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# Soy allergy

## Introduction

Soy allergy affects approximately 1 percent of people in the United States. Soy, also called soya, is among the top eight most common foods that trigger allergies in children. In many cases soy allergy starts with a reaction to a soy-based infant formula. Although most children outgrow soy allergy by age 3, soy allergy may persist and is becoming more common in adults.

In most cases signs and symptoms of soy allergy are mild. Severe allergic reactions are more common with other food allergens than with soy, but in rare cases, soy allergy can cause a life-threatening allergic reaction (anaphylaxis). Deaths linked to soy allergy have occurred in people who also had both severe peanut allergy and asthma. You can reduce your risk of having an allergic reaction to soy by knowing as much as you can about soy allergy and how to avoid soy-containing products.

If you — or your child — have a reaction to soy, tell your doctor about it, no matter how mild the reaction may have been. Tests can help confirm a soy allergy, so you can take steps to avoid future and potentially worse reactions.

## Signs and symptoms

For most people, an allergic reaction to soy is uncomfortable but not serious. Rarely, an allergic reaction to soy can be frightening and even life-threatening. Signs and symptoms of a food allergy usually develop within a few minutes to an hour after eating soy-containing food.

Symptoms of a soy allergy can include:

- Tingling in the mouth
- Hives, itching or eczema
- Swelling of the lips, face, tongue and throat, or other parts of the body
- Canker sores
- Wheezing, runny nose or trouble breathing
- Abdominal pain, diarrhea, nausea or vomiting
- Dizziness, lightheadedness or fainting

A severe allergic reaction to soy — called anaphylaxis — is rare. It's more likely to occur in people who have asthma or are also allergic to other foods

such as peanuts. Anaphylaxis causes more extreme signs and symptoms including:

- Constriction of airways, including a swollen throat or a lump in your throat, that makes it difficult to breathe
- Shock, with a severe drop in blood pressure
- Rapid pulse
- Dizziness, lightheadedness or loss of consciousness

Soy allergy in infants often begins with the introduction of a soy-based formula. In many cases, soy allergy develops when a child is switched to a soy-based formula after an allergic reaction to a milk-based formula. An allergic reaction to soy may occur after one to two weeks of starting a soy formula, and is often characterized by skin and digestive problems.

## Causes

All food allergies are caused by an immune system malfunction. Your immune system identifies certain soy proteins as harmful, triggering the production of immunoglobulin E (IgE) antibodies to neutralize the soy protein (allergen). The next time you come in contact with soy, these IgE antibodies recognize it and signal your immune system to release histamine and other chemicals into your bloodstream.

Histamine and other body chemicals cause a range of allergic signs and symptoms. Histamine is partly responsible for most allergic responses, including runny nose, itchy eyes, dry throat, rashes and hives, nausea, diarrhea, labored breathing, and even anaphylactic shock.

Researchers have identified at least 16 possible soy protein allergens — but exactly how they cause an allergic reaction is still not clear.

## Risk factors

Certain factors may put you at greater risk of developing a soy allergy:

- **Family history.** You're at increased risk of allergy to soy or other foods if allergies, such as hay fever, asthma, hives or eczema, are common in your family.
- **Age.** Soy allergy is most common in children, especially toddlers and infants. As you grow older, your digestive system matures and your body is less likely to absorb food or food components that trigger allergies.
- **Other allergies.** In some cases, people who are allergic to wheat, beans (legumes), milk or other foods can have an allergic reaction to soy.

## When to seek medical advice

See a doctor or allergist if you experience food allergy symptoms shortly after eating. If possible, see your doctor when the allergic reaction is occurring. This

will aid in making a diagnosis.

Seek emergency treatment if you develop any signs or symptoms of anaphylaxis, such as:

- Constriction of airways that makes it difficult to breathe
- Shock, with a severe drop in blood pressure
- Rapid pulse
- Dizziness or lightheadedness

## Screening and diagnosis

Your doctor will ask about your symptoms and may perform a physical exam to find or rule out other medical problems. He or she may also recommend one or both of the following tests:

- **Skin test.** In this test, your skin is pricked and exposed to small amounts of the proteins found in soy. If you're allergic, you develop a raised bump (hive) at the test location on your skin. Allergy specialists usually are best equipped to perform and interpret allergy skin tests.
- **Blood test.** A blood test can measure your immune system's response to soy by measuring the amount of certain antibodies in your bloodstream, known as immunoglobulin E (IgE) antibodies. A blood sample is sent to a medical laboratory, where it can be tested for evidence of sensitivity to soy.

## Treatment

The only way to prevent an allergic reaction is to avoid soy and soy proteins altogether.

Medications, such as antihistamines, may reduce signs and symptoms of soy allergies. These drugs can be taken after exposure to soy to control your reaction and help relieve discomfort.

Despite your best efforts, you may still come into contact with soy. If you have a serious allergic reaction, you may need an emergency injection of epinephrine (adrenaline) and a trip to the emergency room. If you're at risk of having a severe reaction, you may need to carry injectable epinephrine (such as an EpiPen) with you at all times.

## Prevention

There is no sure way to prevent a food allergy from occurring. But if you have an infant, breast-feeding instead of using a soy-based or milk-based formula may help. Experts recommend breast-feeding for at least the first four to six months to reduce the risk of food allergies and for other health benefits.

If you know you are allergic to soy, the only sure way to avoid an allergic reaction is to avoid soy products. Know what you're eating and drinking. Be

sure to read food labels carefully. Because soybeans and peanuts contain common allergy-causing components, you may also need to avoid peanuts too. Some processed soy foods, such as soy oil or soy sauce, may not cause a reaction because processing removes certain allergy-causing proteins.

Soy milk, tofu and other soy products have become more popular in the United States because of their apparent health benefits. These products are easy to identify — and avoid. But soy is also a common ingredient in other food products. It's used in meat products and meat substitutes, baked goods, candies, ice creams and desserts, condiments, butter substitutes, and in other foods.

### **Products with soy as a main ingredient**

- Tofu
- Miso
- Natto
- Tempeh
- Tamari soy sauce
- Soy sauce (these include shoyu and tamari)
- Soy flour
- Soy nuts
- Soy milk
- Soy sprouts

### **Hidden sources of soy products**

- Hydrolyzed vegetable protein (HVP)
- Textured vegetable protein (TVP)
- Lecithin
- Monodiglyceride
- Monosodium glutamate (MSG)
- Vegetable oil
- Vitamin E
- Natural flavoring
- Vegetable broth
- Vegetable gum
- Vegetable starch

If you are at risk of a serious allergic reaction, talk with your doctor about carrying emergency epinephrine (adrenaline). If you have already had a severe reaction, wear a medical alert bracelet or necklace that lets others know that you have a food allergy.

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