

normal electroencephalogram is cohesive and well written and delves successfully into the problems regarding artifacts, which are encountered with great frequency in electroencephalography. It also explains the way in which electrode locations are chosen and the ability of the electroencephalographer by the use of such techniques as phase reversal to localize cerebral tumors and other abnormalities. There is also an excellent chapter on the nature of the electroencephalogram during sleep. There is a reasonable discussion of the role of the electroencephalographer in the determination of brain death, and the proper emphasis is given to the fact that deep habiturate overdose can produce an isoelectric EEG. Some time is also devoted to more futuristic EEG techniques, such as spectral analysis, telemetry, and biofeedback. The illustrations are adequate, and the bibliography is extensive.

The author states in his preface that he has written a book for the senior medical student encountering EEG for the first time. I agree. He also states that he has intended it for a "variety of postgraduates" studying for all sorts of further qualifications, including anesthesiologists. If indeed the author, a psychiatrist by training, intended to interest an anesthesiologist or two in EEG and its potential usefulness in the operating room, he has probably not succeeded, although the book would certainly be a basic text for those already directly concerned with electroencephalography.

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The Lung in the Critically Ill Patient. Pathophysiology and Therapy of Acute Respiratory Failure. EDITED BY W. C. SHOEMAKER. Baltimore, Williams and Wilkins, 1976. Pages: 129. Price: \$9.50.

The socioeconomic effects of acute respiratory failure (ARF) in critically ill patients have led to a multidisciplinary interest in the etiology, pathophysiology and therapy of this disease. The Society of Critical Care Medicine has emphasized the importance of pulmonary dysfunction in critically ill patients at each of its annual meetings and in nearly every issue of its journal. Dr. Shoemaker's goal was to provide the reader with a convenient reference source for articles concerning pulmonary function that were published in the journal *Critical Care Medicine* in 1973 and 1974.

The monograph consists of 17 articles written by recognized authorities representing the specialties of surgery, medicine, pediatrics, neonatology, anesthesiology and pathology. There was understandable difficulty in organizing the monograph in a cohesive form. Yet the entire spectrum of acute respiratory failure (including etiology, pathophysiology, diagnostic considerations, clinical manage-

ment and evaluation of therapy for adult and infantile respiratory failure) is covered at least partially and is well indexed. The text is directed towards those interested in critical care medicine and individuals without background in respiratory care or without prior knowledge of etiologic and pathophysiologic processes in the patient with ARF may find the monograph difficult to comprehend.

Several articles either are poorly referenced and consist mainly of authoritative opinion or describe the author's general routine of patient management. Also, this book lacks detailed description of the management of patients with severe ARF. None of the authors describes monitoring devices and their use, specific criteria for applying and discontinuing positive end-expiratory pressure (PEEP), management of routine complications, or other details of interest to the physician caring for the critically ill patient. Also lacking is a discussion of some of the recent innovations in respiratory therapy. Only briefly mentioned, if at all, are intermittent mandatory ventilation (IMV), high-level PEEP (more than 20 cm H₂O), PEEP and CPAP for spontaneously breathing adult patients, and newer monitoring techniques such as the use of the flow-directed pulmonary-artery catheter. Many of these techniques undoubtedly were unavailable at the time of original writing.

Several articles are outstanding and deserve special mention. Dr. John West's description of Dr. Peter Wagner's complex technique for quantifying ventilation-perfusion ratios throughout the entire lung using intravenously injected gases of various solubilities is lucid and exciting. No other diagnostic technique promises to give the therapist as exact or as significant information as this one does. Hopefully, the technique will become available to other investigators. Dr. Lindholm's description of the use of fiberoptic bronchoscopy in critically ill patients requiring continuous mechanical ventilatory support is also very well done. He defines his patient population, the technique used, results, and complications in a clear and unbiased fashion. The article leaves little doubt that there are indications for using fiberoptic bronchoscopy in some mechanically ventilated patients. The discussion by Drs. Wilson and Pontoppidan on the pathophysiology, diagnosis, and management of patients with ARF is as complete and well referenced (115 references) an article as any currently available and is a fitting summary to the monograph.

The text is impressive in the extent of its coverage. However, it also emphasizes the major gaps that exist in our knowledge of all phases of ARF. For those with an interest in the management of critically ill patients but without ready access to *Critical Care Medicine*, this monograph will be an invaluable addition to their libraries.

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