

# Sticking to lifestyle guidelines may reduce risk for certain cancers and for overall mortality

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A study of nearly a half-million Americans has found that following cancer prevention guidelines from the American Cancer Society may modestly reduce your overall risk of developing cancer and have a greater impact on reducing your overall risk of dying. Having a healthy body weight and staying active appeared to have the most positive impact.

The observational study—the largest of its kind—by researchers at Albert Einstein College of Medicine of Yeshiva University and its NCI-designated Albert Einstein Cancer Center, found that sticking with the [guidelines](#) seems to significantly reduce the risk for developing certain cancers, particularly [colorectal cancer](#) in both sexes and [endometrial cancer](#) in women. The findings were published online today in the *American Journal of Clinical Nutrition*.

In 2001, the American Cancer Society (ACS) issued [guidelines for preventing cancer](#). The guidelines recommended that people avoid smoking, achieve and maintain a healthy weight throughout life, be physically active, and eat a healthy diet emphasizing plant foods.

The Einstein researchers stratified study participants into five groups based on how closely they adhered to the ACS guidelines. Men who adhered most closely to the guidelines had a reduced overall risk of developing cancer of 10 percent compared to men with the lowest

adherence. For women, the corresponding reduction in overall cancer risk was 19 percent. Men with the highest adherence had a reduced risk of dying from cancer of 25 percent; for women, the reduction was 24 percent. Risk for cancers at various sites varied widely (details below).

## **Can lifestyle changes reduce risk for cancer?**

"The guidelines made sense for overall health, but it was an open question whether they would have an impact on cancer outcomes," said lead author Geoffrey Kabat, Ph.D., senior epidemiologist in the department of epidemiology & population health at Einstein. "Our findings suggest that it's worth the effort to adhere to the ACS guidelines, and that the closer you follow the guidelines, the greater the benefit for preventing certain types of cancer."

Previous studies had shown that health practices such as eating a balanced diet and maintaining a healthy body weight can reduce one's risk of developing or dying from cancer. "However, these studies were relatively small and few looked at the effects on specific types of cancer, which limited the usefulness of the results," said senior author Thomas Rohan, M.B.B.S., Ph.D., professor and chair of epidemiology & population health at Einstein and Montefiore Medical Center, the Harold and Muriel Block Chair in Epidemiology and Population Health at Einstein and leader of the Cancer Epidemiology Program at the Albert Einstein Cancer Center.

## **Study participants followed for 10 to 13 years**

For a more thorough look at the impact of cancer prevention guidelines, the Einstein team studied data from the National Institutes of Health-AARP Diet and Health Study. In 1995-96, the study collected questionnaires from more than 500,000 people that asked about various

aspects of diet and lifestyle. Study participants were between the ages of 50 and 71 at the time of enrollment. They were followed for a median of 10.5 years to determine cancer incidence, 12.6 years to determine cancer mortality and 13.6 years to determine total mortality.

Participants with a previous history of cancer were excluded from the study, yielding 476,396 subjects for analysis. Those subjects were divided into five groups based on how closely they adhered to the ACS guidelines in terms of their body mass index (BMI), physical activity, alcohol intake, and several aspects of diet. During the study period, the enrollees experienced 73,784 cases of cancer, 16,193 cancer deaths, and 81,433 deaths from all causes.

## **Risk of cancer at specific sites and overall mortality**

The researchers also examined the risk of developing cancer at 25 specific anatomic sites. They found 14 sites where people adhering most closely to the guidelines had reduced risks for developing cancer compared to those in the lowest-adherence group. Notable examples were gallbladder cancer (65 percent reduced risk, both sexes combined), endometrial cancer (60 percent), liver (48 percent, males) [colon cancer](#) (48 percent, males; 35 percent, females) and rectal cancer (40 percent, males; 36 percent, females).

But adhering to the guidelines was not always associated with lower risk for site-specific cancers. Compared to the least adherent men, for example, the most adherent men had a statistically significant 19 percent greater risk for developing melanoma, although the reason for that increased risk is not clear.

As for the risk of dying from all causes including cancer, men who adhered most closely to the guidelines had a reduced overall mortality risk of 26 percent, while the most adherent women had a reduced overall

mortality risk of 33 percent. "Adherence to the guidelines had a slightly bigger effect in never smokers than in former or current smokers," said Dr. Kabat. "But the bottom line is that, even if you smoke—a huge risk factor for certain types of [cancer](#)—it's worthwhile to adhere to the guidelines."

## Aim for a healthy body weight

Different lifestyle components of the ACS guidelines varied in importance, depending on the outcomes examined in the Einstein study. For reducing overall mortality, a healthy body weight and engaging in physical activity ranked as the two most important factors for both men and women.

**More information:** The paper is titled, "Adherence to Cancer Prevention Guidelines and Cancer Incidence, Cancer Mortality, and Total Mortality."

Provided by Albert Einstein College of Medicine

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