

The Religion Member Interest Group (RMIG) is a group within the Academy of Nutrition and Dietetics, the world's largest organization of food and nutrition professionals, committed to improving the nation's health and advancing the profession of dietetics through research, education and advocacy. RMIG consists of members of the Jewish, Muslim and Christian religious communities and provides education and advocacy for nutrition professionals on the impact of nutrition, health and religion from a local, national and global perspective. RMIG is a valuable resource of qualified nutrition professionals providing guidance on nutrition and health disparities, religious traditions surrounding food, and dietary guidelines specific to religious groups. Our partnership with HMA will benefit members of each group as we reach our mutual vision and mission related to the integration of religion and health, wholeness and healing within, and surrounding, our faith-based communities.

## **Addressing Nutrition Needs in the Elderly Population**

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Since 2012, the U.S. has experienced a sharp increase in the number of individuals aged 65 and older. This increase is largely due to baby boomers that, beginning in 2011, started turning 65. It's estimated that by 2035, there will be 78 million adults over the age of 65 in the U.S., close to double the population of 43.1 million in 2012 (1).

With an increase in age, comes a change in nutrient needs. As we get older we are less active, our metabolism slows down and as a result, our energy (calorie) needs decrease. Some older adults find it difficult to consume or purchase high quality, nutritious foods as a result of now living alone, experiencing food insecurity or having transportation issues. Even something that was once simple, like grocery shopping, lifting heavy jars or opening containers, can impact food choices and nutrient intake.

Decreases in appetite, changes in taste and smell, swallowing problems, dental issues and existing or new health conditions and medications cause weight issues and deficiencies in essential vitamins, minerals and other nutrients that our bodies need. All of these issues have a negative impact on food and beverage choices putting older adults at risk for malnutrition. By addressing some of the main nutrient issues in elderly adults, we can begin to take the step to positively influence the aging process.

### **Fluid**

When it comes to fluid intake, elderly adults do not always meet the recommended intake of fluids to replace normal daily losses and to prevent dehydration. In those aged 85 and older, dehydration is a major problem.

There are multiple physiological causes of reduced fluid intake including a decreased response to thirst, diminished kidney function and cognitive changes. Mobility issues, fear of incontinence and increased arthritis pain, making it difficult to go to the bathroom, all contribute to inadequate consumption of fluids. The result of dehydration can lead to cognitive impairment, constipation, fecal impaction, and even death.

To assure elderly adults receive adequate fluids:

- Offer smaller bottles of water versus larger bottles of water. The smaller containers tend to be less overwhelming and the chances of consumption are much better.
- In addition to plain and flavored waters, offer a variety of beverages including teas, coffee, milk and broth based soups. Juices can be served in smaller amounts or with sparkling water to slightly dilute the juice and add a “fizzy” element.
- Look for fluids that don’t jeopardize other medical conditions – such as those that are low in added sugars, sodium and/or potassium.
- Don’t forget about hydrating foods. Fruits like strawberries, citrus fruits, grapes or watermelon contain anywhere from 80 – 90% water. Vegetables like lettuce, raw tomatoes, cooked asparagus, celery, spinach and broccoli are also great sources of water.

## **Vitamin D**

Vitamin D is a fat-soluble vitamin found in fatty fish (like salmon, tuna and mackerel), fish-liver oil, egg yolks, some mushrooms, fortified milk and milk products, and fortified ready to eat breakfast cereals. In addition, the skin can produce vitamin D endogenously when ultraviolet rays of the sun strike the skin and trigger vitamin D synthesis. The Recommended Daily Amount (RDA) of vitamin D is at least 600 IU, for those who are 50 to 70 years old and 800 IU, for those 70 and above.

Vitamin D’s role in the body includes promoting calcium absorption, maintaining adequate serum calcium and phosphate concentrations for bone mineralization, regulating cell growth, and playing an important role in neuromuscular and immune function.

The most prevalent nutritional deficiency in older adults is vitamin D. As we age, the skin’s vitamin D production and intestinal absorption is reduced and there is an impairment of renal cholecalciferol production. Reduced food and nutrient intake, the use of sunscreen and less time spent outdoors are additional contributors to vitamin D deficiency.

Some of the classic physical signs of vitamin D deficiency are bowed legs, knocked knees and rachitic rosary - “rosary beads” found along the rib cage. A history of falls, broken bones, dental issues, muscle weakness, neuromuscular impairments, decreases in cognitive function, depression and chronic pain are red flags for further assessment of vitamin D deficiency (2)

## **Folate**

Folate, a water-soluble B vitamin, is best known for the formation of red blood cells and for the synthesis and repair of DNA and RNA. Folate functions as a co-enzyme in the metabolism of amino acids and plays an important role in lowering homocysteine levels in the body. Good sources of folate include dark-

green leafy vegetables, black-eyed peas, fortified breakfast cereals, asparagus, and orange juice. The RDA for folate is typically listed as mcg of dietary folate equivalents (DFE) where 1 mcg food folate = 1 mcg DFE. The RDA for elderly adults is set at 400 mcg DFE.

Deficiencies of folate are often found in those undergoing dialysis and who have chronic hemolytic disease, exfoliative dermatitis, liver disease, celiac disease and in those with a history of alcohol abuse. Individuals who have undergone weight loss surgery or have had an intestinal resection are also found to be deficient in this nutrient. There are a number of medications that can interfere with folate metabolism including metformin, methotrexate and primidone.

Symptoms of early stages of folate deficiency include fatigue, weakness, headache, impaired concentration, palpitations, diarrhea, sore red tongue with a smooth, shiny surface, and yellow tinged pallor (3). As the deficiency advances, macrocytic red blood cells develop and megaloblastic anemia appears.

Before starting folate supplement therapy, vitamin B12 levels should be checked. It's important to note that taking high amounts of folate negatively impacts B12 levels, masking a vitamin B12 deficiency.

### **Vitamin B12**

Vitamin B12, another water-soluble vitamin, is required for red blood cell formation, neurological function and DNA synthesis. This vitamin is released from protein by hydrochloric acid and gastric protease in the stomach. The free vitamin B12 is then combined with intrinsic factor in order to be absorbed in the distal ileum. Dairy products, meat, fish, shellfish, eggs and fortified nutritional yeast are the most important contributors of vitamin B12. This vitamin is generally not present naturally in plant foods but is found in fortified plant based foods such as fortified breakfast cereals and fortified milk alternative beverages (soy and almond). The RDA for vitamin B12 is 2.4 mcg.

Close to 20% of adults aged 60 and older have marginal vitamin B12 status (4). A deficiency in Vitamin B12 is identified as fatigue, weakness, numbness and tingling in hands and feet, constipation, weight loss, loss of appetite and megaloblastic anemia. Individuals who are deficient in vitamin B12 may also have difficulty maintaining balance, are confused, have poor memory and complain of soreness in the mouth and tongue (5).

There are multiple risk factors that contribute to a vitamin B12 deficiency. One common condition is atrophic gastritis, characterized by a reduction in stomach acid levels. Medications such as proton pump inhibitors, H2 receptor antagonists, metformin, cholestyramine and antibiotics can also increase the risk of vitamin B12 deficiency. The inability to adequately chew high protein foods, chronic alcohol abuse, a history of gastric surgery, bacterial overgrowth in the gut (SIBO) and adherence to a vegan diet are also contributors to deficiencies.

Promptly treating vitamin B12 deficiency is necessary to avoid a potentially irreversible neurological condition. This includes supplementation and treatment or removal of the potential cause of the deficiency, if possible.

#### **Fitting these nutrients into a meal or snack**

Half of a tuna salad sandwich on whole wheat bread  
Salmon patties with a side of cooked asparagus  
An 8-ounce smoothie made with milk, yogurt and berries  
Ready-to-eat low sugar cereal with milk  
Omelet made with spinach and mushroom

### **Health Ministry Role**

Nutrition is one of the most fundamental components of successful aging. Nutrient rich food choices are important in promoting health and functionality and are critical to one's social, cultural and psychological quality of life. Parish Health Ministers are in a unique position to assure that individuals in their places of worship and the surrounding community are provided with not only the social and psychological support needed to improve one's health and nutrition status but also the promotion of healthy food choices.

Positive messaging around food has been shown to be the most effective when persuading people to make food and nutrition changes. Using resources from ChooseMyPlate (<http://bit.ly/2GdarLI>), Nutrition.gov (<https://www.nutrition.gov/subject/life-stages/seniors>) and the Academy of Nutrition and Dietetics (<https://www.eatright.org/for-seniors>) are great starting points.

A number of nutrition screening tools are available for use in the home, at health fairs or during blood pressure screenings. These include the DETERMINE Your Nutritional Health <https://nutritionandaging.org/wp-content/uploads/2017/01/DetermineNutritionChecklist.pdf> or the Mini Nutritional Assessment (MNA) [www.mna-elderly.com](http://www.mna-elderly.com). Parish Health Ministers also play an integral part in assisting with malnutrition prevention efforts. Toolkits from Defeat Malnutrition Today <http://defeatmalnutrition.today> guide awareness efforts and provide recommendations toward quality malnutrition care for older adults.

If a nutrition concern is identified, referral to appropriate resources, such as congregate and home delivered meal services, food distribution programs, or Senior Farmer's Market Nutrition Programs may be suggested as well as referrals to a Registered Dietitian/Nutritionist (RD or RDN) in your area. RD or RDN's can be located in a variety of locations including hospitals, public health departments, physician offices, or in private practice. To find nutrition professionals in your area, visit: <https://www.eatright.org/find-an-expert>.

### **References**

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2. Montgomery SC, Streit SM, Beebe ML, Maxwell PJ IV. Micronutrient needs of the elderly. Nutr Clin Pract. 2014;29(4):453-444.

3. National Institute of Health Office of Dietary Supplements, “Folate Fact Sheet for Health Professionals”, <https://ods.od.nih.gov/factsheets/Folate-HealthProfessional/>
4. Martin C, “Nutrition Focused Physical Exam: The Micronutrient Deficiency Detective”, *Today’s Geriatric Medicine* 2017;10(5):22-24.
5. National Institute of Health Office of Dietary Supplements, “Vitamin B12 Fact Sheet for Health Professionals”, <https://ods.od.nih.gov/factsheets/VitaminB12-HealthProfessional/>