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Maxillofacial Imaging

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brain death, and CSF. The tables of CSF provide a quick reference of solute concentration, cells, and alterations of CSF in different diseases.

Chapter 10, which discusses hydrocephalus, is useful because it provides a handy summary of the various shunt types, including the most commonly used ones. Diagrams show the hardware components of the shunt, pressures associated with various settings, and names of the more popular shunts. Complications and shunt failures including infection, slit ventricles, and malfunction are described along with the steps taken when one taps a shunt to determine the adequacy of its function, remove fluid, or instill antibiotics or chemotherapeutic agents.

Chapter 12, a relatively extensive chapter on infections of the brain and spine, takes us from specific infections, to antibiotic and antiviral treatments, and through potential surgical management. For instance, the criteria for surgical versus medical management of cerebral abscesses are outlined. Even nonsurgical diseases such as herpes simplex encephalitis, AIDS, Creutzfeldt-Jakob disease, and Lyme disease are nicely summarized from a clinical and pathologic standpoint. Osteodiskitis and tuberculous epidural abscesses are considered from a medical standpoint and an operative approach. Although of limited interest to neuroradiologists, the chapter on seizures does discuss the classification scheme of seizures including subdivisions of generalized and partial seizures; however, most of this chapter deals heavily with the classifications of antiepileptic drugs and their usage.

In the chapter on the spine, cervical and lumbar procedures are described, but the chapter is unfortunately incomplete. For instance, a reasonable summary of potential hardware for fusion and stabilization is missing as is a description of a laminoplasty, an ever increasingly popular approach to cervical spine stenosis. The author describes spinal conditions such as ankylosing spondylitis, Paget disease, and rheumatoid arthritis, all of which are difficult to deal with from a surgical standpoint. The chapter on functional neurosurgery will be valuable to neuroradiologists because it shows where "nontraditional" surgical techniques are headed. Included are subheadings on the treatment of Parkinson disease, spasticity, hemifacial spasm, tremors, hyperhidrosis, and sympathectomy for various conditions.

As expected, the section on tumors comprises the largest portion of the book. Important, useful information is contained including the World Health Organization classification of tumors of the central nervous system, histologic features, survival rates, and frequency of occurrence. Other useful information consists of sensitivity to various treatment regimens, management of tumors of varying sizes, advantages and disadvantages of different approaches to strategically located masses, and complications and care of those complications. In addition, typical presenting symptoms for each tumor, tumor staging, classifications of pineal tumors, and many other features are discussed. The section on tumor markers serves to remind us of these prominent markers, both for histologic and clinical diagnosis. The section on spinal tumors (of the cord, canal, or column) is considered similar to that on brain tumors but is more abbreviated.

The last one third of the book deals with radiation therapy, stereotactic neurosurgery, the peripheral nervous system (with excellent diagrams and laying out of muscular innerva-

tion), and the treatment of neuropathies and plexus and nerve injuries. It also covers entrapment syndromes, neuro-ophthalmology, neuro-otology, a summary of various cranial and spinal operations and approaches, and trauma to the head and spine. Also included in the last part are the evaluation and treatment of stroke, aneurysms (grading, types, management options, vasospasm treatment, and the timing of surgery and intervention), vascular malformations (classification, grading approach), and intracerebral hemorrhage. The final chapter lays out the differential diagnoses of many syndromes such as low back pain, sciatica, syncope, diplopia, cranial neuropathies, and tinnitus, among many others.

This book will serve as a comprehensive companion for all those in the clinical neurosciences. It covers the entire neuro-surgical field and, because of that, is recommended as a reference book for all radiology department libraries. For those who work closely with neurosurgeons, having a copy of this book within easy reach is beneficial.

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BOOK REVIEW

Maxillofacial Imaging

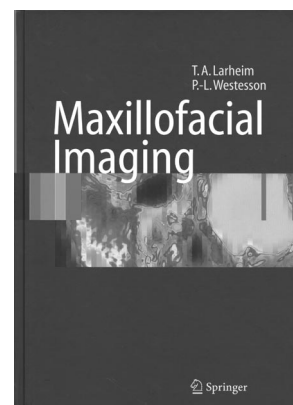
T.A. Larheim and P.-L. Westesson, eds. Heidelberg, Germany: Springer; 2006, 440 pages, 1450 illustrations, \$259.00.

The authors, who are well-recognized leaders in dental medicine and maxillofacial radiology, have undertaken the task of writing a concise and comprehensive book that covers the evolving role of advances in imaging technology in the diagnosis of various dental and maxillofacial conditions.

This book is intended to be an "atlas" to target not only radiologists but also head and neck and maxillofacial surgeons, otolaryngologists, and other physicians who may encounter these clinical conditions in their daily practice. There are 14 chapters. The style of each chapter generally has the same outline format, begins with a concise introduction of the topic, and discusses salient clinical features of a wide variety of cases and their imaging features.

The illustrations are a major component of the book and are almost uniformly excellent. They are clearly labeled with gross pathologic specimens complementing many case studies. The text is well referenced and current.

The introductory chapter is devoted to maxillofacial anatomy. The high-quality and well-labeled 3D and high-resolution cross-sectional CT and MR images will be extremely useful to radiologists and nonradiologists who may not be so familiar with this anatomy. At the end of the chapter, the images demonstrating correlative MR and gross anatomy of the temporomandibular joint are particularly well illustrated.



The next 4 chapters discuss the various pathologic conditions of the mandible and maxilla; these include congenital, infectious, and neoplastic lesions. Plain radiographic and CT and MR features of several different conditions in each category of diseases are discussed to familiarize their imaging characteristics to both dental and other medical specialists. Although I appreciate that this work is not intended to be a textbook, it would have been helpful to include the clinical management of the various disease conditions as well as the cancer staging nomenclature of the different head and neck neoplasms and their treatment options.

The chapter related to the temporomandibular joint gives valuable practical information about the potential usefulness of state-of-the-art MR compared with previous conventional imaging modalities in practically all categories of diseases. In selected cases, illustrations from surgical and autopsy specimens that supplement the MR images are also very informative. The next 4 chapters elucidate the gamut of pathologic conditions that pertain to regions closely related to the jaw. These conditions include dental implants, maxillofacial trauma, craniofacial deformities, and disorders of the paranasal sinuses. The chapter on dental pathology, including implants, is a very useful overview for the medical profession because this area is well known to dentists. The potential of CT, including advanced conebeam techniques along with high-quality reconstructed images, is provided.

A comprehensive overview of the various types of maxillofacial fractures and imaging modalities, including advanced CT reconstruction modalities available in the different subtypes of fractures, is discussed at length in the chapter on facial trauma. In the chapter on disturbances of facial growth, a thorough review and illustrations of craniofacial anomalies, with emphasis on the complementary role of both 2D and 3D CT imaging, are discussed.

The next 2 chapters focus on the evolving role and advantages of advanced imaging techniques, namely CT and MR, compared with traditional dental/conventional plain radiographs (that dentists are more familiar with) in the diagnosis of diseases of the paranasal sinuses and the adjacent maxillofacial soft tissues, which include lesions of the oropharynx or oral cavity and deep neck spaces.

At the end of the book, a particularly useful chapter deals with lesions of the surrounding tissues that the radiologist will commonly encounter during the work-up of a patient with a maxillofacial lesion. Clinical and imaging characteristics of a potpourri of congenital, degenerative, inflammatory, infectious, and neoplastic conditions are discussed.

Finally, the last chapter includes various interventional procedures for the treatment of assorted pathologic conditions of the orbitofacial region that the maxillofacial radiologist may be asked to perform. Indications and techniques of procedures such as arthroscopy of the temporomandibular joint, a sialogram, biopsy of the deep neck space, and embolization of a hemangioma are briefly covered.

In summary, the authors have achieved their goal of providing an introduction to the role of advanced imaging modalities, primarily CT and MR, in maxillofacial imaging. Overall, this book is well organized and has a unique format that meets its intended purpose. It is a concise "atlas" that is simple to use and to the point, with a plethora of high-quality, clearly

labeled illustrations. However, for particular topics in which specific details are needed, the audience should be warned that it may need to research other material as well. The authors are encouraged to use this book as a foundation for future editions of a more formal textbook on maxillofacial imaging. I recommend this book to anyone who is interested in maxillofacial radiology.

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BOOK BRIEFLY NOTED

Cranial Nerves: Functional Anatomy

S. Monkhouse, ed. Cambridge, UK: Cambridge University Press; 2005, 162 pages, \$50.00.

This 162-page pocketbook, derived from notes made initially for Professor Monkhouse's medical students, would be useful both as a quick reference and as a good introduction to the cranial nerves. It is well organized; the first section is on the major concepts and basic anatomy of the cranial nerves and the subsequent 4 sections are organized by function. For example, all cranial nerves dealing with eye movement and sight are grouped together. Each chapter within a section introduces the pertinent cranial nerve or division, its basic anatomy, clinical-pathologic correlations and finally how the function of this nerve is tested in a clinical setting. There are 26 line drawings and 9 tables that help elucidate many of the concepts from the text.

DOI 10.3174/ajnr.A0832

BOOKS RECEIVED

Imaging of Head and Neck Cancer. A. Ahuja, R.M. Evans, A.D. King, C.A. van Hasselt, eds. London: Greenwich Medical Media Ltd.; 2003, \$90.00.

Magnetic Resonance Imaging in Stroke. S. Davis, M. Fisher, S. Warach, eds. Cambridge, UK: Cambridge University Press; 2003, 280 pages, 21 line diagrams, 76 halftones, 14 color plates, 16 tables, \$175.00.

Intervening in the Brain—Changing Psyche and Society Series: Ethics of Science and Technology Assessment, Vol. 2. R. Merkel, G. Boer, J. Fegert, T. Galert, D. Hartmann, B. Nuttin, S. Rosahl, eds. New York: Springer; 2007, 533 pages, 11 illustrations, \$99.00.

Tumors of the Brain and Spine Series: M.D. Anderson Cancer Care Series. F. DeMonte, M.R. Gilbert, A. Mahajan, I.E. McCutcheon, eds. New York: Springer; 2007, 364 pages, 87 illustrations, \$89.95.

Patch-Clamp Analysis: Advanced Techniques, 2nd ed. W. Walz, ed. Totowa, NJ: Humana Press; 2007, 424 pages, \$125.00.

Radiobiological Modelling in Radiation Oncology. R. Dale, B. Jones, eds. London: British Institute of Radiology; 2007, 292 pages, \$120.00.

Erratum

Please note that October article "Early Postnatal Development of Corpus Callosum and Corticospinal White Matter Assessed with Quantitative Tractography" by Gilmore et al (2007;28:1789–95) printed with incorrect DOI number 10.3174/ajnr.A0651. The correct DOI number is 10.3174/ajnr.A0751. This error has been corrected for the on-line version of the article.

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