

Functions and Food Sources of Some Common Vitamins

Vitamins are essential nutrients that your body needs in small amounts to function and help you maintain good health. Because your body cannot make most vitamins, you need to get them from the food you eat.

Most people can meet their vitamin needs by eating a variety of foods including vegetables, fruits, whole and enriched grains including barley, oats and whole grain bread, pasta and cereals and protein foods including dairy products (milk, yogurt, cheese), legumes (dried beans, peas and lentils), soy products such as tofu, nuts, seeds and their butters, meat, fish and poultry. Aim to eat food to get your vitamins over taking supplements as food offers other nutrients such as fiber that is good for your health. However, at certain life stages there are vitamins that need special attention.

There are two types of vitamins:

- **Water-soluble vitamins** include vitamins thiamine (B1), riboflavin (B2), niacin (B3), pantothenic acid (B5), pyridoxine (B6), niacin (B7), folate (B9), cobalamin (B12), and ascorbic acid (vitamin C). These vitamins are not stored in large amounts in the body, and any extra that is not needed is lost through your urine.
- **Fat-soluble vitamins** include vitamins A and its precursor (carotenoid), D, E and K. Consuming high amounts of these vitamins in food or from supplements is not recommended as they are stored in your body and can build up and cause health problems.

The tables below list the main functions of these vitamins in the body, their best food sources and when supplementation may be recommended.



Steps you can take

Water Soluble Vitamins

<i>Vitamin</i>	<i>Function</i>	<i>Examples of Food Sources</i>
Thiamine (Vitamin B1)	Helps your body make	Found in many foods

<i>Vitamin</i>	<i>Function</i>	<i>Examples of Food Sources</i>
	<p>energy from food.</p> <p>Helps cells grow and stay healthy; important for growth and development and nerve function.</p>	<p>including, especially: Meat, especially pork Whole grains and enriched* breads and cereals Legumes Nuts and seeds</p>
Riboflavin (Vitamin B2)	<p>Helps your body:</p> <ul style="list-style-type: none"> • Make energy from food. • Make other B vitamins such as niacin (vitamin B3) and pyridoxine (vitamin B6) <p>Maintains healthy body cells and skin.</p>	<p>Dairy products including milk, cheese and yogurt Whole grains and enriched* breads and cereals Fish, chicken, meat and eggs Green leafy vegetables like spinach Mushrooms</p>
Niacin (Vitamin B3)	<p>Helps your body:</p> <ul style="list-style-type: none"> • Make energy from food. • Use other B vitamins • Make healthy body cells. <p>Taking too much niacin through supplements can lead to flushing, headaches and dizziness.</p>	<p>Meat, poultry, fish and soy products Leafy green vegetables Mushrooms Pumpkin seeds and peanuts Whole grains and enriched* breads and cereals</p>
Pantothenic Acid (Vitamin B5)	<p>Helps your body make:</p> <ul style="list-style-type: none"> • Energy from food. • Proteins for blood production • Certain fats, hormones and brain chemicals. 	<p>Found in many foods, especially: Meat, chicken, fish and organ meats like liver Egg yolks Rice and potatoes Whole grains and enriched* breads and cereals Broccoli</p>

<i>Vitamin</i>	<i>Function</i>	<i>Examples of Food Sources</i>
<p>Pyridoxine (Vitamin B6)</p>	<p>Helps your body:</p> <ul style="list-style-type: none"> • Make and use protein • Make glycogen, which is the stored energy in your muscles and liver. • Form hemoglobin which carries oxygen in your blood. <p>Needed for brain development and a maintaining a healthy immune system.</p>	<p>Found in many foods, especially:</p> <p>Meat, fish, poultry and organ meats</p> <p>Soy products</p> <p>Whole grains and enriched* cereals</p> <p>Starchy vegetables like potatoes</p> <p>Bananas</p>
<p>Biotin (Vitamin B7)</p>	<p>Helps your body make energy from food.</p> <p>Maintains healthy skin.</p>	<p>The bacteria in your intestines make biotin and it is also found in many unprocessed foods including:</p> <p>Meat, fish and organ meats</p> <p>Egg yolks</p> <p>Nuts and seeds</p> <p>Sweet potatoes</p> <p>Whole wheat bread</p>
<p>Folate or folacin or folic acid (Vitamin B9)</p> <p>Folic acid is the type of folate found in vitamin supplements and fortified foods.</p> <p>Folate or folacin is found naturally in foods)</p>	<p>Helps your body:</p> <ul style="list-style-type: none"> • Produce and maintain healthy body cells and skin • Prevent anemia. <p>Lowers the risk of having a baby with birth defects like spina bifida.</p> <p>If you are planning to become pregnant, are pregnant, or are lactating you should take a daily</p>	<p>Liver</p> <p>Green leafy vegetables like spinach and romaine lettuce</p> <p>Asparagus, broccoli, Brussels sprouts, and edamame (baby soybeans)</p> <p>Legumes</p> <p>Enriched* grain products</p> <p>Flaxseeds and sunflower seeds</p>

<i>Vitamin</i>	<i>Function</i>	<i>Examples of Food Sources</i>
	<p>supplement containing at least 400 mcg (0.4 mg) of folic acid to help prevent birth defects.</p>	
<p>Cobalamin (Vitamin B12) Only found in animal foods</p>	<p>Works with the vitamin folate to make new cells, mainly red blood cells.</p> <p>Keeps nerves working properly and blood cells and skin healthy.</p> <p>If you are over the age of 50, eating foods fortified with vitamin B12 or taking B12 containing supplements will help you meet your B12 needs. Stomach acid is needed to release vitamin B12 from the food and stomach acid levels can decrease with age.</p> <p>If you follow a vegetarian or vegan eating pattern, you need to eat foods fortified with B12 and you may also need to take supplements to get enough B12.</p>	<p>Found in animal products including: Meat, poultry, fish, seafood, eggs; and dairy products</p> <p>Vitamin B12 fortified** foods:</p> <ul style="list-style-type: none"> • soy, almond or rice based beverages • nutritional yeast and yeast spreads • meat alternatives
<p>Ascorbic Acid (Vitamin C)</p>	<p>Helps your body:</p> <ul style="list-style-type: none"> • Build collagen, bone, skin and tendons • Make proteins that helps to heal cuts and wounds and keep gums 	<p>Found in plant sources: Citrus fruits like oranges, lemons, limes, grapefruits and their juices Kiwi, strawberries,</p>

<i>Vitamin</i>	<i>Function</i>	<i>Examples of Food Sources</i>
	<p>healthy</p> <ul style="list-style-type: none"> • Absorb the mineral iron that comes from plant sources. <p>Important role in immune system health; helps to protect you from infections.</p> <p>Acts as an antioxidant, which may help reduce the risk of certain cancers, heart disease and protects against cell damage.</p> <p>If you smoke, you need an extra 35 mg of vitamin C each day. You can get this amount by eating a variety of fruits and vegetables such as oranges, strawberries and peppers.</p>	<p>mangoes, papaya and cantaloupe Broccoli, Brussels sprouts, cabbage, peppers, tomatoes, dark green leafy vegetables and potatoes</p>

* Enriched foods are foods that have had vitamins added back that were lost in processing.

** Fortified foods are foods that have had vitamins added to them.

Fat Soluble Vitamins

<i>Vitamin</i>	<i>Function</i>	<i>Examples of Food Sources</i>
Vitamin A (retinol) and carotenoids	<p>Need for healthy vision.</p> <p>Protects you from infections by keeping</p>	<p>Cod liver oil Meats, especially liver. Vitamin A fortified** milk or plant-based beverages</p>

<i>Vitamin</i>	<i>Function</i>	<i>Examples of Food Sources</i>
	<p>your skin, other body organs and immune system healthy.</p> <p>Promotes normal growth and development.</p> <p>If you are pregnant, eat no more than one serving of liver every week.</p>	<p>Eggs</p> <p>Fatty fish such as salmon, mackerel and herring</p>
	<p>Carotenoids are nutrients found in plants. Some carotenoids, such as beta-carotene, can turn into vitamin A in the body.</p> <p>Carotenoids act as an antioxidant protecting your body from damage caused by harmful molecules called free radicals.</p> <p>Carotenoid supplements are not recommended.</p>	<p>Orange, red and yellow vegetables and fruit like carrots, cantaloupe, pink grapefruit, mangos, peaches and sweet potato</p> <p>Dark green leafy vegetables like kale, spinach, beet greens and Swiss chard</p>
Vitamin D	<p>Increases calcium absorption from foods.</p> <p>Helps deposit calcium and phosphorus in bones and teeth, making them strong and protects against rickets and osteoporosis.</p> <p>Protects against infections by keeping</p>	<p>Not many foods contain vitamin D. Some sources are found naturally in fatty fish like herring, salmon and trout and egg yolks.</p> <p>Vitamin D fortified** sources include milk, plant-based beverages and soft tub margarine.</p>

<i>Vitamin</i>	<i>Function</i>	<i>Examples of Food Sources</i>
	<p>your immune system healthy.</p> <p>If you are over the age of 50, you have higher needs for vitamin D that may be difficult to meet with food alone. Health Canada recommends a daily vitamin D supplement of 400 IU (10 µg).</p>	<p>Your skin can make vitamin D when exposed to sunlight. Food safe sun exposure guidelines as too much sun can increase skin cancer risk.</p>
Vitamin E	<p>Protects body cells including skin cells from damage by acting as an antioxidant.</p> <p>Helps to maintain a healthy immune system.</p> <p>Prevents blood from clotting too much or getting too thick.</p>	<p>Nuts and seeds such as almonds, hazelnuts and sunflower seeds</p> <p>Vegetable oils like corn, safflower and sunflower</p> <p>Wheat germ</p> <p>Leafy green vegetables including spinach, Swiss chard and turnip greens</p> <p>Egg yolks</p>
Vitamin K	<p>Makes proteins that help your blood clot when you bleed.</p> <p>Helps with bone growth and maintaining a healthy circulatory system.</p> <p>If you take anticoagulant medication such as Warfarin (Coumadin®), aim to eat the same amounts of vitamin K rich</p>	<p>Vitamin K1 is mostly found in green leafy vegetables including beet and turnip greens, collards, kale and spinach and green vegetables such as asparagus and broccoli</p> <p>Some vitamin K can be made by bacteria in your gut</p>

Vitamin	Function	Examples of Food Sources
	foods each day. A sudden increase or drop in vitamin K foods can affect how this medication works.	

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Additional Resources

- Canada's Food Guide <https://food-guide.canada.ca/en/>
- A Consumer's Guide to the DRIs (Dietary Reference Intakes) <https://www.canada.ca/en/health-canada/services/food-nutrition/healthy-eating/dietary-reference-intakes/consumer-guide-dris-dietary-reference-intakes.html>

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Notes

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