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Welcome to the sixth edition of Discovering Nutrition.

With changes in nutrition-related information having never been more exciting or important than they are today, learning about nutrition should be stimulating and engaging. With that in mind, Discovering Nutrition takes students on a fascinating journey beginning with curiosity and ending with solid knowledge and a healthy dose of skepticism. Knowledge is power, and our mission is to offer students the tools to logically interpret nutrition information provided by the news media, popular entertainment, food labels, and government agencies. Our goal is to create sophisticated consumers of nutritional science as well as nutrition information.

Discovering Nutrition is unique in its behavioral approach, challenging students not just to memorize material, but to act on it. Familiar experiences and choices beckon students into each chapter. Analogies illuminate difficult concepts. We address important topics that students are curious about, ranging from functional foods and supplements to vegetarianism, athlete diets, and linkages between diet and chronic disease. In special spotlights, we focus attention on topics like alcohol, eating disorders, obesity, and complementary nutrition. For those instructors wishing to cover metabolism, we also include a “Spotlight on Metabolism and Energy Balance” that provides a friendly tour of the metabolic pathways. For this edition, we have significantly revised two areas that are of especially high interest, Chapter 9 “Nutrition for Physical Performance” and the “Spotlight on Eating Disorders,” to reflect the current state of knowledge.

Accessible Science

Discovering Nutrition makes use of the latest in learning theory and balances the behavioral aspects of nutrition with an accessible approach to scientific concepts. This text is intended to be a comprehensive resource that communicates nutrition both graphically and personally. We present technical concepts in an engaging and friendly way with an appealing, stepwise, and parallel development of text and annotated illustrations. Illustrations in all chapters use consistent representations. Each type of nutrient, for example, has a distinct color and shape. Icons of an amino acid, a protein, a triglyceride, and a glucose molecule represent “characters” in the nutrition story and are instantly recognizable as they appear throughout the text.

This text leads the way in depicting important biological and physiological phenomena, such as emulsification, glucose regulation, digestion and absorption, and fetal development. Extensive graphic presentations make nutrition and physiological principles come alive.

2015–2020 Dietary Guidelines for Americans

The eighth edition of the Dietary Guidelines for Americans emphasizes following a healthy and varied eating pattern that limits calories from added sugars and saturated fats, reduces sodium intake, and incorporates more vegetables and whole grains. On the whole, this edition reflects advances in the scientific understanding of the importance of improving diets and increasing physical activity, two of the most important factors in reducing obesity and preventing chronic diseases in Americans. Focused on science-based recommendations on food and nutrition, the Dietary Guidelines empowers the American public to make shifts in what they eat and drink in favor of good health. As you read this text, look for key recommendations of the Dietary Guidelines highlighted in the margins.

Food Labeling

The Food and Drug Administration announced a new and redesigned Nutrition Facts label that will be required on most packaged food by January 2020. In an effort to encourage consumers to make more informed decisions, changes on the new label include such things as highlighting calories per serving and serving sizes more prominently, featuring a separate line showing how much sugar has been added to the food, and including updated Dietary Value information. The new label is discussed in Chapter 2 and has been incorporated into all Label to Table features found throughout the text.
New to This Edition

For this edition, the latest scientific evidence, recommendations, and national standards have been incorporated throughout the text.

Key Highlights

- Updated content reflects the 2015–2020 Dietary Guidelines for Americans, as well as the redesigned Nutrition Facts label.
- The new “Why Is This Important?” feature, tied to the majority of major headings in the text, breaks down the practical importance and value of the key concepts students are learning.
- The new “Getting Personal” feature, found in most of the end-of-chapter Learning Portfolios, encourages students to apply their nutritional knowledge to understanding their own diets.
- Revised statistics and data incorporated throughout the text reflect the current state of nutrition in the United States and the world.
- Revised food source charts in Chapters 7 and 8 more clearly convey common sources for vitamins and minerals.
- Updated Position Statements from the Academy of Nutrition and Dietetics, the American Heart Association, and other organizations appear throughout the text.
- Updated references utilize the latest science in the field.
- New and updated FYI and Quick Bite features provide in-depth discussions of controversial issues and topics for classroom discussion.
- The redesigned Nutrition Facts label has been incorporated into the Label to Table features found throughout the text.

Chapter 1—Food Choices: Nutrients and Nourishment

- Updated discussion of the effects TV advertisements have on childhood nutrition
- Updated coverage of the impact of eating away from home
- Updated section comparing the “healthfulness” of the American diet versus the recommendations of the 2015–2020 Dietary Guidelines for Americans
- New comparison of phytochemicals and zoochemicals
- New comparison of the terms kilocalorie and calorie
- New features presenting excerpts from the Academy of Nutrition and Dietetics’ practice papers on social media and communicating accurate food and nutrition information
- New Quick Bite feature “Correlation or Causation?”

Chapter 2—Nutrition Guidelines: Tools for a Healthful Diet

- Inclusion of the key recommendations and overarching guidelines of the 2015–2020 Dietary Guidelines for Americans
- Revised description and discussion of the Nutrition Facts label, reflecting changes announced in 2016
- New Quick Bites features “Early ‘Laws’ of Health,” “SuperTracker: My Foods, My Fitness, My Health” and “Underconsumption of Nutrients”
- Revised FYI feature “Portion Distortion”

Chapter 3—The Human Body: From Food to Fuel

- New section on gut microbiota
- Heavily revised FYI feature “Microbiota Out of Whack? Pre- and Probiotics May Help”
- Expanded description of passive diffusion

Chapter 4—Carbohydrates: Simple Sugars and Complex Chains

- New coverage of agave sweeteners
- New figure summarizing types of carbohydrates
- New table recapping common nonnutritive sweeteners
- New table summarizing the health benefits of fiber, as well as its effects in the gastrointestinal tract
- Heavily revised FYI feature “Is the Glycemic Index a Useful Tool for Constructing a Healthy Diet with Carbohydrates?”
- Expanded discussion of glycemic load
- New Quick Bite feature “Low-Carb Diets”

Spotlight on Alcohol

- Updated description and statistics about college drinking behaviors
- Expanded Quick Bite feature “Energy Drinks + Alcohol = A Recipe for Disaster”
Chapter 5—Lipids: Not Just Fat
• Updated sections providing recommendations for omega fatty acid intake and summarizing the health effects of omega-3 fatty acids
• New table listing good food sources of omega-3 fatty acids
• Updated consideration of seafood consumption guidelines, along with a new figure illustrating healthy and safe fish options for pregnant and breastfeeding women
• Revised FYI feature “Fats on the Health Food Store Shelf” that includes a new section on coconut and grapeseed oil
• New description of fat’s structural role in the brain
• New discussion of the lack of a UL for fat, trans fat, or cholesterol

Chapter 6—Proteins and Amino Acids: Function Follows Form
• New FYI feature “Celiac Disease and Gluten Sensitivity”
• New discussion about the lack of evidence for gluten-free diets impacting weight loss
• Updated consideration of protein recommendations for athletes
• Updated discussion of the health benefits and risks of vegetarian diets, including a new table providing healthy tips for vegetarians
• New Position Statement from the Academy of Nutrition and Dietetics on vegetarian diets

Chapter 7—Vitamins: Vital Keys to Health
• Expanded presentation of the impact of vitamin A deficiency on skin and other epithelial cells
• Expanded discussion of vitamin B<sub>12</sub> deficiency, including atrophic gastritis
• New Quick Bite features “Help the Vitamins Go Down” and “A Yellowish-Orange Hue”

Spotlight on Dietary Supplements and Functional Foods
• Significantly revised FYI feature “Defining Complementary and Integrative Health: How Does Nutrition Fit In?”
• Expanded discussion of fad diets and critical appraisal of diets, foods, and supplements

Chapter 8—Water and Minerals: The Ocean Within
• Revised FYI feature “Tap, Filtered, or Bottled: Which Water Is Best?” that considers current statistics surrounding bottled water use and things to keep in mind when selecting vitamin waters, supplements, or bottled waters
• New table summarizing macronutrients and micronutrients
• New discussion about the controversy surrounding the American Heart Association’s suggestion and the Dietary Guidelines’ recommendation to reduce sodium
• New Quick Bite feature “Processed Foods and Salt”

Spotlight on Metabolism and Energy Balance
• Updated section on portion size based on recent studies
• Revised FYI feature “What’s Neat About NEAT?” that expands on sedentary behavior in the workplace
• New Quick Bite feature “Is Tom Brady Too Fat?”

Chapter 9—Nutrition for Physical Performance
• Incorporates new suggestions for eating and drinking before, during, and after exercise
• Expanded discussion of dehydration, including ways to check your hydration status
• New consideration of energy availability
• New section describing how vitamin D may support athletic performance
• New section on the vegetarian athlete
• New table presenting the Physical Activity Guidelines for Americans
• New table summarizing the American College of Sports Medicine’s position on the amount and type of fluid to consume before, during, and after activity
• New table presenting a summary of generalized carbohydrate intake by athletes
• Added clarification regarding the distinction between lactic acid and lactate
• New FYI feature “When Are Sports Drinks Recommended?”
• New Position Statement from the Academy of Nutrition and Dietetics on nutrition and athletic performance
• New Quick Bite feature “Alligator Water?”

**Spotlight on Eating Disorders**

• Reflects the diagnostic criteria presented in the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V)*
• Incorporates current theories of causes of eating disorders
• Added background on binge-eating disorder
• New section on the prevalence of eating disorders
• New section elaborating on the consequences of eating disorders
• New FYI features “Exploring the Connection Between Negative Affect and Eating Disorders” and “Night-Eating Syndrome: Not an Eating Disorder, But Sometimes a Concern”
• New Quick Bite features “Body Dysmorphic Disorder,” “A Matter of Degree,” “Estimates for Prevalence of Binge-Eating Disorder May Soon Rise,” and “Changing the Perception of Exercise to Help Combat an Eating Disorder”

**Chapter 10—Diet and Health**

• New section on the link between diet and cardiometabolic disease, including a table outlining the top five dietary factors associated with cardiometabolic deaths
• Enhanced description of personalized nutrition
• Updated section on the possible link between diet and cancer, including a new table summarizing dietary components and cancer risk

**Spotlight on Obesity and Weight Management**

• Updated statistics about obesity and overweight rates in the United States
• Expanded discussion of the role of social networks in obesity
• New section on smartphone-based interventions
• New section on weight-loss devices
• Revised FYI feature “Childhood and Teenage Obesity” that includes a discussion of taxes on sugary beverages
• New Position Statement from the Academy of Nutrition and Dietetics on interventions for the treatment of overweight and obesity in adults
• New Quick Bite feature “Dangerous Caloric Restriction”

**Chapter 11—Life Cycle: Maternal and Infant Nutrition**

• New FYI feature “New Guidelines for Introducing Peanut Products”
• New Quick Bite feature “Would It Be Healthier to Menstruate Less Often?”

**Chapter 12—Life Cycle: From Childhood Through Adulthood**

• New FYI features “Farmers’ Markets” and “School Vending Machines and the Teen Diet”
• Updated American Heart Association recommendations for fiber consumption
• Updated figures showing MyPlate meal and snack patterns for preschoolers and the modified MyPlate for older adults

**Spotlight on World Nutrition: The Faces of Global Malnutrition**

• Updated statistics regarding world hunger, homelessness in the United States, and malnutrition in the United States
• Updated U.S. poverty guidelines
• Expanded description of food deserts
• New Quick Bite features “Is There a Food Desert Near You?” and “To Breastfeed or Not?”

**Chapter 13—Food Safety and Technology: Microbial Threats and Genetic Engineering**

• Expanded coverage of natural toxins and food allergies
• Expanded coverage of the benefits and risks of genetic engineering
• New Quick Bite features “Flesh-Eating Bacteria?” and “Is It Stomach Flu or Food Poisoning?”
The Pedagogy

*Discovering Nutrition* focuses on teaching behavioral change, personal decision making, and up-to-date scientific concepts in a number of novel ways. This interactive approach addresses different learning styles, making it the ideal text to ensure mastery of key concepts. Beginning with Chapter 1, the material engages students in considering their own behavior in light of the knowledge they are gaining. The pedagogical aids that appear in most chapters include the following:

### The Think About It

Questions at the beginning of each chapter present realistic nutrition-related situations and ask students to consider how they would behave in such circumstances.

### The Chapter Menu

At the beginning of each chapter, gives students a preview of topics that will be covered.

### Learning Objectives

Focus students on the key concepts of each chapter and the material they will learn.
Key Concepts summarize previous text and highlight important information.

Position Statements from distinguished organizations such as the Academy of Nutrition and Dietetics, the American College of Sports Medicine, and the American Heart Association relate to the chapter topics and bolster the assertions made by the authors by showcasing concurrent opinions held by some of the leading organizations in nutrition and health.

New to this edition, Why Is This Important? provides students with a brief overview of the practical importance and value of the information they’re learning.

Key Terms are in boldface type the first time they are mentioned. Their definitions also appear in the margins near the relevant textual discussion, making it easy for students to review material.

Quick Bites sprinkled throughout the text offer fun facts about nutrition-related topics such as unique foods, social customs, origins of phrases, folk remedies, medical history, and so on.
FYI (For Your Information) offers more in-depth discussions of controversial and timely topics, such as claims about the effects of sugar, the protein needs of athletes, and the usefulness of the glycemic index.
The Learning Portfolio at the end of each chapter condenses all aspects of nutrition information that students need to solidify their understanding of the material. The various formats will appeal to students according to their individual learning and studying styles.

**Key Terms** list all new vocabulary alphabetically with the page number of the first appearance. This arrangement allows students to review any term they do not recall and turn immediately to the definition and discussion of it in the chapter. This approach also promotes the acquisition of knowledge, not simply memorization.

**Study Points** summarize the content of each chapter with a synopsis of each major topic. The points are in the order in which they appear in the chapter, so related concepts flow together.

**Study Questions** encourage students to probe deeper into the chapter content, making connections and gaining new insights. Although these questions can be used for pop quizzes, they will also help students to review, especially students who study by writing out material.
Getting Personal encourages students to consider their newly gained knowledge in the context of their own diets.

Try This activities provide suggestions for hands-on activities that encourage students to put theory into practice. It will especially help students whose major learning style is experimental.

The Integrated Learning and Teaching Package

Jones & Bartlett Learning provides a full suite of instructor resources for Discovering Nutrition, Sixth Edition, which qualified instructors can receive by contacting their Account Manager. Available resources include:

- Test Bank, including more than 850 questions
- Slides in PowerPoint format, featuring more than 500 slides
- Instructor’s Manual, containing lecture outlines, discussion questions, and answers to the in-text Study Questions
- Image Bank, supplying key figures from the text
- Sample Syllabus, showing how a course can be structured around this text
- Transition Guide, providing guidance in switching from the previous edition

In addition, Discovering Nutrition is available in a variety of eBook formats, including as a Navigate 2 Advantage eBook containing 36 scientifically based animations that give students an accurate, accessible explanation of the major scientific concepts and physiological principles presented in this text.
The Discovering Nutrition author team represents a culmination of years of teaching and research in nutrition science and psychology. The combined experience of the authors yields a balanced presentation of both the science of nutrition and the components of behavioral change.

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