

Should Anyone Still Take Vitamin E?

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Researchers at UC Berkeley discovered vitamin E in 1922, and since then countless studies have been done on this still mysterious substance. Because its chief function seems to be as an antioxidant, neutralizing potentially harmful free radicals in the body, E became a superstar as the antioxidant theory of disease gained wider and wider attention.

Would high doses of vitamin E prove to be the key to good health—preventing cancer, heart disease, and Alzheimer’s, as well as producing glowing skin, good eyesight, and other benefits? Studies have yielded contradictory findings, but so far the answer seems to be no.

People, including researchers, hold markedly different beliefs about vitamin E supplements, ranging from “protective” to “useless” to “harmful.” Some doctors take vitamin E, but don’t recommend it for their patients. Some do the reverse. Some experts think there have been too many vitamin E studies and say it’s time to quit expecting health benefits. Others say nearly all the research has been flawed and recommend starting afresh using even higher doses of vitamin E or different forms of it.

The supplements industry has, of course, continued to urge people to take vitamin E supplements.

Early studies (mostly observational and not always well-designed) found a benefit, especially for preventing heart disease, while later studies (many of them well-designed clinical trials) have not. Indeed, a few recent studies suggested that vitamin E supplements might actually be

harmful. But a 2007 study found that the now-discredited claims for vitamin E persist widely on the Internet and elsewhere, and that even many scientists continue to believe them.

Here's a summary of the latest news:

- **Cardiovascular disease:** It's logical that vitamin E might help prevent heart disease because of its antioxidant properties (free radicals are believed to be a factor in atherosclerosis), but supplements have not proved helpful. And many experts now have questions about the theory that antioxidants can prevent heart disease. In November the Physicians' Health Study II produced the latest negative results: Among more than 14,000 male doctors taking high doses of vitamin C or E for eight years, neither supplement reduced heart attacks, strokes, or cardiovascular deaths. In fact, vitamin E slightly increased the risk of hemorrhagic (bleeding) strokes.

- **Longevity and/or potential harm:** According to a 2008 review of studies that included almost half a million people, antioxidant supplements (including vitamin E, beta carotene, vitamin C, and selenium) did not prolong life or protect against disease. This review was done by the Cochrane Collaboration, an independent group that evaluates evidence. Some studies suggested benefit, others harm—but the best were largely neutral.

Other large reviews have also suggested that vitamin E supplements and other antioxidant pills don't help and may hurt. One such study, in the *Journal of the American Medical Association* in 2007, pointed to a slight increase in mortality for those taking antioxidant supplements, including vitamin E.

- **Lung cancer:** Vitamin supplements, including vitamin E, have not proved protective, according to a 2007 study funded by the National

Cancer Institute (NCI). Smokers who took E supplements actually had a slightly higher risk of lung cancer. Though this is not the final word, the researchers warned smokers that the supplements “may be detrimental.”

- **Prostate cancer:** While some early studies suggested a protective effect, more recent research has not. In October 2008 researchers halted a major clinical trial (also funded by the NCI) on vitamin E and prostate cancer after five years because they said there was no benefit. Apparently, there were slightly more cancers among the E takers, though this may have been due to chance; the men will continue to be monitored to see if this risk is real.

- **Alzheimer’s disease:** There is little good evidence that E supplements can prevent or treat either cognitive impairment or Alzheimer’s, according to another Cochrane review in 2008. In-deed, only two studies were found worthy of review. One was a clinical trial of people with moderate to severe Alzheimer’s: vitamin E supplements may have slightly decreased disease progression, but, surprisingly, the patients experienced more falls. The other looked at mildly impaired people, in whom large doses of E (2,000 IU daily) produced no benefit.

- **Macular degeneration, the major cause of blindness in older people:** Research about vitamin E has been inconclusive. Nevertheless, vitamin E is one ingredient in the special formulations (PreserVision and similar supplements) that have been shown to slow the progression of the disease.

Vitamin E in retreat

The Wellness Letter has tracked vitamin E for our readers for many years. About 15 years ago we started recommending E supplements (400 IU a day) because the findings about the potential benefits seemed plausible and exciting. But in 2001, after more research appeared and

disappointment set in, we halved our suggested amount to 200 IU. Then, in 2005 we stopped recommending E altogether. When hundreds of studies fail to find a benefit, and so many contradictions emerge, you have to be skeptical.

Bottom line: Get your vitamin E from food, not supplements (see box for good sources). The supplements have not proved beneficial, and may even be risky. We stick by our advice that most people can benefit from a basic multivitamin/mineral supplement, which usually supplies the RDA for vitamin E.

E-ssentials

- Vitamin E exists naturally in eight forms (four tocopherols and four tocotrienols), of which alpha-tocopherol is probably the most important and the most often studied.
- It acts as an antioxidant—that is, it helps neutralize free radicals (oxygen molecules that can harm cells and may contribute to chronic diseases).
- It is fat-soluble and can thus be stored in the body.
- It is measured in milligrams or International Units (IU); the latter are used on supplement labels. The daily Recommended Dietary Allowance (RDA) for adults is 15 milligrams (about 23 IU).
- Deficiency in E is unknown, except in people with rare genetic disorders or malnutrition, or in preterm infants.
- Nuts, seeds, vegetable oils, whole grains, and leafy greens supply the most vitamin E. Broccoli, tomato sauce, red peppers, carrots, and some fish are also good sources.

Provided by UC Berkeley

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