

Vitamin E

In 1922, a fat-soluble dietary compound was found to be essential for the prevention of fetal death and sterility in rats. Originally the compound was referred to the 'antisterility factor' and was later named, Vitamin E. Vitamin E was isolated from wheatgerm oil and is also called tocopherol, from the Greek words *tokos* and *pherein* meaning to bring forth children.

Vitamin E is a fat-soluble vitamin and exists in eight different forms.

Alph-tocopherol is the name of the most active natural form of Vitamin E in humans. There is also a widely available synthetic form, which is labelled "D, L" tocopherol. The synthetic form is only half as active as the natural form.

Vitamin E is best known for its function as an antioxidant, which protects the cells against the effects of free radicals. Free radicals are by-products of energy metabolism and may damage cells and contribute to the development of cardiovascular disease and cancer. Vitamin E also plays a role in immune function, in DNA repair and other metabolic processes.

Vitamin E content and allowances are expressed as mg alpha-tocopherol equivalents or mg. Vegetable oils, nuts, green leafy vegetables and fortified cereals are the most common food sources of Vitamin E.

1. Food Sources of Vitamin E

| <i>Food</i> | <i>Milligrams</i> |
|--|-------------------|
| Wheat germ oil, 1 tablespoon | 20.3 |
| Almonds, dry roasted, 30 g | 7.4 |
| Sunflower seed kernels, dry roasted, 30 g | 6.0 |
| Sunflower oil, 1 tablespoon | 5.6 |
| Safflower oil, 1 tablespoon | 4.6 |
| Hazlenuts, dry roasted, 30 g | 4.3 |
| Peanuts, dry roasted, 30 g | 2.2 |
| Corn oil, 1 tablespoon | 1.9 |
| Spinach, frozen, chopped, boiled, ½ cup | 1.6 |
| Broccoli, frozen, chopped, boiled, ½ cup | 1.2 |
| Soyabean oil, 1 tablespoon | 1.3 |
| Kiwi 1 medium fruit without skin | 1.1 |

Vitamin E is a fat-soluble vitamin, which means you don't need it every day because any of the vitamin your body doesn't need immediately is stored for future use. A recommendation for Vitamin E intake varies. In the UK the Food Standards Agency recommend the daily requirements are as low as:

- 4 mg a day for men
- 3 mg a day for women

Tolerable Upper Intake Levels for Vitamin E are:
 540 mg/day (men and woman)

Vitamin E deficiency is rare in humans. Those at risk may be individuals who have prolonged impaired dietary fat absorption, rare genetic abnormalities in the alpha-tocopherol transfer protein and premature and very low birth weight infants.

Vitamin supplementation is popular but could also be dangerous. Vitamin tablets can provide doses of 200-400 mg. Safe limits remain controversial. It might be useful to keep an eye on your supplements and make sure it contains a low dose of Vitamin E.