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Preface

Implantology

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Guest Editor

The pioneering work of Brånemark ushered in a new era in dentistry—the era of implant dentistry. Brånemark and his colleagues created a new field of study from a serendipitous research observation, thus exemplifying Pasteur's dictum that "chance favors the prepared mind." Through further research, these investigators transformed the field of implantology from an unpredictable art to a well-grounded clinical science. This research provided the scientific basis for a set of strict clinical protocols. Although some of the early protocols proved to be overly conservative, such as the requirement that all implant surgery be performed in an operating room environment, the growth of implantology was well served by this emphasis on predictability and outcomes.

From those early beginnings, much has changed in implantology. As new knowledge has accumulated, old paradigms have been revised or replaced with new ones. What began as a hyper-specialized treatment modality has now become a commonplace method of tooth replacement. Some of these new paradigms are summarized in this volume. Drs. Puleo and Thomas discuss the impact of implant surfaces and the role of surface enhancements in improving outcomes and shortening treatment time. Drs. Jones and Cochran revisit the literature regarding one- versus two-stage implants. Drs. Paquette, Brodala, and Williams review risk factors for implant failure, a topic that is likely to be of increasing importance. Dr. Jay Beagle discusses immediate implant placement, while Dr. Mohanad Al-Sabbagh examines the placement of implants in the esthetic zone, another topic of increasing importance. Drs. Tiwana, Kushner, and Haug discuss sinus augmentation

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surgery and make suggestions for improved outcomes, while Drs. Thomas, Daniel, and Kluemper review applications of the palatal orthodontic implant. Drs. Haubenreich and Robinson review simplified posterior implant impression techniques, while Ms. Humphrey examines the literature regarding implant maintenance (a topic neglected in the early implant literature). Most of these topics clearly fall outside of the original Brånemark protocols. At that time, the concept of immediate placement, roughened titanium surfaces, or orthodontic implant anchorage would have been outside of the mainstream. But times have changed and the discipline has evolved.

Implantology has, indeed, matured. Many clinicians initially were skeptical of Brånemark's work, because many earlier implants were neither well researched nor predictable. As a result of this early skepticism, implantology has been preoccupied with outcomes research and survival analysis. Indeed, dental implantology has made greater use of such methodology than most other areas of dentistry, with the result that it is often difficult to make evidence-based treatment decisions involving implants versus traditional dental treatment.

All too often, the clinician finds that the predictability of the implant may be, to a greater or lesser extent, quantifiable, but similar data for the so-called "traditional" therapies is lacking. This must change as dentistry enters the new millennium. The profession desperately needs better outcomes research that can guide clinical decision-making. In this issue, the article by Drs. Thomas and Beagle compares implant outcomes with some conventional dental treatments, such as endodontic therapy and conventional mandibular dentures. The authors suggest some clinical decision-making guidelines. However, these issues are far from resolved. All disciplines in dentistry must scrutinize their procedures and find out what works well and how well it works. Such outcomes research often is difficult and time consuming to execute. But the work must be done if we are to serve our patients well.

Last, dental education must ensure that graduates are well versed in the responsible use of implants in routine dental care. At the University of Kentucky College of Dentistry, a comprehensive predoctoral implant program was begun in the late 1990s. The program was spearheaded by then-Dean Leon Assael. The result is a program in which all dental students are required to restore several implants in the setting of the predoctoral clinic.

This emphasis on performing the restorative phase in the predoctoral clinic is intentional and serves to underscore the fact that dental implantology is no longer a "black-box" quasi-specialty that must be learned in a special implant clinic and performed on special implant patients. Rather, the intent is to dispel the aura of mystery that formerly surrounded implant restorations by making implant treatment a banal, routine component of the clinical experience. The program has been very successful in terms of outcomes and student satisfaction. Part of this success is the result of strict adherence to evidence-based treatment protocols, use of a single implant

system, and careful case-selection criteria. This sort of mainstream experience is the type of implant education that all dental students should be receiving.

This preface opened with a reference to one medical pioneer and shall end with reference to another, Sir William Osler, who admonished his colleagues that "to study the phenomenon of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all." It is hoped that this volume will provide some navigational aid for the dentist who must daily navigate the clinical sea, while suggesting some areas for future research. I pray that those engaged in clinical teaching are like Osler, in that they often take up the heavy yoke of personal responsibility that comes with caring for patients.

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