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Anesthesia for Spine Surgery. Edited by Ehab Farag, M.D., F.R.C.A. New York, Cambridge University Press, 2012. Pages: 476. Price: \$125.00.

Anesthesiology has always been a medical field with distinct subspecialties, including neuroanesthesiology. With advances in medical knowledge and technology, these distinct subspecialties are further dividing to allow even more subspecialty care. Neuroanesthesia is no exception. With the development of new minimally invasive techniques in spine surgery and an aging population with multiple comorbidities, anesthesia for spine surgery is becoming a unique skill set required for an anesthesiologist. Until now there have been no definitive textbooks for an anesthesiologist seeking to find all the current information and techniques under one title. *Anesthesia for Spine Surgery*, edited by Ehab Farag, attempts to fill this niche of anesthesiology.

This comprehensive textbook is logically divided into four sections: General Considerations; Spine Surgery for Adult Patients; Postoperative Care of the Adult Patient; and Spine Surgery for Pediatric Patients. The General Considerations section provides an excellent review of the preoperative assessment process and the basics of anesthesia for spine surgery, including fluid, airway, and transfusion management. The concise, fluid style of writing made the review of these basic concepts easy to read and interesting enough to engage the more advanced reader. I was impressed by the review of cellular physiology with respect to fluid management, including the role of the endothelial glycocalyx and the role of proinflammatory mediators such as tumor necrosis factor. Many anesthesiologists do not have an appreciation for cellular physiology and *Anesthesia for Spine Surgery* provides a thought-provoking review. Two of the other topics covered in this section, spine imaging and evoked potential monitoring, have textbooks dedicated to them. The chapter on evoked potentials is an excellent review of this essential topic. The tables and figures provide supportive information to the text and were helpful in explaining this sometimes complex topic. Although only a review, the spinal imaging chapter left me with a desire for more image examples to support the text.

The second section addresses an important part of developing an appropriate anesthetic, a working knowledge of the surgical procedure, and the indications for the procedures. Dr. Farag has enlisted the cooperation of his surgical colleagues to provide succinct descriptions of the surgical techniques and indications. This provides the anesthesiologist

with at least a limited working knowledge of what is occurring on the other side of the ether screen. The rest of the section provides an in-depth discussion of various issues that may arise during anesthesia for spine surgery, including positioning and lung isolation techniques. The chapter on lung isolation techniques is excellent in providing an overview of devices for lung isolation and their role in thoracic spine surgery. The last chapter in this section covers spinal cord trauma. This chapter is extremely detailed and reviews the complications of ischemia on a cellular level, which is refreshing to find in an anesthesia text. Once again, the use of figures and tables supports the concise writing and provides an excellent quick reference guide to the classification of spinal cord injury.

The third and fourth sections cover postoperative care of the adult patient and spine surgery for the pediatric patient. These sections for the most part provide a concise overview of the relevant points and do not have a tacked-on feel that is sometimes a flaw in books trying to be a comprehensive anesthesia reference book. Even so, a minor flaw is some overlap of material between the Postanesthesia Care Unit and Intensive Care Unit chapters. Instead of both chapters discussing airway management of the postoperative neck hematoma, the Intensive Care Unit chapter should have had a mention of lung injury pathophysiology and ventilatory strategies in patients with lung injury. This is an important aspect of the postoperative management of the spine patient, especially when spine patients can have lung injury secondary to trauma, transfusion reactions, or inflammatory response secondary to surgery. These chapters are in contrast to the pain management chapters that provided a more detailed review of pain management, which was more helpful, especially for those who do not routinely practice pain management. The final section on the management of the pediatric patient was a concise overview for those who do not routinely practice pediatric anesthesia. The book continues in this section to play on its strength of using summary tables and figures to supplement the text.

Overall, *Anesthesia for Spine Surgery* is an excellent first edition textbook covering the evolving subspecialty of anesthesia for spine surgery, despite some minor flaws. The authors have worked very hard to produce the first comprehensive text on this topic and should be commended for their job. Like any textbook trying to be a comprehensive review of a subject, some topics are not covered as in-depth as others. The success of this textbook is that this flaw happens only a few times and the other chapters rise to the occasion and provide an excellent summary of anesthesia for spine surgery. This book belongs in the library of the generalist who wants to provide the safest, most up-to-date

care of the patient undergoing spine surgery or in the library of an academic program where it will provide most of the necessary information regarding anesthesia for spine surgery in one concise, easy-to-read textbook.

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Epidural Anaesthesia: Images, Problems and Solutions. By Clive B. Collier, M.D., M.R.C.P., F.R.C.A., F.A.N.Z.C.A. London, United Kingdom, Hodder Arnold, 2012. Pages: 138. Price: \$77.95.

While sitting in the anesthesia conference room, I find myself discussing with a resident why the last epidural catheter placed for labor analgesia failed to work. Although dysfunctional epidural catheters are frequently a source of frustration for anesthesia providers and dissatisfaction for patients, the causes are not always understood. When a failed epidural catheter cannot be attributed to inexperience of the provider or technical difficulties during placement, we default to a possible structural variance of the human anatomy.

Epidural Anaesthesia: Images, Problems and Solutions, by Clive Collier, is a correlation of epidurograms with clinical scenarios, with which the author intends to fill a knowledge gap on dysfunctional epidural analgesia and anesthesia.

Dr. Collier has carried out the impressive job of collecting epidurogram images for over 30 years and has kindly shared his work and knowledge in this book in a concise, but detailed, approach. Organized in 10 chapters, the book first describes the epidurography technique. An epidurogram is a contrast-assisted radiograph of a patient who has had epidural anesthesia. After descriptions of typical epidural

blocks and their corresponding images, the author goes on to describe case scenarios of epidural blocks with complications and their corresponding images. The author describes some novel anatomical regions, such as the fourth “intradural” space, as well as multicompartment blocks.

As the book is directed to anesthesia providers regularly delivering neuraxial analgesia/anesthesia, a basic understanding of the epidural space and its adjacent spaces and structures is essential. The reader will certainly be able to follow the descriptions, thanks to the numerous images and the author’s writing style that facilitate the learning. Electron microscopy images and diagrams contained in this book help support the author’s findings.

This book provides access to a companion website that contains all of the images from the printed book, a library of moving images, and sample material from the book. Although the images and videos are of good quality, the latter would have benefited from an audio narrative. In addition, although the right (R) or left (L) orientation of the figures seems logical, having an R or L on the corresponding side of the figure would better orient the reader throughout the descriptions.

Overall, I recommend this book by Dr. Collier to anesthesia providers seeking a better explanation of common and uncommon causes of failed epidural catheters. The technique of acquiring the images is thoughtful and shows the many years of experience and the passion of the author. Although epidurography may not be a technique that is commonly used, the images give us an insight into what can go wrong. This information can be helpful because the knowledge of where the epidural catheter can be located is a great tool when counseling patients after a failed or complicated neuraxial block.

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