

# SOY FOODS

## and Isoflavones

### ***Should I eat soy food products or take isoflavones?***

**RECOMMENDATION:** Include soymilk and other soy products in your balanced diet - don't rely on taking soy extracts or isoflavone supplements until more research is done.

### **What's the evidence?**

#### **For Prostate Cancer *Prevention*?**

Soy food products and supplements might prevent prostate cancer:

- Studies show that eating soy foods like soymilk or tofu helps prevent prostate cancer, as seen by the lower number of prostate cancer deaths in parts of the world where lots of soy foods are eaten.<sup>1</sup>
- In other studies soy extracts and isoflavones were found to slow or stop the growth of prostate cancer cells in research labs.<sup>2</sup>

#### **For Prostate Cancer *Treatment*?**

Soy food products and supplements might prevent the progression or recurrence of prostate cancer:

- Eating soy foods like tofu or soymilk might improve Prostate Specific Antigen (PSA) levels and reduce treatment side effects for some patients.
  - Most men diagnosed with prostate cancer can safely eat a variety of soy foods as part of a balanced diet.
  - Drinking 2-3 glasses (around 500 ml) of soymilk per day gives roughly the amount of isoflavones (around 200 milligrams) that have shown beneficial effects.<sup>3</sup>
- Soy extracts and isoflavone supplements might slow the growth of prostate cancer cells.
  - The effects of soy supplements on PSA levels have been positive in several studies.
  - There is not enough proof to recommend the safe use - especially in large doses - of soy extracts or isoflavone supplements to slow down or stop prostate cancer from returning.

**Much of these benefits are thought to be from the phytoestrogens naturally found in soy foods:**

#### **Phytoestrogens:**

- Plant compounds with weak estrogen hormone activity might lower the risk of prostate cancer by reducing testosterone hormone activity.
  - Soy food products are our biggest dietary source of phytoestrogens.
  - Isoflavones are the most common phytoestrogens in our diets.
  - Soy based dietary supplements rich in phytoestrogens are available, including soy extracts and isoflavone supplements.

#### **Isoflavones:**

- The most common and well-studied isoflavones are genistein and daidzein and these can also be found in supplements.
- Isoflavones might also protect against osteoporosis and cardiovascular disease (by lowering blood cholesterol levels).

Eating balanced diets that include soy food products like soymilk and tofu - rich in isoflavones - might help prevent prostate cancer in healthy men and might also reduce cancer progression or recurrence for men diagnosed with prostate cancer.

## The bottom line: Eat food not supplements!

Until further studies are done, increasing your isoflavone intake through food is best. One serving of most soy foods provides a similar amount of isoflavones, and at a lower price than supplements.

### Soy products:

- **Soy milk** – also called soy beverage. Made from soybeans that have been soaked, ground and strained. A great alternative to cow's milk, go for brands enriched with Calcium and Vitamin D. Avoid fat-free as isoflavones are fat-soluble.
- **Tofu** – soybean curd available with varying moisture content and firmness, from soft to extra firm.
- **Edamame** – young, green, often boiled or steamed soybeans.
- **Tempeh** – fermented soybeans molded into a cake. An excellent meat alternative.
- **Soy meat substitutes** – made from soy flour, these foods are high in protein, have a similar texture to ground meat, and can easily be used in place of meat in dishes such as chili and pasta sauce.
  - Look for meatballs, veggie burgers and other products in the grocery store.
  - Also known as textured vegetable protein (TVP) or textured soy protein (TSP) these products have the added bonus of, unlike meat, being high in fibre!
- **Soy protein powder** - can be used like skim milk powder. Add to milk, soy milk or use in cooking.
- **Soy sauce** and **Tamari** - little or no isoflavones and lots of salt and monosodium glutamate (MSG) so don't use too much.

1. Yan L, & Spitznagel EL. Soy consumption and prostate cancer risk in men: a revisit of a meta-analysis. *American Journal of Clinical Nutrition*. 2009; 89(4):1155-1163
2. Goetzl MA, et al. Effects of soy phytoestrogens on the prostate. *Prostate Cancer & Prostatic Diseases*. 2007; 10(3):216-223
3. Kwan W, et al. A phase II trial of a soy beverage for subjects without clinical disease with rising prostate-specific antigen after radical radiation for prostate cancer. *Nutrition & Cancer*. 2010; 62(2):198-207.

## I've never had soy products before, but want to start eating them

### Add soy foods to your diet:

- Start by eating small amounts
  - Mix soymilk with regular milk to get used to the taste.
  - Snack on low-salt, roasted soy nuts, they come in many flavours.
  - Try using soy products in your meals - like using tofu instead of meat in a stir-fry.
- Soy foods are rich in high-quality protein and a great lower-fat alternative to animal foods like meat.
- Generally, the more processed the soy product (such as tofu hot dogs and soy cheese), the lower the isoflavone content - however, the amounts of phytoestrogens in different soy foods can vary considerably.
- The amounts of fat and added sugar can also vary between brands, so choose wisely to get the maximum benefit from soy without eating too much fat and sugar.

Approximate isoflavone content for various foods in milligrams (mg)

Food item	Serving/amount		Isoflavone content
Soy nuts, roasted	¼ cup	43 g	64 mg
Tofu, firm	½ cup	126 g	28 mg
Soymilk	1 cup	250 ml	27-46 mg
Soy protein powder	1 oz (1½ tbsp)	28 g	25 mg
Soy yogurt	½ cup	68 g	22 mg
Soy cheese	2 oz	60 g	16 mg
Soy beans, 'edamame'	½ cup	78 g	14 mg
Soy meat substitute 'veggie burger'	1 burger	100 g	7 mg

USDA Database for the Isoflavone Content of Selected Foods Release 2.0 September 2008.  
Web site: <http://www.ars.usda.gov/Services/docs.htm?docid=6382>

**This information is not meant to replace advice from your doctor or dietitian.**



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