



ALTERNATE

SEVENTH EDITION

EDITION

Core Concepts and Labs in Physical Fitness and Wellness

Fit & Well

Thomas D. Fahey

Paul M. Insel

Walton T. Roth



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Physical Fitness and Wellness**

Alternate Edition

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Preface

For today's fitness-conscious student, *Fit and Well: Alternate Edition* combines the best of two worlds. In the area of physical fitness, *Fit and Well* offers expert knowledge based on the latest findings in exercise physiology and sports medicine, along with tools for self-assessment and guidelines for becoming fit. In the area of wellness, it offers accurate, current information on today's most important health-related topics and issues, again with self-tests and guidelines for achieving wellness. To create this book, we have drawn on our combined expertise and experience in exercise physiology, athletic training, personal health, scientific research, and teaching. This special Alternate edition contains the first 11 of the 15 chapters that appear in the full version of *Fit and Well*.

OUR AIMS

Our aims in writing this book can be stated simply:

- To show students that becoming fit and well greatly improves the quality of their lives
- To show students how they can become fit and well
- To motivate students to make healthy choices and to provide them with tools for change

The first of these aims means helping students see how their lives can be enhanced by a fit and well lifestyle. This book offers convincing evidence of a simple truth: To look and feel our best, to protect ourselves from degenerative diseases, and to enjoy the highest quality of life, we need to place fitness and wellness among our top priorities. *Fit and Well* makes clear both the imprudence of our modern, sedentary lifestyle and the benefits of a wellness lifestyle.

Our second aim is to give students the tools and information they need to become fit and well. This book provides students with everything they need to create personalized fitness programs, including instructions for fitness tests, explanations of the components of fitness and guidelines for developing them, descriptions and illustrations of exercises, sample programs, and more. In addition, *Fit and Well* provides accurate, up-to-date, scientifically based information about other key topics in wellness, including nutrition, weight management, stress, and cardiovascular health.

In providing this material, we have pooled our efforts. Thomas Fahey has contributed his knowledge as an exer-

cise physiologist, teacher, and author of numerous exercise science textbooks. Paul M. Insel and Walton T. Roth have contributed their knowledge of current topics in health as the authors of the leading personal health textbook, *Core Concepts in Health*.

Because we know this expert knowledge can be overwhelming, we have balanced the coverage of complex topics with student-friendly features designed to make the book accessible. Written in a straightforward, easy-to-read style and presented in a colorful, open format, *Fit and Well* invites the student to read, learn, and remember. Boxes, labs, tables, figures, artwork, photographs, and other features add interest to the text and highlight areas of special importance.

Our third aim is to involve students in taking responsibility for their health. *Fit and Well* makes use of interactive features to get students thinking about their current levels of physical fitness and wellness. We offer students assessment tools and laboratory activities to evaluate themselves in terms of each component of physical fitness and each major wellness area, ranging from cardiorespiratory endurance and muscular strength to heart disease.

We also show students how they can make difficult lifestyle changes by using the principles of behavior change. Chapter 1 contains a step-by-step description of this simple but powerful tool for change. The chapter not only explains the five-step process but also offers a wealth of tips for ensuring success. Behavior management aids, including personal contracts, behavior checklists, and self-tests, appear throughout the book. *Fit and Well's* combined emphasis on self-assessment, self-development in each area of wellness, and behavior change ensures that students are inspired to become fit and well and also have the tools to do so.

When students use these tools to make significant lifestyle changes, they begin to realize that they are in charge of their health—and their lives. From this realization comes a sense of competence and personal power. Perhaps our overriding aim in writing *Fit and Well* is to convey the fact that virtually everyone has the ability to understand, monitor, and make changes in his or her own levels of fitness and wellness. By making healthy choices from an early age, individuals may minimize the amount of professional medical care they will ever require. Our hope is that *Fit and Well* will help people make this exciting discovery: that they have the power to shape their future.

CONTENT AND ORGANIZATION OF THE SEVENTH EDITION

The basic content of *Fit and Well* remains unchanged in the seventh edition. Chapter 1 provides an introduction to fitness and wellness and explains the principles of behavior change. Chapters 2–7 focus on the various areas of fitness. Chapter 2 provides an overview, discussing the components of fitness, the principles of physical training, and the factors involved in designing a well-rounded, personalized exercise program. Chapter 3 provides basic information on how the cardiorespiratory system functions, how the body produces energy for exercise, and how individuals can create successful cardiorespiratory fitness programs. Chapters 4, 5, and 6 look at muscular strength and endurance, flexibility and low-back health, and body composition, respectively. Chapter 7 puts it all together, describing the nature of a complete program that develops all the components of fitness. This chapter also includes complete sample exercise programs.

Chapters 8, 9, and 10 treat three key areas of wellness promotion: nutrition, weight management, and stress management, respectively. It is in these areas that individuals have some of the greatest opportunities for positive change. Chapter 11 focuses on one of the most important reasons for making lifestyle changes: cardiovascular disease. Students learn the basic mechanisms of CVD, how it relates to lifestyle, and what individuals can do to prevent CVD.

For the seventh edition, each chapter was carefully reviewed, revised, and updated. The latest information from scientific and wellness-related research is incorporated in the text, and newly emerging topics are discussed. The following list gives a sample of some of the new and updated material included in the seventh edition of *Fit and Well*:

- Research on links between lifestyle and quality of life
- 2005 Dietary Guidelines for Americans and the USDA MyPyramid food guidance system
- Physical activity guidelines from the USDA, Surgeon General, ACSM, WHO, and other organizations
- Fitness training recommendations from the 2006 edition of ACSM's *Guidelines for Exercise Training and Prescription*
- Core muscle fitness and training with stability balls, resistance bands, and Pilates exercises
- Use of pedometers to track and increase activity levels
- Health problems associated with overweight and obesity, and popular approaches to weight loss (diets, supplements, prescription medications, and surgery)
- Trans fat labeling requirements
- Food safety

- Gender differences in cardiovascular disease
- Performance aids and dietary supplement safety and labeling issues
- Body image and eating disorders
- Preventing and managing low-back pain
- Nutrition for athletes
- Diabetes and pre-diabetes
- College stressors and coping methods
- Spiritual wellness
- Safety and emergency preparedness

Research in the areas of health and wellness is ongoing, with new discoveries, advances, trends, and theories reported nearly every week. For this reason, no wellness book can claim to have the final word on every topic. Yet, within these limits, *Fit and Well* does present the latest available information and scientific thinking on important wellness topics. Taken together, the chapters of the book provide students with a complete, up-to-date guide to maximizing their well-being, now and throughout their lives.

WW To help students obtain the most current wellness information, each chapter in the seventh edition is also closely tied to the Web site developed as a companion to the text. Boxes, illustrations, tables, labs, terms, and sections of text marked with the World Wide Web icon have corresponding links and activities on the *Fit and Well* Online Learning Center (www.mhhe.com/fahey).

FEATURES OF THE SEVENTH EDITION

This edition of *Fit and Well* builds on the features that attracted and held our readers' interest in previous editions. These features are designed to help students increase their understanding of the key concepts of wellness and to make better use of the book.

Laboratory Activities

To help students apply the principles of fitness and wellness to their lives, *Fit and Well* includes **laboratory activities** for classroom use. These hands-on activities give students the opportunity to assess their current level of fitness and wellness, to create plans for changing their lifestyle to reach wellness, and to monitor their progress. They can assess their daily physical activity, for example, or their level of cardiorespiratory endurance; they can design a program to improve muscular strength or meet weight-loss goals; and they can explore their risk of developing cardiovascular disease. Many labs end with a Using Your Results section, which guides students in evaluating their scores, setting goals for change, and moving forward. Labs are found at the end of each chapter; they are perforated for easy removal.

WW The laboratory activities are also found in an interactive format on the *Fit and Well* Online Learning Center. For a complete list of laboratory activities, see pp. ix–x in the table of contents.

Illustrated Exercise Sections

To ensure that students understand how to perform important exercises and stretches, *Fit and Well* includes three **illustrated exercise sections**, one in Chapter 4 and two in Chapter 5. The section in Chapter 4 covers exercises for developing muscular strength and endurance, as performed both with free weights and on weight machines. One section in Chapter 5 presents stretches for flexibility, and the other presents exercises to stretch and strengthen the lower back. Each exercise is illustrated with one or more full-color photographs showing proper technique.



Digital video clips of the exercises from the text and key lab activities are found on the *Fit and Well* Online Learning Center. Look for the video icon in the text to find out when to look online for corresponding video clips.

Sample Programs

To help students get started, Chapter 7 offers seven complete **sample programs** designed to develop overall fitness. The programs are built around four popular cardiorespiratory endurance activities: walking/jogging/running, bicycling, swimming, and in-line skating. Each program includes detailed information and guidelines on equipment and technique; target intensity, duration, and frequency; calorie cost of the activity; record keeping; and adjustments to make as fitness improves. They also include strength training and stretching exercises. The chapter also includes general guidelines for putting together a personal fitness program: setting goals; selecting activities; setting targets for intensity, duration, and frequency; maintaining a commitment; and recording and assessing progress.

Boxes

Boxes are used in *Fit and Well* to explore a wide range of current topics in greater detail than is possible in the text itself. Boxes fall into five categories, each marked with a special icon and label.



Take Charge boxes distill from the text the practical advice students need to apply information to their lives. By referring to these boxes, students can easily find information about such topics as becoming more active, rehabilitating athletic injuries, exercising in hot weather, adding whole-grain foods to the diet, judging serving sizes, helping a friend who has an eating disorder, managing anger, boosting motivation for behavior change, and many others.



Critical Consumer boxes are designed to help students develop and apply critical thinking skills, thereby enabling them to make sound choices related to health and well-being. Critical Consumer boxes provide specific guidelines for choosing a fitness center and exercise footwear and equipment; for evaluating health information, diet pills and aids, and supplements; and for using food labels and dietary supplement labels to make informed dietary choices.



Dimensions of Diversity boxes focus on the important theme of diversity. Most wellness issues are universal; we all need to exercise and eat well, for example. However, certain differences among people—based on gender, educational attainment, socioeconomic status, ethnicity, age, and other factors—do have important implications for wellness. Dimensions of Diversity boxes give students opportunities to identify special wellness concerns that affect them because of who they are, as individuals or as members of a group. Topics of Dimensions of Diversity boxes include fitness for people with disabilities, gender differences in muscular strength, gender and ethnic differences in body image, and ethnic foods.



Wellness Connection boxes highlight important links among the different dimensions of wellness—physical, emotional, social/interpersonal, intellectual, spiritual, and environmental—and emphasize that all the dimensions must be developed for an individual to achieve optimal health and well-being. Topics include the effects of exercise on mental functioning, paths to spiritual wellness, expressive writing, and hostility and heart disease.



In Focus boxes highlight current topics and issues of particular interest to students. These boxes focus on such topics as the importance of lifestyle for young adults, exercise safety, exercise machines versus free weights, diabetes, fitness and fatness, popular diets, and glycemic index.

Vital Statistics

Vital Statistics tables and figures highlight important facts and figures in an accessible format. From tables and figures marked with the Vital Statistics label, students learn about such matters as the leading causes of death for Americans and the factors that play a part in each cause; the relationship between lifestyle and quality of life; public health achievements of the twentieth century; and a wealth of other information. For students who learn best when material is displayed graphically or numerically, Vital Statistics tables and figures offer a way to grasp information quickly and directly.

Common Questions Answered

Sections called **Common Questions Answered** appear at the ends of Chapters 2–11. In these student-friendly sections, the answers to frequently asked questions are presented in easy-to-understand terms. Included are such questions as, Do I need more protein in my diet when I train with weights? How can I safely increase exercise intensity? What is core strength training? Is stretching the same as warming up? and How can I tell if I'm allergic to a food? Answers to additional questions can be found on the Online Learning Center.

Motivation for Change

Motivation for Change sections provide strategies for beginning a behavior change program and maintaining healthy new habits over time. Motivation for Change strategies focus on such key aspects of behavior change as building self-efficacy, finding role models and social support, overcoming obstacles and lapses, changing environmental cues, giving rewards, and tracking program progress. These sections appear at appropriate points throughout each chapter.

Tips for Today

Chapter-ending **Tips for Today** sections provide a brief distillation of the major message of each chapter, followed by suggestions for a few simple things that students can try right away. Tips for Today are designed to encourage students and to build their confidence by giving them easy steps they can take immediately to improve their wellness.

Quick-Reference Appendixes

Included at the end of the book are four appendixes containing vital information in an easy-to-use format. **Appendix A, Injury Prevention and Personal Safety**, is a reference guide to preventing common injuries, whether at home, at work, at play, or on the road. It also provides information on emergency preparedness and on giving emergency care when someone else's life is in danger.

Appendix B, Nutritional Content of Common Foods, allows students to assess their daily diet in terms of 11 nutrient categories, including protein, fat, saturated fat, fiber, cholesterol, and sodium. **Appendix C, Nutritional Content of Popular Items from Fast-Food Restaurants**, provides a breakdown of the nutritional content of commonly ordered menu items at popular fast-food restaurants.

Appendix D, Monitoring Your Progress, is a log that enables students to record and summarize the results of the assessment tests they complete as part of the laboratory activities. With space for preprogram and postprogram assessment results, the log provides an easy way to track the progress of a behavior change program.

Built-in Behavior Change Workbook

The built-in **Behavior Change Workbook** contains 15 separate activities that complement the lifestyle management model presented in Chapter 1. The workbook guides students in developing a successful program by walking them through each of the steps of behavior change—from choosing a target behavior to completing and signing a contract. It also includes activities to help students overcome common obstacles to behavior change. The workbook is also found on the Online Learning Center.

OTHER FEATURES AND LEARNING AIDS

At the beginning of each chapter, under the heading **Looking Ahead**, five or six statements preview the main points of the chapter for the student and serve as learning objectives. Each chapter also opens with **Test Your Knowledge**—three multiple-choice and true-false questions, with answers. These self-quizzes facilitate learning by emphasizing key points, highlighting common misconceptions, and sparking debate. Within each chapter, important terms appear in boldface type and are defined on the same or facing page of text in a **running glossary**, helping students handle new vocabulary.

Other features and learning aids are found at the end of each chapter. **Chapter summaries** offer students a concise review and a way to make sure they have grasped the most important concepts in the chapter. **For Further Exploration** sections offer suggestions for using the free student supplements that accompany the text—the Online Learning Center and the Daily Fitness and Nutrition Journal—to build fitness and wellness. These sections also list recommended books, newsletters, organizations, hotlines, and Web sites.

For more on the features of the book, refer to the illustrated **User's Guide to *Fit and Well***, found on pp. xvii–xx.

TEACHING TOOLS

Available with the seventh edition of *Fit and Well* is a comprehensive package of supplementary materials designed to enhance teaching and learning.

Instructor's Resource CD-ROM (ISBN 0-07-302983-1)

The Instructor's Resource CD-ROM combines major electronic resources offered with the seventh edition of *Fit and Well*.

- The **Course Integrator Guide** includes learning objectives, extended chapter outlines, lists of additional resources, and many other teaching tools. It also describes all the print and electronic

supplements available with the text and shows how to integrate them into lectures and assignments for each chapter. For the seventh edition, the guide was prepared by Julie Lombardi, Millersville University.

- One hundred **Additional Laboratory Activities** supplement the labs that are included in the text. These additional labs are also available to students on the Online Learning Center.
- The **test bank** includes more than 1500 true-false, multiple-choice, and essay questions. The questions are available as Word files and with the **EZ Test computerized testing software**. EZ Test provides a powerful, easy-to-use test maker to create printed quizzes and exams. For secure online testing, exams created in EZ Test can be exported to WebCT, Blackboard, PageOut, and EZ Test Online. EZ Test comes with a Quick Start Guide, and once the program is installed, users have access to a User's Manual and Flash tutorials. Additional help is available online at www.mhhe.com/eztest.
- The **PowerPoint slides**, expanded for the seventh edition, provide a lecture tool that you can alter or expand to meet the needs of your course. The slides include key lecture points and images from the text and other sources. For the seventh edition, the PowerPoint presentations were created by Andrew Shim, Indiana University of Pennsylvania. As an aid for instructors who wish to create their own presentations, a complete **image bank**, including all the illustrations from the text, is also available on the Instructor's CD-ROM.

Printed versions of key supplements—the Course Integrator Guide, Additional Labs, and test bank—are also available (ISBN 0-07-302982-3). The printed supplements are loose-leaf and three-hole-punched, ready to be placed in a binder.

Resource Presentation Manager DVD-ROM

(ISBN 0-07-302986-6)

This DVD-ROM is a presentation tool of videos correlated to *Fit and Well*. It is designed to help you demonstrate proper training techniques, engage students in class discussions, and promote critical thinking about fitness and wellness topics. The video library contains demonstrations of many strength training and flexibility exercises as well as student interviews and historical health videos on nutrition, body image, stress, and many other topics. Videos can be viewed from the DVD-ROM, saved to a playlist for later viewing, or downloaded to a computer. For many clips, an Instructor's Guide is available with objectives, pre-viewing critical thinking questions, and suggested follow-up discussion questions.

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Primis Online is a database-driven publishing system that allows instructors to create customized textbooks, lab manuals, or readers for their courses directly from the Primis Web site. The custom text can be delivered in print or electronic (eBook) form. A Primis eBook is a digital version of the customized text sold directly to students as a file downloadable to their computer or accessed online by password. *Fit and Well* can be customized using Primis Online.

Digital Solutions

The *Fit and Well Online Learning Center* (www.mhhe.com/fahey) provides many resources for both instructors and students. Instructor tools include downloadable versions of the Course Integrator Guide and the PowerPoint slides, links to professional resources, and a guide to using the Internet. For students, there are learning objectives, self-quizzes and glossary flashcards for review, interactive Internet activities, video clips of correct training techniques, and extensive links. The Online Learning Center also includes many tools for wellness behavior change, including interactive versions of the Behavior Change Workbook as well as lab activities from the text and additional labs from the Course Integrator Guide. Through the Online Learning Center, students can also access **PowerWeb** (www.dushkin.com/online) resources, including articles on key wellness topics, study tips, and a daily news feed.

The **Online Lab and Assessment Workbook**, developed in collaboration with Quia™, offers an electronic version of labs, assessments, and quizzes compiled from the text and its main supplements. This online supplement provides students with interactive labs and assessments, self-scoring quizzes, and instant feedback. Benefits for instructors include a grade book that automatically scores, tracks, and records students' results; it also offers instructors the opportunity to review individual and class performance and customize activities for their course. To find out more about the Quia™ Online Lab and Assessment Workbook, including how you can package it with *Fit and Well*, contact your local sales representative.

Classroom Performance System (CPS) brings interactivity into the classroom or lecture hall. CPS is a wireless response system that gives instructors and students immediate feedback from the entire class. Each student uses a wireless response pad similar to a television remote to instantly respond to polling or quiz questions. Contact your local sales representative for more information about using CPS with *Fit and Well*.

PageOut (www.pageout.net) is a free, easy-to-use program that enables instructors to quickly develop Web sites for their courses. PageOut can be used to create a course home page, an instructor home page, an interactive syllabus that can be linked to elements in the Online

Learning Center, Web links, online discussion areas, an online grade book, and much more. Instructors can combine Online Learning Center resources with popular **course-management systems**. The McGraw-Hill Instructor Advantage program offers access to a complete online teaching Web site called the Knowledge Gateway, toll-free phone support, and unlimited e-mail support directly from WebCT and Blackboard. Instructors who use 500 or more copies of a text can enroll in the Instructor Advantage Plus program, which provides on-campus, hands-on training from a certified platform specialist.

For more information about McGraw-Hill's digital resources, including how to obtain passwords for PageOut and PowerWeb, contact your local representative and visit McGraw-Hill online (www.mhhe.com/solutions).

Student Resources Available with *Fit and Well*

In addition to the materials on the Online Learning Center, there are many resources available with *Fit and Well* designed to help students learn and apply key concepts.

- The **Daily Fitness and Nutrition Journal** (ISBN 0-07-302988-2) is a handy booklet that guides students in planning and tracking their fitness programs. It also helps students assess their current diet and make appropriate changes. It is packaged free with each new copy of the text.
- The **Health and Fitness Pedometer** (ISBN 0-07-320933-3) can be packaged with copies of the text. It allows students to count their daily steps and track their level of physical activity.
- **NutritionCalc Plus** (ISBN 0-07-319532-4) is a dietary analysis program with an easy-to-use interface that allows users to track their nutrient and food group intakes, energy expenditures, and weight control goals. It generates a variety of reports and graphs for analysis, including comparisons with the Dietary Reference Intakes. The ESHA database includes thousands of ethnic foods, supplements, fast foods, and convenience foods; users can also add foods to the database. NutritionCalc Plus is available on CD-ROM (Windows only) or in an Internet version.
- **HealthQuest 4.2** (ISBN 0-07-295117-6) is an interactive CD-ROM that helps students explore their wellness behavior. It includes tutorials, assessments, and behavior change guidance in such key areas as stress, fitness, nutrition, communicable diseases, cardiovascular disease, cancer, tobacco, alcohol, and other drugs.

Additional supplements and many packaging options are available; check with your local sales representative.

A NOTE OF THANKS

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Academic Reviewers of the Seventh Edition

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A User's Guide to *Fit and Well*

Are you looking for ways to improve your lifestyle and become fit and well? Do you need help finding reliable wellness resources online? Would you like to boost your grade? *Fit and Well* can help you do all this and much more!


LABORATORY ACTIVITIES

These hands-on self-assessments help you determine your current level of wellness and create plans for making positive changes in your lifestyle. Lab activities are included at the end of every chapter on easy-to-use perforated pages.

Ww FIT AND WELL ONLINE LEARNING CENTER (www.mhhe.com/fahey)

Look for the World Wide Web icon throughout the text. Elements marked with the icon have corresponding activities and links on the *Fit and Well* Online Learning Center. The lab activities can be found online in an interactive format.

Name _____ Section _____ Date _____

 **LAB 2.4 Using a Pedometer to Track Physical Activity** Ww

How physically active are you? Would you be more motivated to increase daily physical activity if you had an easy way to monitor your level of activity? If so, consider wearing a pedometer to track the number of steps you take each day—a rough but easily obtainable reflection of daily physical activity.

Determine Your Baseline
Wear the pedometer for a week to obtain a baseline average daily number of steps.

	M	T	W	Th	F	Sa	Su	Average
Steps								

Set Goals
Set an appropriate goal for increasing steps. The goal of 10,000 steps per day is widely recommended, but your personal goal should reflect your baseline level of steps. For example, if your current daily steps are far below 10,000, a goal of walking 2000 additional steps each day might be appropriate. If you are already close to 10,000 steps per day, choose a higher goal. Also consider the physical activity goals in the 2005 Dietary Guidelines.

- To reduce the risk of chronic disease, aim to accumulate at least 30 minutes of moderate physical activity per day.
- To help manage body weight and prevent gradual, unhealthy weight gain, engage in 60 minutes of moderate-to-vigorous-intensity activity on most days of the week.
- To sustain weight loss, engage daily in at least 60–90 minutes of moderate-intensity physical activity.

To help gauge how close you are to meeting these time-based physical activity goals, you might walk for 10 or 15 minutes while wearing your pedometer to determine how many steps correspond with the time-based goals from the Dietary Guidelines.

Once you have set your overall goal, break it down into several steps. For example, if your goal is to increase daily steps by 2000, set mini-goals of increasing daily steps by 500, allowing 2 weeks to reach each mini-goal. Smaller goals are easier to achieve and can help keep you motivated and on track. Having several interim goals also gives you the opportunity to reward yourself more frequently. Note your goals below.

Mini-goal 1: _____ Target date: _____ Reward: _____
 Mini-goal 2: _____ Target date: _____ Reward: _____
 Mini-goal 3: _____ Target date: _____ Reward: _____
 Overall goal: _____ Target date: _____ Reward: _____

Develop Strategies for Increasing Steps
What can you do to become more active? Your text includes a variety of suggestions, including walking when you do errands, getting off one stop down the line from your destination on public transportation, parking an extra block or two away from your destination, and doing at least one chore every day that requires physical activity. If weather or neighborhood safety is an issue, look for alternative locations to walk. For example, find an indoor gym or shopping mall or even a long hallway. Check out locations that are near or on the way to your campus, workplace, or residence. If you think walking indoors will be dull, walk with friends or family members or wear headphones (if safe) and listen to music or books on tape.

Are there any days of the week for which your baseline steps are particularly low and/or it will be especially difficult because of your schedule to increase your number of steps? Be sure to develop specific strategies for difficult situations.

www.mhhe.com/fahey Lab 2.4 Using a Pedometer to Track Physical Activity 57

Below, list at least five strategies for increasing daily steps:

Track Your Progress
Based on the goals you set, fill in your goal portion of the progress chart with your target average daily steps for each week. Then wear your pedometer every day and note your total daily steps. Track your progress toward each mini-goal and your final goal. Every few weeks, stop and evaluate your progress. If needed, adjust your plan and develop additional strategies for increasing steps. In addition to the chart in this worksheet, you might also want to graph your daily steps to provide a visual reminder of how you are progressing toward your goals. Make as many copies of this chart as you need.

Week	Goal	M	Tu	W	Th	F	Sa	Su	Average
1									
2									
3									
4									

Progress Checkup
How close are you to meeting your goal? How do you feel about your program and your progress?

If needed, describe changes to your plan and additional strategies for increasing steps:

Week	Goal	M	Tu	W	Th	F	Sa	Su	Average
5									
6									
7									
8									

Progress Checkup
How close are you to meeting your goal? How do you feel about your program and your progress?

If needed, describe changes to your plan and additional strategies for increasing steps:

Week	Goal	M	Tu	W	Th	F	Sa	Su	Average
9									
10									
11									
12									

Progress Checkup
How close are you to meeting your goal? How do you feel about your program and your progress?

If needed, describe changes to your plan and additional strategies for increasing steps:

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TAKE CHARGE BOXES

Take Charge boxes, found throughout the text, provide practical advice that you can apply to your everyday life.

TIPS FOR TODAY

Tips for Today sections, found at the end of each chapter, provide a brief summary of the major message of the chapter, followed by suggestions for a few easy steps you can try right away to improve your level of wellness.

Motivation Boosters

- Write down the potential benefits of the change. If you want to lose weight, your list might include increased ease of movement, energy, and self-confidence.
- Now write down the costs of not changing.
- Frequently visualize yourself achieving your goal and enjoying its benefits. If you want to manage time more effectively, picture yourself as a confident, organized person who systematically tackles important tasks and sets aside time each day for relaxation, exercise, and friends.
- Discount obstacles to change. Counter thoughts such as "I'll never have time to exercise" with thoughts such as "Lots of other people have done it and so can I."
- Bombard yourself with propaganda. Take a class dealing with the change you want to make. Read books and watch talk shows on the subject. Post motivational phrases or pictures on your refrigerator or over your desk. Talk to people who have already made the change you want to make.

- Build up your confidence. Remind yourself of other goals you've achieved. At the end of each day, mentally review your good decisions and actions. See yourself as a capable person, one who is in charge of his or her health.
- Create choices. You will be more likely to exercise every day if you have two or three types of exercise to choose from and more likely to quit smoking if you've identified more than one way to distract yourself when you crave a cigarette. Get ideas from people who have been successful and adapt some of their strategies to suit you.
- If you slip, keep trying. Research suggests that four out of five people will experience some degree of backsliding when they try to change a behavior. Only one in four succeeds the first time around. If you retain your commitment to change even when you lapse, you are still farther along the path to change than before you made the commitment.

Being Fit and Well for Life

Your first attempts at making behavior changes may never go beyond the project stage. Those that do may not all succeed. But as you experience some success, you'll start to have more positive feelings about yourself. You may discover new physical activities and sports you enjoy; you may encounter new situations and meet new people. Perhaps you'll surprise yourself by accomplishing things you didn't think were possible—breaking a long-standing inactive habit, competing in a race, climbing a mountain, developing a lean, muscular body. Most of all, you'll discover the feeling of empowerment that comes from taking charge of your health (see the box "Signs of Wellness"). Being healthy takes extra effort, but the paybacks in energy and vitality are priceless.

Once you've started, don't stop. Assume that health improvement is forever. Take on the easier problems first, and then use what you learn to tackle more difficult problems later. Periodically review what you've accomplished to make sure you don't fall into old habits. And keep informed about the latest health news and trends. Research is constantly providing new information that directly affects daily choices and habits.

This book will introduce you to the main components of a fit and well lifestyle, show you how to assess your current health status, and help you put together a program that will lead to wellness. You can't control every aspect of your health—there are too many unknowns in life for that to be possible. But you can create a lifestyle that minimizes your health risks and maximizes your enjoyment of life and well-being. You can take charge of your health in a dramatic and meaningful way. Fit and Well will show you how.

Tips for Today

You are in charge of your health. Many of the decisions you make every day have an impact on the quality of your life, both now and in the future. By making positive choices, large and small, you help ensure a lifetime of wellness.

Right now you can

- Go for a 15-minute walk.
- Have an orange, a nectarine, or a plum for a snack.
- Call a friend and arrange for a time to catch up with each other.
- Start thinking about whether you have a health behavior you'd like to change. If you do, consider the elements of a behavior change strategy. For example:
 - Begin a mental list of the pros and cons of the behavior.
 - Create a format for a log to monitor your target behavior.
 - Think of someone who can support you in your attempts to make a behavior change and talk to that person about your plan.

SUMMARY

- Wellness is the ability to live life fully, with quality and meaning. Wellness is dynamic and multidimensional; it incorporates physical, emotional, intellectual, spiritual, interpersonal and social, and environmental dimensions.
- People today have greater control over, and greater responsibility for, their health than ever before.
- Behaviors that promote wellness include being physically active, choosing a healthy diet, maintaining a healthy

	Cardiorespiratory endurance training	Strength training	Flexibility training
Frequency	3–5 days per week	2–3 nonconsecutive days per week	2–3 days per week (minimum); 5–7 days per week (ideal)
Intensity	55%–90% of maximum heart rate	Sufficient resistance to fatigue muscles	Stretch to the point of tension
Time	20–60 minutes in sessions lasting 10 minutes or more	8–12 repetitions of each exercise, 1 or more sets	2–4 repetitions of each exercise, held for 15–30 seconds
Type	Continuous rhythmic activities using large muscle groups	Resistance exercises for all major muscle groups	Stretching exercises for all major joints

Figure 7.2 A summary of the FITT principle for the health-related components of fitness

be more appropriate than a jogging program. Activities in which participants control the intensity of effort—walking, cycling, and swimming, for example—are more appropriate for a beginning fitness program than sports and activities that are primarily "other paced"—soccer, basketball, and tennis, for example. Refer to the fitness prerequisite column of Table 7.1 to determine the minimum level of fitness required for participation in the activities you're considering. However, staying active is the most important thing. If you like to play tennis but don't like to take walks or jog, then play tennis.

- **Time and convenience.** Unless exercise fits easily into your daily schedule, you are unlikely to maintain your program over the long term. As you consider activities, think about whether a special location or facility is required. Can you participate in the activity close to your residence, school, or job? Are the necessary facilities open and available at times convenient to you (see Lab 7.2)? Do you need a partner or a team to play? Can you participate in the activity year-round, or will you need to find an alternative during the summer or winter? Would a home treadmill make you more likely to exercise regularly?

- **Cost.** Some sports and activities require equipment, fees, or some type of membership investment. If you are on a tight budget, limit your choices to activities that are inexpensive or free. Investigate the facilities on your campus, which you may be able to use at little or no cost. Many activities require no equipment beyond an appropriate pair of shoes (see the box "Choosing Exercise Footwear" for more information). Refer back to Chapters 2 and 3 for consumer guidelines for evaluating exercise equipment and facilities.

Terms

calorie cost. The amount of energy used to perform a particular activity, usually expressed in calories per minute per pound of body weight

- **Special health needs.** If you have special exercise needs due to a particular health problem, choose activities that will conform to your needs and enhance your ability to cope. If necessary, consult your physician about how best to tailor an exercise program to your particular needs and goals. Guidelines and safety tips for exercisers with common chronic conditions are provided later in the chapter.

MOTIVATION FOR CHANGE To add variety and enjoyment to your workouts and to boost your motivation, try exercising to music. Researchers have found that working out to music can boost mood and even keep people working out longer and harder without feeling like they are expending extra effort. Just make sure that music provides a safe distraction and doesn't increase your risk of injury; for example, don't wear headphones while walking, jogging, or cycling on the street.

3. Set a Target Frequency, Intensity, and Time (Duration) for Each Activity

The next step is to apply the FITT principle and set a starting frequency, intensity, and time (duration) for each type of activity you've chosen (see the summary in Figure 7.2 and the sample in Figure 7.1). Refer to the calculations and plans you completed in Chapters 3, 4, and 5.

Cardiorespiratory Endurance Exercise. An appropriate frequency for cardiorespiratory endurance exercise is 3–5 times per week. For intensity, note your target heart rate zone or RPE value. Your target total workout time (duration) should be about 20–60 minutes, depending on the intensity of the activity (shorter durations are appropriate for high-intensity activities, longer durations for activities of more moderate intensity). You can exercise in a single session or in multiple sessions of 10 or more minutes. One way to check whether the total duration you've set is appropriate is to use the **calorie cost** (calories per minute per pound of body weight).

MOTIVATION FOR CHANGE

Motivation for Change sections provide strategies for beginning a behavior change program and maintaining new healthy habits over time.

RUNNING GLOSSARY

Important terms appear in boldface type in the text and are defined in a running glossary on the same or facing page. A pronunciation guide to the glossary terms is found on the Online Learning Center.

Critical Consumer boxes help you develop and apply critical thinking skills so you can make sound choices related to wellness. Additional resources for each Critical Consumer topic are found on the *Fit and Well* Online Learning Center.

USER'S GUIDE

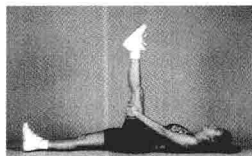
EXERCISE 10 MODIFIED HURLER STRETCH (SEATED SINGLE-TOE TOUCH)

Areas stretched: Back of the thigh (hamstring), lower back.
Instructions: Sit with your left leg straight and your right leg tucked close to your body. Reach toward your left foot as far as possible. Repeat for the other leg.
Variation: As you stretch forward, alternately flex and point the foot of your extended leg.



EXERCISE 11 ALTERNATE LEG STRETCHER

Areas stretched: Back of the thigh (hamstring), hip, knee, ankle, buttocks.
Instructions: Lie flat on your back with both legs straight. (a) Grasp your left leg behind the thigh, and pull it in to your chest. (b) Hold this position, and then extend your left leg toward the ceiling. (c) Hold this position, and then bring your left knee back to your chest and pull your toes toward your shin with your left hand. Stretch the back of the leg by attempting to straighten your knee. Repeat for the other leg.
Variation: Perform the stretch on both legs at the same time.



(b)



(c)

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SAMPLE EXERCISE PROGRAMS

Illustrated exercise programs in Chapters 4 and 5 show proper technique for exercises and stretches that develop muscular strength and endurance, flexibility, and low-back health; video clips of the exercises can be found on the Online Learning Center. The complete sample fitness programs in Chapter 7 are built around popular endurance activities such as walking, jogging, cycling, and swimming.

SAMPLE PROGRAMS FOR POPULAR ACTIVITIES

Sample programs based on four different types of cardiorespiratory activities—walking/jogging/running, bicycling, swimming, and in-line skating—are presented below. Each sample program includes regular cardiorespiratory endurance exercise, resistance training, and stretching. To choose a sample program, first compare your fitness goals with the benefits of the different types of endurance exercise featured in the sample programs (see Table 7.1). Identify the programs that meet your fitness needs. Next, read through the descriptions of the programs you're considering, and decide which will work best for you.

GENERAL GUIDELINES

The following guidelines can help make the activity programs more effective for you.

- Frequency and time.** To experience training effects, you should exercise for 20–40 minutes at least three times a week.
- Intensity.** To work effectively for cardiorespiratory endurance training or to improve body composition, raise your heart rate into its target zone. Monitor your pulse or use rates of perceived exertion to monitor your intensity.
- Interval training.** Some of the sample programs involve continuous activity. Others rely on interval training, which calls

for alternating a brief interval with exercise (walking after jogging, for example, or coasting after biking uphill). Interval training is an effective way to achieve progressive overload. When your heart rate gets too high, slow down to lower your pulse rate until you're at the low end of your target zone. Interval training can also prolong the total time you spend in exercise and delay the onset of fatigue.

Warm-up and cool-down. Begin each exercise session with a 10-minute warm-up. Begin your activity at a slow pace and work up gradually to your target heart rate. Always slow down gradually at the end of your exercise session to bring your system back to its normal state. It's a good idea to do stretching exercises to increase your flexibility after cardiorespiratory exercise or strength training because your muscles will be warm and ready to stretch.

Record keeping. After each exercise session, record your daily distance or time on a progress chart.

WALKING/JOGGING/RUNNING SAMPLE PROGRAM

Walking, jogging, and running are the most popular forms of training for people who want to improve cardiorespiratory endurance; they also improve body composition and muscular endurance of the legs. We don't always easily distinguish among these three endurance activities. For example, we'll consider walking 3 miles per hour, jogging 5 miles per hour, and running 7 miles per hour as three different activities. A warm-up is light exercise that involves moving the joints through the same motions used during the activity. It increases body temperature so your metabolism works better when you're exercising at high intensity. Stretching increases the movement capability of your joints, so you can move more easily with less risk of injury. Stretching may also induce cellular changes that protect muscles from injury.

Whenever you stretch, first spend 5–10 minutes engaged in some form of low-intensity exercise, such as walking, jogging, or low-intensity calisthenics. When your muscles are warmed, begin your stretching routine. Warmed muscles stretch better than cold ones and are less prone to injury.

How much flexibility do I need? This question is not always easy to answer. If

Developing Cardiorespiratory Endurance

The four variations of the basic walking/jogging/running sample program that follow are designed to help you regulate the intensity, duration, and frequency of your program. Use the fol-

Common Questions Answered

Is stretching the same as warming up?

No. People often confuse stretching with a pre-exercise warm-up. Although they are complementary, they are two distinct activities. A warm-up is light exercise that involves moving the joints through the same motions used during the activity. It increases body temperature so your metabolism works better when you're exercising at high intensity. Stretching increases the movement capability of your joints, so you can move more easily with less risk of injury. Stretching may also induce cellular changes that protect muscles from injury.

Whenever you stretch, first spend 5–10 minutes engaged in some form of low-intensity exercise, such as walking, jogging, or low-intensity calisthenics. When your muscles are warmed, begin your stretching routine. Warmed muscles stretch better than cold ones and are less prone to injury.

How much flexibility do I need? This question is not always easy to answer. If

you're involved in a sport such as gymnastics, figure skating, or ballet, you are often required to reach extreme joint motions to achieve success. However, nonathletes do not need to reach these extreme joint positions. In fact, too much flexibility may, in some cases, increase your risk of injury. As with other types of fitness, moderation is the key. You should regularly stretch your major joints and muscle groups but not aspire to reach extreme flexibility.

Can I stretch too far? Yes. As muscle tissue is progressively stretched, it reaches a point where it becomes damaged and may rupture. The greatest danger occurs during passive stretching when a partner is doing the stretching for you. It is critical that your stretching partner not force your joint outside its normal functional range of motion.

Can physical training limit flexibility? Weight training, jogging, or any physical activity will decrease flexibility if the

exercises are not performed through a full range of motion. When done properly, weight training increases flexibility. However, because of the limited range of motion used during the running stride, jogging tends to compromise flexibility. It is important for runners to practice flexibility exercises for the hamstrings and quadriceps regularly.

Does stretching affect muscular strength? Several recent studies have found that stretching decreases strength and power for about 5 minutes following the stretch. This is one reason some experts suggest that people not stretch as part of their exercise warm-up. However, the effects of stretching on muscle strength and athletic performance are still being investigated. Regardless of when you choose to stretch, it is still important to warm up before any workout by engaging in 5–10 minutes of light exercise such as walking or slow jogging.

Visit the Online Learning Center for more answers to common questions about flexibility and low-back health.

For Further Exploration

WW Fit and Well Online Learning Center (www.mhhe.com/fahey)

Use the learning objectives, study guide questions, and glossary. Read each review key term and concept and prepare for exams. You can extend your knowledge of flexibility and low-back health and gain experience in using the Internet as a resource by completing the activities and checking out the Web links for the topics in Chapter 5 marked with the World Wide Web icon. For this chapter, Internet activities explore the types of stretching techniques, different exercises that build flexibility, and techniques for preventing and managing back pain; there is also a helpful set of Web links.

Daily Fitness and Nutrition Journal

Complete the flexibility portion of the program plan by setting goals and selecting exercises. Fill in the information for the specific exercises you will perform, including which points they work.

Books

Allen, M. J. 2004. *Science of Flexibility*. 3rd ed. Champaign, IL: Human Kinetics. An extremely well-researched book that discusses the scientific basis of stretching exercises and flexibility.

www.mhhe.com/fahey

Anderson, B., and J. Anderson. 2003. *Stretching*. 2nd ed. Amherst, MA: Human Kinetics. A best-selling exercise book, updated with more than 200 stretches for 18 sports and activities.

Balch, J. 2004. *Full-Body Flexibility*. Champaign, IL: Human Kinetics. Presents a blend of stretching techniques derived from sports training, martial arts, yoga, and Pilates.

Jennett, M. 2001. *Spinal Stabilization: The New Science of Back Pain*. Dallas, Texas: Novus Science. BMI Fitness and Rehabilitation Consultants. Provides information on anatomy, biomechanics, common back problems, and helpful exercises.

McCall, S. 2004. *Chronic Back Pain and Performance*. Waterloo, Canada: Waterloo. Written by one of the preeminent researchers in the world on back pain, this book provides a detailed look at the causes of back pain and exercises and movement patterns for preventing it.

WW Organizations and Web Sites

American Academy of Chiropractic Surgeons. Public Information. Provides information about a variety of joint problems, including back, neck, and shoulder pain. <http://www.aacsa.org>

CEUgo. *Canter University Ergonomics Web Site*. Provides information about how to arrange a computer workstation to prevent back pain and repetitive strain injuries as well as other topics related to ergonomics. <http://ceugo.human.com/csl.edu>

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FOR FURTHER EXPLORATION

For Further Exploration sections at the end of each chapter describe books, newsletters, organizations, hotlines, and Web sites that you can turn to for additional advice and information. These sections also suggest ways to use the free tools available with *Fit and Well*:

- The *Daily Fitness and Nutrition Journal* gives you an easy way to plan and track a fitness program and a program for dietary improvement.
- The *Fit and Well* Online Learning Center (www.mhhe.com/fahey) provides interactive study guide questions, learning objectives, chapter outlines, glossary flashcards, Internet activities, answers to common fitness questions, links, and other useful study aids.

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