
ANTIOXIDANTS AND CANCER PREVENTION

Provided by Kimberly Dalzell, PhD, RD, LD, Program Director, Holistic Nutrition Services
Author of *Challenge Cancer and Win! Step-by-step nutrition action plans for your specific cancer*

For more information: www.challengecancer.com

Defend Yourself From Free Radical Damage

Free radicals are unstable parts of molecules that freely react with and destroy normal, healthy cells. The goal of dietary antioxidant supplementation is to reduce oxidative damage caused by free radicals. Because free radicals are produced within our bodies, we can never neutralize all of them. Additionally, exposures to environmental toxins promote the proliferation of even more free radicals. How, then, can you begin to protect yourself from these potentially harmful reactive substances? Dietary changes and supplementation can help.

- Vitamins E and C, mixed carotenoids, selenium, and EPA are called “antioxidants because they protect the body’s cells and tissues from degradation that may cause normal cells to become cancerous. They may also stimulate the immune system and improve resistance to tumor growth.
- Antioxidants work with food and have enhanced activity when used in concert with other antioxidants. It is suggested that people take a variety of antioxidants--“a cocktail”--not just one. The synergistic effect of combining antioxidant sources may explain why clinical studies show consistent dose relationships between dietary intake of antioxidants and reduced cancer incidence, yet other studies using individual antioxidants do not show this correlation. Examples of how antioxidants work together are prevalent in research:
 - Review of lung cancer patients found beta-carotene to be a protective factor during cancer treatment. Cryptoxanthin, alpha-carotene, and Vitamin C are being investigated as additional anti-cancer substances. *Cancer Epidemiology, Biomarkers Prev.* 1997 Nov 6-11: 907-16.
 - Risk of bladder cancer was lower in subjects who consumed dietary retinol and dietary Vitamin C through food sources and used multi-vitamin supplements and supplemental Vitamin C. *American Journal of Epidemiology* 1996 Sep 1 144-5: 485-95.
 - The overall survival rate of prostate cancer patients was positively affected by the intake of beta-carotene and Vitamin C. *Epidemiology* 1996 Sep 7-5: 472-77.

Suggested Supplementation for Cancer Prevention

<u>Supplement</u>	<u>Dosage Range</u>	<u>Action/Properties</u>
Mixed Carotenoids	20 - 80 mg	Antioxidant Increases T- and B-cells Activates Natural Killer cells
Vitamin C	1000-10,000 mg	Regenerates Vitamin E Antioxidant Inhibits nitrosamine formation Stimulates lymphocytes
Vitamin E	400 - 1000 IU	Antioxidant Inhibits nitrosamine formation Enhances macrophage and phagocytic function Anti-inflammatory
Selenium	200 - 800 mcg	Antioxidant Key component of glutathione peroxidase Decreases tumor incidence; particularly in skin and breast cancer
EPA	3000 - 5000 mg	Anti-metastatic activity Lowers triglyceride levels Enhances chemotherapy Anti-inflammatory