

Concepts of Fitness and Wellness

A COMPREHENSIVE LIFESTYLE APPROACH
Fifth Edition

Charles B. Corbin

Arizona State University

Gregory J. Welk

Iowa State University

Ruth Lindsey

California State University—Long Beach

William R. Corbin

University of Texas-Austin





CONCEPTS OF FITNESS AND WELLNESS: A COMPREHENSIVE LIFESTYLE APPROACH, FIFTH EDITION

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Preface

Fitness and Wellness: Evolving in the New Century

Although the fifth edition of *Concepts of Fitness and Wellness:* A Comprehensive Lifestyle Approach contains many of the same features that has made it so successful over the past thirty years, it also is considerably different. As you will see, the look of the book has evolved. The intent of the new design is to create an attractive look while incorporating several new pedagogical features.

Just as the look of the book has evolved, so has the authorship team. Greg Welk, because of his increased contribution, has been made second author. Will Corbin, the newest member of the team, has recently accepted an appointment in the Department of Psychology at Yale University. We think that the combination of older more experienced authors (Chuck Corbin and Ruth Lindsey) and younger energetic authors serves us well. The key is that each of the team members has different expertise allowing us to have expert and up-to-date coverage in all areas.

Our content continues to evolve as we learn more about fitness, wellness, and healthy lifestyles. In our early editions we focused on trying to get people fit and well. To be sure, fitness is an important product, as is wellness, another product of healthy lifestyle change. But scientific advances have shown that health, fitness, and wellness (all products) are not things you can "do" to people. You have to help people help themselves. Educating them and giving them the self-management skills that help them adopt healthy lifestyles can do this.

The focus of the new millennium is on the *process*. Healthy lifestyles, or what a person does, rather than what a person can do, constitutes process. If a person does the process (i.e., adopting a healthy lifestyle), positive changes will occur to the extent that change is possible for that specific person. As noted in the first concept of the book, lifestyles are the most important factors, influencing health, fitness, and wellness. Healthy lifestyles (the processes) are also within a person's individual control. *Any person* can benefit from lifestyle

change, and any person can change a lifestyle. These lifestyle changes will make a difference in health, fitness, and wellness for all people.

The emphasis on lifestyle change in the fifth edition is consistent with the focus of national health objectives for the new millennium. Though the principal national health goals are to increase years and quality of life (products) for all people, the methods of accomplishing these goals focus on changing lifestyles. As we move into the new century, we must adopt a new way of thinking to help all people change their lifestyles to promote health, fitness, and wellness.

Our Basic Philosophy The HELP Philosophy

Over time, the features of our book evolve. However the HELP philosophy on which the book is based remains sound. We believe that the "new way of thinking" based on the HELP philosophy serves us, the faculty who choose our book, and the students who use it. **H** is for health. Health and its positive component—wellness—are central to the philosophy. Health, fitness, and wellness are for all people. **E** is for everyone. **L** is for lifetime lifestyle change, and **P** is for personal. The goal is to HELP all people to make personal lifetime lifestyle changes that promote health, fitness, and wellness.

To assure that the book is consistent with the HELP philosophy and to be sure it is useful to everyone, we include discussions to adapt healthy lifestyles based on personal needs. Separate sections are *not* included for specific groups such as older people, women, ethnic groups, or those with special needs. Rather, we focus on healthy lifestyles *for all people* throughout the book.

Meeting Higher-Order Objectives

The "new way of thinking" based on the HELP philosophy suggests that each person must make decisions about healthy lifetime lifestyles if the goals of longevity and quality of life are to be achieved. What one person

chooses may be quite different from what another chooses. Accordingly, our goal in preparing this edition is to help readers become good problem solvers and decision makers. Rather than focusing on telling them what to do, we offer information to help readers make informed choices about lifestyles. The stairway to lifetime fitness and wellness that we present helps readers understand the importance of "higher-order objectives" devoted to problem solving and decision making.

New Features

New features introduced in this fifth edition include the following.

New Content. Every concept contains new content. New content highlights include the following.

- Concept 24 has been retitled "Cancer, Diabetes, and Other Health Threats" and revised to place greater emphasis on the discussion of cancer and how it spreads through the body. It provides additional information on some of the major types of cancer (breast, lung, prostate, colon-rectal, and skin). Revisions also include greater attention to diabetes and osteoporosis.
- Concept 26 also integrates new coverage of spirituality. This is presented in the context of physical, social, intellectual, work, and spiritual environments with suggestions for prayer, meditations, support, etc., rather than any emphasis on religiosity.
- In concept 16 the new Table 1 presents summary information on vitamins and minerals. Also, new Appendix E includes a table of fast food nutritive content values.
- Extensive new information on the environment and wellness.
- More coverage on the importance of social interactions to health and wellness.
- New information on health disparities.
- · Additional information on self-management skills.
- · Wind-chill chart based on new formula.
- · New maximal heart rate formula.
- Material updated to new ACSM guidelines.
- Revised apparent temperature classifications.
- New information on HRT, HIV, and sedentary death syndrome.
- New information on dose response and exercise.
- New information on exercise and immune system.
- Swim test for cardiovascular fitness included.
- New information about micronutrients and new dietary intake terminology.
- Information on the healthy eating index and the glycemic index.
- New content on coping strategies, tobacco cessation, and strategies for dealing with alcohol problems.

- New information on food supplements.
- Several of the labs have been revised to provide easier organization for student completion. Two new labs include "Factors Influencing Fitness, Health, and Wellness" and "Evaluating Fast Food Options."

An All New Design. As mentioned at the beginning of this preface, the fifth edition has a completely new design. The new design includes aesthetic features created with the intent of making the book attractive and pleasing to the eye. Some examples of these features include a new color scheme, new concept opener pages, new color tabs, new icons for various concept features, new lab format, and new presentation of the basic concept headers.

New Pedagogical Features of the Design. While much of the new design was created to make the book look good, many of the features were created for educational reasons. For example, concepts within book sections are color coded as are Lab Resource Materials and tear out labs. Concept openers, labs, Lab Resource Materials, and exercise tables include color tabs that help students locate the materials they are looking for. Tables and charts are color-coded and have alternating bands to help students locate materials contained in them. Special features have an icon or logo with a special design and color code to make them easy to find. The tear-out labs can easily be identified by their unique color.

Online Labs. The popular labs are now available online. To access the labs Visit the Online Learning Center at www.mhhe.com/corbin5e.

New Tables, Figures, and Photos. More than 75 new tables, figures, and photos are included. Some of the figures and photos are done with a special treatment called text wrapping. This allows pictures to be integrated in the text. This method also helps us present complex information in an easy-to-understand way. Several new anatomical illustrations have been added.

Technology Today Features. Over 20 new technology features are included in this fifth edition. These features describe technological advances relating to fitness, wellness, and healthy lifestyles. Examples include Global Positioning Systems, Heart Rate Watches, and Glucowatches.

In the News Features. These features include information that is so current that much of it was added right before the book went to press.

New Web Materials. Over the years we have prided ourselves on being current. We have provided Web icons in the book that allow students to access current information exclusively related to our book, as well as more generic information. Access to Web materials has been made easier by including the book Web address for the accompanying Online Learning Center at the top of each

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left hand page. As in the past, specific URLs appear in the body of the text as well as at the end of each concept.

Expanded Coverage for North America. New statistics for all of North America have been added to those typically presented for the United States. Several Canadian websites have been included as have been new statistics, and a color version of the Canadian food guide is included.

Factual Updates. As is true with all of our new editions, facts, statistics, references, and other information is updated throughout.

Deleted Content. One of the problems that we have encountered over time has been the lengthening of the book because of the expansion of knowledge related to fitness, wellness, and health. In this edition, we made a conscious effort to cut words to save space and to allow new material to be added without lengthening the book. Also, the new design is more efficient allowing us to add new information.

Popular Continuing Features

The fifth edition retains many of the popular features that made the fourth edition so successful. Some of these features are as follows:

Pedagogically Sound Organization. Planning and self-management strategies are presented early to familiarize students with basic principles and guidelines that will be used in later planning. Preparation strategies and basic activity principles follow. Each type of health-related fitness and the type of activity that promotes each component of fitness are included in the next section. This section is organized around the physical activity pyramid. Special considerations—including safe exercise, care of the back and neck, posture, and performance—are included in the next section. Other priority healthy lifestyles are the focus of nutrition, body composition, and stress management sections. The final section is designed to help students become good fitness, wellness, and health consumers.

Strategies for Action. At the end of each concept, *strategies for action* are provided. These are suggestions for putting content into action. Many of these strategies require readers to perform or practice self-assessment or other self-management techniques.

Magazine Format. The attractive new design supports student reading and studying with an appealing magazine format. This format has been shown to be educationally effective and has been well received by users.

Activity Features with Activity Labs. Each of the exercises described in the book is contained in activity features using the magazine format. This format allows students to

get immediately involved in activity and to keep activity logs. "Basic 8" tables feature easy to use exercises.

Web Icons. The Web icons unique to this book allow learners to locate (at point of use) additional pictures, tables, and figures that illustrate concepts presented in the book. Web addresses to supplemental resource materials such as a self-study guide, sample exam questions, and definitions of terms, as well as other enrichment materials, are also provided on the Online Learning Center and in the Web Resources section at the end of each concept. The Web address for the Online Learning Center (www.mhhe.com/corbin5e) is included as a header at the top of each left facing page.

Attractive and Easy-to-Use Labs. The attractive and popular labs are designed to get users involved in practicing self-management skills that will promote healthy lifestyle change. The labs are in a bright, attractive, and educationally effective format. They are easy to find and easy to use. In many cases, lab resource materials that aid the student in performing lab activities precede them. These resources are retained in the book even when the labs are torn out. This allows future use of such materials as fitness self-assessments. The physical activity labs are designed to get people active early in the course and ultimately to allow each user to plan his or her own personal activity program.

Focus on Self-Management Skills. The educational effectiveness of a book depends on more than just presenting information. If lifestyle changes are to be implemented, there must be opportunities to learn how to make these changes. Research suggests that learning self-management skills is important to lifestyle change. A section on self-management skills is included early in the book, and additional discussions of how to practice and implement these skills is included throughout the book.

Health Goals for the Year 2010. The health goals are based on the health goals for the new millennium (Health Goals for the Year 2010). These goals are provided at the beginning of each concept to help readers relate content to goals.

What's In This for You? This student guide follows the Preface and is designed to help students use the features of the book more effectively. Instructors are encouraged to urge students to read this section prior to using the book.

Terms at Point-of-Use. It greatly pleased us that the *Surgeon General's Report on Physical Activity and Health* adopted our physical fitness definitions in their report. Just as we have led the way in defining fitness, we now include state-of-the-art definitions related to wellness and quality of life. These—and all other definitions—are now included at the first point-of-use to make them easier to locate.

Continued Use of Conceptual Format. We use concepts rather than chapters, and each concept contains factual statements that follow concise informational paragraphs. This tried-and-true method has proven to be educationally sound and well received by students and instructors.

Pedagogical Aids

Web Resources

Located at the end of every concept, additional websites are listed to provide students with additional online resources that supplements the content just learned.

Suggested Readings

Because students want to know more about a particular topic, a list of readings is given at the end of each chapter. Most suggested readings are readily available at bookstores or public libraries.

Appendices

Concepts of Physical Fitness: Active Lifestyles for Wellness, fifth edition, includes six appendices that are valuable resources for the student. The metric conversion chart; metric conversions of selected charts and tables; calorie guide to common foods; calories of protein, carbohydrates, and fats in foods; calorie, fat, saturated fat, cholesterol, and sodium content of selected fast food items; and the Canadian food guide are included for your use.

Ancillaries

A Note for Instructors

As with past editions, you will see that we have updated this edition with the most recent scientific information. As noted earlier, we have included two new labs. We have designed experiences to promote higher-order thinking. There is another consideration we think to be important. As usual, we have worked to keep the price of the book low.

As always with our *Concepts* books, an extensive list of ancillary materials is available to help you provide the most effective instruction. Brief descriptions of these materials follow.

Instructor's Resource Materials Course Integrator Guide

This manual includes all the features of a useful instructor's manual, such as learning objectives, suggested lecture outlines, suggested activities, media resources, and Web links. It also integrates the text with all the health resources McGraw-Hill offers, such as the Online Learning Center, Image Presentation CD-ROM, HealthQuest CD-ROM, Healthy Living Video Clips CD-ROM, and the Health and Human Performances website, etc. The guide also includes references to relevant print and broadcast media. Instructors can access the guide at www.mhhe.com/corbin5e.

Computerized Test Bank CD-ROM

Brownstone's Computerized Testing is the most flexible, powerful, easy-to-use electronic testing program available in higher education. The Diploma system (for Windows users) allows the test maker to create a print version, an online version, (to be delivered to a computer lab), or an Internet version of each test. Diploma includes a built-in instructor gradebook, into which student rosters and files can be imported. The CD-ROM includes a separate testing program, Exam VI, for Macintosh users.

Image Presentation CD-ROM

The Image Presentation CD-ROM is an electronic library of visual resources. The CD-ROM comprises images from the test displayed in PowerPointTM, which allows the user to view, sort, search, use, and print catalog images. It also includes a complete, ready-to-use Power-PointTM presentation, which allows users to play chapter-specific slideshows.

Instructional Videos

Video 1: Introduction to Physical Fitness. This video includes a statement of fitness philosophy, a look at important fitness objectives, including the Stairway to Lifetime Fitness, and a description of the fitness tests included in the Concepts books. Test descriptions include estimated 1 RM for strength, the trunk rotation test for flexibility, and the curl-up test for muscular endurance. Other fitness test descriptions are also described. This video may be viewed by instructors or shown to students to help them understand the various tests. It has been proven popular with both students and instructors. The HELP philosophy is part of the flow of the video presentation of concepts.

Video 2: Introduction to Wellness. This second instructional video defines wellness and puts wellness, health, and fitness in perspective for both students and instructors. The video helps establish common ground for the study of wellness. This proven video has helped provide the basic foundation for the study of wellness that is needed by many students.

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Concepts Transparencies

Fifty-four color acetate transparencies illustrate anatomical and physiological concepts, and help instructors to describe the scientific concepts of physical fitness and health-related fitness.

Student Self-Assessment Materials

Fitsolve II Software. Fitsolve is educational software designed to facilitate the teaching of high-order physical fitness objectives such as self-evaluation, diagnosis, and problem-solving skills, which in turn enable the achievement of fitness independence, and a state of self-sufficiency in which individuals can design and implement their own fitness programs. Available for Windows.

Dietary Analysis Software. Available for Windows and Macintosh computers, this user-friendly diet analysis software allows students to track their food intake over a period of days and generate a variety of easy-to-read reports and graphs. The program tracks over thirty nutrient categories. Students can choose from nearly 8,000 foods or add their own to the database. Other features include a weight management function and a website devoted to diet analysis-related resources.

Internet Resources

Online Learning Center

www.mhhe.com/corbin5e This website offers resources to students and instructors. It includes downloadable ancillaries, Web links, student quizzes, additional information on topics of interest, and more. Resources for the instructor include:

- Course Integrator Guide
- Downloadable PowerPoint Presentations
- Lecture outlines
- Discussion questions
- Concept summaries

Resources for the student include:

- Flashcards
- Online labs
- Interactive quizzes

Health and Human Performance Website

www.mhhe.com/hhp McGraw-Hill's Health and Human Performance Discipline Page provides a wide variety of information for instructors and students—including monthly articles that celebrate our diveristy, text ancillaries, a "how to" guide to technology, study tips, and athletic training exam preparation materials. It includes professional organization, convention, and career information, and information on how to become a McGraw-Hill author. Additional features of the website include:

- This Just In—This feature provides information on the latest hot topics, the best Web resources, and more—all updated monthly.
- Faculty Support—Access online course supplements, such as lecture outlines and PowerPointTM presentations, and create your own website with PageOut!
- Student Success Center—Find online study guides and other resources to improve your academic performance. Explore scholarship opportunities and learn how to launch your career!
- Author Arena—Interested in writing a textbook or supplement for the college market? Read the McGraw-Hill proposal guidelines and links to the Editorial Marketing teams, and meet and converse with our current authors!

PageOut: The Course Website Development Center



www.pageout.net PageOut enables you to develop a website for your course. The site includes:

- A course home page
- An instructor home page
- A syllabus (interactive, customizable, and includes quizzing, instructor notes, and links to the Online Learning Center)
- · Web links
- Discussions (multiple discussion areas per class)
- An online grade book
- Student Web pages
- Design templates

This program is now available to registered adopters of McGraw-Hill textbooks.

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Interactive CD-ROMs

HealthQuest *CD-ROM*. *HealthQuest* is designed to help students explore the behavioral aspects of personal health and wellness through a state-of-the-art interactive CD-ROM. Your students will be able to assess their current health and wellness status, determine their health risks, and explore options and make decisions to improve the behaviors that impact their health.

Interactive Personal Trainer CD-ROM. The Interactive Personal Trainer CD-ROM provides users with a variety of features. First, self-assessments for all parts of health-related fitness are provided. Still pictures and Quick-TimeTM movies illustrate the assessments, and written statements describe each one. Second, a fitness profile allows users to input assessment results to get a rating profile. In many cases (e.g., skinfolds), calculations are

made automatically. Third, physical activities and exercises are provided for each part of fitness and for care of the back and good posture. Users can select exercises for any part of fitness or for different body parts and get descriptions, still pictures, and real-time videos of each. Finally, pictures and descriptions of risky exercises are provided, followed by descriptions and real-time movies of appropriate alternatives. The CD-ROM is available in either Windows or Mac versions. Instructors may encourage use on a computer accessible to students.

Print Publications

Diet and Fitness Log by McGraw-Hill. This logbook helps students keep track of their diet and exercise programs, and it serves as a diary to help students log their behaviors.

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What's in This for You?

Students, are you looking for fitness and wellness information online? Working hard to get in shape? Trying to improve your grade? All the features in Concepts of Fitness and Wellness: A Comprehensive Lifestyle Approach will help you do this and more! Take a look....

Concept Statement —

A concpet statement is included at the beginning of each Concpet. The content elaborates and expands on each concept statement.

Health Goals —

The content of each concept is designed to help you meet national health goals outlined in Healthy People 2010.

Technology Update -

The Technology Update features include information about a technological innovation that is related to the content of the concept.

Benign Tumor A slow-growing tumor that does not spread to other parts of the body.

Malignant Tumor Malignant means "growing worse." A malignant tumor is one that is considered to be cancerous and will spread throughout the body if not treated.

Carcinoma A malignant or invasive form of tumor.

Metastases 'The spread of cancer cells to other parts of the body.

Biopsy Removal of a tissue sample that can be checked for cancer cells

Mammogram An x-ray of the breast.

2 Section 1 ► Lifestyles for Health, Fitness, and Wellness

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— Good health, wellness, fitness, and healthy lifestyles are important for all people.



Health Goals

- · Increase quality and years of healthy life.
- · Eliminate health disparities.
- Increase incidence of people reporting "healthy
- Increase access to health information and services for all people.

National Health Goals

t the beginning of each concept in this book is a section containing abbreviated statements of an animal national health goals from the document Healthy People 2010: National Health Promotion and Disease Prevention Objectives. These statements, established by expert groups representing more than 350 national organizations, are intended as realistic national health goals to be achieved by the year 2010. These objectives for the first decade of the new millennium are intended to improve the health of those in the United States, but they seem important for all people in North America and in other industrialized cultures throughout the world. The health objectives are designed to contribute to the current World Health Organization strategy of "Health for All." This book is written with the achievement of these important health goals in mind.

Introduction

www.mhhe.com/fit_well/web01 Click 01. The first national health goals were developed in 1979 to be accomplished by the year 1990. The focus of those objectives was on reduction in the death rate among infants, children, adolescents, young adults, and adults. Except for reducing death rates among adolescents, those goals were met and the average life expectancy was increased by more than two years by the 1990s. Those first national health objectives gave way to the Healthy People 2000 objectives designed to be accomplished by the turn of the

century. The emphasis in these objectives shifted from reduction in premature death to disease prevention and health promotion. While many of these objectives have been achieved, others have yet to be accomplished.

For Healthy People 2010, achieving the vision of "healthy people in healthy communities" is paramount. Two central goals have been established. First, the goals emphasize quality of life, well-being, and functional capacity—all important wellness considerations. This emphasis is based on the World Health Organization statement that "It is counterproductive to evaluate development of programs without considering their impact on the quality of life of the community. We can no longer maintain strict, artificial divisions between physical and mental well-being" (World Health Organization, 1995). Second, the national health goals for 2010 take the "bold step" of trying to "eliminate" health disparities as opposed to reducing them. Consistent with national health goals for the new millennium, this book is designed to aid all people in adopting healthy lifestyles that will allow them to achieve lifetime health, fitness, and wellness

Technology Update

This book provides a number of ways to help you access reliable health and wellness information from the Internet The On the Web icons throughout the book include URLs that will provide additional information and links to informative sites on the Internet. The list of Web Resources at the end of each concept provide URLs for various organizations that provide high-quality health information. The On the Web and Web Resources features can be accessed electronically (without typing the URL) by visiting the Online Learning Center address that is featured at the top of every even numbered page of the book. This site also includes a number of study aids including concept outlines, concept terms, and sample quiz questions to help you apply the information in the book

Health and Wellness

Good health is of primary importance to adults in our society. When polled about important social values, 99 percent of adults in the United States identified "being in good health" as one of their major concerns. Two other concerns expressed most often were good family life and good self-image. The 1 percent who did

Definition Boxes

All terms that are bold in your book are defined in an accompanying definition box to reinforce this information.

Figure 1 > The spread of cancer (metastasis).

to take a biopsy of suspicious lumps in the breasts, testicles, or other parts of the body

Cancer is a leading killer in our society. www.mhhe.com/fit_well/web24 Click 01. Cancer is the second leading cause of death in our society. One of every four deaths in the United States is caused by some form of cancer. Slightly more than one in three women screening. Like colon-rectal and lung cancers, breast cancer is most prevalent among African Americans and least prevalent among Asians and Hispanics (more than twice as frequent).

Symptoms include lumps and/or thickening or swelling of the breasts. In many cases, lumps or tumors are present before they can be detected with self-exams. This is one reason for regular mammograms (breast x-

Illustration Program

Concept 24 has been revised to place greater emphasis on the discussion of cancer and how it spreads though the body. Instructional full-color illustrations and photographs here and throughout the book enhance learning with an exciting visual appeal.

On the Web

Web icons appear to indicate supplemental materials that are available on the web. Look for the icons throughout your book. To access the information, simply type the Web address provided next to the icon and you will be taken directly to the supplementary information.

Concept 6 ▶ The Health Benefits of Physical Activity 87

A self-assessment of risk factors can help you modify your lifestyle to reduce risk of heart disease, www.mbhe.com/fit.well/web06 Click 10.
The Heart Disease Risk Factor Questionnaire in Lab 6A will help you assess your personal risk for heart disease.
While this questionnaire considers the major risk factors, several recently identified factors are not included: Cseveral recently identified actions are not obscuded. Corrective protein (C.RP) homocysteine, an enzyme called MPO, and a substance called interleukin-6. Women with high C.RP have four times the risk of having heart disease as those with low C.RP. Used along with other blood tests, the C.RP may prove to be useful in the future. Screening for C.RP is currently available with regular blood lipid tests though data are lacking for men.

High levels of the amino acid homocysteine have also been associated with increased risk of heart disease

though the American Heart Association says it is too soon to do general screening for it. Adequate folic acid, vitamin B6, and vitamin B12 help prevent high homoeysteine in the blood, so eating foods that insure ade-quate daily intake of these vitamins is recommended. Both MPO and interleukin-6 are elevated in people

with known heart disease and are associated with inflammation. They may damage artery walls causing fat build-up. Because evidence is only preliminary at this point, these four risk factors are not included in this questionnaire.

You can use your self-assessments on the que naire to determine your alterable, unalterable, and total risk scores. These scores should be useful in preparing a plan for lifestyle change to reduce risk

Strategies for Action

Located toward the end of each concept, these these strategies provide information and suggest Labs that can help promote self-management skills to achieve your healthy lifestyle goals.

Web Resources

American Cancer Society www.cancer.org American Diabetes Association www.diabetes.org American Heart Association www.americanheart.org Canadian Diabetes Association www.diabetes.ca Centers for Disease Control and Prevention www.cdc.go Healthy People 2010 www.health.gov/healthypeople National Stroke Association www.stroke.org National Osteoporosis Foundation www.nof.org

Suggested Readings -

Additional reference materials for concept 6 are vailable at www.mhhe.com/fit_well/web06 Click 11.

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Hyperkinetic Condition A disease/illness or health condition caused by or contributed to by too much physical activity

Web Resources and Suggested Readings

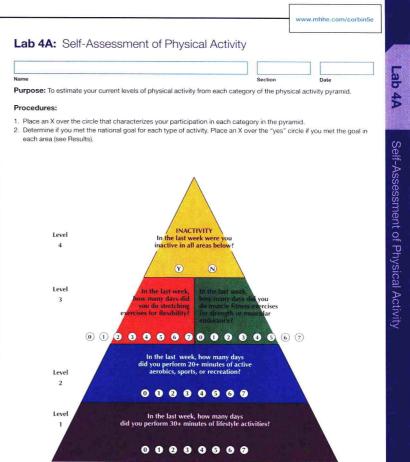
At the end of each concept, URLs help you find quality online resources. Recent references are provided to help you read more about current topics.

Online Learning Center Resources

Want a better grade? This address appears throughout to remind you about the study aids and other resources available at our free Online Learning Center.

Tear-Out Labs

These are located at the end of each concept, and are designed to help you improve your skills to achieve a healthy lifestyle.



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