

Book Reviews

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Respiratory System (The Ciba Collection of Medical Illustrations, Vol. 7). By FRANK H. NETTER. Summit, New Jersey, Ciba Pharmaceutical Company, 1979. Pages: 328. Price: PNS.

The Ciba Collection of Medical Illustrations, *Respiratory System*, is the seventh volume in the series. This work again confirms Dr. Netter's place as the foremost medical illustrator of our time. His unique artistic style combines the use of color, diagrammatic representation, and thoughtful layout to make each plate an instructive addition to the text. In fact, as the title suggests, the primary thrust of this atlas is the illustrations rather than the text, and rightly so. The pictures convey a tremendous amount of information to the incisive reader. Dr. Netter states, "My goal was to picture or diagram the essence of each subject, avoiding the incidental or inconsequential," and in this he succeeds admirably.

The author is assisted in his task by a group of widely respected specialists in pulmonary disease from across the country. The topics covered include anatomy, physiology, radiology, pathology, and diagnostic procedures. There is a tremendous amount of material covered in 300 pages, especially when it is designed as a broad overview of the respiratory system for the clinician. The literary style is in keeping with Dr. Netter's basic philosophy; it is clear, concise and without the usual medical jargon. There is a great deal of information presented here, much of which has only recently been elucidated, but the extensive bibliography drawn from recent and readily available sources allows the reader to pursue his particular interests in depth.

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Cardiovascular Physiology for Anesthesiologists. By RONALD J. GORDON, MARK B. RAVIN, AND GEORGE R. DAICOFF. Springfield, Illinois, Charles C Thomas, 1979. Pages: 209. Price: \$19.75.

Academics and residents have long complained about the lack of a definitive, graduate-level, American textbook of anesthesiology. Two multi-authored texts are reputedly "in preparation," one of them for six years so far. But I suggest we already have not only a multi-authored American source, a multivolumed individualized one as well, making it much easier to borrow, to carry, and to use than one the size of an unabridged dictionary. The anesthesiologist may today assemble his own, personalized "textbook" from the collection of essays and monographs reviewed in this section of *Anesthesiology* in the last decade. I nominate this book by Gordon, Ravin and Daicoff as the introduction to the cardiovascular section. It is not a review of physiology, nor a medically oriented text, but is as the title suggests, "for anesthesiologists." It should suffice for board preparation or later study.

The particular strengths of this book lie in three topics, and are due to the enriching of physiologic concepts with description of pharmacologic alterations produced by the agents and adjuvants anesthesiologists use daily. Forty-five pages are devoted to blood rheology, concepts and applications. The non-Newtonian properties of blood, so important in understanding flow distribution, are clearly explained. I know of nothing like this elsewhere. Fifty-two pages introduce and elaborate Guyton's venous return model of the circulation. The intersection of a venous return curve with a cardiac

function curve fixes atrial pressure and cardiac output. While not entirely accepted by all cardiologists, this concept is nonetheless quite useful, and its general absence in the anesthesia literature makes this treatment invaluable. The book is worth reading for either of these topics alone. The third area of strength is the 43-page treatment of coronary circulation and the problem of ischemia. While this portion is neither unique nor exhaustive, it is current, solid and succinct.

The approach is fairly uniform, a semianalytic and inductive mixture. Empiric equations and approximations are not supported by presentation of evidence, but the inquisitive reader can find such in the references. The pathophysiology of anesthesia and useful rules of thumb are to be found, as befits an anesthesia text. Faculty members of training programs will find good material for lectures, chalk-talks and morbidity-mortality discussions in the many diagrams. A few of these diagrams, such as the relation between viscosity and shear rate, might profit from redesign. The published diagram suggests a non-Newtonian fluid is one whose viscosity decreases below that of a Newtonian fluid as shear rate increases, rather than one whose aberrant properties become negligible as shear rate increases.

These entirely laudable sections are accompanied by a too-brief, banal discussion of cardiac output and distribution, largely overlooking metabolic modulation; by a mercifully brief primer on electrocardiography, suitable for a nursing or premedical student; and by what should have been a brief account of one center's approach to congenital heart disease correction. The latter I am sure will be considered provincial and passé by trainees of other pediatric centers, just as all other approaches differing from their current institution's practice. Does any of us know the "right way" to do this? I doubt it.

There are some minor annoyances. Chief of these are diagrams inserted in pages beyond their respective citations. One actually seems entombed in the study questions that end each chapter. Some of the phrases are self-laudatory clichés: "having considered the cardiac output as a unified entity" (in five pages), "we have carefully examined", etc. The suggestion that right atrial pressure is given by a "standard physics equation $P = \rho gH$ " is an unnecessarily complicated way to convert measured centimeters of water to millimeters of mercury. But by and large the text reads easily and clearly.

Where does this book belong? Not locked in a bookcase, gathering dust in the central library, nor under the clutter on a researcher's desk, but on top of the latest book-of-the-month selection at your bedside, or in the reading room or call room of the residents. The three strong areas are largely independent, and hence can be read independently, mastered in a few hours a piece at most. The weaker section can be read lightly for amusement, scanned for reassurance, or totally ignored without harm or prejudice.

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Selected Papers in Respiratory Therapy. Second edition. By THOMAS J. DEKORNFELD. Garden City, New York, Medical Examination Publishing Co., Inc., 1979. Pages: 542. Price: \$20.00.

This volume is a compilation of 52 articles published between 1973 and 1977 on subjects relating to respiratory therapy, and

follows a similar collection by the same editor in 1971. Each of its nine sections is preceded by a brief preface and critique of the articles to follow. The stated purpose for the book is to provide a ready reference source consisting of the most important new information and current reviews for workers in this field—presumably respiratory therapists, nurses, and physicians. This is a considerable task in a field that has mushroomed in both research and practice in the last decade, and the book succeeds to various extents.

The first section, on structure and function of the respiratory system, includes nine papers on such topics as lung growth and alveolar multiplication, tissue pressures and fluid dynamics, and regulation of respiration. As in other sections of the book, these papers vary widely in scope and detail—some would appear excessively technical for practitioners. Section 2 consists of six articles on pathology and carcinogenesis. Although air pollution, carbon monoxide, and chemical carcinogens are covered in detail, nothing on the effects of cigarette smoking is included here or elsewhere in the book. From this omission, and the editor's description of cigarette smoking as "a psychologically and physically enjoyable activity" that is unlikely to be affected by education or legislation, the reader may conclude that smoking is relatively unimportant in pulmonary disease and respiratory therapy. This conclusion would certainly be at variance with the bulk of currently available data.

Section 3 is entitled "Intermittent Positive Pressure Breathing." In 1980 it is curious to see articles on respiratory intensive care and mechanical ventilation lumped under this heading. Curious also is the omission of any article on positive end-expiratory pressure, which has been one of the most published and controversial areas in the field. As a "core curriculum" of reference material this book might well have included the celebrated articles on "optimum PEEP," "super-high PEEP," and "prophylactic PEEP," which appeared in 1975 and 1976, all of which describe modes of therapy which have been widely adopted.

Section 4, Chronic Obstructive Pulmonary Disease, includes excellent reviews of management, as well as a paper on the respiratory muscles and a comprehensive review of respiratory disease in coal miners. The reviews are well chosen and contain a great deal of practically useful material. The same is generally true for the following sections on complications of respiratory therapy and newer developments in the field. One might quibble about the inclusion of a paper on retroperitoneal air dissection during mechanical ventilation, a rare occurrence, and omission of any of the papers by Bone and associates on the use of pressure-volume curves as

a simple monitoring tool to assess system compliance. Also included are two articles on extracorporeal membrane oxygenator therapy for severe respiratory failure: both are supportive of this mode of therapy, an attitude not shared by most in 1980.

The remaining sections deal with miscellaneous conditions such as drowning, smoke inhalation, and trauma, and with practical aspects of respiratory therapy such as use of humidification and choice between endotracheal intubation and tracheostomy. An extensive review of pediatric respiratory care is included, as are articles on the results of in-hospital cardiopulmonary resuscitation and ethical dilemmas in critical care.

The overall success of this book is tempered by several factors, chief of which may be the long lag time between the appearance of journal articles and a definitive book. The first edition contained 56 articles originally published between eight months and 24 years previously, with a mean interval of 36 months. In comparison, at the time of release the new edition's most recent article was 23 months old, and the mean age of the 52 reprinted papers was 44 months. In a field as rapidly growing as respiratory therapy, a four-year-old "state-of-the-art" review may be decidedly dated, especially in burgeoning technological areas such as mechanical ventilation and intensive care monitoring. Another potential difficulty lies with the intended use of this volume, which the editor states is particularly for those who work in hospitals far removed from major libraries. Each of the included papers provides interesting and thought-provoking reading, but a number of them present either minority views (*e.g.*, prolonged controlled mechanical ventilation for flail chest) or therapies (*e.g.*, ECMO) that have failed in practice to fulfill their original promise. In the book's format, little guidance or editorial criticism is provided for the reader who might not have access to literature presenting conflicting data or opposing views.

Although anyone working in the field will detect omissions or variance with his or her experience in this volume, the task of assembling a collection of important papers on respiratory therapy is formidable, and in general, it has been met successfully. It provides under a single cover much of the important literature of the mid-1970s, and should be a useful addition to the bookshelves of therapists, nurses, and physicians working in respiratory care.

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