

Antioxidants and Cancer Prevention

Antioxidants: protect cells from damage caused by unstable molecules known as free radicals.

Laboratory and animal research have shown that antioxidants help prevent the free radical damage that is associated with cancer. However, results from recent studies in people (clinical trials) are not consistent.

Antioxidants are provided by a healthy diet that includes a variety of fruits and vegetables.

What are antioxidants?

Antioxidants are substances that may protect cells from the damage caused by unstable molecules known as free radicals. Free radical damage may lead to cancer. Antioxidants interact with and stabilize free radicals and may prevent some of the damage free radicals might otherwise cause. Examples of antioxidants include beta-carotene, lycopene, vitamins C, E, and A.

Can antioxidants prevent cancer?

Considerable laboratory evidence from chemical, cell culture, and animal studies indicates that antioxidants may slow or possibly prevent the development of cancer. However, information from recent clinical trials is less clear. In recent years, large-scale, randomized clinical trials reached inconsistent conclusions.

How might antioxidants prevent cancer?

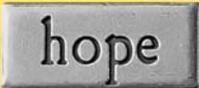
Antioxidants neutralize free radicals as the natural by-product of normal cell processes. Free radicals are molecules with incomplete electron shells which make them more chemically reactive than those with complete electron shells. Exposure to various environmental factors, including tobacco smoke and radiation, can also lead to free radical formation. In humans, the most common form of free radicals is oxygen. When an oxygen molecule (O₂) becomes electrically charged or “radicalized” it tries to steal electrons from other molecules, causing damage to the DNA and other molecules. Over time, such damage may become irreversible and lead to disease including cancer. Antioxidants are often described as “mopping up” free radicals, meaning they neutralize the electrical charge and prevent the free radical from taking electrons from other molecules.

Which foods are rich in antioxidants?

Antioxidants are abundant in fruits and vegetables, as well as in other foods including nuts, grains, and some meats, poultry, and fish. The list below describes food sources of common antioxidants.

Sweet potatoes, carrots, cantaloupe, squash, apricots, pumpkins, and mangos are food rich in Beta-carotene. Some green, leafy vegetables, including collard greens, spinach, and kale, are also rich in beta-carotene.

Tomatoes, watermelon, guava, papaya, apricots, pink grapefruit, blood oranges, and other foods are rich with Lycopene a potent antioxidant.

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750,000 lives could be saved through
cancer prevention and control

