

Fruits and Vegetables Shown to Reduce Risk of Breast Cancer and its Recurrence

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Eating a diet rich in fruits and vegetables drastically reduces the risk of ever getting breast cancer and of having a recurrence. Scientists at the University of Hong Kong have just released more research findings adding to the growing pile of evidence that selections from the produce section are the best bet for keeping away this dreaded disease.

The association between vegetable and fruit intake and breast cancer risk was evaluated using a hospital-based, case-controlled study. Four hundred and thirty-eight breast cancer cases were matched with an equal number of controls by age and place of residency. Their dietary intake was assessed by face-to-face interviews using a food frequency questionnaire. Multivariate logistical regression was used to estimate odds ratios.

Total vegetable and fruit intake was found to be inversely associated with breast cancer risk. The odds ratios of the highest quartile relative to the lowest quartile of total vegetable and fruit intake were 0.28 and 0.53 respectively. This means that those eating the lowest amounts had a 47% increased risk of breast cancer. Consumption of individual vegetable and fruit groups such as dark green leafy vegetables, cruciferous vegetables, carrots, tomatoes, bananas, melons (watermelon, papaya, and cantaloupe) was inversely and significantly related to breast cancer risk. An inverse association was also observed for vitamin A, carotene, vitamin C, vitamin E, and fiber intake. (*International Journal of Cancer*, July)

Fruits and vegetables modulate the cell cycle to safeguard health

People were created to eat fruits and vegetables. Several systems in the body depend on constituents from nature's garden for proper functioning. One of these is the cell cycle that regulates the growth and maintenance of all living things. During the cell cycle, chromosomes are duplicated, and one copy of each duplicated chromosome is transferred from the mother cell to the daughter cell. Proper regulation of this cycle is critical for the normal development and maintenance of health in multi-cellular organisms. If the cell cycle is not working as it should, cancer and other degenerative diseases may be the result.

The successful reproduction of new cells depends on two critical processes, the replication of DNA, and mitosis (the nuclear division of the daughter cell from the mother cell). Compounds from fruits and vegetables stand guard over this process and assure successful completion. (*Frontiers in Bioscience*, January, 2008)

In a world in which more and more genotoxins are constantly bombarding people, a greater intake of fruits and vegetables is necessary to modulate the effects of deregulation at cell cycle checkpoints and keep the cycle running smoothly creating new cells that are healthy. **Up to ten servings of fruits and vegetables each day are now recommended by some health gurus.**

Fruits and vegetables can reduce breast cancer recurrence by 40 percent

Scientists from the University of California examined the relationship between plasma carotenoid concentration as a biomarker of fruit and vegetable intake and the risk for a new breast cancer event in 1,550 women previously treated for early stage breast cancer. After 5 years of follow-up, those women with the highest plasma carotenoid concentrations had a 40% reduced risk for breast cancer recurrence. (*Journal of Clinical Oncology*, September, 2005).

Carotenoids are natural fat-soluble pigments found in certain plants. They provide the bright red, orange, yellow, blue and purple colorations found in the vegetable kingdom. Famous members of this family include beta-carotene found in carrots, spinach, kale and cantaloupe; lycopene found in tomatoes, pink grapefruit, watermelon, papaya, and apricots; and lutein, found in dark green leafy vegetables and blueberries.

Since carotenoids need lipids to become bioactive in the body, salads full of these colorful vegetables should always be eaten with some type of fat. The liberal use of extra virgin olive oil on a salad is a great way to bring its carotenoids to life. Fruits and nuts is another tasty combination. The healthy fats found in the nuts will bring to life all the carotenoids in the fruits. Snacking on dried fruits and nuts satisfies the sweet tooth while loading up the body with carotenoids. For best digestion, eat the fruits first and then the nuts rather than eating them together.

Fruits and vegetables with the highest anti-cancer activity

Almost all fruits and vegetables have anti-cancer activity. The superstars of the research labs are garlic and onions, cruciferous vegetables (broccoli, cabbage, kale, Brussels sprouts and greens), unbelliferous vegetables (carrots, celery, cilantro, parsley and parsnips), tomatoes, peppers, flax seeds, citrus, and soy. However, soy should never be eaten unless it is fermented in the traditional oriental manner and eaten as a small part of a mineral and protein rich meal.

Spirulina and chlorella are heavily pigmented microalgae. They are a nutrient rich vegetable food source rich in beta carotene and many other carotenoids, each with power to keep away breast cancer. They contain fatty acids to speed these carotenoids to work in the body.

Compounds from fruits and vegetables that have shown to help regulate the cell cycle include diindolymethane (DIM) from broccoli, apigenin from celery and parsley, curcumin from turmeric, epigallocatechin-3-gallate (EGCG) from green tea, resveratrol from red grapes and peanuts, genistein from soybeans, and silymarin from milk thistle.