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MyPyramid Dietary Guidelines Modified for Older Adults **CME**

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Release Date: December 26, 2007; Valid for credit through December 26, 2008

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December 26, 2007 — A Modified MyPyramid for Older Adults has been developed to serve older adults, who have unique dietary needs and less familiarity with computer use vs younger persons. The revised graphic and associated guidelines will appear in the January 2008 issue of the *Journal of Nutrition*.

"The advantages of MyPyramid compared with the original Food Guide Pyramid are that the guidance is delivered in terms of household measures, is accompanied by tips on how to achieve the recommended goal, presents food group serving suggestions in terms of total intake per day, and provides tips on altering standard recipes to limit added sugars, utilizing the information available on food labels and adhering to food safety standards," write Alice H. Lichtenstein, DSc, from the Jean Mayer United States Department of Agriculture (USDA) Human Nutrition Research Center on Aging, Tufts University in Boston, Massachusetts, and colleagues. "Despite these benefits, the updated system presents unique challenges for older adults. This group of individuals has less access and familiarity with computers than their younger counterparts and a lower comfort level for deriving computer-based information."

In 1999, a Modified Food Guide Pyramid was developed for adults aged 70 years and older to address their unique dietary challenges. Compared with the original USDA Food Guide Pyramid, the modifications included narrowing the base to reflect lower energy needs of older adults because of changes in body composition and metabolic rate; replacement of selected food icons with nutrient-dense examples to help reconcile decreased food intake with unchanged or increased recommended dietary allowances; addition of a fiber icon in appropriate food categories to facilitate achieving adequate intakes to promote optimal bowel function; inclusion of a row of glasses at the base of the pyramid to remind older adults to maintain adequate fluid intakes; and placement of a flag at the top to alert some older adults

that their healthcare provider should consider recommending vitamins B₁₂ or D or calcium supplements.

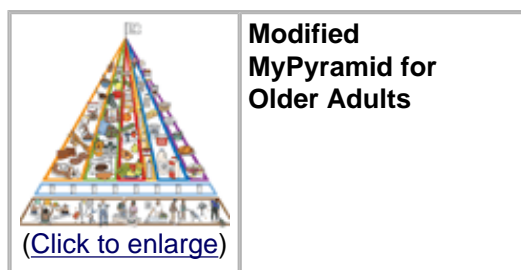
Special considerations regarding nutritional needs of the elderly population are that food intake tends to decrease with advancing age because of reduced energy needs associated with lower energy expenditure in physical activity and basal metabolic rate. However, requirements for vitamins and minerals either remain stable or increase.

In a paradoxical sense, older adults may also be prone to overconsumption of energy and nutrients, as well as younger adults. For all age groups, a new category of recommendations was added, namely tolerable upper intake levels, or the highest average daily nutrient intake that is likely to pose no risk of adverse health effects to almost all individuals in the general population.

The proposed Modified MyPyramid for Older Adults is in a format consistent with the MyPyramid graphic released by the USDA in 2005, but it is not intended to substitute for MyPyramid. The latter is a multifunctional, Web-based program providing individualized, food-based dietary guidance and supplemental information regarding food choices and preparation, based on sex, body weight, height, and level of physical activity.

"The goal of the current modification and embellishment of the MyPyramid graphic is to provide older people with an alternate to the Web-based version that is an easily understood graphic that, in conjunction with supplemental material, can be used in print format for education and demonstration purposes," the authors write. "The MyPyramid Web dietary guidance program could have enormous value if its potential use is maximized and if there is a dedicated outreach to make all older adults 'Internet fluent.' Pedagogic issues regarding literacy, clarity, and relevance with Web-based nutrition and dietary information need to be continuously examined."

This new graphic version of MyPyramid specifically targets relatively healthy individuals 70 years of age and older who are reasonably active and live independently. As with the earlier graphics, it reflects the principles of the US Dietary Guidelines for Americans and those of other health organizations, namely following a diet rich in fruits, vegetables, whole grains, low-fat and nonfat dairy products, legumes, fish, and lean meats.



The Modified MyPyramid for Older Adults specifically emphasizes whole grains; variety within the grains group; variety and nutrient density; vegetables and fruits particularly suited to older adults' needs, such as frozen foods; low-fat and nonfat dairy products including reduced lactose alternatives in the milk group; low saturated fat and trans fat choices in the oils group; and low saturated fat and vegetable options in the meat and beans group.

The underlying principles of the Modified MyPyramid for Older Adults include focus on nutrient- and fiber-rich foods within each group, recommending food sources of nutrients rather than supplements, and use of fluid and physical activity icons. The base of the pyramid has a row of glasses to remind older adults that it is crucial to remain well hydrated. In the second row, pictures of various physical activities emphasize the need for regular physical activity, which is of vital importance given the high prevalence of physical inactivity in older adults.

To highlight the possible need for supplemental forms of calcium, and vitamins D and B₁₂ because of increased requirements for these nutrients associated with aging, a flag was placed at the top of the pyramid. More recent concerns about potential overnutrition in older adults are also addressed.

"It is important to communicate to older adults that eating should remain an enjoyable experience," the authors write. "Drawing public attention to this issue provides an opportunity for those educating the public regarding optimal nutrition, not just for those >70 y. The guidance provided can be used as a road map and should be adaptable so it can accommodate many different dietary preferences, patterns, and lifestyles."

The Ross Initiative on Aging at Tufts University and the USDA supported this project. The authors have disclosed no relevant financial relationships.

J Nutrition. 2008;138:5-11.

Learning Objectives for This Educational Activity

Upon completion of this activity, participants will be able to:

1. Describe specific nutritional needs in the elderly population emphasized by the Modified MyPyramid for Older Adults.
2. Describe the advantages of the graphic format of the Modified MyPyramid for Older Adults and use of various icons to represent unique needs in this age group.

Clinical Context

Older adults have unique nutrient needs, with revised recommended dietary reference intakes based on age, and special vulnerability to compromised nutrient status. Although food intake tends to decrease with advancing age to compensate for reduced energy requirements, vitamin and mineral needs either remain constant or increase. However, overconsumption of energy and nutrients must be avoided.

Specific nutritional needs of elderly people were addressed in the Food Guide Pyramid for Older Adults, a modification of the 1990 Food Guide Pyramid for Americans. In 2005, the USDA released MyPyramid, which includes an Internet-based program allowing individuals to calculate food-based dietary guidance based on their specific clinical variables. However, older adults tend to be less comfortable with Internet use, so a graphic representation for a Modified MyPyramid for Older Adults is intended for use in this age group as an adjunct to the current Web-based MyPyramid.

Study Highlights

- Older adults have less access and familiarity with computers vs younger adults and are less adept at obtaining Web-based information.
- The Modified Food Guide Pyramid for adults aged 70 years and older has a narrower base to reflect lower energy needs of older adults because of changes in body composition and metabolic rate.
- Selected food icons are replaced with nutrient-dense examples so that decreased food intake can accommodate unchanged or increased recommended dietary allowances for vitamins, minerals, and other crucial nutrients.
- Fiber icons in appropriate food categories emphasize adequate fiber intake to promote optimal bowel function.
- Older adults may be prone to overconsumption of energy and nutrients, which is addressed by a new category of recommendations: tolerable upper intake levels, or the highest average daily nutrient intake that is likely to pose no risk for adverse health effects to almost all individuals in the general population.
- Folate and sodium tend to be overconsumed in the older population.
- The proposed Modified MyPyramid for Older Adults is in a format consistent with the MyPyramid graphic, but it is not intended to substitute for MyPyramid (a multifunctional, Web-based program providing individualized, food-based dietary guidance and supplemental information regarding food choices and preparation, based on sex, body weight, height, and level of physical activity).
- The modified MyPyramid graphic is intended to provide older people with an alternate to the Web-based version in an easily understood graphic that could be used in print format for education and demonstration.
- The new graphic version of MyPyramid specifically targets relatively healthy individuals aged 70 years and older who are reasonably active and live independently. Consistent with current guidelines, it portrays a diet rich in fruits, vegetables, whole grains, low-fat and nonfat dairy products, legumes, fish, and lean meats.
- The Modified MyPyramid for Older Adults specifically emphasizes whole grains; variety within the grains group; variety and nutrient density; vegetables and fruits that are easy to prepare (eg, frozen foods); low-fat and nonfat dairy products including reduced lactose alternatives in the milk group; low saturated fat and trans fat choices in the oils group; and low saturated fat and vegetable options in the meat and beans group.
- Because of risks associated with alcohol consumption in elderly people, alcohol is not included as an integral component of the Modified MyPyramid for Older Adults.
- The focus is on nutrient-rich and fiber-rich foods within each group, recommending food sources of nutrients rather than supplements, and use of fluid and physical activity icons.

- The base of the pyramid has a row of glasses to remind older adults that it is crucial to remain well hydrated.
- In the second row, pictures of various physical activities emphasize the need for regular exercise.
- A flag on top of the pyramid highlights the possible need for supplemental forms of calcium and vitamins D and B₁₂ because of increased requirements for these nutrients associated with aging.
- More recent concerns about potential overnutrition in older adults are also addressed.

Pearls for Practice

- The Modified MyPyramid for Older Adults specifically emphasizes nutrient-rich and fiber-rich foods within each group and recommends food sources of nutrients rather than supplements. These include whole grains; variety within the grains group; variety and nutrient density; vegetables and fruits that are easy to prepare (eg, frozen foods); low-fat and nonfat dairy products including reduced lactose alternatives in the milk group; low saturated fat and trans fat choices in the oils group; and low saturated fat and vegetable options in the meat and beans group.
- The Modified MyPyramid for Older Adults is a graphic intended to improve understanding and use of MyPyramid by the elderly population, who may be less comfortable with obtaining Web-based information.

Based on the USDA report by Lichtenstein and colleagues, which of the following statements concerning nutritional principles underlying the Modified MyPyramid for Older Adults is *not* correct?

Food sources of nutrients are preferred to supplements

Elderly people tend to consume insufficient folate and sodium

The grains group should include whole grains and a variety of grain sources

The milk group should include low-fat and nonfat dairy products and reduced lactose alternatives

Based on the USDA report by Lichtenstein and colleagues, which of the following statements about the graphic representation of the Modified MyPyramid for Older Adults is *correct*?

It is intended to replace MyPyramid

Wine glasses emphasize moderate alcohol use

A row of water glasses at the base emphasizes adequate hydration

A flag on top of the pyramid suggests possible sports activities

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Goal

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