

## On Quality Control

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On January 1, 2005, (it's only 6 months away) *The Angle Orthodontist* will begin celebration of its 75<sup>th</sup> anniversary—75 years of orthodontic research and information! *The Angle Orthodontist* has a great tradition of quality and a proud history of leadership. However, reputations are slow to come and last long after they are deserved. Thus, it is important to spend a moment trying to understand what has made this journal so lasting and valuable to its readers.

Quality, a major component of a reputation, is a relatively ill-defined term. It's one of those things that Supreme Court Justice Potter Stuart described as, "I can't define it, but I know it when I see it." So the question becomes, how do you guarantee quality in a journal's articles?

Publishing quality has evolved through a series of steps characterized by preceptor teaching, guru leadership, etc. Today it is abundantly clear that the peer review system is the scientific gold standard. To paraphrase Winston Churchill describing democracy, it is an awful system, but it's the best one we have found so far.

I have always thought that my predecessor, Dave Turpin, received all too few kudos for the leadership he exhibited in initiating peer review for *The Angle Orthodontist*. This single seminal step moved *The Angle Orthodontist* into the modern scientific arena and out of the dependence on the whimsical judgments of single individuals.

Peer review, however, is far from a perfect system. The system is based on the position that the best person to judge the quality and contribution of a given manuscript is someone who is knowledgeable and current in that particular specific field. The term specific field recognizes that the information explosion has created so many esoteric sub-fields that no one can possibly be a cutting edge expert in all of them. This all makes good sense—so far so good.

What about the question of anonymity? Vigorous efforts to assure the anonymity of the process cannot prevent a peer, who works in a very narrow parallel area, from recognizing the anonymous author just by the direction and details of the research. This is unavoidable.

The real down side risk comes from the fact that a peer reviewer works in a parallel area and peers are all humans. Will they sublimate their competitive spirit and make a best effort to judge the work fairly by the state-of-the-art in that specific field? Science today works in a competitive, semi-free enterprise system (another one of those best we have so far systems). Thus the question arises, will the peer be fair and helpful with the competition? The good news is

that the peers are almost always dedicated to progress in the field and immensely helpful and constructive. And the system almost always functions well.

However, what would happen should a peer decline to accept an invitation to peer review or fail to perform peer review as expected? As you might expect, the manuscript gets a nonconstructive review or a review by a lesser qualified person in the field. The net result is the manuscript does not get the treatment it deserves, quality suffers, and we are all a little poorer.

The quality of *The Angle Orthodontist* is directly proportional to the quality of our reviewers. Don't pass this off as rhetoric. It could not be truer. One of my most important responsibilities is to identify the most qualified and best possible reviewers for any given article. I go to great lengths to identify the most qualified reviewer which usually includes a demonstration that the reviewer has published in the same field in a peer reviewed journal within the past several years or its equivalent.

Given all of this, how does this work in practice? The editor must respect the opinion of the reviewers as experts in the area of review. However, should a reviewer not support their conclusion with convincing data, it weakens their recommendations. The editor cannot reject an article without some rationale. When two reviewers agree, my job is easy. When they disagree, I do not simply get a third vote and let the majority rule. My job at that time is to qualitatively evaluate the rationale offered by each reviewer and try to make a reasonable judgment about the appropriate disposition of the manuscript.

I have supreme confidence that virtually all of my colleagues are dedicated to progress in orthodontics. The technical issues are moving ahead every day and even now you can read future issues of *The Angle Orthodontist* online months before they come out in paper. We can provide leadership in the technical electronic information side, but the gating issue will always be the human reviewers.

Thus we all owe an overwhelming gratitude to the dedicated professionals who function almost anonymously, and with no tangible compensation, to review articles for *The Angle Orthodontist*. The contributions, from these relatively few, better the lives of so many all over the world. Reviewers are the backbone of our information base and clearly define professionalism in its finest sense. On behalf of both the orthodontic community and our patients, we are indebted and we thank you.