

Vitamin E

Why We Need It

Vitamin E, a fat-soluble vitamin, plays a broad role in promoting health. It primarily serves as an antioxidant that helps protect the body from the effects of free radicals. Free radicals are substances that can damage the body's cells and may increase the risk for heart disease and cancer.

Vitamin E may help prevent oxidation of LDL (bad) cholesterol and plaque buildup in the arteries. It also may help to lower the risk for heart disease and stroke, as well as protect against cell damage that could lead to some types of cancer.

Contrary to misguided health claims, vitamin E does NOT offer the following benefits: prevent aging, cure heart disease and cancer, improve athletic performance, improve sexual prowess, or cure infertility.

Recommended Daily Intakes of Vitamin E

	Age	Vitamin E (mg/day)
Infants	birth–6 months	4
	6 months–1 year	5
Children	1–3 years	6
	4–8 years	7
Males	9–13 years	11
	14 years and over	15
Females	9–13 years	11
	14 years and over	15
	pregnant	15
	breastfeeding	19

mg = milligrams

Source: adapted from the Dietary Reference Intakes series, National Academies Press. Copyright 1997, 1998, 2000, 2001, 2002, 2004, by the National Academies of Sciences.

Sources

Vitamin E is abundant in vegetable oils, salad dressings, margarine, and other processed foods made with vegetable oils. If a food is high in unsaturated fats, typically it is a good source of vitamin E, also.

Vitamin E is found in many fortified breakfast cereals, wheat germ, whole-grain products, seeds, nuts (e.g. hazelnuts and almonds), peanut butter, and leafy green vegetables. Processed foods often have vitamin E added as a preservative. Vitamin E in vegetable oils, nuts, and seeds protects their unsaturated fats from oxidation.

Here are some additional nutrient-rich sources of vitamin E that provide many nutrients besides fat. The amount of vitamin E found in each food is listed, also.

Sources of Vitamin E

Food	Vitamin E	
	mg*	IU*
cereal, fortified, 1 cup	20-40	30-60
sunflower seeds, dry, 1 oz	14	22
almonds, dry roasted, 1 oz	8	11
wheat germ, ¼ cup	3	4
peanut butter, 2 tbsp	3	4
vegetable oil, 1 tbsp	3	4
mango, raw, 1	2	3
mayonnaise, 1 Tbsp	2	3
broccoli, frozen, cooked ½ cup	2	3
turnip greens, frozen, cooked, ½ cup	1	2

mg = milligrams

oz = ounces

IU = International Units

Tbsp = tablespoons

* Vitamin E often is measured as milligrams (mg) of alpha-tocopherol. It also can be measured as International Units (IU).

In food, vitamin E is found in many forms. Alpha-tocopherol is the most usable form in our bodies.

How to Retain It

High heat destroys vitamin E, so do not heat vegetable oils to high temperatures, as in frying.

If We Don't Get Enough

Vitamin E is a fat-soluble vitamin, which needs dietary fat to be absorbed in the body. A vitamin E deficiency is very rare, except in premature, very-low-birthweight babies and people who can't absorb fat normally. Cystic fibrosis and some other chronic health problems also may result in a vitamin E deficiency.

People who do not get enough vitamin E may have higher risks for heart disease and cancer. A vitamin E deficiency can affect the nervous system and the eyes. In addition, it can cause "hemolytic" anemia.

If We Get Too Much

There doesn't seem to be a problem with eating plenty of vitamin E-rich foods. However, taking large doses as a supplement may not be beneficial and is not recommended.

Consuming too much vitamin E may make vitamin K's action less complete. It also may increase the effect of anticoagulant medication and the risk of bleeding. When bleeding occurs in the brain, it can cause a hemorrhagic stroke.

Supplements

Foods can supply the recommended amount of vitamin E for good health. Many people choose to take a supplement. However, recent studies do not support use of vitamin E supplements for the prevention of heart disease.

Food and supplement labels give the amount of vitamin E in International Units (IU) of alpha-tocopherol, not in milligrams. The "natural" form of the vitamin found in some supplements is more fully used by the body than the synthetic form in fortified foods and some supplements.

The Tolerable Upper Intake Level (UL) is 800 mg daily for teens ages 14-18 and 1,000 mg for adults ages 19 and over. If you take a supplement, **you should not get more than 1,000 mg of alpha-tocopherol per day from supplements. This equals about 1,500 IU of "natural" vitamin E or 1,100 IU of the synthetic form.** Higher doses increase the risk of bleeding problems.

Talk with your doctor before deciding to take a supplement. He/she can tell you how much to take and whether it may interact with other drugs or supplements that you take. For example, vitamin E supplements can be harmful if you take blood-thinning drugs like warfarin (Coumadin®) or aspirin.

For More Information

The Family and Consumer Sciences (FCS) agent at your county Extension office may have more written information and nutrition classes for you to attend. Also, your doctor, health care provider, or a registered dietitian (RD) can provide reliable information.

Reliable nutrition information may be found on the Internet at the following sites:

<http://hgic.clemson.edu>

<http://virtual.clemson.edu/groups/NIRC/>

<http://www.eatright.org>

<http://www.nutrition.gov>

<http://www.nal.usda.gov/fnic>

Sources:

1. Hillan, Jennifer. University of Florida Extension. *Facts About Vitamin E*. FCS8641. April 2006.
<http://edis.ifas.ufl.edu/publications.html>
2. Duyff, Roberta Larson. American Dietetic Association *Complete Food and Nutrition Guide, 3rd Edition*. 2006.
3. National Academies of Sciences. National Academies Press. *Dietary Reference Intakes series*. 2004.

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