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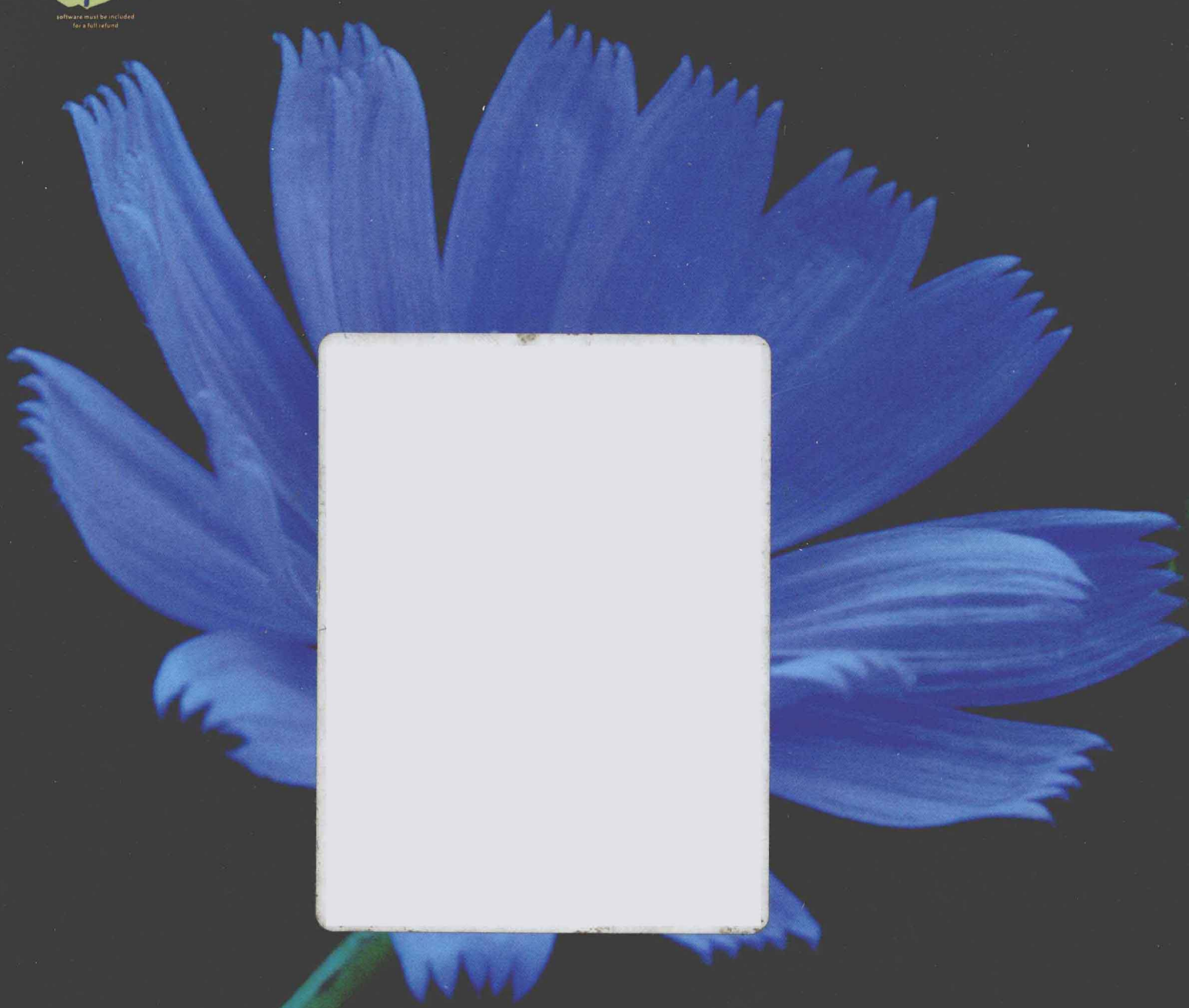
2004 UPDATE

NINTH EDITION



Core Concepts in Health

PAUL M. INSEL • WALTON T. ROTH

2004 UPDATE
NINTH EDITION

Core Concepts in Health

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Core Concepts in Health
2004 Update
Ninth Edition

2 3 4 5 6 7 8 9 0 DOW DOW 0 9 8 7 6 5 4

ISBN 0-07-255913-6

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Paper: *45# Publisher's Matte*
Printer and binder: *R.R. Donnelley, Willard*

Cover photo: © *Gerald D. Tang/Tang's Photo Memories*

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Library of Congress Cataloging-in-Publication Data

Core concepts in health / [edited by] Paul M. Insel, Walton T. Roth; Kirstan Price, developmental editor.—9th ed.
p. cm
"2004 update"
Includes bibliographical references and index.
ISBN 0-07-255913-6
1. Health I. Insel, Paul M. II. Roth, Walton T.

RA776.C83 2003b
613—dc21 2003043046

www.mhhe.com

Preface

Core Concepts in Health has maintained its leadership in the field of health education for more than 25 years. Since we pioneered the concept of self-responsibility for personal health in 1976, hundreds of thousands of students have used our book to become active, informed participants in their own health care. Each edition of *Core Concepts* has brought improvements and refinements, but the principles underlying the book have remained the same. Our commitment to these principles has never been stronger than it is today.

OUR GOALS

Our goals in writing this book can be stated simply:

- To present scientifically based, accurate, up-to-date information in an accessible format
- To involve students in taking responsibility for their health and well-being
- To instill a sense of competence and personal power in students

The first of these goals means making expert knowledge about health and health care available to the individual. *Core Concepts* brings scientifically based, accurate, up-to-date information to students about topics and issues that concern them—exercise, stress, nutrition, weight management, contraception, intimate relationships, HIV infection, drugs, alcohol, and a multitude of others. Current, complete, and straightforward coverage is balanced with "user-friendly" features designed to make the text appealing. Written in an engaging, easy-to-read style and presented in a colorful, open format, *Core Concepts* invites the student to read, learn, and remember. Boxes, tables, artwork, photographs, and many other features highlight areas of special interest throughout the book.

Our second goal is to involve students in taking responsibility for their health. *Core Concepts* uses innovative pedagogy and unique interactive features to get students thinking about how the material they're reading relates to their own lives. We invite them to examine their emotions about the issues under discussion, to consider their personal values and beliefs, and to analyze their health-related behaviors. Beyond this, for students who want to change behaviors that detract from a healthy lifestyle, we offer guidelines and tools, ranging from samples of health journals and personal contracts to detailed assessments and behavior change strategies.

Perhaps our third goal in writing *Core Concepts in Health* is the most important: to instill a sense of competence and personal power in the students who read the book. Everyone has the ability to monitor, understand, and affect his or her own health. Although medical and health professionals possess impressive skills and have access to a huge body of knowledge that benefits everyone in our society, people can help to minimize the amount of professional care they actually require in their lifetime by taking care of themselves—taking charge of their health—from an early age. Our hope is that *Core Concepts* will continue to help young people make this exciting discovery—that they have the power to shape their own futures.

ABOUT THE 2004 UPDATE

Because changes in health-related information occur so rapidly, and because we are committed to providing comprehensive, accurate information on the most pressing current issues, we have prepared this updated version of the ninth edition of *Core Concepts in Health.* The overall content, organization, and features of the ninth edition remain in place, but within this framework, key topics and issues have been updated with the most recent information available.

For the 2004 Update, all chapters were carefully reviewed and updated. The latest information from scientific and health-related research is incorporated into the text, and newly emerging topics and issues are discussed. Coverage has been updated in two general ways:

- Where important new issues or topics have arisen, or where new information has become available in key areas, we have incorporated this information into the text or highlight boxes. Examples of new and updated topics include recommendations for diet and physical activity, newly approved contraceptive methods, club drugs, college binge drinking, stem cells, post-traumatic stress disorder, bioterrorism, diabetes and pre-diabetes, emerging infections, global violence, dietary supplements, alternative medicine, and popular approaches to weight loss.
- Wherever more recent statistics have become available, we have replaced older figures with newer ones. For example, we have updated statistics on the incidence of various diseases, including CVD, cancer, and HIV infection; on rates of use of tobacco,

alcohol, and other drugs; on leading causes of death; on health care spending in the United States; and on worldwide population growth.

These and other updates to the text and supplementary materials are described in further detail below. For a complete list of changes in the 2004 Update, contact your McGraw-Hill sales representative.

ORGANIZATION AND CONTENT OF THE 2004 UPDATE

The organization of the book as a whole remains the same as in the ninth edition. The book is divided into eight parts. Part One, Establishing a Basis for Wellness, includes chapters on taking charge of your health (Chapter 1), stress (Chapter 2), and psychological health (Chapter 3). Part Two, Understanding Sexuality, opens with an exploration of communication and intimate relationships, including friendship, intimate partnerships, marriage, and family (Chapter 4), and then moves on to discuss physical sexuality (Chapter 5), contraception (Chapter 6), abortion (Chapter 7), and pregnancy and childbirth (Chapter 8). As in previous editions of *Core Concepts,* we devote a separate chapter to abortion to reflect both the importance of this issue and our belief that abortion is not a form of contraception and should not be included in the chapter on that topic.

Part Three, Making Responsible Decisions: Substance Use and Abuse, opens with a discussion of addictive behavior and the different classes of psychoactive drugs (Chapter 9), followed by chapters on alcohol (Chapter 10) and tobacco (Chapter 11). Part Four, Getting Fit, includes a detailed discussion of nutrition (Chapter 12), exercise (Chapter 13), and weight management (Chapter 14).

Part Five, Protecting Yourself from Disease, deals with the most serious health threats facing Americans today—cardiovascular disease (Chapter 15), cancer (Chapter 16), infectious diseases (Chapter 17), and sexually transmitted diseases (Chapter 18). Part Six, Accepting Physical Limits, explores aging (Chapter 19) and dying and death (Chapter 20).

Part Seven, Making Choices in Health Care, opens with coverage of both conventional and complementary medicine (Chapter 21), followed by information about medical self-care and use of the health care system (Chapter 22). And finally, Part Eight, Improving Your Chances: Personal Safety and Environmental Health, expands the boundaries of health to include injury prevention (Chapter 23) and the effects of environment on wellness (Chapter 24). Taken together, the chapters of the book provide students with a complete guide to promoting and protecting their health, now and through their entire lives, as individuals, as participants in a health care community and system, and as citizens of a planet that also needs to be protected if it is to continue providing human beings with the means to live healthy lives.

The 2004 Update continues to emphasize the development of total wellness, with expanded coverage of spiritual wellness and the close connections between mind and body. Key topics include paths to spiritual wellness; global religious views on tobacco use; the effects of stress on the brain, the immune system, and the course of pregnancy; and the benefits of close connections with others. Chapter 4 includes information on the benefits of intimate relationships and strategies for building and maintaining healthy interpersonal relationships. Suggested journal writing activities throughout the book help students to further explore their feelings and values.

Many other areas of special concern to students have also been expanded and updated in the 2004 Update. Chapters 2 and 3 include new information on how to cope after terrorism or mass violence and how to recognize and deal with post-traumatic stress disorder. The recently approved contraceptive methods—the contraceptive patch and the vaginal ring—are described in detail in Chapter 6, along with updated information on all available methods. The coverage of drugs in Chapter 9 includes updated material on club drugs, oxycodone, and ephedrine. The latest guidelines for healthy nutrient intakes and recommended patterns of physical activity are described in Chapters 12–14, along with expanded coverage of fast food and popular diets. Chapters 14 and 15 examine the health risks associated with diabetes and prediabetes, along with strategies for prevention and treatment. Key issues relating to the U.S. health care system are highlighted in Chapters 21 and 22, including the use of complementary and alternative medicine, health fraud, direct-to-consumer advertising of prescription drugs, and the rising cost of medical care. And a new section in Chapter 23 looks at terrorism and the magnitude and impact of interpersonal and collective violence worldwide.

Core Concepts also takes care to address the health issues and concerns of an increasingly diverse student population. While most health concerns are universal—we all need to eat well, exercise, and manage stress, for example—certain differences among people have important implications for health. These differences can be genetic or cultural, based on factors such as gender, socioeconomic status, age, and ethnicity. Where such differences are important for health, they are discussed in the text or in a type of highlight box called Dimensions of Diversity (discribed in greater detail below). Examples of these discussions include the links between ethnicity and genetic diseases, the relationship between poverty and environmental health, and the effects of gender and ethnicity on body image. Topics in women's health receive special attention; the 2004 Update includes discussions of how contraceptive use varies among U.S. women, the special risks faced by women who smoke or drink, hormonal influences on cardiovascular health and

disease, the increased risk women face for depression and autoimmune disorders, and special dietary challenges faced by women.

The health field is dynamic, with new discoveries, advances, trends, and theories reported every week. Ongoing research—on the role of diet in cancer prevention, for example, or on new treatments for HIV infection—continually changes our understanding of the human body and how it works in health and disease. For this reason, no health book can claim to have the final word on every topic. Yet within these limits, *Core Concepts* does present the latest available information and scientific thinking on innumerable topics.

To aid students in keeping up with rapidly advancing knowledge about health issues, *Core Concepts* also includes coverage of a key source of up-to-date information—the Internet. Each chapter includes an annotated list of World Wide Web sites that students can use as a launching point for further exploration of important topics. Appendix C, Resources for Self-Care, provides a brief introduction to the Internet, including guidelines for performing Web searches, using newsgroups and mailing lists, and evaluating health information from the Web.

Each chapter in the 2004 Update of the ninth edition is also closely tied to the Web site developed as a companion to the text. Elements marked with the special World Wide Web icon have corresponding links and activities on the *Core Concepts in Health* Online Learning Center (www.mhhe.com/insel9e). The Web site and other online supplements are described below in greater detail.

FEATURES OF THE 2004 UPDATE

This edition of *Core Concepts in Health* builds on the features that attracted and held our readers' interest in the previous editions. One of the most popular features has always been the **boxes**, which allow us to explore a wide range of current topics in greater detail than is possible in the text itself. The boxes are divided into seven categories, each marked with a unique icon and label.

In the News boxes focus on current health issues that have recently been highlighted in the media. More than half the In the News boxes are new to the 2004 Update; new topics include post-traumatic stress disorder, cohabitation, college binge drinking, tobacco use in film, the effects of fast-food and other environmental factors on U.S. eating habits, popular diet plans, causes of cancer, bioterrorism agents, stem cells, and approaches for dealing with the shortage of donor organs. Each In the News box is accompanied by the World Wide Web icon, indicating that the *Core Concepts* Online Learning Center has links to Internet resources students can use to learn more about the topic of the box.

Mind/Body/Spirit boxes focus on spiritual wellness and the close connections between people's feelings and states of mind and their physical health. Included in Mind/Body/Spirit boxes are topics such as paths to spiritual wellness, religious views of tobacco use, benefits of being a volunteer, sexual decision making and personal values, the placebo effect, how exercise fosters emotional wellness, and how stress affects pregnancy and the immune system. Mind/Body/Spirit boxes emphasize that all the dimensions of wellness must be developed in order for an individual to achieve optimal health and well-being.

Take Charge boxes distill from each chapter the practical advice students need in order to apply information to their own lives. By referring to these boxes, students can easily find ways to foster friendships, for example; to become more physically active; to enhance support in their relationships; to reduce the amount of fat in their diets; and to help a friend who has a problem with tobacco or drugs or has an eating disorder.

Critical Consumer boxes emphasize the key theme of critical thinking by helping students develop and apply critical thinking skills, thereby allowing them to make sound choices related to health and well-being. Critical Consumer boxes provide specific guidelines for evaluating health news and advertising, using food labels to make dietary choices, choosing a bicycle helmet, avoiding quackery, selecting exercise footwear, making environmentally friendly shopping choices, and so on.

Dimensions of Diversity boxes are part of our commitment to reflect and respond to the diversity of the student population. These boxes give students the opportunity to identify any special health risks that affect them because of who they are as individuals or as members of a group. The boxes also broaden students' perspectives by exposing them to a wide variety of viewpoints on health-related issues. The different dimensions these boxes reflect include gender, ethnicity, socioeconomic status, and age. The principles embodied by these boxes are described in Chapter 1; topics covered in later chapters include special cardiovascular disease risks for African Americans, exercise for people with disabilities, suicide among older men, drug use in rural America, ethnic foods, links between poverty and poor environmental health, and attitudes toward aging.

In addition, some Dimensions of Diversity boxes highlight health issues and practices in other parts of the world, allowing students to see what Americans share with people in other societies and how they differ. Students have the opportunity to learn about laws and attitudes toward abortion in other countries, global patterns of violence, tobacco control around the world, the global pattern of HIV infection, health care systems around the world, and other topics of interest.

Assess Yourself boxes give students the opportunity to examine their behavior and identify ways that they can change their habits and improve their health. By referring to these boxes, students can examine their eating habits, for example; evaluate their fitness level; discover if they are at increased risk for cancer or cardiovascular disease; evaluate their driving habits; determine what triggers their eating; and examine their drinking and drug-taking behavior. These self-assessments are also included on the *Core Concepts in Health* Online Learning Center.

In Focus boxes highlight current wellness topics of particular interest. Topics include diabetes, headaches, injection drug use, asthma, genetic testing for cancer, carpal tunnel syndrome, and shyness.

In addition to the box program, many carefully refined features are included in the 2004 Update of the ninth edition of *Core Concepts*. Each chapter opens with **Test Your Knowledge**—a series of 4–6 multiple choice and true-false questions, with answers. These self-quizzes facilitate learning by getting students involved in a variety of wellness-related issues. The questions emphasize important points, highlight common misconceptions, and spark debate. Many questions are new to the 2004 Update.

Vital Statistics tables and figures highlight important facts and figures in a memorable format that often reveals surprising contrasts and connections. From tables and figures marked with the Vital Statistics label, students can learn about drinking and drug use among college students, alternative medicine use in the United States, world population growth, prevalence of psychological disorders, trends in public opinion about abortion, and a wealth of other information. For students who grasp a subject best when it is displayed graphically, numerically, or in a table, the Vital Statistics feature provides alternative ways of approaching and understanding the text. In addition, for each Vital Statistics table and figure, the *Core Concepts* Online Learning Center has links to sites where students can find the latest statistics and information.

Core Concepts features a wealth of attractive and helpful **illustrations.** The anatomical art, which has been prepared by medical illustrators, is both visually appealing and highly informative. These illustrations help students understand such important information as how blood flows through the heart, how the process of conception occurs, and how to use a condom. Other topics illustrated in the 2004 Update include diabetes, the effects of cocaine use on brain chemistry, the allergic response, the process of tumor development, osteoarthritis, and the vegetarian food pyramid. These lively and abundant illustrations will particularly benefit those students who learn best from visual images.

Communicate! exercises suggest strategies and activities for improving communication skills in ways that will enhance wellness. Communicate! covers all aspects of communication, from interpersonal communication and communication with oneself to mass communication, from assertive speaking to empathic listening, and from methods of persuasion to critical evaluation of public messages. These exercises appear at appropriate points throughout each chapter.

Chapter-ending **Tips for Today** sections provide a very 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.

Take Action, appearing at the end of every chapter, suggests hands-on exercises and projects that students can undertake to extend and deepen their grasp of the material. Suggested projects include interviews, investigations of campus or community resources, and experimentation with some of the behavior change techniques suggested in the text. Special care has been taken to ensure that the projects are both feasible and worthwhile.

Journal Entry also appears at the end of each chapter. These entries suggest ways for students to use their Health Journal (which we recommend they keep while using *Core Concepts*) to think about topics and issues, explore and formulate their own views, and express their thoughts in written form. They are designed to help students deepen their understanding of their own health-related behaviors. (Journal Entry questions also appear on the *Core Concepts* Online Learning Center in a format that enables students to e-mail their responses to their instructors.)

Making wise choices about health requires students to sort through and evaluate health information. To help students become skilled evaluators, each chapter contains at least one **Critical Thinking Journal Entry.** These entries help students develop their critical thinking skills, including finding relevant information, separating fact from opinion, recognizing faulty reasoning, evaluating information, and assessing the credibility of sources. Critical Thinking Journal Entry questions do not have right or wrong answers; rather, they ask students to analyze, evaluate, or take a stand on a particular issue.

The **Behavior Change Strategies** that conclude many chapters offer specific behavior management/modification plans relating to the chapter's topic. Based on the principles of behavior management that are carefully explained in Chapter 1, these strategies will help students change unhealthy or counterproductive behaviors. Included are strategies for dealing with test anxiety, quitting smoking, developing responsible drinking habits, planning a personal exercise program, phasing in a healthier diet, and many other practical plans for change.

Three quick-reference appendixes provide students with resources they can keep and use for years to come:

- **Appendix A,** "Nutritional Content of Popular Items from Fast-Food Restaurants," provides information on commonly ordered menu items.
- **Appendix B,** "Self-Care Guide for Common Medical Problems," provides information to help students manage common symptoms, including fever, sore throat, indigestion, headache, and cuts and scrapes.
- **Appendix C,** "Resources for Self-Care," lists books, information centers, hotlines, and electronic sources of wellness-related materials. Guidelines for using the Internet—how to perform searches, how to evaluate online information, and how to use newsgroups, mailing lists, and chat rooms—are also provided.

"Steps for Choking Emergencies" from the Red Cross appears inside the back cover of the text, providing information that can save lives.

LEARNING AIDS

Although all the features of *Core Concepts in Health* are designed to facilitate learning, several specific learning aids have also been incorporated in the text. Learning objectives labeled **Looking Ahead** appear on the opening page of each chapter, identifying major concepts and helping to guide students in their reading and review of the text. Important terms appear in boldface type in the text and are defined in a **running glossary,** helping students handle a large and complex new vocabulary.

Chapter summaries offer students a concise review and a way to make sure they have grasped the most important concepts in the chapter. Also found at the end of every chapter are **Selected Bibliographies** and sections called For More Information. **For More Information** sections contain annotated lists of books, newsletters, hotlines, organizations, and Web sites that students can use to extend and broaden their knowledge or pursue subjects of interest to them. A complete **Index** at the end of the book includes references to glossary terms in boldface type.

TEACHING TOOLS

Available with the 2004 Update of the ninth edition of *Core Concepts in Health* is a comprehensive package of supplementary materials designed to enhance teaching and learning.

Instructor's Resource Binder (ISBN 0-07-255924-1)

The **Instructor's Resource Binder** contains a variety of helpful teaching materials in an easy-to-use form:

- The **Course Integrator Guide** (ISBN 0-07-255925-X), includes learning objectives, extended chapter outlines, classroom activities, Internet 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. The Course Integrator Guide is also available on the special Interactive Instructor CD-ROM described below.
- **Transparency masters and handouts**—more than 150 in all—are provided as additional lecture resources. The transparency masters feature tables showing key statistics and data, illustrations from the text and many other sources, and key points from the text. The student handouts provide additional information and can be used to extend student knowledge on topics such as pre-diabetes, glycemic index, tattooing and body piercing, yoga for relaxation, and dealing with alcohol emergencies. Illustrations of many body systems are also provided.
- The printed **Test Bank** (ISBN 0-07-255926-8) includes more than 3000 true-false and multiple choice questions. The Test Bank for the 2004 Update, prepared by Kathy McGinnis at San Diego City College, has been expanded to include short essay questions and two 100-question multiple choice tests that cover the content of the entire text. The answer key lists the page number in the text where each answer is found.
- A complete set of **Wellness Worksheets** (ISBN 0-07-284316-0), a student learning aid described below, is also included in the Instructor's Resource Binder.

Computerized Test Bank CD-ROM (ISBN 0-07-255930-6)

The Computerized Test Bank CD-ROM from Brownstone provides a powerful, easy-to-use test maker to create a print version, a computer lab version, or an Internet version of each test. The CD-ROM includes the Diploma program for Windows users and Exam VI for Macintosh users. The Diploma program also includes a built-in gradebook.

Interactive Instructor CD-ROM (ISBN 0-07-255928-4)

The special Interactive Instructor CD-ROM combines all the elements of the Course Integrator Guide with the electronic instructor resources offered with the 2004 Update of *Core Concepts in Health*. The resources on the CD-ROM include PowerPoint slides, Image Set, Digital Transparencies, Wellness Worksheets, live Web links, and the Computerized Test Bank. Interactive outlines in the electronic Course Integrator Guide bring together all the resources for each chapter in a user-friendly format.

Visual Resources: PowerPoint Slides, Acetates, and Videos

A variety of visual resources is available for use with the 2004 Update of *Core Concepts in Health*:

- The **Interactive Instructor CD-ROM** described on the previous page includes an electronic library of visual resources, including PowerPoint presentations, Digital Transparencies, and images from the text. Many of these resources can also be downloaded from the *Core Concepts in Health* Online Learning Center (www.mhhe.com/insel9e).
- A set of 80 color **Transparency Acetates** (ISBN 0-07-255927-6) is available as a lecture resource. The acetates do not duplicate the transparency masters in the Instructor's Resource Binder, and many are from sources other than the text.
- The **McGraw-Hill Custom Video for Health** (ISBN 0-7674-2567-7) includes brief video segments with additional information on wellness topics such as nutrition, exercise, and heart disease.
- **Students on Health Custom Video** (ISBN 0-7674-0022-4) features students from college campuses across the country discussing how their daily lives are affected by their choices in such wellness areas as exercise, nutrition, tobacco and alcohol use, and stress.
- The **Healthy Living Video Clips CD-ROM** (ISBN 0-07-238808-0) contains a collection of brief, digitized video clips that can be used to introduce a lecture or to spark classroom discussion. The segments are 2–4 minutes long, and links provide brief descriptions of each clip.

Videos from Films for Humanities and from the award-winning series *Healthy Living: Road to Wellness* are also available.

Digital Solutions

The ***Core Concepts in Health* Online Learning Center (www.mhhe.com/insel9e)** provides many additional resources for both instructors and students. Instructor tools include downloadable versions of the Course Integrator Guide and all 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, and extensive links. The Online Learning Center also includes many tools for wellness behavior change, including interactive versions of the Wellness Worksheets and a workbook for behavior change. Through the Online Learning Center, students can also access **PowerWeb (www.dushkin.com/online)** resources, including articles on key health topics, self-scoring quizzes, interactive exercises, study tips, and a daily news feed.

The **Health and Human Performance Web Site (www.mhhe.com/hhp)** provides articles about current issues, downloadable supplements for instructors, a "how-to" technology guide, self-assessments, study tips, exam-preparation materials, and a wealth of other tools and resources for instructors and students. It also includes information about professional organizations, scholarship opportunities, conventions, and careers.

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 gradebook, and much more. The Online Learning Center can also be customized to work with products such as WebCT and Blackboard.

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

Student Resources Available with the 2004 Update of *Core Concepts in Health*

Students who purchase a new copy of *Core Concepts in Health* receive free access to the following learning tools:

- **Health*Quest* 4.2 CD-ROM** (ISBN 0-07-286019-7): This interactive CD-ROM helps students explore and change their wellness behavior. It includes tutorials, assessments, and behavior change guidelines in such key areas as stress, fitness, nutrition, infectious diseases, cardiovascular disease, cancer, tobacco, alcohol, and other drugs. Suggested Health*Quest* activities are included on the Online Learning Center.
- ***Learning to Go: Health!*** This Internet-based reinforcement system delivers interactive lessons directly to a personal computer. It provides bite-sized lessons with overviews, tips, questions, readings, and other resources that reinforce the main themes of the course and help students act on key health information. You can choose to have your students complete the full set of *Learning to Go* lessons or tailor the selection and order of the lessons to fit your course.
- **Premium Resources from the *Core Concepts in Health* Online Learning Center:** As described above, these resources include interactive self-assessments and many study aids and behavior change tools.

Students with a used copy of the text can purchase access to these learning resources separately by contacting their bookstore and visiting the *Core Concepts in Health* Online Learning Center (www.mhhe.com/insel9e).

Other student supplements available with the 2004 Update of *Core Concepts in Health* include the following:

- More than 100 **Wellness Worksheets** (ISBN 0-07-284316-0) are available to help students become more involved in their own wellness and better prepared to implement successful behavior change. The worksheets include assessment tools, Internet activities, and knowledge-based reviews of key concepts. They are available shrink-wrapped with the text in an easy-to-use pad and in the premium resources section of the Online Learning Center.
- **The Daily Fitness and Nutrition Journal** (ISBN 0-07-253055-3) is a handy booklet that guides students in planning and tracking a fitness program. It also helps students assess their current diet and make appropriate changes.
- **NutritionCalc Plus** (0-07-292084-X) 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 Food Guide Pyramid and the latest Dietary Reference Intakes (DRIs). The ESHA database includes thousands of ethnic foods, supplements, fast foods, and convenience foods, and users can add their own foods to the food list. NutritionCalc Plus is available on CD-ROM (Windows only) or as an online version.
- The **Quick View Guide to the Internet for Students of Health, Physical Education, and Exercise Science, Version 2.0** (ISBN 0-7674-2062-4) provides step-by-step instructions on how to access the Internet; how to find, evaluate, and use online information about fitness and wellness; and many other topics.

Additional supplements and many packaging options are available; check with your McGraw-Hill sales representative.

A NOTE OF THANKS

The efforts of innumerable people have gone into producing this 2004 Update of the ninth edition of *Core Concepts in Health.* The book has benefited immensely from their thoughtful commentaries, expert knowledge and opinions, and many helpful suggestions. We are deeply grateful for their participation in the project.

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Finally, we would like to thank the members of the *Core Concepts* book team at McGraw-Hill Higher Education. First, we are indebted to Kirstan Price for her dedication and her extraordinary creative energies, which have helped to make this book such a success. Thanks also go to Vicki Malinee, executive editor; Lynda Huenefeld, developmental editor for technology; Megan Orlandi, editorial assistant; Pam Cooper, senior marketing manager; Jason Dewey, field publisher; Lance Gerhart, media producer; David Staloch, production editor; Rich DeVitto, production supervisor; Violet Díaz, design manager; Robin Mouat, art manager; Brian Pecko, photo researcher; and Marty Granahan, permissions editor. To all we express our deep appreciation.

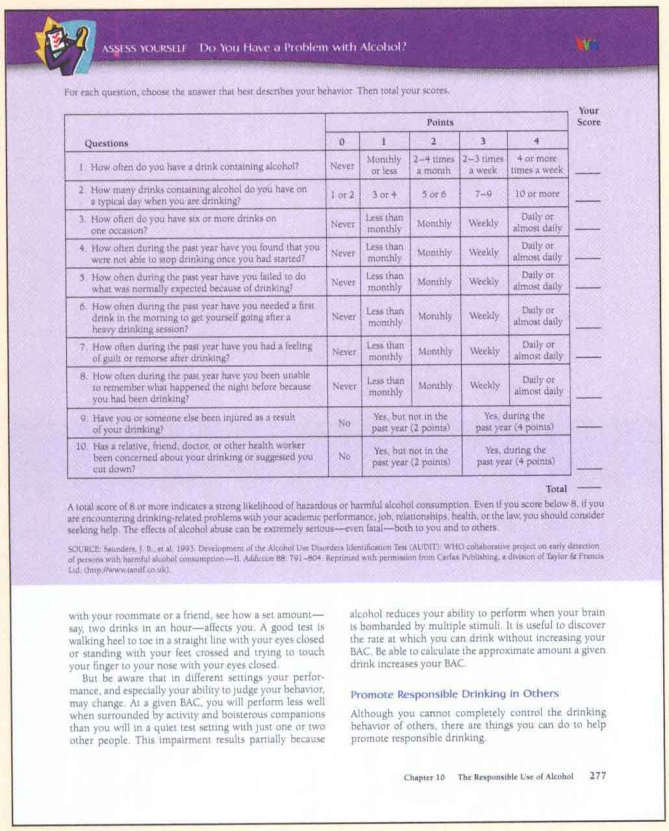
Paul M. Insel
Walton T. Roth

A Guided Tour of *Core Concepts in Health*

Are you looking for ways to improve your health behaviors and quality of life? Do you need help finding reliable wellness resources online? Would you like to boost your grade? *Core Concepts in Health* can help you do all this and much more!

Assess Yourself Boxes

Assess Yourself boxes give you the opportunity to evaluate your current level of wellness and pinpoint lifestyle behaviors that you can change. Assess Yourself boxes are marked with a special World Wide Web icon to indicate that you can find them in an interactive format on the *Core Concepts in Health* Online Learning Center (www.mhhe.com/insel9e). Look for this icon throughout the text to identify elements that have corresponding activities and links on the Online Learning Center.



ASSESS YOURSELF Do You Have a Problem with Alcohol?

For each question, choose the answer that best describes your behavior. Then total your scores.

Questions	Points 0	1	2	3	4	Your Score
1. How often do you have a drink containing alcohol?	Never	Monthly or less	2–4 times a month	2–3 times a week	4 or more times a week	
2. How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7–9	10 or more	
3. How often do you have six or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
4. How often during the past year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
5. How often during the past year have you failed to do what was normally expected because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
6. How often during the past year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
7. How often during the past year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
8. How often during the past year have you been unable to remember what happened the night before because you had been drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
9. Have you or someone else been injured as a result of your drinking?	No	Yes, but not in the past year (2 points)		Yes, during the past year (4 points)		
10. Has a relative, friend, doctor, or other health worker been concerned about your drinking or suggested you cut down?	No	Yes, but not in the past year (2 points)		Yes, during the past year (4 points)		
					Total	

A total score of 8 or more indicates a strong likelihood of hazardous or harmful alcohol consumption. Even if you score below 8, if you are encountering drinking-related problems with your academic performance, job, relationships, health, or the law, you should consider seeking help. The effects of alcohol abuse can be extremely serious—even fatal—both to you and to others.

SOURCE: Saunders, J. B., et al. 1993. Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption—II. Addiction 88: 791–804. Reprinted with permission from Carfax Publishing, a division of Taylor & Francis Ltd. (http://www.tandf.co.uk).

with your roommate or a friend, see how a set amount—say, two drinks in an hour—affects you. A good test is walking heel to toe in a straight line with your eyes closed or standing with your feet crossed and trying to touch your finger to your nose with your eyes closed.

But be aware that in different settings your performance, and especially your ability to judge your behavior, may change. At a given BAC, you will perform less well when surrounded by activity and boisterous companions than you will in a quiet test setting with just one or two other people. This impairment results partially because alcohol reduces your ability to perform when your brain is bombarded by multiple stimuli. It is useful to discover the rate at which you can drink without increasing your BAC. Be able to calculate the approximate amount a given drink increases your BAC.

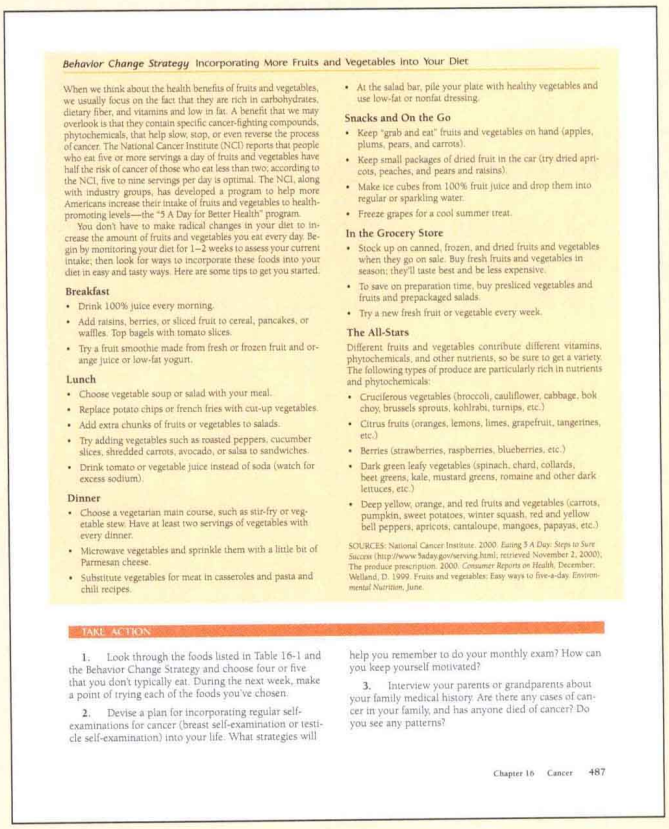
Promote Responsible Drinking in Others

Although you cannot completely control the drinking behavior of others, there are things you can do to help promote responsible drinking.

Chapter 10 The Responsible Use of Alcohol 277

Behavior Change Strategies

Behavior Change Strategies provide specific behavior change plans for particular areas of wellness. Included are strategies for dealing with test anxiety, developing responsible drinking habits, quitting tobacco use, improving diet, planning a personal exercise program, and many other practical plans for change.



Behavior Change Strategy Incorporating More Fruits and Vegetables into Your Diet

When we think about the health benefits of fruits and vegetables, we usually focus on the fact that they are rich in carbohydrates, dietary fiber, and vitamins and low in fat. A benefit that we may overlook is that they contain specific cancer-fighting compounds, phytochemicals, that help slow, stop, or even reverse the process of cancer. The National Cancer Institute (NCI) reports that people who eat five or more servings a day of fruits and vegetables have half the risk of cancer of those who eat less than two; according to the NCI, five to nine servings per day is optimal. The NCI, along with industry groups, has developed a program to help more Americans increase their intake of fruits and vegetables to health-promoting levels—the "5 A Day for Better Health" program.

You don't have to make radical changes in your diet to increase the amount of fruits and vegetables you eat every day. Begin by monitoring your diet for 1–2 weeks to assess your current intake; then look for ways to incorporate these foods into your diet in easy and tasty ways. Here are some tips to get you started.

Breakfast

- Drink 100% juice every morning.
- Add raisins, berries, or sliced fruit to cereal, pancakes, or waffles. Top bagels with tomato slices.
- Try a fruit smoothie made from fresh or frozen fruit and orange juice or low-fat yogurt.

Lunch

- Choose vegetable soup or salad with your meal.
- Replace potato chips or french fries with cut-up vegetables.
- Add extra chunks of fruits or vegetables to salads.
- Try adding vegetables such as roasted peppers, cucumber slices, shredded carrots, avocado, or salsa to sandwiches.
- Drink tomato or vegetable juice instead of soda (watch for excess sodium).

Dinner

- Choose a vegetarian main course, such as stir-fry or vegetable stew. Have at least two servings of vegetables with every dinner.
- Microwave vegetables and sprinkle them with a little bit of Parmesan cheese.
- Substitute vegetables for meat in casseroles and pasta and chili recipes.
- At the salad bar, pile your plate with healthy vegetables and use low-fat or nonfat dressing.

Snacks and On the Go

- Keep "grab and eat" fruits and vegetables on hand (apples, plums, pears, and carrots).
- Keep small packages of dried fruit in the car (try dried apricots, peaches, and pears and raisins).
- Make ice cubes from 100% fruit juice and drop them into regular or sparkling water.
- Freeze grapes for a cool summer treat.

In the Grocery Store

- Stock up on canned, frozen, and dried fruits and vegetables when they go on sale. Buy fresh fruits and vegetables in season; they'll taste best and be less expensive.
- To save on preparation time, buy presliced vegetables and fruits and prepackaged salads.
- Try a new fresh fruit or vegetable every week.

The All-Stars

Different fruits and vegetables contribute different vitamins, phytochemicals, and other nutrients, so be sure to get a variety. The following types of produce are particularly rich in nutrients and phytochemicals:

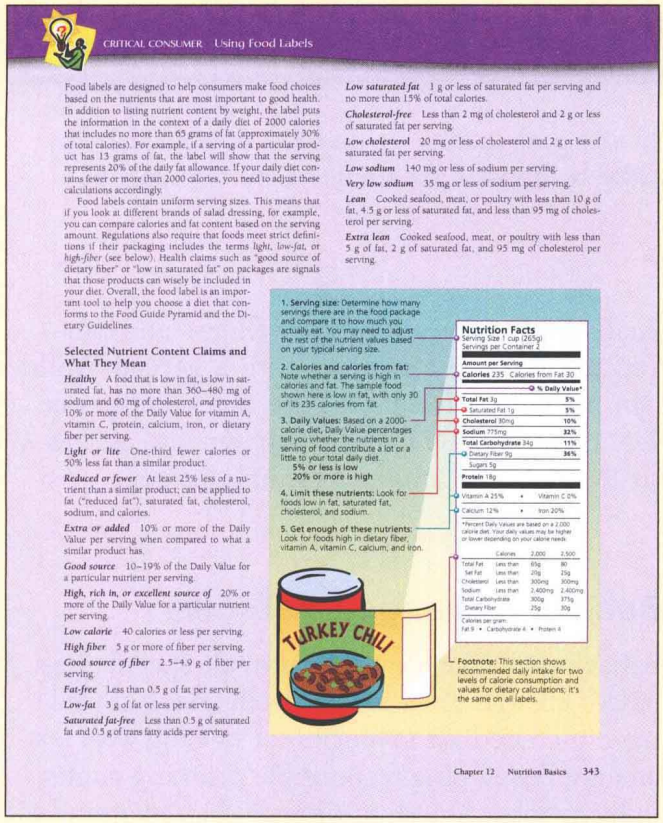
- Cruciferous vegetables (broccoli, cauliflower, cabbage, bok choy, brussels sprouts, kohlrabi, turnips, etc.)
- Citrus fruits (oranges, lemons, limes, grapefruit, tangerines, etc.)
- Berries (strawberries, raspberries, blueberries, etc.)
- Dark green leafy vegetables (spinach, chard, collards, beet greens, kale, mustard greens, romaine and other dark lettuces, etc.)
- Deep yellow, orange, and red fruits and vegetables (carrots, pumpkin, sweet potatoes, winter squash, red and yellow bell peppers, apricots, cantaloupe, mangoes, papayas, etc.)

SOURCES: National Cancer Institute. 2000. *Eating 5 A Day: Steps to Sure Success* (http://www.5aday.gov/servsig.html; retrieved November 2, 2000). The produce prescription. 2000. *Consumer Reports on Health*, December. Welland, D. 1999. Fruits and vegetables: Easy ways to five-a-day. *Environmental Nutrition*, June.

TAKE ACTION

1. Look through the foods listed in Table 16-1 and the Behavior Change Strategy and choose four or five that you don't typically eat. During the next week, make a point of trying each of the foods you've chosen.
2. Devise a plan for incorporating regular self-examinations for cancer (breast self-examination or testicle self-examination) into your life. What strategies will help you remember to do your monthly exam? How can you keep yourself motivated?
3. Interview your parents or grandparents about your family medical history. Are there any cases of cancer in your family, and has anyone died of cancer? Do you see any patterns?

Chapter 16 Cancer 487



CRITICAL CONSUMER Using Food Labels

Food labels are designed to help consumers make food choices based on the nutrients that are most important to good health. In addition to listing nutrient content by weight, the label puts the information in the context of a daily diet of 2000 calories that includes no more than 65 grams of fat (approximately 30% of total calories). For example, if a serving of a particular product has 13 grams of fat, the label will show that the serving represents 20% of the daily fat allowance. If your daily diet contains fewer or more than 2000 calories, you need to adjust these calculations accordingly.

Food labels contain uniform serving sizes. This means that if you look at different brands of salad dressing, for example, you can compare calories and fat content based on the serving amount. Regulations also require that foods meet strict definitions if their packaging includes the terms *light*, *low-fat*, or *high-fiber* (see below). Health claims such as "good source of dietary fiber" or "low in saturated fat" on packages are signals that those products can wisely be included in your diet. Overall, the food label is an important tool to help you choose a diet that conforms to the Food Guide Pyramid and the Dietary Guidelines.

Selected Nutrient Content Claims and What They Mean

Healthy A food that is low in fat, is low in saturated fat, has no more than 360–480 mg of sodium and 60 mg of cholesterol, *and* provides 10% or more of the Daily Value for vitamin A, vitamin C, protein, calcium, iron, or dietary fiber per serving.

Light or lite One-third fewer calories or 50% less fat than a similar product.

Reduced or fewer At least 25% less of a nutrient than a similar product; can be applied to fat ("reduced fat"), saturated fat, cholesterol, sodium, and calories.

Extra or added 10% or more of the Daily Value per serving when compared to what a similar product has.

Good source 10–19% of the Daily Value for a particular nutrient per serving.

High, rich in, or excellent source of 20% or more of the Daily Value for a particular nutrient per serving.

Low calorie 40 calories or less per serving.

High fiber 5 g or more of fiber per serving.

Good source of fiber 2.5–4.9 g of fiber per serving.

Fat-free Less than 0.5 g of fat per serving.

Low-fat 3 g of fat or less per serving.

Saturated fat-free Less than 0.5 g of saturated fat and 0.5 g of trans fatty acids per serving.

Low saturated fat 1 g or less of saturated fat per serving and no more than 15% of total calories.

Cholesterol-free Less than 2 mg of cholesterol and 2 g or less of saturated fat per serving.

Low cholesterol 20 mg or less of cholesterol and 2 g or less of saturated fat per serving.

Low sodium 140 mg or less of sodium per serving.

Very low sodium 35 mg or less of sodium per serving.

Lean Cooked seafood, meat, or poultry with less than 10 g of fat, 4.5 g or less of saturated fat, and less than 95 mg of cholesterol per serving.

Extra lean Cooked seafood, meat, or poultry with less than 5 g of fat, 2 g of saturated fat, and 95 mg of cholesterol per serving.

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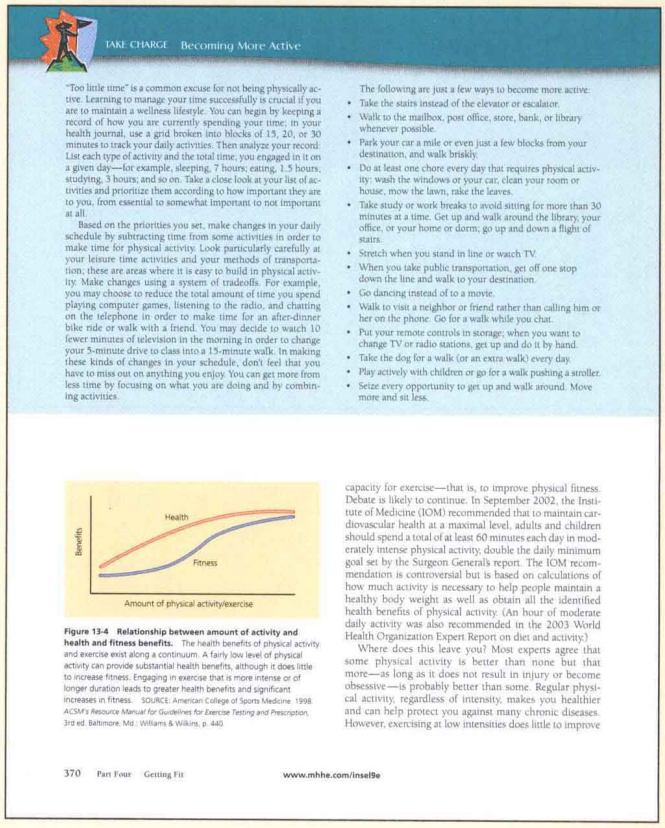
Critical Consumer Boxes

Critical Consumer boxes are designed to help you develop and apply critical thinking skills so you can make sound choices related to wellness

Take Charge Boxes

Take Charge boxes present the practical advice you need to apply information from the text to your own life and take charge of your health.



TAKE CHARGE Becoming More Active

"Too little time" is a common excuse for not being physically active. Learning to manage your time successfully is crucial if you are to maintain a wellness lifestyle. You can begin by keeping a record of how you are currently spending your time; in your health journal, use a grid broken into blocks of 15, 20, or 30 minutes to track your daily activities. Then analyze your record. List each type of activity and the total time you engaged in it on a given day—for example, sleeping, 7 hours; eating, 1.5 hours; studying, 3 hours; and so on. Take a close look at your list of activities and prioritize them according to how important they are to you, from essential to somewhat important to not important at all.

Based on the priorities you set, make changes in your daily schedule by subtracting time from some activities in order to make time for physical activity. Look particularly carefully at your leisure time activities and your methods of transportation; these are areas where it is easy to build in physical activity. Make changes using a system of tradeoffs. For example, you may choose to reduce the total amount of time you spend playing computer games, listening to the radio, and chatting on the telephone in order to make time for an after-dinner bike ride or walk with a friend. You may decide to watch 10 fewer minutes of television in the morning in order to change your 5-minute drive to class into a 15-minute walk. In making these kinds of changes in your schedule, don't feel that you have to miss out on anything you enjoy. You can get more from less time by focusing on what you are doing and by combining activities.

The following are just a few ways to become more active:

- Take the stairs instead of the elevator or escalator.
- Walk to the mailbox, post office, store, bank, or library whenever possible.
- Park your car a mile or even just a few blocks from your destination, and walk briskly.
- Do at least one chore every day that requires physical activity: wash the windows or your car, clean your room or house, mow the lawn, rake the leaves.
- Take study or work breaks to avoid sitting for more than 30 minutes at a time. Get up and walk around the library, your office, or your home or dorm; go up and down a flight of stairs.
- Stretch when you stand in line or watch TV.
- When you take public transportation, get off one stop down the line and walk to your destination.
- Go dancing instead of to a movie.
- Walk to visit a neighbor or friend rather than calling him or her on the phone. Go for a walk while you chat.
- Put your remote controls in storage; when you want to change TV or radio stations, get up and do it by hand.
- Take the dog for a walk (or an extra walk) every day.
- Play actively with children or go for a walk pushing a stroller.
- Seize every opportunity to get up and walk around. Move more and sit less.

Figure 13-4 Relationship between amount of activity and health and fitness benefits. The health benefits of physical activity and exercise exist along a continuum. A fairly low level of physical activity can provide substantial health benefits, although it does little to increase fitness. Engaging in exercise that is more intense or of longer duration leads to greater health benefits and significant increases in fitness. SOURCE: American College of Sports Medicine. 1998. *ACSM's Resource Manual for Guidelines for Exercise Testing and Prescription*, 3rd ed. Baltimore, Md.: Williams & Wilkins, p. 440.

capacity for exercise—that is, to improve physical fitness. Debate is likely to continue. In September 2002, the Institute of Medicine (IOM) recommended that to maintain cardiovascular health at a maximal level, adults and children should spend a total of at least 60 minutes each day in moderately intense physical activity, double the daily minimum goal set by the Surgeon General's report. The IOM recommendation is controversial but is based on calculations of how much activity is necessary to help people maintain a healthy body weight as well as obtain all the identified health benefits of physical activity. (An hour of moderate daily activity was also recommended in the 2003 World Health Organization Expert Report on diet and activity.)

Where does this leave you? Most experts agree that some physical activity is better than none but that more—as long as it does not result in injury or become obsessive—is probably better than some. Regular physical activity, regardless of intensity, makes you healthier and can help protect you against many chronic diseases. However, exercising at low intensities does little to improve

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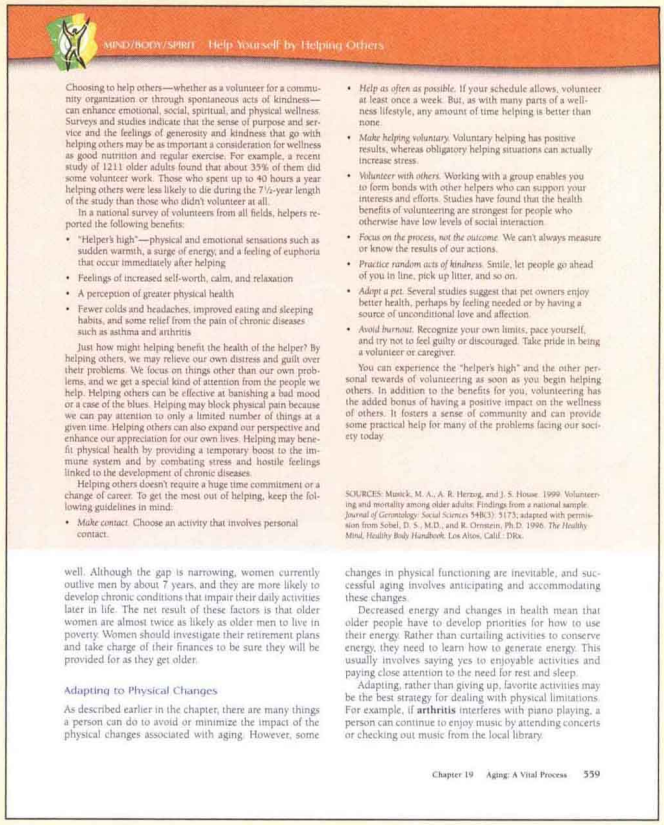
Mind/Body/Spirit Boxes

Mind/Body/Spirit boxes focus on the close connections among people's feelings, states of mind, and physical health. Topics include religious views of tobacco use, effects of stress on the brain, sexual decision making and personal values, expressive writing, and characteristics of a "good death."



MIND/BODY/SPIRIT Help Yourself by Helping Others

Choosing to help others—whether as a volunteer for a community organization or through spontaneous acts of kindness—can enhance emotional, social, spiritual, and physical wellness. Surveys and studies indicate that the sense of purpose and service and the feelings of generosity and kindness that go with helping others may be as important a consideration for wellness as good nutrition and regular exercise. For example, a recent study of 1211 older adults found that about 35% of them did some volunteer work. Those who spent up to 40 hours a year helping others were less likely to die during the 7½-year length of the study than those who didn't volunteer at all.

In a national survey of volunteers from all fields, helpers reported the following benefits:

- "Helper's high"—physical and emotional sensations such as sudden warmth, a surge of energy, and a feeling of euphoria that occur immediately after helping
- Feelings of increased self-worth, calm, and relaxation
- A perception of greater physical health
- Fewer colds and headaches, improved eating and sleeping habits, and some relief from the pain of chronic diseases such as asthma and arthritis

Just how might helping benefit the health of the helper? By helping others, we may relieve our own distress and guilt over their problems. We focus on things other than our own problems, and we get a special kind of attention from the people we help. Helping others can be effective at banishing a bad mood or a case of the blues. Helping may block physical pain because we can pay attention to only a limited number of things at a given time. Helping others can also expand our perspective and enhance our appreciation for our own lives. Helping may benefit physical health by providing a temporary boost to the immune system and by combating stress and hostile feelings linked to the development of chronic diseases.

Helping others doesn't require a huge time commitment or a change of career. To get the most out of helping, keep the following guidelines in mind:

- *Make contact.* Choose an activity that involves personal contact.
- *Help as often as possible.* If your schedule allows, volunteer at least once a week. But, as with many parts of a wellness lifestyle, any amount of time helping is better than none.
- *Make helping voluntary.* Voluntary helping has positive results, whereas obligatory helping situations can actually increase stress.
- *Volunteer with others.* Working with a group enables you to form bonds with other helpers who can support your interests and efforts. Studies have found that the health benefits of volunteering are strongest for people who otherwise have low levels of social interaction.
- *Focus on the process, not the outcome.* We can't always measure or know the results of our actions.
- *Practice random acts of kindness.* Smile, let people go ahead of you in line, pick up litter, and so on.
- *Adopt a pet.* Several studies suggest that pet owners enjoy better health, perhaps by feeling needed or by having a source of unconditional love and affection.
- *Avoid burnout.* Recognize your own limits, pace yourself, and try not to feel guilty or discouraged. Take pride in being a volunteer or caregiver.

You can experience the "helper's high" and the other personal rewards of volunteering as soon as you begin helping others. In addition to the benefits for you, volunteering has the added bonus of having a positive impact on the wellness of others. It fosters a sense of community and can provide some practical help for many of the problems facing our society today.

SOURCES: Musick, M. A., A. R. Herzog, and J. S. House. 1999. Volunteering and mortality among older adults: Findings from a national sample. *Journal of Gerontology: Social Sciences* 54B(3): 5173; adapted with permission from Sobel, D. S., M.D., and R. Ornstein, Ph.D. 1996. *The Healthy Mind, Healthy Body Handbook*. Los Altos, Calif.: DRx.

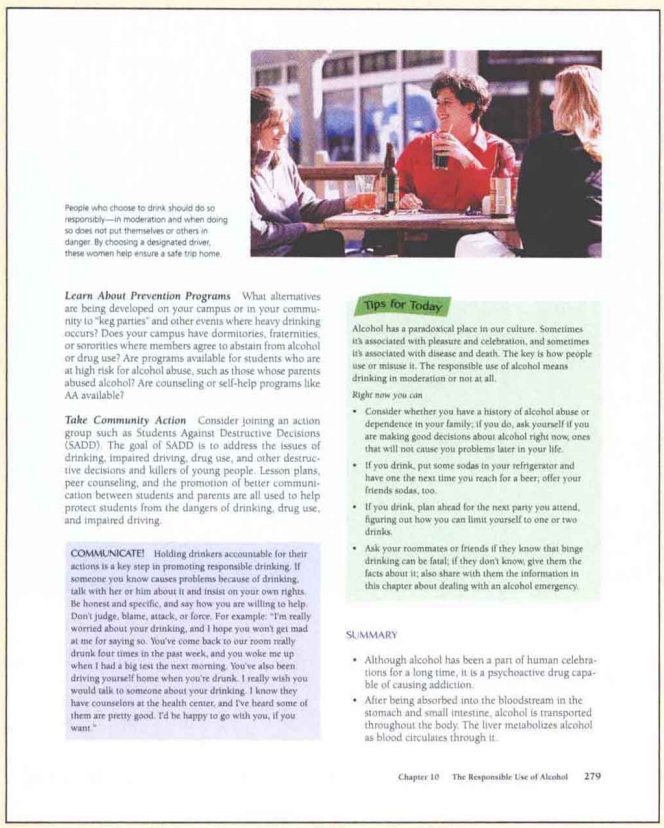
well. Although the gap is narrowing, women currently outlive men by about 7 years, and they are more likely to develop chronic conditions that impair their daily activities later in life. The net result of these factors is that older women are almost twice as likely as older men to live in poverty. Women should investigate their retirement plans and take charge of their finances to be sure they will be provided for as they get older.

Adapting to Physical Changes

As described earlier in the chapter, there are many things a person can do to avoid or minimize the impact of the physical changes associated with aging. However, some changes in physical functioning are inevitable, and successful aging involves anticipating and accommodating these changes.

Decreased energy and changes in health mean that older people have to develop priorities for how to use their energy. Rather than curtailing activities to conserve energy, they need to learn how to generate energy. This usually involves saying yes to enjoyable activities and paying close attention to the need for rest and sleep.

Adapting, rather than giving up, favorite activities may be the best strategy for dealing with physical limitations. For example, if **arthritis** interferes with piano playing, a person can continue to enjoy music by attending concerts or checking out music from the local library.



People who choose to drink should do so responsibly—in moderation and when doing so does not put themselves or others in danger. By choosing a designated driver, these women help ensure a safe trip home.

Learn About Prevention Programs What alternatives are being developed on your campus or in your community to "keg parties" and other events where heavy drinking occurs? Does your campus have dormitories, fraternities, or sororities where members agree to abstain from alcohol or drug use? Are programs available for students who are at high risk for alcohol abuse, such as those whose parents abused alcohol? Are counseling or self-help programs like AA available?

Take Community Action Consider joining an action group such as Students Against Destructive Decisions (SADD). The goal of SADD is to address the issues of drinking, impaired driving, drug use, and other destructive decisions and killers of young people. Lesson plans, peer counseling, and the promotion of better communication between students and parents are all used to help protect students from the dangers of drinking, drug use, and impaired driving.

COMMUNICATE! Holding drinkers accountable for their actions is a key step in promoting responsible drinking. If someone you know causes problems because of drinking, talk with her or him about it and insist on your own rights. Be honest and specific, and say how you are willing to help. Don't judge, blame, attack, or force. For example: "I'm really worried about your drinking, and I hope you won't get mad at me for saying so. You've come back to our room really drunk four times in the past week, and you woke me up when I had a big test the next morning. You've also been driving yourself home when you're drunk. I really wish you would talk to someone about your drinking. I know they have counselors at the health center, and I've heard some of them are pretty good. I'd be happy to go with you, if you want."

Tips for Today

Alcohol has a paradoxical place in our culture. Sometimes it's associated with pleasure and celebration, and sometimes it's associated with disease and death. The key is how people use or misuse it. The responsible use of alcohol means drinking in moderation or not at all.

Right now you can

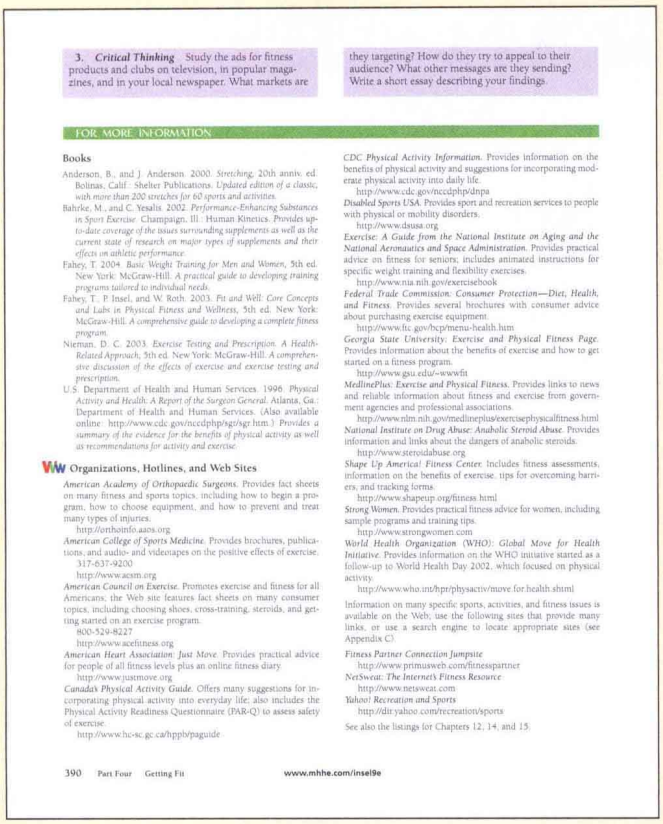
- Consider whether you have a history of alcohol abuse or dependence in your family; if you do, ask yourself if you are making good decisions about alcohol right now, ones that will not cause you problems later in your life.
- If you drink, put some sodas in your refrigerator and have one the next time you reach for a beer; offer your friends sodas, too.
- If you drink, plan ahead for the next party you attend, figuring out how you can limit yourself to one or two drinks.
- Ask your roommates or friends if they know that binge drinking can be fatal; if they don't know, give them the facts about it; also share with them the information in this chapter about dealing with an alcohol emergency.

SUMMARY

- Although alcohol has been a part of human celebrations for a long time, it is a psychoactive drug capable of causing addiction.
- After being absorbed into the bloodstream in the stomach and small intestine, alcohol is transported throughout the body. The liver metabolizes alcohol as blood circulates through it.

Tips for Today

Tips for Today sections provide a brief distillation of the major message of each chapter, followed by suggestions for a few simple things you can try right away to quickly build your confidence and improve wellness.



3. ***Critical Thinking*** Study the ads for fitness products and clubs on television, in popular magazines, and in your local newspaper. What markets are they targeting? How do they try to appeal to their audience? What other messages are they sending? Write a short essay describing your findings.

FOR MORE INFORMATION

Books

Anderson, B., and J. Anderson. 2000. *Stretching*, 20th anniv. ed. Bolinas, Calif.: Shelter Publications. *Updated edition of a classic, with more than 200 stretches for 60 sports and activities.*

Bahrke, M., and C. Yesalis. 2002. *Performance-Enhancing Substances in Sport Exercise*. Champaign, Ill.: Human Kinetics. *Provides up-to-date coverage of the issues surrounding supplements as well as the current state of research on major types of supplements and their effects on athletic performance.*

Fahey, T. 2004. *Basic Weight Training for Men and Women*, 5th ed. New York: McGraw-Hill. *A practical guide to developing training programs tailored to individual needs.*

Fahey, T., P. Insel, and W. Roth. 2003. *Fit and Well: Core Concepts and Labs in Physical Fitness and Wellness*, 5th ed. New York: McGraw-Hill. *A comprehensive guide to developing a complete fitness program.*

Nieman, D. C. 2003. *Exercise Testing and Prescription: A Health-Related Approach*, 5th ed. New York: McGraw-Hill. *A comprehensive discussion of the effects of exercise and exercise testing and prescription.*

U.S. Department of Health and Human Services. 1996. *Physical Activity and Health: A Report of the Surgeon General*. Atlanta, Ga.: Department of Health and Human Services. (Also available online: http://www.cdc.gov/nccdphp/sgr/sgr.htm.) *Provides a summary of the evidence for the benefits of physical activity as well as recommendations for activity and exercise.*

Organizations, Hotlines, and Web Sites

American Academy of Orthopaedic Surgeons. Provides fact sheets on many fitness and sports topics, including how to begin a program, how to choose equipment, and how to prevent and treat many types of injuries.
http://orthoinfo.aaos.org

American College of Sports Medicine. Provides brochures, publications, and audio- and videotapes on the positive effects of exercise.
317-637-9200
http://www.acsm.org

American Council on Exercise. Promotes exercise and fitness for all Americans; the Web site features fact sheets on many consumer topics, including choosing shoes, cross-training, steroids, and getting started on an exercise program.
800-529-8227
http://www.acefitness.org

American Heart Association: Just Move. Provides practical advice for people of all fitness levels plus an online fitness diary.
http://www.justmove.org

Canadas Physical Activity Guide. Offers many suggestions for incorporating physical activity into everyday life; also includes the Physical Activity Readiness Questionnaire (PAR-Q) to assess safety of exercise.
http://www.hc-sc.gc.ca/hppb/paguide

CDC Physical Activity Information. Provides information on the benefits of physical activity and suggestions for incorporating moderate physical activity into daily life.
http://www.cdc.gov/nccdphp/dnpa

Disabled Sports USA. Provides sport and recreation services to people with physical or mobility disorders.
http://www.dsusa.org

Exercise: A Guide from the National Institute on Aging and the National Aeronautics and Space Administration. Provides practical advice on fitness for seniors; includes animated instructions for specific weight training and flexibility exercises.
http://www.nia.nih.gov/exercisebook

Federal Trade Commission: Consumer Protection—Diet, Health, and Fitness. Provides several brochures with consumer advice about purchasing exercise equipment.
http://www.ftc.gov/bcp/menu-health.htm

Georgia State University: Exercise and Physical Fitness Page. Provides information about the benefits of exercise and how to get started on a fitness program.
http://www.gsu.edu/~wwwfit

MedlinePlus: Exercise and Physical Fitness. Provides links to news and reliable information about fitness and exercise from government agencies and professional associations.
http://www.nlm.nih.gov/medlineplus/exercisephysicalfitness.html

National Institute on Drug Abuse: Anabolic Steroid Abuse. Provides information and links about the dangers of anabolic steroids.
http://www.steroidabuse.org

Shape Up America! Fitness Center. Includes fitness assessments, information on the benefits of exercise, tips for overcoming barriers, and tracking forms.
http://www.shapeup.org/fitness.html

Strong Women. Provides practical fitness advice for women, including sample programs and training tips.
http://www.strongwomen.com

World Health Organization (WHO): Global Move for Health Initiative. Provides information on the WHO initiative started as a follow-up to World Health Day 2002, which focused on physical activity.
http://www.who.int/hpr/physactiv/move.for.health.shtml

Information on many specific sports, activities, and fitness issues is available on the Web; use the following sites that provide many links, or use a search engine to locate appropriate sites (see Appendix C).

Fitness Partner Connection Jumpsite
http://www.primusweb.com/fitnesspartner

NetSweat: The Internet's Fitness Resource
http://www.netsweat.com

Yahoo! Recreation and Sports
http://dir.yahoo.com/recreation/sports

See also the listings for Chapters 12, 14, and 15.

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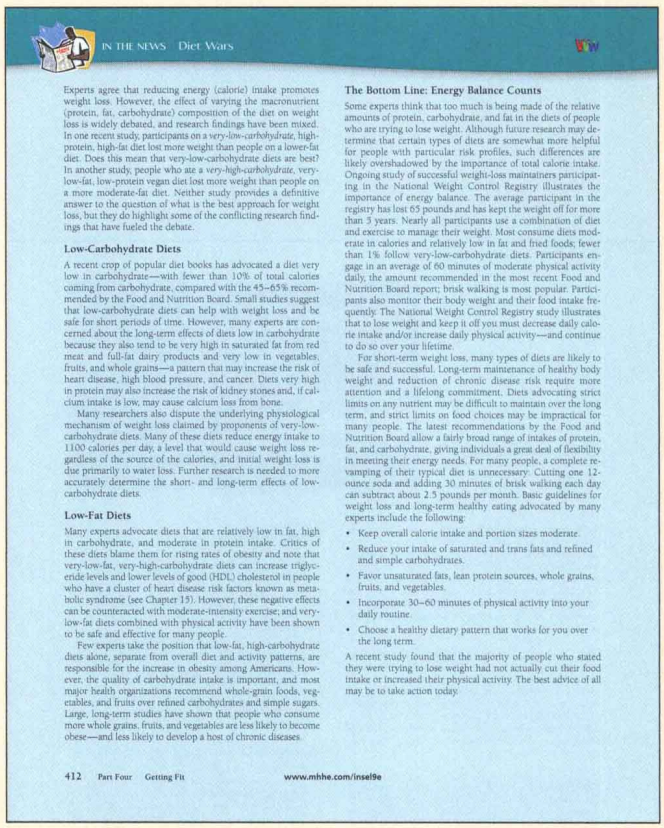
For More Information

For More Information sections describe books, newsletters, organizations, hotlines, and Web sites that you can turn to for reliable additional advice and information. Live links to all the listed Web sites are included on the Online Learning Center.

In the News Boxes

In the News boxes focus on current health issues that have recently been highlighted in the media, including such topics as post-traumatic stress disorder, bioterrorism agents, stem cells, reasons behind poor eating habits among Americans, and club drugs. In the News boxes are marked with the special Web icon to indicate that the Online Learning Center has links to Web sites you can use to learn more about In the News topics.



IN THE NEWS Diet Wars

Experts agree that reducing energy (calorie) intake promotes weight loss. However, the effect of varying the macronutrient (protein, fat, carbohydrate) composition of the diet on weight loss is widely debated, and research findings have been mixed. In one recent study, participants on a *very-low-carbohydrate*, high-protein, high-fat diet lost more weight than people on a lower-fat diet. Does this mean that very-low-carbohydrate diets are best? In another study, people who ate a *very-high-carbohydrate*, very-low-fat, low-protein vegan diet lost more weight than people on a more moderate-fat diet. Neither study provides a definitive answer to the question of what is the best approach for weight loss, but they do highlight some of the conflicting research findings that have fueled the debate.

Low-Carbohydrate Diets

A recent crop of popular diet books has advocated a diet very low in carbohydrate—with fewer than 10% of total calories coming from carbohydrate, compared with the 45–65% recommended by the Food and Nutrition Board. Small studies suggest that low-carbohydrate diets can help with weight loss and be safe for short periods of time. However, many experts are concerned about the long-term effects of diets low in carbohydrate because they also tend to be very high in saturated fat from red meat and full-fat dairy products and very low in vegetables, fruits, and whole grains—a pattern that may increase the risk of heart disease, high blood pressure, and cancer. Diets very high in protein may also increase the risk of kidney stones and, if calcium intake is low, may cause calcium loss from bone.

Many researchers also dispute the underlying physiological mechanism of weight loss claimed by proponents of very-low-carbohydrate diets. Many of these diets reduce energy intake to 1100 calories per day, a level that would cause weight loss regardless of the source of the calories, and initial weight loss is due primarily to water loss. Further research is needed to more accurately determine the short- and long-term effects of low-carbohydrate diets.

Low-Fat Diets

Many experts advocate diets that are relatively low in fat, high in carbohydrate, and moderate in protein intake. Critics of these diets blame them for rising rates of obesity and note that very-low-fat, very-high-carbohydrate diets can increase triglyceride levels and lower levels of good (HDL) cholesterol in people who have a cluster of heart disease risk factors known as metabolic syndrome (see Chapter 15). However, these negative effects can be counteracted with moderate-intensity exercise; and very-low-fat diets combined with physical activity have been shown to be safe and effective for many people.

Few experts take the position that low-fat, high-carbohydrate diets alone, separate from overall diet and activity patterns, are responsible for the increase in obesity among Americans. However, the quality of carbohydrate intake is important, and most major health organizations recommend whole-grain foods, vegetables, and fruits over refined carbohydrates and simple sugars. Large, long-term studies have shown that people who consume more whole grains, fruits, and vegetables are less likely to become obese—and less likely to develop a host of chronic diseases.

The Bottom Line: Energy Balance Counts

Some experts think that too much is being made of the relative amounts of protein, carbohydrate, and fat in the diets of people who are trying to lose weight. Although future research may determine that certain types of diets are somewhat more helpful for people with particular risk profiles, such differences are likely overshadowed by the importance of total calorie intake. Ongoing study of successful weight-loss maintainers participating in the National Weight Control Registry illustrates the importance of energy balance. The average participant in the registry has lost 65 pounds and has kept the weight off for more than 3 years. Nearly all participants use a combination of diet and exercise to manage their weight. Most consume diets moderate in calories and relatively low in fat and fried foods; fewer than 1% follow very-low-carbohydrate diets. Participants engage in an average of 60 minutes of moderate physical activity daily, the amount recommended in the most recent Food and Nutrition Board report; brisk walking is most popular. Participants also monitor their body weight and their food intake frequently. The National Weight Control Registry study illustrates that to lose weight and keep it off you must decrease daily calorie intake and/or increase daily physical activity—and continue to do so over your lifetime.

For short-term weight loss, many types of diets are likely to be safe and successful. Long-term maintenance of healthy body weight and reduction of chronic disease risk require more attention and a lifelong commitment. Diets advocating strict limits on any nutrient may be difficult to maintain over the long term, and strict limits on food choices may be impractical for many people. The latest recommendations by the Food and Nutrition Board allow a fairly broad range of intakes of protein, fat, and carbohydrate, giving individuals a great deal of flexibility in meeting their energy needs. For many people, a complete revamping of their typical diet is unnecessary: Cutting one 12-ounce soda and adding 30 minutes of brisk walking each day can subtract about 2.5 pounds per month. Basic guidelines for weight loss and long-term healthy eating advocated by many experts include the following:

- Keep overall calorie intake and portion sizes moderate.
- Reduce your intake of saturated and trans fats and refined and simple carbohydrates.
- Favor unsaturated fats, lean protein sources, whole grains, fruits, and vegetables.
- Incorporate 30–60 minutes of physical activity into your daily routine.
- Choose a healthy dietary pattern that works for you over the long term.

A recent study found that the majority of people who stated they were trying to lose weight had not actually cut their food intake or increased their physical activity. The best advice of all may be to take action today.

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Core Concepts in Health Online Learning Center (www.mhhe.com/insel9e)

Don't forget to visit the *Core Concepts in Health* Online Learning Center for additional study aids and wellness tools.

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Note: The health issues and conditions listed here include those that disproportionately influence or affect women or men. For more information, see the Index under gender, women, men, and any of the special topics listed here.