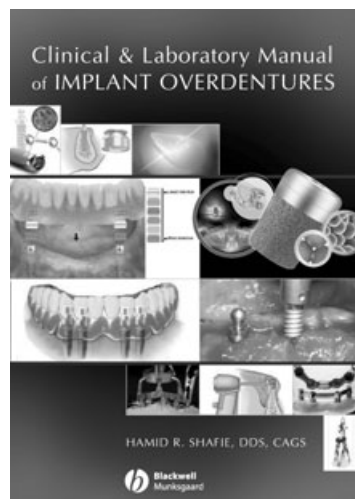


Book Reviews

Clinical & Laboratory Manual of Implant Overdentures



By Hamid R. Shafie
DDS, CAGS (editor)
Wiley-Blackwell
Publishing Co. Ames IA
2007 ISBN 9-780813-
808819 (247 pages; 604
mostly colored
illustrations;
price \$129.99).

The editor and contributors have attempted to provide stepwise information on the clinical aspect, diagnosis, treatment planning (surgical and restorative), and laboratory steps involved in the fabrication of implant-retained and -supported overdentures.

Dr Tarnow and Dr Jacobson endorse the book in two forwards. The editor's introduction includes a short history of the introduction of implants to the United States and the growing need for this service as the baby boomer population ages.

The book comprises 17 chapters separated into seven sections: (1) a brief section of patient selection, diagnosis and treatment planning, and surgical stent fabrication; (2) principles of attachments and fabrication of the various types of attachments such as stud, bar/clip, and milled substructures; (3) occlusion for these prostheses; (4) surgical considerations/procedures with a focus on two endosteal implant systems, three overdenture implants (mini-stud one-piece types) as well as the surgical and restorative components and loading approaches; (5 and 6) short sections on implant stability and maintenance; (7) principles of successful implant practice.

Overall the book is well-illustrated, brief, and to-the-point. Many procedures are laid out in a stepwise fashion with enough illustrations to communicate each point or process. Each chapter has references listed at the end, some more lengthy than others.

The first section, Chapters 1–3, opens with comparisons of overdenture prosthesis types, preferences, and expectations. The next two chapters focus on surgical treatment planning using conventional radiographic techniques, identifying criti-

cal anatomic structures, and then moving to more state-of-the-art 3D imaging. The information is then used to fabricate radiographic and surgical templates.

The second section, Chapters 4–7, begins with a brief review, three pages of short paragraphs of the principles of attachment (i.e., resilient vs non-resilient, etc.), biomechanics, and loading, and then moves to clinical/laboratory procedural steps for stud attachments (ERA, VKS-OC RS, Straumann Retentive Anchor and Clix attachments and inserts). A chapter on bar clip and bar overcasting is very well illustrated with useful dimensional parameters and constraints. Fundamentals of bar arrangement and placement are discussed leading to the stepwise fabrication of these substructures. Finally, a larger chapter detailing the steps for spark erosion of large milled substructures to correct for misfit is presented.

Section 3, Chapters 8 and 9, deals with treatment success of overdentures and occlusal schemes. Chapter 8 seems to be misplaced and would have fit better in the earlier chapters (closer to Chapters 3 and 4), because it deals with treatment success with implant overdentures with regards to patient factors and biomechanical risk factors of both arches as it relates to fixture numbers, locations, and arch form. Chapter 9 illustrates two different occlusal scheme set-ups. The anatomic set-up uses Physiodens denture teeth from Vita Zahnfabrik and a lingualized set-up using Ortholingual denture teeth by Ivoclar. Brief bulletized advantage/disadvantage comparisons of these occlusal schemes are presented along with the different tooth forms with the same comparisons. These set-ups are duplicates of the brochures you can find online or from the company. One thing lacking is a correlation/recommendation as to which occlusal scheme would best fit the underlying substructure.

Section 4, Chapters 10 to 14, opens with various surgical incision types, suturing and grafting techniques, and materials. A couple of pages depict a bone spreading/expansion technique, and a couple more present surgical problems, causes, and solutions to close Chapter 10. Chapters 11 and 12 present implant dimensional information and the surgical placement sequence of Straumann and Endopore endosteal implants. Illustrations are artist renditions. The next couple of chapters present the single-unit narrow overdenture implants classification and their purposes (Maximus OS, ERA, and SynCone). Surgical and restorative steps are included, along with the concepts of the timing of loading these implant systems.

Section 6, Chapters 15 and 16, touches upon the postsurgical evaluation of implant stability using the Ostell™ Mentor system. Implant maintenance and homecare are covered. Sequelae due to lack of compliance or cleansable design are discussed, along with recommended recall visits and procedures. A number of cleaning instruments and aids are included for both homecare and in-office recall.

In Section 7, the last chapter, "Principles of the Successful Implant Practice," Dr Shafie closes the book with an overview

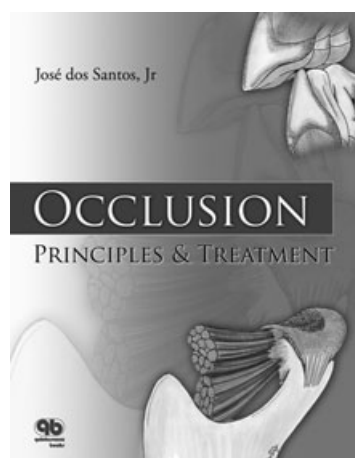
of how to build a successful implant practice keying in on the concepts of vision, teamwork, systems, sales, and marketing. Readers who are in private practice may find some useful information in this chapter.

Dr Shafie has made an effort to communicate a large amount of information encompassing prosthodontics, surgical specialties, and the laboratory aspects of implant dentistry as it pertains to overdentures. I would agree with Drs Tarnow and Jacobson that this publication is a very step-by-step clinical and laboratory manual, and the efforts of Dr Shafie are evident. The writings are concise and to-the-point, although there are some discrepancies in spelling and the use of terms as defined in the *Glossary of Prosthodontic Terms* 7th and 8th Editions.

In my opinion, this manual targets experienced general dentists aspiring to either move their practice focus to removable implant-supported/-retained prostheses or undertake an advanced multi-year restorative program.

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Occlusion: Principles and Treatment



Jose dos Santos.
Quintessence Publishing
Co, Inc., Carol Stream,
IL, 2007: ISBN 978-0-
86715-473-3. (240 pages,
354 color illustrations;
price \$98).

The intent of this book is to provide a comprehensive review in understanding the science of occlusion. Interestingly, the author does not identify who the target audience is for the book. Nonetheless, the book is fairly well organized, and is easy to read and well illustrated with the author's own color drawings. The book does not, however, use current preferred terminology from the *Glossary of Prosthodontic Terms* (GPT-8)¹ for many definitions and concepts. All chapters, except two (Chapters 7 and 9) have references from the scientific literature.

Chapter 1 begins with a discussion on maxillomandibular relations and movements, defining the centric positions and transitioning into a lengthy discussion of the eccentric posi-

tions. Border movements are well defined and illustrated in all three orthogonal planes. Mandibular lateral translation, however, is described with the obsolete term of Bennet movement or side shift.¹ The three-dimensional envelope of motion is well defined and illustrated. The chapter concludes with an extensive discussion on mastication. The muscles of mastication are appropriately described and the specific actions of the muscles are fluently described in terms of empty mouth movements and during masticatory action.

Chapter 2 presents articulators and their uses. The discussion focuses primarily on the very basic concepts of transfer of records and adjustment of a theoretical semi-adjustable articulator. A summary of the various occlusal instruments and their uses is lacking from this chapter. Regardless, the discussion of transfer records is sufficient as are the concepts of baseline setting, cast mounting, and mounting verification. While the topic of articulator adjustment does use obsolete terms, such as Bennet angle and balancing (i.e., nonworking side) movement,¹ the illustrated discussion on the effects on cusp pathway movement with various degrees of Bennet angle is well done.

Chapter 3 involves the differential diagnosis of maxillofacial pain. Again, nicely done illustrations help to clarify the maxillofacial neural pathways to provide a basic description of pain mechanisms and maxillofacial pain from specific sources: muscles, TMJ, vascular, and neurologic origins. The author also encourages the reader to refer to other sources for more detailed explanations, providing those references. Maxillofacial pain referred from a variety of sources is covered as well. This includes a well illustrated discussion on trigger points as well as pain resulting from whiplash injuries. The chapter concludes with a curiously out of place, but well-versed description and discussion of obstructive sleep apnea.

Chapter 4 describes diagnosis and treatment protocol. The patient interview and evaluation for pain, joint sounds, and limitation of mandibular movements are described at an introductory level. The diagrams showing TMJ athrograms are fairly descriptive, but lack significant supporting discussion in the body of the text in this chapter. However, the sections on diagnostic extra- and intraoral palpation, to include provocative and resistance testing, are concise and well done.

Chapter 5 covers the fabrication of occlusal bite splints (occlusal device¹). This chapter provides a very thorough discussion of both the laboratory and chairside fabrication of "bite splints." The illustrations are superb in conveying the laboratory technique. One criticism would be that the author suggests creating the "bite splint" thickness between mounted casts by extending the incisal pin. There is no discussion on the possible arc of closure errors this may induce, resulting in a more intraoral adjustment. A comment on making an interocclusal record at an increase in occlusal vertical dimension coincident with the desired "splint" thickness would seem appropriate. That aside, the explanation of the fabrication, insertion, and adjustment of the laboratory fabricated "bite splint" is very well done. This chapter would also be excellent in directing a laboratory technician on the desired outcome and purpose of an occlusal "bite splint." The remaining topics of both intraoral and extraoral chairside fabrication are described excellently as well.

Chapter 6 discusses the conservative treatment of temporomandibular disorders. The chapter begins with the modalities of

cold and heat therapies with particular discussion on underlying physiologic mechanisms of how these therapies work. Therapeutic exercises regarding resistance activity are adequately described. Electrical stimulation is covered in generalized and basic detail, consistent with the scope of the text. Pharmacologic agents are well summarized in several tables, but with rather basic explanation in the body of the text. The author's critique that narcotic analgesics have very few valid reasons to be prescribed is well received. The next part of the chapter describes anesthetic blocking, utilizing intermuscular, extra-muscular, and TMJ injections. Although well illustrated, the essence of these procedures is not described in a manner that could be referenced and used clinically. But, the discussion does provide a good overview of techniques that likely require more advanced training.

Chapter 7 introduces geometric determinants for functional restorations. This chapter provides both interesting and well-illustrated observations on the rationale for geometric tooth contours on both axial and occlusal surfaces. The author indicates that objective geometric analysis is illustrated according to dynamic or functional patterns, which amounts to planar representations. Although it is suggested these geometric representations suggest gliding directions on chewing surfaces, if nothing else they provide a very good geometric basis to dental anatomic structures. This chapter concludes with a description of functional direct single restorations, that is, the functionally generated path technique for single restorations. In this case, though, it is somewhat confusing as indicated by the statement "A restorative process carried out directly in the dental arch using casts mounted on a semiadjustable articulator will be described." The next section states the articulator is opened to allow the reading of the indentations in the teeth after the recording material has set. Again, confusingly, the warning to cover the patients and clinicians eyes then is indicated when light curing the material. It is difficult to follow whether the described procedure is carried out on an articulator or in the mouth. Unfortunately, the process in fabricating a crown is never clearly described in the section titled "Carving the occlusal restoration." Although this section was rather disappointing, Figures 7–29 provide a unique presentation of the functionally generated path. Both the path and the future anatomy that will be created by the path are well illustrated. This chapter does not provide any references in the scientific literature.

Chapter 8 focuses on occlusal adjustment of the adult natural dentition. The chapter clearly states its purpose: selective grinding according to the concept of freedom in centric. The goals are plainly avowed: improvement of masticatory function, alleviation of bruxism (which, to some, is likely debatable, although the author concedes it may be a strategy to provide more stable

interocclusal relationships during parafunction) and simplification of articulator use. Indication for occlusal adjustment on mounted casts is described, and the framework for stone cast selective grinding is laid out rather concisely, methodically, and fairly extensively. Again, well-done illustrations greatly simplify and demonstrate key concepts, and the theory of what is to be accomplished is rationally presented. Interestingly, the occlusal adjustment in the mouth is limited to one paragraph. The chapter concludes with a brief discussion on the adjustment of implant occlusion, according to the concepts of freedom in centric. According to the author, the osseointegration of implants creates the requirement for axial loading and elimination of horizontal forces, and freedom in centric has been demonstrated to be compatible with axial loading of the dentition.

Chapter 9 deals with the interceptive occlusal treatment of malocclusion. The purpose of this chapter is to provide a discussion on conservative therapy to render occlusal stability to unconventional interocclusal relationships. That being said, the author's intent is to limit the treatment to customary approaches for chairside occlusal equilibration, rather than orthodontic, complex restorative, or orthognathic modalities. Moderate and conventional treatment strategies are presented for crossbite, mandibular crowding, anterior and posterior open bite situations. The chapter concludes with summary-type discussions of changes in vertical dimension, the plane of occlusion as well as management of various malocclusion situations. The intent appears to be to provide a generalized overview of these situations, as the depth of the dialogue is not extensive in detail. This chapter also does not provide any references in the scientific literature.

This book provides an additional and reliable view of occlusion. The text is basic in understanding and very well illustrated. While the topic of occlusion in dentistry has evolved, often with much controversy, this text presents a nicely prepared manuscript, offering both fresh and readily accepted observations on a complex subject.

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*The views expressed in this review are those of the author
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 Defense or other Departments of the United States
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Reference

1. Glossary of Prosthodontic Terms. J Prosthet Dent 2005;94:10-92

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