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# Anderson Network

## Antioxidant Supplements & Cancer Treatment

from [P.I.K.N.I.C.](#): Partners in Knowledge, News in Cancer 10/8/02

An increasing number of cancer patients are becoming interested in antioxidant supplements as part of their overall treatment, but even the experts are divided about whether these health-promoting nutrients can help or hurt the treatment process. Add the fact that some antioxidants work great with one or two types of cancer but not so great with others, and making decisions can be confusing at best.

"The actions of antioxidants are very specific in nature, so it's hard to make global statements about them," says Sally Scroggs, M.S., R.D., a dietitian with M. D. Anderson's [Department of Clinical Nutrition](#). "Nutrition and cancer is still a new science, but there's a lot of exciting research that will help us learn even more about the relationship between diet and disease."

Antioxidants, found naturally in foods or taken in supplements, work to inhibit the action of free radicals, which are unstable oxygen molecules in the body caused by aging, smoking or other environmental factors. These free radicals attempt to stabilize themselves by "stealing" electrons from other cells, which can cause a chemical chain reaction that leads to cell mutation and eventually disease.

Combining antioxidant supplements with cancer treatment is controversial in the scientific community. One school of thought is that some chemotherapy drugs produce free radicals in order to kill cancer cells, and that taking large doses of antioxidant supplements may block the cell death process (apoptosis). Other concerns include whether taking antioxidants increases tumor resistance to chemotherapy or affects the rate of recurrence over time.

On the other side of the fence, some researchers believe that taking antioxidants during treatment actually enhances the beneficial effects of chemotherapy and radiation therapy. "With all this conflicting information, what's a patient to do?" Scroggs says. To help people make the right choices, the [National Academies Institute of Medicine](#) has created the Dietary Reference Intakes (DRI), which includes recommended dietary allowances and sets limits on how much should be consumed. "The DRI

gives me a range to work with when advising my patients," Scroggs says. "This information is based on good research, and we're not making any false promises."

The table below has information on six common antioxidants for men and women who are 19 and older.

| <b>Antioxidant</b> | <b>Found In</b>   | <b>Recommended Dietary Allowance (RDA)</b>             | <b>Upper Limits</b> | <b>Cancer Types Affected (in terms of decreased risk)</b>                   |
|--------------------|---|--|---------------------|---|
| Vitamin A          | Carrots, sweet potatoes, apricot nectar, broccoli, paprika                | Men: 3,000 IU<br>Women: 2,330 (International Units) IU | 10,000 IU           | Breast, bladder, GI tract, cervix, some skin cancers, tumors of the airways |
| Vitamin C          | Oranges, strawberries, broccoli, tomatoes, green vegetables               | Men: 90 milligrams (mg)<br>Women: 75 mg                | 2,000 mg            | Stomach, pancreas, esophagus, larynx  |
| Vitamin E          | Vegetable oils, wheat germ, nuts, seeds, broccoli, leafy green vegetables | 15 mg  | 1,000 mg            | Prostate, colon   |
| Selenium           | Brazil nuts, seafood, grains, garlic, dairy products                      | 55 micrograms (mcg)                                    | 400 mcg             | Lung, prostate, colorectal  |
| Coenzyme-Q10       | Beef, pork, chicken fish  | Not determined   | Not determined      | May correct age-related declines  |

|  |                           |  |  |   |
|--|---------------------------|--|--|---|
|  | chicken, fish,<br>peanuts |  |  | related declines<br>in immune<br>system |
|--|---------------------------|--|--|---|

"When at all possible, people should get antioxidants from food rather than pills," Scroggs says. While some might believe that taking large doses of antioxidant supplements increases the benefits, in some cases, it does more harm than good. Always talk to your doctor or oncologist before taking antioxidant supplements, Scroggs says, and seek the advice of a registered dietitian. "Antioxidants are not a cure for cancer, but with continued research, we may get there one day."

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