



Article 5\*

## The Non-Medicated Life:

Vitamins and Supplements for Heart Health (Part One)

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*This is the fifth in a series on optimal diet and lifestyle to help prevent disease and responsibly avoid an over reliance on medications. This complementary approach is based in the medical evidence of the most successful research trials and the best science available. Any planned change in diet, exercise or treatment should be discussed with and approved by your personal physician before implementation. Consultation with a registered dietitian is strongly advised.*

Medicines are a mainstay of American life and the healthcare system because they work. The most helpful medications, moreover, have been proven in clinical trials to reduce the risk of heart attacks, strokes and premature death. As has been shown in the first four installments of The Non-Medicated Life, informed diet and lifestyle change may accomplish naturally for the majority of individuals many, if not most, of the benefits of medications.

As part of this dietary and lifestyle approach certain vitamins and supplements have been shown to help protect the heart, others may help, and for many there is no reliable data to recommend their use. Part One will address vitamins and Part Two will cover supplements.

Vitamins are a burgeoning industry in America. National recommendations are to consume a multivitamin each day for health. Yet the reason for this has more to do with poorly balanced vitamin and nutrient intake by some Americans than with an absolute need to take vitamins additional to what is contained in the food of a balanced diet. Apart from consuming a balanced multivitamin each day, mega vitamin dosing - the consumption of certain vitamins in amounts many times in excess of average requirements - may be not only unhelpful, but even may be dangerous.

For example, fat soluble vitamins like vitamin A may be consumed in excess amount, accumulate

in body tissues and actually cause medical problems. Water soluble vitamins are safer and generally even if consumed in excess will be excreted in the urine. But what are the potential health benefits of consuming certain vitamins in amounts exceeding average requirements?

***“...the consumption of certain vitamins in doses exceeding average requirements may be beneficial for the heart and blood vessels.”***

Niacin or nicotinic acid is a water soluble vitamin proven both to improve cholesterol values and to reduce the risk for cardiac events and the growth of cholesterol plaques in arteries. In a clinical trial called the Coronary Drug Project, niacin reduced events and total mortality. In the CLAS and FATS trials, niacin was shown to reduce plaque growth. In the HATS trial, niacin used in conjunction with a statin class drug reduced the risk of fatal and non-fatal heart attack, stroke and the need for bypass surgery or angioplasty (the use of a balloon tipped tube to open up narrowed arteries without surgery) by an impressive 90 percent. Niacin at a dose of approximately 2 grams per day may reduce the bad cholesterol or LDL by 20 percent, reduce the triglycerides by 30-50 percent, and increase the good cholesterol or HDL by 20-30 percent.

Niacin exists in an immediate release form and a sustained release form. While generally safe in its immediate release form, niacin in the mega  
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vitamin doses needed to improve cholesterol profiles and reduce clinical events may not be well tolerated causing uncomfortable flushing in some people. The sustained release form while better tolerated has a higher rate of liver toxicity. A sustained release prescription niacin called Niaspan appears to combine the low risk of immediate release with the better tolerability of sustained release preparations. In either form, the decision to use niacin in mega vitamin doses should be made only after consulting with your physician.

Folic acid or folate is another water soluble vitamin that may have benefit. Folic acid along with vitamins B12 and B6 is involved in the metabolism of an amino acid called homocysteine and reduces the amount of homocysteine in the blood stream. This may be very important because excessive homocysteine in the body damages the cells called endothelial cells which line and protect the arteries from LDL, the bad cholesterol (see The Non-Medicated Life Article 3, A New Test To Assess Heart Attack Risk).

It is known that folks with elevated homocysteine levels have increased rates of heart disease and those with lower levels have reduced heart disease. There is data to suggest that consuming folic acid in an amount of approximately 1,000 micrograms per day may lower homocysteine. While generally considered benign, large doses of folic acid may otherwise mask a vitamin B12 deficiency, so use of this vitamin in mega vitamin amounts should be considered only after a discussion with your physician. It is for this reason that smaller doses of folic acid are sold over the counter, while the 1,000 microgram dose of folic acid is sold only as a prescription.

Vitamin E is a fat soluble, antioxidant vitamin for which initially significant data also suggested a benefit for the heart and blood vessels. Unfortunately, two large clinical research trials show no cardiovascular benefit for the mega vitamin use of vitamin E. The HOPE trial looked at 9,000 participants some of whom were randomly assigned to vitamin E, some to placebo. No benefit for vitamin E was found.

The Heart Protection Study looked at 20,000 participants and again no benefit was found for decreasing heart attacks, strokes or sudden death. Of perhaps more concern, there may be a loss of some of the beneficial effects of statin drugs in those also taking vitamin E. The HATS trial which looked at the benefit of a combination of a statin drug and niacin also examined the combination with and without an antioxidant “cocktail” containing vitamin E. The data suggested that the benefit of the statin and niacin was offset somewhat by the use of antioxidants. Vitamin E was one of the four antioxidants used in the cocktail, and thus while one may not directly implicate it as the cause for the reduced benefit a cautious approach may be warranted. A full discussion with one’s physician of the use of vitamin E in mega vitamin doses is appropriate especially for those taking statin drugs.

In summary, the consumption of certain vitamins in doses exceeding average requirements may be beneficial for the heart and blood vessels. Niacin and folic acid should be considered after a discussion with your physician. Vitamin E, while initially felt to be helpful does not appear to benefit the heart in large randomized clinical trials, which are the gold standard of medical science. The next installment of The Non-Medicated Life will address the use of supplements including fish oil, flax seed oil, soy protein and alcohol. Vitamins and supplements which have evidence of benefit for the heart and blood vessels may augment a more natural approach including diet and lifestyle and thus reduce an over reliance on the proverbial bottle of pills to solve an individuals health care problems.

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