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**Cardiac Anesthesia: Principles and Clinical Practice, 2nd edition.** Edited by Fawzy G. Estefanous, Paul G. Barash, J.G. Reves. Philadelphia, Lippincott Williams & Wilkins, 2001. Pages: 1,056. Price: \$195.00.

The second edition of *Cardiac Anesthesia: Principles and Clinical Practice* represents a substantial revision of the first edition, providing comprehensive and practical information and closely reflecting the current state-of-the-art practice of cardiac anesthesia. The text is composed of 33 chapters written by 60 authorities on the perioperative management of the cardiac surgical patient. The Cleveland Clinic, Yale University, and Duke University are the three main institutions that contributed to this edition. New chapters have been written covering history, physiology, ischemic heart disease, brain protection, surgical devices, minimally invasive surgery, arrhythmia pharmacology, and transesophageal echocardiography. In addition, many recurring chapters from the first edition have been appropriately expanded and revised.

The first section of the book starts with three chapters covering the history of cardiac surgery and anesthesia, cardiovascular physiology, and cardiac pharmacology. Clinical pearls are scattered throughout, beginning even in these introductory chapters. On close inspection of the cardiac pharmacology chapter, one will find many practical approaches for cardiovascular support and treatment of hypotension and hypertension during anesthesia that a resident or a fellow rotating in the cardiac theater will encounter starting the first day of his or her rotation; two pages synthesize the approach and treatment. Chapters 4 and 5 describe the pharmacologic management of arrhythmias and cover diagnostic and interventional cardiac catheterization.

In the second section, chapters 6–10 cover all aspects concerning the preparation of the cardiac patient for surgery: preoperative evaluation; electrocardiographic, hemodynamic, and related monitoring; intraoperative echocardiography; and cardiovascular pharmacology. I particularly enjoyed reading the intraoperative echocardiography chapter because of its use of many figures, tables, and simplifying schemes. It is well written and organized, and nearly all of the figures are of high quality. However, it is a bit annoying that the main figure representing the cross-section of the heart is in the previous chapter, and in order to follow the text and correlate it with the figure at the same time, one must constantly flip back and forth. As one might expect with a multiauthored textbook, there are also some repetitions (e.g., how to insert the esophageal probe). For the experienced practitioner already familiar with transesophageal echocardiography, this chapter is up to date and a good aid to train residents and fellows. Those in training will find this chapter beneficial because it synthesizes a large body of literature and experience, containing over a hundred references.

The third section describes cardiopulmonary bypass from A to Z. Anticoagulation and cardiac surgery, cardiopulmonary bypass equipment, and myocardial preservation (chapters 11–13) are introductory chapters that describe the fundamentals and principles of cardiopulmonary bypass. These chapters provide nearly 600 references and are comprehensive, with many clear figures that facilitate understanding of the mechanics of cardiopulmonary bypass, as well as the importance of myocardial preservation. Pathophysiology and management of cardiopulmonary bypass, termination of cardiopulmonary bypass, and post-bypass hemodynamic management, covered in chapters 14 and 15, are the practical chapters of this third section. In addition, they give background on the principal mediators involved in cardiopulmonary bypass and on the scientific basis of pharmacologic support commonly used during weaning from bypass. Brain injury and brain protection finish off this part of the text.

Chapters 17 and 18 constitute the fourth section of the book: adult and pediatric intensive care. This is not a textbook of cardiac intensive

care; rather, only essential aspects are highlighted, and the problems most commonly seen in the intensive care of adult and pediatric patients are discussed.

The fifth section reviews anesthesia for coronary artery bypass surgery and for patients with valvular heart disease. Premedication, anesthesia induction, patient risk factors, echocardiography, and patient outcome are clearly emphasized in these chapters. The chapters that follow focus on the management of anesthesia for patients with congenital heart disease and surgical and device therapy for cardiac arrhythmias and cardiac reoperations. The discussion of anesthesia for minimally invasive cardiac surgery deserves special mention because of its clarity and completeness: all aspects of the topic are covered, with figures, data, outcomes, and Internet sites where one can obtain information on minimally invasive cardiac surgery; in addition, it provides more than 200 references. If your institution is performing minimally invasive cardiac surgery, these are among the first pages that you should read.

The physiologic basis for different ventilatory management during anesthesia for pulmonary and mediastinal surgery is covered in a practical and concise manner, reporting the experience from the Cleveland Clinic. Anesthesia for myasthenia gravis, bronchoscopy, thoracoscopy, minimally invasive thoracic surgery, esophageal surgery, and massive hemoptysis are some of the entities considered. Anesthesia for thoracic aortic surgery is one of the largest and best-written chapters in this book: 64 pages are dedicated to aortic surgery, describing all surgical procedures with high-quality illustrations and discussing all of the anesthesia-related problems. This chapter is truly a pleasure to read. An updated description of strategies for cerebral protection and nearly 600 references render this chapter an invaluable reference for daily clinical practice. This section of the book ends with a short and complete description of emergency situations.

The cardiac patient and anesthesia for noncardiac surgery are considered in the sixth section. Authorities from Columbia University summarize important concepts regarding anesthesia for cardiac surgery in the pregnant patient. I found particularly interesting the description of the management of cardiopulmonary bypass and anesthesia in the pregnant patient, as well as a table summarizing specific considerations relevant to the administration of anesthetic and cardiovascular drugs during pregnancy. The adult noncardiac patient and pediatric noncardiac anesthesia are also considered in this section. The anesthesiologist and cardiac surgery is the last chapter. In a developing field such as cardiac anesthesia, a chapter focusing on aspects of quality and education in cardiothoracic anesthesia is essential.

In summary, if you are expecting a recipe book, this text is not for you. It does not fit in your bag alongside your laptop, but it is quite current and represents another essential text among your reference books. This book is ideal for residents who are rotating in the cardiac theater for a few months because it lends itself to rapid consultation and does not assume an in-depth, preexisting knowledge of the cardiac patient. It guides the individual in training, with practical as well as theoretical topics. For fellows and teachers of cardiac anesthesia, this text is clearly an important addition to the bookshelf. In my opinion, the second edition of *Cardiac Anesthesia: Principles and Clinical Practice* is among the few comprehensive authorities for the cardiac anesthesiologist. It provides a framework for clinical application of scientific concepts for the advanced resident and anesthesiologist who wish to be proficient in the care of patients undergoing cardiac surgery.

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(Accepted for publication October 1, 2002.)

***Neuropathic Pain: Pathophysiology and Treatment.*** Edited by Per T. Hansson, Howard L. Fields, Raymond G. Hill, Paolo Marchettini. Seattle, International Association for the Study of Pain, 2001. Pages: 277. Price: \$79.00.

Neuropathic pain refers to a subset of painful conditions in which there is a lesion to the peripheral or central nervous system. These conditions present a challenging problem for clinicians and include such diagnoses as postherpetic neuralgia, diabetic neuropathy, and complex regional pain syndrome (formerly known as reflex sympathetic dystrophy). Despite an enormous amount of studies conducted at the basic science level with animal models, the application of these results to painful human conditions and their treatment has been slow and difficult. *Neuropathic Pain: Pathophysiology and Treatment* provides an excellent review of the pathophysiology of neuropathic pain, with a specific focus on translating basic science observations to human pain problems and their treatment.

*Neuropathic Pain: Pathophysiology and Treatment* is the 21st volume in the International Association for the Study of Pain series *Progress in Pain Research and Management*. The text represents the fruits of two symposia held in conjunction with the International Association for the Study of Pain Ninth World Congress in Vienna, Austria, in 1999. More than a book of symposia proceedings, each chapter provides an extensive review of the literature, with an average of 80 references per chapter. Most chapters include a concise summary and conclusions section to help the reader glean a perspective of the subject quickly.

The first half of the book reviews our understanding of the mechanisms underlying neuropathic pain, with specific chapters on sodium channels, cytokines, peripheral and central sensitization, and descending facilitation mechanisms. The role of the sympathetic nervous system is explained thoroughly, with particular attention to reviewing the interplay between animal and human models of neuropathic pain.

The second half of the book is devoted to a review of various therapies for neuropathic pain. Chapters discuss pharmacologic choices, including antidepressants, anticonvulsants, opiates, and local anesthetics. A pearl in the book is the evidence-based medicine review of drug efficacy, including a summary of the "Numbers Needed to Treat" for a variety of pharmacologic agents. Some interventional techniques are discussed, including spinal cord and brain stimulation. However, there is little discussion of neuroablative or surgical techniques for neuropathic pain.

Any investigator in the field of pain and nociception will find this a useful review and reference. Clinicians practicing pain medicine will appreciate this volume for its succinct review of current basic science mechanisms that may underlie the signs and symptoms encountered in patients with neuropathic pain on a daily basis. The area of neuropathic pain is challenging, and more questions are raised than are answered. *Neuropathic Pain: Pathophysiology and Treatment* should serve as a catalyst for the ongoing dialogue between clinicians and scientists in their common pursuit to help patients suffering from neuropathic pain.

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*(Accepted for publication October 1, 2002.)*

Neuropathic pain is a challenge to confront and requires a full pain team. Neuromodulation (spinal cord stimulation) sometimes helps but treatment failures are very common. Algorithms designed to take into consideration the entire patient's constellation of pain-related symptoms and signs are often instrumental in successful patient management. Though unfortunate, in some cases the patient must be taught to "live with the pain". Neuropathic pain is pain caused by damage or disease affecting the somatosensory nervous system. Neuropathic pain may be associated with abnormal sensations called dysesthesia or pain from normally non-painful stimuli (allodynia). It may have continuous and/or episodic (paroxysmal) components. The latter resemble stabbings or electric shocks. Common qualities include burning or coldness, "pins and needles" sensations, numbness and itching. Neuropathic pain is a clinical entity that presents unique diagnostic and therapeutic challenges. This chapter addresses the classification, epidemiology, pathophysiology, diagnosis, and treatment of neuropathic pain syndrome. Neuropathic pain can be distinguished from nociceptive pain based on clinical signs and symptoms. Although neuropathic pain presents a significant burden to individuals and society, a more accurate assessment of resource utilization, costs, and impairments associated with neuropathic pain would facilitate appropriate planning of healthcare policies. The underlying pathop...