

Book Reviews

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Cone-beam volumetric imaging in dental, oral, and maxillofacial medicine. Fundamentals, diagnostics, and treatment planning (2008)

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The authors have produced an atlas based on the understanding and interpretation of Cone-Beam Volumetric Imaging (CBVI). The book is divided into three sections; the first part describes the technology of CBVI, the second describes and illustrates the diagnostics of this three-dimensional imaging technique, and the third, its use in treatment planning. An accompanying DVD provides dynamic assessment of some of the illustrated cases.

The first section details the fundamental differences between conventional computed tomography and CBVI. There is a clear and concise description of how CBVI works and detailed information on the requirements and influencing factors of image quality.

The second part covers the diagnostics of CBVI including numerous dental conditions such as caries, periodontal disease, and trauma. In addition, pathological bone lesions, craniofacial malformations, and diseases of the maxillary sinus, temporomandibular joint, and salivary glands are included. There is a well-illustrated chapter devoted to orthodontic diagnostics.

The third section discusses the role of CBVI in treatment planning. Implant planning, intra-operative navigation, and maxillary surgery, including computer-assisted orthognathic surgery, are covered.

The atlas is well structured and complimented by an extensive collection of radiographic images. The images are of a good quality but in some cases are slightly too small to optimally demonstrate the described condition. The DVD is a useful addition to the text as it contains original data set and on-screen video clips of many of the conditions at a larger scale.

The authors have primarily described and used examinations from a single CBVI unit supplied by one manufacturer. There are many other systems now available. As an atlas, a wide range of dental disease have been illustrated, some of which could be adequately managed by conventional plain film with a reduced dose. The authors do, however, state that many examples in the atlas were incidental findings.

Although the atlas covers many dental conditions, there is plenty to maintain the orthodontist's interest. As well as a dedicated chapter on orthodontic diagnostics and surgery, the atlas covers imaging of dental anomalies, impacted teeth, and craniofacial malformations and syndromes.

Overall, I found this textbook to be an interesting and enjoyable read and believe it would be useful to orthodontists who have a keen interest in or access to CBVI.

Rebecca Davies

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