

# List of Changes



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## Wardlaw's Contemporary Nutrition: A Functional Approach

**6th Edition**  
**Smith/Collene/Spees**

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*available in*



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### Global Changes

- All images of the Nutrition Facts Label have been updated to the new format approved by the U.S. Food and Drug Administration.
- "Ask the RDN" (Registered Dietitian Nutritionist) appears in every chapter and addresses questions we frequently hear students asking about food and nutrition topics covered in the popular media. We use the "Ask the RDN" in Chapter 1 to set the stage, answering the important question "How can I find a qualified nutrition expert who will give me personalized nutrition advice?" Each feature is answered and signed by a Registered Dietitian Nutritionist!
- Some are from this book's authors' point of view, but in this edition we also included several features written by our colleagues who are experts in their fields. Throughout the text, we have emphasized RDNs as the experts on nutrition.
- The new "Farm to Fork" feature appears in every chapter and presents practical information on how to grow, shop for, store, and prepare various fruits and vegetables to obtain and preserve their flavor and nutrients.
- The "Newsworthy Nutrition" feature has been updated to include headings (Objectives, Methods, Results, Conclusions) within the research summary.
- The term physician or doctor has been replaced with primary care provider, and references to the Institute of Medicine have been updated to its new name, National Academy of Medicine.
- The Case Study Solutions have been removed from all chapters, so that the Case Study can be used as an assignable project. Instructors can provide the solutions at their discretion.
- Further Readings are now superscripted in the text.

SEE LIST OF CHANGES ATTACHED.

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# Changes to Smith, Wardlaw's Contemporary Nutrition: A Functional Approach, 6e

## Chapter 1: Nutrition, Food Choices, and Health

- In Section 1.1 the popularity of home-delivered meals is now discussed relative to the effect of time and convenience on food choices.
- Figures 1-2 and 1-3 are new and illustrate USDA data from 2015 for vegetable and dairy product consumption, respectively. Figure 1-3 also compares 2015 dairy product consumption with that for 1975.
- Figure 1-4 provides an update on the 10 leading causes of death in the United States in 2016 as reported in July 2018 by the Centers for Disease Control and Prevention.
- Tomatoes, an important source of phytochemicals, are discussed in our new “Farm to Fork.”
  - In Section 1.4 on math concepts, practical examples of metric system conversions have been added. Examples include the conversion of grams of sugar in Greek yogurt to teaspoons and milliliters of water to cups.
- Section 1.6, What Is the Current State of the North American Eating Patterns and Health? has been updated to reflect recent changes in obesity trends. Figure 1-8, showing the percentage of adults who were obese in 2017 as well as other obesity statistics, has been updated. “Newsworthy Nutrition” has been updated to “No Decrease in Adult Obesity Rates from 2005 to 2014,” summarizing research published in the Journal of the American Medical Association in 2016.
- Section 1.8, Eating Well as a Student, has been updated to be more inclusive of college students of all ages, including returning students. More information is provided on how to eat well on a student’s budget. The Case Study: College Student Eating Habits has been revised to include alcohol in the dietary pattern.
- The Further Readings have been updated with eight new articles.

## Chapter 2: Designing a Healthy Eating Pattern

- “What Would You Choose” has been expanded to include snacks as well as beverages and asks which snack combination provides the best number of calories, nutrients, and energy for an afternoon snack.
- Table 2-2, Energy Density of Common Foods, has been shortened and updated with more commonly consumed foods.
- Figure 2-4 has been added to illustrate adherence by Americans to the MyPlate recommendations.
- “Newsworthy Nutrition” summarizes recent research about the impact of diet quality on health outcomes.
- The Physical Activity Guidelines for Americans section and Table 2-4 have been updated to reflect the new 2018 U.S. Department of Health and Human Sciences Guidelines.
- “Farm to Fork” in Chapter 2 highlights carrots and beets, two colorful vegetables that fit into the Dietary Guideline to eat a variety from all five vegetable subgroups—dark green, red and orange, beans and peas, starchy, and others.
- Several updates have been made to the Section 2.3, MyPlate—A Menu Planning Tool. A new subsection, build a Healthy Eating Style, includes ideas and tips to help create a healthier eating styles. Categories include (1) All Food and Beverage Choices Matter—Focus on Variety, Amount, and Nutrition, (2) Choose an Eating Style Low in Saturated Fat, Sodium, and Added Sugars, (3) Make Small Changes to Create a Healthier Eating Style (introduces the new MyPlate feature, My Win), and (4) Support Healthy Eating for Everyone.
- Table 2-5 has been updated to show the connection between MyPlate food group serving sizes and calorie levels to improve comprehension and translation for students.
- Figure 2-7 is an updated and more detailed illustration of what counts as a serving and the use of standard objects to estimate serving sizes.
- The graphics and caption for Figure 2-8 have been updated to illustrate that all dairy is not the same. This bar graph compares the difference in calories from various types of milks and the added calories from fat and sugar in various milks compared to fat-free milk.
- The What’s Cooking? USDA Mixing Bowl, an interactive tool for consumers who are ready to make a change and need help with healthy meal planning, cooking, and grocery shopping, has been added to the list of additional MyPlate Resources. In addition, references to SuperTracker have been removed.
- When discussing the foundations of a healthy eating pattern, the word “balance” has replaced “proportionality” to simplify the language and align with the Dietary Guidelines.
- A new table (2-8) has been added to emphasize differences in food quality and calories between two different meals, both of which fit the proportions suggested by MyPlate.
- The Chronic Disease Risk Reduction Intakes (CDRR) DRI category has been added to Section 2.6.
- A new “Ask the RDN” pertaining to nutrition and transgender individuals, authored by Zach Breeding, has been added to Section 2.7.

## Changes to Smith, Wardlaw's Contemporary Nutrition: A Functional Approach, 6e

- Table 2-11 has been shortened to emphasize the most common key food label definitions.
- Section 2.8, Food Labels and Diet Planning, includes a new subsection on Labeling of Food Allergens.
- Several new section Concept Check questions have been incorporated into Chapter 2, and 11 new Further Readings have been included.

### Chapter 3: The Human Body: A Nutrition Perspective

- A new “What Would You Choose” highlights the low- FODMAP diet for use in the treatment of irritable bowel syndrome.
- Sections 3.1 and 3.2 have been reorganized to separate the discussion of the structure and function of the cell from the simple introduction to the concept of metabolism.
- “Farm to Fork” describes the benefits of cranberries, which help to prevent infections of the gastrointestinal and urinary tracts.
- Section 3.6 has been reworked to provide a more detailed introduction to the endocrine system, which comes up repeatedly throughout the text.
- Figures 3-1, 3-2, 3-4, 3-6, 3-7, 3-8, 3-9, 3-13, 3-15, 3-17, and 3-21 have been updated to an infographic style to more clearly explain key features of the body systems.
- In Section 3.9, a recently described taste sensation—olinguitos—is defined.
- “Newsworthy Nutrition” has been updated to present recent research on fecal transplant as a treatment for antibiotic-associated diarrhea.
- The discussion of Nutrition and Genetics has been moved to Chapter 6, where it will appear alongside pertinent information on gene expression.
- To provide students with additional resources, Chapter 3 includes 14 new Further Readings.

### Chapter 4: Carbohydrates

- Section 4.2 contains a new Table 4-1 detailing the classifications of fiber (type, components, physiological effects, and major food sources).
- New to Section 4.2, the relationship between gut micro- biota and fiber intake is described. A new infographic (Fig. 4-7) detailing prebiotics, probiotics, and postbiotics is included along with their main sources.
- A new Smart Beverage Choices infographic (Fig. 4-8) was added to Section 4.3 to help students recognize healthier beverage choices throughout the day and while purchasing at smoothie stands and coffee shops.
- A new Food Sources of Carbohydrate infographic (Fig. 4-9) was added to simplify the key concepts and provide visually appealing food source information to better resonate with student learners.
- Figure 4-10, the Whole Grains Council stamps for use on grain products, has been updated from two to three stamps with details for each plus the minimum requirements for whole grains per serving.
- The new “Farm to Fork” focuses on an excellent source of dietary fiber—potatoes.
- Several new or updated tables have been included to improve student comprehension in Section 4.3: Table 4-2 was added to highlight the main differences between whole and refined grains; Table 4-3 has been updated with 13 additional whole and ancient grains; common lactose- containing food sources have been added in Table 4-4; Table 4-5 has been edited to simplify the key points related to alternative sweeteners.
- The “To Sugar or Not to Sugar” content describes the pros and cons of consuming refined sugar and artificial sweeteners.
- Approved by the FDA in 2019, allulose has been added under alternative sweeteners.
- Also in Section 4.3, energy and sports drinks were added to emphasize these as growing sources of added sugar in the United States.
- Figure 4-10 has been updated to improve the visual appeal and highlight the main organs involved in carbohydrate digestion and absorption.
- The section on glycemic index has been shortened, glycemic load introduced, and an emphasis placed on the role of lifestyle management of glucose control has been added.
- Section 4.6 now contains a new infographic promoting the Dietary Guidelines recommendations specific to carbohydrate intake.
- Also featured in Section 4.6 is a new “Newsworthy Nutrition” about intakes of sugar-sweetened beverages in the United States

## Changes to Smith, Wardlaw's Contemporary Nutrition: A Functional Approach, 6e

- The Nutrition and Your Health featuring diabetes includes updated information on insulin pumps and highlights the importance of adhering to healthy lifestyle behaviors for disease management.
- A new infographic, Truthful Bites, debunks the top 10 common myths related to carbohydrates and provides the evidence behind the facts.
- New Concept Check questions have been added throughout Chapter 4 as well as 12 new or updated Further Readings.

### Chapter 5: Lipids

- Section 5.1 has been revised to improve students' understanding of the chemistry of lipids, which is often daunting for non-majors.
- The structures of lipids in Figures 5-1 and 5-4 and the Concept Map are now displayed as ball-and-stick models, which give students a sense of the three-dimensional shape of lipids and how that might affect their functions.
- Figure 5-6 and the section on food sources of lipids have been revised to present the food sources of lipids more visually and give the students practical tips for choosing healthy fats.
- The discussion of trans fats has been revised in response to the ban on trans fats that went into effect in 2018. Transfats have been removed from Figure 5-7.
- Food sources of omega-3 fatty acids are now presented as Table 5-1.
- Figure 5-10 has been updated with an infographic style to more clearly present the complex topic of digestion and absorption of lipids.
- Table 5-2 now includes visual cues to help students learn and remember the origin and composition of the various lipoproteins.
- The text in Sections 5.5 and 5.6 has been reorganized for clarity.
- "Newsworthy Nutrition" introduces the Nordic diet alongside the well-known Mediterranean diet.
- The content of the Nutrition and Your Health section has been simplified to focus less on medical treatments and more on dietary strategies to lower risk for cardiovascular disease. In addition, a new Figure 5-16 summarizes risk factors for cardiovascular disease and a new Figure 5-17 translates the American Heart Association's Diet and Life-style Recommendations into practical terms: dinner!
- Chapter 5 has been updated with 19 new Further Readings.

### Chapter 6: Proteins

- "What Would You Choose" has been updated to focus more on consuming at least 20 to 30 grams of protein at a given meal to optimize muscle protein growth.
- Section 6.2 has been updated with the section on Protein Organization appearing before Protein Synthesis.
- Section 6.3, Protein in Foods, includes new information on evaluating protein quality, summarizing the new method (Digestible Indispensable Amino Acid Score [DIAAS]) for assessing the quality of dietary proteins that is recommended by the Food and Agriculture Organization of the United Nations (FAO).
- Figure 6-6 and the section on food sources of proteins have been revised to present the food sources of proteins more visually.
- Figure 6-7 has been updated to include photo examples of plant food combinations.
- Practical tips on using legumes as a source of protein are listed in the "Farm to Fork" feature.
- Figure 6-10 has been expanded to display eight separate images to represent the eight common food allergens. Content on the effects of high protein intakes has been moved to this section.
- In Section 6.4, Figure 6-11 has been redesigned as an infographic for easier understanding of protein digestion and absorption.
- In Section 6.5, Figure 6-13, Protein Concept Map, has been updated to illustrate the regulatory functions of protein.
- Section 6.6 contains new content on meal protein requirements, including discussion of maintaining a more equal distribution of protein at each meal, as well as the increased daily protein intake of > 1.0 g/kg for older adults. Section 6.6 also includes "Active Eating Advice" in the form of an answer to the "Ask the RDN" question.
- The discussion of Nutrition and Genetics now appears as Section 6.8.
- Section 6.9 includes a new "Ask the RDN" on Plant-Based Eating, providing tips on replacing meat and dairy with high-quality plant proteins.
- Seven new articles are included in the Further Readings.

# Changes to Smith, Wardlaw's Contemporary Nutrition: A Functional Approach, 6e

## Chapter 7: Energy Balance and Weight Control

- The CDC obesity prevalence and trends have been updated throughout the text and figures to reflect the most current data. A new Figure 7-2 has been added and includes both youth and adult obesity prevalence.
- Section 7.1 now contains a section related to obesity posing a threat to national security, and Further Readings contains a reference for those with additional interest in this topic.
- The Figure 7-6 infographic was created to highlight the contributions of basal metabolic rate, voluntary activity, and the thermic effect of food to energy output.
- Section 7.3, Assessing Healthy Body Weight, has been updated with current images to show students the newest technologies related to body composition.
- Section 7.3 now includes information about personal body fat scales that include body composition measures that sync with mobile devices for easier tracking. There is also information on using NutritionCalc Plus in Connect to estimate energy needs.
- Table 7-1 has been updated with all WHO categories and subcategories of body mass indices.
- Evidence-based updates for Health Problems Associated with Excess Body Fat have been revised and simplified in Table 7-2.
- The Biggest Loser previously in “Ask the RDN” has been replaced by one on Detox Diets in Section 7.4.
- “Farm to Fork” features amazing stone fruits.
- Figure 7-20 has been updated and contains images of real food containers bearing the new Nutrition Facts label.
- Table 7-5 has been condensed to include most popular physical activities and estimated calorie costs associated with each activity.
- The Blue Zone Power 9 has been added to Section 7.8 to showcase the nine key characteristics of centenarians globally.
- The Mindful Eating section now includes Intuitive Eating and Figure 7-21, emphasizing new findings in this area and behavioral triggers for eating. Also in this section are recommendations for implementing behavioral nudges to promote positive lifestyles.
- A new infographic about understanding weight bias, its impact, and examples of People First Language is presented in Figure 7-24.
- Updates to weight-loss medications, recommendations, and contraindications have been made in Section 7.9.
- The AspireAssist weight-loss device and Cryolipolysis, patented under the name CoolSculpting™ have been described in Section 7.9.
- Figure 7-25 has been condensed to reflect details of the most current bariatric procedures in a more detailed infographic format.
- Table 7-8 has been created to provide key information about the growth of youth bariatric surgeries.
  - The five top-ranked Best Overall Diet Plans are presented in Table 7-9 and include category ranking such as “Best Heart-Healthy Diet” and “Best Weight-Loss Diet.”
- Further Readings have been updated with seven new and updated references.

## Chapter 8: Overview of Micronutrients and Phytochemicals

- A new image and text have been added on reusable produce bags that are environmentally friendly and reusable.
- A fat-soluble vitamin summary table has been updated and International Units (IU) removed.
- Examples of zoochemicals and phytochemicals were added to provide further clarification of these compounds.
- “Farm to Fork” focuses on crucifers such as broccoli, Brussels sprouts, and green leafy vegetables—all are excellent sources of disease-fighting phytochemicals and vitamins.
- Figure 8-6 has been updated to show the increasing sales of dietary supplements over time.
- A new “Ask the RDN” by contributor Karen Collins discusses dietary supplements and current evidence surrounding their use.
- Concept Check and other questions have been added throughout to stimulate critical thinking.
- New images throughout the chapter illustrate food sources of micronutrients and phytochemicals aligning with MyPlate.
- Nine new Further Readings have been added.

# Changes to Smith, Wardlaw's Contemporary Nutrition: A Functional Approach, 6e

## Chapter 9: Fluid and Electrolyte Balance

- Section 9.2, The Water Balancing Act, includes the new Table 9-1, Guidelines for Safe Use of Water Bottles, and a new section entitled “Is Sparkling or Seltzer Water Harmful for Teeth?”
- In Section 9.3, Figure 9-10 has been enhanced to include the movement of molecules during the change in ion concentrations in the fluid surrounding the cells.
- This chapter presents the latest Dietary Reference Intakes for sodium and potassium released by the National Academies of Sciences in March 2019, including the new category Chronic Disease Risk Reduction Intake (CDRR).
- New content on types of salt is included in the section Table Salt, Kosher Salt, Sea Salt—Which One Is Best?
- “Farm to Fork” discusses bananas and ties into the section on Getting Enough Potassium.
- Section 9.9, Minerals and Hypertension, highlights the new 2017 guidelines for the prevention, detection, evaluation, and management of high blood pressure in adults. Figure 9-17 has been updated with new effects of lifestyle changes on blood pressure.
- The Further Readings have been updated with six new articles.

## Chapter 10: Nutrients Involved in Body Defenses

- To reflect changes in food labeling, references to International Units have been revised to point students to the more precise milligram or microgram units of measurement for vitamin A and vitamin E. Figure 10-13 no longer includes a column for IU.
- Figure 10-4 has been revised to more clearly illustrate how antioxidants protect cells from the damaging effects of free radicals.
- A new Figure 10-5 illustrates the multiple health effects of oxidative damage.
- In Section 10.3, the discussion of vitamin A deficiencies has been expanded.
- Garlic and onions, potential sources of selenium, are the focus of this chapter’s “Farm to Fork.”
- A new Figure 10-16 illustrates the antioxidant activity of common foods.
- “Newsworthy Nutrition” has been updated with a more recent study on antioxidants and risk for strokes.
- Postbiotics have been incorporated into the discussion of probiotics and prebiotics in Section 10.9.
- Figure 10-18 has been revised to match the new format of dietary supplement labels, mandated by the FDA to go into full effect by 2020.
- Section 10.10 on Nutrition and Cancer contains updated mortality statistics and a new Figure 10-19 to illustrate the burden of cancer in the United States. In addition, we have updated the section to include the latest American Institute for Cancer Research recommendations for cancer prevention.
- Chapter 10 has been updated with 30 new Further Readings.

## Chapter 11: Nutrients Involved in Bone Health

- Figure 11-2 has been expanded to include more information on the steps involved in bone remodeling.
- The discussion of the regulation of blood calcium, including the action of calcitonin and parathyroid hormone (PTH), has been expanded and is now illustrated in Figure 11-4.
- Figures 11-5 and 11-6 are new illustrations of the many factors that enhance and inhibit calcium absorption, respectively.
- An update has been made to the summary of the 2018 Vitamin D, Calcium, or Combined Supplementation for the Primary Prevention of Fractures in Community-Dwelling Adults Task Force report.
- Mushrooms, a potential and unique source of vitamin D, are discussed in “Farm to Fork.”
- Section 11.10 includes new information on the increased risk of osteoporosis in cancer patients.
- Table 11-3, Calcium Supplement Comparisons, has been reformatted to better highlight calcium content, forms, cost, and bioavailability as well as meal timing.
- Table 11-6, How Non-Dairy Milk Beverages Compare to Cow’s Milk, now includes information on oat milk.
- There are eight new Further Readings.

# Changes to Smith, Wardlaw's Contemporary Nutrition: A Functional Approach, 6e

## Chapter 12: Micronutrient Function in Energy Metabolism

- Chapter 12 has been enhanced with 13 new color photographs.
- “Farm to Fork” discusses practical tips on how to grow, shop for, store, and prepare corn on the cob.
- Section 12.7 has been expanded with more information about biotin deficiency, including the impact of consuming raw eggs.
- The “What the Dietitian Chose” feature has been updated with new information on energy shots.
- Six new articles are included in Further Readings.

## Chapter 13: Nutrients That Support Blood and Brain Health

- Figure 13-1 has been revised to emphasize the roles of micronutrients in blood cell formation.
- Figure 13-3 has been updated to better illustrate the importance of iron as part of hemoglobin.
- In Section 13.2, the discussion of vitamin K deficiency has been expanded.
- “Farm to Fork” informs students about selecting and preparing pomegranates.
- In Section 13.4, we have provided additional information about meeting vitamin B-12 needs on a plant-based diet. In addition, Figure 13-9 has been revised to an infographic format to more clearly explain the complex processes of vitamin B-12 digestion and absorption.
- In Section 13.7, we have updated the discussions of nutritional factors that influence migraines and depression.
- “Newsworthy Nutrition” now highlights a study on the impact of a Mediterranean diet on the emergence and progression of Alzheimer’s disease.
- Seventeen new Further Readings have been added to reinforce the new concepts in this chapter.

## Chapter 14: Nutrition: Fitness and Sports

- Physical activity recommendations throughout the chapter have been updated to align with the revised Physical Activity Guidelines for Americans published by the U.S. Department of Health and Human Services in 2018.
- Calculations for determining maximum and target heart rates have been put into a calculation box for students.
- Figure 14-1 has been updated to summarize the current mental and physical benefits of physical activity.
- The Rating of Perceived Exertion (RPE) scale in Figure 14-3 has been updated to reflect the common Borg Scale of Perceived Exertion.
- The Section title in 14.3 has been updated to Energy Sources for Active Muscles to reflect the updated guidelines and emphasize the fact that all activity requires energy.
- Figure 14-7 has been updated to provide a more streamlined and simplified view of ATP formation from macronutrients.
- A new Table 14-3 has been added in Section 14.4 and provides current recommendations for active adults and athletes related to dietary intake, body composition, hydration, and supplementation, adapted and summarized from the American College of Sports Medicine Position Statement.
- “Farm to Fork” features citrus fruits, often consumed by athletes before, during, and after competition.
- An emphasis on plant-based protein sources has been included and emphasized throughout the chapter.
- A new infographic in Section 14.4 highlights plant-based sources of protein. The role of vitamin D in athletics has also been added.
- The important issue of alcohol and binge drinking related to performance and athletics has been added under the fluid subsection in Section 14.4.
- The caffeine, calorie, and sugar contents of popular energy drinks have been updated and expanded in Table 14-5.
- Based upon the evidence, the title for Section 14.5 has been changed to Recommendations for Endurance, Strength, and Power Athletes.
- Table 14-9 has been updated with current data on energy bars, gels, and chews on the market.
- Table 14-10, which presents sample recovery meals, has been revised to a plant-based meal option for sports nutrition.
- The list of commonly used sports supplements and illegal substances have been expanded and updated in Tables 14-11 and 14-12.
- The list of recommended sports nutrition websites in Section 14.5 has been updated along with the Further Readings.

# Changes to Smith, Wardlaw's Contemporary Nutrition: A Functional Approach, 6e

## Chapter 15: Eating Disorders

- In Section 15.6, the discussions of relative energy deficiency in sport (formerly called female athlete triad) and eating disorders and diabetes have been updated with new research and terminology.
- A new “Ask the RDN” by Alexis Joseph explains the connections among energy availability, regular menstrual function, and bone health.
- “Farm to Fork” feature shows how an apple a day keeps the doctor away.
- Twenty new articles have been incorporated into the listing of Further Readings.

## Chapter 16: Global Nutrition

- The chapter title has been changed to Global Nutrition to reflect a broader world view of malnutrition and nutrition related topics.
- Statistics on both domestic and global poverty and hunger from the Food and Agriculture Organization of the United Nations (FAO) and the U.S. Census Bureau have been updated with the most recent data.
- Four new figures (Fig. 16-1, 16-2, 16-3, and 16-4) highlight the four dimensions of food security, global rates of under-nourishment, and malnutrition and health, and the FAO integrated food security classifications, respectively.
- A new figure (Fig. 16-6) from FAO highlighting the link between food insecurity and multiple forms of malnutrition has been added to Section 16.1.
- Updates of the characteristics of users and impact of the federally subsidized nutrition programs, including SNAP, WIC, and Senior Nutrition Services that supply food for people in the U.S., has been expanded and updated in Section 16.2.
- Figure 16-7 has been created to highlight the trends in USDA expenditures for food and nutrition assistance.
- A new figure from the WHO, located in Section 16.3 (Fig. 16-8), emphasizes the universal and equitable access to safe water.
- Figure 16-9 has been added to graphically display the HIV prevalence for adults by World Health Organization (WHO) region.
- “Farm to Fork” highlights pineapples, often seen as a global staple providing key nutrients and an economic advantage for developing countries.
- Figure 16-11 is a new infographic, adapted from the FAO, describing the many facets of sustainable intensification in agriculture.
- The USDA’s bioengineered labels are on display in Figure 16-13.
- A new “Ask the RDN” feature from contributor Leah McGrath focuses on organic and GMO crops.
- Undernutrition throughout all life stages (pregnancy through older adults) has been updated to reflect current prevalence and associated health outcomes.
- The Further Readings section includes 13 new references.

## Chapter 17: Protecting Our Food Supply

- The chapter title has been changed to Protecting Our Food Supply to better reflect the chapter content, including the safety, security, and sustainability of food.
- Figure 17-2 is a map from the CDC that graphically depicts the reported foodborne disease outbreaks across the U.S.
- Also in Section 17.2, new Figure 17-2 shows the step-by-step process by which reported outbreaks prompt an investigation and, once confirmed, are shared with the public.
- In Section 17.1 bulleted lists are now used to highlight the reasons microorganisms can grow rapidly in foods. The section on consumer and industry trends that increase the risk of foodborne illnesses has been expanded to include natural disasters and the supply chain.
- All foodborne illness prevalence data and food import data have been updated throughout the chapter.
- Table 17-1, which summarizes the agencies responsible for monitoring the food supply in the United States, has been streamlined to improve readability.
- Information on recent examples, onset, symptoms, and sources of foodborne illness outbreaks has been updated and moved to Tables 17-3, 17-4, and 17-5 on the bacterial, viral, and parasitic causes of foodborne illnesses.
- In Section 17.3, the subsection on parasites is now titled Protozoan and Helminth Parasites to better reflect the type of parasites discussed.

## Changes to Smith, Wardlaw's Contemporary Nutrition: A Functional Approach, 6e

- Photos have been added to Table 17-6, Types of Food Additives—Sources and Related Health Concerns, to illustrate the types of foods containing specific additives.
- Sources with references and/or weblinks have been added to all tables for quick reference.
- The discussion of the worldwide differences in the approach countries take to the approval of food additives has been expanded in Section 17.4, Food Additives.
- The generally recognized as safe (GRAS) determinations and notifications to strengthen oversight of food ingredients (Section 17-4) has been updated.
- Images have been added to Table 17-7 to provide visual examples of food sources that can cause foodborne illness.
- Popular energy drinks have been added to Table 17-8, Caffeine Content of Common Sources.
- Section 17.6 on Personal Action has been shortened to simplify the message about what students can do to reduce pesticide exposure.
- Melons are the topic of “Farm to Fork,” including the potential for cantaloupes to harbor bacteria because of their “netted” surface.
- Agroterrorism and food biotechnology are new topics covered in Section 17.6.
- “Newsworthy Nutrition” summarizes new research about foodborne illnesses associated with organic foods.
- The topic of sustainability has been greatly expanded, including the potential results of sustainable agriculture, sustainable farming practices, and strategies to reduce your food waste and eat more sustainably.
  - The Chapter 17 “Ask the RDN,” written by contributing author and dietitian Chris Vogliano, contains practical advice for reducing food waste.
- The EPA’s Food Recovery Hierarchy has been inserted as Figure 17-3.
- Figure 17-4, Effects of temperature on microbes that cause foodborne illness (Danger Zone), has been moved to Section 17.3, Effects of Temperature: The Danger Zone.
- The length of time to keep leftovers in the refrigerator has been updated in Section 17.8, Preventing Foodborne Illness.
- New Concept Check questions have been added, along with 13 new resources in the Further Readings.

### Chapter 18: Nutrition During Pregnancy and Breastfeeding

- A new “Newsworthy Nutrition” discusses the impact of maternal dietary patterns and the cognitive development of the offspring.
- In Section 18.1, the latest evidence-based guidelines on treatment of polycystic ovary syndrome are discussed.
- In Section 18.4, the discussion of macronutrient needs of pregnant women has been broken into separate subsections to improve readability. Also, a separate subsection on fluid needs during pregnancy has been added.
- In Section 18.7, we have included information about the Baby-Friendly Hospital Initiative and defined a new term: human milk oligosaccharides.
- “Farm to Fork” focuses on greens, a good source of folate to support embryonic development.
- In Section 18.5, the information about a healthy dietary pattern during pregnancy has been incorporated into a new Figure 18-8.
- Further Readings now includes 54 updated resources.

### Chapter 19: Nutrition from Infancy Through Adolescence

- Figures 19-1 and 19-2 have been annotated to show students how to plot growth and BMI on growth charts.
- In Section 19.2, information about iron supplementation has been updated to reflect the recommendations of the American Academy of Pediatrics.
- Figure 19-3 has been updated to the new food labeling format.
- In Section 19.3, a new subsection has been added about baby-led introduction to solid foods and a new term has been defined: responsive feeding.
- Section 19.4 now includes the most recent recommendations from the Physical Activity Guidelines for Americans. A new “Ask the RDN” from child nutrition expert Sally Kuzemchak provides practical advice to help caregivers cope with picky eating. A new term, neophobia, has been defined. The discussion about links between nutrition and autism spectrum disorder has been updated.
- “Farm to Fork” is about blueberries, a nutrient-dense snack choice for children.
- “Newsworthy Nutrition” describes recent research on the connections between dietary patterns and acne.
- Section 19.7 has been updated with new statistics about food allergies and intolerances.
- Fifty-four new resources have been added to the Further Readings.

# Changes to Smith, Wardlaw's Contemporary Nutrition: A Functional Approach, 6e

## Chapter 20: Nutrition During Adulthood

- All aging demographic and prevalence data have been updated in Section 16.1. In addition, the entire chapter has been revised to emphasize healthy aging and active living during this period.
- A new figure from the World Health Organization (WHO) (Fig. 20-2) on aging and health emphasizes key influences of aging and recommendations for healthy aging. A new box also highlights healthy aging.
- A new “Newsworthy Nutrition” highlights research assessing the impact of dietary patterns on telomeres, a bio- marker of aging.
- Figure 20-4 has been updated to match the most recent version of the Nutrition Screening Initiative’s Nutrition Checklist for Older Adults, which utilizes the DETERMINE mnemonic.
- “Farm to Fork” focuses on grapes, a convenient and widely available fruit.
- Table 20-2 has been revised to provide a more comprehensive array of strategies to cope with the physiological changes of aging as adapted by the NIH National Institute of Aging.
- A new Table 20-3 summarizes the key physical activity guidelines for adults and older adults.
- Table 20-5 has been updated with the latest research on popular herbal remedies used by American adults, and references to some current and relevant online resources pertaining to complementary and alternative medicine are provided in the corresponding box.
- A box feature introduces the rising popularity of home- delivered meal kits and the most popular services available.
- Another box feature displays the results of a new meta- analysis that found additional benefits of eating 10 a day versus five a day for fruits and vegetables.
- Section 20.5, Nutrition Implications of Alcohol Consumption, has been updated to include the Centers for Disease Control and Prevention’s definitions of moderate and heavy drinking.
- Figure 20-8 has been updated to include three additional standard drink sizes with grams and percent of alcohol in each.
- A box has been added in Section 20.5 that includes a link to an alcohol calculator.
- New Concept Check questions and several new resources have been added to the Further Readings.

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