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# Book Reviews

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## 21st century imaging (2007)

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This book represents the third in the 'Imaging' section of the Quintessentials for General Dental Practitioners' series. This compact, pocket-sized volume covers principles of dental radiological imaging from the modern practice of conventional film-based imaging to current digital imaging techniques and looks forward to the application of three-dimensional (3D) cross-sectional imaging techniques in dentistry. It does so in 166 clearly written pages liberally illustrated with good quality images and diagrams and with an effective index. Each chapter is prefaced by outcome objectives and ends with references to help further reading.

The book starts with a very readable and illuminating historical perspective, setting the scene by charting the progress of innovative pioneers of early dental radiology. These experimented with imaging of dental structures just a matter of weeks after the discovery of X-rays, and this helps to demonstrate how far dental imaging has progressed in just over a 100 years.

The book moves on in chapters 2, 3, and 4 to cover modern intraoral and panoramic radiographic principles and techniques and the action and use of conventional film image receptors. Modern film-based cephalometry is described and key features of good practice identified. These chapters are an excellent resource for any member of the dental team seeking advice on conventional imaging, from troubleshooting to quality assurance. These early chapters are also full of valuable, clearly written, up-to-date information on dental radiography, suitable and essential reading for students studying for examinations in dental radiography.

It is the latter half of the book, however, that stands out for me as a particular strength of this publication. These latter chapters concentrate on modern dental digital radiography and newer dental radiological developments. Textbooks on how dental digital radiographic imaging actually works are not numerous and can be difficult reading. This book covers the many new principles and ideas in this complex area very well indeed. Chapters 5–9 cover digital radiographic imaging in a depth that is not widely available and in a manner that is clear, informative, and very relevant to dental practitioners.

The basic principles of digital imaging are contained in Chapter 5 and are essential reading for any dental practitioner hoping to understand how a digital image is created and what manipulations are performed in bringing the radiological image to the screen. Chapters 6 and 7 cover the alternative modalities of direct and indirect dental digital imaging receptors for both intra- and extraoral views in detail, allowing the prospective purchaser to undertake modernization of their dental imaging facility with insight and understanding.

Chapter 8 explores digital image storage and handling. While safe storage of digital images is a responsibility for all practitioners, it is clear that different techniques exist, and informed choices will need to be made. This chapter further clarifies the principles of image data handling through DICOM and other standards and covers networking and the display of images.

The final chapter brings together a review of newer and developing 3D radiological imaging techniques. The emphasis, in this chapter, is on their application in dental implant assessment, though these techniques are clearly also useful elsewhere. A reflection of the speed of development of dental radiological technology is that cone beam computed tomography (CBCT) is shown but not covered in any great detail and yet this has burst upon the dental scene since the publication of this volume. For detailed coverage of the principles of CBCT (or digital volume tomography), readers will need to look elsewhere.

This book should appeal to a dual audience—it will not only be useful to those looking for a reliable, up-to-date review of conventional film-based dental radiography but also answers a need to update and educate dental practitioners on the significant changes that have occurred within dental radiography over the past decade and would be a useful resource for those wishing to better understand the technology behind digital dental radiography.

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