



## Study Links Soy Intake to Increased Breast Cancer Survival

In a new study published online in the *Journal of the American Medical Association*, <http://jama.ama-assn.org/cgi/content/abstract/302/22/2437> (JAMA. 2009;302(22):2437-2443), the authors conclude that **“among women with breast cancer, soy food consumption was significantly associated with decreased risk of death and recurrence.”** This research conclusion is an extremely important message regarding the positive research in support of soy food intake in women with existing breast cancer, and we were compelled to present this recent science related to the potential benefits of soy food intake and breast health.

Soy foods are rich in isoflavones, a major group of phytoestrogens thought to reduce the risk of breast cancer. Many studies have supported this hypothesis, and a study published earlier this year, <http://cebp.aacrjournals.org/content/18/4/1050.abstract> (*Cancer Epidemiol Biomarkers Prev* 2009;18(4):1050-9), found that soy intake during childhood, adolescence, and adulthood was associated with decreased breast cancer risk in Asian American women.

However, the estrogen-like effect of isoflavones and the potential interaction with tamoxifen (a drug used for the prevention and treatment of breast cancer) have fueled concerns about soy food consumption among breast cancer survivors. But only limited laboratory and animal research has linked high levels of soy phytoestrogens to potential breast tumor cell growth, so we need to be extremely cautious before generalizing these results to humans.

To assess the effects of soy food intake on breast cancer outcomes, researchers from Vanderbilt University in Nashville, Tenn., and the Shanghai Institute of Preventive Medicine in Shanghai, China, collaborated on this study to evaluate the association of soy food intake after breast cancer diagnosis with total mortality and cancer recurrence.

The current study population of 5,033 participants originated from the Shanghai Breast Cancer Survival Study, a longitudinal, population-based study of 6,299 survivors in China between the ages of 20 and 75. These women were diagnosed as having primary breast cancer between March 2002 and April 2006 and they were recruited into the study about six months after cancer diagnosis.

Information on cancer diagnosis and treatment, lifestyle exposures after cancer diagnosis, and disease progression was collected six months after cancer diagnosis and reassessed at three follow-up interviews conducted at 18, 36, and 60 months following diagnosis. Total mortality and breast cancer recurrence, or breast-cancer-related deaths, were recorded, adjustments were made for influencing lifestyle factors, and soy food intake was treated as a time-dependent variable.

During the four-year follow-up, soy food intake (measured as soy protein or soy isoflavone intake) was inversely associated with death and recurrence. **Those with the highest level of soy intake had a 29% reduced risk for death and a 32% reduced risk for recurrence compared with those having the lowest soy intake levels.** Adjusted four-year mortality rates were 10.3% for those with the lowest and 7.4% for those with the highest soy intake. Four-year recurrence rates were 11.2% for women with the lowest and 8% for those with the highest levels of soy protein intake. The inverse association was evident among women with either estrogen-receptor positive or negative breast cancer, and was present in both users and nonusers of tamoxifen. As American subjects may respond differently to the effects of soy compared to breast cancer survivors in China, the potential benefit may not be the same.

The authors conclude that among women with breast cancer, soy food consumption was significantly associated with decreased risk of death and recurrence. As mentioned earlier, this is an important study that helps to clarify the safety of soy food intake in breast cancer patients. Scientists are still trying to understand all of soy's hormonal effects. For example, it's possible that soy acts like the breast cancer drug tamoxifen, which blocks the effects of estrogen, but additional research is needed to confirm or dismiss this possibility.

In addition to its potential breast health benefits, soy foods are a source of high quality protein nutrition and an excellent alternative to traditional protein sources that are often laden with excess calories, fat, saturated fat, and cholesterol. In fact, when considering the entire body of scientific research on soy, the majority of scientific data strongly supports the value of soy protein as part of a healthy diet for heart health, breast and prostate health, bone health, and for managing menopausal symptoms. So our position has been and continues to be: When soy foods are consumed as part of an overall healthful diet, they are exceedingly safe, nutritious, and potentially beneficial.

But because safety should be your number one concern and each individual is a special case, all women with a history of breast cancer, or those at high risk, should discuss the use of soy protein as part of a healthful diet with their physician.