

BOOK REVIEWS

John M. Porter, MD, Book Review Section Editor

Surgery: Scientific principles and practice

Lazar Greenfield, Michael Mulholland, Keith Oldham, Gerald Zelenock, and Keith Lillemoe; Philadelphia; 1997; Lippincott-Raven; 1784 pages; \$110.

The editors of this volume set out to develop a new textbook of surgery that would balance scientific principles and clinical practice. Their aim was to present new knowledge in the basic sciences in a readable and well-illustrated format. In this, they have been very successful. To the basic topics of cell biology, metabolism, inflammation, immunology, and wound healing have been added information on gene therapy and cytokines. This portion of the book is extremely well written, easy to understand, and well referenced. The commitment to scientific principles is not limited to the basic topics but extends throughout the book. Each chapter contains the scientific basis for the clinical features and a rationale for treatment of diseases in the various organ groups. One of the features of the book is the standardization and high quality of the illustrations and figures, all of which have been prepared by the one group of medical illustrators.

The preface to the first edition states that the editors expected the book to be as useful to experienced practitioners as to students and residents in surgery. There can be no doubt about its use for experienced practitioners and residents. The consistently high standard of contribution from all authors make this volume one of the outstanding references in surgery.

As a textbook for students, however, it has some deficiencies. With the exception of acute gastrointestinal hemorrhage, common presenting symptoms such as jaundice and hematuria are not dealt with. In the teaching of medical students, an approach to these presenting symptoms is important and difficult for the student to access in a system-based textbook. There is also a tendency for very basic principles of surgery to be buried from the student's sight in large textbooks. There is much useful information on hernias in the groin for instance, but not a clear-cut statement on how to differentiate inguinal from femoral hernias with relationship to bony landmarks. Similarly, it is important for students to understand how to distinguish between swellings that arise in the scrotum from those that arise in the inguinal region and extend into the scrotum. This information, however, was not included. From the student's perspective, one must also question the balance in a textbook of 1784 pages in which 387 are devoted to vascular surgery and 12 to orthopaedic surgery.

Overall, the textbook is current, with recent references included. One exception is the absence of lymphatic mapping in the management of melanoma. Because this is a fundamental change in our knowledge of how melanomas metastasize and has important implications in the treat-

ment of lymph nodes not only in melanoma but in other tumors, it could reasonably be expected that this topic would be covered. Despite these few shortcomings, the textbook represents great value at the listed price and can be highly recommended for residents and experienced practitioners.

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Leg and foot ulcers: A clinician's guide

Vincent Falanga and William Eaglestein; St. Louis; 1995; Mosby-Year Book; 182 pages; \$70.

The large majority of leg ulcers are of venous or arterial origin, but there are many other causes. One important way to a correct diagnosis is through careful inspection of the ulcer area. Dermatologists are used to this way of working, and two of them have published this atlas of leg and foot ulcers. It is a book of 182 pages with some 325 illustrations. The important features of every illustration are described, although, as stated in the introduction, not all the findings in each photograph are described. Sometimes, however, it is not completely clear why one specific ulcer has been chosen and which are the potential differential diagnoses. It would have been helpful if each ulcer had been described more systematically. There are five main parts of the book depending on the focus (away from the ulcer area, skin changes around the ulcer, the ulcer bed, epithelium, exogenous agents). A short introduction is given to every chapter, and they are finished by "clinical points," which in telegraphic style gives the important data and message of the chapter. As classifying ulcers from the inspection of them requires a great deal of experience, I believe that the book can be of some help, and to have it in the vascular library would therefore be of value. But again, it important to realize that an ulcer is just one sign of a disease, the diagnosis of which almost always requires more information.

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General thoracic surgery, 4th edition

Thomas Shields, Baltimore, 1994, Williams & Wilkins, 1816 pages.

For 25 years, *General thoracic surgery* has served as an invaluable reference for thoracic surgeons, general and thoracic surgery residents, and medical students interested in surgery of the chest. The fourth edition of this textbook, edited by Thomas W. Shields, has expanded into two

volumes that include 1816 pages of text, tables, and illustrations by 143 authors. There are now 136 chapters (compared with 100 in the third edition) that encompass the entire gamut of general thoracic surgery. It does not include chapters on adult or congenital cardiac surgery, nor are there chapters on vascular surgery of the chest.

The basic organization of *General thoracic surgery* has changed slightly in that the textbook is now organized into three major parts: "The Lung, Pleura, Diaphragm, and Chest Wall"; "The Esophagus"; and "The Mediastinum." Each part contains a comprehensive range of chapters that cover its given area. In the first two parts, the new edition resumes the tradition of the last by including sections on anatomy, physiology, imaging, and diagnostic procedures before discussing specific disease entities. The first part also has informative and up-to-date sections on preoperative assessment, anesthetic management, and postoperative care of thoracic surgical patients.

Of great value to thoracic surgeons of all levels, the new edition of *General thoracic surgery* has two sections devoted to surgical technique. The first has eleven chapters written by some of the world's most experienced thoracic surgeons. These describe basic incisions, positioning, and pulmonary resections, as well as more complex operations on the respiratory tree, such as sleeve lobectomy and tracheal resections. Each chapter is extensively and clearly illustrated. The second surgical technique portion of the textbook has seven chapter sections on operative therapy of esophageal disease, all written by the foremost authorities. These procedures range in complexity from exposure of the cervical esophagus to free intestinal transfer techniques for reconstruction for the esophagus.

Though the new edition is almost 600 pages longer than the last edition, it manages to maintain its "readability." Most chapters are both complete and succinct, with only a few extending beyond 20 pages in length. Some of the most useful chapters are those written by Dr. Shields himself. For example, his chapter on the surgical treatment of non-small cell bronchial carcinoma provides a roadmap for determining the appropriate surgical therapy for patients with lung cancer, depending on the characteristics of their tumors and pulmonary function. There are also chapters by noted authors on the nonsurgical therapy of lung cancer, which complete the section on carcinoma of the lung. The portions of the textbook devoted to other malignant lesions of the chest including those of the esophagus, mediastinum, and chest wall are equally comprehensive.

As *General thoracic surgery* continues to be updated and expanded, it remains an extremely effective reference for students, residents, and surgeons whose practice includes operations in the chest. In fact, it has become one of the most popular textbooks among general thoracic surgeons. Because it does not cover cardiac surgery or vascular surgery of the chest, surgeons interested in those areas may be happier with a more comprehensive textbook such as Sabiston's *Surgery of the chest* (W. B. Saunders, 1995) or

with textbooks specifically devoted to cardiac or vascular surgery.

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Smooth muscle excitation

T. B. Bolton and T. Tomita; San Diego; 1996; Academic Press; 527 pages; \$120.

The focus of the book titled *Smooth muscle excitation* (edited by T. B. Bolton and T. Tomita) is the regulation of intracellular calcium in smooth muscle, emphasizing electrophysiology and the role of ionic gradients. Because the level of free intracellular calcium is the primary regulator of smooth muscle contractility, this theme is significant to anyone interested in smooth muscle.

This book aims to increase the understanding of smooth muscle physiology, pharmacology, and ultrastructure by presenting the most current information regarding calcium handling in smooth muscle. It contains 42 chapters divided into seven sections on many areas relating to the regulation of intracellular calcium. While there are several fundamental chapters on calcium and potassium channels, there are also many other chapters relating less central topics to excitation, including receptor transduction via channels, intracellular calcium release, pH and tension, and the effects of nerves and endothelial factors, all of which combine to make this book a well-rounded resource.

The first section of the book consists of five chapters on calcium channels and presents an in-depth and complete discussion of the structure and function of these channels in smooth muscle. L-type calcium channels are primarily discussed, with emphasis on the regulation of opening, molecular structure, and agonist-induced potentiation of calcium currents. Probably the most useful chapter in this section is chapter 4, "Regulation of the Opening of Voltage-gated Ca Channels in Smooth Muscle Cells," including a review on the structure of T- and L-type channels and mechanisms of channel regulation, including membrane potential, calcium, kinases, and GTP-binding proteins. The next section on potassium channels, containing seven chapters, is just as in-depth as the one on calcium channels, with reviews by some of the most prominent investigators in the field, including information regarding the regulation of the channels, the involvement of the channels in regulating intracellular calcium, and the molecular structure of potassium channels.

One theme central to many chapters is the modulation of intracellular calcium by the sarcoplasmic reticulum (SR). Smooth muscle cells have intracellular stores of calcium in the SR that can be released by various mechanisms, including calcium-induced calcium release or via several receptors including the ryanodine receptor and IP₃ receptor. Uptake is similarly regulated by the SR Ca-ATPase, and there are

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