

Stroke is the third most common cause of death in North America. It remains the most neglected chronic neurological disorder. In the last decade there have been significant gains in understanding epidemiology of risk factors, mechanisms, investigations and treatment of acute stroke. The next five years will witness increasing trials of neuroprotective agents and thrombolysis after acute stroke. An increased awareness of the problem and rapid evaluation of patients will be essential for successful completion of these trials. This text does an excellent job of reviewing the accepted rational therapy in cerebrovascular diseases. It also identifies areas where further research is urgently needed to further improve outcomes in patients at risk for stroke.

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PARKINSON'S DISEASE – SYMPOSIUM REVIEW (1992). 1993. Edited by Merton Sadler. Published by John Libbey, London, Paris, Rome. 65 pages.

The book consists of four chapters written by J. Jankovic, E. Tolosa, W. Olanow, and M. Sandler based on papers presented at a Symposium in Maastricht, Germany in 1992.

The first chapter on strategies for treatment reviews the major theories on production of substantia nigra damage. The table on classification of parkinsonism is very good as is the table dealing with medical and surgical management. The authors outline the drugs currently available as well as those under investigation. There are many valuable pearls on management of Parkinson's disease by an experienced clinician. The tables on fluctuations and dyskinesias are comprehensive and the options for management of those are valuable for clinicians.

The author refers to "figure" in the text but none is provided.

The second chapter deals with "standard" medical treatment of Parkinson's disease broadly without citing references.

The third chapter is on critical appraisal of Pergolide. It is very well written. The references need to be updated as some papers published 10 years earlier are still listed as "in press".

Chapter 4 on neuroprotection is, by and large, generalization of commonly available literature. The authors cite available evidence that Pergolide increase life expectancy and suggests that it may have neuroprotective effect.

As is the case with multiple authored books, there are some good chapters and every chapter contains some pearls. It is a good review, albeit tilted in favour of Pergolide. The references provided are in alphabetical order in some which I find difficult to read and sequentially as cited in other chapters.

It is a useful, short monograph for undergraduate and postgraduate students.

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MOLECULAR AND CELLULAR APPROACHES TO THE TREATMENT OF NEUROLOGICAL DISEASE. 1992. Edited by Stephen G. Waxman. Published by Raven Press, New York. 415 pages. \$CDN 189.00 approx.

This book consists of 18 chapters by authorities in the field of neuronal injury and therapy, both pharmacotherapy and neural replacement therapy for CNS disease. After an erudite introduction by the editor, four sections follow concerning, respectively, mechanisms of neuronal injury and death, neuronal injury in specific

disease states, therapeutic strategies, and cellular and molecular replacement. Molecular and cellular mechanisms are clarified by the authors of all chapters, in a manner that makes this book a must for the academic neurologist and the research neuroscientist with a clinical orientation. Although this book is a secondary publication, derived from a conference, new information is synthesized in a manner not possible in primary, peer-reviewed publications. The reader will thus be bought up to speed on calcium and glutamate-induced (excitotoxic) neuronal death, hypoxic and ischemic neuronal injury, free radical injury, grey and white matter ischemia, all in a manner bridging basic and clinical science. There are chapters on the role of excitotoxins in heredo-degenerative neurologic diseases, and steroid treatment of spinal cord injury. Therapeutic strategies covered include excitatory amino acid antagonism, hypothermia, calcium antagonism and modification of free radical production. Antisense nucleic acid technology and trans-gene expression in fibroblasts are also covered. Lastly, neural transplantation in the therapy of Parkinson's disease covers a field which will likely have clinical impact in the future treatment of at least one degenerative neurologic disease.

The editor states the approach in the book shall go from molecules to cells to patients, having an impact on diseases. This is a tall order indeed, transcending several levels of biological organization. As such, the usual array of complicated flow charts are present, some of which presume physiologic subcellular regulatory events to be automatically a part of pathophysiology. This is, however, in the nature of the discipline at the present state-of-the-art. No doubt as the field develops, specific mechanisms will dominate over others, and such charts will be simplified, concomitant with specific emerging therapies in neuroprotection. For those academic clinicians and basic scientists interested in neurologic disease, this book is indispensable.

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THE HEADACHES. 1993. Edited by Jes Oleson, Peer Tfelt-Hansen and K.M.A. Welch. Published by Raven Press, New York. 922 pages. \$CDN 223.00 approx.

By any standards this is a monumental book and has the most encyclopedic approach to headache since the volumes on Headache in the Handbook of Neurology. It features a scientific approach to headache established by Harold Wolff and currently best exemplified by Jes Oleson who, along with Tfelt-Hansen and Welch, has carefully edited this volume by 121 authors from three continents. It is large (22cm x 29cm) so that it doesn't fit easily into a bookshelf beside other books in the well known Raven Press series, but rather like a coffee table book begs to be left open on the desk. The print is large and good use is made of diagrams and illustrations.

As with most multiauthored books it lacks the coherence of a single author text such as Blau's large but succinct volume, Wolff's Headache authored by Dalessio, or Lance's small but nonetheless complete book, which is, in my opinion still the most readable and useful book on the subject of headache. Even under the tight reign of Jes Oleson the huge number of authors results in a great heterogeneity of presentations. The choices of combinations of authors of each chapter seemed to have more political than scientific rational. I found that this lead to frustrating repetition and I had some difficulty finding specific information. For example the information on the influence of hormones on headache was scattered throughout many chapters.

Although very well organized, it perhaps follows too slavishly the Classification of the International Headache Society, developed

largely through the efforts of Oleson. The first part of the book gives an excellent scientific background to understanding headache. The second is devoted to migraine, tension and cluster headache and the last part to the secondary headaches. Not surprisingly migraine makes up a major part of this section and includes a scientific background already covered in the first part of the book. Meta-analysis of studies of various medications demonstrate the difficulty in assessing the value of any one drug. However the ratings by Tfelt-Hansen of the order in which drugs should be tried is most useful. It would seem that each patient is unique and what works for one person may be ineffective for the next, a fact well-known to every experienced physician. It is frustrating that despite a great many different prophylactic drugs available, only about 40% of patients can hope to have reduction in their headache frequency. Acute treatment may be somewhat better with up to 80% of patients responding to the newer therapies. It is rather surprising that despite so much understanding of how the medications may work in acute attacks through the vascular-trigeminal complex we still have very little understanding of how prophylactic medications work other than the fact that most of them influence serotonin in some way.

Despite shortcomings noted above, this beautiful volume will be used as a reference for years to come by headache researchers and clinical headache specialists. I would not think it would be as attractive to the average physician or even to the average practicing neurologist. The price will probably restrict "The Headaches" primarily to medical libraries but it should be available in every university, hospital and clinic bookshelf as headache is one of the most prevalent medical problems in society today and there are few aspects of headache which are not discussed in this book.

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BRAIN ACTIVATION. 1993. By Per E. Roland. Published by Wiley-Liss, New York. 589 pages. \$CDN 115.00 approx.

PET (positron emission tomography) has introduced a new level of understanding of the functioning human brain. PET permits studies of the intact, normal brain in contrast to invasive lesion studies or intraoperative stimulation of awake subjects. Brain activation refers to the use of PET to measure regional activity of the brain (in this case local cerebral blood flow) as it performs certain tasks. The data show fields ($0.8 \text{ cm}^2 - 4 \text{ cm}^2$) which become more active in response to externally or internally generated stimuli. For example, the parts of the brain that activate when generating words from visual memory are different from those that activate during simple conversation.

Dr. Roland has been performing activation studies for almost 20 years. During that time he has studied the brain responding to sensory stimuli, performing motor tasks, paying attention, speaking, thinking and learning. This book summarizes his data and those of others and attempts to synthesize them into a larger theory of how the brain works.

The stated aim of the book is to be of use for anybody working in or interested in neuroscience – including the well informed layman. The initial chapters therefore are a detailed crash course in neuroscience covering microanatomy, biochemistry and physiology of neurotransmission. Next is an examination of the link between local cerebral blood flow and neuronal activity. The central, and major part, of the book concentrates on activation studies of the various brain functions described above. Each chapter is presented along

with more background anatomy or physiology. On the basis of the experimental evidence, attention then turns to principles of dividing the brain functionally and then to descriptions of those divisions. At that point Dr. Roland feels he has sufficient information to comment on the mind-brain problem and present his own connectionist theories on the meaning of the mind. The remaining three chapters are effectively appendices describing PET methods.

This is an unusual book. On one hand it represents a detailed summary of many aspects of neuroscience and PET; it is well referenced, and the work of other investigators is acknowledged. It is thus interesting reading for those seeking to add to their knowledge of neuroimaging and of how the brain works. It is not really a textbook however as the data are presented to develop Dr. Roland's ideas about brain activation and are not a balanced review of the state of the art. On the other hand, it struggles as a work of philosophy. PET has produced exciting new information on how the brain works. It is going to far, however, to imply that it has shown us how the brain and mind interface. Even with the background data the book does not present enough information to permit a balanced discussion of the issues. The book therefore cannot stand alone.

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INFECTIOUS DISEASES OF THE CENTRAL NERVOUS SYSTEM. 1993. Edited by Kenneth L. Tyler and Joseph B. Martin. Published by F.A. Davis, Philadelphia. 379 pages. \$CDN 115.00 approx.

As this book emphasizes clinical and laboratory features and therapeutic guidelines of infections of the central nervous system (CNS), it will serve a very useful resource to any "front-line" clinician. Although not encyclopedic, topics are discussed comprehensively without too much repetition or dogma. There is enough basic science to satisfy most clinicians. It has been thoughtfully edited.

The first section is devoted to viral infections. Topics include herpes simplex encephalitis (including newer diagnostic methodology such as magnetic resonance imaging and polymerase chain reaction, and an excellent editorial discussion of the pros and cons of brain biopsy for diagnosis), direct CNS infection by HIV and HTLV-III, post-infectious encephalomyelitis, enteroviruses (including their molecular biology), slow virus infections (with current concepts of the genetic aspects of spongiform encephalopathies).

The second section deals with infections caused by bacteria, fungi and parasites. There are excellent chapters on chronic lymphocytic meningitis, Lyme disease (including a thoughtful editorial summary of diagnostic guidelines and treatment strategies), opportunistic infections (especially in AIDS patients) and neurosyphilis. The final chapter reviews current arguments for corticosteroids in purulent meningitis and has excellent discussion sections and tables on: age-dependent bacterial infections, appropriate antibiotic therapy for various clinical scenarios and the bacterial spectra for various antibiotics.

I have no hesitation in recommending this book for any general adult or pediatric neurologist. It will also be useful for intensivists, emergency physicians, clinical microbiologists and probably many internists and pediatricians.

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