



TIPS FOR AUTHORS

The *Materials and Methods* Section
of the Research Report:
Some Thoughts About its Function
by Nellie Kremenak, PhD
Journal of Prosthodontics

The purpose of all research in the health sciences is to improve patient care. This most obvious of facts will shape every sentence of the carefully written research report.

Does it follow then that the *Materials and Methods* section could be the most important section of a research report? It can be argued that it is. And, interestingly enough, it should be the easiest section to write. While the researcher may struggle over the introduction and literature review for the report and worry about identifying the most efficient and clear method for presenting and describing findings and the implications of those findings, the *Materials and Methods* section seems to almost write itself—simply a list of items with a few verbs and conjunctions thrown in to make reasonable sentences.

Still, it makes sense for the careful writer to pause and consider what readers will need to take away from this section. And, in particular, to think how readers may use the information presented there. Thinking about those uses may help to ensure that no important details are inadvertently omitted.

The *Methods and Materials* section must be sufficiently detailed that the research project could be replicated by anyone who reads it. Perhaps even more likely, a fellow researcher may wish to explore the possibility that the study would have turned out differently if a single element in the design had been altered. For example, suppose a material had been heated twice as long or that a variant material had been used or the population sample had included individuals from a different age or ethnic group.

For the clinician reader, the study may suggest the solution to a particular problematic clinical situation encountered in his or her practice. A comparison of materials or of variations in treatment could provide the clinician with a new element in a difficult treatment plan.

For both types of reader (and all others interested in your topic), complete and exact informational details about the sample, your sampling technique and, in fact, about all *materials and methods* used in the study will be critically important. **Such details must include a specific description of the sample and the sample selection process, generic and trade names of materials and equipment used, as well as names and locations of their manufacturers, measurement protocols including precise times, temperatures, and any other environmental details potentially relevant to your study and its outcome.** This sometimes dry and formalized section actually illuminates the entire research report. Without this informational detail, your results and the discussion of them will be valueless.

When you have completed writing the *Materials and Methods* section, pause before you go on to *Results* and take a moment to think the section through again, ensuring that everything needed is included. Taking extra care with this section establishes the foundation for the description and discussion that follows.

Copyright of Journal of Prosthodontics is the property of Blackwell Publishing Limited and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.