

Total Fitness

EXERCISE, NUTRITION, AND WELLNESS

SECOND EDITION



SCOTT K. POWERS • STEPHEN L. DODD

Second Edition

Total Fitness

**Exercise,
Nutrition, and
Wellness**

Scott K. Powers

Stephen L. Dodd

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Good health is our most precious possession. Although it is usually only in times of illness or injury that we really appreciate good health, more and more people are realizing that health is not simply the lack of disease. Indeed, there are degrees of health, or, to use the more popular phrase, degrees of “wellness” and it is now clear that lifestyle can have a major impact on our degree of wellness.

Like the first edition, this second edition is intended for an introductory college course in physical fitness and wellness and focuses upon how to alter one’s lifestyle to achieve a high degree of physical fitness and wellness. The two major aspects of our daily lives that most affect our level of wellness are exercise and diet. Hence, a major theme of this book is that exercise and diet interact and that both regular exercise and good nutrition are essential to achieve total fitness and wellness.

This text is an effort to provide clear and objective research-based information to college students during their first course in physical fitness and wellness. By providing a research based text we hope to dispel the many myths associated with exercise, nutrition, weight loss, and wellness. Further, we have attempted to provide a “how-to” approach for the evaluation of various wellness components such as fitness levels and nutritional status. We also describe ways to bring about a change in lifestyle (design a fitness program, alter food choices, etc.) which will lead to a higher degree of wellness. Indeed, the title of the book, “Total Fitness: Exercise, Nutrition, and Wellness” is indicative of the philosophy that to be completely fit, one must combine optimal physical activity and proper nutrition to achieve total fitness and wellness.

Why Another Text?

Numerous physical fitness and wellness texts are available today. Our motivation in writing the second edition of this text was to provide a “unique” physical fitness text that not only covers the primary concepts of physical fitness and wellness but also addresses important issues such as exercise-related injuries, exercise and the environment, and exercise for special populations that are often omitted from many texts. Further, in the second edition, we have refined a text that has a strong foundation in both exercise physiology and nutrition. We believe that the combination of the following components make this text unique:

Foundation in Exercise Physiology

First, we believe that it is imperative that a student have an understanding of the basic physiological adaptations which occur in response to both acute exercise and regular exercise training. Without this understanding, it will be impossible to plan, modify and properly execute a “lifetime” exercise program. As active researchers in exercise physiology, it was a challenge to present accurate and detailed information to adequately explain the physiological adaptations during exercise, yet convey this information to college students with limited science background. Based upon positive reviews by dozens of college students and college instructors, we believe that we have accomplished this formidable task.

Strong Emphasis on Nutrition

To discuss physical fitness and wellness without considering the interaction of exercise and good nutrition would be a serious mistake. While many texts present some nutrition information, we have put a major emphasis on a comprehensive coverage of basic nutrition and weight control by dedicating separate chapters to each. In addition, because we feel so strongly that the interaction of nutrition with exercise is important and, an understanding of one almost necessitates an understanding of the other, we have “weaved” a nutritional theme throughout the text. In each chapter, we have included information boxes entitled “*Nutritional Links to Fitness*” which give examples of how nutrition is related to the subject matter of that chapter. This is a unique feature that is not contained in current physical fitness and wellness texts.

Coverage of the Latest Scientific Research on Physical Fitness, Nutrition, and Wellness

We feel strongly that college physical fitness and wellness texts should contain the latest scientific information and include references for scientific studies to support key information about physical fitness, nutrition, or wellness. Without scientific references to support key statements, a text may become another source of opinion and speculation which leads to much misinformation in an already confused arena. Our approach has been to provide current scientific references to document the validity of our facts in every chapter. In addition, some of the material in each chapter is referenced with current reviews on the topic being covered to provide a broad-based source of material for those readers with an in-depth interest in a particular area. We have also provided a “suggested readings” list at the end of each chapter for the reader who wants an even more broad-based source of information.

In regard to new information, we have attempted to present the most current research in the fitness/wellness arena. For example, it is now clear that exercise plays a role in reducing the risk of some cancers, and contributes to a longer life.

While there has been speculation about this for years, supporting evidence has only recently become available. In the area of nutrition, scien-

tific data are now suggesting that there may be a new role for vitamins in preventing certain diseases and even in combating the aging process. In addition, while it is well accepted that fat in the diet increases our risk of heart disease, it has recently been shown that dietary fat plays a greater role in weight gain than other nutrients. These are but a few examples of how we have attempted to make this text current. However, with any attempt to present the latest information, there is always the risk of presenting ideas that are not fully substantiated by good research. We have made a concerted effort to avoid this pitfall by using research from highly respected scientific journals and consulting with colleagues who are experts in the field.

Layout and Features

While there are many ways in which textual material can be arranged, it was agreed that the best way to determine the book content would be to ask instructors. We met with focus groups from coast-to-coast in an attempt to determine the most important topics, most desirable layout, features, and supplements. Accordingly, we have included the following coverage, layout and features to enhance learning.

Coverage The text contains more material than can be covered in a typical 15-week semester. This is by design. The text is designed to be comprehensive in order to afford instructors a large degree of freedom to select the material they consider most important for the makeup of their class. The book begins (chapter 1) by defining the major concepts of the text (i.e., physical fitness, health-related fitness, wellness, etc.). One of the unique features of this book is that there is an early coverage of the “how-to” of evaluation early (chapter 2). This provides the opportunity to introduce classes to the practical portion of the material at the beginning of the term and to add other “lecture” topics later in the term. Chapters 3–6 serve as the core of the physical fitness portion of the text as they provide the foundation and techniques for developing exercise programs. Chapters 7 and 8 are dedicated to a comprehensive coverage of nutrition and diet/weight loss. As previously mentioned, the nutritional link to fitness is a common thread throughout the text.

Chapters 9–11 cover special considerations that are important to exercise programs (e.g. environmental issues, special populations, and injuries). The comprehensive coverage of these topics is a unique aspect to the text. Chapters 12–15 give extensive coverage to the “wellness” concepts. The ways in which heart disease, cancer, stress, sexually transmitted diseases, and drug abuse affect our level of wellness is discussed, as well as ways to modify your lifestyle to reduce the health risk from these problems. Finally, chapter 16 illustrates ways in which you can incorporate the concepts presented throughout the text into your lifestyle and make fitness a lifetime commitment.

Writing Style This text uses a writing style which is appropriate for students from all majors. Indeed, no course prerequisites are necessary for reading and understanding the text. Although the fitness concepts discussed in this text are based on scientific research, they are presented in a simple and straightforward style. Illustrations and examples are commonly used to clarify or further explain a concept.

Nutritional Focus The focus of the text stresses the importance of proper nutrition in maintaining physical fitness and wellness. To support this focus, the book contains a detailed chapter on nutrition as well as a chapter covering the relationship between diet, exercise, and weight control. Further, every chapter in the text contains “Nutritional Links to Fitness” boxes that provide additional nutritional knowledge.

Unique Topics This text contains several “unique” chapters not contained in all introductory fitness/wellness texts. For example, this book includes chapters on: a) exercise and the environment, b) exercise for special populations, and c) prevention and rehabilitation of exercise-related injuries. Further, in several chapters we have included an elementary discussion of the “physiology of exercise” designed to improve the students knowledge of how the body operates and responds to regular exercise.

References The latest scientific information has been incorporated into each chapter. Source citations are located in the text by number and a complete reference list is provided at the end of each chapter.

Informational “Boxes” All chapters contains informational boxes called “A Closer Look”

which are designed to add additional details or practical applications of topics covered in the text.

Examples Included in each chapter are practical examples to illustrate specific learning objectives.

Lab Exercises Most chapters contain “easy to follow” lab exercises that covering areas such as personal fitness testing, nutritional evaluations, cardiovascular risk assessment, etc..

Food Appendix Includes an appendix containing the caloric and nutrient content of common foods.

Pedagogical Aids Included are a host of pedagogical aids such as:

- Learning objectives at the beginning of each chapter
- Chapter Summaries
- Study Questions at the end of each chapter
- Suggested Readings at the end of each chapter
- Reference list at the end of each chapter
- Glossary
- Information boxes which highlight key ideas pertaining to the subject matter (entitled “*A Closer Look*”)
- Informational boxes which link the importance of nutrition to physical fitness (entitled “*Nutritional Links to Fitness*”).

Changes in the Second Edition

There are many changes and new additions to the second edition of this text. Notable changes include:

- New and revised “A Closer Look” boxes in many chapters (i.e. Surgeon General’s report on physical activity and health)
- New and revised “Nutritional Links to Fitness” in many chapters
- Many laboratories have been modified to improve clarity and facilitate student use
- Addition of the curl-up test for evaluation of abdominal muscle endurance (see Chapter 2)

- New and updated references in every chapter
- Every chapter has a suggested reading list on the World-wide web

Supplements

The following is a list of supplements included with this text:

Test Bank
Instructors Manual
Transparency Masters
Fitness Evaluation Software
Nutritional Evaluation Software

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first edition of this book. Elisa Adams deserves much credit for her tremendous insight into the subject matter and her unique editing skills. Carla Rivera-Pierola deserves credit for her reviews of both illustrations and supplements. As Senior series editor, Suzy Spivey made a significant contribution to the first edition of this book. Her organization, insight and encouragement were greatly appreciated. Recently, Joseph Burns has joined the book team as publisher. Joe's experience and enthusiasm for the second edition has resulted in many improvements of this edition of the text

There is also a long list of professionals whose reviews of the content and style have shaped every part of this book. We owe them a tremendous debt of gratitude:

Ken Sparks, Cleveland State University; Dave Rider, Bloomsburg University; Mike Manley, Anderson University; Barbara Konopka, Oakland Community College; Roy Wohl, Washburn University; Bridget Cobb, Northwestern State University; Randy Deere, Western Kentucky University; J. Dirk Nelson, Missouri State University; David Paul, Ohio State University; Donna Voth, Simpson College; and Lena Marie Cool, Kellogg Community College.

Lifestyle Assessment Inventory

NAME Brandis Trickett DATE 1-22-00

The purpose of this lifestyle assessment inventory is to increase your awareness of areas in your life that increase your risk of disease, injury, and possibly premature death. A key point to remember is that you have control over each of the lifestyle areas discussed.

Awareness is the first step in making change. After identifying the areas that require modification, use the behavior modification techniques presented in Chapter 14 to bring about positive lifestyle changes.

Directions

Put a check by each statement that applies to you.

A. Physical Fitness

- I exercise for a minimum of 20 to 30 minutes at least 3 days per week.
- I play sports routinely (2 to 3 times per week).
- I walk for 15 to 30 minutes (3 to 7 days per week).

B. Body Fat

- There is no place on my body where I can pinch more than 1 inch of fat.
- I am satisfied with the way my body appears.

C. Stress Level

- I find it easy to relax.
- I rarely feel tense or anxious.
- I am able to cope with daily stresses better than most people.

D. Car Safety

- I have not had an auto accident in the past 4 years.
- I always use a seat belt when I drive.
- I rarely drive above the speed limit.

E. Sleep

- I always get 7 to 9 hours of sleep.
- I do not have trouble going to sleep.
- I generally do not wake up during the night.