

# Antioxidants and cancer treatment

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Some people with cancer take large amounts of antioxidants in the form of vitamins, minerals and other dietary supplements in an effort to:

- boost their immune system
- destroy cancer cells
- reduce side effects of treatment.

This handout provides information about taking antioxidants while receiving cancer treatment.

## What is an antioxidant?

An antioxidant is a substance that protects cells from damage caused by free radicals. These free radicals can damage cells which could lead to cancer.

There is no evidence at this time that antioxidant supplements can reduce cancer risk and some evidence indicates that high-dose supplements can increase cancer risk.

Radiation treatments and many chemotherapy drugs work to produce free radicals to damage cancer cells. Because of this, we do not recommend taking antioxidant supplements during cancer treatments.

## What are some types of antioxidant supplements?

- vitamins A, C and E
- beta-carotene
- selenium
- melatonin
- N-acetylcysteine
- glutathione
- CO-Q 10
- alpha-lipoic acid

## I take antioxidants and will be starting cancer treatment. When should I stop taking them?

While receiving cancer treatment, either radiation or chemotherapy, it is recommended not to take antioxidants. If you normally take large amounts of antioxidant supplements, and if time allows, you should stop 1 week before your cancer treatment starts and continue until one week after your last treatment.

Please bring in all the antioxidants (bottles and containers) you take including vitamins, minerals, herbal and dietary supplements and discuss taking them with your radiation or medical oncologist (doctor).

## Can I take a multivitamin during my chemotherapy and radiation treatments?

Taking small amounts of antioxidants, like those found in some multivitamins are not likely to affect radiation or chemotherapy treatment. If you take a multivitamin, check your bottle to make sure the amount of antioxidant does not go over the daily recommended amounts for adults. The recommended daily amounts are listed below.

Please bring in all antioxidants (bottles and containers) you take including vitamins, minerals, herbals and dietary supplements and discuss taking them with your radiation or medical oncologist (doctor).

## What about eating foods that contain antioxidants during cancer treatments?

There is strong evidence that eating a well-balanced diet based on plant foods may reduce the risk of cancer. There is no evidence that antioxidant-rich, whole foods or drinks should be avoided during treatment.

Antioxidant	Daily Amount	Examples of food sources
Vitamin C	90mg for men 75mg for women	citrus fruits, fresh vegetables, berries, melons, strawberries, lychee nuts
Vitamin A	900ug for men 700ug for women	fortified and animal-based foods such as dairy products, liver, eggs, fish
Vitamin E Natural Synthetic	22 I.U 33 I.U.	wheat germ, liver, eggs, nuts and seeds, green leafy vegetables, whole grains, plant-derived oils (wheat germ, soybean, sunflower, almond, safflower, corn)
Selenium	55 mcg	whole grains, meats, fish, seafood, poultry and nuts
Beta-carotene	No established amount	carrots, sweet potato, cantaloupe, pumpkin, mango, papaya, dark leafy greens, apricots, broccoli
Melatonin	No established amount	Not found in most foods.
N-acetylcysteine	No established amount	Mostly in supplement form. Food is not a significant source of N-acetylcysteine.
Glutathione	No established amount	fruits, vegetables and meats
C0-Q10	No established amount	meat, fish, oils, nuts and seeds, fruits and vegetables
Alpha-lipoic acid	No established amount	organ meats, spinach, broccoli, tomato, peas, brussel sprouts, rice bran