

BOOK REVIEWS

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Clinical Anesthesia in Neurosurgery. EDITED BY ELIZABETH A. M. FROST. Stoneham, MA, Butterworth-Heinemann, 1991. Pages: 593. Price: \$100.00.

The fields of neuroanesthesia and neurosurgery both are growing at an overwhelming pace. In neurosurgery the use of microsurgical techniques has allowed for approaches to lesions not previously possible. In neuroanesthesia, improved monitoring techniques and understanding of physiologic responses to neurologic insult have facilitated safe management of patients with previously devastating neurologic diseases. In this text, Dr. Elizabeth Frost has melded the specialties of neurosurgery and neuroanesthesia together in a very thoughtful manner in order to improve the care of patients undergoing neurosurgical procedures. Dr. Frost is a professor of Anesthesiology at the Albert Einstein College of Medicine and is a leader in the field of neuroanesthesia. Many changes have been made in this second edition to reflect the many changes that have occurred in the areas of neurosurgery and neuroanesthesia.

The book is divided into five main sections: "Cerebral Physiology and Evaluation," "Neurosurgical and Related Procedures," "Central Nervous System Trauma," "Postoperative and Intensive Care," and "Cerebral Death." The largest sections are "Cerebral Physiology and Evaluation" (six chapters) and "Neurosurgical and Related Procedures" (nine chapters). There are a total of 26 authors, approximately half of whom are senior-level anesthesiologists. The others are neurosurgeons, a lawyer, and a radiologist. Most important statements made throughout the book are appropriately referenced, and I believe that this is a great strength of the book.

As with many other multiauthored books, chapter quality varies to some extent. Although I am sure Dr. Frost had input into each chapter, I believe it was somewhat inappropriate to expect readers to put credence into comments on anesthetic management made in the few chapters written solely by a neurosurgeon. Anesthetic considerations and management in the chapters on "Intracranial Pressure" and "Pathophysiology and Management of Spinal Cord Trauma" are as difficult to accept as would be suggestions for neurosurgical technique by an anesthesiologist in a neurosurgical text. For example, I am not sure from what personal experience the author of the chapter "Intracranial Pressure" is extracting when, on page 56, he recommends not using a defasciculating dose of nondepolarizing muscle relaxants in patients with elevated intracranial pressure.

The historical background presented in the introduction is excellent. In the section "Cerebral Physiology and Evaluation," I found the chapters "Cerebral Circulation and Metabolism" and "Intraoperative Neurophysiologic Monitoring" most useful. Although the latter suffers from lengthiness, I do not think that the information could have been presented in a more concise fashion. I was surprised not to find a discussion of fiberoptic techniques in the chapter "Intracranial Pressure." In the chapter "Anesthesia for Neuroradiology," several comments were either inaccurate or not clear. For example, on page 148 it is stated that opioids should be avoided because they can elevate intracranial pressure; however, on page 134 Dr. Frost more accurately states that with the exception of possibly sufentanil, opioids do not independently adversely effect intracranial pressure. Likewise, although I agree with the authors that children deserve special mention, I think that more than one paragraph in this chapter should have been devoted to the anesthetic care of these patients.

In the section "Neurosurgical and Related Procedures," I particularly enjoyed the chapters "Peripheral Nerve Surgery," "Pediatric Neuroanesthesia," "Neurosurgical Intervention for Chronic Pain Problems," and "Stereotactic Surgery." In the chapter "Posterior Cranial Fossa Surgery," the sections devoted to monitoring for and treatment of venous air embolism are excellent. The chapter "The Management of Cerebrovascular Disease" suffers because of the poor reproduction of several figures (figures 8.6, 8.12, 8.15, 8.18, 8.19, and 8.20). I was surprised not to see more discussion of factors responsible for rebleeding of aneurysms and the commonly used Hunt-Hess Classification system. In "Intracranial Tumors," I was surprised to find the authors advocate so strongly a position on the effects of hyperglycemia in patients based solely on animal studies. Although there are minor typographic errors sporadically throughout the book, several are significant (*e.g.*, fentanyl low-dose infusion of 1.5–2 mg/kg/hr), which may cause problems for some readers. Although the chapter "Surgery of the Spine" was concise and informative, it would have been improved by including a discussion of the physiology of cardiovascular and respiratory changes that occur when patients are positioned prone. In the chapter "Surgery for Seizures," I would like to have read more about different forms of epilepsy, the rationale for using one anticonvulsant over another, and the effects of anticonvulsants on anesthetic metabolism and protein binding.

Overall, the section "Central Nervous System Trauma" was quite good. However, as in previous chapters, several figures (*e.g.*, 17.8 and 17.10) in the chapter "The Management of Head Injury" do not show the authors' point because of poor reproduction quality. In addition, the authors of this chapter should have balanced their discussion regarding the potential benefits and dangers of using nondepolarizing as compared to depolarizing muscle relaxants in the acute setting of head trauma. Likewise, in the discussion of anesthetic techniques, the authors, who have previously published improved outcome with inhalation as compared to intravenous agents, spend three paragraphs discussing the former and three sentences discussing the potential utility of barbiturates. Indeed, the authors reference only an abstract in the discussion of barbiturates for head trauma, even though several other well-done studies have been published. Many important issues are appropriately discussed in a short chapter "Cardiovascular Effects of Severe Head Injury." Although there was some discussion of control of blood pressure in the setting on head trauma, absent was a discussion of the utility of pharmacologic agents acting at α -receptors or at sympathetic ganglia. The chapter "Anesthetic Management of Patients with Neurologic Damage for Non-neurosurgical Procedures" is successful in answering many questions that arise in caring for this group of patients. However, recommendation regarding appropriate clinical situations for intraoperative monitoring of intracranial pressure in this group of patients would also be appropriate in this chapter.

Although there is some repetition of information in the chapters "Postanesthetic Care" and "Neurosurgical Intensive Care," it is not excessive. Otherwise, this section and the section "Brain Death" are informative and well-written. Missing from the book is a discussion of anesthesia for electroconvulsive therapy and for pregnant neurosurgical patients.

In summary, this book discusses most important clinical issues that the neuroanesthesiologist needs to address on a recurring basis. Each chapter has many appropriate references to support individual important points. The contributions of both neurosurgeons and neuroanesthesiologists to most chapters makes the discussion of issues from each specialty more credible. I recommend this book as a useful addition to the library of any anesthesiologist taking care of patients for neurosurgical procedures.

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Anesthesia for Plastic and Reconstructive Surgery. EDITED BY ADEL R. ABADIR AND SHAESTA G. HUMAYUN. Baltimore, Mosby Year Book, 1991. Pages: 467. Price: \$70.00.

The title of this textbook belies the unique place it holds in an anesthesia library. Based on the title alone, the casual browser in such a library would likely overlook this book, which would be to his or her disadvantage. **Anesthesia for Plastic and Reconstructive Surgery** is a source of diverse information collected in one text.

The first two chapters provide an obligatory introduction to anesthesia with an overview of anesthesia equipment in a straightforward manner. The illustrations and the tables provide a clear reference, especially for the beginning anesthesiologist. Chapter 3 deals with preoperative evaluation, the principles of which can be applied to virtually any patient and anesthetic. In addition, the novel topics of this chapter stand as the strength of this text; specifically, these include craniofacial procedures, cosmetic procedures, maxillofacial trauma, and burns. Chapter 4 clarifies positioning in plastic and reconstructive surgery and provides a good summary of the salient features covered in more comprehensive texts. Likewise, chapters 5–8 summarize current pharmacologic approaches for the anesthesiologist, which are included for completeness. Chapters 9–11 deal with the special physiologic and anesthetic considerations for outpatients, pregnant women, and children; included in this text for comprehensiveness, they provide a straightforward review. These well-written chapters are authored by leaders in their respective fields.

The real vitality of this text, however, begins in chapter 12. This is one of the few anesthesia texts that addresses anesthesia for the burn patient in a comprehensive manner. It does so with a particular attention to the clinical management of these patients—not just in the operating room, but from the time of their injury through their entire hospitalization. The subject is written from up-to-date information both from the basic science laboratory as well as from clinical studies. After reading this chapter, the anesthesiologist should have a clear understanding of the physiologic changes in burn patients as well as their anesthetic implications.

Chapter 13 is novel in its singular attention to one specific entity: spinal cord injury. The authors review the clinical data and provide an impressive discussion of the pathophysiology of spinal cord injury, including theoretical considerations of neural injury. The authors move from a discussion of the basic science research to the clinical realm, covering the topic extraordinarily well. In chapter 14 the authors attempt the impossible and summarize the enormous body of information available regarding regional anesthesia for the extremities. Unfortunately, they fall short of their goals. Although this chapter is necessary and serves as a short review of the topic, the anesthesiologist should obtain this information from another source, one devoted to this topic. Chapter 15 provides an excellent discussion of anesthesia for ophthalmic

reconstructive surgery. Chapter 16, "Anesthesia for Cosmetic Surgery," provides a fine discussion of local blocks of the head and neck, which often are excluded from anesthesia texts and left to the purview of the surgeon. The illustrations and the discussion of the anatomy are exemplary.

The singular attention to maxillofacial trauma in one chapter and to craniofacial surgery in another once again illustrates the unique nature of this text. In chapter 18, the complexities of facial trauma are distilled into a clear, straightforward explanation focusing on the issues germane to an anesthesiologist. Chapter 19 (co-authored by Dr. Cottrell) discusses craniofacial abnormalities in terms of neurophysiologic, neuroanatomic, and neuroanesthetic principles.

Appropriately, the book closes with a discussion of the geriatric patient, a summary of the current concepts and practices of caring for age-related physiologic changes. These are discussed in the context of recent human studies focusing on the anesthetic implications of these physiologic changes. More for completeness and logical symmetry, the last chapter of the book, entitled "Postoperative Evaluation" describes postoperative care as well as complications. However, pain management, nausea and vomiting and other postoperative problems are not discussed with the same depth as are intraoperative concerns. Finally, the index is unusually comprehensive and accurate.

Anesthesia for Plastic and Reconstructive Surgery does not pretend to be an encyclopedic text, nor does it present the material in a cookbook manner, common to so many texts of anesthesia. It is a well-referenced, up-to-date text with a number of unique chapters dealing with material poorly covered in other texts. Other books that attempt to cover these topics either cannot be found or have a distinct bias toward surgical rather than anesthetic concerns. Anesthesiologists whose practice includes anesthesia for plastic and reconstructive surgery in adults and children, burn patients, spinal cord injured patients, and/or craniofacial surgical candidates will find this text a welcome addition to their library.

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Spinal Cord Injuries: Anaesthetic and Associated Care. BY J. P. ALDERSON AND E. A. M. FROST. Stoneham, MA, Butterworth Heinemann, 1990. Pages: 258. Price: \$70.00.

In the decades since World War II, there have been great advances in the medical care of the patient with an injured spinal cord. No longer are these victims treated with benign neglect to "be left alone for nature to take its course." Attention to these groups of disorders has gone as far as the establishment of specialized centers for the treatment and study of spinal injury. Great resources are expended toward the care of these patients, beginning with the resuscitative efforts in the field and culminating, it is hoped, in the successful rehabilitation of a productive individual. The players in the cast are many, and the scenes change as the spinal cord injured patient moves from the site of injury through the health care system, with stops along the way in the emergency department, the operating room, the intensive care unit, and rehabilitation wards. The theme of this book is a timely one, in that anesthesiologists are taking a more active and important role in this scenario by providing expertise in the resuscitation and acute care of these patients in the operating room and critical care areas.

The editors had unique opportunity to present the combined experiences of experts in the field from two continents. The text goes a considerable way toward accomplishing this task. I believe it was not