

the outcomes of the various bleaching materials and methods, as well as contraindications and potential side effects.

Part 3 of the text, "Color and Appearance: Matching, Communication, and Reproduction," comprises four chapters with a good deal of directly applicable material. Chapter 6 is devoted to color training in dentistry and is therefore particularly relevant for dental educators. Presenting evidence that as few as about one-fourth of dental schools provide an organized course on color, the authors detail a 12-hour curriculum they developed and offered as an elective course at the University of Texas Dental Branch at Houston beginning in 2003. The last three chapters in this section are devoted to color matching, communication, and reproduction, respectively. Knowledge of the information contained in these chapters is critical to the restorative dental practitioner and important to the laboratory technician.

In Chapter 7, "Color Matching," the authors recommend a process for selecting a shade. They suggest that the shade tabs of the most popular shade guide, the Vitapan Classical, be rearranged from their traditional groupings to one of decreasing lightness. Using this altered shade guide, the process by which a practitioner should select a shade is detailed. The result is an orderly three-step approach that includes matching conditions, timing, and method. In addition, selected instrumentation for color matching is reviewed.

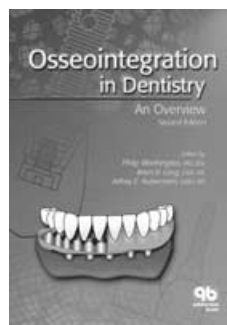
Following this important chapter, the text continues with a brief discussion about communication with the dental laboratory in which the use of custom tabs, along with written and photographic information, is presented. It concludes with a chapter devoted to the reproduction of color and other appearance attributes using direct and indirect restorative materials. This extensive topic is the single subject of other books and is offered more as an overview here. Nevertheless, important material concerning the use of ceramometal, reinforced ceramic, and nonreinforced ceramic restorations is presented, as is more detailed information relative to extrinsic color correction of these indirect restorations. The concept of layering indirect esthetic restorations is also included in this chapter, but the reader will have to consult other texts for details.

The final part of the text consists of a series of color training exercises presented on an interactive CD-ROM, the instructions for which may

be found both on the CD and in Chapter 10. A total of 55 exercises are grouped into seven sets. Each exercise is slightly different, but all consist of arranging small squares in order, depending upon their varying hue, chroma, and/or lightness. The exercises are designed as an accessory tool for color training in dentistry and are part of the previously mentioned elective curriculum at Houston.

In the preface, the authors state that the "paradox of esthetic dentistry is that our best work is the restoration that no one will notice." Yet, in Chapter 6, they note that "over 80% of the patients having anterior ceramometal restorations were aware of the color differences relative to their adjacent natural teeth." Clearly, dentistry has room for improvement in its understanding of color and its management in the discipline. It is toward that end that this text is dedicated, and the result is a respectable effort worthy of consideration.

B. Ed Kanoy, Jr., MA, DDS
*Clinical Professor and Chair, Department of
 Prosthodontics, UNC School of Dentistry, Chapel
 Hill, NC*



**Osseointegration
 in Dentistry:
 An Overview,
 2nd Edition**

Philip Worthington, Brien Lang, and Jeffrey Rubenstein. Quintessence Publishing Co., Inc., Carol Stream, IL, 2003: ISBN 0-86715-425-X (184 pages, 124 B/W illustrations; price \$38; soft cover)

This extension of the first edition was produced by nine contributing authors and three editors. The purpose, as stated in the preface, is to introduce the reader to the concept of osseointegration and its place in modern dentistry. It is not a technical manual, and the editors hope it will orient the beginner to the profound impact osseointegration has had on clinical dentistry. Like its predecessor,

this book is primarily aimed at students, but also is appropriate for the practicing dentist who needs a simple introduction to the topic and wishes to understand the place of osseointegration in the overall scheme of oral reconstruction. Many chapters have been rewritten, and other sections have been added to address previously neglected topics, such as placement of implants in the esthetic zone, variations in abutment design, and the role of osseointegrated implants in more advanced procedures. The editors and authors also continuously stress the need for both the student and the dentist committed to continual learning to follow a path of stepwise learning—proceeding from simpler to more complex treatments.

The book begins with a strong introduction that includes a complete history of dental implants and an explanation of what exactly is meant by the term “osseointegration.” It includes Professor Brånemark’s mission, involvements, and other medical trials of osseointegration. Various types of dental implants are also discussed, but ramus frame and mucosal implants are not included. The next chapter, “Biocompatibility, Tissue Responses, and Concepts of the Implant Interface” by Dr. Clark Stanford, is a good overview of the topic. Dr. Stanford discusses biocompatibility, surface oxides, passivation, and implant retentive features. He also discusses osseointegration in relation to biocompatibility and healing. Clinical measurements of osseointegration with reference to reverse torque testing, percussion, impact test evaluation, and resonance frequency analysis (RFA) close this chapter.

The third chapter, “Diagnosis and Treatment Planning,” is a 10-page introduction to the topic. It includes a good patient examination section and both inclusive and exclusive criteria for patient selection. There is an overview of radiographic diagnostic means, including computerized and conventional tomography, and use of panoramic radiographs and cephalometrics, but this chapter is remiss in an appreciation of the value and use of periapical and occlusal films.

“Surgical Stages of Osseointegration” is a brief discussion of surgical considerations and the conventional stage 1 and 2 surgical approaches. The fifth chapter, “Intraoral Implant Applications” by Drs. Michael Razzoog and Jeffrey Rubenstein, discusses several clinical applications, including totally edentulous, partially edentulous, and single tooth situations. A treatise on technical advances

and new protocols for intraoral applications is also included.

“Biomechanics” by Dr. John Brunski, is an excellent chapter. Although rather technical, it includes a discussion of force and moment, relevance of biomechanics in case planning, and bite forces. The discussion of prediction of forces in moments of dental implants includes cantilever proportion, the discussion of the Skalak model, and examples of various multiple implant situations, including the Novum prosthesis and angulated implants. Dr. Brunski also discusses additional factors in the prediction of implant loading, including implant and prosthesis stiffness, frameworks, screw joints, and misfit.

The seventh chapter, “Prosthetic Aspects of Dental Implants,” presents treatment planning, prosthetic procedures associated with stage 1 surgery, definitive treatment, and implant framework design and fabrication. This chapter gets into the meat and potatoes of restorative treatment in implant dentistry. The discussions of internal and external antirotation features, abutments, surface treatments, and new and old failure modes are well presented. A detailed account of reconstruction of the single tooth restoration, the multiple tooth restoration, and the fully edentulous implant patient is covered; however, the use of implant-to-abutment verification radiographs is not discussed until the final page of the chapter.

Chapter 8, “Implants in the Esthetic Zone” by Dr. Robert O’Neal, presents the concept of dental implantology in this age of modern dentistry. For correction of the compromised edentulous site, Dr. O’Neal discusses treatment of specific ridge deformities, augmentation, tissue biotypes, immediate and delayed surgical approaches, and orthodontic extrusion. He references Dr. Jay Seibert’s original work in periodontology to discuss ridge deformity. Although the illustration referenced is confusing for the body of text in this area, it is clearly captioned.

A basic chapter on maintenance discusses the status of implants at the recall appointment and a lifetime commitment to maintenance. It is a good eight-page documentation on the need for an oral hygiene home care regimen and professional recalls, which include oral prophylaxis, radiographic monitoring, and verification of ideal implant occlusion and prosthesis fit.

Drs. Philip Worthington and Jeffrey Rubenstein discuss complications and failure in Chapter

10. They include criteria for success and indications of failure. Complications associated with implant placement, abutments, and restorations are presented with suggestions for retreatment and repair.

The final chapter, "Advanced Procedures with Implant Treatment," discusses current trends and outlines the uses of immediate implants, immediate loading, the Novum concept, distraction osteogenesis, bone regeneration, implants in orthodontic treatment, and reconstruction postcancer, posttrauma, and for developmental anomalies. A very limited overview of craniofacial prostheses and orthopedic applications is finally discussed.

The text is nicely bound in soft cover and printed on high-quality paper stock. All 124 black and white illustrations are of good visual quality, although some are outdated or confusing in their

application. The overall writing style is concise; however, several authors joined in this documentation and the overall flow is sometimes disjointed. Only one chapter indexes other chapters in the text for additional clarification, and only one other suggests additional reading and texts on the authority of the subject discussed. This concept would be nice to see throughout the entire text, and would add to its overall flow. This text provides a wealth of information, and would serve well as required reading in academic environments and as a refresher for the practicing dentist.

Lars O. Bouma, DDS, MS

Chief, Department of Prosthodontics and Dental Laboratory Flight Commander, Offutt Air Force Base, NE, and Diplomate, American Board of Prosthodontics

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