

## Book Reviews

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**Clinical Dental Anesthesia, A Manual of Principles and Practice.** By J. M. BELL. Philadelphia, J. B. Lippincott, 1975. Pages: 176. Price: \$19.00.

Integration of the physician-anesthesiologist into the dental school environment, and intimate co-operation between the institutional dentist and the anesthesiologist, with the goal of bettering patient care, is the basic premise of this manual. Lucidly, the author presents the dilemma, anesthesia or conscious sedation, as viewed by the dentist and by the physician-anesthesiologist involved in the specialty of dental anesthesia.

The often scornful attitude of the physician-anesthesiologist towards the dentist's use of non-endotracheal general anesthesia, and the dentist's feelings of semi-abandonment by the anesthesiological community, are well described. The concise review of endotracheal and non-endotracheal anesthetic techniques avoids dogma while offering excellent guidelines for the use of these techniques in the dental outpatient, and is followed by an account of the main complications of general anesthesia in dental anesthesia practice.

The author's model for the integration of the physician-anesthesiologist into a dental school is that of The Royal Dental Hospital of Melbourne. Practical suggestions for design, staffing and operations are offered, with due allowance for institutions of various populations.

The section on the principles and practice of sedation, both inhalation and intravenous, should be required reading for all residents in anesthesiology, as well as for their instructors. The dangers inherent in the "minimal increment methohexital" technique of sedation are well presented, as are the Jorgensen technique and the use of diazepam, alone or in combination with methohexital. Conscious sedation with low-concentration nitrous oxide in oxygen is covered in detail, and the principles of this technique are shown to be applicable to routine hospital operating room practice. Common complications of sedation techniques, and the applicability of the techniques to the poor-risk patient, are also dealt with.

Outpatient dental anesthesia in the United States has traditionally been the province of the oral surgeon or the hospital-trained dental anesthesiologist. To suggest, however, as this excellent little manual does, that every dental outpatient who is to have general anesthesia should be attended by a physician-anesthesiologist is to overlook two important facts. First, the new curriculum now gives the dental graduate a firm grounding in basic science, and early experience in physical examination of patients in the hospital wards. This experience makes the author's claim that the dentist is unable adequately to evaluate the feasibility of general anesthesia somewhat weak. Second, not in the foreseeable future will there be an adequate supply of

physician-anesthesiologists interested enough in outpatient dental anesthesia to devote their full time to this practice. Considering the technical and scientific advances now under way, a suggestion to a young physician-anesthesiologist that he limit himself to short outpatient dental procedures involving the use of light and, in the majority of cases, non-endotracheal anesthesia, would surely result in a negative response. The roles of the oral surgeon and the qualified dental anesthesiologist are now firmly established.

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**Principles of Sedation, Local and General Anesthesia in Dentistry.** By S. M. E. SHANE. Springfield, Ill., Charles C Thomas, 1975. Pages: 371. Price: \$19.00.

The stated purpose of the book is "to provide, under one cover, a complete guide to practice for those in all specialties of dentistry who are training in anesthesiology and for nurse and physician anesthetists who plan to work with dental practitioners." In addition, "it offers a complete and simplified course in local anesthesia . . . and a simplified presentation of the essentials of physiology, pharmacology, physical diagnosis, resuscitation, intubation and laboratory test interpretations. . . ." Regrettably, the author's goals are inadequately achieved, and some chapters are biased towards the author's personal practices.

Chapters on the history of anesthesia, basic aspects of physics in anesthesia, management of life-saving emergencies, and laboratory test interpretation are well done and are the highlights of this book; simplification and condensation have not resulted in a loss of necessary content, but the chapter on theories of anesthetic action is unduly simplified and provides the reader with little background. References are limited to five, related to only two of the nine theories mentioned.

Physical evaluation of the patient is well detailed and would be an excellent presentation were it not for the dogmatic interjection of certain debatable principles—for example, the pre- and intra-anesthetic need for atropine in patients being maintained on beta blockers such as propranolol. This is a much-disputed area, and review of current literature demonstrates no consensus in approach. On the other hand, the account of the physiology of the heart, circulation, and respiration related to anesthesia is grossly oversimplified; acid-base balance is mentioned only in simplistic terms, and no mention is made of shunt and its relationship to anesthesia practice.

The chapter on pharmacology of gases and drugs abounds in deficiencies. For example, in the de-

scription of cyclopropane the author expresses his belief that a renaissance in the use of this agent may well occur, but disregards the fact that cyclopropane is no longer manufactured commercially, and omits to mention that cyclopropane-nitrous oxide mixtures in the range of 1.6 to 30 per cent are flammable and subject to detonation. Also omitted is any description of the narcotic fentanyl (Sublimaze®), a potent, short-acting narcotic, particularly suited to outpatient anesthetic technique.

The physiology and pharmacology of local anesthesia are treated in a cursory manner. The description of intra-oral techniques is adequate, but no mention is made of extra-oral approaches to regional anesthesia of the oral structures.

The author's use of the chapter on conscious sedation techniques as a platform from which to acclaim the merits of his intravenous amnesia procedure is disturbing in its one-sided approach. Many other techniques are described and then evaluated, with the invariable conclusion that only with his technique are all the criteria for safe and adequate conscious sedation fulfilled. No reference is made to studies, published in 1970, that demonstrated rather profound cardiorespiratory depressant effects secondary to the use of the intravenous amnesia technique.

The chapter on general anesthesia for ambulatory patients presents the most important reasons for disapproving of this book. Not only are the technical aspects of anesthesia (i.e., description of equipment, differences between continuous-flow and demand-flow machines, anesthetic delivery systems, oral versus nasal tubes, etc.) given minimal attention, but the author also proclaims advantages in the use of open-drop ethyl chloride for short general anesthesia in children. This, in addition to unabashed acclaim for the use of cyclopropane in outpatient dental anesthesia, places this book far behind present-day practice and exposes the neophyte to techniques considered by the vast majority of anesthesiologists to be extremely dangerous not only physiologically but also medicolegally.

In summary, this book should definitely not be used by neophyte anesthetists, and can only serve as a guide to conscious sedation techniques in the hands of a fully-trained anesthesiologist.

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**The Development of Anaesthetic Apparatus.** By K. B. THOMAS. Oxford, Blackwell Scientific Publications, 1975. Pages: 268. Price: \$40.00.

A review of this worthy addition to the history of anesthesia calls as much for identification of the people concerned in its production as for critical appraisal of its contents. Recalling the formative years of his career, your re-

viewer was always fascinated by the name of A. Charles King as it was stamped on articles purchased from abroad, even as the names of Macgill, Boyle and Macintosh evoked visions of the venerable tradition of British anesthesia emanating from John Snow. We are informed in an earlier communication from K. Bryn Thomas, author of this volume, that Mr. A. Charles King was a small, genial and erudite gentleman, never referred to by surname alone, who worked up an enterprising business in the making of anesthetic apparatus. That he was a connoisseur in his field is evidenced by a précis of a lecture he gave on the "History and Development of Anaesthetic Apparatus" that appeared in the *British Medical Journal* in connection with the centennial of the Demonstration in 1946. Nobody was in a better position to acquire old apparatus, which he collected and collated, often using his workshop to construct replicas of early inhalers. Coming so soon after the beginning, Mr. A. Charles King did not have to engage in archaeological digs to retrieve many of the significant relics. In 1953 the collection was presented to the Association of Anaesthetists of Great Britain and Ireland. Having survived the war, it is now housed among the memorabilia of the Royal College of Surgeons of England. The original nucleus has been augmented by donations from the British Oxygen Company plus 20 items given by the Australian Society of Anaesthetists.

At the request of the Association of Anaesthetists that the inventory of the Collection be amplified, K. B. Thomas has woven an erudite and provocative narrative around a sequence of reproductions of wood and metal engravings, lithographs, photographs and diagrams of apparatus. In so doing he has relied heavily on Barbara Duncum's classic monograph of 1947, *The Development of Inhalation Anaesthesia*, while the aesthetic triumph derives from employment of a page size of satisfying dimensions and fine-quality paper stock. Peering out from the pages are more than a few photographs of estimable anesthetists of the times, now almost lost to memory. Some of the countenances are formidable—Friedrich Trendelenburg, of the "position," and the euffed tracheostomy tube, also Louis Ombredanne, of Paris, whose name is linked to an intricate ether inhaler.

Only apparatus concerned with inhalation anesthesia is depicted in this book, according to the drug and function for which used: Ether Apparatus (Morton to Macintosh), The Chloroform Series, Nitrous Oxide Series, Insufflation and Endotracheal Apparatus, Mixed Vapours, The Analgesia Story, and Face Masks and Drop Methods. Exotica have not been expurgated, as shown in the other section, where one can see Pinson's "bomb," Flagg's can, and Denis Browne's "top hat." National characteristics are also evident here as the tide of innovation fluctuated across the Atlantic. And as the account unfolds one observes that the development of apparatus followed a path of trial