Book Reviews



Application of Orthodontic Mini-Implants



By Jong Suk Lee, Jung Kook Kim, Young-Choi Park, and Robert L. Vanarsdall. Quintessence Publishing Co., Inc., Chicago, IL, 2007: ISBN 978-0-86715-465-8 (286 pages; 1,200 illustrations, mostly color; price \$168).

Application of Orthodontic Mini-Implants by Lee, Kim, Park, and Vanarsdall is a comprehensive and thorough review of the evolution and application of dental implants used in orthodontic treatment. The book has eleven chapters, begining with "Evolution of the Orthodontic Mini Implant," a comprehensive history of implant use in prosthodontic and orthodontic applications. It moves on to describe the fundamentals of using skeletal anchorage.

In its preface it asks the questions, "Can this tiny implant complete the evolutionary advances in mechanotherapy of the past 100 years, transform the treatment paradigm, extend the scope of nonsurgical therapy, and usher in a new era in orthodontic treatment?" Of course the authors believe this, and they do a good job in presenting evidence in case studies, including chapters devoted to treatment planning and surgical procedures. Most impressively, the authors present a chapter on problems and solutions. The most valuable learning comes from experiencing problems and/or failures. The book is effective in categorizing the undesirable outcomes and identifying how they could be avoided while using mini-implants.

The book does attempt to describe a few different systems; however, it does not cover the vast amount of systems and products available in the market. There probably have been several products released since this book was published; therefore, the difficulty in attempting to describe the various products proves futile. In fact, a description of the various available products could probably stand alone as an entire text in itself.

The authors mention the need for more research. Most of the research in this general field is based on case studies as opposed to evidence-based, double-blind studies. Most of the references cited in the book appear to be review papers and case studies. Perhaps this is due to the relative infancy of the field. The publisher of this book states that it is "recommended for all orthodontists, periodontists, oral surgeons, and students who have been seeking better treatment results." I would agree and add that while it is obviously most valuable to orthodontists, this book is an excellent reference for all dental professionals and especially those who place implants in their practices.

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Clinical Success in Immediate Complete Dentures: An Alternative Approach

ix Immediate Complete Dentures: An Alternative Approach

Clinical Success

Michel POMPIGNOLI Michel POSTAIRE Didier RAUX



By Michel Pompignoli, Michel Postaire, and Didier Raux. Quintessence International, Berlin, Germany, 2008: ISBN 978-2-91255-057-6 (92 pages; 233 illustrations, mostly color; price \$82, soft cover).

This compact textbook is loaded with innovative techniques that will significantly improve the quality of any immediate complete denture, while preserving more of the supporting osseous and soft tissues. The book consists of six chapters in 92 pages and includes 233 clinical and laboratory illustrations. The running theme is the maxillary restoration of a single patient with an immediate complete denture. Beginning with clinical findings, the book takes the reader through a very concise and detailed step-by-step approach, including all phases of the surgical and restorative processes, and is well documented by clinical and laboratory photography. Even though each chapter deals with another phase of treatment for this one patient, there are plenty of discussions and examples describing clinical variations to the material delivered in each.

The preface discusses becoming completely edentulous along with the pros and cons of the various types of conventional prostheses used during the transition from a dentate to an edentulous mouth. It defines the immediate denture and the steps necessary to attain an excellent clinical result. Chapter 1 thoroughly discusses all necessary clinical conditions that must be met prior to fabrication of an immediate complete denture. It describes the theme on patient's clinical condition and discusses the treatment objectives.

Chapter 2 pertains to impressions. In this chapter, the authors present some very interesting and quite effective techniques for obtaining excellence in master impression making, yielding superior master casts. The authors demonstrate techniques to handle such problems as highly mobile and/or excessively faired teeth, capturing them perfectly in place without inadvertent extraction, and reproducing them precisely on the master cast.

Chapter 3 deals with the maxillomandibular relationship. The authors do a fantastic job of describing all the laboratory and clinical steps necessary to obtain this relationship, beginning with the master cast, tooth selection, assessing and capturing critical landmarks, such as the midincisal point, and relating these to the articulator. The chapter ends with the production of denture wax-ups and techniques used to clinically verify the maxillomandibular relationship.

Chapter 4 is devoted to the finishing details. The term "detail" is no understatement here. This chapter is replete with information on innovative techniques to deliver valuable information to not only the laboratory technician but also to the surgeon, and it is the attention to detail here that truly saves osseous and soft tissues. The end result is a highly esthetic and functional prosthesis, along with several innovative guides that will be useful during future restorative endeavors with the patient.

Chapter 5 describes the surgical procedure and the clinical follow-up. It is in this chapter that the fruits of the techniques from the following chapter shine. The surgery is enhanced and simplified by the information delivered to the surgeon, and later used by the restorative dentist for assessment of the prosthesis at follow-up. The chapter ends with maintenance of the prosthesis.

Chapter 6 is devoted to other clinical situations. These include the loss and restoration of an entire dental arch at one time, conditions where remaining teeth or soft tissues encroach on the available restorative space, and ending with complete maxillary and mandibular immediate dentures.

In summary, this book is a valuable adjunct to any practitioner currently restoring patients with complete dentures or implant-supported or -retained denture prostheses. Immediate denture construction is an important first step in the process of an implant-borne prosthesis. Mastering an excellent fabrication technique, such as the one described in this book, will allow the reader's patients to gain or retain dental esthetics, not lose oral function and retain the maximum amount of osseous and soft tissues. Whether the complete denture is the final treatment modality or a stepping stone to implant replacement, this book will help the practitioner achieve excellence.

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Tissue Engineering: Applications in Oral and Maxillofacial Surgery and Periodontics, Second Edition



By Samuel E. Lynch, Robert E. Marx, Myron Nevins and Leslie A. Wisner-Lynch (editors). Quintessence Publishing Co., Inc., Chicago, IL, 2007: ISBN 978-0-86715-464-1 (312 pages; 700 illustrations, mostly color; price \$138.00).

Thirty-six contributing authors and four editors produced this second edition of a text originally published in 1999. The size shrank from 316 to 296 pages, while illustrations more than doubled from over 300 to over 700. Both editions are divided into four parts, but none of the parts remained even vaguely similar. Only nine of the original authors and two of the original editors returned. The two returning editors (Samuel Lynch and Robert Marx) expanded their contributions to two chapters each, while the total number of chapters increased from 17 to 20. This was largely due to the inclusion of a chapter on TMD (Temporomandibular Disorder) applications and (inexplicably) of two chapters on orthopedic applications.

Both editions begin with a preface by the principal editor, Samuel Lynch. The Introduction by Dr. Lynch, since 1999 the President and CEO of BioMimetics, sets the stage for the succession of passive therapies (Guided Tissue Regeneration) and autologous therapies (Platelet-rich Plasma) by recombinant therapies (rh-PDGF-BB, rh-BMP-2). The formulation of rh-PDGF-BB with β -TCP is the first product of BioMimetics, GEM-21S. In December 2007, Osteohealth Co. announced that it would acquire BioMimetics. In the press release Dr. Lynch stated, "The sale of the dental therapeutics business will allow us to focus all of our expertise on the development of our orthopedic product candidates."

That being said, Part I, "Principles of Tissue Engineering," is a well-structured, -illustrated, and -referenced four-part overview of the complex field of bone physiology and molecular biology. The concluding chapter of Part I applies the principles to osseointegration and bone augmentation with nonviable and viable graft materials and introduces the use of growth factors to improve the quality and quantity of bone produced.

The material presented in Part I can stand alone and would be an excellent monograph. If one has taken the time to read and understand it, it need not be repeated. Yet there it is, from paragraphs to pages, in every succeeding chapter.

Part II is a mixed-bag of clinical trials and case studies, divided into eleven chapters, referencing over 440 publications. The first four chapters are written by periodontists showcasing applications of GEM-21S for periodontal and implant sites. In the next chapter, as if backtracking, the author (an oral surgeon) presents the case for the autologous growth factors found in PRP (Platelet-rich Plasma) in oral and maxillofacial surgery. Periodontist Masssimo Simion's chapter presents applications of rh-PDGF-BB to GTR (Guided Tissue Regeneration) with histology from dogs and humans. The final five chapters, by researchers or oral surgeons, detail the biologic rationale and histological evidence (in dogs) for the use of rh-BMP-2. Noteworthy is the chapter on the findings of the clinical trials presented to the FDA for use of rhBMP-2/ACS in dental applications (socket preservation and sinus grafting). The last two chapters describe the use of "injectable bone" (marrow cell culture in PRP) and rh-PDGF-BB with distraction osteogenesis and osteoperiosteal flaps.

Part III is three chapters on craniofacial applications of rh-PDGF-BB, one each by oral and plastic surgeons, and one chapter on potential uses in surgical management of TMJ (Temporomandibular Joint) dysfunction. Part IV, as mentioned earlier, promotes orthopedic applications.

The sum of the parts? Not greater. For periodontists and most oral surgeons, the first two parts of the text provide an excellent overview of a complex field; however, the last two parts are of limited use to prosthodontists, and make the book 77 pages longer than need be. The editors could have also removed the redundant statements of "principles" that were well established in Part I, saving another 10+ pages at least. For my prosthodontic colleagues, the book will likely only be of interest to those performing implant site preparation surgery or placing implants.

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