

CONCEPTS OF PHYSICAL FITNESS

ACTIVE LIFESTYLES FOR WELLNESS

THIRTEENTH EDITION



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Concepts of Physical Fitness

ACTIVE LIFESTYLES FOR WELLNESS

Thirteenth Edition

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CONCEPTS OF PHYSICAL FITNESS: ACTIVE LIFESTYLES FOR WELLNESS, THIRTEENTH EDITION

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Concepts of Physical Fitness

ACTIVE LIFESTYLES FOR WELLNESS

Preface

Lucky Thirteen!

We consider this thirteenth edition of *Concepts of Physical Fitness: Active Lifestyles for Wellness* to be a lucky charm. At the time of the publication of this edition it will be nearly 40 years since the first edition of the book was published. This edition features the new design and new pedagogical features introduced in the twelfth edition. With the retirement of Ruth Lindsey (see box), Greg Welk (Iowa State University) becomes second author and takes on additional author duties. Will Corbin (Yale University), a clinical psychologist and specialist in substance abuse, destructive behaviors, and stress management is the third author. Karen Welk, a physical therapist (Mary Greeley Medical center in Ames, Iowa) takes over the role as fourth author.

The content in this edition 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, wellness, and fitness (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, constitute process. If a person does the process (i.e., adopt 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

A Tribute to Ruth Lindsey

Retiring Author



Dr. Ruth Lindsey, professor emeritus at California State University–Long Beach, is a recognized national leader in physical activity and fitness with a special expertise in biomechanics, kinesiology, questionable exercises, nutrition, and physical activity for senior adults. She

is the author of more than a dozen books, including *Body Mechanics*, *The Ultimate Fitness Book*, *Concepts of Fitness and Wellness*, and *Concepts of Physical Fitness*. Her early books in biomechanics pioneered the field and provided the basis for much of what we currently know about safe versus questionable exercises. Dr. Lindsey's writings on back care are considered classics.

Dr. Lindsey was one of the original authors of *Concepts of Physical Education*, the predecessor of the twelfth edition of this book. Over the years, she has served numerous national organizations as an officer or a committee person, has presented numerous lectures, and is regularly cited in health and fitness publications. She received her doctorate from Indiana University and served on the faculties of Oklahoma State University and the University of Utah before her extended stay on the faculty at California State University at Long Beach.

Over the years, hundreds of thousands of students have been exposed to Dr. Lindsey's writings. On behalf of those students and their teachers, the co-authors of this book honor Dr. Lindsey for her many contributions related to the areas of fitness, health, and wellness. Ruth Lindsey, enjoy your retirement!

Dedication

The authors wish to dedicate this book in loving memory of **Charles Samuel “Charlie” Corbin** (April 22, 2004–July 18, 2004), son of Will and Suzi Corbin, grandson of Cathie and Chuck Corbin and **Alyson Welk** (April 30, 1995–June 2, 2003), daughter of Karen and Greg Welk.

the book, lifestyles are the most important factors, influencing health, wellness, and fitness. 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 twelfth 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 Content

The thirteenth edition is one year earlier than would typically be the case. This early revision was done so that this edition of *Concepts of Physical Fitness* will be in cycle with other books in the *Concepts* series. A summary of new content that builds on the new features of the twelfth edition follows.

- The new design that first appeared in the twelfth edition (featuring new pedagogical features such as Technology Updates, Study Resources, Strategies for Action and In the News) has been updated and is enhanced with new photos and figures.
- Statistics, web addresses, and suggested readings for all concepts have been updated. Among the more prominent new statistic are those for life expectancy, causes of death, and health disparities.
- New labs on factors influencing health, wellness and fitness and evaluating fast food options (new in 12th ed.).
- The most recent statistics concerning participation in physical activity guidelines from several organizations including ACSM. Information is also included concerning the new President's Challenge program for promoting lifetime physical activity.
- New national blood pressure standards are included as well as new information on deep vein thrombosis.
- New information on maximum heart rate formula, dose response, blood indicators of heart disease, swim test, range of motion information, muscle fitness exercises and illustrations, body fatness rating chart, and on posture and back care is included.
- New information on wind-chill (a new chart), warm-up, self-management skills, autonomous social support, walking and pedometers, exercise balls, and exercises for core fitness is included.
- New information on micronutrients, glycemic index, food supplements and fast foods is included.
- Concept 21 contains a new comprehensive model of healthy lifestyle planning that provides additional coverage of spirituality; the new model integrates physical, social, intellectual, work, and spiritual environments with suggestions for prayer, meditation, and support. Also new information concerning cities with the best emergency medical systems is included.

Enhanced Pedagogically Sound Design

The new design introduced in the twelfth edition has been enhanced with new figures and photos. The features of the enhanced design were created to make the book more attractive and pleasing to the eye while also adding pedagogical features that enhance student learning. Examples include the color tabs to help identify special

features. specially colored pages unique to each book feature, icons for identifying special features, and revised concept headers. The tear-out labs can be easily identified by their unique color and numbered tabs.

Online Labs

The popular labs are now available online. To access the labs, Visit the Online Learning Center at www.mhhe.com/corbin13e.

New Tables, Figures, and Photos

More than eighty-five new tables, figures, and photos are included since the implementation of the new design. 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 Update Features

Each concept contains a technology feature. These features describe technological advances relating to health, wellness, and fitness lifestyles. Examples include global positioning systems and heart rate watches.

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 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 are 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 health, wellness, and fitness. 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 thirteenth edition retains many of the popular features that made the previous editions 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 health, wellness, and fitness 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

Exercises for each part of physical fitness are illustrated and described in easy to locate tables. Opportunities to perform the exercises are provided in the labs.

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/corbin13e) 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. 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, thirteenth 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 Canada's food guide to healthy eating 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. 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

Instructor's Resource CD

Course Integrator Guide

This 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 PowerPoint™, HealthQuest CD-ROM, *Healthy Living* Video Clips CD-ROM, and the Health and Human Performances website. The guide also includes references to relevant print and broadcast media. Instructors can access the guide at www.mhhe.com/corbin13e.

Computerized Test Bank

McGraw-Hill's EZ Test is a flexible and easy-to-use electronic testing program available in higher education. The program allows instructors to create tests from book specific items. It accommodates a wide range of question types and instructors may add their own questions. Multiple versions of the test can be created and any test can be exported for use with course management systems such as WebCT, BlackBoard or PageOut. The program is available for Windows and Macintosh environments.

Image Presentation PowerPoint™

The Image Presentation is an electronic library of visual resources. It comprises images from the text dis-

played in PowerPoint™, which allows the user to view, sort, search, use, and print catalog images. It also includes a complete, ready-to-use PowerPoint™ presentation, which allows users to play chapter-specific slideshows.

Student Self-Assessment Material

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 30 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/corbin13e 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

Interactive CD-ROM

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. Adopters of this text can obtain more information from your local McGraw-Hill sales representative.

Print Publications

Daily Fitness and Nutrition Journal **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.

Acknowledgments

The evolution of this book would not have been possible without the input of those who have used the book and those who have provided us with reviews. At the risk of inadvertently failing to mention someone, we want to acknowledge the following people for their role in the development of this book.

First, we would like to acknowledge a few people who have made special contributions over the years. Linus Dowell, Carl Landiss, and Homer Tolson, all of Texas A & M University, were involved in the development of the first *Concepts* book, and their contributions were also important as we helped start the fitness movement in the 1960s.

Other pioneers were Jimmy Jones of Henderson State University, who started one of the first *Concepts* classes in 1970 and has led the way in teaching fitness in the years that have followed; Charles Erickson, who started a quality program at Missouri Western; and Al Lesiter, a leader in the East at Mercer Community College in New Jersey. David Laurie and Barbara Gench at Kansas State University, as well as others on that faculty, were instrumental in developing a prototype concepts program, which research has shown to be successful.

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Finally, we would like to thank all past editors (there have been many) and our current editors, Michelle Turenne, Jill Moline-Eccher, and Nick Barrett who do the tedious jobs that make these excellent books possible.

What's in This for You?

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

Concept Statement

A concept statement is included at the beginning of each concept. 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.

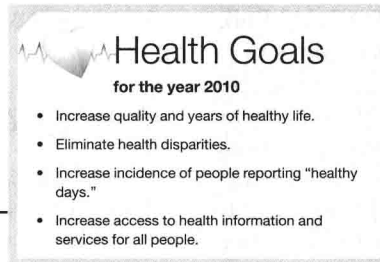
Illness The ill feeling and/or symptoms associated with a disease or circumstances that upset homeostasis.

Wellness The integration of many different components (social, emotional-mental, spiritual, and physical) that expand one's potential to live (quality of life) and work effectively and to make a significant contribution to society. Wellness reflects how one feels (a sense of well-being) about life as well as one's ability to function effectively. Wellness, as opposed to illness (a negative), is sometimes described as the positive component of good health.

Quality of Life A term used to describe wellness. An individual with quality of life can enjoyably do the activities of life with little or no limitation and can function independently. Individual quality of life requires a pleasant and supportive community.

Lifestyles Patterns of behavior or ways an individual typically lives.


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



National Health Goals

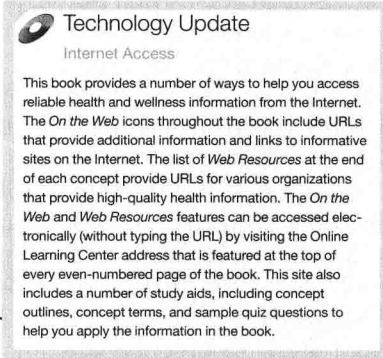
At the beginning of each concept in this book is a section containing abbreviated statements of the national health goals from the document *Healthy People 2010: National Health Promotion and Disease Prevention Objectives*. These statements, established by expert groups representing more than 350 national 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/phys_fit/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 2 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's focus on quality of life and its efforts to break down the artificial divisions between physical and mental well-being. 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, wellness, and fitness.



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. The two other concerns expressed most often were good family life and good self-image. The 1 percent who did not identify good health as an important concern had no opinion on any social issues. Among those polled, none

Definition Boxes

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

In the News

This feature is located at the end of each concept. *In the News* is designed to provide very current information about health, wellness, and fitness.



In the News

Changes in Use of Hormone Replacement Therapies May Have Implications for Osteoporosis

Doctors have routinely prescribed hormone replacement therapy (HRT) for women to reduce risks for heart disease and osteoporosis following menopause. Over 6 million women were reported to be taking this type of regimen, but these patterns were dramatically altered when a major National Institutes of Health study reported increased risks for cardiovascular events and breast cancer in those taking HRT. The result caused the

clinical trial on HRT to be halted and has caused doctors to recommend that women stop taking HRT. This change in medical practice could have major implications for other health risks in women, particularly for osteoporosis. The National Osteoporosis Foundation (www.nof.org) reports that over half of all women over the age of fifty will have an osteoporotic fracture sometime in their lifetime. Experts have predicted the prevalence of osteoporosis to increase. Participation in regular weight-bearing exercise is the most important preventive measures that women (and men) can take to maintain their bone mass and prevent osteoporosis later in life.

Tables of Exercises

Many concepts include illustrations of exercises that you can use to develop health-related fitness, to care for the back and neck, or to improve posture. These exercises are included in tables at the end of the concepts. Complete descriptions of proper technique are included with the illustrations.

Table 6 The Basic 8 for Free Weights

5. Wrist Curl

This exercise develops the muscles of the forearm, wrist and hand. It is performed by sitting on a bench with the back of one forearm on the bench, wrist and hand hanging over the edge. Hold a dumbbell in the palm of that hand with the thumb facing forward. To develop the flexors, lift the weight by curling the fingers from the wrist through a full range of motion. Slowly lower and repeat. To develop the extensors, start with the palm down. Lift the weight by extending the wrist through a full range of motion. Slowly lower and repeat. Note: Both wrists may be developed at the same time by substituting a ball in place of the dumbbell.



7. Half-Squat

This exercise develops the muscles of the thighs and buttocks. Stand erect, feet turned out 45 degrees. Feet flat behind neck on raised box. Spread hands in a comfortable position. Squat slowly, keeping back straight, eyes ahead. Bend knees to approximately 90 degrees, and keep knees over feet. Raise, then stand. Repeat. Specters are needed. Variations: Substitute dumbbell in each hand at sides.



6. Dumbbell Rowing

This exercise develops the muscles of the upper back. It is best performed with the aid of a bench or chair for support. Grab a dumbbell with one hand and place opposite hand on the bench to support the trunk. Bend the weight up with the elbow in a curve with the back. Lower the weight and repeat to complete the set. Switch hands and repeat set. This exercise can also be performed with one leg kneeling on the bench.



8. Lunge

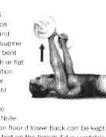
This exercise develops the thigh and hip muscles. Stand erect with feet shoulder-width apart. Step forward with right leg, keeping back foot flat on floor. Lower back to the floor, keeping the back straight. Repeat with other leg, remaining at a 90-degree angle with the back.



The Basic 8 for Free Weights Table 6

1. Bench Press

This exercise develops the chest, pectoral, and triceps muscles. Lie on your back on a bench with knees bent and feet flat on floor or flat on floor in a comfortable position. Grip bar at shoulder level. Push bar up until arms are straight. Return and repeat. Do not arch lower back. Feet may be placed on floor if lower back can be kept flat. Do not put feet on the bench if it is available.



3. Biceps Curl

This exercise develops the muscles of the upper front part of the arm (biceps). Stand erect with back against a wall, palms facing forward, just touching. Spread feet in a comfortable position. Tighten abdominal and back muscles. Do not lock knees. Move bar to chest, keeping body straight and always near the side. Lower bar to original position. Do not allow back to arch. Repeat. Specters are usually not needed. Variations: Use dumbbell and sit on end of bench with feet in stable position. Work one arm at a time, or use dumbbell with the palm down or thumb up to emphasize different muscles.



2. Overhead (Military Press)

This exercise develops the muscles of the shoulders and arms. Sit erect, bend elbows, palms facing forward at chest level with hands shoulder-width apart. Push bar up until arms are straight. Return and repeat. Do not arch lower back. Feet may be placed on floor if lower back can be kept flat. Do not put feet on the bench if it is available.



4. Triceps Curl

This exercise develops the muscles on the back of the upper arm (triceps). Sit erect, elbows and palms facing up, feet resting behind neck on shoulders. Hands near center of back, feet spread. Tighten abdominal and back muscles. Keep upper arms stationary. Push weight overhead. Return bar to original position. Repeat. Specters are needed. Variations: Substituting dumbbells (one in each hand) or one used in both hands (as in one hand at a time).

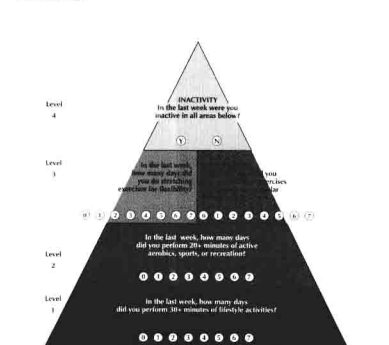


Lab Resource Materials

Many concepts include self-assessments. These concepts have a *Lab Resource Materials* section on the pages preceding the labs for that concept. They are designed to help the reader perform the self-assessments properly. They are included on non-tear out pages so that they can be used for repeat self-assessments.

Lab 5A Self-Assessment of Physical Activity

Name _____ Section _____ Date _____
Purpose: To estimate your current level of physical activity from each category of the physical activity pyramid.
Procedures:
1. Place an X over the row that characterizes your participation in each category in the pyramid.
2. Determine if you met the national goal for each type of activity. Place an X over the "yes" circle if you met the goal in each area (see Results).



Tear-Out Labs

These are located at the end of each concept, and are designed to help you self-assess, self-monitor, and self-plan healthy lifestyles.

Skinfold Locations for Men
Chest skinfold—Make a mark above and to the right of the right nipple line. Measure the distance from the midline of the side and the nipple. The measurement at this location is often done on the diagonal because of the natural line of the skin.

Calf skinfold—Make a mark on the inside of the calf of the right leg at the level of the largest calf size girth. Place the foot on a chair or other elevation so that the knee is kept at approximately 90 degrees. Make a vertical measurement at the mark.

Abdominal skinfold—Make a mark on the skin approximately 1 inch to the right of the navel. Make a vertical measurement at that location for the Jackson-Pollock Method and horizontally for the 4-site method. (See page 293.)

Thigh skinfold—Same as for women (see previous page).

Self-Measured Triceps Skinfold for Both Men and Women
This measurement is made on the left arm so that the caliper can easily be read. Hold the arm straight at shoulder height. Make a fist with the thumb facing upward. Place the fat against a wall. With the right hand, place the caliper over the skinfold as it "hangs freely" on the back of the triceps (halfway from the tip of the shoulder to the elbow).

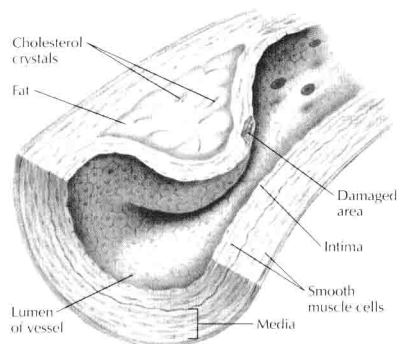


Figure 2 ► Atherosclerosis.

intima, of the artery (see Figure 2). Substances associated with blood clotting are attracted to the damaged area.

Table 1 ► Cholesterol C

| | Total Cholesterol |
|--------------|-------------------|
| Optimal | — |
| Near optimal | — |
| Desirable | <200 |
| Borderline | 200–240 |
| High risk | >240 |

Source: Third Report of the National

heart disease (see Table 1). There are subtypes of LDL, their small size and high risks. These subtypes are included in most current guidelines. Recently, the FDA has approved a test that, when combined with other factors, predicts future heart disease.

Illustration Program

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.

Too much activity can lead to hyperkinetic conditions. The information presented in this concept points out the health benefits of physical activity performed in appropriate amounts. When done in excess or incorrectly, physical activity can result in hyperkinetic conditions. The most common hyper-

kinetic condition is reverse injury to muscles, connective tissue, and bones. Recently, anorexia nervosa and body dysmorphic disorder have been identified as conditions associated with inappropriate amounts of physical activity. These conditions will be discussed in the concept on performance.

Strategies for Action

A self-assessment of risk factors can help you modify your lifestyle to reduce risk for heart disease. www.mhhe.com/phys_fit/web04 Click 10. The Heart Disease Risk Factor Questionnaire in Lab 4A will help you assess your personal risk for heart disease. The questionnaire helps you to become aware of each of the risk factors for heart disease described in this concept. Although the questionnaire is educationally useful in making you aware of risk factors, it is not a substitute for a regular medical exam. When you have your regular physical exam, it would be wise to ask for a blood test, especially as you grow older or if your score on the questionnaire is high.

Selecting physical activities from the physical activity pyramid can help you achieve the health benefits described in this concept. The physical activity pyramid provides a conceptual model of the relative importance of different types of physical activity. Subsequent concepts in the book will cover the different components of health-related fitness and the type and amount of activity needed to improve these components. The lab activities in each of these concepts and the culminating lab activity at the end of the book are designed to help you plan for lifelong physical activity.

Study Resources

Check out additional online study resources for this concept in the Student Edition of the Online Learning Center at www.mhhe.com/corbin13e.

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.gov
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 4 are available at www.mhhe.com/phys_fit/web04 Click 11.

Bassuk, S. S., and Manson, J. E. 2003. Physical activity and cardiovascular disease prevention in women: How much is good enough? *Exercise and Sport Sciences Reviews* 31(4):176–181.

Hyperkinetic Conditions Diseases/illnesses or health conditions caused by, or contributed to, by too much physical activity.

ally reached in the twenties. Though muscular strength, it is not as dramatic as strength. As people grow older, strength and muscular endurance are less than people who do progressive resistance training is doing.

analyze the weaker person. endurance (the number of minutes of activity), a percentage. However, if you are a weaker person, your endurance (the number of minutes of activity) does not have an advantage. In fact, women have done as well as men in competitive endurance activities. In fact, women have done as well as men in competitive endurance activities. In fact, women have done as well as men in competitive endurance activities.

related to cardiovascular fitness. Cardiovascular fitness is the efficiency of the heart and respiratory system. It is a measure of the ability of the cardiovascular system to deliver oxygen to the muscles. Muscular endurance of the local skeletal muscles is the ability of the muscles to perform repeated contractions over time. Most forms of cardio-

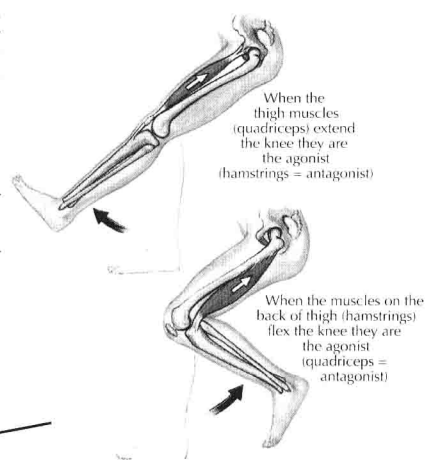


Figure 2 ► Agonist and antagonist muscles.

the antagonist. If the quadriceps become too strong relative to the antagonist hamstring muscles, the risk for injury increases (see Figure 2).

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 *Online Learning Center*.

Strategies for Action

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

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.

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