

# E+ NATURAL VITAMIN E

SUPER ANTIOXIDANT POWER

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Vitamin E may well prove to be one of the most powerful nutrients on the planet. Studies indicate that it fights heart disease, prevents cancer alleviates respiratory problems, eases symptoms of Alzheimer's and boosts the immune system's ability to fight off infectious disease. It my also prevent some of the damage that diabetes does to the body, particularly the eyes.

## How does a simple vitamin achieve such complex results?

Vitamin E works in a variety of ways, but a key mechanism is its ability to neutralize free radicals, those naturally occurring unstable molecules that damage healthy molecules by stealing electrons. One of the most important functions of vitamin E is to protect membrane lipids from "oxidative damage."

**Lipid peroxidation** is the most common indicator of free radical production in the body, with far reaching effects. Lipid peroxidation is a key event that turns LDL cholesterol particles toxic so they can infiltrate blood vessel walls, leading to a build up of plaque and clogged arteries.

- This happens when unsaturated "oxygen free radical" chemicals attack unsaturated fatty molecules in a cell's membrane. LDL are transformed into oxidized LDL. This oxidation is enhanced by the presence of ferrous iron (Fe2 +) which is an initiating factor in the generation of hydroxyl radicals (OH•) from hydrogen peroxide (H2 O2).
- Oxidized LDL can be taken up by macrophages attracted into the arterial wall.
- The cholesterol content of the oxidized LDL cannot be degraded. As a result, the macrophages accumulate cytoplasmic lipid droplets rich in cholesteryl esters. These lipid-filled macrophages, called foam cells, form the fatty streak lesions imbedded in the arterial wall.
- In the process, the macrophages become activated and induce a locally damaging inflammatory reaction. This eventually progresses into an atherosclerotic plaque which can cripple the cell membrane so it can no longer move calcium out of the cell and glucose in.
- Calcium can rise to toxic levels, initiating a cascade of events that activates poisonous glutamate and generates more free radicals as well as arachidonic acid, a nerve poison.
- In response, the mitochondria activates deadly proteins and enzymes to depolarize inner membranes. This self-destructive process prompts the cell's DNA to disintegrate and shrink into oblivion. Another cell vanishes. The body cannot always replicate what it has lost and our faculties grow weaker and dysfunctional.

Vitamin E's specialty is stopping the initiating event, the lipid peroxidation of the cell's membrane. Vitamin E also protects other fat-soluble vitamins from destruction by oxygen and aids in the utilization of vitamin A.

#### **VITAMIN E DEFICIENCY**

In spite of vitamin E's effectiveness, studies show that many older adults may not be getting even the required Daily Value of 30 IU. Yet this important vitamin is a critical link in avoiding many of the conditions associated with aging.

Vitamin E deficiency may result in damage to red blood cells and destruction of nerves. Signs of deficiency can include infertility (in both men and women), menstrual problems, neuromuscular impairment, shortened red blood cell life-span, spontaneous abortion (miscarriage), and uterine degeneration. Low levels of vitamin E in the body have been linked to both bowel cancer and breast cancer. Epidemiological links have been identified between the increase in the incidence of heart disease and the increasing lack of vitamin E in the American diet due to our reliance on over processed foods.



### Thus far, vitamin E has been shown to protect against approximately eighty diseases.

Vitamin E is an antioxidant that modern research has linked to the prevention of cancer and cardiovascular disease. Some studies have shown daily use of vitamin E to be more protective than aspirin for prevention of heart attacks, with no harmful side effects. The misuse of aspirin, in contrast, causes or contributes to an estimated 3,000 deaths in the United States each year.

- · In addition, current research studies indicate that vitamin E:
- · Improves circulation
- · Plays an important role in tissue repair
- · Reduces symptoms of premenstrual syndrome and fibrocystic disease of the breast
- · Promotes blood clotting and healing
- · Reduces scarring from some wounds
- · Reduces blood Pressure
- · Aids in preventing cataracts
- · Improves athletic performance
- · Relaxes leg cramps
- · Enhances sperm production in some men
- · Maintains healthy nerves and muscles while strengthening capillary walls.
- · Promotes healthy skin and hair, retarding aging and preventing age spots as well
- · Helps prevent anemia and retrolental fibroplasia, an eye disorder that can affect premature infants.

A 1998 study by the national Cancer Institute found that long-term use of vitamin E substantially reduced prostate cancer risk in smokers. Other studies suggest that this vitamin may slow the progression of Alzheimer's disease.

#### NATURAL IS THE BETTER CHOICE

Vitamin E is actually a family of eight different but related molecules that call into two major groups. The tocopherols and the tocotrienols. Within each group, there are alpha, beta, gamma and delta forms. Of all eight of these molecules, it is the d-alpha-tocopherol form that is the most potent. Natural sources of vitamin E are better than synthetic vitamin E because natural vitamin E is more available for use by the body than the synthetic form. Synthetic vitamin E is only 67 percent as active as the natural form.

**Read labels closely.** The natural form of vitamin E is listed as d-alpha-tocopherol; the synthetic form is listed as dl-alpha tocopherol. The dl form costs only about half as much as the d form, but has significantly less activity or potency.

Dietary Sources include oils (eg.safflower, soy bean), spinach, sunflower seeds, wheat germ, whole grains

**Daily Value** 30 IU (Natural E)

**Safe Upper Limit** 1,500 IUNautral. Studies show that between 200 IU and 800 IU in the natural form gives you the most benefit to release the power.

Caution: Vitamin E appears to be relatively safe, even at higher doses. People who are taking anticoagulants (blood thinners or aspirin) or statins should or anyone under doctor's care for serious health conditions should check with their health care provider.

These statements have not been evaluated by the FDA. Information contained in this bulletin is for informational purposes only and is not intended to diagnose, treat, cure, or prevent any disease. In all cases, its is recommended that you consult with your healthcare professional before initiating a supplement program.



