BOOK REVIEW

UNDERWATER MEDICINE

(4th Edition)

S. Miles and D. E. Mackay. Adlard Coles, London. £10.00

When a book is written by the country’s leading experts in the field, it is extremely difficult to find a greater expert to review the work, so I am reviewing this book from the viewpoint of the general practitioner who may have to examine amateur or professional divers from time to time, and deal with their medical emergencies as well as their minor disabilities which might or might not be attributable to this sport or employment. Comparison has been made with the 2nd edition, written by Rear Admiral Miles alone in 1966, the first edition having been published in 1961.

The early chapters are concerned with the basic physics and physiology of diving, leading to pathological conditions resulting from decompression and poisoning by gases, even those regarded as beneficial or harmless at surface pressures. It would be almost impossible to improve upon the original author’s clear and logical explanations of complicated theory, but nearly every page of the 4th edition has had some alteration to bring the information up to date, but retaining the general lay-out and paragraph headings. Unfortunately photographs of post-morten findings after air embolism are difficult to orientate, and would have been made clearer by labelling a few major anatomical landmarks. The chapter on decompression has been revised extensively, especially with regard to chronic decompression sickness and avascular bone necrosis found in older divers and tunnel workers. Like syphilis, it can imitate many other diseases that the patient may not associate with his hobby of diving or his work in a tunnel and the radiologist may find some peculiar forms of “arthritis” on his films. The decompression tables from the earlier editions are omitted in the fourth, as these are under review in the light of recent developments, especially of deep or prolonged dives, and increased expertise in therapeutic decompression. A new chapter has been added on saturation diving.

The high mortality from comparatively trivial illnesses is described with some frightening case reports, emphasised regarding epilepsy by D. H. Elliott and R. R. Pearson in the British Medical Journal correspondence of August 7th 1976. The causes of underwater accidents are described and their incidence tabulated, but there is an unfortunate error of addition on page 176, — Pulmonary barotrauma; fatal, 5; non-fatal, 2; total — 13! The chapters on drowning should be read and re-read by all who have to deal with respiratory arrest of any type. The use of carbon dioxide in oxygen is condemned for resuscitation from drowning, and expired air resuscitation described in detail; even with hyperventilation expired air contains at least 2% carbon dioxide, so this point needs fuller discussion in the next edition. Life-supporting underwater apparatus is described in detail, together with precautions in its use, and much new material has been incorporated with the development of nuclear powered submarines and the special problems prolonged submersion involves. In the final chapter man is assigned his place among the marine animals, and his faunal enemies are described, but as exploration of the beds of South American rivers proceeds, we hope the piranha is included in the fifth edition!

I enjoyed reading this book, not just as a medical textbook, but as interesting bedside literature. The revision of respiratory physiology was most useful, and I feel better prepared to conduct medical examinations on my diver patients, and to deal with emergencies involving the respiratory system. At ten pounds, the book might seem expensive, three times the cost of the 1966 edition, but books do cost amounts like this nowadays, and compared with many other text-books, I consider this good value. It should be read by all doctors involved in aquatic medicine and sport, as well as by non-medical people instructing in diving, other aquatic activities, and supervising tunnel and oil workers. It is obvious why Admiral Miles has recently been appointed to a post in Aberdeen where he is responsible for the health of professional divers and others working in the off-shore oilfields.

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