Beta-carotene [1]

Dear Alice,

What are the latest research findings on beta-carotene? Please give other resources for this search about conflicting reports.

? Curious Carrot

Answer

Dear Curious Carrot,

Beta-carotene has become an increasingly popular topic in the field of nutrition. High in antioxidants, beta-carotene is a nutrient found in foods like carrots, spinach, and kale. Recent studies have revealed possible links between adequate beta-carotene intake and slower progression of diseases like Age-Related Macular Degeneration and various types of cancer. However, excessive beta-carotene consumption has not been shown to fully prevent these diseases, and too much of it can actually be very harmful.

In the case of Age-Related Macular Degeneration, a study published in the Journal of the American Medical Association found an inverse association between above-average intake of beta-carotene (up to 13 times the average amount) and the development and progression of macular degeneration among the elderly. However, the 35 percent reduced risk demonstrated by this study cannot be attributed exclusively to beta-carotene, because other nutrients, including zinc and vitamins C and E, were consumed in excessive amounts as well.

In a different study, beta-carotene supplements taken along with increased Vitamin E, selenium, and zinc over a period of seven years was associated with lower total cancer incidence and all-cause mortality in men. Because many men are deficient in beta-carotene, they may benefit significantly from increased beta-carotene consumption (enough to bring them to what is referred to as a ?baseline,? or average level). However, for women, many of whom do not experience natural beta-carotene deficiency due to their unique set of hormones and lipid and nutrient transport methods, supplementation had no measurable benefits. Further, the same study demonstrated that increased beta-carotene consumption in individuals experiencing the initial phases of cancer development was actually harmful.

A 2010 study published in the Journal of Nutrition demonstrates that although it is often said that natural sources of beta-carotene from fruits and vegetables are more easily absorbed by the body, foods and supplements fortified with beta-carotene and Vitamin A are not harmful to
the average person when consumed in moderate quantities (approximately seven milligrams per day). However, the study notes that beta-carotene levels and intake requirements are highly variable, so it is difficult to make blanket statements about recommended daily intake.

A more recent study from March 2012 reported that above-average beta-carotene consumption does not prevent skin cancer and adenoma recurrence, lung cancer, or total cancer. In fact, the study cites a separate clinical experiment called the Beta-Carotene and Retinol Efficiency Trial, in which it was proven that lung cancer was 39% more likely among individuals who consumed high levels of beta-carotene and either smoked or were previously exposed to asbestos. At best, a U.S. Preventive Services Task Force (USPSTF) study found that beta-carotene had no effect on cancer or cardiovascular disease development among older adults, and that overall cancer development was actually facilitated by excessive beta-carotene consumption among heavy smokers. Therefore, the USPSTF does not recommend beta-carotene supplements, and reinforces that no supplements can take the place of a healthy diet. Indeed, there is no evidence that beta-carotene from natural food sources is harmful to smokers or any other population.

Happy eating,

Alice!

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