

# Vegetables Take Center Stage in Cancer Study

Being told to eat our vegetables is anything but newsworthy advice, but learning which vegetables give us the most protection from which diseases-and understanding *why* they give us protection-is news that most of us would welcome.

Researchers at the Roswell Park Cancer Institute in Buffalo, New York have completed some pioneering work in this regard in their study of 1,082 women, averaging 63 years in age and being treated as patients at their Institute. Half of the women were diagnosed with endometrial cancer-the seventh most common cancer among women worldwide-and the other half were determined to be free of this cancer. When the diets of these women were analyzed, only the intake of one type of food was consistently associated with significantly lowered risk of endometrial cancer, and that food type was vegetables. Total fruit intake did not show this protective effect.

Starting at 43 servings per month, and moving up to 94 servings per month or greater, total vegetable intake showed a consistent and increasingly protective effect against the occurrence of endometrial cancer. In comparison to 43 servings per month (a little more than one serving per day), 94 or more servings per month (at least 3 servings per day) was about 25% more protective against the risk of endometrial cancer. The researchers also looked specifically at cruciferous vegetables, which did show a protective effect when the intake level was 25 servings per month or more.

An interesting part of this study was the close connection between cancer-protective vegetables and cancer-protective nutrients provided by those vegetables. Even though cruciferous vegetables like broccoli were found to decrease risk of endometrial cancer under some circumstances, only total vegetable intake-including not only cruciferous vegetables but all types of vegetables-was consistently linked to lower risk. The researchers determined that specific nutrients, including vitamin E and beta-carotene, were consistently associated with the lowest risk of endometrial cancer, and that vegetable intake beyond cruciferous vegetables was required to produce the greatest risk-lowering effect.

This study finding makes sense to us. Even though cruciferous vegetables like broccoli can be important sources of vitamin E and beta-carotene, green leafy vegetables like chard and spinach can often provide 2-3 times as much beta-carotene as cruciferous vegetables like broccoli and 3-4 times as much vitamin E. Vegetables like olives can provide even greater concentrations of vitamin E.

The greater prevention observed in this study from vegetable variety versus a single category of vegetables (cruciferous vegetables), together with the significantly greater prevention associated with 1 serving versus 3 servings of vegetables per day, give us a take-away message that might end up applying not only to prevention of endometrial cancer, but to prevention of other chronic disease problems as well. While any fresh vegetable intake is better than no fresh vegetable whatsoever, building vegetable intake up into a range of multiple servings per day appears important in reducing disease risk. So does expanding your vegetable intake beyond a single type of vegetable, no matter how many nutritional benefits are provided by that single type of vegetable.

When it comes to prevention of a disease like endometrial cancer, there's a real difference between 1 versus 3 vegetable servings per day. Therefore, a good strategy is to enjoy vegetables throughout the day, not just a dinnertime! And no matter how many health claims you hear for a single type of vegetable (like broccoli), stay focused on vegetable variety. When it comes to disease prevention, no single type of vegetable can do it all, even though many vegetables are nutritionally outstanding in their own right.

## References

- Yeh M, Moysich KB, Jayaprakash V et al. Higher Intakes of Vegetables and Vegetable-Related Nutrients Are Associated with Lower Endometrial Cancer Risks. *The Journal of Nutrition* 2009, 139(2), 317-22. 2009.