



NATUROPATHIC WISDOM NOTES

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Vitamins and Minerals: What is a person to believe?

Part One

In the last year the press has continued to “beat up vitamins”. Negative vitamin studies garner much more media attention than positive ones. In this newsletter I attempt to shed some light on the positive research of vitamins that, of course, is not published by the media.

Beta carotene: This is a water soluble antioxidant that I do not prescribe because I never prescribe just one carotene like this, ever. Over 24 years of practice I have always recommended carotene complexes that consist of other carotenes including alpha carotene. This is NOT vitamin A but a precursor to it. Carotenes convert into vitamin A in the body. However this does not happen well in infants, hypothyroidism, alcoholism or in those with poor liver and gallbladder function. The body converts carotenes to vitamin A very poorly so this is why vitamin A is prescribed by knowledgeable physicians. Carotenes are plentiful in orange and yellow fruits and vegetables and you may notice with some people that their skin looks a little yellow because of it. There is no harm in this and reflects the body storing what it is not using. If I see this in someone I will recommend that they reduce their intake, not because it is toxic, but just that they are getting enough! You will see this on many multivitamin combinations which is fine, but if you want to supplement to treat skin conditions, prevent cancer, slow macular degeneration and maintain vision make sure you get the carotene complex. Be aware that most beta carotene studies use the synthetic all trans form and not the mixed carotene form. Beta carotene has been shown to increase the risk of lung cancer in smokers who are taking this **synthetic** form. In these patients I recommend vitamin A instead.

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Vitamin A: This vitamin got a bad rap on a popular TV show recently. This vitamin is oil soluble and in the diet is found in liver, fish roe and fish liver oils, egg yolks, butter and cream. It comes in a synthetic trans form and the natural occurring cis form. The toxicity of vitamin A is often overblown as it takes very large amounts to cause toxic reactions which include: headache, hair loss, dry itchy skin, enlarged liver, bone and joint pain. These symptoms quickly abate when vitamin A is stopped. Single doses of 100,000IU are often given to preschool children in third world countries to prevent

serious eye infections that lead to blindness. In pregnancy it is found that doses of 20,000IU's per day is necessary to increase risk of birth defects. Most multivitamins contain 9,000IU's or less. Dosages will vary depending on what the physician is treating. Vitamin A is effective for the treatment of diseases of the eye, abnormal cervix cells, various pre malignant cancer cells including oral, squamous or basal cell skin cancer, laryngeal and bronchial cells. It can prevent secondary cancers in the head, neck and lung cancer patients who have been treated for primary tumors. It has been used to treat squamous cell carcinoma and leukemia. Dosages used to treat cancer are very high under the care of an experienced physician. Vitamin A has been used to treat heavy periods, infectious diseases including measles and HIV. Vitamin A given to pregnant HIV women just before birth can help prevent the transmission of HIV to the fetus. Drugs such as cholestyramine and mineral oil prevent the absorption of vitamin A so these patients need extra supplementation. Vitamin A studies have indicated that it can contribute to osteoporosis, but this has been argued to be as a result of lack of vitamin D. When synthetic vitamin A is fortified in foods such as cereals and fortified milk and multivitamins there is not enough vitamin D to make these dosages of vitamin A safe.

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Vitamin E: Vitamin E continues to get bashed with research in the fall of 2008, this time blaming vitamin E with increased risk of lung cancer. A recent study published in the American Journal of Respiratory and Critical Care Medicine tracked 77,000 people and examined their daily vitamin C, folic acid, and vitamin E intake over the course of four years. During that time frame, 521 of the subjects were diagnosed with lung cancer. When the researchers looked at the nutrient intake in these participants compared to that in the remaining subjects they found that high daily doses of vitamin E (but not vitamin C or folic acid) appeared to increase the risk of lung cancer by as much as 28 percent in **smokers**. Cases of lung cancer also occurred in non-smokers who took high doses of vitamin E each day, but the researchers freely admit the link was much stronger in smokers, whose habit **ALREADY** puts them at increased risk for this potentially deadly disease. It hardly seems reasonable to point such a condemning finger at vitamin E when the real elephant in the room is that the best thing smokers can do for their health is to quit smoking, not quit taking vitamin E, which has many more benefits associated with it than risks -- unlike smoking.

Vitamin E may reduce the risk of prostate cancer. This study investigated the potential for vitamins C and E to reduce the influence of androgens on cellular activity (oxidative stress) known to be associated with cancer growth. The authors applied various antioxidants to cell cultures and observed the effect on cellular growth and physiology.

Journal of the National Cancer Institute, July 1999;91(14), pp1227-32.

When evaluating vitamin E research it is imperative that the vitamin E used be a mixed tocopherol and not the synthetic d/l alpha form. Mixed tocopherols have a stronger antioxidant effect on lipids than the alpha form. It is effective for intermittent claudication and, in combination with other anti-oxidants, reduces the incidence of bladder cancer and colorectal cancer. It improves symptoms of PMS and reduces hot flashes in breast cancer survivors. Vitamin E improves resistance to viruses, improves neuropathy symptoms and prevents retinopathy along with vitamin A, Vitamin C and selenium. Vitamin E combined with selenium also protects the kidneys of diabetics as well as decreases insulin requirements. It has anti-inflammatory effects lowering C-reactive protein. It inhibits blood clotting and prevents plaque enlargement and rupture. It promotes wound healing and prevents scar contraction and reduces the risk of Alzheimer's disease.

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A recent well-publicized article in Annals of Internal Medicine has made many people afraid to take vitamin E. The authors of the meta-analysis said they found a six-percent increase in risk of death from any cause in individuals taking 400 IU or more vitamin E per day. This finding was from a statistical analysis of many previous vitamin E studies, many involving patients with chronic diseases. In the April issue of the American Journal of Clinical Nutrition 2005, J Hathcock et al present a thorough review of the safety of vitamin E and vitamin C supplementation that serves as a rational, well-researched rebuttal to the Annals article. Their analysis of the literature on vitamin E, including safety data from 24 clinical studies, concludes that vitamin E supplementation up to 1600 IU daily confers no significantly increased risk of adverse outcomes. Since most people take 400-800 IU vitamin E per day, this article should allay the fears of those afraid to take vitamin E at any dose.

Hathcock JN, Azzi A, Blumberg J, et al. Vitamins E and C are safe across a broad range of intakes. Am J Clin Nutr 2005;81:736-745.

In the typical biased slant of the Journal of the American Medical Association (JAMA), an article published in the July 6th 2005 edition bashes vitamin E once again. In the latest report from the Women's Health Study - a long-term analysis of the health of female health-care professionals that has been ongoing since 1992 - the authors state that women who took

600 I.U. natural source vitamin E (alpha-tocopherol) every other day for 10 years had no reduction in major cardiovascular events (heart attack, stroke) or incidence of cancer during the trial. However, vitamin E supplementation DID result in "decreased cardiovascular mortality in healthy women." This result is a significant finding and should have been emphasized in the article's conclusion. Instead of stating that women who took vitamin E for 10 years had a 24-percent reduction in risk of dying from cardiovascular disease, the authors concluded, "These data do not support recommending vitamin E supplementation for cardiovascular disease or cancer prevention among healthy women." Even though their data can substantiate their conclusion regarding cancer, the beneficial cardiovascular data is very important and highly significant, and should have been emphasized.

JAMA has a long and inglorious history of publishing negative studies regarding the use of nutrients, and this latest article shows that even a positive result can be turned into a negative by biased researchers and/or publishers.

Selenium: In the Annals of Internal Medicine in 2007 there was a study on selenium stating that it increased the incidence of diabetes by 50%. It was a retrospective analysis of a previous study of 1996. Selenium was given to 1312 patients with basal cell or squamous cell carcinoma of the skin. It did not affect the recurrence rate of skin cancer, but compared with placebo selenium reduced total cancer mortality by 50%, total cancer incidence by 37%, and incidence of lung, colorectal and prostate cancer by 46, 58 and 63% respectively. These findings were not the study's primary endpoints but they are consistent with other reports of an anticancer effect of selenium. In the new analysis 1202 participants from the 1996 study who did not have diabetes were followed for 7.7 years. They were found to develop diabetes in 9.7% of patients receiving selenium. The original study was not intended to study diabetes and these numbers indicate only a borderline statistical significance. The placebo used in this study was *S. cerevisiae* (bakers yeast) which has been shown to contain two compounds (one being chromium) that improve glucose tolerance. Therefore selenium may increase the risk of diabetes only because the placebo decreased the risk! In naturopathic medicine no one anti-oxidant is given alone and in the case of selenium it may interfere with the absorption of zinc, copper and iodine. Selenium should be given along with a comprehensive nutrition program rather than taking it by itself to mitigate any risk that when taken alone may cause diabetes in the elderly who have a history of skin cancer!

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