

Lipid Transfer Protein allergy

Lipid Transfer Proteins (LTPs) are found in plants and foods that contain plants. If you have LTP allergy you may react to vegetables, fruits, nuts or cereals. It's not known how many people have this allergy in the UK, but it's thought to be more common in adults than children.

What is LTP allergy?

LTP allergy is a type of food allergy. Food allergy happens when the body's immune system wrongly identifies a food as a threat. When this happens, the body releases chemicals such as histamine in response. It is the release of these chemicals that causes the allergic symptoms.

Foods involved in LTP allergy

Most LTPs are in the peel and pips of plant foods. Whilst fresh or raw foods can cause a reaction, the following foods are likely to contain higher levels of LTPs as they contain the peel and pips:

- Concentrated, processed, preserved, or fermented fruits or vegetables.
- Dried fruit peel.
- Foods made using whole unpeeled fruits or vegetables such as smoothies, juices, jams, desserts.

If you are diagnosed with LTP allergy, **you only need to avoid the foods which cause your symptoms**. Not all LTP-containing foods will cause an allergic reaction for you and it's important not to cut them out of your diet if you don't need to. You may be able to tolerate certain foods if they are peeled or the pips have been removed. Discuss this with your allergy specialist and follow their advice.

Unfortunately, the amount of LTP in foods may vary so it can be hard to predict when a reaction may happen. Common foods involved in LTP allergy in the UK include: -

- peanuts
- hazelnuts
- almonds
- walnuts
- apples
- stone fruits
- dried fruit
- lettuce
- tomatoes

- foods containing concentrated forms of tomato such as pizza.

What are the symptoms of LTP allergy?

Reactions to LTPs can happen after eating raw, cooked or processed foods. The symptoms are not usually immediate but typically appear within 30 minutes of eating.

Mild to moderate symptoms may include:

- a red raised itchy rash (known as hives or urticaria) anywhere on the body
- swelling of the face, lips and/or eyes
- a tingling or itchy feeling in the mouth
- mild throat tightness
- stomach pain, vomiting or diarrhoea

More serious symptoms are often referred to as the ABC symptoms and can include:

- **AIRWAY** - swelling in the throat, tongue or upper airways, hoarse voice, difficulty swallowing.
- **BREATHING** - sudden onset wheezing, breathing difficulty, noisy breathing, persistent cough.
- **CIRCULATION** - dizziness, feeling faint, sudden sleepiness, confusion, pale clammy skin, loss of consciousness or collapse.

The term for this more serious reaction is [anaphylaxis](#) (ana-fil-ax-is).

Most healthcare professionals consider an allergic reaction to be anaphylaxis when it involves difficulty breathing or affects the heart rhythm or blood pressure. Any one or more of the ABC symptoms above may be present.

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. Any of the ABC symptoms may lead to collapse and unconsciousness and, on rare occasions, can be fatal.

[Read more about anaphylaxis.](#)

LTP allergy when other factors are involved

If you have LTP allergy you may find that you only have a reaction, or the reaction is more serious, if you eat the food around the same time as doing exercise, drinking alcohol, or taking a non-steroidal anti-inflammatory painkiller (such as aspirin and ibuprofen). Stress may also make a reaction worse. These are known as 'co-factors'.

While LTP allergy symptoms usually happen within 30 minutes of eating the food, they can sometimes be delayed by up to one or two hours depending on whether a co-factor is involved.

Getting a diagnosis

If you think you may have LTP allergy, see your GP who can refer you to a specialist allergy clinic if needed. They can find a clinic in your area from the [British Society for Allergy and Clinical Immunology \(BSACI\)](#)

It's important to get a referral even if your symptoms were mild because it can be hard to tell if future allergic reactions could be more serious.

Once you get a referral, the consultant will discuss your medical history and symptoms with you. They might suggest skin prick, blood tests, and food challenge tests to help diagnose the allergy and work out how serious it may be. [Read more about allergy testing.](#)

Some clues that you might be at higher risk of more serious reactions are:

- you have already had a serious reaction, with any of the 'ABC' symptoms
- you have asthma, especially if it is not well controlled
- you have reacted to a tiny amount of the food.

If you have asthma, and it is not well controlled, this could make an allergic reaction worse. Make sure you discuss this with your GP or allergy specialist and take any medicines you're prescribed.

Treating symptoms

If you have mild allergic symptoms, you may be prescribed antihistamine medicine that you take by mouth. But if you are at risk of a serious allergic reaction (anaphylaxis), you may be prescribed adrenaline – the emergency medicine used to treat anaphylaxis. It is also known as epinephrine.

Because anaphylaxis can happen very quickly, adrenaline is available in different forms that are designed to be easy to use. It's important to know exactly how and when to use your prescribed adrenaline. Healthcare professionals can show you how to use it, and there are also resources such as practice devices and videos on manufacturer websites.

Options currently available on prescription in the UK include:

- **Adrenaline auto-injectors (AAIs)** – such as EpiPen and Jext.
- **Intranasal adrenaline** – EURneffy, a needle-free nasal spray.

You must carry two in-date forms of prescribed adrenaline at all times as a second dose may be needed if symptoms do not improve after five minutes or get worse.

[Find out more about what to do in an emergency.](#)

[Find out more about adrenaline.](#)

Keeping safe with LTP allergy

The uncertainty about which foods might cause a reaction, and what might make a reaction worse, can make managing your LTP allergy particularly difficult. Always carry your prescribed medicine and make a clear allergy action plan with your allergy specialist.

Key messages

- If you have symptoms after eating plant foods, visit your GP.
- If you are prescribed adrenaline, carry two devices with you at all times.
- Always be guided by your allergy specialist about which foods you should avoid.
- If you have asthma, make sure it is well managed. See your GP about this.

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 would like to know the sources we used to produce any of our information, please contact info@anaphylaxis.org.uk and we will gladly supply details.

Reviewers

The text of this article has been peer-reviewed by Dr Isabel Skypala, Clinical Lead for Food Allergy, Royal Brompton and Harefield NHS Foundation Trust.

Disclosures

Dr Skypala is co-author of the 2019 paper, "Lipid Transfer Protein allergy in the United Kingdom: Characterization and comparison with a matched Italian cohort."

Disclaimer

The information provided in this article 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.