

FEATURES SECTION

Book Reviews

Oxford Handbook of Applied Dental Sciences

Crispian Skully (Ed.)
Oxford University Press, Oxford, 2002
662 pp., flexicover, £19.95
ISBN 0-19-851096-9

This is an easily portable handbook covering the essentials of the basic sciences as applied to clinical dentistry. Like all the Oxford Handbooks series, it is well laid out and indexed, making it easy to use. It is very useful for revision purposes for both undergraduate and postgraduate students. The book is divided into eight chapters, covering relevant development and anatomy, physiology, biochemistry, genomics, general immunology, pathology, microbiology, and behavioral sciences and pain. The chapter on genomics is particularly valuable, as this is an area that is often poorly understood by dental students. There is some overlap in the chapters, but this serves to enhance the book.

I can highly recommend this book for undergraduate clinical dental students and for those who are working towards postgraduate examinations, in particular MFDS and MSc Orth. I think they will find it invaluable.

C. Adams

Information Technology and Orthodontic Treatment

Craniofacial Growth Series
J. McNamara Jr (Ed.)
University of Michigan, Michigan, 2003
238 pp., hb \$85
ISBN 0-929921-36-4

This is the report of the 29th Annual Moyers Symposium held at University of Michigan in February 2002. It brought together researchers and clinicians from orthodontics and Information Technology to review the state of technology in relation to orthodontics and patient care.

The reader will find a comprehensive explanation and summary of all aspects of Information Technology and computer usage within orthodontics from implementing a paperless practice through digital radiography, digital photography and digital models. There are chapters on diagnosis and selection of the appropriate digital camera systems, as well as the effectiveness or otherwise of digital

morphing programs, which may simulate the outcome of treatment for orthognathic and routine orthodontic cases. In fact, there is something for everybody with an interest in orthodontics. Even those with a slight interest in Information Technology will find a useful article, as there are many pearls of wisdom and advice within its pages. There are some challenging chapters on the future of craniofacial and orthodontic care, showing what could occur in the future. For example, the use of information technology to make the ideal bracket prescription ready to be placed in an ideal situation on the teeth via the use of lithographic models and computers in harmonization.

As you would expect from such an eminent symposium, it is well written with good illustrations, although these are in black and white, and in a number of instances color would have helped, but the quality overcomes this slight shortcoming.

In summary, a good read for all orthodontists, even those who only have a passing interest in information technology, because it will open their eyes to what is possible and may just be round the corner in the future.

R. Hobson

Dental Biomechanics

A. N. Natali (Ed.)
Taylor & Francis, London, 2003
304 pp., £62.72
ISBN 041-530-6633

This book contains 12 chapters and attempts to survey the rapidly growing field of dental biomechanics. The authors are principally European based from Italy and Spain, led by Professor Arturo Natali. The book contains an eclectic range of topics covering the biomechanics of bone, the periodontal ligament and osseointegrated implants among others. In addition to the chapter on the periodontal ligament, two further chapters will be of interest to orthodontists on 'the mechanics of super-elastic orthodontic appliances' and 'clinical procedures in orthodontics'.

Unfortunately, the chapters are not organized in an obviously logical order. For example, the section on the mechanics of materials is the last chapter in the book, rather than the first. Also, many of the graphs and the

diagrams of complex three-dimensional finite element models are too small, making interpretation difficult if not impossible.

This book is unlikely to appeal to busy practitioners and will probably not be read from cover to cover. However, for clinicians with a research interest in the area, this book provides a good, up to date survey of the field of dental biomechanics that can be dipped in to.

J. Rees

Essix Appliance Technology: applications, fabrication and rationale

J. J. Sheriden (with K. Hillard and P. Armbuster)
GAC International, Bohemia, NY, 2003
130 pp., Hardback, £66.00

This book is essentially a text about the highly successful Essix appliance that has been in use for almost a decade now. The main author has been speaking and lecturing extensively on this topic, and is a leading authority on air rotor stripping and Essix mechanics.

Many clinicians, I am sure, have used the Essix appliance for retention of post-orthodontic results. This book, however, not only focuses on this particular aspect of orthodontic treatment, but also on the other potential uses of the appliance.

There are 13 chapters in this book. The first four concentrate on the fabrication and adjustments of the appliance, from the stages of impression taking to appliance issue, materials used and hints for preparations for a better fitting appliance.

The interesting aspect of the book, in my opinion, lies in the middle sections. The author describes the variety of uses that the appliance can perform as an adjunctive tool in orthodontics. This range of orthodontic mechanics includes tooth intrusions, correction of labial segment irregularities and also inter-arch relations. The author's method of obtaining inter-proximal space with air rotor stripping is not for the faint hearted and is an indication of his clinical skill and years of experience.

To complete an informative text, the book dedicates the final chapters to the contra-indications and frequently asked questions about the appliance.

In conclusion, this book has not only met its aim of introducing the Essix appliance, but will also give the reader an insight into the other possible applications of such a simple appliance. The book is well illustrated with clinical photos and good case studies. I would recommend this book to be in every orthodontic postgraduate library and laboratory.

K. C. How

Dental Caries. The Disease and its Clinical Management

Ole Fejerskov and Edwina Kidd (Eds)
Blackwell Munksgaard, Oxford, 2003
Hardback, 368 pp., £75
ISBN 1405107189

Dental caries is ubiquitous in all populations throughout the world, and is the main cause of dental pain and tooth loss. Hence, this text represents a major contribution to the literature on a subject that is of central concern to all dentists. In its writing, the editors, Ole Fejerskov (Director of the Danish National Research Foundation and Adjunct Professor at the Royal Dental College, Aarhus University, Denmark) and Edwina Kidd (Professor of Cariology at Guy's, King's and St Thomas' Dental Institute, University of London, UK), were joined by a strong team of 28 expert authors. Together, they present both an international perspective and a wealth of knowledge on a range of subjects.

The text is logically laid out in four parts. In the first of these, the reader is introduced to the disease process, the Editors commencing by setting contemporary cariology in a historical context. Part II is concerned with diagnosis and makes the point that dental caries may be recognized at the level of the tooth surface, the individual or the population. These distinctions are important because viewpoints on occurrence, causation, intervention and outcome will differ according to the perspective taken. This section sensibly ends with a chapter that considers the principles of epidemiology in relation to caries and emphasizes how diagnostic standards can substantially influence our interpretation of data. Part III deals with the major factors that may play a role in lesion development and progression, introducing the concept of 'preventive non-operative treatment'. The Editors argue that setting preventive non-operative treatment alongside operative treatment implies that both 'treat' the disease process, demand time and skill, and are, therefore, worthy of remuneration. Finally, Part IV deals with the prognosis for caries and restorations, caries control and caries prediction.

This is a clearly written, comprehensive textbook, the breadth of which reflects diverse, sometimes controversial, opinion on dental caries. Indeed, the Editors state that they made a conscious decision to retain inconsistencies (such as those presented in Chapters 15 and 16) in order to demonstrate how people can synthesize the same information and approach the same problem from totally different directions, sometimes coming to very different conclusions. Highly illustrated throughout (there are more than 400 illustrations), graphs, tables, histograms, radiographs and color photographs are all used to facilitate the reader's grasp of key information. Though

Dental Caries is aimed at dental students and practitioners, it will be of value to the whole dental team, the scientific evidence and experience presented facilitating the practice of evidence-based dental care in the fields of both cariology and restorative dentistry.

M. L. Hunter

The Orthodontic Patient: treatment and biomechanics

A. J. Ireland and F. McDonald
Oxford University Press, Oxford, 2003
Softback 341 pp., £24.95
ISBN 0-19-851048-9

This is a new textbook, aimed primarily at the undergraduate and intended to complement the earlier title *Diagnosis of the Orthodontic Patient* from the same two authors. There are nine chapters, each of which is concluded by a short summary and an extensive reference list, and with the exception of the first chapter, a short list of objectives, which might be better placed at the start. There are several black and white photographs and line drawings to illustrate the text.

There are only two chapters that address the biomechanics of orthodontic management (one covering the cellular and biochemical changes, and one on materials), and these are clearly aimed at the undergraduate readership. It is slightly confusing to find a chapter on diagnosis, given that the companion textbook is devoted to the topic. The remaining chapters cover removable appliances, functional appliances, headgear, fixed appliances, multidisciplinary treatments and iatrogenic problems. There are many features within the text that the reviewer found irritating, and which the publisher's proofreader and the authors between them should have identified. There is extensive cross-referencing to other chapters, but on following these up, the detail expected is not there. For example, in Chapter 2, Andrews' 6 Keys are listed, and the reader is referred to Chapter 6 for further discussion. However, on turning to Chapter 6, we find that we are referred back to Chapter 2! Other errors include incorrect, inadequate or absent labeling of some figures, and Figure 9.1 is a complete mystery.

On the positive side, the majority of the illustrations are well done, appropriate, clear and helpful. The text is generally lucid and well written. The chapter on multidisciplinary treatment is ambitious in tackling the links with restorative dentistry, oral surgery at dento-alveolar and orthognathic levels, and concludes with a helpful overview of cleft lip and palate. This is a good chapter that will enable an undergraduate to pull together relevant information from a variety of sources. The final chapter on iatrogenic problems is another useful addition, emphasizing the risks associated with

orthodontic treatment, including the detrimental effect an incorrect diagnosis and treatment may have on the facial profile – an area that is often neglected but has profound implications.

Overall, this is a curate's egg of a book, the good bits are ideal as an inexpensive undergraduate text, but in addition to the comments made already, the cramped lay-out of the text and absence of color illustrations make it difficult to recommend over the competition.

Richard Oliver

Traumatic Dental Injuries – a Manual, 2nd edn

J. Andreasen, F. M. Andreasen, L. K. Bakland and M. T. Flores
Blackwell Munksgaard Oxford, 2003
Softback, 88 pp., £24.99
ISBN 1-4051-1108-9

This 80 page softback manual is the second edition of a softback manual first published by Munksgaard in 1999. Like the first edition, it is concise with spaces in the text for readers to annotate. Illustrated throughout in color, it uses electronically generated illustrations produced by a medical artist instead of clinical photographs and radiographs. This means that the same tooth appears to be traumatized in each chapter, thus illustrating how a 'typical' injury would appear both clinically and radiographically without having to account for differences between individuals.

There are six new chapters and the reference section is considerably expanded. The new chapters include diagnosis of pulp and periodontal healing complications, long-term prognosis of injuries, information for the patient and a chapter on the principles of endodontic therapy. The latter chapter includes recent evidence to support the use of MTA in immature incisors. The appendices include a standardized examination form and follow-up protocol that some readers will recognize from the authors' previous texts. The authors' preface indicates that all chapters have been revised, but close inspection reveals only few alteration to some.

The first four chapters cover epidemiology, the nature and consequences of trauma, the classification of traumatic injuries, and examination and diagnosis. The following chapters cover individual injury types describing clinical and radiographic appearance, biological considerations, treatment and expected outcomes. These latter findings are based on existing long-term studies and present evidenced-based treatment options. The text is clear and well written, and well referenced. However, the text aims only to provide highlights of dental traumatology. The treatment section is therefore a brief description of what should be done. Step-by-step clinical procedure

photographs do not appear with the exception of splinting, which is covered in a separate chapter. The chapters on diagnosis of periodontal and pulpal complications are particularly helpful as this is a difficult area for many clinicians.

The text also includes chapters on preventing injuries, and information for the public and the individual patient. It also gives details of how to obtain educational material that will be of great value to colleagues working closely with schools or sport clubs.

The manual will serve as an excellent reference for practitioners and dental students who have a good working knowledge of dental traumatology.

Barbara Chadwick

Craniofacial Development, Growth and Evolution

M. C. Meikle

Bateson Publishing, Bressingham, 2002

363 pp., £75

ISBN 0954233808

There has always existed in universities a tension between research and teaching. As an undergraduate student (although even today as an ageing academic), I most admired those who tried to balance the demands of research, while maintaining a commitment to educating the next generation of scholars and professionals to high standards. Nowadays, universities find themselves in an almost impossible situation; the requirement to perform well at research audits, to gain impressive amounts of research grant money, and to understand the political and sociological imperatives that Society places on the direction of scientific research has increasingly meant that educational matters are of relatively low priority and that teaching should be 'research-led'. Indeed, it is precisely the academic who tries to balance research and teaching in this environment who flounders most. Medical and Dental education is not immune to this dilemma. Although it is recognized that there are fundamentals to be learned by such professional healthcare workers that are not areas of active research interest, there are directives from educational committees of the relevant professional bodies that, whilst asking University teachers to provide the necessary (and complicated) detail needed to be 'research-led' and to take the student to the limits of knowledge in order to appreciate research skills, paradoxically then insist that factual overload should be removed! Murray Meikle's book is a very welcome addition to the literature in an expanding and exciting area of research of importance to Dentistry that,

in the writing, has had to face such problems. The author has clearly and commendably asked the questions, 'Who is the book for? How much information and detail should be included? What areas of research are passing "fads" and what areas will produce lasting clinical benefits?'

So, who is the book for? Murray Meikle claims that it is for 'clinicians with an interest in the head and neck' and 'research students in developmental biology seeking an introduction' to craniofacial development. I believe that he has largely succeeded in his task. However, teratological issues of importance to the clinician are underplayed and there should perhaps be a little more inclusion of recent research findings to satisfy the research student. How much information and detail has been included? Here, I have some reservations. The book is of moderate size (342 pages excluding the index). Early embryonic development occupies 44 pages (few pages dealing specifically with craniofacial development), discussion of cell adhesion molecules is covered by 21 pages (4 pages being specifically related to craniofacial development), biology of the skeletal tissues occupies 40 pages (again few pages being specifically related), development of the face (including palate) is covered in only 33 pages, the development of the pharynx and its derivatives requires 22 pages, aspects of the chondrocranium 19 pages; and the membranous neurocranium 27 pages, the development of the nasomaxillary complex is covered in 22 pages and the mandible 29 pages, while the development of the dentition only occupies 26 pages! Consequently, some might level the criticism that the book, in attempting to address the specific needs of both clinicians and research students, is in danger of 'falling between two stools'. Finally, what is the benefit to clinical Dentistry? Matters of clinical relevance relating to the development of the face (and palate) are covered in only 15 pages, the chondrocranium in just 3 pages, the membranous neurocranium in 12 pages, the nasomaxillary complex in only 2 pages, the mandible in 4 pages, and the development of the dentition in a mere 4 pages! The clinical aspects of the development of the pharynx have no pages specifically dedicated to clinical relevance. Perhaps it is too much to expect the book to be too encyclopedic in its approach.

Despite my criticisms/reservation, this is a well-produced book, with good illustrations (many in color). The inclusion of historical aspects, for me, added considerable interest that went beyond mere entertainment. Overall, therefore, this is a book that I'm glad to have on my shelves and that, certainly, is the best presently available on the market in the field of craniofacial development.

Bernard Moxham