

Perspectives

PROMISING INDEED: THE ROLE OF "EXPERTS" AND PRACTITIONERS IN THE INTRODUCTION AND USE OF NEW MATERIALS AND TECHNIQUES IN RESTORATIVE DENTISTRY

Recently, on a 3-hour drive from one fishing camp to another in Costa Rica, I was part of a passionate and energetic exchange of ideas between three general practitioners—an endodontist, another individual, and me—who are full-time academicians and also frequent lecturers to local, national, and international dental audiences. To describe the conversation as animated would do it an extreme injustice, and the issues it raised were topics of continued discussion for the remainder of the trip.

The core of the discussion was the importance of practicing evidence-based dentistry and what the relative roles are of manufacturers, "experts" (authors and lecturers), practitioners, and dental schools in the responsible and orderly introduction of new materials and techniques into clinical practice. In my opinion, these are issues that have not been adequately discussed or resolved and are critical to the continued practice of high-quality, fee-for-service dentistry.

The genesis of the preceding discussions was a lecture I had given

several years ago in Western Canada on all-ceramic crowns. In that presentation I had identified one specific all-ceramic system and recommended strongly that it not be used. That recommendation was based on data from a clinical trial that had been conducted by a faculty member in my department whose initial short-term results were extremely negative. A close friend (who was on the trip to Costa Rica) happened to be in the audience that day and privately disagreed with me on the merits of the specified ceramic system.

Subsequently, on the recommendation of his dental laboratory, he placed a number of these all-ceramic restorations and was quite pleased with the results. He eventually went on to place over 200 of these crowns, and over the following 2 or 3 years had to replace almost all of them at his own expense. Needless to say, I have had some fun periodically reminding my buddy, "I told you so," but the anecdote does raise important issues facing the profession today.

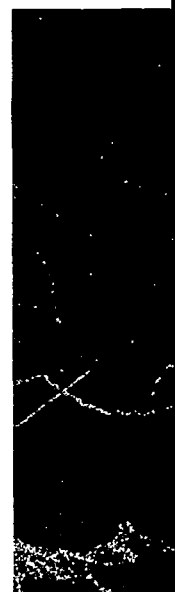
Those issues include identifying and understanding the environment

related to current marketing of new materials, identifying the responsibilities and defining the role of experts or gurus in educating the profession, and identifying and defining the responsibilities of the practitioners who will eventually choose whether to use a new material for the benefit of his or her patient.

THE CONTEMPORARY MARKETPLACE

It is essential to understand that the environment related to the introduction and marketing of new materials has changed considerably over the past two decades. Years ago dental companies were primarily controlled by dentists and scientists. Products were brought to the marketplace at a much slower pace than they are today, and most products had undergone at least a modicum of short-term clinical testing.

Today products are brought to market at an exponentially more



rapid pace. Most products have had in-house physical properties testing and limited marketing research, but very few have had any scientifically valid clinical testing at the time of release. The net result of this situation is that practitioners are essentially conducting the clinical trials for new materials at their own expense, and that the patient is assuming much of the risk, usually without having given adequate informed consent.

It is essential to understand that this situation is not likely to change in the near future; therefore, the intelligent dentist must adopt specific strategies to succeed in a changing environment. It is not productive to simply blame the manufacturers for this situation. If the manufacturers took the time and spent the money required to conduct scientifically valid clinical research before introducing a new product, it would most likely be in vain because the product would be obsolete by the time the results were published and disseminated to clinical dentists.

It would seem appropriate to recommend that dentists should primarily use products that have a clinical track record. New products should be cautiously introduced to the practice only after a track record has been established. The clinical dentist receives information about new products from manufacturers, colleagues, and industry leaders. Information from manufacturers and suppliers has the definite potential

for bias and must be received as such. Information from colleagues is often anecdotal in nature and lacks scientific credibility. Thus, it appears that information gleaned from industry leaders or experts should and does play a major role in the choices made by clinicians.

THE ROLE OF THE EXPERT

In discussing the role of experts, it may be useful to define what constitutes an expert. Certainly we have all heard the definition that an expert is a dentist more than 100 miles from home with a carousel full of slides. For the purposes of this editorial, an *expert* is anyone who can get invited to speak to an audience of dentists, whether in the form of a small study club, at a local dental society, at national meetings, or to prestigious academies. Also included in this group are individuals who publish newsletters or who publish frequently in many of the contemporary trade journals. Experts also publish in peer-reviewed journals, but the information they provide in these journals has a layer of authenticity that is not present in other venues.

Many of these industry leaders base their lectures on studies published in the peer-reviewed scientific literature, some of which they may have conducted themselves. Others are little more than paid shills whose lectures are essentially infomercials for specific products. Unfortunately, for the undiscerning dentist, it is

not always easy to differentiate one type of expert from the other.

Many dental societies compound the problem by eagerly seeking clinicians who are sponsored by various companies or manufacturers. This reduces the costs of continuing education for their members but increases the likelihood that information presented during the lectures has the potential for bias. Adequate disclosure by the speaker regarding any relationship with products discussed in the lecture is mandatory, but, unfortunately, is often not given.

Speakers are frequently placed in difficult positions as their speaking career depends on maintaining good relationships with the manufacturers. This leads to a level of political correctness that may not be particularly helpful to the audience members, who have paid good money and given up valuable time to attend the lecture. With this in mind, I would like to suggest that all of us who regularly make presentations to dental audiences pledge to provide the highest level of honesty possible to our audiences.

One term I find particularly offensive when describing a new dental product that has essentially no clinical research behind it, is that it is "*promising indeed!*" What this implies is that the product is OK, and it encourages the dentists in the audience to buy and try it. What it really means is that the

product has good physical properties and is manufactured by a respected company but that the expert may not have actually used it. Most experts understand clearly that good physical properties do not guarantee good clinical performance and that improvements in physical properties often have no effect on clinical performance.

When we say "promising indeed," we are pleasing the manufacturer but misleading the clinical dentists who rely on us. I have heard almost every major speaker use this phrase over the years and, indeed, have used it myself at times. What we should state is the truth: the product has all the physical properties we think it needs and is manufactured by a reputable company, but that we need further clinical testing before we can recommend it. The dental audience and their patients deserve nothing less than the truth!

Another instance in which experts relay misleading messages to practitioners is when they allow manufacturers to use their name and/or photo to endorse a new product in advertisements in journals. This practice should cease, as should the publication of articles describing a new product (with no scientific evidence) accompanied by full-page advertisements for the product on adjacent pages. These practices give the product a veneer of validity it does not possess. As industry leaders, we need to eliminate such fraudulent occurrences.

THE ROLE OF THE PRACTITIONER

Although clinicians clearly have an obligation to provide contemporary, substantiated evidence to support their message, the practitioner needs to be more than a passive receptacle for information. Dentists should possess a basic knowledge of materials science so that they can evaluate claims for new materials with an appropriate level of healthy skepticism. All claims should be passed through a simple filter of common sense and past experience. Claims that seem too good to be true are usually exactly that. Finally, the promoter of the product should be asked to provide clinical evidence of the efficacy of the product. If this is lacking, the clinician is well advised to pass on the product until clinical evidence is available.

It is unfortunately the case that highly reliable clinical evidence in the form of multiple, independent, randomized clinical trials is not available for review prior to the use of a new material. Nonetheless, with the majority of new products, clinicians should wait until initial clinical evidence is available. This will likely come from the experts, and it is imperative that practitioners not accept every guru's recommendation without subjecting it to careful scrutiny.

Once dentists have decided to use a new product, they should read the manufacturer's instructions and be certain they understand the nature of the product and the optimum

manipulative variables. A trial run with the material should be accomplished on extracted teeth or in another laboratory simulation. Then the clinician should proceed with caution and use the material in a few simple cases for which the product is clearly indicated and is not being tested at its upper limits. Results should be carefully evaluated over an appropriate time period; if positive, the material can then be used with confidence as a staple of the practice.

SUMMARY AND CONCLUSIONS

Contemporary general practitioners are facing enormous challenges. Whether they want to or not, they are forced to manage a complex small business and are often ill equipped educationally and emotionally to do so. They also have to manage a substantial number of staff members, often with complex emotional interactions. Young dentists today are frequently forced to service considerable debt as a result of educational costs and high practice overheads. Manufacturers and dental laboratories are aggressively marketing new products and procedures at an unprecedented rate, often with sophisticated marketing techniques. These practitioners also have lives outside of work as wives or husbands, fathers or mothers, scout leaders, and coaches.

Although contemporary clinicians are faced with many challenges,

they also must accept some responsibilities regarding new products and practices. They must possess critical thinking skills and a basic knowledge of materials science. Whether contemporary dental schools provide their students with an education that stimulates this is a topic for another editorial. Educationally prepared or not, practitioners should filter information through common sense and past experience. New products should be introduced to the practice carefully and used in a conservative manner.

These overstressed individuals deserve the best possible information from those of us who are considered experts. We cannot continue to be politically correct when describing new products and materials. We need to call it the way it is. Those who are considered experts have achieved that status through a combination of hard work, talent, luck, and perhaps some sleight of hand. There are legitimate rewards to be reaped as an expert, but with those come responsibilities. Referring to products with no clinical

testing or evidence-based foundation as "promising indeed" does not meet those responsibilities.



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