

uality, and leisure time, are considered in Chapters 13–16. The latter includes a review of recommendations for patients contemplating air travel, a question that often arises in clinical practice. Self-management is playing an increasing role, and Chapter 17 is devoted to patient education, including a review of relevant learning theories and principles of adult learning.

The penultimate chapter deals with palliative care issues. This often neglected topic is of increasing interest given trends in the epidemiology of COPD. The important subjects of end-of-life discussion and symptom control are covered. Though the book as a whole is commendably free from important errors, this chapter refers to continuous positive airway pressure as the usual mode of noninvasive ventilation for COPD exacerbations (rather than, for example, bi-level positive airway pressure), and I found the use of the term “cure” a little clumsy in relation to symptoms in a chapter on palliative care.

Throughout the book the emphasis is on multidisciplinary team care and, having established that, the final chapter is appropriately devoted to methods of program evaluation and outcome measurement.

In summary, **Comprehensive Management of Chronic Obstructive Pulmonary Disease** aims to reach a multidisciplinary audience and to go beyond the traditional topics covered in COPD texts. Does it succeed in these stated aims? I believe it does. The impressive collaboration of authors from a variety of backgrounds brings expertise to each of the subjects covered. I have a couple of criticisms: I am surprised at the omission of sections considering noninvasive ventilation and surgical options in a book that claims to be “comprehensive,” and I think color printing would have enhanced the book’s appeal. That said, color printing is more expensive and would surely have pushed up the purchase price. To conclude, there truly is something for everyone between the covers of this book. This text brings together expertise from all members of the multidisciplinary team, and I recommend it as a useful reference work in helping attain our common goal: improving the outlook of our COPD patients.

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Advancing the Frontiers of Cardiopulmonary Rehabilitation. Jean Jobin PhD, François Maltais MD, Paul Poirier MD, Pierre LeBlanc MD, and Clermont Simard PhD, Editors. Champaign, Illinois: Human Kinetics. 2002. Soft cover, illustrated, 263 pages, \$32.

The content of this book is a compilation of 30 original reports presented at the 2001 International Symposium on Cardiopulmonary Rehabilitation in Québec City on “Integrating Cardiopulmonary Rehabilitation to the Treatment of the Disease.” The reports are grouped into 9 parts: Cardiopulmonary Rehabilitation: Services and Organization; Update on the Pharmacologic and Non-Pharmacologic Treatment of CHF and COPD Patients; Integrating New Technologies in Cardiopulmonary Rehabilitation; Home Rehabilitation Programs; Cardiopulmonary Rehabilitation and Cardiac and Thoracic Surgery; Selecting and Screening Patients for Rehabilitation; Integrating Non-Conventional Approaches in Cardiopulmonary Rehabilitation; Integrating Psychosocial Factors into Rehabilitation; and Exercise Prescription: Special Considerations. These reports are introduced by a call to shift from the traditional mechanistic physician-directed medical paradigm to one that is patient-centered, interdisciplinary, and considers the patient as a whole person, including not only biological factors but psychosocial and spiritual needs.

Since the aim of this book is integration of knowledge, the intended readers include all participants in the flow of knowledge-interactions in rehabilitation, including the patient, physician, psychologist, social worker, nurse, nutritionist, family, community, occupational therapist, respiratory therapist, physical therapist, exercise specialist, and pharmacist. However, only a small portion of the book would appeal to that broad audience. By and large this is a book written by physicians for other physicians who have similar world-views.

Perhaps reflective of the mechanistic, physician-directed medical paradigm, the book primarily addresses the “bio” portion of the “bio-psychosocial-spiritual” paradigm described by the editors in the first chapter. Only 2 of the 30 reports were categorized as psychosocial and they were disappointingly short and noncomprehensive. One addresses involvement of the partner in rehabilitation, and the other is a discussion of whether smoking cessation should be a

goal or prerequisite in pulmonary rehabilitation and did not actually address psychosocial issues. The report on maintenance of long-term rehabilitation completely overlooked the volume of literature on motivation and other theories that underlie cognitive and behavioral interventions that would advance our understanding of why certain interventions are more effective in promoting long-term adherence to rehabilitation. None of the reports discussed patients’ spiritual needs.

Although in the opening chapter the editors recommended an interdisciplinary approach to rehabilitation and they made a call to moving beyond secondary prevention, the psychosocial and spiritual needs of the patient were either omitted in the remaining chapters or were addressed quite superficially. This may be a reflection on the state of the science as well as the result of only token representation from disciplines that can speak more authoritatively and in depth about these important issues.

The editors pointed out at the beginning of the book that several important topics were left out; unfortunately, they did not share which these were. A few of the reports discussed the divergence of rehabilitation from health sciences into medical sciences and argued effectively that rehabilitation is more than secondary prevention and that a new concept of wholeness, of bringing the person to maximum functioning as a human being, should be adopted with an integrated approach. Certainly I agree with the idea of an integrated approach to rehabilitation and the need for multiple disciplines to work together and to place the patient at the center of that effort. What is interesting is the characterization of this approach as something new that would represent a paradigm shift; in fact it is not at all new for disciplines outside of medical sciences.

Back in the 1950s and 1960s public health education programs were actively promoting healthy behaviors, including disease prevention. In 1974 the Canadian Health Minister called for an expanded definition of health, beyond the medical model, beyond biology, to include attention to lifestyle, social, and physical environments, and health organizations and policies that impact health. Health care providers were urged to move from a model of treating the disease to illness-prevention and health promotion. In 1979

the United States Surgeon General adopted the "lifestyle theory of illness etiology." The mechanistic, physician-directed medical paradigm described by the editors inhibits advances in rehabilitation by ignoring advances in other disciplines.

Fortunately, a number of disciplines have traditionally approached human beings as complex, whole persons and do not share the mechanistic medical model that has a microscopic view of people through a disease or an organ. Some of these disciplines such as psychology, sociology, and theology have a vast body of knowledge on the "psychosocial-spiritual" aspects of the human being. Other health care disciplines, such as nursing, have a long history of integrating "biopsychosocial-spiritual" needs in the promotion of optimal health (a balance of physical, emotional, social, spiritual, and intellectual health) and do not focus only on the treatment of the disease.

The editors should be congratulated for their call for an openness to think more broadly about rehabilitation. The traditional topics of pharmacology, technology, exercise protocols and prescription, and physiologic abnormalities were well presented and offer a nice overview. However, since physicians were over-represented as contributors to the chapters, it was unlikely that there would be much depth of perspective from the disciplines that can advance the psychosocial-spiritual aspects of rehabilitation. The chapters addressed the usual topics in pulmonary rehabilitation, but the book falls short in moving towards the paradigm of integration.

This paperback book has a reasonable price and offers a quick reference on several cardiopulmonary rehabilitation issues. The text is easy to read and formatted much like journal articles, which adds familiarity for the reader. The incidence of typographic errors was low and the clarity of the illustrations was excellent. Overall this book is a useful beginning resource for health care professionals working in cardiopulmonary rehabilitation.

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Hyperbaric Surgery: Perioperative Care. Dirk Jan Bakker MD PhD and Frederick S Cramer MD, Editors. Flagstaff, Arizona: Best Publishing. 2002. Hard cover, illustrated, 459 pages, \$154.

When I first saw the title of this book I assumed it would be a treatise on anesthesia and surgery performed in the hyperbaric environment: an interesting but rare occurrence. Instead, though it does cover that topic, primarily the book is a broad overview of the history of hyperbaric oxygen (HBO) therapy and its modern indications.

The first chapter, by Dirk J Bakker, which provides a history of hyperbaric therapy, is a standout chapter. It summarizes the use of high ambient pressure, dating back to the 17th century, when Henshaw constructed a chamber in which environmental pressure could be manipulated: high pressure for treating acute diseases and low pressure for chronic ones. The modern era of hyperbaric therapy started in the 19th century, when compressed air was used to prevent the work environment from flooding during tunnel excavation and bridge tower construction in marshy ground. Men exiting the compressed air environment often suffered joint pain, spinal cord injury, or death (which became known as caisson disease, the bends, or decompression sickness). Investigations by Paul Bert in Paris revealed the cause to be in situ bubble formation caused by nitrogen supersaturation. It was recognized that recompression using air could cure this disease or at least reduce its mortality. Using animals, Bert showed that oxygen was also effective, although he didn't try it under pressure because he believed that at high concentrations it was toxic, even at 1 atmosphere. It was not until the 1930s that Behnke, working for the United States Navy, demonstrated in humans that using HBO at 2.8 atmospheres was highly effective and safe for decompression sickness.

In parallel with sharply focused investigations into its use for decompression sickness were several well-intentioned but misguided efforts to promote hyperbaric air, then oxygen therapy, for a variety of diseases for which there is neither evidence of efficacy nor rationale. The most dramatic example was a 60-foot diameter hyperbaric chamber built in 1928, outfitted with bedrooms, lounges, a library, and a smoking room.

Though some practitioners continued to promote HBO as a panacea, Behnke's work was followed by careful studies designed to

elucidate its physiologic, pharmacologic, and clinical effects. In the 1950s cardiac surgery in hyperbaric chambers was tried on both sides of the Atlantic in an attempt to prolong the safe period of total circulatory arrest. Though this was quickly supplanted by cardiopulmonary bypass, intermittent application (1-3 times daily) of HBO was shown to be effective as an adjunct to antibiotic and surgical therapy in gas gangrene (clostridial myonecrosis) and several other clinical situations in which tissue oxygen delivery is impaired. For example, HBO appears to be uniquely able to improve perfusion in tissues previously irradiated for cancer, which may then facilitate wound healing. Recent studies appear to indicate that HBO reduces the effects of ischemia-reperfusion injury in muscle flaps.

Undersea and hyperbaric medicine is evidence-based, and trained physicians can be credentialed by an American Board of Medical Specialties subspecialty board examination process. In that spirit, **Hyperbaric Surgery's** introduction promises evidence-based reviews, which, in addition to containing a good bit of personal observation and experience, it largely delivers.

There are chapters on most of the accepted indications for HBO, including chronic refractory osteomyelitis, osteoradionecrosis, soft tissue radiation injury, necrotizing soft tissue infections, crush injuries, and hypoxic non-healing wounds. Bakker's extensive experience with gas gangrene and mixed aerobic/anaerobic soft tissue infections remains an international "yardstick" in the management of these deadly diseases. There are chapters on the physiologic and pharmacologic effects of HBO, hyperbaric chamber design and safety, and the basic mechanisms underlying the effect of HBO on wound healing. A chapter on care of critically ill patients in the hyperbaric environment is the best review of its kind that I have seen. There is also a chapter on conditions (eg, thermal burns and frostbite) for which there is a rationale for HBO and supportive evidence but as yet no consensus as to whether HBO should be routinely used. Although there are sections dedicated to the nonsurgical indications of air embolism and decompression illness, the book lacks a chapter on carbon monoxide poisoning.

The authors include many eminent and well-published surgeons and investigators in the field of soft tissue infections, wound management, and radiation-induced tissue damage, such as Bakker, Thomas K Hunt, John