



FOURTH EDITION

GERIATRIC NUTRITION

THE HEALTH PROFESSIONAL'S HANDBOOK

Ronni Chernoff



Geriatric Nutrition

The Health
Professional's
Handbook

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To my mother Lynn, who, at the age of 91 years, has set a high standard for successful and graceful aging, and to family, friends, and those I love, who celebrate the days of our lives together.

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Preface

January 2006 marked the year in which the post-World War II baby boom generation started passing the threshold of age 60 years; January 2011 sent the first wave of this generation closer to the age of 65 years and onward toward becoming the retirement generation. The increased demand for healthcare resources of the 76 million individuals born between 1946 and 1964 who are now turning age 65 at the rate of 8000 a day is a harbinger of things to come. The baby boomers are unique in that they are very different from previous generations: they are better educated, have a more sophisticated awareness of health care, are more invested in wellness and physical activity, expect accessible and affordable health care, and want to be a partner with their healthcare providers in making healthcare decisions. Simultaneously, the healthcare delivery system in the United States is in a transitional period where both infrastructure and services are rapidly changing. To meet the needs and expectations of this large cohort of elderly people, there is an obvious need to train health professionals to meet the challenges of caring for this very large group of older adults.

One dimension of health care that is important throughout the human life span is nutrition. Dietary intake must meet needs for growth and development, support successful reproduction, minimize risk factors for the development of chronic disease, and provide adequate substrate to heal injuries and wounds, fight infection, repair fractures, and recuperate from illness. All of this must be addressed within the context of aging organ systems, age-related physiologic changes, and the existence of chronic disease.

Aging successfully depends on a variety of factors including genetic inheritance, health habits, lifestyle, environmental factors, chronic and acute disease, and access to health care. Relationships among these factors become clearer when ongoing research is integrated into present knowledge. New models of healthcare delivery systems are being explored and disseminated with an eye toward cost, benefit, and impact on the lives of consumers. With the goals of all who work with elderly individuals to promote healthy aging and maximize life span, *Geriatric Nutrition* was revised and updated to

integrate new research and information with knowledge already known. The contributors are all noted experts in their fields and provide new and updated information for all who would expand their understanding of the role of nutrition in aging, nutritional needs of aging adults, and nutrition and disease. Every chapter has been updated for this *Fourth Edition*.

The first chapter addresses some of the issues that we can expect to encounter as the population ages and demographics shift with changes in the population profile, immigration, and disease management. Chapters on micronutrient, vitamin, mineral, and trace metal requirements have all been updated. Chapters on smell, taste and somatosensation, oral health, and swallowing disorders have been revised.

Chapters on the aging gastrointestinal tract and the cardiovascular, renal, hematopoietic, endocrine, and skeletal systems have been revised and enlarged. These chapters can contribute to a greater understanding of human aging and the interrelationships with nutrition. A revised chapter on drugs and nutrient interactions gives new information on drugs, supplements, and herbal products and discusses the impact of Medicare Part D.

Nutritional status and assessment, as well as aggressive nutrition support are explored in chapters on nutrition assessment; a new chapter on nutritional support includes some discussion of the ethical issues involved. Additionally, our understanding of health promotion and secondary and tertiary disease prevention and management are deepened in the revised chapters on exercise, on nutrition services for older adults, and in a revised and expanded chapter on health promotion and disease prevention in elderly adults.

The more knowledge gained with scientific advancement, the more information we would like to add with each revision, but limited by time, publisher guidelines, and production requirements, this volume represents the basis of a primer in geriatric nutrition for the health professional. The contents in this new and updated format can contribute to a greater understanding of aging and nutrition, to the reader's own successful aging, and to healthcare professionals' endeavors to enhance healthy aging for parents, patients, family, and friends.

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January 2006 marks the 60th anniversary of the end of World War II, a time when the United States was still recovering from the devastation of the war. The first wave of this generation, the "Greatest Generation," is now aging, and the second wave, the "Silent Generation," is also aging. The United States is now facing a demographic shift that is unprecedented in our history. The baby boomers, who were born between 1946 and 1964, are now turning age 65 at the rate of 8000 a day. This is a harbinger of things to come. The elderly are unique in that they are very different from previous generations: they are better educated, have a more sophisticated awareness of health care, are more invested in wellness and physical activity, expect accessible and affordable health care, and want to be a partner with their healthcare providers in making healthcare decisions. Simultaneously, the healthcare delivery system in the United States is in a transitional period where both infrastructure and services are rapidly changing. To meet the needs and expectations of this large cohort of elderly people, there is an obvious need to train health professionals to meet the challenges of caring for this very large group of older adults.

One dimension of health care that is important throughout the human life span is nutrition. The diet intake must meet needs for growth and development, support successful reproduction, minimize risk factors for the development of chronic disease, and provide adequate substrate to heal injuries and wounds, fight infection, repair fractures, and recuperate from illness. All of this must be addressed within the context of aging organ systems, age-related physiological changes, and the existence of chronic disease.

Age-related health depends on a variety of factors including genetic inheritance, health behaviors, lifestyle, environmental factors, chronic disease, and access to health care. Research is ongoing among these factors become more complex. As research is integrated into practice, new models of healthcare delivery will be explored and disseminated with an eye toward cost, benefit, and impact on the lives of older people. With the goals of all who work with elderly individuals to promote healthy aging and maximize life span, *Geriatric Nutrition* was revised and updated to

reflect new research and information with knowledge that we have. The contributors are all noted experts in their fields and provide new and updated information for all who would expand their understanding of aging, nutrition, and disease. Every chapter has been updated for this Fourth Edition.

The last chapter addresses some of the issues that we can expect to encounter as the population ages. As demographics shift with changes in the workforce, immigration, and disease management, the focus on micronutrient, vitamin, mineral, and water-soluble requirements have all been updated. Chapters on smell, taste and somatosensation, oral health, and swallowing disorders have been revised.

The focus on the aging gastrointestinal tract and the endocrine, renal, hematopoietic, endocrine, and immune systems have been revised and enlarged. These chapters can contribute to a greater understanding of human aging and the interrelationships of the systems. A revised chapter on drugs and nutrition interactions gives new information on drugs, supplements, and herbal products and discusses the impact of Medicare Part D.

Nutritional status and assessment, as well as aggressive nutrition support are explored in chapters on nutrition assessment; a new chapter on nutritional support includes some discussion of the ethical issues involved. Additionally, our understanding of health promotion and secondary and tertiary disease prevention and management are deepened in the revised chapters on exercise, on nutrition services for older adults, and in a revised and expanded chapter on health promotion and disease prevention in elderly adults.

The more knowledge gained with scientific advancement, the more information we would like to add with each revision, but limited by time, publisher guidelines, and production requirements, this volume represents the basis of a primer in geriatric nutrition for the health professional. The contents in this new and updated format can contribute to a greater understanding of aging and nutrition, to the reader's own successful aging, and to healthcare professionals' endeavors to enhance healthy aging for patients, patients, family, and friends.