

It Must Be True—I Read It in a Journal

Robert J. Isaacson

Recently, I read a front-page newspaper story about articles in prestigious medical journals.¹ The story cited several scientific articles appearing to be authored by research workers but had actually been written by professional writers hired by a pharmaceutical company. The same story cited an admission by the *New England Journal of Medicine* that an article published in 2000 on rofecoxib (Vioxx) failed to report information about heart attacks among patients taking the drug.

It is easy to trust that orthodontics is too small potatoes for anything like this to happen. However, are we immune to this potentially major conflict between professionalism (the patient comes first) and business (the bottom line comes first)?

I do not know of any parallel in orthodontics, but it is too critical an issue to ignore. It is patently obvious to anyone who has been in orthodontics very long that the vendors of orthodontic products are playing an ever increasing and ever more important role in our discipline. Now, the presence of and support by commercial firms is essential to our professional meetings as we know them. This is true even at the regional level. Our vendors regularly support our journals, our research, and our special events.

Two weeks later, a second story appeared, this time citing an article in the prestigious *British Medical Journal* claiming that when patients made certain dietary changes the year after their heart attack, they could cut their risk of death by almost half.² However, the original data was no longer available, and the article was cited to exemplify the difficulty journal editors have in establishing the validity of data in manuscripts submitted for publication. This second story correctly points out that, "[w]hile prestigious journals act as gatekeepers, awarding legitimacy to some papers and withholding it from others, they have little power to detect or investigate questionable findings."

This is unquestionably true, and in my editorial experience, this problem has only arisen on a few occasions. Our main line of defense in these matters is the peer review system. However, what should be done when the author and reviewer are both acknowledged experts in their fields and they adamantly disagree on a technical matter fundamental to the thesis in the manuscript? To solicit a third opinion will give a

decision, but will it necessarily give the best possible truth?

To compound the situation further, today's high-speed transmission of information will give the latest facts to the world almost instantaneously, but it will also give untrue information with the same speed. Again the *Wall Street Journal* cited an article in the *New England Journal of Medicine* reporting that several major pharmaceutical companies have withheld details about clinical drug trials.³ How can we cope with these issues? One additional line of protection is the latest trend toward evidence-based information. When you read or review a manuscript, insist that the authors provide complete information about how the study was done—information complete enough that you could replicate it in every detail. In addition, insist that the author back all declarative statements with germane references. Insist that conclusions are facts justified by the data in the results and not by opinions or speculation.

Another tool is a systematic review process that sets criteria for literature reviews and eliminates cherry-picking articles to reinforce a predetermined opinion while omitting those that do not. A scientific article is not a novel. It is not meant to entertain nor is it meant to reinforce prejudices. A scientific article must always strive for complete objectivity. Even today, some manuscripts are written with a stated purpose of proving that some idea or some thing is better or more correct.

The orthodontic literature of 50 or more years ago often was experiential and lacked scientific rigor. In a young discipline, the absence of background data will often require more experiential reporting and thoughtful speculation. Since then, however, we have published thousands of articles, and our scientific base has grown. Today, we are obliged to raise the bar and to do everything in our power to ensure that our professional responsibilities are paramount. The information we transmit must be accurate, complete, and fairly portray the situation as today's state-of-the-art. This is one of the primary goals of the *Angle Orthodontist*. Clearly, our reviewers are the cornerstone of this process.

Malcolm Moos wrote, "Beware the military industrial complex." In those prophetic words that he wrote for Dwight Eisenhower, he opened the eyes of many to the risks of a profession and its related businesses becoming too closely entangled. It is no stretch to see this admonition being applicable to occupations beyond the military and big business.

REFERENCES

1. Mathews AW. At medical journals, writers paid by industry play a big role. *Wall Street Journal*. December 13, 2005:A1.
2. Mathews AW, Wonacott P. At medical journals, editor finds truth hard to track down. *Wall Street Journal*. December 27, 2005:A1.
3. Sataline S. Medical journals: drug studies hide key data. *Wall Street Journal*. December 29, 2005:B1.