

basic principles of the technique being discussed in the chapter. Two very detailed sections follow that list the materials needed to perform the technique and then an in-depth step by step methods section. These two sections form the bulk of the information for each of the chapters and give the reader all the information necessary to perform the experiments. The final section in most chapters is a "notes" section where the authors provide helpful hints as well as pitfalls that they personally ran into in trying to perform the experiments. This information ranges from why they choose to batch certain multiplex PCR reactions to emphasizing the importance of labelling reactions tubes properly.

These chapters cover a wide variety of neurologic conditions emphasizing current techniques being used to explore them. For example: semiquantitative PCR for the detection of exon rearrangement in the parkin gene in Parkinson's disease; denaturing high-performance liquid chromatography (DHPLC) to identify MECP2 mutations in Rett syndrome; and fluorescence in situ hybridization (FISH) to study genomic rearrangements in Charcot-Marie-Tooth disease. Seven chapters are dedicated to detail techniques used for studying trinucleotide repeat diseases and include "RED", "RAPID" and "DIRECT". The advantages and disadvantages of each technique are discussed and why one might choose one over the other. Classic techniques like "SSCP" and Southern blots are discussed in some of the chapters and why they are still commonly used.

This book is primarily aimed at researchers and clinical laboratory diagnosticians who are interested in learning new techniques. It gives them all the necessary information required to actually perform the experiments with a brief overview of a condition that is being studied. The editor suggests that clinicians with an interest in disease diagnosis would also find this useful. I think that, because the bulk of the chapters are dedicated to details about the materials and methods, most clinicians would be better served looking up the techniques in a molecular genetic review type textbook.

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PAIN, CURRENT UNDERSTANDING, EMERGING THERAPIES, AND NOVEL APPROACHES TO DRUG DISCOVERY. 2003. Edited by Chas Bountra, Rajesh Munglani, William K. Schmidt. Published by Marcel Dekker, Inc., New York, Basel. 968 pages. C\$302 approx.

This book deserves high recommendation. Three editors, and over 140 contributors, have combined to produce a definitive volume concerning pain: its basic and clinical aspects, new approaches to drug discovery and new and emerging therapies.

The editors have successfully addressed several important questions and issues.

What is the latest thinking in terms of pathological mechanisms underlying acute and chronic pain? What is the role of the immune system or peripheral nervous system in maintaining chronic pain? If one dampens or attenuates these peripheral changes, will they also reverse cerebral pathological changes, resulting in chronic pain?

As the editors state, there is a hungry quest for treating intractable pain, spurred on by the pharmaceutical industry and clinicians. What analgesics are currently available or in development? How do we hunt for new drugs and where are the next generation of pharmaceutical agents likely to emerge?

These are formidable and important questions, and the authors have provided cogent, frank and thought-provoking answers.

This book deserves to be purchased, perused and studied, and then revisited five to ten years from now. I particularly recommend the sections on opioids, cannabinoids, vallinoids, and new local anaesthetic analgesics.

Finally, Peter Goadsby's chapter on headache, which discusses the trigeminovascular system and the basic neurobiology of migraine should be read by researchers, clinicians and patients alike.

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SPINAL STABILIZATION PROCEDURES, DIAGNOSTIC AND THERAPEUTIC ASPECTS OF INTERVERTEBRAL FUSION CAGES, ARTIFICIAL DISCS AND MOBILE IMPLANTS. 2002. Edited by Denis L Kaech & J Randy Jenkins. Published by Elsevier Science. 408 Pages. C\$180 approx.

This book provides an elegant overview of the current trend away from traditional spinal stabilization by arthrodesis with autograft/allograft/instrumented/noninstrumented constructs towards fusion with intervertebral fusion cages, and arthroplasty and/or dynamic posterior stabilization techniques as alternatives to arthrodesis.

The first part is introductory and begins with a good, albeit superficial, overview of the pathophysiology of degenerative spinal instability. Accompanying diagrams that illustrate the evolution of instability are not sophisticated but adequate. Subsequent chapters describe the clinicoradiographic evaluation of degenerative instability including axial loaded CT, cine-axial loaded CT and dynamic-kinetic MRI. The representative radiographs that accompanied these chapters are not convincing. There is a thorough description of sagittal lumbar spinal balance, cage design parameters and their impact on spinal stability; and, an excellent discussion with illustrations of static and dynamic testing and stability testing of various implant constructs. The controversial issues of indications and contraindications for the use of intervertebral cages are addressed only superficially. A more in depth discussion with more references would have improved this section.

The next two sections cover lumbar cages and cervical cages with descriptions of the rationale and design parameters of various cages as well as details pertaining to technique, pitfalls, results and complications. The cervical cages section concludes with a review of the difficulties and criteria for arthrodesis following cage insertion.

Part IV describes the partial and complete lumbar and cervical prosthetic disc implants with the largest clinical experience. These chapters include informative detail about the design of each of the implants by those who actually conceived and developed them as well as clinical results.

Part V includes two short chapters that describe two posterior dynamic intersegmental restabilization technologies. Each chapter could benefit from more discussion about the biomechanical rationale and evidence in support of this approach to restabilization.

The last part of the book contains an excellent overview of the current trend towards a stepwise progressive intervention approach to spinal restabilization, starting with conservative treatment such as physical reconditioning, and concluding with intervertebral arthrodesis if satisfactory clinical results are not achieved by these earlier less invasive interventions.

The editors emphasize intervertebral arthrodesis with implants as opposed to traditional arthrodesis with autograft/allograft/

instrumented/non-instrumented constructs. They touch only briefly on the controversy regarding supplemental posterior fixation following anterior intervertebral implants in the lumbosacral spine. Obviously, the rapid development of new competing constructs in arthrodesis, arthroplasty and posterior dynamic intersegmental stabilization, prevent the authors from including new constructs that are already in clinical use. Nevertheless, the principles upon which these strategies and constructs are developed have been adequately covered.

This book provides important background reading for any surgeon contemplating spinal surgery for degenerative instability as well as for related disciplines treating this patient population.

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IMAGING IN STROKE. 2003. Edited by Michael G. Hennerici. Published by Remedical. 216 pages. C\$70 approx.

Imaging in Stroke is an up to date summary of the main diagnostic techniques for patients suffering the common cerebrovascular insults. In 216 pages, broken into 8 chapters, this text concisely outlines the role of CT, MRI, ultrasound and PET in the diagnosis of cerebral ischemia, infarct, and hemorrhage. Almost exclusively European, the authors undertake to explain the practical uses of these tools, while clearly stating the strengths and limitations of each. A strong clinical emphasis is present, making this a most useful and engaging read for anyone caring for these patients at any stage of their illness. Family practitioners, emergency room physicians, neurologists, neurovascular surgeons, and rehabilitation physicians alike will each find useful information and guidelines for the imaging of their patients.

This is not a handbook, but rather a tightly condensed textbook, and so is laid out in logical fashion to cover the topics each to a useful depth. An introductory chapter on the classification of stroke provides an excellent summary of stroke types, including data from the relevant current clinical trials. This is followed by an excellent and concise review of CT scanning in acute stroke. Replete with highly representative images, this chapter contains a font of information essential to anyone caring for acute stroke patients in facilities with CT scanners. The emphasis is on the practical application to the acute stroke patient, such as the detection of early changes of ischemic infarct with respect to administration of thrombolytics. The chapters on MRI in acute stroke, and Magnetic Resonance Angiography and CT angiography are perhaps the best in the book, with an excellent and brief primer on the physics of MRI. The explanation of diffusion weighted and perfusion weighted imaging as it pertains to prediction of salvageable penumbra is well laid out. Like the technique of ultrasound itself, the chapter on Neurosonology in acute stroke seems time consuming and leaves one wanting for definite answers. Nonetheless, the authors clearly spell out the various modes of study and the typical findings in common conditions including dissection and stenosis, making it a useful quick reference. A chapter appears in the middle of the book somewhat unexpectedly, dealing in cursory fashion with the acute intracerebral hemorrhage. It does, however, provide a few useful images of the sinister causes of acute ICH such as AVM and aneurysm, and focuses the reader on the important differential diagnoses in the new patient with spontaneous ICH, so I suppose it belongs somewhere in the book. The final two chapters deal with functional imaging with PET after stroke. The emerging role for

PET scanning for metabolic analysis of cerebral tissue in stroke and tumor make this an important section as an introduction to the topic. Positron emission tomography and functional MRI in the recovery phase of stroke is perhaps the most fascinating aspect of the disease. This chapter will surely pique the interest of the reader, and though these modalities will likely remain in the realm of research for this application, the importance of plasticity and recovery in stroke cannot be overemphasized, and our ability now to image it is exciting.

Overall, the book is worth owning. It represents an accessible and useful short text for the health care professional "in the trenches".

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NEUROLOGIC EMERGENCIES: A SYMPTOM-ORIENTED APPROACH. 2ND EDITION. 2003. By Greg L. Henry, Andy Jagoda, Neal E. Little, Thomas R. Pellegrino. Published by McGraw Hill Companies Inc. 346 pages. C\$82 approx.

Written by emergency medicine physicians (and one neurologist), this symptom-oriented approach is an informative and useful guide for the non-neurologist, medical student, and the junior neurology resident. Beginning with the basics of neuroanatomy, as well as evaluation of a neurologic complaint, altered states of consciousness, and acute focal neurologic deficits, the discussion then proceeds with such important topics as: acute generalized weakness, movement disorders, headache, acute neuro-ophthalmology, neurologic trauma, psychogenic syndromes, seizures, syncope, dizziness, and neck and back pain. Finally, the book concludes with a glossary of over 250 terms.

There are a few notable strengths of this book. In keeping with its major focus (i.e., neurologic emergencies), concise algorithms are used to illustrate appropriate diagnostic and management approaches of acute decreased vision, diplopia, traumatic brain injury, first-time seizures, and status epilepticus. Chapter 3 is a well-written and very useful discussion about altered states of consciousness and coma. To the authors' credit, they provide an excellent review of psychogenic syndromes (Chapter 10) – an important and highly relevant topic that is often minimized in medicine. In particular, they offer symptoms and signs helpful in identifying psychogenic numbness, weakness, coma, seizures and blindness. The criteria for conversion disorder are provided and discussed, as is the disposition of these patients.

Weaknesses of this book include a few poorly reproduced diagrams that are difficult to interpret (e.g., Fig. 1-18 & 1-20: arterial circulation of the brain) and the incorrect statement that sarcoidosis is an infection. More trivial problems include several spelling errors (e.g., pterygogaiatine instead of pterygopalatine; abduceris instead of abducens) and occasional incorrect use of words (e.g., substitution of dysphagia for dysphasia).

Despite the few noted errors, this symptom-oriented approach to neurologic emergencies appears to be a useful reference for medical students, junior neurology residents and physicians in other disciplines, especially emergency medicine. While the contents of this book represent basic knowledge for neurologists and most senior neurology residents, these individuals may find some of the diagnostic and management algorithms of some utility, particularly for problems that are infrequently encountered.

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