

Prosthodontics 21: Toward a New Era?

Has a new era in prosthodontics begun? Did it begin with the editorial titled "Prosthodontics 21: A New Beginning," which was published concurrently in the four leading international prosthodontic journals in 1994?¹ Did G. A. Zarb's statement in this editorial sum up the frustration many felt within the discipline?

We have allowed ourselves to be perplexed in part by the ruthless demands of accuracy in our technical performances. We have also been obsessed with micromile measurements and the severe standards of a handicraft approach to problem solving.

The extent to which this allegation is valid can be a matter for discussion. An observation, however, is that at the time this editorial was published, a number of initiatives within an evidence-based context could be found in the prosthodontic literature. The latest and most notable venture is the publication of the "Evidence-Based Dentistry Series" in *The Journal of Prosthetic Dentistry* in 2000.

Evidence-Based Dentistry

J. D. Anderson from the University of Toronto has for some time argued both in lectures and in the literature that there is a need for evidence-based practice in prosthodontics.² Somebody has been listening. The first textbook in prosthodontics to include a chapter on evidence-based dentistry was published in 2000.³ The topic has also begun to appear in meetings of prosthodontic societies. The 1998 annual meeting of the Scandinavian Society for Prosthetic Dentistry in Oslo had as its main topic "Evidence Based Care in Prosthetic Dentistry," while the 2000 annual meeting of the Swiss Society for Prosthetic Dentistry in Lucerne focused on the cost benefits of prosthetic therapy. At the 2000 Japan Prosthodontic Society's International Prosthodontists Symposium in Osaka, evidence-based dentistry was strongly emphasized in the presentations on principles and management strategies of prosthodontics beyond 2000. This year's meeting of the German Society for Prosthodontics and Dental Materials Science will include an inaugural lecture by J. C. Türp focused on principles of evidence-based dentistry. Another promising application of evidence-based dentistry in prosthodontics is a

series of systematic reviews that currently is being carried out within the Cochrane collaboration: "Interventions for Replacing Missing Teeth with or without Osseointegrated Implants." The systematic reviews will be completed by 2002 and will thus form a basis for future developments of controlled clinical trials in prosthodontics.⁴

Environmental Changes

Why this gradual emphasis on therapy effectiveness rather than technical performance in modern prosthodontics? Several laudable editorials published in *The International Journal of Prosthodontics* discuss different issues. It is probable that in so doing, they have contributed to raising awareness of these new challenges in the prosthodontic community. Several factors may be part of the cause.

An increasing number of elderly patients retain their teeth throughout life. This often generates complex treatment decisions. Many articles report large discrepancies between professionally assessed need and subjective treatment demand, especially among elderly patients. This, with other factors, led in the mid-1980s to the formulation and discussions of the shortened dental arch concept, which has since been under debate within the prosthodontic community. At first it was regarded as a clinical opinion, but a large number of clinical studies have been carried out to substantiate or negate the theory, using an array of more or less appropriate study designs.

The relationship between prosthodontics and oral physiology has always been very close because it is related to the question of patient need versus demand. During the 1980s, an increasing number of articles questioned the many dogmas and statements on the topic found in traditional textbooks. As a close parallel, we have experienced opposing views on the etiologic role of occlusal patterns of patients with TMD, culminating with the National Institutes of Health conference on TMD in 1996.

Tremendous advances have been made in the development of new implant biomaterials and techniques. However, in spite of the very positive clinical results that have been presented, there has been resistance from "traditionalists" and prosthodontists recollecting implantology from the pre-Brånemark era. Unfortunately, a combination of the manufacturers' race to obtain a share of the

implant market and the indisputable fact that implant-based prostheses are preferred by most patients has, at least until fairly recently, delayed serious research on the benefits and potentials of implant-based prosthodontics.

Advances in other disciplines, such as orthodontics, periodontics, and endodontics, as well as the introduction of new and complex oral surgical procedures, can add to the potential of implant placement, which has dramatically broadened the repertoire of oral rehabilitation. However, there is a pressing need to address efficacy versus effectiveness issues, ie, whether the technical feasibility that has been shown under sophisticated high-tech circumstances can be realized under ordinary clinical circumstances in general practice.

Manufacturers have an increasingly higher output of new materials, instruments, and dental equipment that need revenue returns. This, combined with the fact that today the information highway reaches not only the dental professional but also patient organizations, individual patients, and advocates of these two categories, creates a need for the modern prosthodontist to be able to critically appraise all new information.

Treatment Decisions and Evidence-Based Dentistry

It has always been acknowledged that prosthodontic therapy involves high costs, an implicit biologic price, and a temporal element. Thus, clinical decision making was often a dichotomous decision as to whether prosthetic therapy should be carried out, or at best a choice between fixed, combined, or removable prostheses. Today, (1) there are a multitude of possible treatment modalities available; (2) there are many complex patient scenarios because people do not lose teeth that show

heavy signs of wear; and (3) there is an increasingly older population with varying function associated with their health state. It is no wonder that many prosthodontists feel a significant need to gain knowledge of how to appraise the various methods' levels of benefit versus harm to be able to apply the appropriate modality according to individual patient needs and preferences. This is evidence-based dentistry in practice.

Asbjorn Jokstad, LDS, Dr Odont/PhD
Associate Professor, Institute of Clinical Dentistry
Dental Faculty, University of Oslo, Norway

This editorial is based on an article to be published in Evidence-Based Dentistry; the article will contain a complete list of references.

References

1. Zarb GA. Prosthodontics 21: A new beginning [editorial]. *Int J Prosthodont* 1994;7:400-401.
2. Anderson JD. Need for evidence-based practice in prosthodontics. *J Prosthet Dent* 2000;83:58-65.
3. Jokstad A. Evidence based medicine applied to fixed prosthodontics. In: Karlsson S, Nilner K, Dahl BL (eds). *A Textbook of Fixed Prosthodontics. The Scandinavian Approach*. Stockholm: Förlagshuset Gothia, 2000:337-356.
4. Esposito M, Coulthard P, Worthington HV, Jokstad A, Thomsen P. Interventions for replacing missing teeth with or without osseointegrated implants (protocol for a Cochrane review). In: *The Cochrane Library, Issue 4, 2000*. Oxford: Update Software.