

90 per cent died. The stated goals of the authors were to provide "a useful reference for electroencephalographers and technologists and other professional personnel dedicated to the care of critically ill patients" and "aid in surmounting the difficulties encountered when recording outside the friendly environment of the EEG laboratory."

After short introductory chapters, including a concise summary of EEG recording principles and techniques, the atlas displays in the largest chapter (79 illustrations) essentially all common and some uncommon artifacts encountered when attempting to ascertain "electrocerebral silence" ("isoelectric" or "flat" EEG). Helpful suggestions for ways in which a technologist can document and/or eliminate these artifacts are given. The importance of this chapter is emphasized; it portrays the necessity and difficulty of separating EEG waveforms from extraneous electrical potentials, which are, in this reviewer's experience, probably the greatest stumbling block in the interpretation of tracings possibly indicative of electrocerebral silence.

Although the authors carefully refer to the pertinent literature, the work is not a broad and comprehensive review of brain death and coma, and the text of the chapter entitled "The Significance of Electrocerebral Silence" is remarkably short and limited in scope, although the authors state that an unpublished "Summary Report" will give the methodology, results and conclusions of

this research. In this chapter, numerous examples of patients whose EEG's ultimately become isoelectric, as well as important examples of the reverse, are shown. The last pictorial section deals with the general topic of EEG findings during coma. Because of the criteria for selection, the majority of patients were gravely ill. Serial recordings are displayed in several instances.

This interesting collection of high-quality full size (although only eight-channel) illustration could be a useful aid in the performance of EEG on unresponsive patients and guide in the identification of certain EEG features of, and pitfalls encountered when dealing with, suspected brain death cases. It is most helpful in the last instance, in which it clearly demonstrates the difficulties of performing high-quality bedside EEG's under stressful technical circumstances. The work presents only sketchy neuropathologic data and suffers from the absence of pathophysiologic correlations, particularly in view of the relatively nonspecific nature of EEG patterns. Probably it will be most useful to the practicing electroencephalographer and EEG technologist.

ROBERT J. WILKUS, M.D.  
Division of Electroencephalography  
and Clinical Neurophysiology  
University of Washington School  
of Medicine  
Seattle, Washington 98195

## Literature Briefs

Peter J. Cohen, M.D., Editor

*Literature briefs were supplied by Drs. D. G. Bjoraker, P. J. Cohen, and J. W. Pender. Briefs appearing elsewhere in this issue are part of this column.*

### Regional Anesthesia

**EPIDURAL ANESTHESIA AND AIRWAY CLOSURE** The induction of general anesthesia may be accompanied by decreased arterial blood oxygen tension. This has been related to a decrease in functional residual capacity such that airway closure occurs within the tidal volume. The author has evaluated the effects of thoracic epidural analgesia on airway mechanics, gas distribution, and arterial oxygenation. Seven patients, all free of cardiovascular disease, were studied. Most of them smoked moderately or heavily, and three had chronic unproductive morning coughs. The epidural space

was entered at T5-T6 and 9-10 ml of 2 per cent mepivacaine were injected. Analgesia spread from T2-T3 to T12-L1. Induction of epidural analgesia did not produce significant change in functional residual capacity, intrapulmonary gas distribution, closing capacity, arterial oxygen tension, or alveolar-arterial oxygen difference. Two patients had decreased  $P_{a_{O_2}}$ 's (97-85 torr and 83-67 torr) associated with decreases in arterial blood pressure. In one patient  $P_{a_{O_2}}$  changed from 74 to 88 torr after administration of epidural analgesia. The author concludes that "thoracic extradural analgesia is a suitable method for abdominal surgery in the presence of chronic lung disease." (McCarthy GS: *The effect of thoracic extradural analgesia on pulmonary gas distribution, functional residual capacity and airway closure.* *Br J Anaesth* 48: 243-248, 1976.)