

Nutrition Guideline

Vegetable and Fruit Intake

For Professional Reference Only

Applicable to: Nurses, Physicians and Other Health Professionals

Recommendations

Canada's Food Guide emphasizes eating a variety of vegetables and fruits as part of healthy eating. The Food Guide recommends more servings of Vegetables and Fruit than the other food groups.

Age in Years	Children			Teens		Adults			
	2-3	4-8	9-13	14-18		19-50		51+	
Gender	Girls and Boys			Females	Males	Females	Males	Females	Males
Servings of Vegetables & Fruit	4	5	6	7	8	7-8	8-10	7	7

Source: Health Canada. Eating well with Canada's Food Guide 2007 Available from: http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/index_e.html

- To increase intake of vegetables and fruit, a good recommendation for healthy individuals is to fill half their plate with vegetables or fruit.
- Eat at least one dark green and one orange vegetable each day.
- Choose vegetables and fruit prepared with little or no added fat, sugar or salt.
- Have vegetables and fruit more often than juice. Limit 100% juice to ½ cup (125 mL) per day.

Health Benefits

- Research has shown that eating the daily recommended amounts of vegetables and fruit may reduce the risk of heart disease, stroke and certain types of cancer.^{1,2,3,4,5,6,7}
- A diet high in vegetables and fruit has been shown to improve cardiovascular health by reducing blood pressure and reducing serum cholesterol.^{3,5,7,8}
- Vegetables and fruit contain protective substances such as vitamins, minerals, and fibre, as well as plant compounds called phytonutrients.^{4,7,9}
- Vegetables and fruit are rich in nutrients and for the most part low in calories and fat.⁴ Because they are low in calories, vegetables and fruit can lower the energy density of an individual's diet to decrease overall energy intake and promote weight management.^{3,10} Olives and avocados are the exception as they are high in calories from unsaturated fats.

Key Questions

What is a serving size of Vegetables or Fruit according to Canada's Food Guide?

One Food Guide serving of a vegetables or fruit is equal to:¹

- 1 medium fresh vegetable or fruit, or roughly the size of a tennis ball
- ½ cup (125 mL) of raw or cooked vegetables or fruits, or roughly the size of a hockey puck
- 1 cup (250 mL) of leafy vegetables or salad, or roughly the size of a baseball
- ¼ cup (60 mL) dried fruit, or roughly the size of two golf balls
- ½ cup (125 mL) of 100% vegetable or fruit juice

Foods that have small amounts of vegetables or fruit in them, or have vegetables or fruit but also large amounts of sugar or salt, do not count as a vegetable or fruit serving.⁶ These are foods like vegetable chips, fruit candies, fruits jams or spreads, and condiments such as ketchup or pickles.

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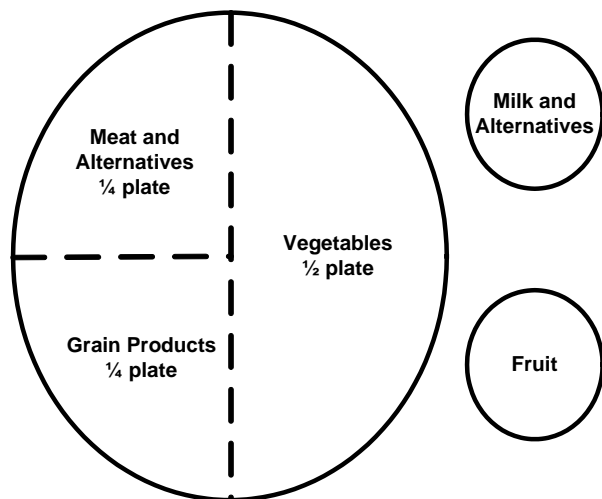
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How can an individual eat all recommended servings of Vegetables and Fruit each day?

For the recommended intakes of Vegetables and Fruit, refer to the table in the “recommendations Box” at the beginning of this guideline.

In Alberta, only 45% of women and 30% of men consume five or more servings of vegetables and fruit each day.¹¹ The easiest way to get the recommended number of vegetables and fruit each day is to have 1 to 2 servings at each meal and snack, and fill half the plate at a meal with vegetables or fruit.



Use the tips below to increase intake of vegetables and fruit:¹²

- Keep washed and sliced carrots, celery, peppers, zucchini sticks, or cucumber slices in the fridge for a quick snack at home or at work.
- Maintain a bowl of washed fruit on the table at home and/or desk at work for quick and easy snacking.
- At lunch and/or supper, add a salad made with a variety of greens, such as spinach, romaine lettuce, and green or red leaf lettuce.
- Keep your kitchen stocked with quick and easy fresh, frozen and canned vegetables and fruit.
- For convenience, try pre-washed bags of salads, spinach or baby carrots
- For a quick meal, add frozen vegetables to canned soups. Make it a habit to add extra vegetables, fresh or frozen, to spaghetti sauce, soups, stews, chili, casseroles, salad and pizza.
- Fill half a plate with vegetables and fruit.
- Cut vegetables in fun shapes and serve with low fat dip.
- Choose seasonal fresh vegetables and fruit along with frozen or canned vegetables and fruits. Frozen or canned produce is just as nutritious as fresh produce. Choose vegetables with no added salt or sauce.
- When buying vegetable or fruit juice, read the label to make sure you are getting 100% juice. Vegetable or fruit drinks, punches, cocktails, or beverages are not real juice.
- Choose vegetables and fruit for their fibre content to help achieve a sense of fullness:
 - Add carrots, green peppers, broccoli, spinach, corn or peas to your recipes.
 - Top salads with apples, strawberries, raisins or canned mandarin orange sections.
 - Eat the skin on apples and pears.

Refer to Guidelines: General Healthy Eating for Children and Adults; Planning Healthy Meals and Snacks

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Why does Canada's Food Guide recommend at least one dark green and one orange vegetable each day?¹³

Vegetables and Fruit make up the largest proportion of the Food Guide Servings in Canada's Food Guide, but the guide mentions dark green and orange vegetables specifically. This is because dark green vegetables are high in folate and orange vegetables are high in vitamin A.

Vitamin A: Vitamin A plays an important role in vision and reproduction; it supports the immune system by helping to make white blood cells. Orange vegetables and fruit that are higher in vitamin A or vitamin A precursors (carotenoids) are listed below.

Folate: Adequate intake of folate reduces risk of neural tube defects, so it is essential for women who are or may become pregnant. Dark green vegetables that are higher sources of folate are listed below.

Orange vegetables:	Dark green vegetables:
Carrots Pumpkin Orange-coloured squash Sweet potatoes	Arugula Asparagus Broccoli Brussels sprouts Collards Parsley, fresh Peas, green Mustard greens Romaine lettuce Spinach
Orange fruit (can eat one in place of an orange vegetable):	
Apricots Cantaloupe Mango Papaya	
Note: Oranges are <u>not</u> a good source of carotenoids, although they are good sources of vitamin C and folate.	

Refer to Guideline: Vitamins and Minerals

Are frozen or canned vegetables and fruit just as nutritious as fresh ones?

When properly processed, packaged, and stored, frozen and canned vegetables and fruits can be as nutritious as fresh ones.¹⁴ It's important to note that many canned vegetables contain salt, and some canned fruit may be packed in heavy or light syrup instead of its own juice or water. Some frozen fruit and vegetables are packaged in high sugar or high fat sauces.

Follow these tips for healthier options:

- Choose fresh produce when in season; in the off-season, try canned or frozen varieties.
- Read the label. Choose fruit canned in its own juice or in water rather than in syrup. Choose frozen vegetables and fruit with no sauces.
- Choose vegetables with little or no added salt or fat. Rinse canned vegetables well before use.

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Is a glass of juice just as nutritious as a piece of whole fruit?

100% fruit juice is a nutritious choice; however, it has less fibre than a whole piece of fruit and therefore has a lower satiety value.¹⁰ Canada's Food Guide recommends having vegetables and fruit more often than juice;¹ Alberta Nutrition Guidelines for children, youth and adults recommend limiting juice to ½ cup (125 mL) per day.^{15,16}

Look for beverages labeled as "100% fruit juice" as this means that it is pure unsweetened fruit juice. Limit or avoid beverages labeled as "fruit drink", "fruit punch", "fruit beverage", "fruit cocktail" or ending in -ade (such as lemonade). These beverages are high in sugar, flavouring, and water and have a low nutrient content.

Refer to Guideline: Food and Drinks High in Calories, Fat, Sugar and Salt

Can an individual get just as many nutrients from a multivitamin and mineral supplement?

No, a multivitamin and mineral supplement does not provide the same nutrients and bioactive substances as whole vegetables and fruit. When a diet includes a wide variety of vegetables and fruit, not only is it rich in vitamins and minerals, but it also contains many substances known as phytonutrients that are not present in supplements.⁷ Phytonutrients are naturally occurring substances found in plant-based foods, such as vegetables and fruit.^{7,17} Some phytonutrients function as antioxidants and thus support health promotion and disease prevention.^{5,7,17}

Is it expensive to eat vegetables and fruit?

The cost of food is a concern for many Albertans. To get the most value for food dollars, individuals should choose foods that have a high nutrient content and lower price. Fresh, frozen, canned, or dried vegetables and fruit are all nutritious choices. Make selections based on food preferences, price and storage availability.

The United States Department of Agriculture (USDA) calculated the price of fruits and vegetables per edible cup (only the edible portion of the foods were measured once they had been cooked or otherwise prepared for consumption).¹⁸ The following vegetables and fruits are nutrient-dense and also tend to be lower cost choices:¹⁸

Vegetables	Fruits
Cabbage	Watermelon
Greens (collard, mustard, turnip)	Plums
Carrots	Oranges
Cauliflower	Apples
Broccoli florets	Cantaloupe
Spinach	Bananas

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Here are some tips when purchasing vegetables and fruit:¹⁹

- Buy fresh vegetables and fruit in season and freeze to enjoy at a later date.
- Buy larger amounts of produce when it is on special; freeze the extra.
- Buy fresh produce in amounts that can be eaten before they go bad. For instance, buy 3 bananas and 2 potatoes if those are all that is needed.
- Buy plain, bagged vegetables as opposed to those packed with added sauces or flavourings. These processed vegetables and fruit are often more expensive, and may have more calories, salt or sugar.
- Compare prices – the bigger package size is not always the best price.
- Dried fruit is a nutritious choice. Look for varieties with no added sugar and salt.

Are there any handouts on vegetables and fruit intake I can use with my clients?

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

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