

# JAOA BOOK REVIEWS

## Guidelines for Cardiac Rehabilitation and Secondary Prevention Programs

By the American Association of Cardiovascular and Pulmonary Rehabilitation. 4th ed, 288 pp, \$54.00. ISBN: 978-0-7360-4864-4. Champaign, IL: Human Kinetics; 2004.

Heart disease, stroke, and other cardiovascular diseases (CVDs) are the main causes of hospitalization and death in the United States. In 2008, the rate of death from CVD was 244.8 per 100,000 US adults.<sup>1,2</sup> Many modifiable risk factors such as obesity, diabetes, hypertension, cholesterol, smoking, sedentary lifestyle, and poor nutritional habits lead to CVD.<sup>3</sup> Preventive care is an important approach to reducing the prevalence of CVD in the United States. For physicians with patients with CVD, secondary prevention is also an important part of the continuum of care.<sup>4</sup> The fourth edition of *Guidelines for Cardiac Rehabilitation and Secondary Prevention Programs* by the American Association of Cardiovascular and Pulmonary Rehabilitation contains information on this type of care, from exercise testing to nutrition and health care management. This updated edition includes new guidelines for risk stratification, risk factor management, patient education, behavior modification, considerations for special patient populations, and program administration. In addition, a review of dietary supplements and herbal medicine is presented for the first time.

*Guidelines for Cardiac Rehabilitation and Secondary Prevention Programs* was developed with a diverse group of writers, contributors, and reviewers. Included in this group are allopathic physicians, doctors of philosophy, registered dietitians, registered nurses, physical therapists, doctors of education, and exercise physiologists. The numerous authors are well synchronized by editor in chief Mark A.

Williams, PhD. The book is divided into 11 chapters, an appendix, and a reference section.

The first chapter, "The Integration of Cardiac Rehabilitation and Secondary Prevention," is a brief introduction to the importance of managing risk factors for CVD. The chapters also discuss the challenges and opportunities that we face against the epidemiology of CVD, including the identification of risk factors for CVD, the treatment of individuals with CVD, and the efficient implementation of cardiovascular rehabilitation programs.

Chapter 2, "The Cardiac Rehabilitation Continuum of Care," presents the role of rehabilitation from the physician's clinic to the cardiac rehabilitation facility to the patient's environment. Topics in this chapter include patient assessment, nutritional counseling, lipid management, hypertension management, smoking cessation, weight management, diabetes management, psychosocial management, physical activity counseling, and exercise training. For each topic, the authors present the evaluation, intervention, and expected outcomes.

The third chapter is titled "The Emergence of Nutrition and Plant-Based Diets in the Treatment and Prevention of Cardiovascular Disease." This chapter offers nutritional recommendations on the basis of epidemiologic studies and clinical evidence. The authors give some practical suggestions for helping patients move toward a more plant-based diet and counseling them on different nutrients such as fish oils, selenium, zinc, vitamins E and B, beta-carotene, antioxidants, isoflavone, and plant sterols. For example, physicians should encourage patients to go at their own pace when modifying their eating habits. In addition, physicians should suggest that patients keep their mind open to different cultural cuisines.

"Cardiac Rehabilitation in the Inpatient and Transitional Settings," the fourth chapter, offers great tools for patient assessment and valuable checklists for risk factor management. I found Figure 4.1 particularly helpful. This figure recommends a timeline for the rehabilitation process in the patient's continuum of care, from the hospital to the patient's home or facility. It is a user-friendly figure that could be used to help patients understand their rehabilitation process in terms of weeks. The figure also provides a good summary of topics covered in chapter 2, including the role of the clinical staff in the cardiac rehabilitation setting as well as the facilities and materials that are required for cardiac rehabilitation.

The fifth chapter, "Outpatient Cardiac Rehabilitation and Secondary Prevention," focuses on guidelines and checklists for cardiovascular risk stratification. The chapter is a guide to assessing and managing risk factors for CVD and for the stratification of risk during exercise. Risk stratification is a very important part of patient care because it helps physicians choose the right exercise evaluation or program and the proper treatment plan for patients.

Chapter 6 covers "Medical Evaluation and Exercise Testing," including different tools for evaluation and testing after a good assessment of risk stratification for CVD. This chapter gives a solid overview of the topics, especially for those who do not have an exercise physiology background. The authors present different exercises, stress testing protocols (from Balke to Bruce), and different modes of exercise (eg, bicycle ergometer, treadmill). A table lists each exercise protocol, making it easy for the reader to compare aspects of each exercise test, including metabolic equivalents, watts, and VO<sub>2</sub> (oxygen consumption per unit time) according

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to CVD functional class (I-IV).

As the saying goes, teach a man how to fish and he will be able to eat for the rest of his life. The title and topic of chapter 7 is "Education and Behavior Modification for Risk-factor Management." Educating our patients is the greatest gift that we can give them to ensure that they will understand our treatment plan. With better understanding, patients find it is easier to adhere to a treatment plan and work on behavioral changes. This chapter focuses on basic counseling skills, strategies to promote patient independence, theories of social learning, and readiness for change. Patient education is necessary to ensure that every goal set in this book is achieved.

"Modifiable Cardiovascular Disease Risk Factors," the eighth chapter in the book, is a large one. Smoking, abnormal lipid levels, hypertension, physical inactivity, psychosocial concerns, and weight management are addressed with detailed evaluation, treatment, and follow-up strategies. Readers will find valuable information in this chapter, which connects well with the information in the preceding chapters.

The ninth chapter, "Special Considerations," is the last clinical chapter. As the title of the chapter suggests, it addresses special considerations for cardiovascular rehabilitation. The authors explain the adjustments that must take place for certain patients,

including patients who underwent revascularization or valve surgery, patients with arrhythmias or a pacemaker, patients with heart failure, patients with cardiac transplantation, and patients with diabetes or pulmonary diseases. For a patient with both CVD and pulmonary disease, for example, physicians should consider the coexisting pathologic conditions by providing specific recommendations on the mode, frequency, intensity, and duration of exercise. Those recommendations should be made by taking into account the patient's pulmonary impairments such as shortness of breath, cough, and sputum production. Many patients have more than 1 pathologic condition, and it is important for physicians to establish a rehabilitation program that takes all diseases into consideration. The authors also explain considerations regarding age, race, culture, and sex. Patients deserve the best possible treatment regardless of their background or history, so it is important for physicians to understand how these factors can influence their care.

Chapters 10 ("Administrative Considerations") and 11 ("Management of Medical Problems and Emergencies") are about administrative concerns (which could be helpful for physicians who administer their clinics or hospital sections) and basic emergency and problem management approaches for the rehabilitation setting, respectively.

*Guidelines for Cardiac Rehabilitation and Secondary Prevention Programs* is an excellent resource with many summary tables, ready-to-copy forms (in the appendix), and concise information backed up by scientific evidence (documented in the references). I recommend this book for all physicians who are interested in building a better cardiovascular rehabilitation setting and for professors who teach cardiac rehabilitation.

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