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**Pediatric Brain and Spine: An Atlas of MRI
and Spectroscopy**

AJNR Am J Neuroradiol 2006, 27 (3) 723-724
<http://www.ajnr.org/content/27/3/723>

This information is current as
of July 4, 2025.

acronym BiPAP, used for a commonly employed bi-level nasal positive airway–pressure device.

There are also informative sections on actigraphy, pulse transit time, and peripheral arterial tonometry, as well as periodic limb movements, restless legs syndrome, and other movement disorders of sleep. There is relatively little to be found in the volume on REM behavior disorder or other nocturnal behaviors. There is some scattered information and a few examples of insomnia cases but no single chapter related to this common sleep disorder. This is perhaps understandable, because the techniques presented are of greater value in the diagnosis and treatment of sleep-related breathing problems. There is only a short reference to nocturnal penile tumescence studies somewhat obscurely included under recording techniques and apparently to indicate that the procedure is not typically employed in the principal author's laboratory. The chapter on special recording considerations and illustrative cases for pediatric sleep disorders is informative.

Most of the images in the atlas are of good quality. Some legends for the illustrations provide clear explanations. In general, illustrations are not marked with arrows or other indicators that identify the particular abnormalities or areas of interest. Many figures have other numbers or letters that may be misleading for the novice reader or those less familiar with their significance. The scales are barely readable on some of the illustrations. Some legends are conjectural or inconclusive and may leave the reader unsure of what the example is meant to illustrate.

Despite the title, the atlas is more of an introduction with illustrations and brief explanations than a comprehensive guide to treatment of sleep disorders and sleep medicine. There are other similar works extant. These include the older *Primer of Polysomnogram Interpretation*, by Mark Pressman (Butterworth-Heinemann; 2002), and the *Atlas of Digital Polysomnography*, by James D. Geyer (Lippincott Williams & Wilkins; 2000). The somewhat older and more expensive set of 2 volumes entitled *Atlas of Clinical Polysomnography*, by Nic Butkov, contains hundreds of fine illustrations of recorded sleep data and supporting text. *Principles and Practice of Sleep Medicine*, 3rd ed., edited by Meir H. Kryger, Thomas Roth, and William C. Dement (Saunders; 2000) is an outstanding comprehensive reference, but not an atlas.

Because visual recognition of recorded data takes some experience and practice, novices may find the experience of looking at many of the illustrations in this atlas somewhat akin to the uninitiated looking at axial tomographic sections. Individuals who are used to looking at recorded sleep data will find the illustrations more familiar than those who are not. Particularly the section on hypnogram analysis (153–70) may seem obscure to someone who is not used to looking at this form of graphic representation even with the clinical correlation.

It is a bit of a reach to see how most neuroradiologists would use this book. It is certainly fair to say that anyone involved in conscious sedation should be aware of the high prevalence of sleep-related breathing disorders, not only in the general population but especially in the subjects who may be presenting for neuroradiologic procedures. Neuroradiologists may frequently encounter hypertensive, obese, and morbidly obese subjects who may perhaps be undergoing imaging for commonly associated cerebrovascular, spinal, or other clinical

problems. These individuals have a much higher prevalence of sleep apnea than the general population. We now know that sleep apnea may affect as many as 30%–40% of stroke patients. An atlas of this type is probably not essential for bringing home these realities. The book may be helpful to gain a better appreciation of the limitations of sleep recording in relation to various imaging studies. The usual techniques of sleep recording, for instance, would not be well suited to a typical MR imaging suite. There is, however, a good section by Dr. Robert Thomas in the atlas on the use of positive airway pressure in sleep apnea subjects. This may help one better understand these commonly used devices and their role, and perhaps use, in patients receiving conscious sedation or otherwise sleeping during neuroradiology procedures.

In a more general sense, the present volume will perhaps find its greatest usefulness for those readers who are looking for illustrations of common, as well as uncommon, findings in sleep recording. Polysomnographic technologists, sleep specialists, and others needing examples and explanations of the evaluation of sleep by these recording techniques should find the work of interest. The book would be worthwhile for individuals studying for certification by the American Board of Sleep Medicine. The work would also be well chosen for a course on evaluation and interpretation of sleep recordings. The book may also be of interest for those who only wish to learn what sleep recordings look like and the information they can provide. In that capacity, the book would serve as a useful reference for medical libraries and sleep disorders centers.

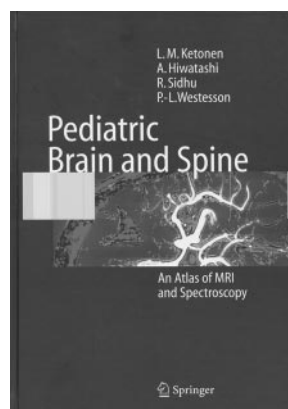
BOOK REVIEW

Pediatric Brain and Spine: An Atlas of MRI and Spectroscopy

Edited by L.M. Ketonen, A. Hiwatashi, R. Sidhu, and P.L. Westesson. New York: Springer-Verlag; 2005, 494 pages, 1427 illustrations, \$239.

This MR imaging atlas is a comprehensive outline of pediatric brain and spine imaging, including modern techniques such as MR spectroscopy written by experienced North American authors. The book is divided into 12 chapters. Most

of the chapters pertain to brain imaging, with added chapters on spine, head and neck, and fetal imaging. The description of each condition is well integrated into clinical presentation, imaging, and discussion, followed by recent and appropriate references. The book starts with a chapter on imaging of normal brain myelination and variants. In this chapter, brain myelination at various ages is accompanied by high-quality im-



ages. Although the images are a bit small, they are of excellent resolution and the findings are therefore seen clearly.

The book then discusses congenital malformations of the brain where there is an extensive description of almost all congenital malformations with a number of very descriptive images. Every entity in this chapter and the rest of the book is illustrated with a number of high-quality images. Some of the conditions are described with a collage of images from 2–3 cases, something rarely seen in other pediatric neuroimaging textbooks. This provides the reader with a wider spectrum of visual information.

The next chapter addresses inherited neurologic diseases and disorders of myelin, discussing various disorders of metabolic and demyelination/dysmyelination. Some extremely rare disorders are also described. For readers—one of them being me—who have limited or almost no knowledge of “common” conditions such as “p10p9 translocation” or “18 q syndrome,” this should serve as an excellent reference book. Following this are chapters on infection and tumors, where there is an extensive review of infection and tumors in childhood.

The complex issue of hypoxic ischemic encephalopathy is well described and discussed with recent literature and many images. This is followed by a chapter on head and neck and spine imaging in which certain important topics pertaining to head and neck and spine in children are discussed. The last chapter addresses several miscellaneous conditions, most of which concern descriptions of the various neurocutaneous syndromes. (You cannot have a pediatric neuroimaging book that does not talk about neurofibromatosis and Sturge-Weber and tuberous sclerosis.)

Before concluding, I must add that the greatest strength of this book is its chapter on fetal imaging. The authors have gone to great lengths to include various important fetal conditions and their imaging appearances, with excellent supporting MR images. Few pediatric neuroimaging textbooks cover this topic in such depth and detail as this atlas. Another feather in the cap of this book is the MR spectroscopy findings in certain pertinent conditions by using both single voxel and 2D CSI techniques. The limitations of this book are few, if any. First, of course, not every possible entity in the neck and spine and the rarer brain conditions have been included. Second, the images are a bit smaller than normally seen in other textbooks, which is understandable in light of the space constraints and is more than made up for by the excellent resolution of the images.

Overall, this is an excellent pediatric neuroimaging atlas, covering almost all pediatric central nervous system disorders and many other rare conditions with high-resolution images with the most current and relevant references. This atlas can serve as an excellent book for not only radiologists, but also pediatricians, neurologists, neurosurgeons, and pediatric neurologists.

BOOK BRIEFLY NOTED

Pediatric Ophthalmology, Neuro-Ophthalmology, Genetics. Series: Essentials in Ophthalmology

Edited by B. Loren and A.T. Moore. \$119, New York: Springer-Verlag; 2006, 240 illustrations.

This book, part of the *Essentials in Ophthalmology*, is edited by Drs. Brigit Lorenz and Anthony Moore, both of whom are well-known pediatric ophthalmologists. This 240-page volume contains a number of chapters that may be of general interest to neuroradiologists, particularly for those at children's hospitals who are involved in pediatric head and neck imaging. The section with the greatest applicability to imaging involves pediatric ocular oncology. This 20-page chapter includes excellent color plates of children and infants with a wide range of tumors, including eyelid, conjunctival, intraocular, and orbital tumors. For those who would like to know what the optic discs look like in various diseases such as retinoblastomas, capillary hemangiomas, or melanocytomas or the appearance of some of these patients, this book provides such pictures. Although this is not a publication that neuroradiologists would ordinarily purchase, it may be an appropriate volume for a hospital or medical school library for ready reference.

BOOKS RECEIVED

The Ultimate Guide To Finding The Right Job After Residency. Koushik K. Shaw (ed), 304 pages, \$19.95, McGraw Hill, 2006.

Neurology Board Review-3rd Edition, Michael Labanowski, Nicholas Lorenzo. 316 pages, \$65.00, McGraw Hill, 2006.