



In view of today's flood of scientific articles, it is becoming increasingly important to keep track of the current scientific state. Particularly in the case of controversial topics, where the findings are going in different directions, it is always important to weigh up carefully how to evaluate the individual articles. Most importantly, not all published studies are of high quality. In some cases, influencing parameters might not be considered or an incorrect statistical evaluation is carried out. A systematic review helps both the author and the reader to gain an overview of the scientific state and to inspect studies that have already been conducted by other scientists.

Not a mere enumeration of results

The systematic review is an independent scientific method. Its aim is to summarize and evaluate the entirety of relevant literature on a subject area. The justification for being an independent method is because new insights are to be drawn from a review. It is not just a matter of enumerating results:

"Systematic reviews are undertaken to clarify the state of existing research and the implications that should be drawn from this." (Feak & Swales, 2009, p. 3)

In a review, the author attempts to achieve a previously defined research goal or to answer a research question. This could be, for example, the discovery of research gaps. Systematic reviews have one of the highest probative value of all scientific papers, since the authors have no personal connection to the original articles (conflict of interests). In order to achieve this, a methodically formal (systematic) procedure is necessary.

This is how you proceed:

1. Development of the research question



2. Definition of the inclusion and exclusion criteria
3. Search for studies
4. Selection of studies
5. Extracting the data
6. Presentation of the results

General Steps in Writing a Review Paper for the Journal of Biomechanics

- Define a focused topic in the field of biomechanics
- Search on previous primary papers and reviews in this area
- Decide if a review is needed, and if so, choose how to structure and organize your review
- What are the primary take-home messages of your review?
 - Don't simply make a list of findings of previous studies.
 - Your review should formulate broad conclusions based on a synthesis of the literature - what does the literature imply when several different studies are interpreted within the context of one another?
 - Review the literature in the entire field, not just work from your group
- Include at least one but preferably several original overview figures that summarize the state of the field. Reproduction of previously published figure is strongly discouraged but will be allowed if absolutely necessary and with written permission from the previous corresponding author and copyright holder (generally the publisher).
- Review Articles (Surveys) are limited to 6000 words (Introduction through Acknowledgements). There is no strict limit on the number of references (within reason) but generally less than 100 is appropriate.
- Perspective Articles are typically in the range of 500-2000 words and explore controversial yet important themes, allowing expression of particular views or speculations, yet based on a solid understanding of published scientific information.
- Please submit your article at <https://www.editorialmanager.com/BM/>
- Articles will be pre-reviewed by the editors, if appropriate, sent out for peer review



You can find more information in the [Guide for Authors of the Journal of Biomechanics](#).

References

Feak, C.B., Swales, J.M. (2009) Telling a Research Story, Writing a Literature Review. Vol. 2. Michigan: ELT

Cornell University (2020) A Guide to Conducting Systematic Reviews: Steps in a Systematic Review. <https://guides.library.cornell.edu/evidence-synthesis/service>