

Pollen food syndrome

Find answers to some of the questions you and your family might have about living with pollen food syndrome. Learn about what it is, the foods that cause reactions, and how to treat a reaction if you have one.

What is pollen food syndrome?

Pollen food syndrome can cause allergic reactions to certain fruits and vegetables, soya, and nuts. It usually affects people with hay fever who are allergic to pollens because the proteins in pollen are similar to the proteins in these foods.

The body's immune system reacts to the proteins in the foods in the same way it reacts to those in pollen. It wrongly identifies the proteins as a threat and releases chemicals, such as histamine, in response. It is the release of these chemicals that causes symptoms.

Most people with pollen food syndrome only react to these foods when they're raw e.g. reacting to fresh apple but not stewed apple in a pie because cooking changes the structure of the proteins. However, a small number of people do react to the foods when they're cooked.

Symptoms are usually mild and usually affect the lips, mouth and throat. They can include itching, tingling or sometimes swelling. On rare occasions, reactions can be severe (anaphylaxis), so speak to your GP if you think you might have pollen food syndrome and they can refer you to a specialist if needed.

Other terms for pollen food syndrome

Some health professionals refer to pollen food syndrome as oral allergy syndrome, but strictly speaking these are two different conditions.

When the term oral allergy syndrome was first used in 1987 it had no connection with pollen allergy. It referred to any allergic symptoms in the mouth that were often followed by more serious symptoms.

Symptoms of pollen food syndrome

The symptoms of pollen food syndrome usually come on quickly, within minutes of eating the food.

Symptoms of pollen food syndrome usually include:

- redness, mild swelling or itching of the lips, tongue, inside of the mouth, soft palate and ears.
- itching and mild swelling of the throat that doesn't interfere with your breathing.
- occasionally, people might also have symptoms in the oesophagus (food pipe) or stomach, causing abdominal pain, nausea and vomiting.
- sneezing, runny nose, or symptoms affecting the eyes.

More serious symptoms

Rarely, more serious symptoms can occur, known as **anaphylaxis** (pronounced ana-fil-ax-is).

For people with pollen food syndrome, serious symptoms are unusual because the proteins that cause the allergy are unstable and are destroyed with heat or once they reach the stomach.

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**. 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 loss of consciousness and, on rare occasions, can be fatal.

[Read more about anaphylaxis.](#)

Types of pollen

Different types of pollen can cause pollen food syndrome.

Silver birch pollen

The most common type of pollen which causes pollen food syndrome is silver birch pollen, which causes hay fever symptoms from the end of March until the end of May. About three quarters of people who are sensitised to silver birch pollen develop pollen food syndrome. When someone is 'sensitised' to a substance or food, it means their immune system produces antibodies to it. This can lead to an allergic reaction when they are exposed to it again in future.

Grass pollen

Grass pollen can also cause pollen food syndrome. Many people may not realise they have the condition because in its mildest form they may only experience a minor sensation in the lips or tongue.

Both birch and grass pollen

It's likely that people who are sensitised to both birch and grass pollens are more likely to develop pollen food syndrome. They may also experience symptoms to a wider range of foods than people who are sensitised to birch pollen alone.

Weed pollens

Weed pollens such as Artemisia (mugwort, wormwood) and Parietaria (pellitory of the wall) can also be responsible for pollen food syndrome.

Which foods are involved?

A number of different plant foods can cause reactions in people with pollen food syndrome however everyone is different and so it's important that you don't avoid foods on this list that you can eat without symptoms:

- **raw fruits** including apples, apricots, pears, cherries, kiwi, mango, plums, peaches, nectarines and tomatoes
- **raw vegetables** such as carrots and celery



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- **raw or stir-fried legumes** such as mangetout, beansprouts and raw peas
- **soya milk** can cause reactions, which can sometimes be quite serious, although other forms of soya are usually OK.
- **raw potatoes, raw parsnips and raw carrots** people have reported nose and eye symptoms and itchy hands when handling raw potatoes or raw parsnips.
- **tree nuts and peanuts**, in particular, hazelnuts, almonds, walnuts and peanuts. However, it is important to distinguish between pollen food syndrome brought on by nuts and a more serious nut allergy. If there is any doubt, your doctor should refer you to an allergy specialist.

Latex food syndrome

Some people who are allergic to latex have an allergy similar to pollen food syndrome, called latex food syndrome. Latex allergy is where you react to proteins in natural rubber latex. It's more common in people who come into contact with latex often, such as healthcare workers and people who need multiple surgeries.

Some latex proteins are similar to the proteins in certain foods, which means people who are allergic to latex might also react to those foods, such as avocado, banana, kiwi and chestnut. The symptoms can be similar to the symptoms of pollen food syndrome.

Getting a diagnosis

If you think you may have pollen food syndrome, see your GP.

Pollen food syndrome tends to be mild and can usually be diagnosed by your GP without allergy tests, based on your symptoms alone. If you have had more serious symptoms to raw foods or react to cooked fruits and vegetables or roasted nuts you should be referred to an allergy specialist. Your GP can find a clinic in your area from the [British Society for Allergy and Clinical Immunology \(BSACI\)](#).

Once you get a referral, the consultant will discuss your medical history and symptoms with you. They might suggest skin prick tests and blood tests to help diagnose the allergy, and rule out other types of allergies not related to pollen such as Lipid Transfer Protein allergy.

[Read more about allergy testing.](#)

[Read more about lipid transfer protein allergy.](#)

If you have asthma, you're at a higher risk of a serious allergic reaction. Talk to your GP about this and make sure your asthma is well controlled.

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.](#)

Avoiding the foods you react to

Once you know which foods you react to, you will need to avoid them. Most people only need to avoid the foods when they're raw or only lightly cooked such as in stir fry, but can eat them well cooked.

Read the ingredient lists on food packets carefully to check for the food you're allergic to. Foods in the list of top 14 allergens will be emphasised on the label, in bold for example. This includes celery, milk, tree nuts and peanuts, sesame and soya. Other foods which are not in the top 14, such as other fruit and veg, will not be emphasised but they will still be listed.

Check the ingredients list every time you shop as manufacturers change their recipes often.

When eating out

Restaurants, cafes, hotels, takeaways and other catering businesses are required by law to provide information on the major allergens, but not those outside of the top 14.

Ask staff directly if the food you'd like to buy contains the food you're allergic to and if there is a risk of cross-contamination. Let them know that even small quantities can cause a reaction, and don't be afraid to ask staff to check with the chef.

Foods to be careful of

Although pollen food syndrome can be mild, you're more likely to have a serious reaction if you eat a large amount of the food quickly. Take care with the following foods.

- **Fruit and veg** – a fruit smoothie or fresh vegetable juice can contain a lot of the fruit or veg that causes the reaction, so you will need to avoid these. Take particular care with mixed salads and fruit salads as the food you react to can turn up unexpectedly.
- **Soya milk** can also cause reactions, but soy flour added to foods does not.
- **Nuts** – If you react to raw nuts, you may find you can have roasted nuts or baked nuts contained in other foods such as chocolate bars. Be careful of snack bars containing raw nuts, and nut milks. Most people don't need to avoid foods with a "nut traces" warning because the amounts are so small. Everyone is different, so speak to your GP or allergy specialist about what's safe for you.

Is it possible to grow out of pollen food syndrome?

Pollen food syndrome can affect both children and adults. It's possible that if you grow out of a pollen allergy, you will no longer react to the foods with similar proteins, but this has not been confirmed by research.

Key messages

Living with a food allergy can be daunting. However, self-care and management of the allergen or allergens will help you continue life without too much interference.

- If you think you might have pollen food syndrome or a food allergy, visit your GP.



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- It's important to get the right diagnosis because allergies to foods such as nuts can sometimes be more serious.
- Pollen food syndrome is usually mild, but can occasionally cause serious symptoms.
- Avoiding the food, using antihistamines or rinsing your mouth are often enough to treat mild symptoms.
- If you are prescribed adrenaline, carry two devices with you **at all times**.
- If you have asthma, ensure it is well managed.

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 Rachel De Boer, Specialist Paediatric Allergy Dietician.

Disclosures

We are not aware of any conflicts of interest in relation to the review of this factsheet.

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.

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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. We also 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 @anaphylaxisUK, LinkedIn, Instagram @anaphylaxisUK, Twitter @AnaphylaxisUK and you can find our podcast [here](#).