

Book Review

Dental caries; the disease and its clinical management

Fejerskov O, Kidd E, editors.
Oxford: Blackwell Munksgaard, 2003.
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This book, overall, is an excellent reference text for students of cariology, whether they be predoctorals, graduate students, faculty, or practitioners. The editors, Drs. Ole Fejerskov and Edwina Kidd, can be congratulated on the book's mechanics and for keeping focused the international array of well-respected experts who have contributed chapters. The chapters are, on the whole, of manageable length and well-written, with the pertinent tables and illustrations directly available for reference when reading the text. The tables and figures are well laid out, informative and an excellent complement to the text.

Chapters 2 and 3 of the book describe the composition, structure and function of saliva and plaque. These chapters are scientifically informative, though each chapter ends with 2–3 pages headed *Saliva and Caries* and *Dental Plaque and Caries*. This unfortunately implies, to an extent correctly, that some of the earlier information in these chapters is irrelevant in a book on dental caries. This was particular so in the chapter on saliva. Chapters 4 and 5 present the scientific essence of the discipline of cariology and are well-written and beautifully illustrated. These are "must read" chapters for the predoctoral students in dental schools. *The chemical interactions between the tooth and oral fluids*, Chapter 4, allows the reader to understand the chemistry of the disease and its repair without overwhelming the reader with physical chemistry minutia. The clinical and histological manifestations of the disease in Chapter 5 follow logically from the chemical concept of how the disease develops, as described in the previous chapter. It is said that "a picture is worth a thousand words", and how well this chapter

proves the point. The transmission and scanning electron photomicrographs interspersed with color prints detail the progression of the disease from initial lesion to cavitation in enamel and dentin.

The section on diagnosis, Chapters 6–9, is somewhat overwritten. Chapters 6 and 9 along with part of Chapter 1 could have been combined. Chapter 9, which emphasizes diagnostic standards, was necessarily repetitive, though the glossary of epidemiology terms included in this chapter was a bonus for those of us undereducated in that field.

The importance of the section of this book on prevention, non-operative, and operative treatment of caries cannot be over-emphasized, especially the material in Chapter 17. In Chapter 10 the authors almost apologize for using the term *preventive non-operative treatment*, though no apologies are needed. Cariology has suffered in the past from the use of misleading terminology, for example "caries-free". The caries process, as described so eloquently in this book, would leave no plaque covered surface "caries-free" (that is, not demineralised at some point in time) which therefore implies no individual has been or is "caries-free". Chapter 11 is important because it makes the distinction between tooth cleanliness and tooth brushing, which are not necessarily synonymous. In this context the article used to substantiate the efficacy of tooth brushing in the control of caries could have been discussed in more detail. The discussion of antimicrobials in caries control is certainly warranted in a book on the clinical management of this disease, but the paucity of data and the lack of positive results linking the use of antimicrobials to caries reductions makes it a difficult chapter to write. The editors could have taken the opportunity to discuss the caries vaccine issue in some detail in this chapter. Chapter 13 on the use of fluoride in control of caries is particularly valuable and has broad appeal to individual practitioners, public health dentists, and dental health policy makers.

There are 6 pages dealing with fluorosis, which seems a little excessive. Substituting some of these pages for a summation of how all these individuals could use the knowledge of the mechanism of

action of fluoride (discussed in Chapter 3) to manage caries in individuals and communities would have helped. Presenting existing knowledge and concepts in a novel and interesting way is an art, and the authors of Chapter 14 on dietary control in the management of caries have achieved this. They also present a timely reminder that diet analysis done today may not reflect the diet when caries was initiated and/or first manifested. *The maze of treatment decisions*, the title of Chapter 16, is apt. This is an important and informative chapter, though it may need more than one reading to understand the risk assessment models presented. But in the end the effort will be worthwhile.

No chapter in the book is more important than Chapter 17 if the treatment of the carious lesion is to move from a surgical to a scientifically-supported medical basis. This chapter needs to be read by all students of cariology as defined earlier. In fact, so important is this chapter that I have instructed all the clinicians, full and part time, teaching in my department to read it. There is some conflict between this chapter and Chapter 18 which still talks about the removal of soft, infected dentin. However, the argument made in Chapter 17 for a change in the way caries is treated is persuasive and well-balanced. Perhaps the nub of the argument made in this chapter is just that: we treat caries, we do not manage it. This concept therefore needs to be addressed in the teaching of dental students, the continuing education of teachers of cariology, and dental practitioners.

Chapters 21 and 22 are arguably the most intriguing and thoughtful chapters in the book. Two of the take-home messages are that 65% of the change in caries patterns in 12 year olds in 18 industrialized nations can be explained by the use of fluoride toothpastes and changes in a broad array of socioeconomic factors, and only 3% to operative dental services. It should perhaps be some comfort to us dentists that "medical care only contributed about 10% to how long or how well people live." Further, it is not possible to predict with accuracy the high caries risk individuals, and even if we could the intensive preventive measures directed at these individuals would not result in substantial caries reductions. It is a pity in some ways that these 2 chapters are at the end of the book. They highlight 2 of the unsolved dilemmas in dentistry of how to identify the "at-risk" patient and, having identified such a patient, what treatment will be effective. One other dilemma that remains a mystery is the immediate diagnosis of whether a carious lesion is active or not.

Again, I congratulate the editors and the authors who contributed to this book. It is one that all the students of cariology will refer to for the foreseeable future.

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