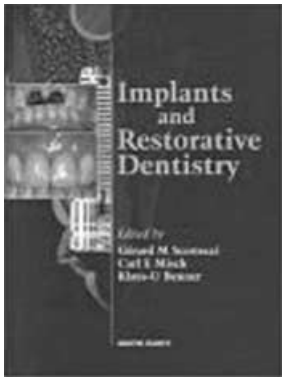

Implants and Restorative Dentistry

Edited by Gérard M. Scortecci, Carl E. Misch, Klaus-U Benner. Martin Dunitz Ltd. Publishers 2001, London; ISBN 1-85317-703-2, 466 pages with 600, mostly color, illustrations; Price $199.95, hardcover

This textbook outlines the principles of clinical implant dentistry that have historical roots in conventional Branemark literature. One of the purposes of the text seems to be the introduction of a departure from conventional implant design and its application to the similar patient populations treated with conventional and contemporary implant designs. The book appears to be directed at dental practitioners of all levels of skill and interest in dental implantology. Its stated goals are directed toward combining the science, surgical aspects, restorative aspects, and maintenance procedures associated with dental implants. Therefore, the book is divided into four main sections including scientific basis, diagnosis and treatment planning, clinical applications and accompanying laboratory procedures, and finally, complications and maintenance.

The first chapter introduces differences between axially and laterally inserted implants. The laterally inserted implants appear to be a combination of a root-form and plate-form implant. The premise for the use of this implant design is multicortical stability and minimal invasiveness. It is interesting to note that the data given for long-term follow-up is exclusively from the author over a 10-year period. The next several chapters address specific considerations of various surgical approaches. The first of these chapters is a morphological basis of both gross and microanatomy. Color and black/white illustrations nicely illustrate the indicated surgical landmarks.

The subsequent chapter reviews autogenous, xenoplastic, and alloplastic grafting materials with their application to bone formation. The color plates nicely illustrate bone formation with the respective materials. The chapter only briefly suggests other materials, like platelet-rich plasma, which may provide future avenues, but does not give specific references. The following 2 chapters are contributions from Dr. Carl Misch and specifically review divisions of available bone and bone density. These are nicely illustrated and, though short, provide essential information to assist the reader in understanding the usual bone qualities in the oral cavity. An additional chapter, which is intricately illustrated with cellular types, cytokines, and the healing cascade, is devoted to peri-implant biology. This unique chapter appears to address the contemporary rationale on the peri-implant interface and its adaptive and interactive capacity. The remainder of the first section is devoted to biocompatibility and biomechanical testing of screw-type and disc-type implants. Many of the illustrations are nicely colored micrographs and photographs of animal and histologic testing historical to the development of these systems. The cyclic fatigue testing techniques presented seem to look not only at implant design, but also at the bone to implant interface. The chapter on biomechanics does not outline or suggest specific prosthetic designs, but rather makes an argument for the use of alternative systems.

The second section of the book is dedicated to diagnostics, and has a comprehensive chapter reviewing medical/systemic assessment. When evaluating patients for implant surgery, a systemic approach including physical exam, history taking, and laboratory data is recommended. A chapter on treatment planning is an excellent review of comprehensive surgical assessment. Information is included on informed consent, indications, contraindications, and model preparation, with less emphasis given to prosthetic design, temporization, and surgical template fabrication. The next 2 chapters nicely outline radiographic assessment techniques incorporating computerized imaging techniques with CT scanning to arrive at virtual treatment planning. These chapters are comprehensive and are a definite strength of the book. On the other hand, the outcome of the virtual treatment planning does not include surgical templates, and may miss the importance of this critical

step when incorporating computer-assisted diagnostic tools.

The third section of the book outlines surgical approaches for specific case management from single-teeth to full-arch edentulism. Two configurations of implants, each of which have unique methods of surgical approach, are discussed. The author discusses the Structure® implant, which, with its macro-retentive screw and gradual thread pitch with 4 vertical channels, facilitates self-tapping for the full length of the implant. This results in less stress to recipient bone, as compared to other screw-type implants with only the apical portion being "self tapping." The Diskimplant® surgical approach is also discussed in detail. This approach theoretically places the horizontal portion of the implant into cortical bone. Additional rationale for the use of the design of the Diskimplant® is the resistance to occlusal forces from cortical bone instead of spongiosa. Although mentioned, no visual guidance is given to aid the practitioner in correlation of lateral insertion of the implant with the accompanying surgical template.

Additional chapters in this section are devoted to prosthodontics and occlusion. These chapters are excellent reviews of classical approaches to occlusal rehabilitation. Attention is also directed to proprioception and complex occlusal concepts in health and pathology. The edentulous mandible and maxilla are included, with traditional and immediate load approaches both addressed. Prosthodontic design for these cases is not approached with consideration to mandibular flexure for full mandibular arch rehabilitation, or for the phonetic considerations for the edentulous maxilla—2 of the more difficult management concepts inherent to such cases. A series of case reports are presented in the chapters and serve to illustrate the author's prodigious experience and success with these implant systems. An additional chapter of reconstruction with bone grafts is outlined very well with cranial bone, iliac crest, and symphyseal bone grafts. Although titled as plastic and reconstructive surgery, no specific examples are discussed or illustrated concerning mucosa or peri-implant soft tissues.

Other chapters focus on partial edentulism and single-tooth applications. The author gives rationale for the use of the Diskimplants® in atrophic posterior mandible and maxillae in the partially dentate patient. Many of these cases are presented in a chapter dedicated to the results from multicenter reports of 169 implants (72 Structure® and 97 Diskimplants®) and cite a success rate of 99.4% in all areas of the oral cavity.

The fourth part of the book addresses most of the more common surgical complications including neuropraxic injuries, hemorrhage, mandibular fracture, and infections. Prevention and management of these complications are briefly outlined with attention also given to the restorative maintenance of all types of implants. A small emphasis is placed on prosthetic failures and hygiene/maintenance. A section of the final chapter includes an independent study of hydroxylapatite-coated cylindrical implants and cites poor long-term success.

The progression of implant dentistry over the last several years is not paralleled in this text. The prosthetic connection presented maintains the use of the external hex, even for single-tooth applications. No use of internal types of connections or different antirotational features is mentioned. The contemporary topics covered appear to focus on imaging techniques with CT scanning and immediate loading. The author cites data from experience in edentulous maxillae ($n = 172$) over 6 years with a large number of implants (1,871), and no implants were removed or failed during this period. A subset of these was immediately loaded (72 fixed prostheses) and found also to be without failures from 9 months to 4 years of follow-up. Comparison of these data to classic data seems to be grossly nonparallel and leads to speculation of the implant design itself. The regulation of implant manufacturing in Europe is discussed in the first chapter (European Community (EC) Regulation) and although said to be stringent, it may be significantly different than FDA regulations. Although the FDA does not restrict dentists from placing devices that they feel would help their patients, the reader is cautioned as to what is considered to be acceptable, mainstream treatment of missing teeth by endosseous root-form implants. True, multicentered trials are considered repeatable and are the yardstick for how we standardize our skills and treatment outcomes.

Although the book is aimed at practitioners of all levels, the advanced surgical topics and unconventional approaches make this book unsuitable as an introductory book for clinicians in their formative years. Granted, while the author's experience is undoubtedly comprehensive, it is a leap of faith that these seemingly simplistic surgical

techniques would be attainable by most beginning practitioners. The beginning of this book seems to justify the use of the alternative types of implants presented. Assimilations are made from combinations of the use of blade and endosteal types of implants. Although blade implants have had their controversies, they have served as an important historical basis for what we know of the predictability of the "root form revolution." This book goes to extreme lengths to document marginal bone temperature elevations with the lateral preparation technique, and it would appear, to the current and popular, roughened and machined use of titanium in porous bone. Rather, the design of the implants by thread pitch and horizontal disc portions is purported to resist the problems inherent in the conventional Brånemark clone designs.

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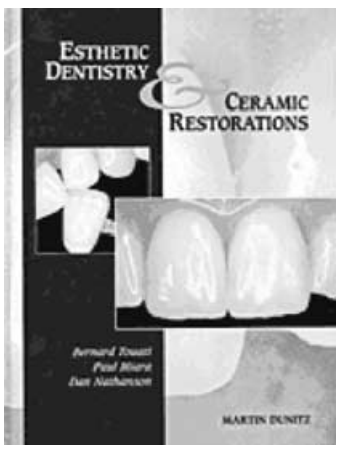

Esthetic Dentistry and Ceramic Restorations

Bernard Touati, Paul Miara, Dan Nathanson. Martin Dunitz Publishers, Thieme Publishing, New York, NY 1999: ISBN 1-85317-159-X, 330 pp, 860 illustrations (mostly color); Price $209, hardcover

Given today's emphasis on dental esthetics, prosthodontists and restorative dentists are expected to provide patients with a superior level of care. Patients of all generations increasingly desire whiter teeth, healthy smiles, and a more youthful appearance. The restorative dentist needs to provide these services precisely and without compromise. This text's stated goal is to provide the reader with information on basic esthetic principles as well as clinical and laboratory procedures.

The American and European authors of this 12-chapter text approach their objective by presenting a broad compilation of clinical and scientific information in a clear and easy-to-follow format. Each chapter is presented in a logical fashion and is very well referenced. The book includes exceptional clinical photographs and step-by-step techniques for clinical procedures. The first chapter introduces the reader to the history of adhesive dentistry and bonded ceramic restorations. A good discussion of the development and mechanism of adhesive procedures is the focus of Chapter 2. Here, the reader is given an excellent explanation of adhesion to dentin and enamel with the use of SEM photographs, tree diagrams, and tables. The confusion of multigenerational adhesives and wet, moist, or dry dentin-bonding with current adhesive trends is nicely clarified.

Chapter 3 presents the various ceramic systems now available. The classification, composition, and physical properties of porcelain are discussed and compared. Information on the CAD–CAM systems is minimal, however, and the systems for Procera, Cerec 3D, and Zirconia FPDs are not mentioned. These exceptionally esthetic and predictable restorations are cutting-edge technology; inclusion of these materials would have made the text more complete.

Color and light transmission are beautifully presented in Chapter 4. The chapter is very well done and provides a comprehensive overview of the language of color, colorimetry, color perception, photoluminescence, and the technical aspects of color and light. Mention of the latest computer shade-matching systems would have been welcomed considering the current trend with these systems. Chapters 5 and 6 seem to follow each other in a very logical manner. The former discusses natural tooth color, staining, and fluorosis while the latter compares modalities available to treat discolored teeth. Historical, clinical, and scientific information are simply and thoroughly presented with outstanding case presentation photographs.

The transfer of esthetic information is reviewed in Chapter 7. The authors also provide background