

Energy dense foods may increase cancer risk regardless of obesity status

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Diet is believed to play a role in cancer risk. Current research shows that

an estimated 30% of cancers could be prevented through nutritional modifications. While there is a proven link between obesity and certain types of cancer, less is known about how the ratio of energy to food weight, otherwise known as dietary energy density (DED), contributes to cancer risk. To find out, researchers looked at DED in the diets of post-menopausal women and discovered that consuming high DED foods was tied to a 10% increase in obesity-related cancer among normal weight women. Their findings are published in the *Journal of the Academy of Nutrition and Dietetics*.

DED is a measure of food quality and the relationship of calories to nutrients. The more calories per gram of [weight](#) a [food](#) has, the higher its DED. Whole foods, including vegetables, fruits, lean protein, and beans are considered low-DED foods because they provide a lot of nutrients using very few calories. Processed foods, like hamburgers and pizza, are considered high-DED foods because you need a larger amount to get necessary nutrients. Previous studies have shown that regular consumption of foods high in DED contributes to weight gain in adults.

In order to gain a better understanding of how DED alone relates to [cancer risk](#), researchers used data on 90,000 [postmenopausal women](#) from the Women's Health Initiative including their diet and any diagnosis of cancer. The team found that women who consumed a diet higher in DED were 10% more likely to develop an obesity-related cancer, independent of body mass index. In fact, the study revealed that the increased risk appeared limited to women who were of a normal weight at enrollment in the program.

"The demonstrated effect in normal-weight women in relation to risk for obesity-related cancers is novel and contrary to our hypothesis," explained lead investigator Cynthia A. Thomson, PhD, RD, Professor of Health Promotion Sciences at the University of Arizona Mel and Enid Zuckerman College of Public Health in Tucson, AZ. "This finding

suggests that weight management alone may not protect against obesity-related cancers should women favor a diet pattern indicative of high [energy density](#)."

Although restricting energy dense foods may play a role in weight management, investigators found that weight gain was not solely responsible for the rise in cancer risk among normal weight women in the study. They hypothesize that the higher DED in normal-weight women may cause metabolic dysregulation that is independent of body weight, which is a variable known to increase cancer risk.

While further study is needed to understand how DED may play a role in cancer risk for other populations such as young people and men, this information may help persuade postmenopausal women to choose low DED foods, even if they are already at a healthy [body mass index](#).

"Among normal-weight women, higher DED may be a contributing factor for obesity-related cancers," concluded Dr. Thomson.

"Importantly, DED is a modifiable risk factor. Nutrition interventions targeting energy density as well as other diet-related cancer preventive approaches are warranted to reduce [cancer](#) burden among postmenopausal [women](#)."

More information: "Association between Dietary Energy Density and Obesity-Associated Cancer: Results from the Women's Health Initiative," *Journal of the Academy of Nutrition and Dietetics* (2017). [DOI: 10.1016/j.jand.2017.06.010](https://doi.org/10.1016/j.jand.2017.06.010)

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