

Nutrition Guideline

Seniors Health Overview

(65 years and older)

For Professional Reference Only

Applicable to: Nurses, Physicians and Other Health Professionals

Recommendations

- The diet for older adults should include a variety of foods based on Canada's Food Guide.
- Physical health, motor capabilities, chronic disease, swallowing problems, dentition, mental health, social and economic factors as well as cultural and religious beliefs will all impact an individual's dietary intake.
- The need for dietary restriction/modification should be evaluated based on quality of life, risk versus benefit, and impact on overall nutrition status.
- Nutrition Services, Alberta Health Services recommends that healthy older adults take a vitamin D supplement:
 - Up to 70 years: take 400 IU vitamin D per day as a supplement.
 - Over the age of 70: take 800 to 1000 IU vitamin D per day as a supplement.
- Seniors at risk of or diagnosed with osteoporosis may require higher levels of vitamin D supplementation

Key Questions

What are potential nutrition problems that face the elderly population?

The aging process can affect the physiological, economic, psychosocial and functional status of the older adult. Nutrition deficiency is relatively common in the elderly, with up to 15% of ambulatory seniors being reported as malnourished.¹ Consequently, it is important that routine screening and assessment of nutrition be carried out.²

What are the risk factors for poor nutrition status in seniors?

Important risk factors that should be addressed when assessing nutrition status include:^{3,4,5}

- Food restrictions: self-imposed or due to health conditions
- Oral health/ hygiene problems
- Impaired ability to chew and swallow, or dysphagia
- Erratic eating patterns: frequency and number of meals eaten vary
- Poor knowledge of adequate nutrition
- Lack of knowledge and motivation to follow medical nutrition therapy
- Unintentional changes in weight (loss or gain) leading to loss of subcutaneous fat and/or muscle mass
- Obesity
- Changes in appetite
- Changes in digestion
- Changes in hydration
- Social isolation
- Changes in functional capacity
- Decreased motivation, fatigue or apathy

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What are energy and protein requirements for seniors?

It is estimated that energy needs are decreased in the elderly due to a gradual reduction in lean body mass. Body size (height, weight) activity level, medical conditions and weight goals should be considered when determining energy needs.²

In general, protein needs of the elderly can be met with adequate consumption of the Milk and Alternatives and the Meat and Alternatives food groups. Canada's Food Guide instructs people age 51 and over to increase consumption of Milk and Alternatives to 3 Food Guide servings daily, and to continue to eat 2 to 3 Food Guide servings of Meat and Alternatives.⁶

Risk factors for suboptimal protein intake in the elderly include poor dentition, swallowing difficulties, decreased cognition, limited income, and self-restriction of animal protein, cholesterol and fat. Long-term inadequate intake of protein may result in loss of muscle mass, impaired immune function, and poor wound healing.

Elderly individuals who are at risk of or who are suspected of having protein-energy under-nutrition should be presumed to also be at risk for multiple vitamin deficiencies. Under-nutrition of less than one year usually results in B vitamins and in vitamin C (i.e. the water-soluble vitamins) deficiencies. Under-nutrition of longer duration results in deficiencies in vitamins A, D, E, and K (i.e. the fat-soluble vitamins) and in vitamin B₁₂. Deficiencies can also be associated with certain diseases, high-risk behaviours (e.g. smoking, alcohol abuse), and medication use.⁵

What is a healthy body weight in seniors?

The current targets for normal BMI derived from epidemiological studies of younger and middle-aged populations do not seem to apply to older adults.

A healthy body weight for adults aged 65 years and older is defined as a body mass index (BMI) of 22 to 29.9 kg/m².^{7,8,9,10,11,12,13,14}

Refer to Guideline: Body Measurements

What are nutrients of concern for seniors?

The benefit of routine vitamin supplementation for healthy elderly persons is controversial. A diet that includes at least 5 or 6 daily servings of vegetables and fruit usually contains sufficient vitamins (as well as other healthful phytochemicals available only in food). Canada's Food Guide recommends that adults age.

51 and older consume 7 food guide servings of Vegetables and Fruit daily.⁶ For seniors who do not consume a well balanced diet, daily multivitamin supplementation may be indicated.

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Tests to diagnose early vitamin deficiencies can be difficult and expensive; thus, supplementation with a multivitamin containing at least the recommended dietary allowances (DRIs) is prudent for elderly people at risk. Because extreme vitamin deficiency can cause irreversible organ damage, supplementation should begin before signs of vitamin deficiency appear.

Calcium

Calcium absorption diminishes with aging; therefore, the dietary calcium requirement is higher (1200 mg daily) for women over 50 years of age and men over 70 years of age.¹⁵ Osteoporosis Canada (2010) recommends that both men and women over age 50 (not just women) at risk of or diagnosed with osteoporosis should have a total daily calcium intake of 1200 mg.¹⁶

- Adults should aim for a total calcium intake from food sources that meets the DRI for their age and gender. Those people unable to meet their calcium requirements with dietary sources should discuss supplement use with their health care provider.
- Data from some clinical trials suggest that calcium supplementation (≥ 1000 mg/day) may modestly increase the risk of cardiovascular events.^{17,18,19,20,21}

Refer to Guideline: Calcium and Vitamin D

Vitamin D

Vitamin D status declines as a result of less efficient skin synthesis, impaired ability of the kidneys to convert the inactive form to active form, reduced sun exposure and low dietary intake of Vitamin D.

Nutrition Services, Alberta Health Services recommends that **healthy adults**:

- up to age 70 years take 400 IU vitamin D per day as a supplement
- over the age of 70 take 800 to 1000 IU vitamin D per day as a supplement

For **adults at risk of fragility fractures or osteoporosis**, the 2010 Osteoporosis Society of Canada recommendations are:²²

- adults 51 years and older at risk of vitamin D deficiency: take 800 to 1000 IU vitamin D per day as a supplement. To achieve optimal vitamin D status many individuals may require up to 2000 IU per day.

Individuals can discuss their calcium and vitamin D requirements with their physician or healthcare provider.

Refer to Guideline: Calcium and Vitamin D

Vitamin B₁₂

The DRI for vitamin B₁₂ is 2.4 micrograms (mcg) daily.²³ Vitamin B₁₂ is found naturally only in animal products such as meat, milk products and eggs. Plant foods do not contain a significant amount of vitamin B₁₂ unless they have been fortified.

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In the elderly, causes of vitamin B₁₂ deficiency include:²²

- Decreased gastric acid production
- Presence of atrophic gastritis
- Use of antacid medications
- *Helicobacter pylori* infection of the stomach
- Pernicious anemia (treated by monthly vitamin B₁₂ injections)

Because it is not known which cases of deficiency will progress to anemia or neurologic injury if untreated, screening and treatment is recommended under the care of a physician. Treatment can include oral tablets, sublingual tablets or oral dissolving strips. Some individuals with symptoms or signs of deficiency may require monthly intramuscular injections of vitamin B₁₂.

Refer to Guideline: Vegetarian Eating

Zinc

Zinc is needed for adequate wound healing, immunity, and a healthy appetite. Zinc may also slow progression of age-related macular degeneration. The DRI for adults is 8 to 11 mg per day.²⁴ Zinc deficiency is common among malnourished elderly persons, particularly among those who have cirrhosis or diabetes mellitus, or are taking diuretics.

Refer to Guideline: Vegetarian Eating

Fluid

Fluid recommendations for the older adult are 30 mL/kg with a minimum of 1500 mL per day.^{25,26,27} Nutrition care should identify fluid intake including caffeine and alcohol.

Strategies to facilitate adequate fluid intake for older adults include:

- education of the client, their family and staff on the need for fluids
- planning strategies to meet fluid requirements that are suited to each client
- offering a variety of fluids at meals and between meals not limited to water, tea and coffee, but also include juice, soup, milk, and oral rehydration solutions.²⁸

What factors increase risk of poor nutrition in seniors

Gastrointestinal (GI) function

Aging has relatively little effect on GI function because of the large functional reserve capacity of most of the GI tract. However, aging modestly slows gastric emptying and diminishes the capacity of the gastric mucosa to resist damage. Aging is also associated with an increased prevalence of several GI disorders, including those induced by drugs (e.g. esophagitis caused by NSAIDs or bisphosphonates). Therefore, clinically significant abnormalities in GI function, including reduction in food intake, should be evaluated and not attributed to aging. The presentation of some GI disorders may be atypical in the elderly, possibly reflecting a reduction in visceral perception. Gut immune function declines with aging; the clinical significance of this is uncertain.²⁹

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Taste changes

Taste sensation decreases with aging. Elderly people demonstrate an impaired ability to identify food by taste. This may decrease food intake. A number of drugs and diseases can also affect taste, and reversible causes of taste impairment must always be considered.

Oral health

Although dentition may be well preserved in the absence of caries and periodontal disease, poor dentition is common and a major contributor to impaired chewing and reduced caloric intake.

A modest decrease in saliva production occurs with aging and may contribute to the severity of acid reflux in the elderly. Altered thirst perception, a decreased fluid reserve and a decline in the kidney's ability to concentrate urine can all increase the risk for dehydration.

Physical abilities

Physical abilities may change with advancing age due to reduced activity, disease process or injury. This can impact the ability to purchase or prepare food, thus reducing the variety of foods consumed and increasing the risk of malnutrition. Alternatively, seniors may increase their reliance on restaurant meals and convenience foods, which increases dietary salt, sugar and fat intake.

What mental health issues do seniors face?

Aging may variably affect cognition, memory, intelligence, personality, and behaviour. However, many changes in mental health are difficult to attribute to aging per se; they are often the result of a disease process. Decreases in mental capacity or performance (e.g. cognition, behaviour) that are viewed as age-related may instead be due to treatable illnesses (e.g. depression, hypothyroidism). A rapid decline in cognition is almost always due to disease.⁵

Depression is one of the most common psychiatric disorders among the elderly. The prevalence of clinically significant depressive symptoms ranges from 8 to 15% among community-dwelling elderly persons and is about 30% among the institutionalized elderly. Major depression occurs less often in later life than at younger ages and affects about 3% of elderly persons in the community, 11% in hospitals, and 12% in long-term care settings. Symptoms of depression may include weight gain or loss and changes in appetite.⁵

It is important to recognize that medications used to treat depression have variable time frames for efficacy, thus malnutrition related to mental illness may persist until treatments reach peak effect. For example, some medications may take weeks before patients show signs of improvement.

What about dysphagia in seniors?

Dysphagia is defined as difficulty swallowing.³⁰ Prevalence of dysphagia among people 50 years and older may be as high as 22%.²² Early identification of dysphagia is important to minimize dysphagia-associated complications. Some individuals may not be aware or want to disclose that they are having difficulty swallowing.

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Individuals and caregivers need to be conscious of the following signs and symptoms:^{28,31}

- Coughing and/or choking when eating or drinking
- Drooling/poor management of oral secretions
- Pocketing of food in cheeks
- Facial weakness
- Gurgly, hoarse voice or lots of throat clearing
- Multiple swallows for each bolus
- Decline in respiratory status
- Prolonged meal times
- Weight loss or malnutrition
- Reoccurring chest colds
- Pain with swallowing
- Increasing avoidance of multiple foods/liquids

Unmanaged dysphagia can lead to dehydration, malnutrition, social isolation, decreased quality of life, respiratory infections and death.²² Those individuals with a history of dysphagia, or who are suspected of having dysphagia, should be referred to a qualified health professional for assessment and follow up.

Nutrition intake and hydration status should be monitored in individuals on modified consistency diets.

Refer to Guideline: Dysphagia

Do seniors have food security issues?

According to Statistics Canada, about one third of seniors living alone had incomes below Statistics Canada's low-income cut-off in the 2006 census.³² Health care providers need to determine with individuals if financial considerations are impacting food choices and increasing the risk for malnutrition.

Refer to Guideline: Household Food Insecurity

Are there any handouts on nutrition for seniors that I can use with my clients?

Refer to approved provincial Alberta Health Services bariatric nutrition handouts to support patient education. For more information, contact Nutrition.Resources@albertahealthservices.ca

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