

ScienceBased Health Response - Vitamin E / Prostate Cancer Risk

The Selenium and Vitamin E Cancer Prevention Trial (SELECT) involved 35,000 men randomly assigned to receive selenium (200 mcg) plus vitamin E (400 IU), selenium plus placebo, vitamin E plus placebo, or two placebos. The initial trial findings, published in 2008, revealed no significant differences between any of the groups in relation to prostate cancer risk after almost 5 ½ years of observation.

In an ongoing analysis of the SELECT study participants published this week, Klein et al.¹ report that vitamin E supplements slightly increased the risk for prostate cancer in middle-aged and older men.

The results of this trial underscore the need to further examine the relationship between vitamin E and prostate cancer. However, there is little reason to rush to judgment about vitamin E based solely on this report. This is especially true for men who are taking vitamin E as part of an AREDS-based supplement to decrease their risk of age-related macular degeneration (AMD) progression. In determining whether or not one should continue to supplement with vitamin E, it is important to consider the following:

- The study found no harm from vitamin E when combined with selenium. The SBH macular formulas MacularProtect Complete®, MacularProtect Complete®-S and MacularProtect Plus® include selenium, as well as other relevant ingredients, to reflect the myriad interactions that occur among nutrients. The SBH multinutrients OcularProtect® and OcularEssentials® include far less vitamin E than the 400 IU evaluated in this study and these products also include selenium.
- The results of this analysis are in contrast to other randomized clinical trials of vitamin E. Specifically, the ATBC trial found that vitamin E reduced prostate cancer and the Physicians Health Study II indicated no benefit or harm of the vitamin on prostate cancer.
- Additionally, a total of 21 observational trials were examined in regard to the relationship between dietary and/or serum vitamin E and prostate cancer by an expert panel assembled by the American Institute for Cancer Research/ World Cancer Research Fund in 2007. Importantly, none of these observational studies reported an increased risk.
- Since 400 IU of vitamin E was part of the formula tested and proven to reduce the risk of AMD progression and loss of eyesight in the AREDS clinical trial, removing vitamin E from an AREDS-based nutritional supplement could reduce the AMD benefits of the formula.
- Klein et al. state “a biological explanation for the observed increased risk of prostate cancer in the vitamin E arm is not apparent from these data”. It would be unusual, in fact, to find harm of vitamin E so specific to the prostate without an increase in any other form of cancer, cardiovascular disease, diabetes or all-cause mortality, none of which was seen in the vitamin E group.

The contrasting results from other research studies (including animal models, observational, and clinical trials), coupled with the absence of any apparent biological plausibility for this relationship, diminishes the strength of the conclusion drawn by Dr Klein and co-workers, in our opinion.

SBH will continue to closely monitor the research and make any formula revisions in consultation with our Scientific Advisory Board, and based on the totality of evidence. Safety is our foremost concern. At this juncture, the benefits of AREDS-based 400 IU vitamin E supplementation are clear and significant, while the risks appear to be small, if any – an extraordinarily favorable risk/benefit ratio for people with AMD. As always, patients should discuss any supplemental regimen with their health care provider.

1. Klein EA et al. Vitamin E and Risk of Prostate Cancer: The Selenium and Vitamin E Cancer Prevention Trial (SELECT). JAMA 306, 1549-56, 2011.