

*Essentials of*

# Life Cycle Nutrition

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## DEDICATION



The editors would like to dedicate this edition of *Essentials of Life Cycle Nutrition* to I. David Todres, MD, who died on September 26, 2008, after fighting a courageous battle with lymphoma. David was the beloved husband of Judith Sharlin, friend and colleague of Sari Edelstein, and co-author of one of the chapters in this book. Born in South Africa, David was one of the founders of the neonatal and pediatric intensive care units in Massachusetts General Hospital (MGH), where he worked for 37 years. Until the time of his death, he served as chief of the pediatric ethics unit at MGH and was a professor at Harvard Medical School. A loving and devoted husband and father, David expressed his gentle pa-

tience, humility, and kindness every day. He combined humor, wisdom, care, and concern in both his professional and personal lives. David was one of those few special people who inspired others, by example, to be the most ethical, humane, and compassionate people they could be. A deeply spiritual and optimistic person, David also loved travel, literature, art, politics, and religion. David's legacy will be remembered in the thousands of children's lives he saved and in the scores of students and residents he mentored. With his wild curls, charming South African accent, wisdom, and gentle kindness, David made an indelible impression on anyone he touched . . . he is deeply missed.



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# PREFACE

*Essentials of Life Cycle Nutrition* provides a unique learning experience, a unique reference, and a unique start for students learning about nutrition throughout the life cycle. It also provides a comprehensive reference for those of us already in practice. The book stands alone in its interwoven coverage of public health nutrition, with subjects as diverse as media influences on eating, skipping breakfast, sociodemographic moderators of dietary intake, tobacco use and nutritional status, and clinical nutrition; it includes a wide array of diverse topics, including inborn errors of metabolism, and cancer. Contemporary issues such as fruit juice consumption, nutritional needs of athletes, and dietary supplements as ergogenic aids are addressed across the life cycle as well as by using a multidisciplinary approach. This book gives students current knowledge, helps them evaluate emerging knowledge, and prepares them to uncover new knowledge for the public, their clients, and themselves as they journey together throughout the life cycle.

The book is divided into two sections. The first section brings us from the prenatal period to adolescence and covers virtually every topic imaginable. The first chapter covers nutrition during pregnancy, the essential nutrients and potential complications. Chapter 2 gives students insight into the growth, and development of normal infants, along with some of their nutrition “issues,” such as food safety and the effect of early diet on health outcomes. As outlined in Chapter 3, toddlers have different issues as they begin to explore their world and express food preferences; food habits begin to be formed and are influenced by caregiver behaviors. Chapter 4 emphasizes that school-aged children have different needs and are influenced by a wide variety of outside forces, including role models and television and other media. Although caregivers have a large influence, these children begin to make their own food choices and may be grazers or picky eaters. Adolescents, discussed in Chapter 4, are an understudied group with many nutrition issues; they, too, are influenced by media but also by their peers. Adolescents also make many of their own food choices and may skip breakfast or consume fast food and added sugars, often in the form of sweetened beverages. Poor food choices contribute to rising obesity and the appearance of nutrition-related chronic diseases formerly seen only in adults, such as metabolic syndrome and type 2 diabetes. As students learn about nutritional needs of infants, children, and adolescents, they also learn how to help these groups improve their nutritional status.

Chapters 5 through 8 discuss special nutrition considerations for infants, children, and adolescents. Eating disorders, failure to thrive, food allergies, and the nutrition needs of children with disabilities are all covered in these chapters. Highlighted are pediatric vegetarianism, childhood obesity, and dietary needs of athletes. Very specialized topics, such as inborn errors of metabolism, are also included.

Section 2 covers adults. Chapters 9 to 11 include information on chronic nutrition-related diseases, such as coronary heart disease, hypertension, diabetes, kidney disease, cancer, osteoporosis, HIV/AIDS, and obesity. Evidence analysis for evidence-based practice in these diseases is included, as are prevention strategies. Chapter 11 is devoted to physical activity and weight management issues. Chapters 12 and 13 are dedicated to nutritional issues of the elderly; all topics ranging from special nutritional needs to nutritional problems, from activities of daily living to polypharmacy, and from risks of malnutrition to nutrition intervention are included in these chapters. Chapters 14 and 15 discuss professionalism and ethical issues, the final preparation for students to join us as colleagues.

This book has many exciting features that not only enhance its usefulness as a teaching tool but also pave the way in developing future clinicians and scientists at the cutting edge of nutritional sciences:

**Evidence-Based Practice:** This section contains articles where readers can transform the written word into a peer-reviewed study or clinical trial. I tell my students that we don’t want to know their opinion, we want to know their informed opinion. But how do they shape these opinions? Only by reading about evidence-based studies and medicine and by conducting studies themselves can students learn the

importance of evidence-based practice. The American Dietetic Association, with its Evidence Analysis Library, is a leader in presenting practitioners with the concept of evidence-based practice. This text complements this effort and enhances our students' familiarity with this important subject.

**Cultural Diversity Sidebar:** Cultural differences that involve the nutrition and health differences and similarities among ethnic groups are highlighted. This is a wonderful opportunity for students to learn more about what I call “diseases that discriminate”: Obesity, cardiovascular disease, and diabetes are all most common in minority populations. Why? Are differences genetic or are they related to lifestyle or to health care? What are the gaps in nutrition research in different groups? How do you work with people from cultures or ethnicities that are different from your own to improve their health or nutritional status? This feature will help students answer these questions, develop their professionalism, and improve their practice.

**Critical Thinking Sidebar:** Found throughout the chapters, the points considered assist the reader in critical thinking concepts of different sections of the text. Perhaps the most important thing a student can learn is to analyze and evaluate, examine and reason, reflect and decide. Why? In order to solve complex real-world problems, weigh evidence and make conclusions, learn to ask the right questions, and develop informed opinions to share with others.

**Case Studies and Nutritional Management:** These sections are provided to demonstrate chapter concepts. Case studies actively involve students in learning and simulate or represent actual problems they will face as professionals. Students can work alone or in groups to develop solutions, as they would in the workplace. Thus, case studies help develop knowledge and skills of students in a wide variety of subjects and improve critical thinking skills, public speaking, and group interactions.

**Issues to Debate:** These issues include withholding and withdrawing nutrition, the ethical implications of nutritional care, and right-to-die case law. It is critical that students learn the physiologic, moral, ethical, and legal issues surrounding these emotionally charged issues. Debate and discussion with others help students understand these issues as they apply across the life span; it also helps nutrition students learn how they will interact with other health professionals.

**Website Resources:** Websites are provided not only for present use as students work through the material presented, but also for use by the students when they become the teachers. The Internet has opened virtually all information to all people at all times. No health professional can work without it. However, there are no filters on or standard for materials posted on the Web. It is important to help students understand this and to help them use appropriate materials. The websites provided in this book provide reliable and accurate information.

For students, *Reader Objectives* guide them stepwise through the chapter, and *Key Terms* sidebars throughout the chapters assist with new terminology and concepts. Also included are *Special Sections*, which are designed to heighten curiosity and give insight to a particular issue. *Chapter Summaries* crystallize the most important elements of the chapters and help bring the chapter contents into perspective.

For instructors, there is a separate *Instructor's Manual* with multiple-choice questions and answers to case studies, as well as PowerPoints available electronically for all chapters.

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Dr. Judith Sharlin is a senior lecturer in the Department of Nutrition and Dietetics at Simmons College. Before coming to Simmons College, Dr. Sharlin co-directed the Graduate Nutrition Communications Program at Boston University and owned and operated a catering and baking business. She is the author or editor of multiple books, including a national award-winning cookbook and nutrition guide, *The Romantic Vegetarian* (1984) as well as *Life Cycle Nutrition: An Evidenced-Based Approach* (2009). She is also the author of many research articles and chapters including topics on food consumption behavior and cardiovascular risk, weight management, diet and chronic disease risk, and end-of-life nutrition. She has lectured nationally on these topics. Dr. Sharlin competes as a U.S. Masters swimmer and ranks as a “Top Ten” record holder in New England.

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