Translating the Science of Nutrition into the Art of Healthy Eating

By Nancy S. Wellman and Mary Ann Johnson, guest editors

This issue of Generations explores a very basic human need: food. The issue focuses on the nutrients in food that nourish our bodies as we age. It brings to readers information that is based on a field of scientific study that continues to grow, particularly in relation to healthier aging.

Eating is so much more than just appeasing hunger. As Juengst (1992) reminds us,

Eating is a social activity that includes sharing, celebration, learning from one another, and providing for the helpless, a ritual that brings comfort, satisfaction, pleasure, creativity, sustenance, nurture, appreciation and healing. It satisfies many levels of human needs. (p. 15)

While our need for food to enrich social bonds and to sustain life is rooted in earliest society, today’s two distinct but parallel systems that provide services to older Americans view food and nutrition quite differently. The social service system, including the aging network, tends to view food as nurturing, emphasizing the emotional, social, and quality-of-life aspects of eating. The healthcare system has traditionally focused on food and nutrition primarily as therapeutic treatment for chronic diseases and more recently has come to value the health-promoting and disease-preventing attributes of a healthy diet. In this issue, we look at nutrition from both healthcare and social-service perspectives.

Today’s abundant food supply in the United States and our greater understanding of the health benefits of foods and nutrients present both challenges and opportunities. Challenges include ensuring that people of all ages have access to wholesome foods that meet their cultural, health, social, and other needs. One article in this issue examines aging and hunger—still, unfortunately, a major issue among older people in our wealthy country. Another article reviews nutrition assistance programs.

Among the opportunities is the application of recent discoveries of how certain foods, nutrients, and dietary patterns help prevent, lessen the risk of, and manage many chronic diseases. In our aging society, the connections between nutrition and health and independence and the relationship between food and quality of life are merging into a more holistic view of food and nutrition.

Health and Quality of Life

We now know that eating healthy diets and maintaining an appropriate body weight along with other healthy lifestyle practices can delay
disability, improve quality of life, and compress morbidity—that is, shorten the time during which people experience poor health and disability prior to death (Fries, 2003). In midlife, for example, controlling body weight and cardiovascular-disease risk factors, both of which are profoundly affected by food patterns and portion sizes, leads to better quality of life in the domains of physical and mental limitations, bodily pain, energy and fatigue, social functioning, and mental health later in life (Daviglus, et al., 2003a, 2003b). Abundant intakes of fruits, vegetables, and whole grains with adequate protein and essential fats are associated with the lowest risk of chronic diseases (Kant, 2004). Increasing healthcare costs and the personal burdens of chronic diseases caused by the global obesity epidemic are prompting even more serious evaluation of nutrition and other lifestyle factors in preventing and managing chronic diseases (Yach et al., 2004). The Institute of Medicine (IOM, 2000) evaluated the role of nutrition in maintaining health and evaluated coverage of nutrition services for the Medicare population. The IOM emphasized that poor nutrition, inadequate intakes of nutrients, and obesity are major problems, and the vast majority (86 percent) of older Americans have chronic conditions for which nutrition interventions have been shown to improve both health and quality of life.

As part of a comprehensive management and treatment approach, nutrition therapy was recommended for a number of common conditions, including high blood cholesterol and triglycerides, hypertension, heart failure, diabetes, and kidney failure. The IOM recognized the registered dietitian as the healthcare professional most qualified to provide medical nutrition therapy, which includes individualized nutrition services and procedures to treat an illness, injury, or condition. As summarized by Sudha in this issue, a practical way to share new knowledge and promote healthy eating in the aging network is to host an annual educational conference on food, nutrition, health and wellness through State Units on Aging.

**FOOD AND NUTRIENT RECOMMENDATIONS**

Our nation's major food and nutrient recommendations are established by the U.S. Department of Agriculture and the U.S. Department of Health and Human Services (2004) in the Dietary Reference Intakes (DRIs) and the Dietary Guidelines for Americans, which includes the Food Guide Pyramid. Together they provide a comprehensive set of scientifically based food and nutrition guidelines for Americans throughout the lifespan. These regularly updated recommendations are established with healthy people in mind. Public law mandates that they be used for meal planning for federal nutrition assistance programs such as the Older Americans Act Nutrition Program and in providing nutrition care in nursing homes and assisted living facilities.

Dietary Reference Intakes are recommendations about daily requirements for calories, protein, carbohydrates, fats, fiber, and vitamins and minerals (IOM, 2003). These reference standards are useful when planning healthy menus or assessing the nutritional adequacy of diets of groups of people. The standards are also used in the Nutrition Facts panel on food labels.

Within the DRIs are the Recommended Dietary Allowances (known as RDAs). The familiar RDA is the dietary intake level that meets the nutrient requirements of nearly all healthy individuals in a particular life-stage and gender group.

The Dietary Guidelines for Americans translate the nutrient-based Dietary Reference Intakes into food-based guidelines and are updated every five years. The 2005 Dietary Guidelines (DHHS-USDA, 2005) emphasize a plant-based diet rich in fruits and vegetables (DHHS-USDA, 2004). In line with newer scientific information, the 2005 Dietary Guidelines emphasize staying hydrated by drinking fluids, increasing physical activity, eating more whole-grain foods and potassium, decreasing sodium intake, and, for older adults, getting some vitamin B12 and vitamin D from fortified foods, supplements, or both. There is not a specific guideline for "simple sugars," which includes "table sugar" and sugars added to many foods during processing. However, older adults who are overweight should limit added sugars to help keep calories lower. The Food Guide Pyramid is a pictorial representation of the Dietary Guidelines. The pyramid depicts the types and
amounts of foods in various food groups that a person should eat each day.

**Dietary Shortages and Excesses**

Macronutrients include protein, fat (saturated, polyunsaturated, and monounsaturated), carbohydrates (sugars and starches), fiber, and water (USDA-DHHS, 2004; Wright et al., 2003). The recommended number of daily calories (energy) depends on body size, gender, age, and amount of physical activity. Since calorie recommendations and intakes generally decrease with age, it is important for older adults to choose foods wisely to meet their nutrient needs. On average, most older adults consume an adequate amount of protein, too much fat, and too little fiber.

Micronutrients, the vitamins and minerals, are particularly important to older adults. Increasing fruit and vegetable intakes to at least five servings daily would help improve the intakes of vitamins A, C, E, and potassium. Although vitamin B12 intakes seem adequate, most of the vitamin B12 should come from fortified foods or supplements to overcome the effects of atrophic gastritis (IOM, 1998; USDA-DHHS, 2004). Atrophic gastritis, which is common in older adults, lowers acid and digestive enzymes in the stomach, which then limits absorption of the food-bound vitamin B12, but not the crystalline form of vitamin B12 in fortified foods and supplements. Whole grain fortified breakfast cereals are one way to increase the intakes of fiber, vitamin B12, and vitamin E. Cereals differ in nutrient content, so careful reading of food labels is important.

Intakes of vitamin D among older people are well below recommendations. The 2005 Dietary Guidelines note that older people may need, 1000 IU daily, which is substantially more than was previously thought (USDA-DHHS, 2004). Because vitamin D is not in many foods and the ability to make vitamin D in the skin diminishes with age, most older people need a multivitamin with vitamin D (400 IU) or a calcium supplement with vitamin D (about 100–200 IU) (IOM, 1998). Milk is an excellent source of calcium (300 mg/cup), vitamin D (100 IU/cup), and other bone-enhancing nutrients. Most Americans do not drink enough milk to meet their vitamin D and calcium requirements (Elbon, Johnson, and Fischer, 1998).

Lifestyle modification, which includes decreasing body weight, eating whole grains, fruits, vegetables, and low-fat dairy foods, decreasing sodium intake, improving physical activity, and moderating alcohol consumption, constitute the first line of defense against high blood pressure.

**Food and Nutrient Recommendations in Daily Meals**

The articles in this issue provide excellent sources of information on how to meet nutrient needs in daily meals. Relatively inactive and small older women or people trying to lose weight, for example, require approximately 1,600 calories, but these can be provided by a poor dietary pattern with too much fat and sodium and not enough fiber, vitamins, and minerals or by a nutrient-rich, healthy dietary pattern with more fruits, vegetables, whole grains, dairy foods, and lean meats. The latter could provide up to ten times as many vitamins and minerals and about half as much sodium and fat. For this reason, professional consultation to achieve a healthy dietary plan can be extremely beneficial. A common problem is that low-calorie diets often do not meet fiber and potassium requirements, even with nutrient-dense foods. It is especially important, then, for older people to be physically active every day to increase their energy, or calorie, needs so that they can eat more healthy foods without weight gain.

A registered dietitian can determine how nutritious a person's diet is and make recommendations for healthier food choices. Computer programs on the Internet can help people assess the nutritional adequacy of their own diets (e.g., Interactive Healthy Eating Index, USDA, 2004). Since eating healthy is crucial, it is important that older people avoid diet fads and know where to get the most reliable information.

**A Primer on Nutrition Experts**

Knowing that we Americans are perpetually hungry for information about food and nutrition, the media steadily feed us headlines and feature stories that offer tantalizing new facts. Yet, today's nutrition news may contradict ves-
terday's news. In surveys, most Americans cite the media as their primary source of nutrition information, with the Internet becoming a source more recently. It is no wonder that consumers are confused about nutrition, as these sources may not have any science or nutrition background or may have mixed objectives—sell more newspapers, increase the number of viewers, sell more supplements.

Those tracking food trends in the media find four major areas of interest: (1) America's obesity epidemic and the struggle to lose unwanted pounds; (2) sound nutrition for disease prevention or risk reduction; (3) explanations of the complexity of fats; and (4) functional foods—those that contain health-promoting components either naturally or by enrichment or fortification. Unfortunately, fewer than one in four articles or stories puts the new information into context. That is, while they often provide advice on what to eat or not eat for better health, they rarely specify how much to eat, how often, or to whom the advice applies. However, the media are getting more information from nutrition experts and government officials than they did before. We include in this issue an article on nutrition hype and hope to help reduce some of the confusion.

There are registered dietitians in every community who can provide individualized nutrition therapy to help older people manage diet-related conditions such as heart disease, diabetes, osteoporosis, and hypertension, as well as help people who need to gain or lose weight. Because of the importance of a healthy diet for health promotion and risk reduction, good nutrition can make a difference at any age. It is never too late to make a commitment to eating in a way that is more conducive to good health. What follows is information about our nation's most reliable source of information about food and nutrition and individualized medical nutrition therapy.

The 70,000-member American Dietetic Association (ADA) is the nation's largest organization of food and nutrition professionals. Dietetic associations in fifty states and 230 districts are affiliated with ADA. Aging is one of ADA's six strategic areas. Among the thirty ADA special-interest or practice groups are the Erotological Nutritionists, whose members work mostly in community programs. The members of the Consultant Dietitians in Health Care Facilities practice group work primarily in long-term care. Most ADA members are registered dietitians.

ADA regularly produces and updates official position statements on issues that affect the nutritional and health status of the public. Two statements address aging issues: Nutrition, Aging, and the Continuum of Care, and Libe-
ralized Diets for Older Adults in Long-Term Care [Others address nutrition issues of interest to older adults such as health promotion and disease prevention, weight management, women's health, oral health, sweeteners, fat replacements, fiber, vegetarianism, food safety, vitamin and mineral supplements, functional foods ("nutraceuticals"), food and managed care, nutritional therapy, and food and end-of-life care. All position papers are available at www.eatright.org.

A registered dietitian, or RD, is a food and nutrition expert who has a minimum of a bachelor's degree with approved course work; has completed six to twelve months of accredited supervised practice at healthcare facilities, community agencies, and food-service operations; and has passed a national registration examination. RDs also complete continuing professional educational requirements to maintain their registration. Some RDs hold additional certificates or certifications in diabetes education, nutrition support, renal nutrition, gerontology, and weight management. Nearly half of RDs have advanced academic degrees. Many also call themselves nutritionists. Since the title "nutritionist" is not legally defined in most states, it is best to choose someone who is an RD, because that designation is the basic nutrition credential. Many people who call themselves nutritionists have no real education in food and nutrition and as a result more often exaggerate effects of nutrients and hype unfounded "cures." Similarly, publications about nutrition should be evaluated on the basis of whether the author is an RD to avoid outrageous or faddish information.

The Institute of Medicine (2002) acknowledges RDs as the single identifiable group—with standardized education, clinical training, continuing education, and national credentialing requirements—that can be directly reim-
bursed by Medicare as a provider of nutrition therapy (IOM, 2000). Thus, Medicare now reimburses for nutrition therapy upon referral from a physician. Older people with a nutrition-related chronic disease, such as diabetes, renal (kidney) disease, heart disease, and osteoporosis, should ask for a referral to an RD so as to benefit from individualized counseling that takes into account the person’s food likes and dislikes, budget, cooking skills, and motivation to change.

In general, RDs are “high touch,” recommending conventional, familiar foods to meet typical needs before resorting to “high tech” therapy, meaning formulas and tube feedings. In this issue, an article reviews the gamut of common eating and appetite problems and offers practical food-based remedies; another covers dentition and oral health. Tube feedings to the stomach or via veins are methods of last resort but can be life-saving when mouth, throat, stomach, intestines, and bowel cannot digest food in the usual way.

Other articles in this issue focus on nutrition for caregivers and in assisted living and nursing homes. An RD’s sensitive, practical perspective on food and fluids in end-of-life care can help individuals and family members understand this difficult yet common situation. The issue also describes practical ways that nutrition is being used to benefit older adults by prolonging independence and promoting healthier aging.

In this issue on food and nutrition for healthier aging, our authors draw from the latest research and practice to present the compelling reasons why older people should make every bite count—and the knowledge and information that can help them do so. ;)

Nancy S. Wellman, Ph.D., R.D., is professor of dietetics and nutrition, and director; National Resource Center on Nutrition, Physical Activity and Aging, Florida International University, Miami, Fla. Mary Ann Johnson, Ph.D., is professor of foods and nutrition, and faculty of gerontology, University of Georgia, Athens.

REFERENCES


