

Soya allergy: the facts

Soya is a food derived from the soya bean, which is a legume.

This factsheet aims to answer some of the questions you and your family might have about living with a soya allergy. Our aim is to provide information that will help you to:

- avoid soya
- minimise risks
- know how to treat an allergic reaction should it occur

There are two types of soya allergy: “IgE mediated” soya allergy, caused by antibodies known as immunoglobulin E (or IgE), and “non-IgE mediated” soya allergy. Both are discussed in this factsheet.

Allergy to soya is uncommon in the UK compared with milk, egg, peanut and fish allergies. Some reports suggest that children with soya allergy have a good chance of outgrowing it, but how often this occurs is not known.

If you know or suspect you are allergic to soya, the most important thing is to visit your GP and request a referral to an allergy clinic for allergy testing – even if your symptoms have so far been mild. Future symptoms could be more severe. It is also important to know which of the two types of soya allergy is causing you problems.

IgE mediated soya allergy – immediate reactions

If you have IgE mediated soya allergy, your body produces a type of antibody known as IgE. These antibodies mistakenly recognise a protein within soya as being harmful. In response, they release chemicals, including histamine, to attack them. This release of chemicals leads to the symptoms that are commonly experienced during an allergic reaction. IgE mediated reactions tend to occur very soon after eating soya, usually within seconds or minutes.

Common symptoms of IgE mediated soya allergy

The symptoms of this kind of food allergy can come on rapidly. These may include nettle rash (also known as hives or urticaria) anywhere on the body, or a tingling or itchy feeling in the mouth. Most people with soya allergy, including children, experience only mild symptoms, but on very

rare occasions serious symptoms occur.

More serious symptoms of a food allergy may include:

- swelling in the throat and/or mouth
- difficulty breathing
- severe asthma
- abdominal (stomach) pain, feeling sick and vomiting
- feeling faint, dizzy, or very sleepy

The term for this more serious reaction is anaphylaxis. In extreme cases there could be a dramatic fall in blood pressure. The person may become weak and floppy and may have a sense of something terrible happening. This may lead to collapse and unconsciousness.

In one study that looked at 55 Japanese children who were allergic to soya, reactions most often involved the skin. Other children experienced symptoms in the mouth, difficulty breathing and diarrhoea. There was one case of anaphylaxis.

Most healthcare professionals consider an allergic reaction to be anaphylaxis when it involves difficulty in breathing or affects the heart rhythm or blood pressure. Read our anaphylaxis factsheet for further information: <https://www.anaphylaxis.org.uk/fact-sheet/anaphylaxis-the-facts/>

Non-IgE mediated soya allergy

IgE antibodies are not involved in non-IgE mediated soya allergies. This type of reaction is delayed by more than two hours and, in some cases, up to 48 hours.

Symptoms of non-IgE mediated soya allergy

Non-IgE mediated soya allergies tend to involve the digestive system, giving rise to symptoms such as stomach pains, diarrhoea (which might be bloody), vomiting, reflux and colic. Atopic dermatitis (a type of eczema) is another possible symptom which often coexists with the bowel problems.

In rare cases, FPIES (Food Protein Induced Enterocolitis Syndrome) can occur. This is more

common in babies and young infants. Typically, symptoms of FPIES include diarrhoea and severe and repeated vomiting. Symptoms occur two or three hours after exposure to the allergen (in this case soya). FPIES can result in drastic fluid loss from the circulation leading to collapse with shock. This is a medical emergency and urgent hospital admission is required.

Getting a diagnosis

It is important to see your GP as soon as possible if you suspect you have symptoms triggered by soya. Your doctor will probably need to refer you to an allergy clinic. Anyone who has suffered anaphylaxis should certainly be referred. Your GP can locate an allergy clinic in your area by visiting the website of the British Society for Allergy and Clinical Immunology (<http://www.bsaci.org>).

Once you get a referral, the consultant will discuss your symptoms with you in detail as well as your medical history. It is important to have appropriate tests (such as skin prick tests) and to have the results reviewed and interpreted by a specialist. In cases where some uncertainty about a diagnosis remains, the consultant may recommend a “food challenge”. This is where the patient eats a small amount of soya, increasing the amount gradually, to test whether or not a reaction will occur. This must only be done by an experienced consultant in a medical setting.

Even when there is a positive diagnosis of IgE mediated soya allergy, allergy consultants have no way of telling you how severe your next allergic reaction is going to be. It is not true that each allergic reaction is more severe than the last one. The next reaction might be just the same, it might be mild, or it could be a lot more severe.

Your history may contain important clues about the severity of your allergy. For example, the seriousness of any past reaction and the amount of soya that caused it are important factors. If you have reacted to a very small amount of a food containing soya, your allergy may be severe.

The risk of an allergic reaction to soya is likely to be higher if you have asthma that is poorly controlled. See your GP for advice on how to keep your asthma in check.

Treating symptoms of IgE mediated soya allergy

Mild symptoms can be treated with antihistamines. But if your doctor or allergy specialist believes your symptoms are likely to be severe, you may be prescribed an adrenaline auto-injector (AAI)

for self-use in an emergency.

The Medicines and Healthcare products Regulatory Agency (MHRA) recommends that two AAls should be available at all times. This is in case one is broken or misfires, or a second injection is needed before emergency help arrives. Anaphylaxis UK supports this view. Read our adrenaline factsheet for further information: <https://www.anaphylaxis.org.uk/fact-sheet/adrenaline/>

Treating symptoms of non-IgE mediated soya allergy

The main treatment of non-IgE mediated soya allergy is avoidance of soya. If eczema is a symptom, treatments for this may be prescribed. Where there is a condition known as eosinophilic oesophagitis, with reflux symptoms and pain, treatment may include a topical steroid preparation.

Avoiding soya

Soya (also known as soy) is a common ingredient in many processed foods. Soya beans are often called edamame when fresh or frozen.

Once you have a confirmed soya allergy diagnosis, it is important to exclude your allergen from your diet. It is vital to read food labels carefully every time you shop. Remember that ingredients in products sometimes change.

All pre-packaged food sold within the UK must declare and highlight, in the ingredient list, major allergens including soya, even if they appear in small quantities. You should question staff in restaurants, takeaways and other catering establishments. You can find more information on shopping and preparing food here: <https://www.anaphylaxis.org.uk/living-with-serious-allergies/shopping-and-preparing-food/> and on eating out here: <https://www.anaphylaxis.org.uk/living-with-serious-allergies/eating-out/>

Soya is used in a wide range of foods. Examples include:

- tofu – another name for soya bean curd. Tofu is a concentrated form of soya and is often used as a protein source for vegetarians or others cutting down on meat. Soya bean curd is traditionally used in some stir fries and soups in the Far East.

- soya flour – soya flour is used extensively in the bakery industry and is present in many types of bread. Other foods to watch out for include cakes and biscuits.
- infant foods – some may contain soya flour.
- vegetable protein – hydrolysed vegetable protein (HVP) and textured vegetable protein (TVP)
- lecithin – lecithin (E322) is an emulsifier normally derived from unrefined soya oil and occasionally from rapeseed oil. Although the risk of reaction to soya lecithin may be small, we advise that you seek advice from your doctor or allergy specialist about whether you should avoid it.
- soya sauce – also known as soy sauce. This is widely used in Far Eastern recipes and is also commonly used to add a savoury flavour to soups, gravies, stews and sauces.
- medicines – always ask your pharmacist if soya is an ingredient of medicines.

Soya oil

Soya oil, which may be found in foods including salad dressings, margarines and spreads, has been subject to research and a full risk assessment. The European Food Safety Authority (EFSA) believes “it is not very likely” that fully refined soya oils would trigger a severe allergic reaction in people who are allergic to soya. It is more likely that unrefined soya oil will trigger allergic reactions.

Therefore:

- Unrefined soya oil must be declared and highlighted (for example, in bold type) within the ingredients when it appears in pre-packed food. It may be declared simply as soya oil.
- Fully refined soya oil does not have to be highlighted in the way major allergens must be. But, it still needs to be declared as soya oil in line with the regulations stating that the origins of all vegetable oils must be indicated on packaging.

Should you avoid other legumes?

If you react to one member of the legume family (such as soya), it is possible you could react to another member of this group – such as peas, beans or lentils. This process is known as “cross-reactivity” – where the proteins in one food share certain characteristics with those in another food. Cross-reactivity among different legumes is not common but is something you should discuss with your doctor or allergy specialist. A small number of people with soya allergy also react to peanuts, and vice versa.

Can babies be fed soya drink?

Soya-based infant formulas are not considered a suitable alternative to cow's milk formula for infants less than six months old. After six months old, soya-based infant formula may be considered for some children, but it is important to seek the advice of a healthcare professional or your GP.

In the UK, soya infant formula is not generally recommended by healthcare professionals for those with cow's milk allergy, as some children who are allergic to cow's milk protein are also allergic to soya protein.

Soya-based materials in the stuffing of pillows

There are a small number of recorded cases of people experiencing reactions that researchers believe were due to soya-based materials used in the stuffing of pillows. All of these people had a history of food-related hay fever and asthma. It is worth checking the contents label of your pillows for soya.

Key messages

- If you suspect a soya allergy it is important to visit your GP.
- If you are prescribed AAIs, carry them with you at all times.
- Read food labels carefully and question staff in restaurants, takeaways and other catering establishments.
- Always be guided by your allergy specialist as to which foods you should avoid.
- Seek advice from a dietician or nutritionist on suitable soya alternatives to ensure that you are getting sufficient nutrients, particularly if you follow a vegan diet.

Feedback

Please help us to improve our information resources by sending us your feedback at: -

<https://www.anaphylaxis.org.uk/information-resources-feedback/>

Sources

All the information we produce is evidence-based or follows expert opinion and is checked by our clinical and research reviewers. If you wish to know the sources we used in producing any of our information products, please contact info@anaphylaxis.org.uk and we will gladly supply details.

Reviewer

The content of this factsheet has been peer reviewed by Professor John Warner, Professor of Paediatrics, Imperial College, London.

Disclosures

Professor Warner's present activities include providing scientific advice on trials funded by Airsonett and Danone.

Disclaimer

The information provided in this factsheet is given in good faith. Every effort is taken to ensure accuracy. All patients are different, and specific cases need specific advice. There is no substitute for good medical advice provided by a medical professional.

About Anaphylaxis UK

Anaphylaxis UK is the only UK-wide charity solely focused on supporting people at risk of serious, life-threatening allergic reactions. We provide information and support to people living with allergies through our free national helpline and local support groups. We also campaign and fundraise to achieve our ultimate aim, to create a safer environment for all people at risk of serious allergies. Visit our website www.anaphylaxis.org.uk and follow us to keep up-to-date with our latest news. We're on Facebook @anaphylaxixUK, LinkedIn, Instagram @anaphylaxisUK, Twitter @AnaphylaxisUK and YouTube.