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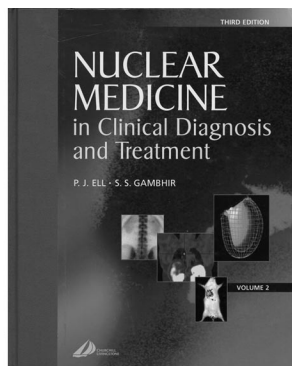
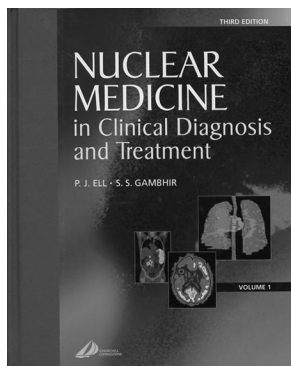
**AJNR**

**Basic Neurochemistry: Molecular, Cellular,  
and Medical Aspects. 7th ed. (with CD-ROM)**

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historical topics were not excluded or shortened enough. It is an excellent information resource for nuclear topics, but also contains material not directly related to nuclear medicine. It serves as an adequate introduction to all nuclear medicine topics, but some aspects are specifically favored even for methods that are not in great use. For US practitioners, the use of Becquerels instead of Curies will create some difficulties, but the US scientists have to follow the general trends in international regulations and nomenclature. It is interesting that the PET issues are dealt with separately, depending on the indications. This created many repetitions, each time with the usual introduction of the utility of PET and PET-CT.

**Distribution of the Material:** Volume 1 covers tumors, bone, gastrointestinal (GI) tract, and acute care. Volume 2 covers nuclear cardiology, neuropsychiatric disorders, renal disorders, and basic sciences.

**Volume 1.** Tumors are covered in section 1 (590 pages). It is an exhaustive review of the topic—appropriately so, in light of current trends in nuclear medicine practice and research. Part A covers diagnostics, part B covers therapeutics, and part C includes atlases of PET and single-photon emission tomography (SPECT), which provide excellent coverage of tumor imaging and the utility of CT for localization and definition of the lesions. Insofar as SPECT/CT is concerned, there is no consensus as to its utility. Section 2 deals with disorders of bones and joints adequately (187 pages). Section 3 covers the quantitative studies of GI function mostly adequately (72 pages). In section 4, most of the nuclear medicine studies available for the acute care of patients (emergency nuclear medicine) are included (myocardial infarction, pulmonary thromboembolism, gastrointestinal bleeding, cholescintigraphy, etc; 150 pages).

**Volume 2.** Section 5, covers nuclear cardiology correctly (147 pages), and section 6 covers nuclear medicine in neurologic and psychiatric diagnosis (227 pages). It is a detailed review of the clinical applications and an excellent coverage of the research efforts in the field, followed by an informative atlas. CNS tumors, however, are reviewed in section 1. Section 7 deals with nuclear medicine in renal disorders (197 pages). It places much emphasis on methodology and less on clinical experience. Section 8, which is 250 pages long, is dedicated to basic sciences and covers every practical issue about basic sciences as it relates to nuclear medicine practice with many new interesting and informative chapters.

This organization of the book, by indication rather than by method of imaging, is extended into the individual sections

and the chapters. Because of it, there is a tendency to repeat the methodological issues. Despite that unavoidable problem, structuring the book according to clinical indications appears to work better than a methodologic approach would have achieved. Although the abnormalities on the images are already identified with markings, the atlases appear to significantly contribute to the learning of the topics that they address by increasing the ability of the reader to perceive and recognize lesions.

**Specific Topics:** Chapter 120 (pages 1685–1712) is an excellent review of the fundamentals of cell biology. It is a meticulous but brief review of the genes and the way they code their information (DNA, RNA), the function of the noncoding DNA, transcription and posttranscription modifications, translation, and production of peptides (post-translational modifications). It explains chromosomes and alleles, mutations, DNA replication, prions, and genomic imprinting. The cell cycle is well described, and the differences between apoptosis and necrosis are explained. The immune system is quickly reviewed, as are the oncogenes and related issues. Finally, molecular techniques including in vitro diagnostics and therapeutics are analyzed. There is an interesting appendix to this chapter about what major properties of cells and what parameters of the human genome we have deciphered. The authors suggest review articles for further reading, 8 categories in all, including gene therapy and other topics. Finally, they provide a quick reference of 21 recent papers on this topic.

An excellent topic is the molecular imaging fundamentals (chapter 130). This discussion includes visualization, characterization, and quantification of biologic processes at the cellular and subcellular level both in vitro and in vivo and covers the topic appropriately. The basic sciences section includes 2 interesting new chapters, one on clinical decision making, which is an introductory quantitative approach to diagnostic investigation (chapter 132), and another on decision analysis fundamentals, which reviews the methods and applications to evaluate sensitivity, and specificity (chapter 133).

**Conclusion:** In brief, this is a book about the development of nuclear medicine, its basic principles, and current clinical applications. It embraces what is new but does not neglect what is old. This book contains most of the wisdom of the nuclear medicine—devoted people throughout the world and addresses the nuclear medicine practitioners, who will find in it a reference book with clinical, research, and future perspectives.

## BOOK SUMMARIES

### Basic Neurochemistry: Molecular, Cellular, and Medical Aspects. 7th ed. (with CD-ROM)

George J. Siegel, R. Wayne Albers, Scott T. Brady, Donald L. Price, eds. San Diego: Academic Press; 2006, 1016 pages, \$99.95.

**B**asic Neurochemistry: Molecular, Cellular, and Medical Aspects is well illustrated, and, at nearly 1000 pages in length, it covers the critical aspects of neurochemistry. Its 56 chapters are divided across 8 sections: cellular neurochemistry and neural membranes; intercellular signaling; intracellular signaling; growth, development, and differentiation; metabolism; inherited and neurodegenerative diseases; sensory transduction; neural processing and behavior. There is one short (30-page) chapter on neuroimaging that is basically a survey on some of the more advanced applications of MR, MR spectroscopy, positron-emission tomography, and single-photon emission tomography. For those neuroradiologists who have a deep interest in the fundamentals underlying many of the diseases we encounter in our daily practice the information can be of value. Also for those involved in investigative work in MR spectroscopy (radiologists and MR physicists alike), this book can serve as an important reference text.

## Neurology Study Guide Oral Board Examination Review

Teresella Gondolo. New York: Springer-Verlag; 2005, 244 pages, \$49.95.

**T**his 244-page, soft-cover volume of case histories and discussions is published to assist those who are studying for the oral examination in neurology. It is curious that the publication never clearly identifies what hospital/practice affiliation or academic appointment that Teresella Gondolo has. Although this publication will not be of primary interest to neuroradiologists, many will find it interesting to see, what in general, is expected of neurology candidates in their board examinations. Also, the clinical vignettes, along with the clinical features, diagnosis, and treatment, give an insight into what the clinician faces in dealing with these diseases. No imaging is included. Areas covered include peripheral nervous system disorders, cerebrovascular disease, movement disorders, tumors, infections, pain, seizures, demyelinating disease, and various disorders in pediatric neurology.

## New Trends of Surgery for Stroke and Its Perioperative Management

Y. Yonekawa, Y. Sakurai, E. Keller, T. Tsukahara, eds. New York: Springer-Verlag; 2005, 187 pages, \$149.

**T**his short (187 pages) monograph is a compilation of 28 papers presented at the Second Swiss Japanese Conference of Cerebral Stroke Surgery, held in Zurich in 2004. Topics include surgical and endovascular approaches to intracranial aneurysms, perioperative management of aneurysm rupture, management of unruptured aneurysms, treatment of arteriovenous malformations and dural fistulas, and cerebral vascular reconstitution. As would be expected, there is an abundance of high-quality angiographic images (both pre- and posttreatment). This monograph will be of interest to those involved in interventional neuroradiology.

## Peripheral Neuropathy. Vols. 1 and 2

Peter Dyck and P. K. Thomas, eds. New York: Elsevier; 2005, 2992 pages, 690 illustrations, \$395.

**T**his large 2 volume set authored by 173 worldwide contributors is a definitive text in peripheral neuropathy. Although there are some areas of this publication that would not have direct applicability to neuroradiology, many chapters can serve as a resource for understanding diseases that we do not infrequently encounter. The second volume of the book in particular contains chapters that do relate to the practice of neuroradiology. The chapters on diseases of the cranial nerves (CN3-12) correlate anatomy, some imaging, clinical circumstances, and pathology. Of particular interest will be those sections on the brachial plexus and lumbosacral plexus, but unfortunately details of imaging these areas with appropriate MR imaging of the normal plexi are missing. Where imaging is shown in these regions the legends and labeling are not as complete or as educational as they should be. There was not a full exploration of the possibilities of peripheral neurography via MR, a field we believe will grow in usefulness in the upcoming years. Chapters of particular interest will be those dealing with hereditary, inflammatory, and immune neuropathies. Imaging is conspicuously limited or, in some places, entirely absent even in those chapters, though there are excellent pathologic descriptions of diseases such as Guillain-Barre Syndrome, CIDP, and Dejerine-Sottas. Why the authors of these various chapters did not avail themselves of imaging showing these abnormalities is a mystery. Nonetheless, for those neuroradiologists who consult and provide imaging services for an active neurology department in which patients with peripheral nerve disease are frequently seen these books can serve as reference material.

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## BOOKS RECEIVED

*The Cambridge Handbook of Visuospatial Thinking.* Priti Sah and Akira Miyake, eds. Cambridge: Cambridge University Press; 2005. 424 pages. \$75.00.

*Erythropoietin and the Nervous System.* Ahmet Hoke, ed. New York: Springer-Verlag; 2006. 224 pages. 26 illustrations.

*The Growth Hormone/Insulin-Like Growth Factor Axis During Development.* Vol. 567 in *Advances in Experimental Medicine and Biology*. Isabel Varela-Nieto and Julie Ann Chowen, eds. New York: Springer-Verlag; 2005, 410 pages, \$155.

*Mechanism and Management of Headache.* 7th ed. James W. Lance and Peter J. Goadsby, eds. New York: Elsevier; 2005, 416 pages, 54 illustrations, \$61.95.

*Electromyography and Neuromuscular Disorders*, 2nd ed. *Clinical-Electrophysiologic Correlations* (with CD-ROM). David C. Preston and Barbara E. Shapiro, eds. New York: Elsevier; 2005, 704 pages, 487 illustrations, \$159.

*Electrodiagnosis in Clinical Neurology.* 5th ed. Michael J. Aminoff, ed. New York: Elsevier; 2005, 864 pages, 395 illustrations, \$169.

*The Somatotrophic Axis in Brain Function.* Fred Nyberg, ed. San Diego: Academic Press; 2005, 384 pages, \$149.95.