

# Book Reviews

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**Fundamentals of Homeostasis: A Clinical Approach to Fluid, Electrolyte, Acid-Base and Energy Metabolism in Health and Disease.** Second edition. By M. BORROW. Flushing, N. Y., Medical Examination Publishing Co., Inc., 1977. Pages: 189. Price: \$8.50.

The author states that the purpose of his treatise was to present a somewhat confusing subject as comprehensively and simply as possible. What was attempted was a practical approach to the understanding and management of disorders of fluid, electrolytes, and metabolic disturbances, so as to enable the busy clinician, resident, and student to assimilate the pertinent facts in a logical sequence.

A treatise by definition is a systematic exposition in writing, including a methodical discussion of the facts and principles involved and conclusions reached. Unfortunately, the author's book falls far short of his stated purposes. Although the scope of the book is quite extensive, including such topics as fluid and electrolyte imbalance, energy metabolism and nutrition, pulmonary physiology in health and disease, mechanical ventilation, management of the critically ill patient, new concepts in shock, renal failure, coagulation disorders, etc., the presentation of material in these areas is extremely limited and sketchy. For example, in the chapter, "Monitoring of the Critically Ill Patient," central venous pressure, pulmonary-artery wedge pressure (the use of the Swan-Ganz catheter) and cardiac output are discussed briefly. This to me is only a relatively small aspect of a very complex subject. The chapter would be better entitled "The Use of the Swan-Ganz Catheter." Even this discussion is relatively limited in scope.

The bibliography for the first four chapters, listed under the general title of "Fluid and Electrolytes," includes the standard textbooks, *i.e.*, Bland's "Clinical Metabolism of Body Water and Electrolytes," Gamble's "Chemical Anatomy, Physiology, and Pathology of Extracellular Fluid," etc. It is quite distressing that only one reference included is dated after 1970. Similarly, the reference dates for the chapter, "Acid-Base Balance," are from the years 1961, 1962, 1967, 1969, 1963, 1971, 1953, 1955, respectively. The implications are obvious.

Although certain small portions of the book are quite readable and do indeed present factual information in a concise form (one of the author's objectives), in general the text must be considered to be sketchy, incomplete, and of little practical use.

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**Mechanical Artificial Ventilation: A Manual for Students and Practitioners.** Third edition. By T. W. HEIRONIMUS AND R. A. BAGEANT. Springfield, Ill., Charles C Thomas, 1977. Pages: 532. Price: \$24.50.

I began reading this book for review with a very positive bias. When I was a newly appointed Medical Director of Respiratory Therapy, the second edition was the first book on mechanical ventilation that I had read that seemed to make much sense. The

authors are certainly to be congratulated on the monumental task of writing three editions in ten years, each in essence a totally rewritten and expanded work. The narrative of the third edition is easy to read, with quotations before each chapter and subsection. The authors' use of the English language is skillful. Their admonishments to heed the non-mechanical needs of patients bespeak their sensitivity toward patients.

The authors note that the third edition is "regrettably larger." To be exact, it is 532 pages, compared with the 160 of the second edition, and it has 1,303 references rather than 321. The authors appear to have tried to include a little bit about everything in critical care, including coagulopathies. Total parenteral nutrition is given ten pages, whereas the MA-1 Ventilator is given five, including two full-page pictures of the machine. Thus, the third edition is no longer a handbook on mechanical ventilation but rather an overview of critical care.

The text begins by discussing mechanical ventilation in general and then describes ten commercially available machines. This section comprises only 15 per cent of the book. The bulk of the text describes various clinical states for which mechanical support has been recommended. It closes with sections on anatomy and physiology, oxygen and humidity therapy, resuscitation, and history.

There are many problems in writing on such a broad range of subjects in a rapidly changing field. Included are outdated information, errors, omissions, and author bias in controversial areas. Most of the book, including the excellent section on IMV, has been updated. IPPB is discussed at length; however, incentive spirometry is given only one sentence, and then not by name, and not appearing in the section on postoperative respiratory care, or in the index.

An important error is the statement that "acute epiglottitis is currently managed with aerosolized 1-epinephrine," with no further mention of more effective modes of therapy or of croup. This may harmfully mislead clinicians.

The authors make quite a number of categorical statements as if they were proven facts, when they represent author bias in increasingly controversial areas. For instance they state that all myasthenic patients who undergo surgical procedures of any type should be ventilated, and that controlled ventilation is an integral part of the management of flail chest. While this was considered true ten years ago, there are certainly sufficient studies casting doubt on these premises that they should at least be mentioned. In addition, there is the recurrent statement within the book that "when the lungs are stiff . . . a volume ventilator is the machine of choice." The second-generation pressure-cycled and the newer time-cycled ventilators have performance capabilities far greater than those of the most commonly used volume ventilator. Part of this may be related to their eclectic classification of volume generators. The statement that pneumothorax is a complication of PEEP is also controversial rather than established fact.

Thus, the third edition was a little disappointing, much like returning as an adult to the scene of a fond childhood memory. But with the above-mentioned important exceptions, the book is well written and displays a wealth of clinical knowledge. Most sections are informative and helpful. The authors make no pretense of thoroughness. They fully intend the book to be only "a Stepping-stone to more comprehensive texts." I would hesitate to recommend the book to clinicians and respiratory therapists, although they would certainly enjoy reading it. I would, however, recommend it to residents and students, both medical and respiratory therapy