FCS2213 FY628

UNIVERSITY OF FLORIDA

IFAS EXTENSION

Elder Nutrition[1]

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1. This document is FCS2213 FY628, one of a series of publications from the distance education in-service "Aging in the 21st Century," coordinated by Carolyn Wilken, PhD, MPH, Department of Family, Youth and Community Sciences, UF/IFAS. First published: September 2003. Reviewed by Anne Kendall, Ph.D., RD, University of Florida, IFAS, Food Science and Human Nutrition Department, Gainesville, 32611.

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Aging in the 21st Century

According to the U.S. Census Bureau, by the year 2050 the nation's elderly population will more than double to 80 million, and the more frail, over-85 population will quadruple to 18 million.

Currently, Florida ranks first in the United States in the percent of the population that is full-time and seasonal residents over the age of 65. Older Floridians, their families and communities face a myriad of issues related to aging.

Aging in the 21st Century is an eight-topic program that addresses issues such as:

- health and medical care
- family relationships
- economic concerns
- caregiving
- home modifications
- retirement
- nutrition and diet

Institute on Aging core faculty from the Colleges of Medicine, Nursing, Health Professions, and Liberal Arts and Sciences joined Extension faculty from UF/IFAS as educators for this series.

Professional Audiences

WHAT YOU WILL LEARN

- **PHYSIOLOGICAL CHANGES:** What are the main changes in the body that affect nutrition during older age?
- **Socioeconomic Changes:** What social and financial changes can interfere with healthful nutrition during older age?
- **FOCUS ON NUTRIENTS:** What nutrients are most critical during older adulthood and how can they be incorporated into a healthful eating plan?

THE IMPORTANCE OF EATING WELL

Good nutrition is important throughout life, starting even before we are born. However, at certain stages in life, such as infancy, pregnancy, and in older age, the importance of having good eating habits is especially critical. A healthful eating pattern can help people age successfully by:

- supporting positive nutritional status,
- aiding in weight management,
- promoting a healthy immune system,
- decreasing risks of infection, illness, falls and chronic diseases.

There are a number of age-related factors that can adversely affect food choices of older people.

Nutrition educators can help elders make positive food choices and, when necessary, direct them to programs that can provide additional assistance.

PHYSIOLOGICAL CHANGES

As people age, their bodies change in ways that can directly or indirectly affect eating habits, potentially impacting nutritional status and overall health.

Following are some of the major physiological changes experienced by older persons, and potential nutrition-related consequences or health risks. This information can be used to explain to interested elders how the changes in their bodies can affect their nutrient needs and overall health.

CHANGE:
Decreased **Lean Body Mass** (including muscle, bone and connective tissue, organs and water)

RISKS:
- Decreased calorie needs
- Decreased strength
- Increased risk of bone fractures

CHANGE:
Increased **Body Fat**

RISKS:
- Increased risk of glucose intolerance and insulin resistance, which may result in development of diabetes and associated health complications.

CHANGE:
Decreased **Body Water**

RISKS:
- High frequency of dehydration

CHANGE:
Decreased **Immune Function**

RISKS:
- High incidence of infection

CHANGE:
Decreased **Sense of Taste and Smell**

RISKS:
- Decreased food intake, which can affect nutritional status

Consumers can ask for a change in medication if they experience an alteration in their sense of taste or smell.

CHANGE:
Decreased **Eyesight**

RISKS:
Impacts ability to:
- Shop for food,
- Read food labels and recipes,
- Prepare foods,
- Clean the kitchen (and keep food safe), and
- Attend congregate nutrition site or participate in other community activities.

CHANGE:
Decreased **Saliva Production**

RISKS:
- Reduced taste perception
- Impact on chewing and swallowing
- Decreased oral digestion of food
- Increased risk of gum disease and tooth loss
- Altered food choices

CHANGE:
Decreased **Motility in Intestine**

RISKS:
- Decreased food intake
- Constipation

Adequate fluid and fiber intake can help to maintain normal intestinal functioning.

PHYSIOLOGICAL CHANGES (cont.)

CHANGE:
Decreased **Lactase in Small Intestine**

RISKS:
• Decreased ability to digest lactose-containing foods. Elders may limit milk and other good calcium sources in their diet, leading to increased risk of bone loss, fractures, and falls.

Elders with lactose intolerance can choose lactase-treated milk or milk substitutes that are calcium and vitamin D fortified. They can also use a multi-vitamin/ mineral supplement to ensure adequate intake of these nutrients.

SOCIOECONOMIC CHANGES

Two major socioeconomic changes that can markedly affect eating patterns and nutritional status are **social isolation** and **limited income**.

SOCIAL ISOLATION

As people age, they are at increased risk for being socially isolated. They may be faced with the death of their spouse and other loved ones. Retired people may lose contact with work colleagues, and if not involved in community groups, may spend increasing amounts of time alone.

Physical restrictions may contribute to decreased participation in activities that would otherwise keep older persons socially involved.

Social isolation is associated with increased risk for food insecurity among older persons, especially among those with limited financial resources. This may be related to inability to shop and/or prepare food, inadequate resources to purchase food, and decreased appetite.

Elderly persons who eat alone typically consume fewer calories, and may have a less varied diet than those who eat with other people. This can place them at risk for poor nutritional status and associated health consequences.

SOCIAL ISOLATION CAN NEGATIVELY INFLUENCE OLDER ADULTS' NUTRITIONAL STATUS

For some older people, social isolation leads to depressive symptoms such as lack of interest in usual activities, or to clinical depression. In addition to its effect on appetite, depression can cause confusion, memory loss, and other debilitating conditions. It is critical for older persons experiencing these symptoms to be diagnosed and, if necessary, treated for depression. This will not only affect food intake and nutritional status, but overall quality of life.

Participation in Extension education programs, volunteering, involvement in religious activities, and attending congregate nutrition sites are a few of the ways that older persons can stay active and involved in community life.

LIMITED INCOME

The poverty rate for elders 65 and above was 10.1% in 2001. Women, elders living alone or in rural areas, and Hispanic or African American elders are more likely than others to live in poverty.

Limited income may lead to inadequate food intake due to lack of money available to purchase food. It is estimated that between 5.5 and 16% of elderly Americans are food insecure due to lack of resources. An insufficient diet contributes to poor nutritional status and associated adverse health effects, such as bone loss and fractures, infection, and chronic diseases.

Older persons with limited means should be encouraged to participate in programs such as the Older Americans Act Nutrition Program (congregate nutrition sites and home-delivered meals, e.g., Meals on Wheels), Food Stamps, and other programs available in their communities.

FOCUS ON NUTRIENTS

As people age, it becomes critical for them to select a diet rich in nutrient dense foods. The need for energy (calories) decreases with age, while most other nutrient requirements remain the same or actually increase. Making healthful choices for a nutritious diet can be a challenge when the quantity of food eaten is limited due to lowered energy needs.

This section focuses on some of the nutrients that are critical for older persons. These nutrients may be important to older adults due to increased need, low typical intake, or physiological changes that affect nutritional status.

ENERGY

With increasing age, lean body mass decreases and metabolism slows. This reduces the energy requirement by about 10 calories per year after age 30 in men, and 7 calories per year in women. In addition, physical activity often decreases as people age, further decreasing the energy requirement.

AGE	CALORIES (KCAL/DAY)
60 (men) **60** (women)	2,200 1,980
75 (men) **75** (women)	2,050 1,880
85 (men) **85** (women)	1,950 1,810

Values are based on Estimated Energy Requirements for 30 year olds, with a per year decrease in calories of 10 for men and 7 for women.

In order to obtain all the nutrients needed for good health, older persons must select a diet rich in foods of high nutrient density - those with a high ratio of nutrients to calories. This becomes especially important in the later years of life when calorie needs are quite low for many older persons.

Elders who stay physically active are able to consume a higher calorie diet without gaining weight, and have more flexibility in food choices. Also, strength training can help older adults maintain or even increase their muscle mass, and offset, at least in part, the natural decline in lean body mass and energy requirement that occurs with age. Educational programs that incorporate physical activity can help older persons increase their strength, flexibility, and energy level.

WATER

Dehydration can be a significant problem for older adults. During older age, thirst is decreased so that by the time an older person feels thirsty, he or she may already be dehydrated. In addition, the kidneys of older people are less able to concentrate urine so that more water is lost from the body. Also, many medications commonly taken by older persons have a diuretic effect, further exacerbating hydration status. Dehydration can lead to headache, confusion, fatigue, and constipation.

It is critical that elderly persons drink fluids on a regular basis, before they become thirsty. Older persons may limit fluid intake due to concerns about incontinence or having to use the bathroom during the night. Health professionals can encourage elders to drink more fluids early in the day, and should emphasize the importance of adequate hydration to motivate them to drink adequate amounts of fluid.

HOW MUCH IS NEEDED?

Approximately **six to eight glasses of fluid** daily are needed to foster hydration. This includes water, fruit juices, milk, and other non-alcoholic beverages. Small amounts of caffeinated beverages appear to contribute to hydration and do not need to be totally excluded.

A simple hydration test involves *gently* pinching the skin on the back of the hand; if the skin *stays pinched together* for several seconds after letting go, then the person is probably *not* adequately hydrated, and should be encouraged to drink more fluids. If a person is under the care of a physician for congestive heart failure, or another condition related to fluid balance, they may need to restrict their fluid intake, and these general recommendations would not apply.

FAT

Fat provides taste and a pleasing texture to many foods. This is important for everyone who enjoys eating, but can be especially important for older persons with a limited appetite. Fat also adds energy density to foods, which may help elders who have a poor appetite to obtain adequate calories and stay well nourished.

FOCUS ON NUTRIENTS

FAT (cont.)

On the other hand, consuming a diet high in fat, especially saturated fat, over a period of time increases risk of cardiovascular diseases, so the amount of fat in the diet overall should be moderate.

Older adults at risk for cardiovascular diseases should limit their intake of saturated fat, trans-fatty acids, and cholesterol. The needs of adequate calorie intake and reducing disease risk need to be individualized based on each person's nutritional status and health risks

PROTEIN

Adequate intake of dietary protein can minimize loss of skeletal muscle, help elders maintain strength and mobility, and decrease risk of falls. Individuals who are chronically ill, have suffered a physical or mental trauma, or who have an infection have a higher need for protein.

Foods high in protein include lean meat, poultry, fish, milk, legumes, egg whites, and nuts.

The dietary recommendation for older adults is the same as for younger persons. Most people in the U.S. who eat enough food to meet their calorie needs obtain an adequate amount of protein, often much more than they require. The Dietary Guidelines for Americans recommend that protein be obtained from a combination of plant and animal sources.

HOW MUCH IS NEEDED?

- 19 years and older:
  Men: 56g / day
  Women: 46g / day

FIBER

Fiber includes two components, dietary fiber, which is found naturally in foods, and functional fiber, which is found in supplements and fortified foods. Most plant-based foods contain a mixture of **soluble** and **insoluble** dietary fiber.

Adequate intake of insoluble fiber from whole grains, fruits, vegetables, legumes, nuts and seeds, along with adequate water consumption, can reduce the risk of constipation, a common complaint among older persons.

The soluble fiber found in a variety of fruits and vegetables, legumes, oats, and psyllium (found in some supplements) has been found to improve blood glucose control in persons with type 2 diabetes.

HOW MUCH IS NEEDED?

The recommendation for fiber intake is based on calories eaten. Since the estimated energy requirement for older persons is lower than for young adults, the fiber recommendation is lower as well:

- 51 years and older:
  Men: 30 grams/day
  Women: 21 grams/day

CALCIUM AND VITAMIN D

These two nutrients work together to promote bone health. Older individuals, especially women, are at risk for osteoporosis, and adequate intake of calcium and vitamin D is one way to prevent excessive bone loss in the later years.

The recommended intakes of calcium and vitamin D increase with age, and many older adults do not get what they need from the food they consume. Elders may limit their intake of dairy foods for a variety of reasons, including lactose intolerance, cultural preference to exclude these foods from their diets, or personal taste.

Other sources of calcium include green leafy vegetables (NOT spinach due to high oxalate levels), tofu processed with calcium, and a variety of calcium-fortified foods, such as fortified breakfast cereals and orange juice. Vitamin D also is found in some fortified foods. For those who do not get adequate amounts of these critical nutrients from their diets, supplements are available to meet their nutrient needs.

HOW MUCH IS NEEDED?

<u>Calcium</u>

- 51 years and older :1200 milligrams

<u>Vitamin D</u>

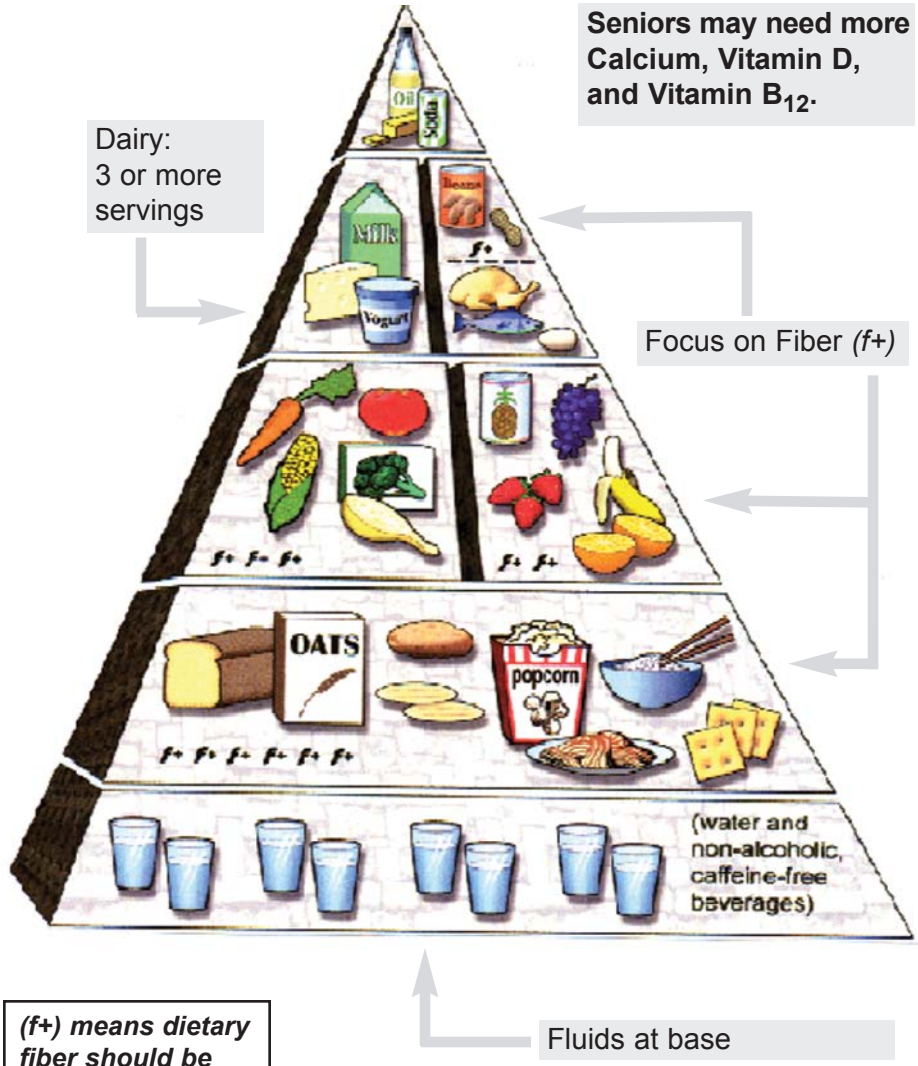
- 51-70 years: 10 micrograms
- >70 years: 15 micrograms

Fast Fact

Vitamin D is one of only a few nutrients that show an increase in DRI with age.

ENAFS (Elder Nutrition and Food Safety Program)

DAILY FOOD GUIDE PYRAMID FOR ELDERS



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Aging in the 21st Century is co-sponsored by the University of Florida Institute of Food and Agricultural Sciences (UF/IFAS), Department of Family, Youth and Community Sciences; and the College of Medicine's Institute on Aging. It is supported by a grant from the Associate Provost for Distance, Continuing and Executive Education, Dr. William Riffee.

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