

'Tis the season to indulge in walnuts

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Researchers at UC Davis and other institutions have found that diets rich in whole walnuts or walnut oil slowed prostate cancer growth in mice. In addition, both walnuts and walnut oil reduced cholesterol and increased insulin sensitivity. The walnut diet also reduced levels of the hormone IGF-1, which had been previously implicated in both prostate and breast cancer. The study was published online in the *Journal of Medicinal Food*.

"For years, the United States government has been on a crusade against fat, and I think it's been to our detriment," said lead scientist and research nutritionist Paul Davis. "Walnuts are a perfect example. While they are high in fat, their fat does not drive [prostate cancer](#) growth. In fact, [walnuts](#) do just the opposite when fed to [mice](#)."

Davis and colleagues have been investigating the impact of walnuts on health for some time. A previous study found that walnuts reduced prostate tumor size in mice; however, there were questions about which parts of the nuts generated these benefits. Was it the meat, the oil or the [omega-3 fatty acids](#)? If it was the omega-3 fats, the benefit might not be unique to walnuts. Since the fatty acid profile for the soybean oil used as a control was similar, but not identical, to walnuts, more work had to be done.

In the current study, researchers used a mixture of fats with virtually the same fatty acid content as walnuts as their control diet. The mice were fed whole walnuts, walnut oil or the walnut-like fat for 18 weeks. The results replicated those from the previous study. While the walnuts and

walnut oil reduced cholesterol and slowed prostate [cancer growth](#), in contrast, the walnut-like fat did not have these effects, confirming that other nut components caused the improvements - not the omega-3s.

"We showed that it's not the omega-3s by themselves, though, it could be a combination of the omega-3s with whatever else is in the [walnut oil](#)," Davis said. "It's becoming increasingly clear in nutrition that it's never going to be just one thing; it's always a combination."

While the study does not pinpoint which combination of compounds in walnuts slows cancer growth, it did rule out fiber, zinc, magnesium and selenium. In addition, the research demonstrated that walnuts modulate several mechanisms associated with cancer growth.

"The energy effects from decreasing IGF-1 seem to muck up the works so the cancer can't grow as fast as it normally would," Davis said. "Also, reducing cholesterol means cancer cells may not get enough of it to allow these cells to grow quickly."

In addition, the research showed increases in both adiponectin and the tumor suppressor PSP94, as well as reduced levels of COX-2, all markers for reduced [prostate cancer risk](#).

Although results in mice don't always translate to humans, Davis said his results suggest the benefits of incorporating walnuts into a healthy diet. Other research, such as the PREDIMED human study, which assessed the Mediterranean diet, also found that eating walnuts reduced cancer mortality.

Still, Davis recommends caution in diet modification.

"In our study the mice were eating the equivalent of 2.6 ounces of walnuts," he said. "You need to realize that 2.6 ounces of walnuts is

about 482 calories. That's not insignificant, but it's better than eating a serving of supersized fries, which has 610 calories. In addition to the cancer benefit, we think you also get cardiovascular benefits that other walnut research has demonstrated.

"It's the holiday season, and walnuts are part of any number of holiday dishes. Feel free to consume them in moderation."

Provided by UC Davis

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