

GUIDES TO UNDERTAKING RESEARCH

6.9 Performing a Journal Peer Review

It is a great idea to perform journal peer reviews as they are an excellent way to hone skills in criticism and scientific argument, get a better grip on the subject in and gain recognition with journals. Lack of experience should not necessarily deter. However, there are some issues to consider before accepting this responsibility.

The first consideration is (of course) expertise in the subject of the manuscript – do you have enough knowledge of this area to perform the review? Help on hand from person experienced in reviewing (who can advise on the review strategy and knows the topic well) is useful, at least for the first couple of peer reviews.

The second consideration time and timeliness – most reviews must be done within a 10 or 14 day period, though journals may allow some more time if asked. The work burden for a peer review is significant, certainly it can take several hours. If it is impossible to complete it in the time available the peer review request should be declined. It is not fair to manuscript authors if reports are very late. For the same reason it is never good to accept a lot of peer review tasks at the same time.

What is a peer review for?

Journals must ensure a high scientific quality in the articles they publish, and peer reviews are an important means to achieve this. It is not (nor can it be) a perfect process so can only be considered a filter to exclude flawed work, and to identify issues that the authors can and should fix.

Note that careers can be greatly affected by manuscript review outcomes, so it is important to perform reviews seriously, fairly and well.

Who does peer reviews?

Anyone who has a publication record in the area may be chased by an editor to do a peer review.

Reputation for expertise counts, which means that senior scientists and clinicians are asked a lot. Thus a senior clinician who cannot perform a review for lack of time may decline but nominate a junior colleague or student to do it. This is how most people get their first chance to peer review and is an expression of confidence in that junior person.

Note that almost all journals use *anonymous* peer review, i.e., the reviewer is known to the editor but unknown to the manuscript writers. This is an important protection for reviewers; such anonymity must never be abused by the reviewer, and it will be moderated by the editor if necessary.

How is a peer review used by a journal?

Journal editors want to know whether the manuscript could be publishable with revision (acceptance without revision is almost unknown), or whether it should be rejected. The two key points needed to accept a manuscript for an original research work is that the subject comes within the scope of the journal (a decision more for the editor) and that *the data supports the conclusions*. Failure on either of these points means rejection; the editor will judge the scope but needs reviewer help with the data and conclusions.

Thus important considerations for the reviewer to write about in the review includes to what degree that the detailed data look plausible and sound. Any hint of fraud or dishonesty should be brought up, but diplomatically so unless it is egregious. Another task of the reviewer is to be sure that the

manuscript is of publishable quality, i.e., whether the writing is clear and understandable with a high quality of English and enough detail to enable replication by others. Here is the third reason why a reviewer might recommend rejection even for an apparently sound piece of work: that the manuscript needs so much work to make it of publishable quality that the authors need to resubmit a comprehensively restructured and rewritten (and perhaps re-imagined) manuscript.

Can opinions about the manuscript be direct or is deference needed?

A peer review should make direct and concise statements about the details and execution of the study and the manuscript, but it is essential to be polite and not aggressively negative or mocking. Reviews should be supportive to the authors as far as possible and phrase any critique with kindness, consideration and, if merited, gentle diplomacy. Helpful advice should be given where it is clearly needed.

What happens if evidence and data are incomplete in the manuscript?

Circumspection is needed in asking for more data to be provided, particularly where it would be hard for the authors to comply. Any requested new data must solidly improve the support for the conclusions and not be a peripheral or trivial matter. Nevertheless, where the data presented is inadequate this is a central point that must be raised. If the authors cannot comply (or fix the issue in some other way) manuscript rejection must be recommended. The authors will have a right of reply to the editor and an opportunity to argue and revise as they see fit.

Note that if there is some new data that might improve the manuscript but is not essential, the convention is to *ask* the authors if they could add it, rather than indicating that they must supply it. This signals that if the authors cannot add this data the manuscript may still be acceptable.

What is the process of undertaking the review?

Best is to read the manuscript thoroughly. For original research the abstract is read then data

tables and figures, the key parts of the paper upon which it will stand or fall. For narrative reviews the manuscript needs to be taken as a whole; systematic reviews also need detailed checks of the many standard methodology features used in such reviews, such as bias evaluations and pre-registration of study design.

After initial evaluation of the evidence presented, the rest of the manuscript sections should be scrutinised. Notes should be made on every important point, and any perceived flaws. Other relevant literature should be checked (but briefly) so manuscript consistencies and differences with other published work noted. After all this the review report can be drafted.

What about errors in the text?

Serious problems in the manuscript reasoning should be noted. Problems with language or typos should be mentioned in the report. If there are many typos this should be stated (with request to do better) as it may be too time consuming for a reviewer to produce a comprehensive list. There should be a comment in the report on clarity and the standard of the written English. Note that a manuscript should not be rejected solely because the language needs work unless it is so impenetrable it makes peer review impossible.

What kind of reports need to be submitted?

There are typically three parts to the report. There are accessory questions (usually drop-down menus) relating to particular features such as soundness of the statistical analysis. Then there is a detailed Comments to the Authors to be seen by authors and editor to which the authors will be invited to respond.

Lastly there will be a direct report to the editors, which is not seen by the authors. This needs frank and undiplomatic comments. These should be fair and consistent with the comments given to the authors, outlining the merits or demerits of the paper, and what it would take for the paper to be acceptable. This section should be brief, perhaps a few lines, since the important points are made in the Comments to the Authors. It can be useful to

the editor to indicate exactly which of the major points (in the Comments to the Authors) are non-negotiable such that failure of the authors to address them would lead to rejection.

There will also be requirement at this point to choose recommendation of manuscript acceptance, revision or rejection, usually a drop-down box.

How to write the report?

For the main report, the Comments to the Authors, there are no hard rules. Some people just state a very few bald points. However a good approach is to describe in a brief sentence what the paper is about, then say a couple of nice things about it, then indicate if the paper is written clearly or not. Then there needs to be a brief assessment of how well the study conclusions are supported, and the importance of the study outcome.

Then, typically, comes the “However...” statement, which notes the most important concerns. A comprehensive list of major points is then included, usually as dot or numbered points. Note that there will be specific issues to check, such as the declaration of ethical approval, study pre-registration and prior publication of appropriate checklists (e.g. PRISMA for systematic review, CONSORT for trials, or STROBE for observational

studies) depending on the study. Any problems with these must be listed as major points.

After all these can be a list of the minor points and typos, labelled as such. If there are no major points the manuscript presumably can be accepted with minor revision, or is so hopeless it must be rejected.

These reports can be long, but under a page would be a good aim.

What happens next?

If the editor decides that the manuscript has merit the authors will be invited to submit a revised version and a rebuttal of the points raised in the Comments to the Authors. You will be asked to review this. Your sole concern in the second review should be whether your concerns in the first report has been properly addressed by the authors. It is conventionally regarded (aside from the very high impact journals) as unreasonable to bring up fresh objections that were not in the first report, unless the author responses uncover an unsuspected bombshell.

If the revised manuscript and rebuttal are fine (or not) then simply note this in the second report, with any necessary comment and minor points still needing to be addressed, and leave the rest to the editor.

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Version 2.1 (Nov 2020)

Thanks to Dr Venu Chalasani and Dr Richard Piper for reviewing and critiquing this article.

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