

Revising a Manuscript: Ten Principles to Guide Success for Publication

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OBJECTIVE. The process of revising a manuscript and successfully responding to the comments of reviewers and the Editor can be difficult. This article provides some practical steps to guide authors in this task and attain publication of their manuscript.

CONCLUSION. Following the principles outlined in this article will enable authors to successfully meet the challenges of manuscript revision and hasten the route to publication.

It is a rare author who has not, at some point, received a notice from a journal that a manuscript must be substantially revised before it can be published or one that states that the manuscript is rejected. However, most manuscripts receiving a recommendation of Reconsider with Major Revisions from the *AJR* editorial staff are subsequently published in the *AJR* (Haines GR, personal communication). Furthermore, most manuscripts rejected by the *AJR* are ultimately published, after revision, in another journal [1]. These facts should be encouraging to *AJR* authors and an impetus to quickly revise a manuscript after responding to reviewers' comments. However, for many authors, the process of revising a manuscript is an unnecessarily slow and arduous one.

A number of articles have been published that outline the principles of composing a manuscript [2–5]. In addition, guidelines to allow reviewers to better understand the features that journal editors seek in a manuscript have recently been published [6, 7]. However, relatively little has been published addressing the issue of how authors can most effectively revise a manuscript after receipt of reviewer recommendations. The intent of this article is to provide all authors of scientific manuscripts (not solely *AJR* authors) with practical suggestions for revising a manuscript in a manner that will increase the likelihood that the revised manuscript will be accepted for publication. The discussion that follows relates to both manuscripts that are allowed to be resubmitted to the original

journal and those that were rejected outright. Furthermore, the principles outlined in this article should prove helpful not only to authors at the start of their writing career but also to more senior investigators who seek to provide guidance to more junior colleagues.

The Initial Response to the Reviewer's Comments

On receiving a judgment of Reconsider with Major Revisions (or worse, a rejection notice), authors often feel a variety of emotions, including disappointment and, on occasion, resentment. After all, authors have put much painstaking effort into writing their manuscript; it may seem that many months of hard work will now fail to be rewarded. It is natural for some authors to believe that their manuscript has been misunderstood. Furthermore, in some instances, the author may be under the impression that the manuscript has not been given a fair chance at publication for various reasons.

On receiving a request for substantial revisions or a rejection notice, it may be helpful to put aside the reviewer's comments for a few days, which allows time to judiciously weigh your response and overcome any emotional response that might interfere with successful resubmission. A short delay will often allow the response to the editor and reviewers to be written in a more dispassionate manner than a response generated very soon after receipt of the reviews.

The manuscript revision process is one in which the author's emotions (and, in some cases, sense of professional self-worth) may

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be tested. Nonetheless, as in any such situation, the process can be approached as a self-learning opportunity. Sometimes the way in which an author responds to reviewers' comments reflects the author's responses to other stressors in life. The characteristics that allow an author to successfully revise a manuscript, i.e., acceptance of criticism, willingness to revise one's position, perseverance, and good organizational skills, are many of the same qualities that allow one to succeed in other aspects of life.

Some issues engendered by negative reviewers' comments (or even benign suggestions for improvement) are the following:

First, how well does the author handle criticism? Some individuals are unable to accept criticism in a facile manner and essentially revolt at the idea that their work needs improvement. In the case of manuscripts requiring revision, some individuals spend much time and energy reacting to criticism rather than responding to reviewers' comments. An important point for authors to remember is that the reviewer is critiquing the manuscript and not critiquing authors. Reviewers' comments are not a personal matter.

Second, does the author simply abandon a manuscript because of negative comments? It would seem natural that, after all the work that goes into the initial submission of a manuscript, authors would always have a strong desire to carry the manuscript through to the stage of publication. However, especially when authors receive a rejection notice, many authors tend to allow the manuscript to languish. The authors may reason that, if one journal has not found the manuscript fit to publish, perhaps other journals will reject the manuscript. Some authors do not revise a manuscript because they are unwilling to invest time in a project that does not have immediate success. A judgment of Reconsider with Major Revisions or a frank rejection notice really tests the author's ability to persist through adversity and see the work through to the end. Having a manuscript published after such a setback is truly an accomplishment and can later serve as a stimulus to the same author to persist when dealing with unfavorable decisions on future manuscripts.

Third, is the author the type of person who can organize and successfully implement a response? Some individuals are very good at starting projects but, for one reason or another, poor at completing them. Because almost all manuscripts need revision before they are accepted for publication, the pro-

cess of manuscript submission can be prolonged and thus generally requires sustained energy and organization. However, it is not rare for manuscripts to languish after the initial submission is not met with an immediate acceptance. The delay is often caused by the fact that the authors are unable to generate enough energy to mount a response or are unable to successfully organize the various tasks (e.g., review of data, repeated statistical analysis, or gathering of additional data) that may be needed to successfully respond to the reviewers' comments.

To the extent that the answers to these questions indicate that the author is flexible in attitude and willing to accept criticism in a positive light, the process of revising the manuscript can be relatively simple. However, when the author has difficulty with any of the issues discussed, the manuscript revision process can be a long and hard one marked by pain, delay, and failure.

After considering the list of requested revisions and allowing any emotional responses to subside the authors can begin the task of revising the manuscript by considering an initial plan to address the most salient concerns offered by the reviewers. Because the revision process can sometimes be confusing to authors embarking on it for the first time, some advice may prove helpful. The following 10 principles are provided to assist in the revision process.

Ten Principles for Revising a Manuscript

Principle 1. Decide Whether to Resubmit the Manuscript to the Same Journal

Before revising a manuscript, one must address two issues. The first issue is to determine whether the journal is inviting you to resubmit your manuscript or if resubmission is not a possibility. Usually the letter accompanying the returned manuscript clearly states whether the manuscript can be resubmitted or whether it is rejected without an offer of resubmission. When in doubt, it is helpful to ask a more experienced author or to directly contact the editor [8].

The second issue is whether to resubmit to the same journal or to a different journal [8]. Sometimes the comments provided by the reviewers cannot be adequately addressed without radically altering the manuscript. The author must then determine whether he or she can truly meet the objections of the reviewers or whether the manuscript should be withdrawn and resubmitted to another journal. Hopefully, the journal editor would

not have offered the possibility of resubmission if radical changes are needed. Nonetheless, sometimes authors are left with the impression that the changes requested are so marked that the manuscript essentially needs to be almost completely rewritten. This issue is best discussed with a more experienced author who may help with the decision whether to resubmit to the same journal or submit to a different journal.

In some instances, the authors may wish to appeal a rejection notice by writing a letter of explanation to the editor and requesting the possibility of resubmission. Before doing so, it is best to show the manuscript and the reviews to a colleague who can serve as an unbiased judge. This procedure should be done without preparatory comments such as "I don't think the reviewers were fair. Will you look at the manuscript and see if you agree with me?" However, such a review should only be asked of someone who feels comfortable providing negative comments about your manuscript without the risk of ruining the relationship. Alternatively, for those who are asked to participate in such a process, consider whether the relationship has enough stability to offer, if necessary, negative comments. For most of us, manuscripts are easier to generate than strong collegial relationships. It is rarely (if ever) worth subjecting a relationship to stress for the sake of a manuscript.

Principle 2. Contact the Editor Regarding Unresolved Issues

Authors are often reluctant to contact the journal editor for many reasons. However, conversing with authors regarding their concerns is one of the many roles of the journal editor and is considered an important one. The *AJR* has not only an editor in chief but also a team of 12 section editors. A letter indicating the need for a manuscript to be revised or indicating that the manuscript has been rejected will be written by one of these individuals, who can serve as a contact person. Authors should feel free to communicate with these individuals regarding manuscripts that have been reviewed by the *AJR*.

Principle 3. Prioritize the Reviewers' Comments

In general, the author should attempt to comply with all changes requested by reviewers. Nonetheless, not all comments in a review are equally important from the viewpoint of the reviewer. Some of the comments are merely suggestions for improvement; the reviewer intends to leave the choice of com-

pliance to the author's discretion. However, in some instances, the reviewer deems a response to one or two particular comments as extremely important and a necessary condition for publication of the manuscript. An example would be a comment that indicates a need to readdress the statistical analysis, which is clearly a vital issue. As an analogy, the difference between the two types of comments is akin to the difference between elective surgery and mandatory surgery. Importantly, the reviewers do not typically indicate whether comments are extremely important (and mandatory) or merely somewhat important (and elective). Instead, the authors must read through the comments and ask "are there extremely important comments that, if we fail to address, will cause the reviewer to reject the manuscript?" For those comments, a very comprehensive response is needed; any attempt to provide less than what is requested may well be perceived as disingenuous. The result is then not usually favorable to the author.

Principle 4. Approach the Reviewer as a Consultant Rather Than an Adversary

The reviewers and the editor judge the adequacy of the author's responses by both the quality of each response and the number of comments to which the authors respond. Some authors attempt to provide the bare minimum in terms of both number and quality and risk engaging in an unnecessary adversarial relationship with the reviewers and editor.

The process of revising the manuscript differs in some ways from that of composing the original submission; the views of additional individuals who were not part of the writing team, i.e., the reviewers, must also be taken into account. As one editor has stated, some authors may view revision as "enforced collaboration with a phantom team of critics" [9]. It is true that the identities of the reviewers are usually unknown to the authors and the authors lack direct contact with them. However, as one editor has stated: "Getting authors to revise papers successfully may be the greatest contribution a journal can make to improving scientific communication" [9]. If the authors can develop a positive attitude by viewing the reviewers as collaborators rather than adversaries, the revision process will be a smoother and quicker one. In support of this statement, a recent report indicated that readers find a beneficial influence of reviewers' comments on manuscripts submitted for publication [10]. In an interest-

ing study, a medical journal asked a group of 100 readers (equally divided into medical students, recent medical graduates, general practitioners, and specialists) to score three versions of articles: the original submitted manuscript, the manuscript that was revised after reviewer and editor comments, and the final published article. Each reader judged two manuscripts and was blinded as to which copy of the manuscript was the original, the edited, or the final version. Each reader provided scores for 23 questions regarding each version. The study found that revision of the manuscript in response to reviewer comments resulted in highly significant improvement in scores for 14 of 23 questions. Although this study represents a very small sample of all medical manuscripts, the findings do indeed suggest that revision of manuscripts can have a substantial benefit on manuscript quality (even if authors sometimes find the process an arduous one).

This positive attitude should not solely be conceived as a way to ease the pain of revising a manuscript; instead, it should be based on some practical advantages provided by the process of manuscript review by anonymous experts. On some occasions, the reviewers detect flaws that were inapparent to the authors, which lead to a better manuscript. Sometimes changes made in response to reviewers' comments eventually become some of the best parts of the manuscript when it is eventually published. Finally, in some instances the appropriate response to the reviewers' comments saves later embarrassment in the form of a letter to the editor criticizing the article or indicating a serious flaw.

It is appropriate for the reviewer to always keep comments fair and objective (or, stated differently, for the comments to always be centered on the manuscript rather than the author). So, too, it is proper that the author maintain a sense of decorum and direct the responses at the substance of the reviewer's comments rather than at the reviewer. Even if the author does not agree with a reviewer's comments, inflammatory or insulting remarks (e.g., comments that suggest that the reviewer's competence is below standard) should always be avoided.

The author should constantly keep in mind that the reviewer has performed the review as a courtesy and at the request of the editor. Generally, the reviewer is neither compensated financially nor by any other means. Thus, whenever possible, an expression of gratitude by the authors is warranted for the

expenditure of effort by the reviewers. When the author perceives that the reviewer's comments have led to an improvement in the manuscript, a brief note of thanks in the reply to the reviewer is always welcome.

Principle 5. Deal With Reviewer Comments With Which One Does Not Agree

Disagreement with reviewers' comments is a common and natural phenomenon; after all, the authors are facing criticism of their work and it is to be expected that they may not find some comments justified. However, at some point the authors must make a frank assessment of their opinion of the reviewer's comments, i.e., whether they sufficiently agree with the comments to change the manuscript in accordance with the reviewers' suggestions.

As stated earlier, in general, it is best to make all changes requested by reviewers. However, in some instances, that is not really possible. Examples include when a reviewer requests a change that is contradictory to a statement offered by a different reviewer, has misunderstood the manuscript, or lacks sufficient knowledge on one or more points. An approach to dealing with contradictory statements offered by different reviewers is discussed later (see Principle 7). When the author deems that a comment by a reviewer is based on a misunderstanding, the best course of action is to politely suggest the comment may be based on a misunderstanding; then the author can indicate the text that may be the source of the problem and clarify the text. The author should always remember that the misunderstanding may be due to lack of clarity on the author's part and not the fault of the reviewer. The approach should be similar in responding to a comment that may be based on insufficient knowledge on the part of the reviewer. Usually a simple explanation of the principles involved, but in a manner that is not demeaning to the reviewer, will solve the problem. If these measures prove unsatisfactory, the issue can be resolved by appealing to the editor.

If one does not agree with most of the reviewers' comments, it may be best to withdraw the manuscript and submit to a different journal [11]. However, even if that is chosen, the authors should incorporate the changes advocated by the initial reviewers for a number of reasons [8]. First, the reviewers' suggestions are a valuable means of improving the manuscript; thus, they should be incorporated into any revised manuscript, regardless

of whether resubmitting to the same journal or to a new journal. Second, after submission of the manuscript to a second journal, it may be assigned to the same reviewer who assessed it at the first journal. This fact is always recognized by the reviewer, who then reports to the editor of the second journal whether the changes recommended for the first version have not been made. It is not rare for the *AJR* to send a manuscript out for review and then be told by the reviewer, "Prior to being asked to review this manuscript for your journal, I previously reviewed this manuscript for another journal; the authors have not incorporated my suggestions contained in my last review." This fact starts the review at the second journal on a negative note that will often result in rejection of the manuscript.

Principle 6. Disagree Without Being Disagreeable

Correct and incorrect ways exist for ways to disagree with reviewers. The two guiding principles are be polite and support your opinions with evidence [8]. As in any aspect of life, responses to a perceived criticism should always be polite. So, too, when responding to manuscript reviewers. When agreeing with a reviewer comment, expressing gratitude is always welcome. The reviewer may well have improved the manuscript by issuing such a comment; simply stating "we thank the reviewer for this helpful comment" or something similar is appropriate.

When authors find that they disagree with a reviewer on one or more issues, a useful initial step is to make certain that they fully understand the reviewer's comments. It is possible that they do not disagree at all. Discussion with a coauthor or a disinterested individual may reveal that the disagreement is minor or even nonexistent. Such a process can be fruitful even if a disagreement exists because another party may provide insights into the review; a rebuttal that is based on a misunderstanding of the comments made by reviewers has a low likelihood of success.

When disagreeing with a reviewer's comments, politeness often needs to be admixed with some element of finesse and discretion. The guiding principle is to disagree with the reviewer while at the same time allowing the reviewer to feel valued [8]. A careful choice of words is needed so as to not offend the reviewer and to indicate that the author recognizes the worth of the reviewers' comments even while disagreeing with them. Some useful phrases for politely refuting reviewers' comments have been published [8]. These in-

clude such phrases as "The reviewer has indicated that our report of false-positive results is a potential flaw. However, we respectfully disagree and point out the following alternative way of looking at the same data." As another example, if a reviewer indicates surprise at the study findings (thus indirectly suggesting a problem with the methods), a response to the effect that the authors also did not expect the results is acceptable; this statement should then be followed a plausible explanation for the findings. Such a reply indicates understanding of the reviewer's viewpoint but is also informative and provides a rationale for the study findings, which may allay the reviewer's concerns. Naturally, when responding to a comment that the author believes to be especially critical for acceptance of the manuscript (see Principle 3), a logical response based on the facts is very important. If that cannot reasonably be provided, the author should seriously consider the possibility that the reviewer is correct after all.

Authors naturally feel some degree of umbrage when receiving criticisms of their work. Sometimes these negative feelings are (either deliberately or accidentally) transmitted to the reviewers when the author frames the reply letter. Statements within a response may be ambiguous and taken as haughty or dismissive by the reviewers. Such unintended insults to the reviewer can easily be avoided through assessment of the response by someone more objective than the authors, e.g., a colleague who is not a coauthor.

Principle 7. Devise a Strategy for Responding to Divergent Comments

It is not rare for comments from one reviewer to be divergent from those suggested by another reviewer. At times, these comments can be contradictory, e.g., one reviewer requesting that the discussion be shortened whereas another reviewer asks that additional statements be added to the discussion (thereby lengthening it). This fact should not be taken to reflect a flaw in the manuscript review process. It is a simple fact of life that two individuals, even well-informed experts, rarely view the same entity in exactly the same manner. When faced with these circumstances, the author is often uncertain as to how to proceed.

One solution is to try to accommodate both requests when they are not mutually exclusive. In the example mentioned above, both suggestions could be accommodated by adding new statements while decreasing the length of the remainder of the dis-

cussion. However, at times the requests are indeed mutually exclusive, e.g., the first reviewer may ask that a table be deleted and the second reviewer deems that the table is very important. The author is then faced with a number of alternatives. First, the author can retain the table and indicate in the response letter that one reviewer specifically commented on the value of the table. Another alternative is to contact the editor, indicate the discrepancy, and ask for advice.

Principle 8. Put in the Work and Show All That You Have Done

When authors resubmit a manuscript to a journal after making revisions, they typically hope that the editor and reviewers will quickly recognize how willing they were to make changes in the manuscript and how much time and attention to detail went into the revision. Authors naturally wish for the editor and reviewers to rapidly judge the revisions as acceptable and allow the manuscript to proceed to publication. Therefore, it is in the author's best interest to very clearly indicate all the changes that have been made in a manner that would allow both editor and reviewers to very clearly see the changes. Interestingly, authors often are surprisingly ineffective in clearly communicating these changes. In fact, sometimes the revisions are confusing, lessening the chances that the manuscript will be promptly accepted.

To increase the chances that reviewers and editors will quickly understand how hard the authors have worked on the revision, the authors should very clearly itemize these changes in both a letter to the editor and an annotated version of the manuscript [11]. These documents should accompany a copy of the revised manuscript in which the changes are not annotated [8]. The following discussion shows a relatively simple manner in which to accomplish this task and illustrates the technique used by the author of this article. In this technique, the author first makes changes on the annotated version of the manuscript and the response letter to the editor. The final version of the manuscript without annotations is solely addressed at the end of the process, after changes to the other documents have been completed and just before resubmission of the manuscript.

Step 1: Copy and paste the reviewers' responses into a new document, which will serve as the response letter to the editor. Composing this list as the first step saves work because it is much harder to accomplish after the fact [12].

In addition, it allows the author to feel a sense of progress; the list of changes yet to be made grows shorter over time. Then, label each comment according to reviewer and the order of the comments provided by that reviewer. For instance, the third comment by reviewer 1 would be labeled "Rev. 1, comment 3." For purposes of explanation, in the remainder of this example, I will designate the following imaginary comment as the third comment by reviewer 1 (i.e., Rev. 1, comment 3): "The study does not indicate how patients were selected."

Step 2: Completion of step 1 allows the author to respond to comments directly in the letter to the editor. At this point, the author can either work solely from the letter to the editor or by moving back and forth between the letter and the annotated version of the manuscript. When working solely from the letter to the editor, all or most of the responses to the reviewers are first added to the letter below the appropriate reviewer comment; then, the changes are later entered into the annotated version of the manuscript. When alternating between the letter and the annotated manuscript, the author first lists a particular response in the letter below the corresponding comment by the reviewer; then, the author inserts (or deletes) the text in the annotated version and designates the comment that prompted the change. Note that according to this process the version of the revised manuscript that does not show the annotations is only generated after all changes have been made. By this method, the risk of failing to enter a change is minimized.

The responses should be labeled using the same designations as the reviewer comment to which they correspond. For instance, the response to Rev. 1, comment 3 is labeled "Response to Rev. 1, comment 3." Each response should begin with a statement such as "We have added the following text:..." The response is placed just below the reviewer comment and optimally is indicated by a different type or font than the rest of the letter. This author prefers to use either red color text or bold print. Thus, using the aforementioned example, the letter would have the following statements:

Rev. 1, comment 3. The study does not indicate how patients were selected.

Response to Rev. 1, comment 3. We thank the reviewer for this important comment. We have now added "Patients were identified from a list of patients with hepatic tumors who were scheduled to undergo MRI. Informed consent was obtained prior to imaging [Rev. 1, comment 3]."

The sentence beginning "Patients were identified..." is then entered into the annotated manuscript in bold type followed by an indication (in brackets or commas) as to which comment this added text is a response. Thus, the statement entered in the annotated version of the manuscript is **"Patients were identified from a list of patients with hepatic tumors who were scheduled to undergo MRI. Informed consent was obtained prior to imaging [Rev. 1, comment 3]."**

Another scenario is that the reviewer has asked that a statement in the original manuscript be deleted. As an example, assume the fourth comment by the first reviewer calls for deletion of "This is the first study to examine hepatic tumors using this technique." Then, in the letter to the editor, the author would designate the request for the deletion as "Rev. 1, comment 4." Just below the reviewer comment, the author would then indicate the response in the following manner:

Rev. 1, comment 4. Please remove the statement indicating that this is the first study using this technique.

Response to Rev. 1, comment 4. We have deleted that statement and have substituted the following statement: "Few studies using this technique for examining hepatic tumors have been published [9, 10]."

In the annotated version of the manuscript, the statement should be marked by a strikethrough and followed by designation of which comment serves as the source of the change and could read as follows: ~~Our study is the first to examine hepatic tumors using this technique [Rev 1, comment 4].~~ **Few studies using this technique for examining hepatic tumors have been published [9, 10]."**

In this manner, the authors proceed to provide all the responses in the letter to the editor and indicate the changes in the annotated version of the manuscript, with a reference to the appropriate reviewer comment as enumerated. After that is completed, the transition to the revised manuscript without annotations is simple; the author merely removes the references to the reviewers' comments and changes all the text back to the standard font.

Principle 9. If Requested, Shorten the Manuscript

One of the more common recommendations requested by reviewers and editors is to shorten the manuscript. Often, this request is a very reasonable one because many authors, especially those at the beginning of their careers, submit needlessly lengthy manuscripts.

Frequently, these authors provide an introduction and a discussion that have an unnecessary amount of detail and background information. As a result, the original version of the manuscript is often more similar to an encyclopedia entry than a journal article; reviewers often observe that the length detracts from the message. Editors object for the same reason but also because journal space is limited and the unwarranted length of some manuscripts prevents or delays publication of other worthy manuscripts. Naturally, many authors object to shortening their manuscripts. After all, they have worked diligently to produce the manuscript and believe that deleted text is equivalent to wasted work. Thus, the authors may find themselves at odds with reviewers and the editor on this major point. The authors may be able to reach a compromise as to how much text is deleted, but almost always some portions of the manuscript must be sacrificed.

In such circumstances, the author may receive a request to remove specific portions of the text or (more commonly) a general recommendation to decrease the length by a particular percentage or number of pages. When the request is for specific portions of text to be removed, likely not much negotiation is possible. Sometimes the author may find that text that must be removed can be used for another manuscript, which naturally makes its removal from the first manuscript more bearable. The author has more flexibility when a request is made for removal of a set amount of text but then faced with the decision of what and how much to remove.

A good starting place for authors is to review the manuscript for information that would be expected to be already known by the audience; reiteration of such information in the manuscript may allow the author to appear well-informed but rarely is needed. Another type of information that can usually be readily removed is background information that is not directly needed to frame the goal of the study in the introduction or to explain the results in the discussion. In these instances, the author can briefly summarize the relevant information and direct the reader to useful references. When in doubt, the author should ask an objective colleague to read the manuscript and indicate paragraphs that could reasonably be shortened while retaining their meaning or, even better, paragraphs that could be removed without detriment to the primary goals of the manuscript. In particular, the author and colleague should review the introduction

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and discussion sections and assign priority to various paragraphs, with the goal of determining whether any paragraphs be substantially shortened or even removed.

Similarly, authors are often asked to remove figures or tables from manuscripts. In most instances, the reviewers have asked for specific images (or tables) to be removed. In other circumstances, the authors have submitted a manuscript in which the number of images exceeds that allowed by the journal. One strategy is to review the images and prioritize them according to three categories: those that could be relatively easily removed without harm to the information content, those that the author prefers to retain but that are not essential, and those essential to the manuscript. The author can then remove images from the first category and, if necessary, from the second category to comply with the journal guidelines.

Principle 10. Review the Medical Literature Before Resubmission

As a final step before submitting a revised manuscript, it is advisable to search for new articles that may have appeared in the medical literature since the time of the first submission. These articles should be listed as refer-

ences in the revised manuscript. This task will likely enhance the manuscript by providing a fuller and more up-to-date assessment of the topic. Furthermore, on occasion more recently published articles may provide evidence supporting the hypothesis proposed in the original manuscript. Alternatively, relevant articles that provide differing results from those presented in the manuscript may have been published. Depending on the content of those articles, failure to include mention of them could substantially affect the chances for acceptance of the manuscript.

The task of responding to reviewers' comments and revising a scientific manuscript to the point of publication can be challenging. This article has attempted to provide practical solutions to problems faced by authors as they embark on this process. It is hoped that the principles outlined here will enable authors to successfully meet the challenges of manuscript revision and hasten the route to publication.

References

1. Chew FS. Fate of manuscripts rejected for publication in the *AJR*. *AJR* 1991; 156:627–632
2. Kliever MA. Writing it up: a step-by-step guide to publication for beginning investigators. *AJR* 2005; 185:591–596
3. Cetin S, Hackam DJ. An approach to the writing of a scientific manuscript. *J Surg Res* 2005; 128:165–167
4. Provenzale JM. Ten principles to improve the likelihood of publication of a scientific manuscript. *AJR* 2007; 188:1179–1182
5. Holmes DR Jr, Hodgson PK, Nishimura RA, Simari RD. Manuscript preparation and publication. *Circulation* 2009; 120:906–913
6. Provenzale JM, Stanley RJ. A systematic guide to reviewing a manuscript. *AJR* 2005; 185:848–854
7. Provenzale JM. Proposal of a method for deciding whether an *AJR* manuscript merits publication: the 25% rule. *AJR* 2010; 195:278–280
8. Williams HC. How to reply to referees' comment when submitting manuscripts for publication. *J Am Acad Dermatol* 2004; 51:79–83
9. Morgan PP. The joys of revising a manuscript. (editorial) *CMAJ* 1986; 134:1328
10. Pierie JP, Walvoort HC, Overbeke AJ. Readers' evaluation of effect of peer review and editing on quality of articles in the *Nederlands Tijdschrift voor Geneeskunde*. *Lancet* 1996; 348:1480–1483
11. Peh WC, Ng KH. Dealing with returned manuscripts. *Singapore Med J* 2009; 50:1050–1052
12. Conn VS. Manuscript revision strategies. *West J Nurs Res* 2007; 29:786–788