



University of California  
Cooperative Extension  
**Tulare County**  
Agriculture and Natural Resources



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## VITAMIN QUICK FACTS - PART II

Did you know:

- Megadoses of vitamins A, D, E or K can be toxic and lead to health problems.
- Vitamin deficiencies are rare in the United States.

Last week, Vitamin A was reviewed.

### Vitamin D

Vitamin D plays an important role in the body's use of calcium. It increases the amount of calcium absorbed from the small intestine and maintains bone density. Children also need to get enough vitamin D for developing strong bones and teeth.

A major source of vitamin D is milk fortified with vitamin D or other dairy products fortified with vitamin D. Vitamin D also is made in a person's skin when exposed to sunlight. Vitamin D must change form twice, once by the liver and once by the kidneys, before it can be used. Symptoms of deficiency in growing children include rickets (long, soft, bowed legs) and flattening of the back of the head. These conditions are rare in the United States.

Be sure that infants and young children do not consume excess amounts of vitamin D regularly. Children exposed to the sun will produce enough vitamin D without supplements.

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## **Vitamin E**

Vitamin E plays a protective role in the body. It protects vitamins A and C, red blood cells and essential fatty acids from destruction. While vitamin E does not cure cancer, adequate amounts may lower risk in certain types of cancer and cystic breast disease.

Vitamin E functions as an antioxidant in the body. Vitamin E interacts with free radicals, decreasing their ability to do damage. Vitamin E does not add sexual vigor, protect against air pollution, contribute to fertility or accomplish other grand claims.

The active form of vitamin E is alpha-tocopherol. About 60 percent of vitamin E in the diet comes from vegetable oil or products made with vegetable oils. Therefore, sources of vitamin E include vegetable oils and margarine. Vitamin E also is found in a variety of foods such as fruits and vegetables, grains, nuts, and sunflower seeds. The only cases of vitamin E deficiency occur in premature infants and people unable to absorb fats. Although no evidence exists showing that vitamin E can be toxic, large doses are not recommended.

## **Vitamin K**

Vitamin K, naturally produced by bacteria in the intestines, plays an essential role in normal blood clotting. Other sources include corn and soybean oils, and dark green leafy vegetables. Without vitamin K, hemorrhaging (bleeding) occurs. Deficiencies can occur in infants or in people who take anticoagulants or antibiotic drugs. Excessive amounts of vitamin K cause breakdown of red blood cells and liver damage. Large doses are not suggested.

Source: Fat-soluble Vitamins, Jennifer Anderson, Ph.D., R.D., Food and Nutrition Health Series, no. 9.315 Colorado State University Cooperative Extension.

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