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# Soy and Breast Cancer



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## An Update

It's been ingrained in so many women with breast cancer or at risk for breast cancer to avoid soy products. This recommendation was based on the fact that soy is high in isoflavones, a component that mimics estrogen. Higher estrogen levels in the body are a known risk factor for breast cancer. The theory was that eating soy foods would thus increase risk. Studies conducted on mice seemed to confirm this concept. Although these were only laboratory and animal studies, most healthcare practitioners erred on the side of caution and discouraged consumption of soy foods. However, studies on humans published over the past few years have brought new data to this story and suggest that soy foods do not in fact raise the risk for breast cancer.

Three of these studies were done in Asia, where soy products are consumed regularly and the incidence of breast cancer is lower than in the United States. Subjects of the study were breast cancer survivors. The women who consumed the most soy foods had decreased risk of recurrence and decrease in death due to breast cancer compared with the women with the lowest soy consumption. However, some people questioned whether these results would be true for women in the United States, where soy foods are not eaten regularly.

Fortunately, two studies conducted in the US also addressed the soy-breast cancer connection. One study involved 3,088 breast cancer survivors (called the WHEL study) and the other had 2,280 (the LACE study). Both of these studies confirmed the work done in Asia. And as in the Asian studies, the US results showed a greater benefit for women with estrogen receptor positive cancers. One of the studies also showed better results for postmenopausal women and women who used tamoxifen. For women with other types of breast cancer, including estrogen receptor negative, soy foods appeared neutral, that is, they didn't show a significant benefit, but neither did they show any harm.

Another interesting finding from this body of studies is that starting to eat soy foods from at least the adolescent years, when the body is developing, may be the most protective against breast cancer in the future.

How much soy food did these women eat to gain the benefit? In the US studies, having about four servings per week was sufficient to put the participants in the highest-consumption group. So, we're not talking about eating soy all day every day. In Asian cultures, consuming two to three servings per day is common. In one of the studies done in China, it was noted that there was no added benefit by consuming more than two servings per day.

Typical soy foods in this country are tofu, tempeh, edamame, soy nuts and soy milk/yogurt (see chart for serving sizes). Each serving provides about 7 grams of protein and 25

milligrams of isoflavones. For processed foods, such as nutrition bars, veggie burgers and the like, you may have to check with the manufacturer to determine the isoflavone content.

Beyond the estrogen effect, soy appears to be protective against cancer in other ways. It contains anti-oxidants, which protect cells from damage, and anti-inflammatories, which help create an environment in the body that is anti-cancer.

Though these studies have shed some light on the soy-breast cancer controversy, they do raise issues for further study. For example, among women consuming soy, are there other factors that contribute to their better overall outcomes? For example, do they follow a healthier lifestyle, including eating a healthy diet, exercising and watching their weight?

**The bottom line:** soy foods appear protective or at least neutral in terms of breast cancer risk. Women should feel comfortable eating a balanced diet that includes soy foods.

<b>Soy Food</b>	<b>Serving Size</b>
Tofu	½ cup (4 ounces)
Tempeh	½ cup (3 ounces)
Edamame	½ cup
Soybeans, cooked	½ cup
Soymilk/yogurt	1 cup
Soy nuts	¼ cup

*Each serving has approximately 7 grams of protein and 25 milligrams of isoflavones*

*Source: Smart Bytes newsletter, Karen Collins, MS, RD, CDN, February 6, 2013.*

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**For more information:**

God's Love We Deliver, Nutrition Services Department  
212-294-8103 or 800-747-2023

[nutrition@glwd.org](mailto:nutrition@glwd.org)

[www.glwd.org](http://www.glwd.org)