Nuisance or necessity? Why robust peer review is critical for medical science

Jon Patricios 1, Joanne Kemp 2, Jane S Thornton 3, Jonathan Drezner 4

WHAT’S IN IT FOR ME?

The diligent reviewing of submitted manuscripts is not an altogether altruistic pursuit. Perhaps most alluring is the opportunity to read new science before anyone else, at the proverbial cutting edge of the profession. Peer review provides the opportunity to guide and enhance through comments and author revisions the presentation of new findings, so the methods and messages are clear and accurate. You also may be exposed to novel study designs or findings that stimulate your own ideas for novel investigation. Being on a journal’s review radar makes you part of a collegial network of academics, scientists and clinicians that may benefit your career as you enhance your credentials and earn collegial respect. The experience gained involves an exchange of opinions between authors, editors and other reviewers that can enhance proficiency as a writer and a scientist. ‘Academic Service’ forms an increasingly important part of your curriculum vitae and the time may well be recognised by the allocation of continuing professional development points. Or, as a former BJSM editor pithily explained, reviewing should simply be viewed as a ‘rite of passage’ for clinicians and researchers alike.

WHO BENEFITS?

Apart from the potential benefits to the reviewer, a well-considered and carefully structured manuscript review is of immense benefit to the author(s). By publication, a paper has usually had at least five pairs of independent critically trained eyes (three peer reviewers, one associate editor, one editor) dissect its content, and possibly up to nine if the full editorial team and a statistical consultant become involved. And that’s before the typesetting and grammar police have a say! In replying to reviewers’ comments, it is not unusual for authors to mention that “...the manuscript has benefited significantly from the changes made...”. An editor-in-chief from a different journal recently pronounced that the higher number and standard of papers submitted was largely a result of the excellent panel of reviewers. The improved manuscript is now of greater value to the journal, its readers and ultimately the profession.

HOW TO REVIEW?

The failure to include critical article review in formal clinical and scientific training is a gaping void in most medical curricula. This constructive exercise should be an entrenched skill to ensure the passage of critical reasoning and analytics in the evaluation of new science. Some journals themselves provide guidance and examples. Other informal input may be gleaned from colleagues, editors, research scientists and statisticians. Peer review should always be conducted with respect and reflect the many hours of work performed by the authors in preparing the manuscript. Even when reviewers remain anonymous, approaching the review with the assumption that the authors know your identity will ensure your tone remains collegial and professional.

A credible process

Benjamin Franklin is credited with the phrase ‘If you want something done, ask a busy person...’. There is no setting in which this maxim applies more than manuscript reviews. Experience helps. That time-pressed clinicians and academics still deem peer review a meaningful activity is evidence that they regard it as credible and worthwhile. Credible implies that conflicts of interest are avoided, the process is objective, the review is given the time it deserves, the assessment follows a structure to ensure all important aspects are scrutinised, and, even in the case of a recommendation for ‘reject’, that feedback is constructive. A review from an experienced pen should serve as a lodestar to help advance science.

METHODS MATTER

Continuing the BJSM theme of advancing quality research in Sport and Exercise Medicine (SEM), a methodical approach to conducting a detailed and effective review is needed to achieve a sound result. As a supplement to this editorial, the BJSM Editors provide additional updated guidance for reviewing (online supplemental file 1) that builds on previous work, the journal’s requirements, expert input and the latest checklist for statistical assessment. Increased digitalisation of the review process has streamlined it but also created its own pressures, with deadlines for reviews, revisions and processing, culminating in ‘Online First’ articles appearing shortly after acceptance (an average of 21 days). A committed reviewer with an efficient system helps to achieve the timely dissemination of new knowledge. BJSM values multiple reviewers for each paper. Importantly, each may have a different skill set and reviewers should always acknowledge gaps in their knowledge. Accurate analysis of the statistical methods in a study is a good example of where specialists provide invaluable input to clinical reviewers, editors and authors.

The perfect review

The flawless review probably remains elusive as there will always be an element of subjectivity. Nevertheless, a systematic approach will help promote excellence in the final product. A paper processed for review has already passed an initial screening by the editorial team and is deemed worthy of consideration. A reviewer who dismisses a paper in a few lines has neglected their duty as much as one who casually nods the paper on. Peer review should be viewed as collaborative rather than confrontational. Supporting the paper is not the necessity, but supporting the process is.  

Twitter @jonpatricios, Joanne Kemp @JoannelKemp, Jane S Thornton @janesthonthorn and Jonathan Drezner @DreznerJon

Contributors JP and JD conceived the concept of the editorial. JP developed the article framework and design and drafted the original version of the manuscript. Each coauthor contributed to the intellectual content, then critically appraised and revised the draft through three rounds of analysis. Each author contributed to the acquisition of relevant information for the supplementary guide, reviewing and editing each over the three iterations. All coauthors approved the final version for submission and take accountability for all aspects of the work.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests JD is editor-in-chief of BJSM; JP, JST and JK are editors of BJSM. All coauthors receive honoraria from BMJ.

Patient consent for publication Not required.

1 Wits Sport and Health (WiSH), School of Clinical Medicine, Faculty of Health Sciences, Wits University, Johannesburg, Gauteng, South Africa
2 Sport and Exercise Medicine Research Centre, La Trobe University, Melbourne, Victoria, Australia
3 Public Health and Family Medicine, University of Western Ontario Schulich School of Medicine and Dentistry, London, Ontario, Canada
4 Department of Family Medicine, University of Washington, Seattle, Washington, USA

Correspondence to Professor Jon Patricios, Wits Sport and Health (WiSH), School of Clinical Medicine, Faculty of Health Sciences, Wits University, Johannesburg, Gauteng, South Africa; jpat@mweb.co.za
Provenance and peer review  Not commissioned; externally peer reviewed.

Supplemental material  This content has been supplied by the author(s). It has not been vetted by BMJ Publishing Group Limited (BMJ) and may not have been peer-reviewed. Any opinions or recommendations discussed are solely those of the author(s) and are not endorsed by BMJ. BMJ disclaims all liability and responsibility arising from any reliance placed on the content. Where the content includes any translated material, BMJ does not warrant the accuracy and reliability of the translations (including but not limited to local regulations, clinical guidelines, terminology, drug names and drug dosages), and is not responsible for any error and/or omissions arising from translation and adaptation or otherwise.

OPEN ACCESS

Open access  This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: http://creativecommons.org/licenses/by-nc/4.0/.

© Author(s) (or their employer(s)) 2021. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

► Additional material is published online only. To view, please visit the journal online (http://dx.doi.org/10.1136/bjsports-2021-104126).


Accepted 11 March 2021

Published Online First 22 March 2021


doi:10.1136/bjsports-2021-104126

ORCID iDs

Jon Patricios http://orcid.org/0000-0002-6829-4098

Joanne Kemp http://orcid.org/0000-0002-9234-1923

Jane S Thornton http://orcid.org/0000-0002-3519-7101

Jonathan Drezner http://orcid.org/0000-0003-3519-9120

REFERENCES


Guidance for Reviewing a BJSM Paper

Questions to ask yourself before starting:

- Is the paper within my field of expertise and scope of knowledge and experience?
- Do I have a conflict of interest (personal, institutional, financial, or other)?
- Do I have the time to complete the review in the requested window, or with a short extension? (It is usually reasonable to ask for a 2–3-week extension).

Conduct a first read-through.

Under “Comments to Editor” summarise your impressions and mention any confidential information that is not for the authors’ attention. If you have major concerns about the article, please state them here. It is also helpful if you comment on whether you believe this paper is a good fit and meets the standards for a BJSM publication. Remember, these comments are extremely valuable to the editors in their decision making.

Under “Comments to the authors” start with some short “General Comments” that cover:

- Thanking the authors for the time and effort taken to prepare the manuscript
- An introduction
  - Your understanding of the central question and key messages
  - Some positive comments about what has been done well
- What gap (if any) in the literature the paper fills
- Originality of the work
- Manuscript flow and writing style
- Quality of the graphs and figures
- Length of the abstract and paper (compare this to the journal’s “Author Guidelines” for the specific format)
- Ethical considerations

Note – reviewers should not comment to the authors if they believe the paper should be accepted or rejected. This information should be placed in the “Comments to the Editor” and the appropriate box checked at the end of the review where there is an option to recommend “reject”..

While doing a detailed reading of the manuscript, you may wish to mark-up / track changes on the original document and attach this to your submission; it’s important to also transfer your comments to ScholarOne under “Specific Comments”

If there is an area that you feel you need assistance with e.g., statistical interpretation, mention that to the editor.
Don’t spend time on spelling or grammar corrections, but feel free to comment if these need addressing.

Conduct a second read-through focusing on detail before adding “Specific Comments.” It is helpful if the page number and line number are stated followed by your comment, question, or suggestion.

The following areas should be considered in your review (not all areas need to be addressed in your comments to the authors unless there is a specific suggestion/concern):

**Title**
- Is it succinct yet still describes the content of the paper?

**Abstract**
- Does it adequately summarise the key findings of the manuscript?
- Is the aim of the study clearly stated?
- Are the following aspects covered?
  - Introduction, Materials and Methods, Results, Conclusion
- Does the abstract accurately reflect the body of the manuscript or are there discrepancies or inadequacies?
- Are conclusions appropriate and supported by the data presented?

**Introduction**
- Is the purpose of the study and the hypothesis being tested clearly described?
- Does the aim/purpose match that stated in the abstract?
- Is the originality of the research explained by demonstrating the need for investigations in the topic area?
- Does it provide a succinct review of recent relevant research?
- Are the gaps in current understanding highlighted?
- Are all important terms adequately defined?
- Is it concise (2-3 paragraphs)?

**Materials and Methods**
- Is the study type described and accurate?
- Are the Informed Consent and Ethical Approval processes described?
- Are the following mentioned
  - Inclusion and exclusion criteria, primary and secondary outcomes, independent and dependent variables, statistical analysis employed?
- Are the methods described adequate to address the hypothesis?
Are the methods detailed enough to allow for replication of the study?
Have standard guidelines been followed e.g., CONSORT statement for RCTs, AGREE reporting checklist and GRADE criteria for clinical practice guidelines, PRISMA statement for systematic and scoping reviews?
For expert panel consensus statements, is the panel selection process and methodology to reach consensus clearly detailed?
What was done to minimise risk of bias?

Statistical Analysis
- We recommend using the CHAMP checklist (will link) for statistical analysis of medical papers.
- Do you feel you can adequately assess the statistics used? If not, please ask for additional statistical review (in the confidential comments to the editor)

Results
- What was newly discovered or confirmed?
- Are the results clearly presented and explained?
- Are they accurately interpreted?
- Please use the CHAMP checklist to ensure presentation of results (including statistical significance, confidence intervals etc.) is appropriate for the study design and analysis performed.

Tables and Figures
- Are the tables, graphs and figures clear and easy to interpret?
- Are the titles, labels, statistical notation or image quality clear?
- Do they add to the manuscript or merely repeat what is in the text?
- Are there sufficient data and data points and are they consistent with the conclusions?

Citations Check
- Check that cited articles central to the authors’ arguments are accurately supported by the cited reference by cross-checking the reference

Discussion
- Are the findings clearly stated?
- Is the novelty of the research highlighted?
- Are the conclusions evidence-based?
- Are the findings contextualised in terms of the current literature?
- How are discrepancies in the findings explained?
- Are both the strengths and the weaknesses of the study described?
• Are the clinical/real world implications of the research presented?
• Is a ‘limitations’ section present?
• Are the findings overstated?
• Is it written in a concise and clear manner?

References
• Are the references formatted according to the journal guidelines?
• Are there too many references for the article type?
• Have key references been omitted?
• Are important references adequately cited in the text?

Submitting Your Review and Recommendation:

BJSM ScholarOne Submitted Review
Having completed the above, you will be able to accurately complete the ScholarOne sections under “Submitted Review”. These include:
• Do all figures include the actual data for all data points shown, either within/beside the figure or in the supplementary material?
• Please provide a competing interest statement:
• Are research ethics (e.g. study design, consent, ethical approval) addressed appropriately?
• Do you have any concerns about publication ethics (e.g., plagiarism, fabrication, redundant publication, undeclared conflicts of interest)?
• Supplementary material
  - Is it appropriate for publication and clearly presented?
  - Is there any additional information that should be included in the supplementary material for publication?
• If you feel the paper needs an English language review, please let the editor know in the confidential comments to the editor section.
• If asking for a revision, be specific about what changes you would like to see
• If rejecting the paper, make constructive suggestions about how the paper can be improved

Attach files if you prepared your comments in a separate document or edited directly such as your tracked changes Word manuscript.

Link your ORCID ID to your review. BMJ is working with ORCID to recognise the importance of the reviewer community. Reviewers are now able to share their activity by connecting their review to their ORCID account to gain recognition for their contributions.
Sources

1. BJSM/BMJ Authors. [https://bjsm.bmj.com/pages/authors/](https://bjsm.bmj.com/pages/authors/)
5. Altman DG and Royston P. The cost of dichotomising continuous variables. BMJ 2006;332:1080. [https://doi.org/10.1136/bmj.332.7549.1080](https://doi.org/10.1136/bmj.332.7549.1080)