



The Implications of the Soy Protein in the Ideal Protein Weight Loss Method

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The question: "Is soy good for you, or is soy bad for you?" has been a sort of conundrum for both the traditional medical as well as the alternative medical communities. This applies to the layperson as well as the medical professional. The concern of soy products in the diet, particularly when one has a history (family or personal) of cancer – especially uterine, breast or ovarian is certainly a valid one. There are also concerns about soy's ability to block mineral absorption and negatively impact thyroid function.

As a practicing clinical pharmacist, I will attempt to give an objective overview on the facts of this matter and encourage any Ideal Protein dieter or prospective dieter to discuss them with her (his) physician or healthcare provider. Hopefully then, one will be able to make an informed choice rather than one based on generalizations.

It is important to note that soya beans are not the only legume that contains phytosterols, in fact most other legumes also contain these compounds. While on the Ideal Protein Weight Loss Method, the dieter will not be consuming any other legume, hence their total phytosterol consumption will be appreciably less than it was prior to beginning our protocol. Also these compounds **are not proteins!** Our labs only extract the protein fractions from the soya bean therefore, there are very little phytoestrogens in our soya foods.

Soya and the Thyroid

Some articles state that the soya bean contains a substance called "phytic acid". They mention that this compound will bind to certain minerals and prevent your body from absorbing them. The articles also state that phytic acid blocks nutrients such as iodine and zinc, and can negatively affect your thyroid function. However, most people participating in the Ideal Protein Weight Loss Method (which contains many soy based products) see their thyroid function improve! We know this because many have to reduce their doses of thyroid replacement therapy drugs (such as levothyroxine) or discontinue them altogether.

Soy Isoflavones

The components of soy that generate the most controversy with respect to reproductive cancers are the isoflavones, particularly genistein and diadzein. It is very important to understand that these chemicals are not proteins, they are phytosterols (waxy alcohols, i.e. carbohydrates). These phytochemical compounds are generally regarded as weak estrogen receptor agonists – meaning they can bind to the estrogen receptors in the body and mildly stimulate them.

In pharmacology, we believe they exert their effects in the following manner. When they are present in the body with physiological amounts of naturally occurring estrogens, they act as "blockers" that are binding to the estrogen receptors and exerting less of an effect than if estradiol (estrone or estriol) would have occupied that receptor site. The net effect is that there is less overall estrogen stimulation in the woman's body than if they were not present. This could be very important if the woman has a history of reproductive cancer (personal or familial). In postmenopausal women, these same compounds may actually increase overall estrogen activity because now there is a much lower physiological amount of estrogen in her system. Thus, weakly stimulating the receptors that would have otherwise been "vacant" causes a great overall estrogenic response than would otherwise be expected. Essentially, they have the ability to stimulate or block estrogen activity, depending on the woman's circulating amounts of natural estrogens.

It get's a little more complicated. There is a prescription drug, tamoxifen citrate, which works in exactly the same way. It is indicated for treatment of metastatic, estrogen receptor-positive breast cancer, following surgery, radiation



and/or chemotherapy. The drug manufacturer had to submit proof to the FDA that treatment with this medication actually improved patient outcomes over treatment with placebo (the sugar pill). Having proved that, they also had to admit that the medication did seem to statistically increase the risk for endometrial cancer.

The compounds probably are not a good idea to take if you have a concern about certain female cancers. In the following pages, we will discuss other aspects that we must consider.

Isoflavones in Soy Products

The following table shows the amounts of soy isoflavones in different soy products.¹

| Soy Product | Portion | Isoflavones (mg) |
|-----------------------------|--------------------|------------------|
| Raw soybeans | ½ cup (34 g) | 176 |
| Roasted soybeans (soy nuts) | ½ cup (30 g) | 167 |
| Tempeh | 4 oz (19 g) | 61 |
| Soy protein | 1 oz (26 g) | 57 |
| Soy Flour | ¼ cup (8 g) | 44 |
| Tofu | 4 oz (18 g) | 38 |
| Textured soy protein | ¼ cup (18 g) | 28 |
| Soy milk | 8 oz. (10 g) | 20 |

Ideal Protein uses a **soy protein isolate**, meaning that only part of the protein powder is used. Since most of the isoflavones have been filtered out, we are only concerned with the amino acid profile of the protein.

Isoflavones in Other Legumes

The soybean is not the only bean to contain these phytochemicals. The following chart (in parts per million) from the same source¹ shows the relative amounts these substances in other beans. Consuming say a 4 oz. portion of any one of these could easily add up to more isoflavones than contained in most Ideal Protein packets. A 4 oz. portion is not particularly large. It is the equivalent of ¼ of a 16 oz. can of baked beans.

If other beans were part of your pre-Ideal Protein diet but you've replaced them with Ideal Protein foods instead, your total isoflavone consumption will probably remain fairly constant.

| Legume | Genistein | Daidzein | Total |
|----------------------|-----------|----------|-------|
| Soy beans | 24 | 38 | 62 |
| Black beans | 45 | 0 | 45 |
| Pinto beans | 22 | 23 | 45 |
| Lima beans | 40 | 0 | 40 |
| Kidney beans | 29 | 3 | 32 |
| Red lentils | 25 | 5 | 30 |
| Fava beans | 20 | 5 | 25 |
| Great Northern beans | 17 | 7 | 24 |
| Black-eyed peas | 23 | 0 | 23 |
| Mung beans | 22 | 0 | 22 |

Ibid; P.380.

¹Castleman, M. The New Healing Herbs; Rodale, 2001: p378.



Considerations Concerning Cancer

If you have been diagnosed with cancer (active or in remission), you should consult your oncologist before starting any dietary regimen. The primary focus of medical treatment for cancer is the elimination of all cancer cells from the body. This may be accomplished through surgery, chemotherapy, radiation or a combination thereof. These techniques, which have proven very effective, often leave the patient with a weakened or depressed immune system. Proper nutritional support therefore becomes very important in the patient's post treatment phase in order to insure the best chance for a successful outcome. Nutritional support for the immune system is certainly of paramount importance, but changing the body's internal environment in order to make it as inhospitable to cancer cells should also be addressed.

Cancer Cells Can Only Use Glucose for Energy

Cancer cells are very primitive and only use glucose as a source of energy. Consequently, they cannot use ketonic bodies as a fuel source. Ketonic bodies and fatty acids are the primary fuels produced during the Ideal Protein Weight Loss Method and these cannot be used by cancer cells – we are depriving them of their “fuel of choice”.

A person with high levels of blood glucose and/or overweight is at risk for many types of cancers. When starting the Ideal Protein Weight Loss Method, a dieter should see improvements in his blood glucose levels as carbohydrates and sugars are significantly reduced from his daily food intake.

Insulin and Cell Division

The pituitary gland produces the growth hormone. The growth hormone has some relatively minor effects of its own but the major effects produced when the liver transforms this single substance into its more active components. These are known as insulin-like growth factors (IgF₁, IgF₂, IgF₃, and IgF₄).

The structure of these hormones is almost identical to the structure of insulin. When insulin levels are chronically high (due to a diet high in carbohydrates), insulin can stimulate the system, with some of the same receptors that these hormones do, which causes cells to divide. We say insulin causes cell proliferation because it cross-reacts with IgF receptors. This plays an important role in the development of cancer, where cells are characterized by rapid cell division. This is yet another reason why low levels of insulin are beneficial.