Book Reviews



The Sinus Bone Graft, 2nd Edition

Edited by Ole T. Jensen 2nd edition. Quintessence Publishing Co. Ltd., Hanover Park, IL, 2006: ISBN 0-86715-455-1. (384 pages; 735 illustrations [522 color]; price \$180; hard cover)

The use of oral implants should be presented as a viable treatment modality for the prosthetic rehabilitation of any edentulous space. Implant therapy has gained tremendous popularity among all dental practitioners, leading to the need to consider implants in all areas of the mouth. The posterior maxilla has long been an area of concern for dental implants, with poor quality of bone and pneumotization of the maxillary sinus. This book provides a biologic and clinical rationale for the sinus bone graft in this challenging region.

Although written in language a dental student can understand, this book is best suited for postdoctoral residents or recent graduates of specialty programs, using it as a reference for successfully performing this procedure. The editor, Ole Jensen, has exhaustively researched the sinus bone graft and compiled 57 world-renowned experts in this procedure, including general practitioners and authors from specialties like oral and maxillofacial surgery, periodontics, and implantology, to contribute to this book. The book is logically divided into four sections, which are further subdivided into 31 chapters.

The first section establishes a great foundation, with the history and biologic basis of sinus

grafting. Following chapters discuss the biomechanics of bone and bone grafts, as well as indications and classifications of sinus bone grafts. The illustrations and clinical photos accompanying the text clearly show and provide informative details on performing the procedure. This attention to detail is very helpful to the new practitioner who has done only a few or no sinus bone grafts. Other useful chapters in this section discuss treatment planning and sequencing of the sinus bone graft, together with implant placement and the prosthetic management of these cases. The last few chapters review the contraindications and complications that may be relevant to your patient or may arise during this procedure.

The second section focuses on the graft sources and materials used in this surgery. The safety and efficacy of autologous, allograft, alloplasts, and xenografts are detailed in various chapters. How and where to surgically harvest these grafts and their placement in the surgery is also included. The authors' copious attention to detail allows the reader to easily follow the theoretical rationale and technical aspects of this procedure.

The third section deals with the technical variations and auxiliary procedures involved with the sinus bone graft procedure. Chapters in this section touch on subjects like the Le Fort I and osteotome technique for sinus bone grafting. Chapter 23, "Piezoelectric Bone Surgery for Sinus Bone Grafting," by Thomas Vercelloti, Myron Nevins, and Ole Jensen, is particularly interesting. This chapter describes a technique with a new instrument that uses low-frequency piezoelectric ultrasonic vibration to precisely cut bone without cutting soft tissue. The authors cite several advantages of this instrument, such as the precise and less invasive cut, which will result in less collateral tissue damage and better healing.

The sinus bone graft procedure is constantly evolving, and the last section discusses the future of bone grafting techniques. Section IV is titled "Looking to the Future," and expounds on such material as stem cell preparation, tissue engineering, and gene therapy.

This text is a good addition to the new practitioner's reference library. The power of this book lies in its precise and useful information, and its straightforward handling of each topic. It contains strong literature references, superb clinical photographs, and easy-to-follow diagrams. When compared to other books on this subject, it is not as sophisticated or in-depth, but it remains a good foundation that practitioners can expand upon if they wish. Overall, this textbook contributes a comprehensive review of how this procedure was discovered, the current scientific research and techniques, and the possibilities that may improve this procedure in the future.

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Implant Restorations: A Step-by-Step Guide, 2nd Edition

Carl Drago, DDS, MS. Blackwell Munksgaard, Ames, IA, 2007: ISBN 978-0-8138-2883-1. (264 pages, 613 illustrations; Price \$99.99, hardcover)

This second edition of Dr. Drago's text is a 10-chapter, step-by-step approach to treatment planning and restoring dental implants. The book follows a detailed, appointment-by-appointment, case-based approach for diagnosing and treating common implant restorative scenarios. There are many supportive color diagrams, high-quality colors images, and clear radiographs. Superficially, it would seem that this text would best serve an audience with minimal implant experience; however, because the author thoughtfully references the literature to support common and controversial implant concepts, methodology, and implant protocols, this text is also well-suited for the experienced clinician who desires an evidence-based explanation for common procedures. Prosthodontic postgraduate students will find this a convenient resource for gathering support for their own implant treatment. This text will aid the laboratory technician in understanding diagnosis and treatment planning from a clinical perspective as well as the step-by-step approach to six specific edentulous and partially edentulous patient treatments. Although the entire text is centered on the 3i® implant system, the treatment planning concepts and appointment procedures are easily applied to other implant systems. For each scenario, the author outlines the clinical and laboratory steps, implant components, laboratory fees, office overhead, and projected profit per hour. The author emphasizes the necessity of early team treatment planning and communication at each step in the treatment process. With the above in mind, it is more appropriate to recommend this text to a broad audience.

The first three chapters provide an introduction to implant dentistry, the 3i[®] implant components, and the various aspects of diagnosis and treatment planning in implant restorative dentistry. Chapters 4 to 9 detail the specific steps for six common implant restorative treatments. The last chapter (Chapter 10) explains the biology of both hard and soft tissue integration in easy-to-follow terms. To better appreciate many of the concepts covered in Chapters 2 to 9, those readers new to implant dentistry may find it useful to read Chapter 10 before reading Chapter 2.

Chapter l outlines the purpose of the textbook. At the time of publication, the author states that he is not a representative of 3i® Implant Innovations, Inc., Palm Beach Gardens, FL, and he purchased all the components used in the illustrated treatments. [Editor's note: as of January 29, 2007, Dr. Drago is now employed by 3i as the Director of Dental Implants.] Literature is reviewed on the failure rates for dentition-based fixed partial dentures (FPDs) and factors involved in the development of prognoses for teeth, as well as a comparison of the economics of an FPD versus a single implant-retained crown.

A most concise and complete explanation of 3i[®] implant components begins in Chapter 2, relating the design of components to clinical factors important to the aesthetically and functionally successful restorative outcomes. The reader is prepared in Chapter 3 for subsequent chapters' discussion of specific scenarios. Treatment planning factors for partially edentulous and edentulous patients are identified with excellent literature citations. Surgical and loading protocols, patient consultation, and informed consent are addressed. The reader is introduced to treatment planning considerations for implant-retained overdentures and maxillary and mandibular fixed hybrid prostheses.

Convincing evidence is presented in Chapter 4 on the significant continued need for edentulous patient care through the first part of the 21st century. Reference is made to the McGill Consensus Statement of 2002, which set the mandibular 2implant-retained overdenture as the first choice standard of care for edentulous patients. Consideration is given to patient factors that must be evaluated before determining the type of prostheses best suited to each patient, including cost and quality of life. Excellent clinical and laboratory images document the process of relining a mandibular complete denture and the incorporation of Locator Attachments.

Dr. Drago provides a short literature review in Chapter 5 to support the evidence-based validity of implants in treating partially edentulous patients and how design changes in implant components have improved the cumulative survival rates since 1991. Diagnosis and treatment planning for the replacement of a mandibular premolar begins with the fabrication of a surgical guide, followed by a description of the internal connection abutment selection process. The author prefers the opentray impression concept and incorporates this into all clinical examples throughout the text. Excellent images supplement the detailed description of each clinical and laboratory step. American Dental Association (ADA) procedural codes are provided for each step, in addition to examples of laboratory work authorizations, cost/profit analysis, and follow-up protocols.

In Chapter 6, "Re-Treatment of a Fractured Implant Fixed Partial Denture in the Posterior Maxilla with CAD/CAM Abutments and a New Fixed Partial Denture," an in-depth literature review of the implant-abutment interface is provided, followed by the treatment planning for the CAD/CAM fabrication of FPD abutments. The author describes the computer scanning of EncodeTM abutments. The CAD/CAM protocol for the Encode Restorative SystemTM is predicated on a digital scan of Encode Healing Abutments. The computer digitally determines the restorative platform, emergence profile, and hex position of the implant fixtures; the laboratory technician designs the abutment contours. The abutments are then milled from titanium alloy blanks with the premachined external hex connection. Use of a custom acrylic index for precise positioning of the abutments is illustrated and described.

The discussion of CAD/CAM technology is continued in Chapter 7 with the restoration of the edentulous mandible using a CAD/CAM milled titanium framework fixed hybrid prosthesis. Literature references comparing cast noble metal and titanium-milled frameworks are cited. Although the complete restoration of the edentulous maxilla is not discussed in detail, the author does address the appropriate restorative platform and emergence profile for implant-borne FPDs. It is the reviewer's opinion that the treatment sequencing dialogue for the mandibular reconstruction would have been more succinct had the maxillary reconstruction clinical steps been included. The silicoating of the mandibular titanium framework and the referenced images were a bit confusing and required careful attention by the reader. The author nicely states the posttreatment protocol.

Immediate Occlusal Loading Protocol® for an edentulous mandible by retrofitting an immediate complete denture is explained in detail in Chapter 8. An excellent literature review regarding osseointegration and immediate occlusal loading is presented. One portion of the clinical reconstruction discussion was confusing to this reviewer, because a few of the images did not agree with the referenced text; however, on the whole, the clinical and laboratory procedures are well illustrated and explained. The author emphasizes how a positive outcome is dependent on excellent communication between the restorative doctor and the surgeon, beginning with early consultation and team treatment planning.

Many accolades should be extended to the author for selecting a single maxillary central incisor to illustrate his protocol for immediate nonocclusal loading in Chapter 9. So often in both texts and seminars, the presenters show only the best outcomes. In spite of excellent treatment planning and adherence to proper surgical and restorative protocol, recession occurred on the facial of the maxillary right central incisor implant. Numerous literature references, excellent clinical images, and a thorough "play-by-play" discussion give the reader a good understanding of the factors that must be considered when provisionally restoring immediately placed implants.

Certainly, individuals interested in restoring 3i® implants will find this a most useful text. The author's straightforward approach to treatment planning and procedural description makes this a valuable text for practitioners and technologists of every experience level, no matter the implant system they restore. A most comprehensive review of the literature has been furnished in each chapter to impart an evidence-based understanding of the clinical procedures. The hardbound text is filled with quality color diagrams and images to support the verbiage. The entire text supports a team approach to treatment planning, thus improving the outcomes for the patients.

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Implantology. **Techniques** and Clinical **Applications**

Federico Hernandez Alfaro, MD, DDS, FEBOMS. Quintessence Publishing Co. Ltd., United Kingdom, 2006: ISBN 1-85097-103-X. (234 pages, over 1000 high-quality color photographs and illustrations; Price \$110.00).

This book, written in a surgical atlas format, contains eleven chapters.

Chapter 1 briefly outlines the rationale behind bone grafting in the oral cavity in relationship to dental implants and oral rehabilitation. It also contains relatively superficial overviews of the healing process of autogenous osseous grafts and the types of grafts currently used for intraoral rehabilitation. Some advantages and disadvantages of cortical versus cancellous bone grafts are mentioned in this chapter as well.

Chapter 2 focuses on general principals of bone grafting. All the important principles are mentioned, but none of the specific techniques are discussed in depth; however, clinical photos in this chapter very well illustrate basic concepts for graft adaptation and fixation in the recipient site. Also, the importance of good soft tissue management during grafting and implant insertion are mentioned and illustrated. At the end of the chapter, bone grafting surgical instruments and their application are reviewed. There is also a photograph of a universal bone grafting surgical instrumentation tray; however, no further recommendations or author's preference for instrumentation are made. It would be very useful for the reader if grafthealing physiology were discussed in more detail. It would also be helpful if the author expanded on his expertise in various graft adaptation and fixation techniques.

Chapters 3 to 11 are dedicated to specific bone harvesting techniques and recommended intraoral applications. All commonly used sources of autogenous bone are discussed in these eight chapters. These include intraoral sites: mandibular symphysis, ramus and body, coronoid process, maxillary tuberosity, zygomatic buttress, and sinus wall. Extraoral sites include: temporal bone, illiac crest, and tibia. Each chapter is written in a consistent and systematic manner and includes surgical anatomy, appropriate anesthesia, harvesting procedures, applications, and complications. Unfortunately, the surgical anatomy discussions are brief, and in some cases would give a reader only a very basic overview of the regional anatomy and surgical implications.

Harvesting procedures and surgical techniques and recommended instruments are briefly discussed for each procedure. There is no detailed description of the harvesting techniques, but the procedures are well presented photographically. The applications and fixation of the grafts are also well illustrated with good photographs, but descriptions of graft manipulation, adaptation, and fixation techniques are limited.

Most major intra- and postoperative complications are mentioned, but no solutions or management recommendations are made.

Very high quality clinical photographs and illustrations with commentaries in each section make this an easy-to-follow book, but not adequate for a surgical specialist to become familiar with any particular grafting technique.

The author seems to have a strong preference for the use of platelet rich plasma (PRP) in most of his grafting procedures. As the use of PRP still remains a somewhat controversial subject among oral and maxillofacial surgeons, rationale for its use merits a special mention. Unfortunately advantages and disadvantages of PRP in intraoral bone grafting are not discussed.

The book includes interesting and/or challenging cases, photographically documented from initial presentation through the definitive prosthesis stage. It would be helpful to see more photographic documentation of cases and final prosthetic results, as well as long-term follow-ups. Overall this atlas is a good basic review of intraoral autogenous grafting procedures and harvesting techniques. It would be mostly appreciated by nonsurgical specialists and general practitioners with interest and expertise in dental implantbased oral rehabilitation. This text will provide a restorative dentist with the baseline knowledge of appropriate grafting procedures and techniques, which should enhance communications between surgical and restorative specialists. It will also make a restorative specialist more appreciative of possibilities and limitations of many cases where the desired prosthetic result cannot be achieved without bone augmentation.

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