

## Soy Infant Formula: Birth Control Pills for Babies

Babies fed soy-based formula have 13,000 to 22,000 times more estrogen compounds in their blood than babies fed milk-based formula. Infants exclusively fed soy formula receive the estrogenic equivalent of at least five birth control pills per day.

Male infants undergo a testosterone surge during the first few months of life, when testosterone levels may be as high as those of an adult male. During this period, baby boys are programmed to express male characteristics after puberty, not only in the development of their sexual organs and other masculine physical traits, but also in setting patterns in the brain characteristic of male behavior.

In animals, studies indicate that phytoestrogens in soy are powerful endocrine disrupters. Soy infant feeding—which floods the bloodstream with female hormones that inhibit testosterone—cannot be ignored as a possible cause of disrupted development patterns in boys, including learning disabilities and attention deficit disorder. Male children exposed to DES, a synthetic estrogen, had testes smaller than normal on maturation and infant marmoset monkeys fed soy isoflavones had a reduction in testosterone levels up to 70 percent compared to milk-fed controls.

Almost 15 percent of white girls and 50 percent of African American girls show signs of puberty, such as breast development and pubic hair, before the age of eight. Some girls are showing sexual development before the age of three. Premature development of girls has been linked to the use of soy formula and exposure to environmental estrogen-mimickers such as PCBs and DDE.

Intake of phytoestrogens even at moderate levels during pregnancy can have adverse affects on the developing fetus and the timing of puberty later in life.

## Soy Dangers Summarized

High levels of phytic acid in soy reduce assimilation of calcium, magnesium, copper, iron and zinc. Phytic acid in soy is not neutralized by ordinary preparation methods such as soaking, sprouting and long, slow cooking, but only with long fermentation. High phytate diets have caused growth problems in children.

Trypsin inhibitors in soy interfere with protein digestion and may cause pancreatic disorders. In test animals, soy containing trypsin inhibitors caused stunted growth.

Soy phytoestrogens disrupt endocrine function and have the potential to cause infertility and to promote breast cancer in adult women.

Soy phytoestrogens are potent antithyroid agents that cause hypothyroidism and may cause thyroid cancer. In infants, consumption of soy formula has been linked to autoimmune thyroid disease.

Vitamin B<sub>12</sub> analogs in soy are not absorbed and actually increase the body's requirement for B<sub>12</sub>.

Soy foods increase the body's requirement for vitamin D. Toxic synthetic vitamin D<sub>2</sub> is added to soy milk.

Fragile proteins are over-denatured during high temperature processing to make soy protein isolate and textured vegetable protein.

Processing of soy protein results in the formation of toxic lysinoalanine and highly carcinogenic nitrosamines.

Free glutamic acid or MSG, a potent neurotoxin, is formed during soy food processing and additional amounts are added to many soy foods to mask soy's unpleasant taste.

Soy foods contain high levels of aluminum, which is toxic to the nervous system and the kidneys.

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# Soy Alert!



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# Myths and Truths About Soy

**Myth:** Use of soy as a food dates back many thousands of years.

**Truth:** Soy was first used as a food during the late Chou dynasty (1134-246 BC), only after the Chinese learned to ferment soybeans to make foods like *tempeh*, *natto* and *tamari*.

**Myth:** Asians consume large amounts of soy foods.

**Truth:** Average consumption of soy foods in China is 10 grams (about 2 teaspoons) per day and 30 to 60 grams (1-2 tablespoons) per day in Japan. Asians consume soy foods in small amounts as a condiment, and not as a replacement for animal foods.

**Myth:** Modern soy foods confer the same health benefits as traditionally fermented soy foods.

**Truth:** Most modern soy foods are not fermented to neutralize toxins in soybeans, and are processed in a way that denatures proteins and increases levels of carcinogens.

**Myth:** Soy foods provide complete protein.

**Truth:** Like all legumes, soybeans are deficient in sulfur-containing amino acids methionine and cystine. In addition, modern processing denatures fragile lysine.

**Myth:** Fermented soy foods can provide vitamin B<sub>12</sub> in vegetarian diets.

**Truth:** The compound that resembles vitamin B<sub>12</sub> in soy cannot be used by the human body; in fact, soy foods cause the body to require more B<sub>12</sub>.

**Myth:** Soy formula is safe for infants.

**Truth:** Soy foods contain trypsin inhibitors that inhibit protein digestion and adversely affect pancreatic function. In test animals, diets high in trypsin inhibitors led to stunted growth and pancreatic disorders. Soy foods increase the body's requirement for vitamin D, needed for strong bones and normal growth. Phytic

acid in soy foods results in reduced bioavailability of iron and zinc which are required for the health and development of the brain and nervous system. Soy also lacks cholesterol, likewise essential for the development of the brain and nervous system. Megadoses of phytoestrogens in soy formula have been implicated in the current trend toward increasingly premature sexual development in girls and delayed or retarded sexual development in boys.

**Myth:** Soy foods can prevent osteoporosis.

**Truth:** Soy foods can cause deficiencies in calcium and vitamin D, both needed for healthy bones. Calcium from bone broths and vitamin D from seafood, lard and organ meats prevent osteoporosis in Asian countries—not soy foods.

**Myth:** Modern soy foods protect against many types of cancer.

**Truth:** A British government report concluded that there is little evidence that soy foods protect against breast cancer or any other form of cancer. In fact, soy foods may result in an increased risk of cancer.

**Myth:** Soy foods are safe and beneficial for women to use in their postmenopausal years.

**Truth:** Soy foods can stimulate the growth of estrogen-dependent tumors and cause thyroid problems. Low thyroid function is associated with difficulties in menopause.

**Myth:** Soy foods protect against heart disease.

**Truth:** In some people, consumption of soy foods will lower cholesterol, but there is no evidence that lowering cholesterol with soy protein lowers one's risk of having heart disease.

**Myth:** Phytoestrogens in soy foods can enhance mental ability.

**Truth:** A recent study found that women with the highest levels of estrogen in their blood had the lowest levels of cognitive function; in Japanese Americans,

tofu consumption in mid-life is associated with the occurrence of Alzheimer's disease in later life.

**Myth:** Soy estrogens (isoflavones) are good for you.

**Truth:** Soy isoflavones are phyto-endocrine disruptors. At dietary levels, they can prevent ovulation and stimulate the growth of cancer cells. As little as four tablespoons of soy per day can result in hypothyroidism with symptoms of lethargy, constipation, weight gain and fatigue.

**Myth:** Soy isoflavones and soy protein isolate have GRAS (Generally Recognized as Safe) status.

**Truth:** Archer Daniels Midland had to withdraw an application to the FDA for GRAS status for soy isoflavones following an outpouring of protest from the scientific community. The FDA never approved GRAS status for soy protein isolate because of concern regarding the presence of toxins and carcinogens in processed soy.

**Myth:** Soy foods are good for your sex life.

**Truth:** Numerous animal studies show that soy foods cause infertility in animals. Soy consumption lowers testosterone levels in men. Tofu was consumed by Buddhist monks to reduce libido.

**Myth:** Soybeans are good for the environment.

**Truth:** Most soybeans grown in the US are genetically engineered to allow farmers to use large amounts of herbicides, creating toxic runoff.

**Myth:** Soybeans are good for developing nations.

**Truth:** In third world countries, soybeans replace traditional crops and transfer the value-added of processing from the local population to multinational corporations.

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