

Too Many Cooks and Not Enough Chefs!

The field of osseointegration has had a dramatic impact on the practice of dentistry over the last 20 years. Many patients have had their quality of life improved, the value of evidenced-based outcomes has been enhanced via long-term implant-related clinical studies, several traditional paradigms have been questioned and modified, and product research and development have been stimulated. It has been recognized that prosthodontists are especially qualified to provide direction and leadership in this multidisciplinary clinical entity due to our *raison d'être*: expertise in diagnosis and treatment planning.

For many years, research in the clinical field of dental implants was nonexistent. Not anymore! The implant field currently commands the greatest effort in scientific investigation, receives the greatest financial support for research (and marketing), and is the basis for the greatest continuing education incentive in the profession compared to any other facet of dentistry.

But has the pendulum swung too far? Has the science behind the subject maintained its rigor and discipline? Has the need for expert diagnosis and treatment planning been supplanted by a return to recipe techniques and third-party control? Has the periodontal ligament had its requiem and been laid to rest?

A significant stimulus behind this push for implant-related treatment comes from commercial enterprises, which, because of the myriad of products involved, can see an avenue for enhancing value for shareholders and CEOs.

Indeed, it is these commercial enterprises that seem to have usurped the major role in education in the field. We have travelling "World Tour" circuses promoted like pop concerts. Products and techniques are being pushed with inadequate or no scientific evaluation. Sales personnel are giving in-surgery tuition to clinicians. General practitioners are being made to feel inadequate if they have to refer patients, when the techniques are so easy and readily "guided" by "big brother," have supposed 98% success rates, and have few if any complications acknowledged. These commercial enterprises have challenged the importance of a multidisciplinary approach and the appropriateness of prosthodontists as leaders of the team—the "chefs." They are involved in the assessment, treatment planning, surgery, and provisionalization of the prostheses. It's a one-stop shop, encouraging as many "cooks" to browse as possible.

The principles of good scientific research involve an accepted hierarchy. There is the identification of a problem, research into developing an alternative technique or product to solve the problem, rigorous scientific evaluation of the new technique or product to test its efficacy, and finally the marketing of the new product or technique. Unfortunately, in implant dentistry, this hierarchy has too often been modified. A new product is developed, a problem is "identified," the product is marketed, and *then* scientific evaluation (usually not very rigorous) is produced to justify the use of the product. If the subsequent clinical results prove unfavorable, there is a new product waiting in the wings. A state of quasi-anarchy has indeed arrived! This poor application of scientific principles is not confined to implant-related dentistry. Dentin bonding (are we still using generation nine!?) is another field in which this charge could be levelled.

Good science, however, does not necessarily involve that accepted pinnacle of evidence-based research: the prospective, blinded, controlled, randomized (sanitized!), clinical trial. Such projects are often impractical for evaluating clinical techniques. Clinical advances that offer positive benefits to patients can also be achieved through experience gained by clinicians. Prosthodontists, specially trained in objective assessment, are perfectly positioned to provide this experience. However, collective outcomes need to be well documented over the long-term. Advances in information technology simplify the process. The data can be collated and supplied to academics for analysis and dissemination, thus providing a new connection between clinical practice and academia. This process involves relatively little funding, thus eliminating the need for commercially based third parties.

I was recently involved in a discussion with several endodontist colleagues. I was surprised by how threatened they felt by the current emphasis on implant-related treatment. Endodontics is a mode of treatment that has well-documented, excellent long-term outcomes. New techniques and the use of microscopes promise even better outcomes. So why is endodontics not the current fad treatment? I realized it is because commercial enterprises don't see much money to be made from reamers, files, and obturation paste. However, the one factor that is most important in endodontics is the skill and integrity of the operator—something that cannot be controlled by third parties.

Like most specialist prosthodontists, I have experienced an almost exponential increase in the number of implant-supported prostheses I have provided over the last 20 years. However, I have also noted that there is less use of at-risk teeth, fewer long-span FPDs, and less use of FPDs that do not comply with Ante's Law. These factors, along with improvements in endodontic techniques, point to better outcomes for tooth-related prostheses, especially for nonvital teeth. In addition, fewer unblemished teeth are mutilated and used as abutments in FPDs. Inadvertently, properly planned implant-related dentistry is underpinning the resurrection of the periodontal ligament!

A brochure advertising yet another company-sponsored "hotel" course on implants recently landed on my desk. I noted that the "expert" speakers included 2 periodontists, an oral surgeon, and a general practitioner. The general practitioner was scheduled to discuss his personal experience with bone grafting, ridge augmentation, sinus elevation, and ridge-splitting techniques.

Many of these techniques have little scientific evaluation and few long-term follow-up studies, and show a high reported incidence of risks and morbid sequelae. No doubt this practitioner has attended several continuing education and hotel courses on implant-related dentistry. However, he had no formal qualifications, and I question whether it is appropriate for a general practitioner, or even a prosthodontist, to detail his or her personal experiences in these subjects. Too many cooks?

I was further dismayed after reading an article in a recent issue of a peer-reviewed journal that detailed a case report using surface-engineered implants in conjunction with mandibular nerve transposition. The article described a procedure with extremely high morbidity and a chance for untoward complications in the posterior mandible. It is extremely hard to justify the treatment described in this case given the state of the remaining mandibular anterior teeth, which showed signs of both periodontal disease and caries.

The obvious treatment plan to someone adequately trained in diagnosis and treatment planning would involve a full clearance with interforamina placement of implants and an implant-supported fixed denture. Such a treatment would result in a much lower morbidity and risk of complications. In addition, this treatment has a well-documented, excellent long-term outcome. Again, too many cooks?

These experiences highlight the need for us as prosthodontists to reassert our expertise in diagnosis and treatment planning. We need more prosthodontists to provide the required direction, skill, and integrity to this rapidly evolving and remarkable field of osseointegration. These experiences underscore the importance of Dr Zarb's initiative to establish the workshop in Karlsruhe for early career prosthodontic educators, which hopefully will inspire upcoming prosthodontists to provide the leadership and direction required. In other words, it will produce some much-needed chefs.

Terry R. Walton, BDS, MDSc, MS, FRACDS



Terry Walton's career in prosthodontics underscores the enrichment and professional commitment that superbly qualified clinical teachers can bring to the discipline. He graduated with a Bachelor of Dentistry degree from the University of Sydney in 1973 and subsequently taught undergraduates in the Department of Operative Dentistry between 1974 and 1979. He earned a Master of Dental Science degree from the University of Sydney in 1979 and pursued additional studies in the United States at the University of Michigan, where he obtained a Master of Science (Prosthodontics) degree in 1982. He returned to Australia and served as prosthodontist at the Westmead Dental Clinical School in 1983 before commencing a specialist prosthodontic private practice in Sydney in 1984. He remains in private practice and teaches at the Graduate

Prosthodontics Program of the University of Sydney, where he is also involved in the planning committees for both the Prosthodontic and Diploma of Oral Implants Programs. He is a member of many dental organizations and has held various committee positions, most notably serving as co-president of the International College of Prosthodontists between 2001 and 2003. His major clinical research interests continue to be long-term outcome studies of tooth and implant-supported prostheses, and his publications have appeared in major refereed journals. He has presented lectures, seminars, and workshops to many groups and organizations both in Australia and overseas. Terry Walton is a particularly active and much appreciated reviewer for *The International Journal of Prosthodontics*.

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