used. This mandate is probably not universally accepted, although most experts feel scavenging is certainly recommended. Guidelines by the American Dental Association relative to the teaching of nitrous oxide are highlighted and overall the improved illustrations and pictures in this chapter are a welcome addition. Relative to nitrous oxide complications, the authors choose to downplay the Rowland[1] article in the 1992 *New England Journal of Medicine*. This important article highlighted the risks of reduced fertility among dental assistants exposed to nonscavenged nitrous oxide. If all offices use scavenging systems like the textbook recommends, this would not be an issue but the reader should be aware that there is credible evidence that greater than 5 hours per week of exposure to nonscavenged nitrous can reduce fertility. One omission from the contraindications for nitrous oxide is the recent warning not to use nitrous following retinal surgery with perfluoropropane or sulfur hexafluoride. In fairness to the authors, this was just discovered and will likely be corrected in subsequent additions.

Section 5 is devoted to the utilization of intravenous sedation. Included with this chapter are current recommendations concerning guidelines for teaching this subject. Some of the newer agents like Propofol are reviewed, and the en vogue balanced techniques like Versed/Demerol are stressed. The authors recommend that the clinician check the most current product information provided by the manufacturer and verify the recommended dose, technique of administration, contraindications, etc. This is especially important when intravenous techniques are considered. A nice section on venipuncture techniques is available in this chapter as a contemporary recommendation of using EMLA cream for the needle phobic patients. Some people would argue with Dr. Malamed's preferences for venipuncture sites, the dorsum of the hand being his preferred region, but his rationale for choosing this site is certainly reasonable.

A section on recovery criteria is provided; however, no mention is made of any numeric measures such as the Aldrete score used by many hospitals and surgery centers. This will likely be upgraded for the 5th edition. Section 6 gives an overview of general anesthesia listing advantages and disadvantages and necessary armamentarium. A section on accredited anesthesiology residencies is listed as well as current guidelines for establishing such programs. As previously stated, the general anesthesia section is never intended to be a comprehensive course on currently available techniques, and readers seeking such knowledge are referred to textbooks devoted solely to general anesthesia.

Section 7 gives an overview of the management of medical emergencies, many of which are tailored to the complications encountered during sedation. Section 8 details special considerations including pediatric, geriatric and medically compromised patients with chapters on physically compromised patients improved by co-author by Dr. Reed. In conclusion, this is a well written and illustrated contemporary textbook for students wishing to acquire knowledge on advanced sedation techniques via the pharmacological route and is a recommended addition to their library.

1. Rowland AS, Baird DD, Weinberg CR, Shore DL, Shy CM, Wilcox AJ: Reduced fertility among women employed as dental assistants exposed to high levels of nitrous oxide. N Engl J Med. 1992 Oct 1;327(14):993-997

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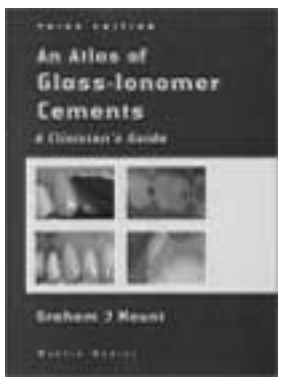

An Atlas of Glass-Ionomer Cements, A Clinician's Guide, 3rd edition

Graham J. Mount. Martin Dunitz Ltd., The Livery House, 7-9 Pratt Street, London, NW1 0AE, 2002: ISBN 1 84184 069 6 (224 pages, 430 color illustrations; price $89.95)

Graham Mount has exhibited a special interest in glass-ionomer cements essentially from their inception. In this book, he shares a wealth of knowledge accumulated from years of clinical studies and experience relating to this group of

materials. His enthusiasm for the benefits of these materials is effusive from the start of his textbook to its last page. This enthusiasm combined with the author's long history of clinical research with glass-ionomer cements set this textbook apart. In his preface, the reader is told that the purpose for this new edition is "to establish finally their position within this discipline." True to the definition of the word "atlas," the author attempts to bear the weight or responsibility of clearly defining the role of glass-ionomer cements in dentistry for today and the future.

As the title indicates, this book was developed to serve as a resource and reference guide for the clinician. The organization of the book provides the reader with not only a well sequenced flow of material, but also easy access to specific information on the various types of glass-ionomer materials. The book begins with a review of glass-ionomer cements in general, followed by specific information concerning each of the various types of glass-ionomer cements. The last segment of the book consists of an extensive chapter on the use of glass-ionomer cements in minimal intervention dentistry, followed by a short chapter written as a guide specifically for dental assistants. The book's illustrations contain both diagrams and clinical photos. The diagrams are clear and informative, and the clinical photos, which present various procedures and techniques, are excellent in quality.

In the first of the book's eight chapters, the author provides an excellent overview of the physical properties, setting reactions, and handling characteristics of glass-ionomer cements. He stresses the important relationship between understanding the fundamental properties of these materials and attaining their maximum effectiveness. The information provided is comprehensive but not so technical that it becomes tedious for the reader. The author does a good job of explaining the differences in the setting reactions for the various classifications of glass-ionomer cements while directly relating them to the differences found in their clinical properties and techniques.

The second chapter, written by Hien Ngo, discusses the bioactivity of glass-ionomer cement and its relevance to healing the carious lesion. This involves a discussion of the relationship of the ion exchange between glass-ionomer and tooth structure. It provides a good overview as to what a clinician can expect by way of the remineralization of enamel and dentin when utilizing a glass-ionomer material.

The next four chapters discuss in detail the various types of glass-ionomer materials including luting and bonding cements, aesthetic restorative materials, general restorative materials, and lining and base materials. These chapters review the physical properties and specific handling characteristics for each of the different types of glass-ionomer materials. The author takes care to clearly express his opinions on the advantages and disadvantages of the glass-ionomer materials in comparison to other materials for each of the restorative categories. The captioned photographic series depicting step-by-step clinical procedures and techniques are very informative and well done.

In the chapter on luting cements, the author provides a comparison of glass-ionomer cements with zinc phosphate and resin cements. He provides a comprehensive list of factors to consider in the selection of a luting cement. The section on the use of glass-ionomer as a bonding agent for resin composite or amalgam offers some good practical advice on the use of these techniques. The chapters on the restorative glass-ionomer materials provide a good comparison of the auto-cured and the resin-modified glass ionomer restorative materials. The discussion of the newer high strength glass-ionomer restorative materials includes excellent and very current information explaining how these new materials were developed, along with a summary of their advantages and disadvantages. This group of chapters, combined with one on liner and base materials, provides a very good reference source for the use of all types of glass-ionomer materials. One thing that might have benefited the clinician by its inclusion in these chapters is an extensive list of current materials available for each of the specific types of glass-iomomers discussed.

Perhaps the most interesting chapter of the text addresses the author's ideas concerning "minimal intervention dentistry." As indicated by the chapter's title, "Minimal intervention cavity design: The place of glass-ionomers," the author relates the use of glass-ionomer materials for this new approach to restoration of the carious lesion. The author suggests, "if minimal intervention is to be adopted as a philosophy, there is a need for an entirely new classification that will identify lesions rather than cavities." In the chapter, he proposes one such classification system based on the size and site of the lesion. He then goes through each proposed lesion classification, and discusses their

diagnosis, preparation, and restoration. In defining the benefits of glass-ionomer restorative material for these lesions, he states that its "greatest value lies in the restoration of minimal new lesions so that its biologic activities can be used to the maximum and it will not be exposed to undue occlusal load." He further discusses the appropriate utilization of glass-ionomer materials for sealants, tunnel preparations, proximal slot preparations, and their use in more extensive lesions involving lamination techniques.

This atlas provides both a student and a practicing clinician a very good reference guide concerning the properties, use, and handling of glass-ionomer cements. It provides a concise and thorough view of the past, present, and future application of glass-ionomers in dentistry. In closing his preface to the text, the author states, "My contribution will cease at this point. . . ." By sharing with others his obvious regard for these materials and their benefits for patients, the author has created a text that presents the best that glass-ionomers have to offer, and one that will surely continue his contribution to restorative dentistry into the future.

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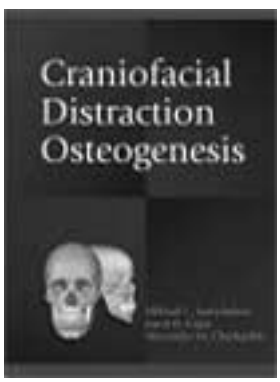

Craniofacial Distraction Osteogenesis

Samchukov, Mikhail L., Cope, Jason B., Cherkashin, and Alexander M. Mosby Publishing Co., St. Louis, MO 2003: ISBN 0-323-01134-9 (634 pp, 1350 illus (500 in color); price $179, hardcover

This magnificent text utilizes 119 international contributors and over 1300 illustrations to provide information about the history and development of distraction osteogenesis and its application to craniofacial deformities and/or deficiencies. The book is divided into 12 sections with a total of 69 chapters. Many of the sections could easily have been developed as separate textbooks targeted toward specific groups and specialty interests. The fact that the authors chose to present all of the topics in one extremely comprehensive textbook underscores a very strong theme of multidiscipline care for patients requiring treatment of facial deformities and related problems.

The authors introduce the basic principles of distraction osteogenesis developed by Dr. Gregor Ilizarov in the early 1950's.[1] Distraction osteogenesis is defined as "a biologic process of new bone formation between the surfaces of bone segments that are gradually separated by incremental traction."[2] (p. xxvii) Dr. Ilizarov's original research was based on limb lengthening of long bones, but the same principles have been successfully applied to the craniofacial bones, including the mandible, maxilla, and the alveolar ridge in preparation for implants. Distraction osteogenesis is the latest technique to correct craniofacial discrepancies.

The initial sections are devoted to the basic science of distraction osteogenesis, the biologic basis, the biomechanics, and the histiogenesis of the associated soft tissues. All of these chapters exhibit high quality graphics and illustrations to enhance the text. The authors compare the use of distraction osteogenesis with more conventional methods of redirecting growth utilizing palatal expansion or headgear or various osteotomies for adult patients. The authors also trace the development of the various distraction devices and techniques, classifying the devices as external or internal, tooth-borne or bone-borne. These chapters explore the biologic mechanisms of new bone formation under the influence of tension and the effects on soft tissue. Both radiographs and photomicrographs are effectively used to support the description of the process. One of the most compelling reasons to consider distraction osteogenesis in the treatment of craniofacial deformities is preservation and modification of the soft tissue. With a recommended rate and rhythm of distraction, the gradual movement of the bone is well tolerated by muscles, nerves, gingiva, and the periodontal ligament. This text traces the