

NUTRITION

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Good Nutrition is Ageless

By the year 2050, 20% of the American population - 79 million people - will be age 65 or older, according to U.S. Census Bureau estimates. While that seems a long way off, it's clear the population as a whole is aging. To best serve seniors, health professionals must consider the effects of aging on nutritional status before prescribing restrictive dietary regimens.

Good nutrition plus regular physical activity may retard the onset and development of many degenerative diseases faced by elders, including heart disease, diabetes, hypertension, and osteoporosis. While healthy eating can enhance the quality and length of life, it also has beneficial short-term effects, such as increasing acute disease resistance; hastening healing; and preventing electrolyte imbalance and dehydration. Above all, a tasty and nutritious diet contributes to feelings of wellness.

Seniors: The same, only different

According to the 1996 American Heart Association Nutrition Committee, health professionals should encourage flexibility in food

choices; consider average eating patterns for defining dietary goals; and recognize individual variability in responses to dietary patterns.

That's good advice, particularly when dealing with elders. Why? While seniors share the same age category (65 plus years), they are heterogeneous, possibly more different from each other than members of any other age group.

Seniors differ in terms of physical function, behavior, cognition, and emotional status, all of which may affect health. That's why we must focus on dietary needs as they pertain to a person's physiological, rather than chronological age.

Aging brings change

Aging promotes loss of lean muscle tissue, body water, and bone mineral mass, and favors body fat deposition. Elders are prone to decreased nutrient absorption, metabolism and excretion; decreased sense of taste and smell; decline in salivary secretions and esophageal function; decreased gastric functioning and emptying; a decline in liver and biliary function; and increased glucose intolerance.

Data from the third National Health and Nutrition Examination Study (NHANES III) suggest that the elderly are at particular risk for inadequate diets because of the presence of disease, physical disability, inability to chew food adequately, polypharmacy, living alone, and limited income. Other factors compromising nutrition include poor dental health, and poor mental health.

NHANES III found the frequency of physical difficulty increases with age, particularly ability to walk, and to prepare meals for oneself, which may contribute to another of the study's findings

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that elderly adults eat less than the Recommend Dietary Allowance for calories and some important nutrients, such as calcium.

Making the most of dietary recommendations

Energy needs decline with decreasing lean muscle tissue, but nutrient needs do not.

According to the American Dietetic Association, elders may consume inadequate protein, calcium, iron, zinc, folate, vitamins A, C, B12, D, and water. To further complicate matters, many elders suffer from one or more chronic diseases, including diabetes and hypertension, which often entail restricted diets to retard disease progression, and prevent additional disease.

For seniors, consuming the optimal diet is more of a challenge than ever before. For health professionals, the question becomes how best to balance nutrition therapy goals with pleasurable eating?

Unnecessary, or unreasonable, dietary restrictions could prompt the elderly to forego many favorite foods, perhaps resulting in inadequate nutrient consumption. For example, consider the elder diabetic taking hypoglycemic oral agents who is prescribed a diet that requires measuring every morsel and eliminating favorite foods. If he doesn't eat enough because the diet is too difficult to follow, then little has been achieved.

Consider the evidence

Many elderly people have one or more risk factors for cardiovascular disease as defined by the American Heart Association, such as elevated blood cholesterol levels. Yet, it is difficult to determine the benefits of lowering elevated serum cholesterol in seniors, since nearly all research has studied middle-aged men.

Even if lower blood cholesterol levels were advisable for seniors, the effects of dietary restrictions toward that end is debatable. That's because dietary cholesterol, typically blamed for elevated serum cholesterol levels, makes an insignificant contribution to boosting blood cholesterol levels in most people.

Effort is better spent helping patients to eat a low-fat diet that's also low in saturated fat. Saturated fat has no equal in its detrimental effects on serum cholesterol.

Don't jump the gun

In our zeal to prevent heart disease by keeping serum cholesterol levels in check, we may also be unwittingly taking the fun out of eating. For example, research shows that most people on a low-fat diet who have normal serum cholesterol levels can consume one to two eggs daily without negatively affecting blood cholesterol.

Since individuals appear to vary in their response to dietary cholesterol, the one-size-fits-all recommendation to limit dietary cholesterol to 300 milligrams a day seems unjustified.

According to NHANES III, the elderly consume less cholesterol than the recommended cholesterol limit: 200-225 milligrams for men daily; 132-150 milligrams for women daily, suggesting the elimination of highly nutritious animal products. That's why the National Cholesterol Education Program's (NCEP) 300 mg/day cut-off may be unwarranted for individuals whose risk factors are otherwise low, whose nutritional status is shaky, and who would benefit from a variety of healthy foods, such as eggs, which also contain cholesterol.

Girth control


Weight control is key to preventing, and managing many chronic diseases, including hypertension, heart disease, and diabetes. Practitioners should promote long-term weight control by combining an appealing, isocaloric, or calorie-restricted, low-fat diet with regular physical activity and exercise.

Exercise maintains and builds aerobic capacity, improves glucose intolerance, and mitigates the age-related loss of bone mass. Regular physical activity maintains lean muscle tissue, helping to stem the decline of basal metabolic rate common in aging. A combination of aerobic activity, such as walking, with modest weight training, which preserves and builds muscle tissue, is most desirable at any age.

Focus on inclusion

In the rush to dietary restrictions, health professionals often warn patients off certain foods, giving them the idea that a healthy diet is based on omission. Unfortunately, this approach seems more punitive than beneficial.

It's best to encourage elders on a tailor-made, high-fiber, low-fat regimen that combines a wide variety of nutritious foods and fluid with modest portions of high-fat favorites. Eliminating whole eggs in seniors' diets makes little sense. Eggs are nutritious; easy to chew and digest; convenient; easy to prepare; and an inexpensive source of high biological value protein.

Living a happy life is just as important to some seniors as living a longer one. Recommending drastic dietary changes may not be advantageous, since eating without pleasure can compromise the quality of life, and may do little to extend its length. 

Written by Elizabeth M. Ward, M.S., R.D.

QUESTIONS FROM

t h e c l i n i c

Q ■ **What are risk factors for heart disease?**

a: There is good evidence that heart disease results from lifestyle excesses and insufficient physical activity. These excesses include too many fatty foods, smoking, and too many calories. Millions of Americans are at risk of developing a heart attack. High blood cholesterol plays a part in coronary artery disease and heart attacks but is not the only risk factor. Genetics, diet, smoking, high blood pressure, obesity, inactive lifestyle, are all risk factors for heart disease. In addition, studies have found that diets low in several B vitamins may cause high blood levels of homocysteine. Homocysteine is an amino acid that circulates in the blood, and is as important as other risk factors in determining risk of heart attacks and strokes. Researchers indicate that high levels of homocysteine damage arterial walls and promote the buildup of cholesterol, which leads to blockage.

Q ■ **How is homocysteine related to heart disease?**

a: The Framingham Heart Study found that high blood homocysteine levels are found with low blood levels of vitamins B6, B12, and folate. All of these vitamins play important roles in decreasing homocysteine in the body, and keeping it at safe levels. When one or more of these vitamins is deficient, homocysteine increases over time. The Framingham Heart Study suggested that high homocysteine levels increase the risk of heart disease, and may be decreased by eating adequate amounts of B vitamins in the diet, or by taking B vitamin supplements.

Q ■ **What are food sources of folic acid, vitamin B6, and vitamin B12?**

a: White flour, breads, pasta, grits, white rice, and cornmeal are all now enriched with folic acid. Other good sources of folic acid are eggs, leafy greens, wheat germ, broccoli, whole grains, and fortified oatmeal. (Citrus fruits and juices contain folic acid, but the body does not absorb it well.)

Vitamin B6 is found in eggs, whole grains, bananas, potatoes, beans, fish, meat, poultry, and strawberries.

Vitamin B12 is found in eggs, meat, poultry, liver, dairy products, fish, fortified cereals, and soy products.

Q ■ **Are there any techniques to help an older person sleep better?**

a: Techniques to improve sleep include limiting the time spent in bed. Many elderly people hope to make up for lost sleep by going to bed earlier and staying there longer which further disturbs their sleep. It is recommended that they spend no more than seven to eight hours a day in bed. Also, making sure to get outdoors for thirty minutes or more each day is advisable. Exposure to light, especially in the late afternoon, is the best way to stabilize circadian rhythms. Exercising regularly improves the elderly's ability to fall asleep faster and provides a greater sleep quality. Establishing a daily schedule and regular set hours for meals and sleep is important. Limiting alcohol and caffeine intake, and avoiding tobacco are also important factors to consider to promote better sleeping patterns.

Nutrition Realities welcomes your Questions from the Clinic. If you have questions or comments, please send them by mail, FAX, or e-mail to:

Questions from the Clinic

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Realities

OSTEOPOROSIS

Osteoporosis is known as the “silent disease,” because in most cases people are unaware of its presence until a bone breaks. The bone fractures that occur due to osteoporosis usually happen with very little or no trauma. Advanced stages of osteoporosis are associated with progressive functional disability and impaired quality of life. Ten million people have been diagnosed with osteoporosis in the United States and approximately 18 million more Americans have a low bone mass thus placing them at substantial risk for the development of osteoporosis.


Osteoporosis can occur at any age, but is seen most often in the elderly. It has been reported that one out of every two women and one in eight men over age 50 will experience an osteoporosis-related fracture during their lifetime. Women can lose up to 20% of their bone mass during the five to seven years after menopause which makes them more susceptible to osteoporosis. However, by age 75, one-third of American men develop osteoporosis as well. The most common sites of osteoporosis related fractures are the hip, spine, wrist, and ribs, however, the disease can affect any bone in the body.

The following risk factors are associated with lowered bone mass. Some of these factors are under an individual’s control, however, some are genetic or physiologic in nature.

- Genetic: female; white or asian race, although African-Americans and Hispanic-Americans are at significant risk as well; family history of bone disease; extremely short or tall stature.

- Physiologic or endocrine: hyperparathyroidism, hyperthyroidism, diabetes mellitus, premature menopause, anorexia nervosa or bulimia, low testosterone levels in men, use of certain medications such as corticosteroids and anticonvulsants, amenorrhea, and advanced age.

- Environmental: low calcium intake, little exposure to sunlight, little physical activity, alcohol use, and smoking.

For adults aged 65 and older, an optimal calcium intake helps reduce age-related bone loss and protects existing skeletal mass. The National Academy of Sciences established Adequate Intakes for calcium: men and women aged 51 and older need to consume 1,200 mg/day. Since bone loss is age-related it is important to identify interventions that delay further bone depletion. Weight bearing exercises, or activities that work muscles against gravity, such as brisk walking, jogging, aerobic dance, etc. have been proven to be beneficial because the exercise stimulates bone formation. Consuming sufficient calcium and vitamin D everyday is essential. Eating adequate calories to maintain a healthy weight is also important. And, it is necessary to avoid smoking and to only drink alcohol in moderation to delay further bone loss. 

Heaney, R.P. Bone mass, nutrition, and other lifestyle factors. *Nutr. Rev.* 1996; 54:S3.

National Osteoporosis Foundation. “Fast Facts on Osteoporosis” 1998.

Wood, R.J., P.M. Suter, and R.M. Russell. Mineral requirements of elderly people. *Am. J. Clin. Nutr.* 1995; 62: 493.

Activity Pyramid for People Over 60

Each week, try to increase your level of activity doing things you enjoy.

Activities done while you are sitting keep your mind sharp, but it’s important to keep your body in shape, too. When you have been sitting for more than 30 minutes, take a few minutes to get up and move around.

Flexibility and stretching activities help keep your muscles and joints moving easily. Balance activities (such as Tai Chi) help prevent falls.

Aerobic and recreational activities help to improve your heart and lungs. Work up to doing these activities at least 20 minutes at a time.

Cut Down On

Sitting for more than 30 minutes at a time

Using Computers
Watching TV
Needlework & Crafts

The activities on this pyramid are only suggestions. Be creative in finding ways to stay active.

Strengthening your muscles can make daily activities easier. Talk with a fitness or health professional to design a program that’s right for you.

By accumulating at least 30 minutes of activity every day, you will be moving more, sitting less and feeling great!

Practice activities in each pyramid level that best fit your needs, lifestyle and values.

Throughout the Week

Aerobic/Recreational Activities (3-5 times a week)
Walking, Tennis, Dancing
Low-Impact Fitness Classes
Water Exercises

Balance & Flexibility (3 or more times a week)
Stretching throughout the day
Yoga
Tai Chi

Muscle Strengthening (3 times a week)
Lifting 1-2 pound hand weights or cans
Using weight machines

Everyday

Walk with a friend, grandchild or dog
Try active leisure activities like golfing or bowling
Take the stairs instead of the elevator
Garden or work in the yard

Do household chores
Park your car farther away
Walk while talking on the phone
Make extra steps in your day

NEW MATERIALS

are now available!!!

New educational materials have been developed especially for Older Americans. Park Nicollet *HealthSource* now has the Activity Pyramid for People Over 60, which emphasizes how daily physical activity can benefit health. Increased physical activity in older Americans has been found to increase life expectancy even into advanced age. The Activity Pyramid for People Over 60 shows how daily activities such as housework chores and gardening can promote health benefits. It also

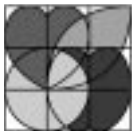
suggests limiting such daily activities as sitting in front of a television and recommends being more physically active. To purchase copies of the Activity Pyramid for People Over 60 and additional activity pyramid materials call 1-800-372-7776.

The American Dietetic Association (ADA) now has a Food Guide Pyramid for Older Adults. The new pyramid is designed to help healthy older adults continue to stay healthy longer and to improve their quality of life. The Food Guide Pyramid for older adults has serving sizes within each food group and suggests food options. It also discusses the importance of hydration and encourages older adults to drink plenty of fluids daily.

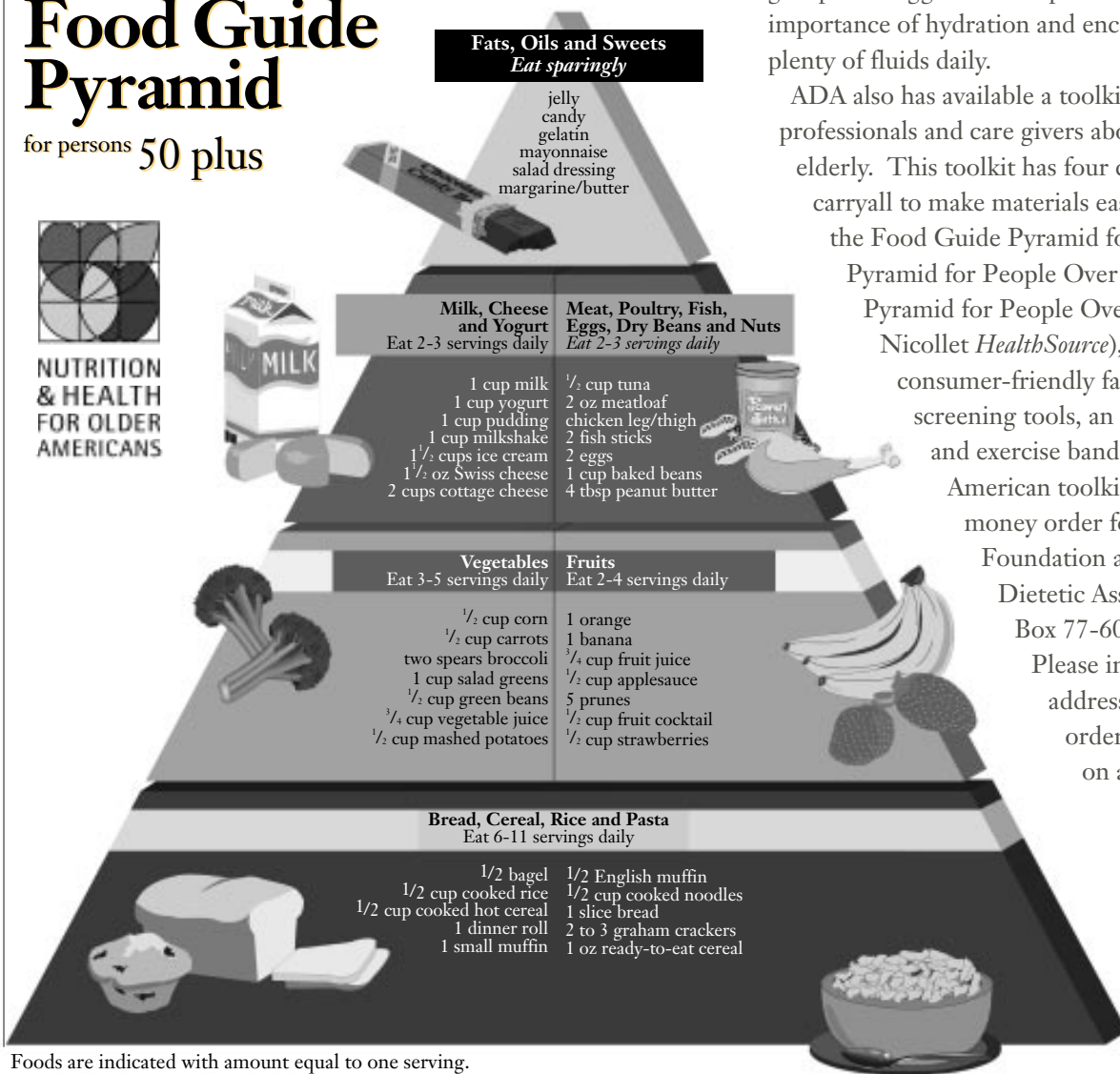
ADA also has available a toolkit designed to teach health professionals and care givers about topics concerning the elderly. This toolkit has four color-coded sections and a carryall to make materials easy to keep and find. Copies of the Food Guide Pyramid for older adults and an Activity Pyramid for People Over 50, (based on the Activity Pyramid for People Over 60 developed by Park Nicollet *HealthSource*), are included, as well as consumer-friendly fact sheets, scientific articles, screening tools, an exercise and fitness manual, and exercise bands. To order an Older American toolkit from ADA send a check or money order for \$29.95 payable to the ADA Foundation and mail it to: The American Dietetic Association Foundation, P.O. Box 77-6034, Chicago, IL 60678-6034. Please include your name, mailing address, phone number and the order code (205-415-3130-8508) on a separate sheet of paper.

Food Guide Pyramid

for persons 50 plus



NUTRITION & HEALTH FOR OLDER AMERICANS



Foods are indicated with amount equal to one serving.



What About Water?

Adults need six to eight 8-ounce cups of water or liquid a day. Sources of liquid, in addition to water, are fruit and vegetable juices and milk. Caffeine-free coffees and teas and herbal teas are also good sources.

MALNUTRITION

The good news is that the aging process alone is not a cause of malnutrition in healthy elders. Malnutrition in older people is a complex condition caused by several factors in each persons' lives. Four out of five elderly adults have chronic diseases that are affected by diet. These chronic diseases can cause many elder adults to experience confusion or memory loss that continues to worsen over time. Even some older adults who do not have chronic diseases still experience confusion and memory loss. This can make it quite difficult for a person to remember what, when, and if they have eaten. Loneliness, sadness, or depression experienced by one in eight elders can cause pronounced changes in appetite, digestion, energy level, weight, and well-being. Plus, research has found that there is a relationship between living alone and a poor quality diet.


living with a spouse.

Every person needs a healthy mouth, teeth, and gums in order to eat. Missing, loose, rotten teeth, or ill-fitting dentures make it extremely difficult for an elderly person to eat well, and can cause both chewing and swallowing problems. For these people, food choices are limited, eggs would fit perfectly in their diet since they are easy to chew, digest and nutrient dense.

Any type of significant unplanned weight loss is an important warning sign of malnutrition and not to be ignored. In addition, one out of five elders has problems walking, grocery shopping, and preparing food, which further limits their access to sufficient amounts and types of food.

These factors can put an elderly person at high risk of malnutrition, which can have severe effects on health. It is also

Men who live alone were found more often at risk of poor nutrition than men

important to note that hunger and poverty are directly related to malnutrition. However, malnutrition in elders is prevalent in all economic, racial and ethnic groups. It is important to realize that elders are among those at greatest risk for hunger and malnutrition. Malnourished patients experience more complications, resulting in longer hospital stays, with increased hospital costs. Health care professionals can take action by advocating routine nutritional screening that targets the elderly who are at the greatest risk to recognize those that need help. And, a health professional's goal should be to try to maintain a higher degree of physiologic performance throughout the entire life-cycle for all people so that elderly people in our society can be more independent, more mobile, and better able to take care of themselves. 

Wellman, N.S., Weddle, D.O., et al. Elder insecurities: Poverty, hunger, and malnutrition. J Am Diet Assoc. 1997; 97: S120 - S122.

NUTRIENT REQUIREMENTS OF OLDER ADULTS:

Nutrition requirements in older Americans can be affected by several factors. Nutritional requirements to maintain health and prevent disease are different from those required in the treatment of chronic medical conditions or in recovery following an acute illness. The major physiologic changes that occur as one ages are a decrease in total body protein, total body water and bone density, and an increase in the proportion of body fat. These changes occur in all aging people, occur at different rates among individuals, and are affected by the existence of chronic diseases. The nutrient requirements of older adults is an important topic in our aging population.


Nutritional messages that encourage older

adults to select a variety of food choices instead of avoiding or restricting categories of food, are recommended. The elderly can achieve their daily nutrient requirements through eating several small light meals throughout the day, drinking recommended amount of fluids, and maintaining an adequate weight. Mealtimes should be social events for elderly people and many experts agree that meals need to be eaten with others as often as possible. Congregate meal programs and Meals on Wheels are examples of community based nutrition programs that provide complete nutrition and socialization for elderly. While no guideline or recommendation can guarantee perfect health, older adults who follow these recommendations will give themselves a good nutritional foundation for health.

Caloric requirements decrease as one ages due to a decrease in energy demands. Elderly people have a decreased muscle mass often associated with a sedentary lifestyle. Older adults need to select nutritionally dense foods so that their diminished intake provides the nutrients they need.

Since older Americans require fewer calories due to being more sedentary, they must be careful and watch their caloric intake in order to maintain a desirable weight. These lower

energy requirements necessitate careful choice of foods so that nutrient requirements can be met. The elderly must select and consume foods of high nutrient density. Nutrient density refers to the quantity of one or more nutrients supplied by a food in relation to its caloric content. An elderly person who chooses foods that are nutrient dense are often needing to make wise food choices. Foods that provide good sources of protein, vitamins, and minerals are more nutritious instead of foods that provide mostly fats and sugars.

Eggs are an excellent nutrient dense food for older adults. They are an outstanding source of high-quality protein. Along with being an excellent source of protein eggs also provide thirteen vitamins and minerals that an elderly person needs everyday. They are partially good sources of vitamins A, D, E, K, the B-complex, and rich in minerals especially iron. Plus they are low in calories and fat, are affordable, and are easy to prepare. By encouraging older adults to consume more eggs they will be selecting a more nutrient dense food and can improve their quality of life and continue good health. 

Chernoff, R. Effects of age on nutrient requirements. Clin Geriatr Med. 1995; 11:641-651.

NUTRITION realities

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