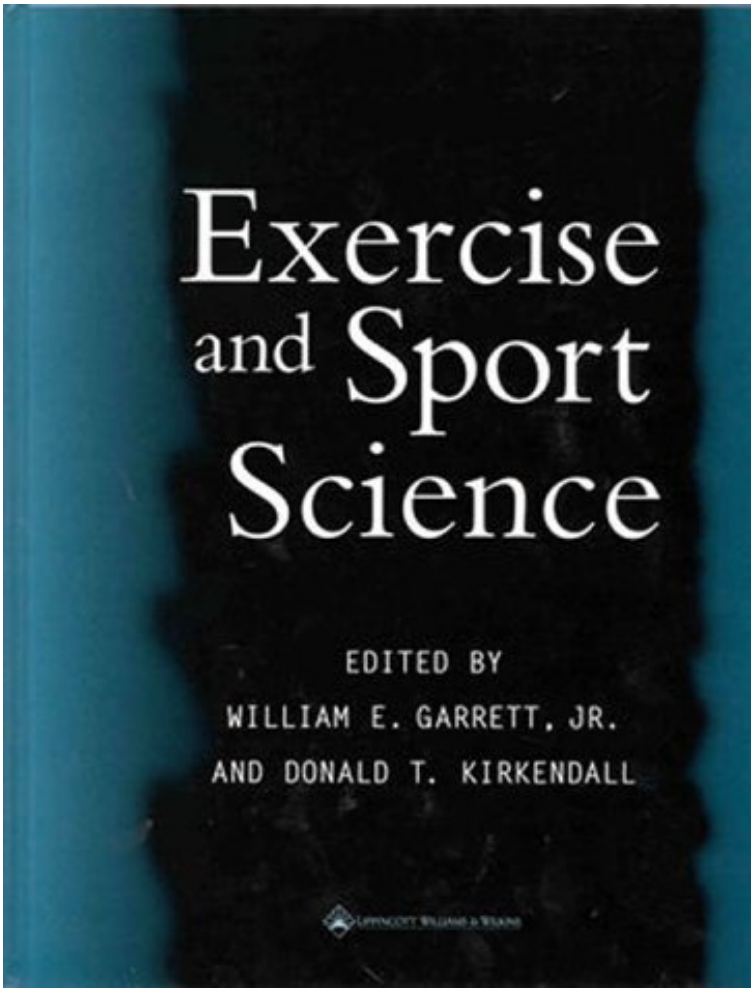
Exercise and Sport Science

William E. Garrett Jr. MD PhD, Donald T. Kirkendall PhD
**Download PDF | ePub | DOC | audiobook | ebooks*



#2772362 in Books 2000-01-15Ingredients: Example IngredientsOriginal language:EnglishPDF # 1 11.00 x 8.75 x 2.00l, #File Name: 0683034219980 pages | File size: 65.Mb

William E. Garrett Jr. MD PhD, Donald T. Kirkendall PhD : Exercise and Sport Science before purchasing it in order to gage whether or not it would be worth my time, and all praised Exercise and Sport Science:

Written by experts in exercise physiology, exercise science, and biomechanics, this volume focuses specifically on exercise science in relation to athletic performance and to the diagnosis, management, and prevention of athletic injuries. The text is logically organized into sections on energy metabolism, exercise physiology, organ system responses to exercise, general concerns in applied exercise science, sports biomechanics, and applied sports physiology.The biomechanics and sports physiology sections focus on particular sports, to determine specific diagnosis and treatment aspects. The book also includes chapters on exercise in children and the elderly,

environmental influences on physical performance, overtraining, chronobiology, and microgravity.

From The New England Journal of Medicine"Stop smoking, eat more fiber and less fat, and get more exercise" -- this is the physician's mantra of the millennium. What kind of exercise? How often? What's a good sport or exercise for me? A litany of questions comes from an increasingly sophisticated population fed on an intensive Internet diet. Sports medicine used to be fairly simple, a matter of taking care of injured athletes. No longer. We are expected to know not only that fluid replacement is important but also which fluid-replacement drink is the best. We know that osteoporosis causes problems and now, in the face of it, are expected to advise which exercises are the best and the most safe. We know that arthritis of the knee is common in older populations, but we also need to know which exercises might worsen this condition as well as which are safest. The more we advocate enhanced fitness and sports participation, the more we are expected to know about these activities. Garrett and Kirkendall provide the answers to these questions and many more in their book Exercise and Sport Science. At first glance, this is an intimidating book, both in size (980 pages) and in scope (61 chapters and 110 authors). The description of it as "the basic science component of a three-volume series" may prompt unpleasant memories of dry lectures on carbohydrate metabolism or formula-ridden treatises on biomechanics. Nothing could be further from the reality of this book. This is basic science with a purpose. It describes why diet is important in training and conditioning, how fatigue influences motor activity, and when to train for intermittent exercise. The section entitled "Systemic Exercise" covers all the organ systems, related aspects of molecular biology, infectious diseases, and the immune system. The chapter dealing with the skeleton addresses such topics as the role of genetics in exercise-based intervention programs and the practicalities of calcium nutrition. The section entitled "Applied Topics" includes a pragmatic chapter on drugs and ergogenic aids, a fascinating discussion of the roles of various diets and supplements, and chapters dealing with the influence of exercise on children and elderly people. The section called "Sports Biomechanics" takes the imaginative approach of examining generic activities common to many sports (for example, kicking, landing, overhead movements, and weight lifting). Although the chapters on kicking, running, and landing could be more liberally illustrated, the text is nonetheless easy to understand. The final section, "Applied Sports Physiology," deals with the demands of specific sports, such as basketball, cycling, ice hockey, and soccer. Most of the chapters in this section cover the idiosyncrasies of strength, anaerobic, and aerobic training associated with a particular activity, in some cases with detailed descriptions of specific training programs. A few drawbacks should be mentioned. Although osteoporosis, eating disorders, and the influence of hormones on health and fitness are all discussed, there is no chapter on women's health. In addition, a book of this importance -- and cost -- deserves a better cover and binding. It failed to survive my review. The breadth and depth of sports-science issues covered in this book are truly impressive. Even more impressive is the fact that the editors were able to enlist a group of international authors whose ability to write is equal to their expertise in their respective fields. The book should be on the shelf of any physician or institution that deals with athletes or fitness. With the ready accessibility of limitless information on the World Wide Web, it is increasingly difficult for physicians to stay ahead of their patients. This book will allow physicians to maintain that edge. James Garrick, M.D.