as 5 yo OS rates are greater than 50%, and recurrence rates are lower in the era of modern chemotherapy. Also, the criteria for surgical resectability have also expanded in the era of modern chemotherapy (e.g. portal vein embolization, two-stage hepatectomy, etc), allowing more patients to become candidates for complete resection.

Chemotherapy: (pg 7) nice summary. Only a comment. Systemic therapy remains the standard

treatment for pts with metastatic disease. Not only has number of options expanded, but the response rates and long-term outcomes have improved significantly in era of modern chemo. The benefits of chemo have played a major role in expansion of surgical and loco-regional options (e.g. neoadjuvant, and adjuvant therapy). How about the impact of biomarkers on personalized management of patients with colorectal cancer? Do you see an integration of molecular analysis and gene profiling in the MTC in the future?

Multidisciplinary Tumor Conference: nice paper to show benefits of multidisciplinary review. Are there any limitations or barriers to conference review? Is it ok if a consensus opinion is not reached, and how is this communicated to the patient? Is the conference opinion documented? What is the future role of MTC, and how might it change in the future?

Example of a Peer Review

Recommending Minor Revision

HUMAN HERPESVIRUS-6 ENCEPHALITIS AFTER HEMATOPOIETIC STEM CELL TRANSPLANTATION

Does this paper present new and/or updated information that is evidenced-based?

Yes the author has made a great case for the evidence supports his/her conclusions.

Is this paper appropriate and relevant to the needs of the advanced practitioner in oncology?

Yes I work with BMT patients every day and this paper raised my awareness of this problem.

Does this paper exhibit any undue bias to a particular product or drug?

No

Do you believe there are sections of this paper that could benefit from further explanation? If yes, please describe.

Yes! Page 3 of 12 Line 11 and 12: Elaborate about the AML i.e. what percent blasts in the bone marrow, FAB type and specifically what were the cytogenetic abnormalities. Make a table for your standard 7+3 induction and 5+2 consolidation (because it is different in different places). Line 19,20 should say if she was in remission or not after her post treatment BM Bx. Line 21 should read “therefore she received...” Line 25 there is not a hyphen between mitis oralis Line 29 Her leukemia is not “aggressive” it is “high risk” for relapse which is the indication for the transplant. You have not made a case for an “aggressive” leukemia because she is in remission after one course of therapy and consolidation. Line 44-48 When did the patient because pancytopenic and develop oral mucositis? i.e. on Day + ??? the Mrs. L became appropriately pancytopenic. Line 52-54 The sentence about Her personality doesn’t make sense... it needs to be reworded. Page 4 Of 12 Line 8-10 elaborate on the de-

cision to do an LP in a patients who is pancytopenic and immunocompromised... what are the risks and benefits of doing this procedure? Lines 12-14 You need to say when these symptoms developed Day +?. Line 21-23 The sentence about Neurology was consulted is not a complete sentence..i.e an EEG which showed evidence of subclinical seizures. Line 25-29 eliminate “after transplant” you don’t need to say it twice. Also, engraftment doesn’t necessarily signify a successful HSCT... I don’t think you can say that because she only lived 48 days after transplant. Page 5 of 12 Line 20-23 The occurrence of reactivation of HHV6A in HSCT patients at 30-70% is mostly without clinical consequence correct? I think you need to say that or elaborate about the clinical consequence of the reactivation. My experience is that there are no clinical signs for the majority of patients that would even lead us to test for it. Encephalitis being an exception that we would be testing for the reason. Lines 39-46 Should you also talk about the incidence of sub-dural hematoma’s here? Since your patient had these and they contributed to her death? Line 54-56 and page 5 line 4. Reword this sentence add indirectly between been and associated and a period behind reactivation. take out everything after and including but.... Page 9 Line 19-21 I am not sure you can conclude this on your own without a reference citation... also the sentence has “will can” in it... it is one or the other not both.

Recommendation

Minor Revision

Would you be willing to review a revision of this manuscript?

Yes

Confidential Comments to the Editor

I think this paper with the revisions suggested will be an excellent article for JAPRO! Thanks for asking me to review it.

Comments to the Author

Excellent review of a very sad case. This is important for advanced practice SCT nurses to know. I would like to suggest just a few minor revisions:

Page 3 of 12

Line 11 and 12: Elaborate about the AML i.e. what percent blasts in the bone marrow, FAB type and specifically what were the cytogenetic abnormalities. Make a table for your standard 7+3 induction and 5+2 consolidation (because it is different in different places).

Line 19, 20 should say if she was in remission or not after her post treatment BM Bx.

Line 21 should read “therefore she received...”

Line 25 there is not a hyphen between mitis oralis

Line 29 Her leukemia is not “aggressive” it is “high risk” for relapse which is the indication for the transplant. You have not made a case for an “aggressive” leukemia because she is in remission after one course of therapy and consolidation.

Line 44-48 When did the patient become pancytopenic and develop oral mucositis? i.e. on Day + ??? Mrs. L became appropriately pancytopenic.

Line 52-54 The sentence about her personality doesn't make sense... it needs to be reworded.

Page 4 of 12

Line 8-10 Elaborate on the decision to do an LP in a patient who is pancytopenic and immunocompromised... what are the risks and benefits of doing this procedure?

Lines 12-14 You need to say when these symp-

toms developed Day +?.

Line 21-23 The sentence about Neurology was consulted is not a complete sentence, i.e., an EEG which showed evidence of subclinical seizures.

Line 25-29 eliminate “after transplant”-- you don't need to say it twice. Also, engraftment doesn't necessarily signify a successful HSCT... I don't think you can say that because she only lived 48 days after transplant.

Page 5 of 12

Line 20-23 The occurrence of reactivation of HHV6A in HSCT patients at 30-70% is mostly without clinical consequence, correct? I think you need to say that or elaborate about the clinical consequence of the reactivation. My experience is that there are no clinical signs for the majority of patients that would even lead us to test for it. (Encephalitis being an exception that we would be testing for the reason.)

Lines 39-46 Should you also talk about the incidence of subdural hematomas here, since your patient had these and they contributed to her death?

Line 54-56 and page 5 line 4. Reword this sentence. Add “indirectly” between “been” and “associated” and a period behind reactivation. Take out everything after and including but...

Page 9

Line 19-21 I am not sure you can conclude this on your own without a reference citation... also the sentence has “will can” in it... it is one or the other, not both.

Example of a Peer Review

Recommending Major Revision

USE OF FLOW CYTOMETRY IN CLINICAL NURSING

Does this paper present new and/or updated information that is evidenced-based?

Yes

Is this paper appropriate and relevant to the needs of the advanced practitioner in oncology?

Yes, most APs want additional information on complex diagnostics such as flow cytometry.

Does this paper exhibit any undue bias to a particular product or drug?

No

Do you believe there are sections of this paper that could benefit from further explanation? If yes, please describe.

Line 25: "For her breast cancer, she was treated with chemotherapy and radiation and continues on tretinoin (all trans-retinoic acid, ATRA) daily." ATRA is not a standard drug in breast cancer ... was this patient on a clinical trial? did she have triple negative breast cancer? How long do patients stay on ATRA? If the patient was diagnosed with breast cancer in 2006, was she treated with ATRA for 9 years (until present?) Typically the past medical history doesn't require much explanation, yet in this case, it is so unusual to be on ATRA for breast cancer, it would be valuable to give a few extra details for the reader. Or one could consider removing that part of the history since it doesn't contribute to the teaching point about flow cytometry?

Line 44: it is more common to use flow cytometry of a bone marrow aspirate to diagnose AML. If marrow is inaspirable, flow cytometry can be run on bone marrow biopsy but the biopsy specimen must be fresh (e.g., placed in saline). If the biopsy was placed in Bouin's solution, the cells are typically no longer viable to analyze by flow cytometry. It may be helpful to add to your paper

that the tissue must be fresh in order to make a suspension of cells to analyze by flow cytometry.

In the clinical applications section, I would place more emphasis on immunophenotyping since that is the major use for flow cytometry in oncology. Recommend clarifying that its use is predominately to diagnose hematolymphoid malignancies and it a routine diagnostic test for these conditions. May also want to mention its use for analysis of CSF to detect leptomeningeal involvement.

Since immunophenotyping is a major aspect of flow cytometry, it would be helpful to the reader if there was a chart listing some of the more common CD and the cells on which they are found: for example, CD3: T cells, CD 19: B cells, etc. In the text one could explain that there are panels of antibodies employed to test for various diseases: for example, a typical panel of markers used to evaluate for lymphocytes includes CD3, CD4, CD8, C19/20, and CD16/56.

Perhaps even a table with the recommended initial panels for initial evaluation of hematolymphoid malignancies from: <http://onlinelibrary.wiley.com/doi/10.1002/cyto.b.20363/epdf>

Lastly, an example of a flow cytometry report would also enhance the description of clinical uses of flow cytometry. Since this is a grand rounds, perhaps you could include the patient's flow cytometry report and explain the contents of the report and how it assisted with making the diagnosis.

Page 3 Line 14: Flow cytometry can be helpful in determining treatment plans based on characteristic data of tumor cells. Identifying breast cancer tumors that do or do not express hormone receptors on the tumor cell surface helps clinicians manage therapies. Breast cancer tumors with hormone receptors are managed differently than tumors without hormone receptors, and selection of therapies based on precise tumor type can improve survival duration (Barlogie et al., 1983).

Flow cytometry is not generally used for this purpose currently. Hormone receptor positivity is determined by immunohistochemical stain-

ing of fixed tissue. I recommend removing these 3 sentences.

Table 1: recommend differentiating between research use of flow cytometry versus standard of care. For example, flow cytometry is a routine part of the diagnostic work up for hematolymphoid malignancies. However, it is not a routine part of the work up for CAD. Most of the clinical applications in the table are in the context of a clinical trial and aren't part of the standard diagnostic workup for the disease.

Discussion section: Since many APs will be responsible for ordering the procedure and explaining the results to the patient, this section can be expanded to clarify how flow cytometry assists with diagnosis, how the results are interpreted, and the limitations of the analysis. It would also be valuable to mention that the flow cytometry findings are generally always interpreted with morphologic information. However, there are some situations where flow cytometry can be diagnostic on its own...for example peripheral blood flow cytometry can diagnose CLL without need for bone marrow biopsy and flow cytometry is more sensitive than cytology to identify leptomenigeal involvement with leukemia/lymphoma.

page 6 line 44: the examples of flow cytometry in nurse-led research fits better in the clinical application section. these applications are good examples of how flow cytometry is used to evaluate immune function be detection of immune cells

Recommendation

Major Revision

Would you be willing to review a revision of this manuscript?

Yes

Confidential Comments to the Editor

I think this is a good start to a paper but needs some major revisions to clarify what flow cytometry is and its role in diagnosis. Most importantly, it needs to be clarified that its role is predominately to diagnose hematolymphoid malignancies.

Comments to the Author

Flow cytometry is difficult to understand for many APs, particularly novice APs, so this paper is very

relevant. The discussion of flow cytometry technique clearly explains the process of performing the test. I appreciated that you broke down the process into understandable steps... not easy to do for such a complicated test!

Since this is a grand rounds paper, it would be helpful to the reader for you to expand on the when the test is indicated (standard for hematolymphoid malignancies, evaluation of CSF), what tissues can be tested, and how the test contributes to the diagnosis. Sharing the patient's full flow cytometry results and their interpretation would be a great way to circle back to your case and illustrate its role in the ultimate diagnosis of AML. It is important to also make it clear that flow cytometry is used widely and routinely in hematolymphoid malignancies; it is not routinely used for solid tumors. There are many clinical applications mentioned in the paper, which are interesting, yet are employed for research rather than standard diagnostic workup.

Some specific suggestions:

Line 25: "For her breast cancer, she was treated with chemotherapy and radiation and continues on tretinoin (all trans- retinoic acid, ATRA) daily." ATRA is not a standard drug in breast cancer... was this patient on a clinical trial? did she have triple-negative breast cancer? How long do patients stay on ATRA? If the patient was diagnosed with breast cancer in 2006, was she treated with ATRA for 9 years (until present?) Typically the past medical history doesn't require much explanation, yet in this case, it is so unusual to be on ATRA for breast cancer that it would be valuable to give a few extra details for the reader. Or one could consider removing that part of the history since it doesn't contribute to the teaching point about flow cytometry?

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In the clinical applications section, I would place more emphasis on immunophenotyping since that is the major use for flow cytometry in oncology. Recommend clarifying that its use is predominantly to diagnose hematolymphoid malignancies and it is a routine diagnostic test for these conditions. May also want to mention its use for analysis of CSF to detect leptomeningeal involvement.

Since immunophenotyping is a major aspect of flow cytometry, it would be helpful to the reader if there was a chart listing some of the more common CD and the cells on which they are found: for example, CD3: T cells; CD 19: B cells; etc. In the text you could explain that there are panels of antibodies employed to test for various diseases: for example, a typical panel of markers used to evaluate for lymphocytes includes CD3, CD4, CD8, C19/20, and CD16/56.

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Page 3 Line 14: I recommend removing these 3 sentences: "Flow cytometry can be helpful in determining treatment plans based on characteristic data of tumor cells. Identifying breast cancer tumors that do or do not express hormone receptors on the tumor cell surface helps clinicians manage therapies. Breast cancer tumors with hormone receptors are managed differently than tumors with-

out hormone receptors, and selection of therapies based on precise tumor type can improve survival duration (Barlogie et al., 1983)." Flow cytometry is not generally used for this purpose currently. Hormone receptor positivity is determined by immunohistochemical staining of fixed tissue. I recommend removing these 3 sentences.

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page 6 line 44: The examples of flow cytometry in nurse-led research fits better in the clinical application section. These applications are good examples of how flow cytometry is used to evaluate immune function by detection of immune cells.

Peer Review: Publication's Gold Standard

KELLEY D. MAYDEN, MSN, FNP, AOCNP®

The dissemination of valuable and novel scientific information provides the pulse for biomedical publishing. Scientific journals catalog the contributions, thoughts, and opinions of researchers, investigators, and experts in the field. Authors consider the reputation and quality of a journal prior to submitting a manuscript for consideration. It is reasonable to think that readers also consider journal prestige as a factor in journal selection. The prestige of a journal depends on the validity, usefulness, and quality of the articles published. This article will define and examine the peer-review process as well as explore the roles and responsibilities of the peer reviewer.

THE PEER-REVIEW PROCESS

Aside from its use in scientific journals, peer review is the process by which grants are allocated, academics are promoted, textbooks are written, and Nobel prizes are won (Smith, 2006). A publication that has been peer reviewed gains respectability and acceptance and is considered a relevant contribution to the

field. Publication in a peer-reviewed journal is an important criterion for admissibility of scientific evidence in courts of law (Kumar, 2009). The basis of the peer-review process is the acceptance of written investigational findings from an author or group of authors that are then forwarded to a group of experts (referees) in the field for assessment of their quality, accuracy, relevance, and novelty (Shuttleworth, 2009). Traditionally, these experts are not paid for their opinions and are not part of an editorial staff.

The goal of peer review is to determine if an article should or should not be published and to improve the article before publication (Neale & Bowman, 2006). It is a process that entails filtering out manuscripts that are misleading, irrelevant, inaccurate, or that contain potentially harmful content (Kumar, 2009). Once the peer-review process is complete (see Figure 1), the editor of a journal bears responsibility for its content and may choose to agree or disagree with the opinions of the reviewers (Garmel, 2010).

LIMITATIONS

Despite its acceptance as a critical part of quality control, peer review

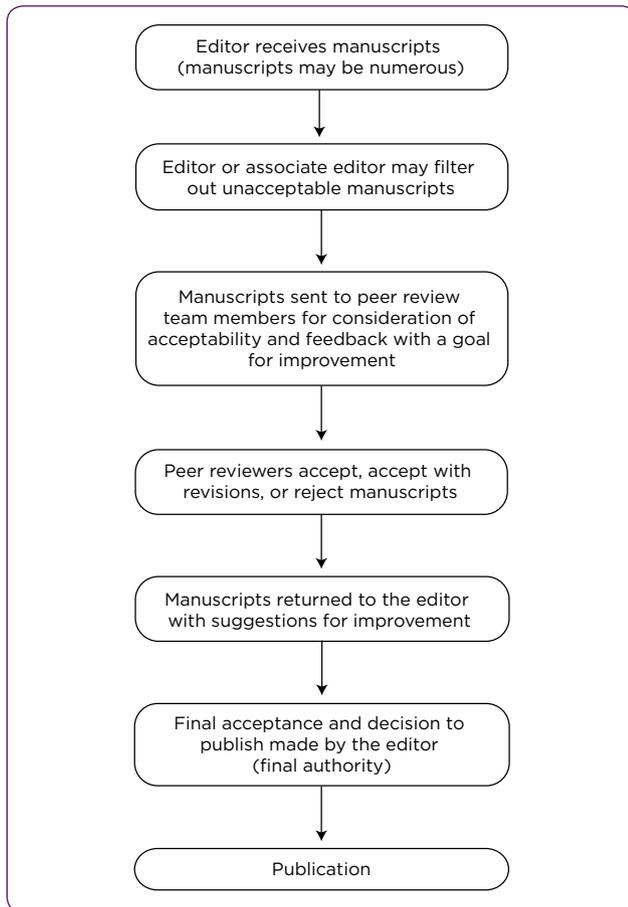


Figure 1. Key steps in the peer-review process.

is not a perfect process. In 2003, *The Cochrane Collaboration* published a review concluding that there is little evidence to support the use of editorial peer review as a mechanism to ensure quality of biomedical research, despite its widespread use and costs (Jefferson, Rudin, Brodney Folse, & Davidoff, 2007). There are few published, randomized controlled studies relating to peer review; therefore it remains ill-defined.

The peer-review process can be time consuming, costly, subject to reviewer bias, and inept at identifying fraudulent manuscripts. A well-known example of the failure of peer review is the publication of two fraudulent papers by Hwang Woo-Suk concerning stem cell research in the journal *Science* (Kumar, 2009).

In addition, there are no agreed-upon evidence-based guidelines as to what constitutes a qualified reviewer. A study examining the relationship of previous training and experience of journal peer reviewers to subsequent review

quality determined that no identifiable types of formal training or experience predicted reviewer performance. The authors suggest that journals implement routine review rating systems to periodically monitor the quality of their reviews (Callaham & Tercier, 2007).

Traditionally, the peer-review process has been conducted anonymously, with author and reviewer identities masked during the review process. Although this may protect reviewers from author demands and retaliation, reviewer anonymity is being debated and is under increasing scrutiny (Garmel, 2010; Leek, Taub, & Pineda, 2011). Early evidence supporting blind peer review (McNutt, Evans, Fletcher, & Fletcher, 1990) was later challenged by studies suggesting that such a practice made no editorially significant difference to review quality, publication recommendation, or time taken to review, but did increase the probability of reviewers declining to review (van Rooyen, Godlee, Evans, Smith, & Black, 1998; Justice, Cho, Winker, Berlin, & Rennie, 1998; van Rooyen, Godlee, Evans, Black & Smith, 1999). It is possible that an open process may increase cooperation between reviewers and authors and lead to a decreased risk of reviewing errors (Leek, Taub, & Pineda, 2011).

Some journals have already considered transition to open peer review. In 1999, the *British Medical Journal* adopted an open (signed) review system that remains in place today. Most recently, the journal has examined the effect of notifying reviewers that their signed reviews might be posted on the web. Their conclusion was that alerting peer reviewers that their signed reviews might be available in the public domain on the journal's website had no important effect on review quality but was associated with a high refusal rate (van Rooyen, Delamothe, & Evans, 2010). Other journals such as *Nature* and *The Public Library of Science* are revising old review criteria, creating open access, and examining public review (Editors of *The New Atlantis*, 2011).

One study examined the effects of adding a statistical peer reviewer and using a checklist of manuscript quality. The study showed a positive effect when a statistical reviewer was added to the field-expert peers, but no statistically significant positive effect was suggested by the use of reporting guidelines (Cobo et al., 2007). Additional alternative methods of peer review such as open peer review

without suppression of publication, postpublication review, a hybrid system (traditional with postpublication review), author-suggested peer review, author model of peer review, and peer review consortia have been discussed and explored in the literature (Kumar, 2009).

REVIEWER RESPONSIBILITIES

However ill-defined it may be, the peer-review process is still the gold standard that will continue to drive scholarly publication. Understandably, a large part of the responsibility for the success or failure of the peer-review process depends upon peer reviewers. A peer reviewer should be both a scholar and a scientist with complex analytical skills, which allows for the critical analysis of data in the interest of improved outcomes (Bearinger, 2006).

Peer review can be time consuming and laborious; therefore, accepting the responsibility of peer review requires commitment on the part of the reviewer. It should be viewed as a professional responsibility, not to be taken lightly, given that the end result determines what is relevant, in print, to a specific body of knowledge. Just as editors and journals respect their reviewers, often acknowledging their contributions publically, reviewers should respect the editor and the journal by producing a quality of work that is consistent with the journal's reputation and integrity.

Just as a surgeon would prepare for surgery, a reviewer must prepare for a review. First, it is important to understand a selected journal's mission and review criteria as they will be incorporated into manuscript review. Once an invitation to review is accepted, reviewers normally agree to complete the assigned manuscript review within a specified time frame. This is not only important to journals and editors who have publication deadlines, but to authors who eagerly await news of acceptance or rejection. Time is especially important in cases where the author is asked to consider recommended revisions prior to a final decision of acceptance or rejection. Second, reviewers must maintain confidentiality; using any information gained for self-interest or extracurricular professional discussion is unethical.

Given that a reviewer's authority to recommend a manuscript's acceptance or rejection

carries weight with an editor's final publication decision, careful consideration of the manuscript and each individual section is required prior to any such recommendation. A fair analysis requires a reviewer to have undisturbed focus, a discerning eye for detail, and knowledge of appropriate sectional content (see Table 1). It is im-

Table 1. Sectional Content for Manuscript Review

Abstract

- Brief, comprehensive summary of article contents
- Written in clear, concise language
- Includes the most important concepts, findings, implications
- Usually the first article contact for readers

Introduction

- Presents problem or concept under study
- Describes research strategy (not design)
- States hypotheses

Method

- Meticulous description of how the study was conducted
- Includes study criteria, variables, operational definitions
- Detailed enough to provide for study replication

Results

- Summarizes data and data analysis
- Includes results that are counter to positive study
- Good place for tables, graphs, charts for clarity

Discussion

- Opens with statement of support or nonsupport for hypothesis
- Explains and qualifies results
- Allows for inferences and conclusions
- States theoretical or practical consequences of results

Conclusion

- Summary of the problem, findings, implications
- Brief, concise, direct
- Conclusion supported by article data

References

- Conform to journal expectations/format
- Acknowledges previous scholarly work
- Information provides easy location of sourced material

Appendices

- Appropriate for brief material easily presented in print format
- May include headings or subheadings

Tables and figures

- Supplement not duplicate text
- Not appropriate for small amounts of data
- Class of information should be mentioned in the text

Note. Adapted from American Psychological Association (2010).

portant to consider if the information is accurate, understandable, valid, useful, and transparent. Grammar is important, and errors can be pointed out; however, the main concern for the reviewer is relevancy of manuscript content.

Table 2 provides a list of important questions to consider when reviewing a manuscript. A helpful resource to guide review is the CONSORT Statement. Updated in 2010, it provides guidance for reporting all randomized controlled trials (CONSORT, 2010). An additional resource is the EQUATOR Network (2012), an international initiative that seeks to improve the reliability and value of medical research literature by promoting transparent and accurate reporting of research studies.

All reviewers are subject to bias. Gender, patriotism, and linguistic preference have been shown to affect peer review (Kumar, 2009). Reviewers are more likely to favor manuscripts that are clearly written, are creative, demonstrate positive results, and have interesting titles, meanwhile rejecting manuscripts with negative results, multiple errors, and seasoned information (Garmel, 2010). It is possible that senior reviewers may reject their juniors; manuscripts from more prestigious institutions may be more readily accepted than those from lesser-known institutions (Kumar, 2009). Reviewers are responsible for disclosing biases that may hinder an impartial and balanced review. Lack of expertise in an area may not hinder review as useful comments may still be collected, but in

this circumstance, the editor should be informed that a lack of expertise exists (Garmel, 2010).

Once the review is complete, reviewers offer scholarly input with the intent to improve the manuscript. Feedback should be constructive and the critique professional and positive. When a reviewer provides feedback that enables authors to revise and resubmit a publishable paper, the peer-review process is working as intended (Bearinger, 2006). Length of the review is not as important as detailed suggestions for improvement. The review should begin with a recommendation for rejection, acceptance with minor revisions, or acceptance with major revisions. The reviewer should comment on the manuscript as a whole, then provide input on each individual section. Suggestions should be clear and provide direction. Comments should be detailed enough to assist authors with revisions but not so detailed that the manuscript is rewritten (Garmel, 2010). Reviewers should remember to comment on the appropriateness of the abstract and be certain it mirrors the content of the manuscript.

Reviewing provides an opportunity for learning and gaining exposure to cutting-edge research (Bearinger, 2006). Reviewing is a skill that requires critical thinking; it will improve with time, practice, personal research, and writing. A good reviewer is competent, knowledgeable, unbiased, objective, punctual, consistent, ethically sound, constructive, and maintains confidentiality (Garmel, 2010; Kumar, 2009).

Table 2. Important Questions to Consider When Reviewing a Manuscript

Does the manuscript present novel or important information?
Is the information relevant to the body of knowledge?
Is the information presented accurate and evidence-based?
Are references provided and what is the quality of the references?
Is the writing clear, concise, and logical?
Are manuscript structure and content formatted properly, including tables/figures?
Is the abstract descriptive of the message in the paper?
Are any bias or ethical concerns identified?
Are there any areas that could benefit from further explanation?
Are there any areas that could be deleted?
If research based, does the information presented allow for experiment duplication?

FEEDBACK

Reviewers, like authors, can benefit from feedback; they should welcome input from editors and experienced colleagues. Feedback is important for both new and seasoned reviewers. Editors at a specialty journal in the top 11% of the Institute of Scientific Information's bibliographic database (ranked by number of citations) performed a 14-year longitudinal study designed to evaluate change in the review quality of individual peer reviewers. The study found that over time most journal peer reviewers received lower quality scores for article assessment. Proposed reasons were cognitive changes, competing priorities, or escalating expectations (Callaham & McCulloch, 2011). Although it is not common practice, results such as these suggest that ongoing self-evaluation by the reviewer and validated reviewer evaluation on the part of the editor are important factors for ensuring quality peer review.

Reviewing is a professional privilege, and reviewers are advised to remember they are representing a journal and have responsibilities to authors (see Table 3), editors (see Table 4), and readers (see Table 5). Perhaps most importantly, reviewers are accountable to the medical community and the scientific body of knowledge impacted by their reviews.

CONCLUSION

While it is not a perfect process, traditional peer review remains the gold standard for evaluating and selecting quality scientific publications. Additional research and the development of evidenced-based guidelines are needed to govern this

Table 4. Reviewers' Responsibilities to Editors

Respond to the editors promptly if unable or unavailable to review a manuscript
Recommend names of other experts as potential reviewers if unavailable
Determine the scientific merit of the submission, with recommendations for acceptance or rejection
Identify opportunities to improve the manuscript
Point out potential ethical concerns about research methodologies or similarities with other papers or ongoing research
Acknowledge personal or author conflicts of interest and inform the editor of these

Note. Adapted, with permission, from Garmel (2010).

process, which is expected to evolve in the future. Peer review is both an art and a science largely dependent on the quality of its review body. Competent peer reviewers are experts in their field accountable to authors, editors, readers, and the medical community. Peer reviewers act as advocates, or referees, for authors and enable editors to make quality publication decisions. Peer review is a professional privilege and responsibility that

Table 5. Reviewers' Responsibilities to Readers

Ensure that published articles adhere to journal standards, as well as to standards of scientific practice
Protect readers from incorrect or flawed research
Identify missed references or erroneous citations (including misquoting or misinterpreting an author's findings)

Note. Adapted, with permission, from Garmel (2010).

Table 3. Reviewers' Responsibilities to Authors

Provide written, honest, and unbiased feedback in a timely manner
Express a critical opinion about the manuscript, as experts in the field, in a collegial and constructive manner
Comment on the style of writing, especially its clarity
Rate the work's detail, methodology, relevance, accuracy, and originality
Avoid comments or criticisms of a personal nature
Maintain professionalism and confidentiality, especially given the competitive nature of research, funding availability, and publication
Refrain from directly contacting authors without permission from the editor, unless the journal stipulates otherwise

Note. Reprinted, with permission, from Garmel (2010).

directly impacts what is accepted as important to a body of knowledge. Although the peer-review process can be time consuming and underappreciated, rewards such as mentorship, learning, exposure to cutting-edge research, and personal development make it a worthwhile investment.

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