

Higher soy intake prior to lung cancer diagnosis linked to longer survival in women

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New results from a large observational follow-up study conducted in Shanghai, China, indicate that women with lung cancer who consumed more soy food prior to their cancer diagnosis lived longer than those who consumed less soy. The study, published March 25 in the *Journal of Clinical Oncology*, provides the first scientific evidence that soy intake has a favorable effect on lung cancer survival.

"To our knowledge, this is the first study to suggest an association between high soy consumption before a lung cancer diagnosis and better overall survival," said lead study author Gong Yang, MD, MPH, a research associate professor at Vanderbilt University Medical Center. "Although the findings are very promising, it's too early to give any [dietary recommendations](#) for the general public on the basis of this single study."

Lung cancer is the leading cause of cancer-related death among women worldwide, with only one in seven patients surviving for 5 years after diagnosis. Emerging evidence suggests that female hormones, particularly estrogens, may affect lung cancer outcomes. Soy contains isoflavones, estrogen-like substances that are also known to affect [molecular pathways](#) involved in [tumor development](#) and growth.

A recent study by the same research team showed that high intake of soy food was associated with a 40 percent decrease in lung cancer risk.

This new study assessed the impact of soy intake on lung cancer survival

among participants of the Shanghai Women's [Health Study](#), which tracked [cancer incidence](#) in 74,941 Shanghai women. Information on usual dietary intake of soy food (soy milk, tofu, fresh and dry soybeans, soy sprouts, and other soy products) was collected in-person at study enrollment and again two years later. Soy food and isoflavone content of various food products was calculated based on the Chinese Food Composition tables. During the course of the study, 444 women were diagnosed with lung cancer. The median time between the first dietary assessment and cancer diagnosis was 5.8 years.

In this analysis, patients were divided into three groups according to soy food intake prior to lung [cancer diagnosis](#). The highest and lowest intake levels were equivalent to approximately 4 oz or more and 2 oz or less tofu per day, respectively. Patients with the highest soy food intake had markedly better overall survival compared with those with the lowest intake — 60 percent of patients in the highest intake group and 50 percent in the lowest intake group were alive at twelve months after diagnosis.

The risk of death decreased with increasing [soy intake](#) until the intake reached a level equivalent to about 4 oz of tofu per day. Researchers found no additional survival benefit from consuming higher amounts of soy. Similar trends were observed when dietary isoflavone intake was evaluated.

The findings may not necessarily apply beyond this study's population, which has a very low prevalence of cigarette smoking, a known risk factor for the development of lung cancer, and postmenopausal hormone replacement therapy use, –a factor that may negatively affect lung cancer prognosis. In addition, the overall soy food intake is higher in Chinese women than in Western women.

"But given the increasing popularity of soy food in the U.S. and

elsewhere, and a sizable number of women who don't smoke, the results of this study could have wider relevance," said Yang.

Future research will explore whether consumption of soy food after diagnosis of [lung cancer](#) affects survival, particularly among patients with early-stage disease, who may benefit most from a nutritional intervention.

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