the author presents rubber dam isolation very well and demonstrates its clinical usefulness, establishing the importance of rubber dam isolation and citing evidence of its particular importance in resin bonding procedures. Furthermore, the author has designed this chapter to describe the methods of applying the rubber dam quickly, easily, and predictably.

Chapters 8–10 focus on bonding to enamel and dentin and its role in direct anterior and posterior restorations. The start of this section gives a very detailed analysis of the biology as it relates to bonding as well as clear information on the seven generations of adhesives. Once the science is established, the focus turns to techniques and materials involved in direct anterior and posterior restorations. Various matrix techniques and composite placement are described, and clinical photographs demonstrate their use. Specifically, the authors take the standpoint that an occlusal bevel is not indicated in any posterior resin restoration.

In Chapter 11 the authors present amalgam restorations with a contemporary viewpoint. A clear departure from G.V. Black is evident, and the focus is on conservative restorations even with the use of amalgam. Conservative Class I preparations along with Class II slot preparations make up the first half of the chapter. Schematics and photos accompany the text and help demonstrate the resistance and retention form necessary with these conservative preparations. As the chapter continues, the placement of pins along with amalgam bonding is presented in relation to complex amalgam restorations.

Root caries, various fluoride releasing materials, and Class V restorations are the focus of Chapters 12–14. Treatment protocols and diagnostic information are presented in a concise manner, specifically in a well-organized discussion of noncarious cervical lesions. In the future, one potential improvement to this text would be addition of the pros and cons of using amorphous calcium phosphate as it relates to caries prevention.

Chapters 15–18 delve beyond what is commonly thought of as traditional operative dentistry. These chapters focus on current concepts in natural tooth bleaching, porcelain veneers, anterior ceramic crowns, and esthetic inlays and onlays. The information focuses on esthetic protocols as they relate to preparation design. Furthermore, the authors are current in their presentation of materials ranging from feldspathic porcelain to zirconium oxide copings using CAD/CAM technology. While the authors present more traditional methods of fabricating resin and porcelain partial coverage restorations, they also expound on the use of CAD/CAM technology, both in office and lab settings.

The final two chapters look at cast gold restorations and the restoration of endodonticaly treated teeth. The chapter on cast gold restorations offers step-by-step techniques of partial coverage restorations as well as information on cementation of cast restorations. The text concludes by looking at endodontically treated teeth and different restorative modalities. Indications for post-placement, post-space design, post material, custom dowel and core, and the use of buildup materials are discussed in this chapter.

As stated earlier, the editors and contributing authors have produced a text that goes beyond operative dentistry. This text would be excellent for dental students and would be an extraordinary reference text for the practicing restorative dentist. At a relatively low cost of \$95, it is worth every penny.

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## Protocols for Predictable Aesthetic Dental Restorations

Edited by Ifran Ahmad. Blackwell Publishing Professional, Ames, IA, 2006: ISBN 1-4051-1820-2 (218 pages; color illustrations; price \$99.99; soft cover)

Providing predictable esthetic dental restorations can be a challenging task because of their intangible nature—influenced by patient expectations, experience and skill of the clinician, and the artistic and technical skills of the technician. The appropriate clinical protocols are tangible, because they rely on established biological concepts and scientific research. The health/function/esthetics triad is the underlying foundation that enables the clinician and ceramist to consistently deliver durable and highly esthetic dental restorations.

This book contains ten chapters, beginning with treatment planning in Chapter 1 and ending with cementation in Chapter 10. Each chapter begins with a thorough scientific rationale of the material covered and ends with clinical practice, reinforcing evidence-based dentistry.

Chapter 1 discusses treatment planning procedures. Chapter 2 discusses the health/function/ esthetics triangle. These two chapters form the book's underlying theme. They develop an understanding of a systematic approach to treatment using the APT (assessment, planning, and treatment) triangle, ensuring that a proper diagnosis is made prior to treatment. They also discuss evidence-based decision making and treatment delivery, while remaining grounded in the health/function/esthetics triad. Periodontal health, different periodontal bioforms, occlusion, and esthetics comprise this triad and are all reviewed in this section. The author does a terrific job of relating the importance of each to delivering predictable esthetic restorations.

Chapter 3 discusses choices of all-ceramic systems. The author describes all the indirect allceramic systems currently available, their differences and similarities, their properties, and how they compare to porcelain-fused-to-metal restorations. The physical and mechanical properties of the various ceramics are discussed, and the etiologies of ceramic failures are explored.

Chapter 4 offers a very thorough and complete discussion of color and shade analysis. The scientific rational for why we see and perceive color the way we do is broken down into its various processes—physical, anatomical, and psychological. All are clearly discussed and nicely illustrated. There is a very good discussion on the proper use of various shade guides and their limitations. The Vita Classic, Vitapan 3D Master, and Chromoscope, as well as digital instrumental analysis for obtaining shades of teeth are reviewed.

Chapter 5 deals with foundations and intraradicular support for ceramic restorations. The author thoroughly reviews the scientific rationale of building foundations for vital as well as nonvital teeth. The use of adhesive techniques with internal mechanical retention is preferred over the use of pins for teeth not requiring a post. Core materials ranging from amalgam to resinbonded composites are reviewed. A very useful table concisely lists the material types along with indications, concerns, and techniques for each. The direct and indirect types of post and core fabrication are illustrated here, including pliable fiber and composite resin, prefabricated metal, prefabricated carbon fiber or ceramic, prefabricated zirconium post with a pressed ceramic core, and cast metal. The selection of type relies on tooth position, esthetic concerns, and the direction of anticipated occlusal loads.

Chapter 6 concerns tooth preparation. All aspects of the health/function/esthetics triangle are covered, with emphasis placed on proper biologic width, how to determine it and re-establish it when necessary, and maintaining a healthy intra-pulpal temperature during tooth preparation. A useful table summarizing the factors for tooth preparation is included along with many good clinical photographs.

Chapter 7, "Therapeutic Provisional Restorations," convincingly depicts the importance of proper provisional restorations. The author discusses their use to foresee and correct potential problems, as well as to achieve health and stability of the hard and soft tissues prior to fitting the definitive restoration. This chapter reviews all of the classes of provisional materials, their indications, and uses from a scientific point of view. It also describes various techniques—direct and indirect—for provisional fabrication.

Chapter 8 discusses the biological impression. The significance of the biological impression is its role in developing a lasting esthetic result. The biological impression can only be achieved with the definitive restoration in place, usually at try-in, thereby capturing the soft tissues at rest while properly supported by the restoration, and the location of the contact point. The author discusses the use of stock versus custom trays, interversus intra-arch impressions, perforated versus closed trays, and one- versus two-stage impression techniques. He offers a very good discussion of the various types of impression materials and the most popular ones in use today. There is a good discussion of gingival retraction techniques, with emphasis placed on not violating the epithelial attachment. The author seems to favor the dual cord technique and gives a very good description of it. He also discusses the proper use of the face bow transfer and occlusal registrations. All the above are very well illustrated with clinical photography.

Chapter 9 describes try-in procedures. Most aspects of the prosthesis should have been finalized with the therapeutic temporary restoration; however, the try-in is the last chance the clinician has to correct any aspect of the prosthesis. It begins with the extra-oral evaluation process for the prosthesis, including the intaglio surface and fit on the trimmed and untrimmed die, ensuring such things as marginal fit and emergence profile contacts and occlusion are correct. Next is the intra-oral evaluation to verify fit, function, phonetics, and esthetics.

Chapter 10 covers cementation and dentin bonding agents. This chapter covers all classes of cements, beginning with zinc oxide eugenol through all of the resin-bonded cements. It also looks at ceramic primers and addresses the various types of adhesion. The resin-bonded cements are emphasized, as are their chemical and mechanical mechanisms to both ceramic and tooth substrates. Selection of the correct dentin-bonding agent for the cement is also discussed. The author presents the various generations of dentin-bonding agents, starting with the multiple component systems, through the single component systems, and finally the self-etching systems. A very useful table directs the clinician to the appropriate cement to use for a given restoration.

This book is a valuable resource for any restorative dentist who strives to deliver predictable esthetic dental restorations. Its composition of both scientific rationale and clinical practice exemplifies evidence-based dentistry. The techniques seem reliable and easy to follow, given the quantity of clinical examples demonstrated by high-quality photography.

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