

Composing a Technical Paper for the Journal of Biomechanical Engineering

June 2003

Abstract: The abstract should begin with a brief statement of the rationale for the study, state the specific objectives, briefly describe the methods related to each objective, state the key findings related to each specific objective using quantitative information, and explain the importance of these findings. The length of the abstract should not exceed 250 words.

Introduction: The Introduction should develop the need for the study including a brief review of relevant literature and its inherent shortcomings in satisfying this need, and should provide a rationale for each specific objective with the corresponding paragraph ending in a statement of the objective. The Introduction should not contain a summary of the methods following the statement of the objectives. The length of the Introduction should not exceed 500 words.

Methods: The methods should be described succinctly by stating what was done without including lengthy explanations justifying the approach. Instead, these explanations should appear in the Discussion section as described below. In writing the data analysis, an analysis should be included related to each specific objective stated in the Introduction. In describing statistical analyses, the purpose of each analysis should be related to a specific objective and the independent and dependent variables should be stated explicitly.

Results: Results should be presented for each specific objective. Begin each paragraph with a substantive statement. In following sentences, refer to tables and figures parenthetically to support statements made about the results. Do not include any description of the methods in the Results section.

Discussion: Begin this section with a paragraph reminding readers of the objectives of the study and the key findings. Following this beginning paragraph, divide the remainder of the Discussion into two subsections. In the first subsection, critically evaluate the methods that were used including all assumptions. This critical evaluation should explain justifications of methodological issues that could influence the results including the assumptions. Further, the inaccuracies in the experimental technique should be elaborated together with an assessment of how these affect the results. In the second subsection, discuss both the importance and interpretation of all key findings listed in the Introductory paragraph. Include a comparison to the results of other studies if appropriate.

Conclusion: Either add a summary paragraph at the end of the Discussion section or add a separate Conclusion section explaining the key conclusions of the study and their usefulness.

To insure clarity in writing, adhere to the following rules:

- Each paragraph must begin with a topic sentence.
- Sentences in a paragraph following the topic sentence must adhere to topic of the paragraph.
- Consistent terminology must be used throughout including figures and tables.
- Acronyms that are not in common use and will not be recognized easily by all readers should be spelled out throughout the text.