

# BOOK REVIEWS

John M. Porter, MD, Book Review Section Editor

## Gross anatomy in the practice of medicine

Frank J. Slaby, Susan K. McCune, Robert W. Summers, Philadelphia, 1994, Lea & Febiger, 699 pages, \$49.50.

When the editor of the book review section asked whether I would be willing to review a new text, I answered in the affirmative. I had recently taken the recertification examination, and it was clear that I had some "areas of opportunity for improvement." Reading a new text might be helpful to update my information base. To my surprise, the book that arrived was an anatomy text, primarily directed at medical students. I chose to have my son, a third-year medical student, participate in this review.

From a medical student's perspective, the major flaw is the binding of the text. After only a few days of review, pages 1 to 73 were detached from the soft-covered text. With customary student treatment in the anatomy laboratory, this book will have a short life. As compared with Keith Moore's anatomy text, Slaby's is easier to read, but at the expense of excluding appropriate details. The diagrams were satisfactory, but some of the computed tomography scans were not from modern equipment. The clinical case workups are excellent for maintaining a student's interest. The cases are problem oriented in the "new way" of teaching medicine. A minor concern is that some diagrams/figures are not adjacent to the appropriate text. One major weakness was the absence of information on anatomic variations. This limits the use of the text as a reference for a surgical resident. Overall, this text is best suited for the "generalist" student. However, for those interested in a surgical career, Moore may be more informative.

Now, a few comments from a "senior surgeon." This type of anatomy text was not available when I had to choose a textbook. The uniqueness of this text relates to the presentation of clinical situations that require the student to understand the body's anatomy to properly evaluate and diagnose a patient's complaint. Thus this textbook has a component of physical diagnosis and clinical diagnostic medicine that provides clinical relevance to the basic anatomy text. This educational approach is most appropriate and will tend to motivate students to read the text and to remember their anatomy. There were some clinical case scenarios that I believed were too infrequent and complex to warrant consideration in this text, particularly the one of idiopathic pulmonary hypertension. Likewise, the discussion of the scalenus anticus syndrome is a process that I believe is too vague and complex to bring forth to a first-year medical student. However, the more routine cases of appendicitis, inguinal hernias, and choledocholithiasis were appropriately presented. I caution the editors that

some clinicians might disagree that a nonperforated appendicitis would have a temperature of 102° with a white blood cell count of 16,000 mm<sup>3</sup> or that a patient with a perforated duodenal ulcer would not have rebound tenderness. One clinical error was noted in Figure 23-5 on resections of the colon where lines of the resection as related to the middle colic artery are incorrect.

I was somewhat surprised to see that certain items, such as the foramen of Winslow, were only referred to as the epiploic foramen. The minor and major ducts of the pancreatic system were mentioned, but Santorini or Wirsung were missing. But I guess this will allow surgeons to have something to talk about at the operating table.

In the thoracic section, coarctation of the aorta was well presented. The discussion of the pores of Kohn and canals of Lambert were new anatomical structures that I was unaware existed in the lungs. There was minimal information of bronchial arteries or the lymphatic drainage of the different lobes of the lungs. Likewise, the anatomy of the liver was superficial in that no mention of liver segments was presented. Variations in the common and cystic duct, vagus nerve, and hepatic artery anatomies were not presented. I chose to rereview Grant's Atlas presentation of anatomic variation, and it is clear that Grant is more pertinent to surgical residents because it presents the variations in anatomy that alert the resident for operative areas of concern.

With regard to vascular issues, I was unhappy with the depiction of the blood supply of the spinal cord. They did mention that there was a disconnection between the superior and inferior supply but provided no information of how often this might occur. If I were to pick up this text and attempt to find where the peroneal artery was located in the lower leg, so as to make a vascular anastomosis, I would be unable to do so with the figures presented.

My son recommended that I review Moore's text because it is an alternative text that brings forth clinical information to the student. My review concurs with Thomas' comments. Each integrates clinical information into the text, but Moore provides information on anatomic variations and, in general, is better as a reference text. I reviewed the other anatomy textbooks on my office shelf, Gray's Anatomy, Spalteholz, Gallander and, a personal favorite, the Japanese Photographic Text of Anatomic Dissections (Rohen and Yoghachi). The best combination of textbooks may be Moore and Rohen.

In summary, I believe that this is a textbook that is best used by a first-year medical student. It is a text that should keep the student interested in anatomy because it integrates the clinical relevance of anatomy to the practice of medicine, particularly physical diagnosis. This text may

best compliment a curriculum where the organ/system approach is used. The text does lack the details and variations in anatomy that are important to surgical residents.

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### **Flow-dependent regulation of vascular function**

John A. Bevan, Gabor Kaley, Gabor M. Rubanyi, New York, 1995, Oxford University Press, 371 pages, \$85.

Blood flow affects atherogenesis, intimal hyperplasia, thrombosis, and vascular tone. The influence of flow on vascular disease is so pervasive that anyone doing research in related areas must be familiar with the growing body of work in this field. *Flow-Dependent Regulation of Vascular Function* is an excellent review of this topic. This book is the latest volume in the distinguished Clinical Physiology Series from the American Physiological Society. It covers flow-dependent regulation of vascular function from the molecular to the large-vessel level. The editors have gathered many of the most influential investigators in the field to give an overview and update in their areas of expertise. Each chapter has an extensive bibliography, which includes important historic and recent literature. The result is an impressive review and update.

The first section deals with biophysical and biochemical aspects of the circulation as a whole, including the biophysical principles of fluid transport and cellular signal transduction. The section on hemodynamics attempts to cover a lot of material in a small space. This makes for a challenging review and is not a substitute for a good hemodynamics text. The book's first chapter is a broad overview of the design of fluid transport systems. In it, we learn the physical principles that influence the overall structure of circulatory systems, and in passing we gain a greater appreciation for the bigger picture. For example, we learn that the tube worm *Chaetopterus variopedatus* pumps the equivalent of its total body volume each second! Subsequent chapters by Davies on flow-mediated signal transduction in endothelial cells, Diamond and McIntire on gene regulation, and Berthiaume and Frabgos on the effects of flow on endothelial cell mediator production are excellent reviews of these topics, which are more directly related to vascular disease.

The second section of the book deals with regulation of vascular muscle tone by flow. It includes discussion of the influence of flow on vasomotor activity, platelet function, and regulation of the microcirculation. This section delves into molecular biology, including a discussion of candidate molecules that may act as transducers of mechanical shear into biochemical signals. The chapter on endothelium-

derived relaxing factor, which includes a review of the biochemistry involved, is particularly pertinent. This molecule is not only a critical regulator of vascular tone but also can influence wall structure by modulating smooth muscle cell growth.

The final section of the book deals with flow-induced remodeling and regulation of vascular function in disease states. The review of blood flow-induced remodeling of the artery wall by Langille is superb. The chapter on the effects of blood flow on atherosclerosis is a reasonably good review that can serve as a starting point for those who have a particular interest in this topic. The final two chapters discuss the role of the endothelium in coronary vasospasm and atherosclerosis.

Although a few of the chapters are poorly illustrated and some of the material is arcane (the analysis of tube worm circulation, for example), the writing of this multiauthored text is of consistently high quality. Most authors have given us an extensive, detailed overview of their topic, with a comprehensive bibliography. They are recognized experts, and many have been the pioneer investigators in the fields they discuss. Often the subject matter overlaps, and critical data are discussed by more than one author. Rather than being simply repetitious, however, this affords us several different views of the same experimental observations and reinforces and broadens our understanding of the material. We find that the editors were correct in stating that, "Investigators often diverge in their opinions regarding the nature of the vascular wall response to blood flow and mechanisms involved." The editors have succeeded in their attempt to provide a succinct "summary of our state of knowledge and the nature of the research carried out on flow-related changes." This book will be a valuable addition to any laboratory investigating blood vessel pathophysiology.

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### **Endoluminal vascular prostheses**

Timothy A. M. Chuter, Carlos E. Donayre, Rodney A. White, Boston, 1995, Little, Brown, and Co., 323 pages, \$85.

This book provides the reader with current information regarding endoluminal vascular prostheses. This explosive new field in vascular therapy has the characteristics of a revolution, promising eventually to change vascular therapy in the way that laparoscopic surgery changed general surgery. It is also true that there is yet no clear proof of the safety and durability of this new procedure, and it is evident that there is a long way to go before it can be adopted by the vascular surgeon or interventionalist as a valid alternative to surgical graft replacement. This latter statement should have been more strongly expressed in this volume.