

The book fulfills its purpose as an addendum to existing references on neuroradiology in a more than excellent way. It can be estimated as absolutely indispensable for every neuroradiologist, radiologist, and pediatric neurologist who wants more than just scratching the surface of modern neuroradiology.

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Brain Imaging in Substance Abuse

Marc J. Kaufman

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Substance abuse concerns increasing numbers of individuals. This is due to the facts that many substances of potential abuse are widely available to adolescents and, additionally, the drug-using 'flower power' generation has come to age and will constitute a substantial proportion of the geriatric population. Thus, the book, dealing with brain imaging of acute as well as chronic effects of substance abuse on brain morphology and function, holds important information not only for different groups of clinicians and researchers, but also for forensic experts and social workers.

The diagnostic potential of imaging modalities studying acute and chronic substance effects, and side effects of substance abuse, respectively, is discussed. Starting with common overviews about the respective techniques and analysis of the results, the chapters review critically the sensitivity and specificity of the substance abuse related findings. Electroencephalography, SPECT, positron emission spectrometry, and magnetic resonance imaging methods like morphological imaging, functional imaging, and spectroscopy are covered. A contribution about neuropsychology, focused on the description of the most important tests, which allows one to relate imaging findings to disturbances of cognitive and emotional functioning. Finally, a chapter about neuroimages as legal evidences informs about the acknowledgement of the respective method in court. A comprehensive bibliography and a detailed table of contents allow one to be informed quickly about the topics of interest.

Most of the chapters are illustrated by figures; however, in a book called 'Brain Imaging', one would expect more images. In addition, not all of the imaging examples are of high quality. Furthermore, a 'how to' contribution would be helpful, helping to decide about the imaging modality of choice with the suspicion of the abuse of a certain substance.

In conclusion, this book really fills a gap, informing the specialist as well as the casual reader about the diagnosis and management of substance abuse with impact on brain morphology and function

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***Intensity Modulated Radiation Therapy*, By Steve Webb, Institute of Physics Publishing, Series in Medical Physics, 2001. ISBN: 0-7503-0699-8; £50, 435 pp**

Prof. Webb has dedicated his latest book to one of the most exciting fields and advanced treatment techniques in radiotherapy, 'Intensity Modulated Radiation Therapy' (IMRT). Chapter 1 considers general aspects of IMRT and its rationale. Starting with conformal radiotherapy, the background and the necessity to the development of IMRT are summarized. An appendix of chapter 1 lists interesting points and counterpoints for and against IMRT. Moreover, it invites the reader to take up a position.

Chapter 2 and chapter 3 focus on available IMRT delivery techniques, rotation IMRT (tomotherapy) and IMRT delivery using a multileaf collimator (MLC), respectively. Existing equipment to perform rotation IMRT, the Nomos system and the helical tomotherapy unit developed at the University at Wisconsin, are covered by chapter 2, including dosimetric and quality assurance aspects. The two MLC-based delivery techniques, the dynamic and the multiple static field technique are addressed in the main sub-sections of chapter 3. Existing commercial equipment to deliver IMRT with either the static or the dynamic MLC is as well presented in this chapter. Even different leaf interpreters, which are necessary to convert intensity modulated beam profiles into an appropriate set of leaf positions, are reviewed in this context. Finally, combined electron and photon beam IMRT, as well as IMRT by scanned beams, are described briefly in separate sub-sections. The appendix of chapter 3 provides the background of the solution of the tongue-and-groove effect to the more mathematically orientated reader.

Chapter 4 is dedicated to the clinical applications of IMRT and associated items. Radiotherapy centers developing IMRT during the last years and the associated

tumor sites where IMRT is clinically investigated is the main subject of chapter 4. The second large subject covered in this chapter is the verification of IMRT, describing the latest developments and applications of portal imaging devices, megavoltage CT imaging and gel dosimetry. Chapter 4 closes with a description of limitations and with a look to the future of IMRT, the robotic IMRT.

The last chapter, 5, addresses 3D planning for conformal radiotherapy including IMRT. After a philosophical note on treatment optimization, the impact of multi-modality imaging (MMI) is described for various tumor sites. This is followed by a review of different optimization techniques including beam orientation optimization. Organ motion and the analysis of treatment plans represent other important items covered in chapter 5. Finally, a summary and a look to the future are given, finishing with an important statement 'The story of the development of IMRT will go on for a long time.

There are still many unanswered questions, but its place in radiation therapy practice is assured.'

Besides the clearly written text numerous figures, diagrams, displays of dose distributions, etc. help to 'understand' IMRT. There is hardly a page not containing any illustration! An extensive list of references (more than 60 pages!) refers to relevant literature. This excellent book is recommended to all medical physicists approaching IMRT and should therefore be part of the local library in a modern radiotherapy department.

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