



Fruits & Vegetables: Reduced Disease Risk?

New findings suggest they lower cancer & cardiovascular disease risk

Are you really what you eat? Studies continue to reveal a link between food consumption and health impact. And the latest research suggests eating fruits and vegetables just may lower your risk for cancer and cardiovascular disease.

New findings. Published online, April 6, 2010's *Journal of the National Cancer Institute*, a recent study indicates increasing your fruit-and-vegetable intake could mean a small reduction in cancer risk.

The cohort study—called European Prospective Investigation into Cancer & Nutrition (EPIC)—followed 142,605 men and 335,873 women for a median of 8.7 years, during which 9,604 men and 21,000 women were diagnosed with cancer. Researchers compared cancer incidence to fruit and vegetable intake and found this:

- An increased intake of 200 grams per day (g/d) of a combination of fruits and vegetables was associated with a 3% reduction in cancer risk.
- An increased intake (100 g/d) of total vegetables yielded a 2% reduction and 100 g/d of fruits a 1% reduction.

Study lead author Paolo Boffeta concluded, "A very small inverse association between intake of total fruits and vegetables and cancer risk was observed in this study."

Researchers did note a significant reduction in cancer risk for heavy drinkers who ate more fruits and vegetables, but only against cancers caused by smoking and alcohol.

Benefits stronger than study authors suggest. Commenting on the EPIC study in his blog, CeneGenics Senior Institute Physician/Executive Director of Physician Education Dr. Alvin B. Lin pointed out that study authors only reported on the effects of eating 100 and 200 g/d of fruits and vegetables.

"Bear in mind that 5 servings is approximately 400g," Dr. Lin wrote on his blog at www.cenegenicsfoundation.org/blog/. "If you look more closely at the data that they provide and compare those in the highest quintile of consumption vs. those in the lowest, you'll notice a more significant 6%-11% decrease in cancer risk."

Protection against cardiovascular disease. Walter Willett from Harvard School of Public Health agreed there was more to the EPIC study than the current article suggested.

In an editorial in the April 2010 *Journal of the National Cancer Institute*, Willett wrote, "In the same population of men and women that [reportedly] showed no association between fruits and vegetables and total cancer, incidence of coronary heart disease or stroke was 30% lower for those consuming 5 or more servings per day compared with those eating less than 1.5 servings per day."

Further evidence. Older studies confirm these findings.

- A meta-analysis of cohort studies published in the September 2007 *Journal of Human Hypertension* by FJ He (et al.) reported that increased consumption of fruit and vegetables resulted in a corresponding decrease in coronary heart disease.
- Analysis of 12 studies with a total of 278,459 participants and a median 11-year follow-up showed an average 17% reduction in coronary heart disease risk for individuals eating more than 5 servings per day of fruit and vegetables compared with those eating less than 3 servings. Those eating 3-5 servings a day saw a 7% reduction in coronary heart disease risk compared to those eating less than 3 servings.

Just how much fruits/veggies do you need daily? That depends on your activity.

Generally speaking . . .

- Men need 2 to 2.5 cups of fruits and 3 to 4 cups of vegetables
- Women need 1.5 to 2 cups of fruits and 2 to 3 cups of vegetables

How much is a cup?

1 cup of vegetables =

- 1 large ear of corn
- 1 large sweet potato
- 10 broccoli florets
- 1 cup of lettuce plus ½ cup other vegetables 12 baby carrots

1 cup of fruit =

- 1 large orange
- 8 large strawberries
- 32 grapes
- 1 small apple
- 2 small bananas

Source: Centers for Disease Control www.fruitsandveggiesmatter.gov

- Further subgroup analyses found that both fruits and vegetables provide significant protection against coronary heart disease.

The analysts concluded, "These results provide strong support for the recommendations to consume more than 5 servings/day of fruit and vegetables."

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An earlier meta-analysis by L. Dauchet (et al.) published in the October 2006 *Journal of Nutrition* reported similar findings. Using 9 studies with 221,080 participants and 5,007 coronary heart disease events, analysts determined that risk decreased by 4% for each additional portion of fruits/vegetables consumed each day and by 7% for each additional serving of fruit.

Reduces risk of stroke. Another meta-analysis by FJ He (et al.) studied the relationship between fruit/vegetable consumption and incidence of stroke. Published in the January 2006 issue of *Lancet*, the meta-analysis included 8 studies and 257,551 individuals—with a total of 4,917 stroke events—and an average follow-up time of 13 years.

- The pooled relative risk of stroke was 26% less for individuals eating 5 servings of fruit and vegetables per day compared to the ones eating less than 3 servings.
- Those eating 3-5 servings were 11% less likely to suffer stroke than those eating less than 3 servings.
- Further subgroup analyses revealed that consuming fruits and vegetables afforded significant protection against both ischemic and hemorrhagic stroke.

According to the analysts, “Increased fruit and vegetable intake in the range commonly consumed is associated with a reduced risk of stroke. Our results provide strong support for the recommendations to consume more than five servings of fruit and vegetables per day, which is likely to cause a major reduction in strokes.”



Need to know. Does it really matter if you eat 5 servings of fruits & vegetables every day?

Per Cenegenics' Dr. Lin, “Realistically, if the only thing I need to do to decrease my risk of cancer by up to 11% is to eat more fruits and vegetables, and there’s no downside to doing so, why not? Certainly beats the alternative! Finally, let’s remember that other analyses of data from [the EPIC] cohort & others demonstrate a decrease in vascular disease and more importantly, all-cause mortality. So, yes, it does matter what we eat. Now go out there and eat your fruits and veggies.”

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