by Margy Squires

E is for Essential

The media has once again chosen to announce with a great fanfare an adverse report on supplement use, this time suggesting that high dose vitamin E "may increase risk of dying". In light of the meta analysis report, which came out in November and raised more questions than answers, we are repeating our vitamin E article. You'll also find website resources, one in particular that was launched specifically to respond to consumer questions, at the end of this article. The overall advice from doctors and researchers, including the National Institute of Health, Office of Dietary Supplements, is that "consumers can feel confident in benefiting from the typical supplement of 400 IU of vitamin E each day." Who are you going to believe?

Vitamin E is a powerful antioxidant. Its ability to neutralize or prevent oxidative damage offers protection against aging, heart disease, cancer, and cognitive age-related dementia such as Alzheimer's. Free radicals occur normally from the many chemical reactions to keep you breathing, moving, and functioning. These chemical spin-offs, however, need other molecules to join in order to be stable. If the right connection is not found, they can attach and damage any cell, tissue, blood vessel, and so forth. Antioxidants step in and connect to these unstable molecules, slowing down and sometimes neutralizing altogether any potential damage. Free radical damage is responsible for many age-related disorders of the heart, brain, respiratory, circulatory and nervous system. Vitamin E can help.

Heart Disease. Vitamin E's traditional role has been in the area of heart disease. It protects in two ways. First, it stops free radicals from damaging the inner linings of arteries and vessels in the heart so cholesterol cannot build up. Secondly, it prevents the oxidation of LDL cholesterol, reducing platelet stickiness. Vitamin E exerts a protective effect even when damage has already been done. In one study at the University of Cambridge, 2000 patients with confirmed heart disease were put on either 400-800 IU of natural vitamin E or a placebo. After 18 months, 77% of the vitamin E group had lower incidence of nonfatal heart attacks [Stephens, Lancet, 1996]. Even on a mere 100 IU, the risk of coronary artery disease was lowered for both men and women [Rimm et al, *NE J Med*, 1993]. Vitamin E has had similar results for patients post bypass surgery. Those on 100-450 IU per day had smaller lesions and less cholesterol deposits than those who did not supplement.

Although vitamin E cannot lower cholesterol, lipid lowering drugs can reduce vitamin E levels. Taking 400-500 IU of vitamin E helps counteract the deficiency.

Eating high fat foods causes arteries to not relax or dilate normally, restricting blood flow. In a study in *JAMA*, 25 subjects ate a high fat breakfast from a fast food place (eggs, sausage) and then tested for blood dilation [Ptaick et al, 1997]. The next day, they were given vitamin E 800 IU and 1000 mg of vitamin C 15 minutes before the meal. On the antioxidant duo, the blood vessels dilated as if they ate a low fat meal. Vitamin C and E are very efficient antioxidants which work together synergistically.

Other Benefits. Vitamin E protects normal cells undergoing chemotherapy but not the cancer cells. It also helps prevent cancer of the lungs, esophagus, colon, and breast. Vitamin E at 400-800 IU enhances wound healing, (particular skin lesions), increases resistance to disease, decreases fibrocystic breast symptoms and hot flashes, and lessens the

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incidence of macular degeneration and cataracts (especially when combined with beta carotene and vitamin C). Lupus patients on 800-1600 IU daily saw a diminishing or elimnation of symptoms (lower doses were not beneficial). Type II diabetes insulin function improved on 800-1200 IU vitamin E. Finally, vitamin E has a huge role in anti-aging and the prevention of degenerative disorders through its antioxidant activity against free radicals.

Know Your E. Vitamin E is actually a combination of tocopherol and tocotrienals. Alpha tocopherol is the most abundant and bioavailable form of vitamin E the body uses. Look for a natural vitamin E, d-alpha tocopherol, which is absorbed and stays in the tissues longer than dl-alpha tocopherol or synthetic vitamin E [Burton et al, *Am J Cl Nutr*, 1998]. If you're over 40 or have trouble taking fats, try dry vitamin E, listed as succinate on the label.

Dosages. You can get vitamin E from food sources like leafy green vegetables, wheat, wheat germ, liver, and most oily nuts. If you're looking for E's health benefits, you'll have to eat a lot: 1000 almonds, a pound of sunflower seeds or a quart of cold pressed sunflower oil which adds up to 8000 calories a day! Therapeutic dosages range from 400 IU to 800 IU so the only way to get enough essential E is to supplement.The toxicity of vitamin E is rare, even up to doses of 1,600 IU.

Precautions. Vitamin E has a blood thinning effect. Do not combine with anticoagulants or high dose aspirin. If you are planning a surgery, inform your health care professional. If you have high blood pressure, start with 200 IU and do not take over 400 IU without medical supervision. Vitamin E should be taken apart from iron as it will impede iron's absorption.

Vitamin E is essential for:

Alzheimer's ◆ blood circulation ◆ cancer
cataracts ◆ cholesterol ◆ fibrocystic breast disease
free radical control ◆ infertility ◆ lupus
macular degeneration ◆ menopausal hot flashes
red blood cells ◆ skin disorders
stroke ◆ type II diabetes

Who Needs E? The daily value for vitamin E is a mere 30 IU. According to the Center for Disease Control in Atlanta, nearly 30% of adults have low blood levels. Researchers found that 29% men, 28% women, 26% whites, 41% African Americans, and 28% Mexican Americans had low vitamin E blood levels. The findings for African Americans is significant due to their high mortality risk from heart disease and cancer.

Resources

1. Challem J & Smith M. *All About Vitamin E*. Avery 1999.
2. Integrative Medicine. *Access*. Integrative Medical Communications, 2000.
3. Lieberman S & Bruning N. *The Real Vitamin & Mineral Book*, 2nd Edit. Avery 1997.
4. Medical Economics. *PDR for Nutritional Supplements*, First Edit. Medical Economics Press 2000.

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