

Your quick guide to: Oral Allergy Syndrome (Pollen Food Syndrome)

What is pollen food syndrome?

Pollen food syndrome, commonly referred to as oral allergy syndrome, is a hypersensitivity reaction to fruits, vegetables and nuts (often referred to as plant based foods) usually causing mild irritant symptoms such as itching of the mouth, lips and throat itching when eaten in their raw form.

Who does it affect?

Pollen food syndrome is a relatively common condition affecting about 2% of the adult population in the UK and often usually linked to sensitisation to grass, tree or weed pollen (see table). Pollen food syndrome often affects people who get spring or summertime hay fever but can also occur in people who do not have hay fever symptoms but are sensitised (test positive) to airborne (wind carried) pollens from trees, grasses or weeds, with the most common pollen involved in pollen food syndrome in the UK being birch tree pollen.

How do I develop pollen food syndrome?

If you are susceptible to allergies you can become sensitised to airborne pollens by breathing them in. This is most commonly associated with the classic symptoms of hay fever including runny, itchy nose and itchy eyes. With pollen food syndrome many plant based foods - fruit, vegetables, nuts and cereals, have a protein structure that is very similar to the pollens in trees, grasses and weeds (this is called cross reactivity). However, the immune system doesn't always recognise the difference between the pollens in the trees, grasses or weeds that you breathe in and the pollen structure in the plant based foods that you eat. With pollen food syndrome the immune system recognises the food protein that you eat as an allergen and creates an allergic responses.

A far more rare type of cross-reaction

occurring between natural rubber latex and certain fruits (avocado, chestnuts, banana, mango, melon, papaya, kiwi fruit and tomato) may also cause symptoms in some individuals, this is because the protein structure of latex is very similar to the fruit pollen structure. However, since latex is no longer routinely found in most healthcare settings, this type of food allergy is rare.

What foods cause symptoms of pollen food syndrome?

Pollen food syndrome is usually triggered by eating fresh fruit, raw vegetables and raw nuts. Some people are affected by only one or two foods and others can react to a wide range of foods. The most common foods involved are apples, peaches, kiwi, hazelnuts and almonds, but just about any fruit, vegetable or nut can cause a reaction.

What are the symptoms of pollen food syndrome?

Most people with pollen food syndrome will experience mild symptoms that can include itching and swelling of the lips, tongue, inside of the mouth, ears and throat, usually within five to 10 minutes of eating the allergic food and these settle within an hour, often without any medical intervention. You may also notice during food preparation, such as peeling or scraping fruit and vegetables, that this causes skin irritation, sneezing and irritation to the eyes due to release of the food particles into the air. You can reduce the risk of reaction by peeling them under water or using gloves if especially troublesome. Canned or microwaved to see if it is tolerated. Some people find that different varieties of fruits or vegetables can be tolerated, for example it is worth checking to see whether you can tolerate one type of apple, even if another type causes symptoms.

On occasion however, symptoms can include nausea, vomiting and, very rarely, severe allergic reaction involving breathing

Key facts:

Pollen food syndrome is usually triggered by eating **fresh fruit**, **raw vegetables** and **raw nuts**.

Most people with pollen food syndrome will experience mild symptoms including **itching** and **swelling** of the **lips**, **tongue**, inside of the mouth, ears and throat.

Pollen food syndrome often **affects people who get** spring or summertime **hay fever** but can also occur in people who do not have hay fever symptoms.

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difficulties. It is worth noting that there are other types of plant food allergy which may cause more severe symptoms. These include lipid transfer protein allergy and allergies to individual plant foods such as peanut, tree nuts and Kiwi for example. If you are diagnosed with these allergies you may be advised to avoid all foods containing these. You should always seek advice from your healthcare professional if you are concerned you may have had an allergic reaction to a plant based food.

There are a few factors that can increase the risk of a severe reaction. These include;

- Consuming large amount of allergen in a short space of time such as nuts, soya milk, freshly squeezed juice and smoothies
- Having allergies to lots of different plant based foods
- Having uncontrolled or reactive asthma
- Sometimes reactions only occur after eating the plant based food and exercising, or taking certain medication.

If you are not sure which foods you are reacting to, it is worth keeping a food diary and speaking with your healthcare professional about your concerns.

How do I manage pollen food syndrome?

Avoidance of the foods that cause your reactions is most important, there is no need to avoid foods that do not cause any symptoms. Usually, you will only need to avoid the allergenic food in its raw form as cooking destroys (denatures) the allergens. It is worth trying the food cooked, canned or microwaved to see if it is tolerated. Some people find that different varieties of fruits or vegetables can be tolerated, for example it is worth checking to see whether you can tolerate one type of apple, even if another type causes symptoms.

Most people with pollen food syndrome

can tolerate well-cooked fruits and vegetables. It is worth noting that lightly cooked vegetables such as stir-fried vegetables, for example bean sprouts, mange tout and carrots, and nuts both raw and cooked (roasted) have been known to induce symptoms.

It is really important to continue to take any medication your healthcare professional has prescribed for other allergies, including asthma and hay fever, as this will help you to maintain control of symptoms of pollen food syndrome. If you have experienced any severe reactions, such as breathing difficulties or anaphylaxis, your healthcare professional may prescribe adrenaline autoinjectors and advise you to avoid the foods that caused the allergic reaction.

What should I do if I have an allergic reaction?

The majority of cases of food pollen syndrome reactions are mild such as mouth or lip itching or swelling, and stopping eating the food and drinking some water may be all you need to do reduce or eliminate the symptoms. The tingling, itching and swelling should settle within 30 minutes to an hour without treatment, but if you are concerned or are having severe or unpleasant symptoms then take a non-sedating antihistamine.

If you have taken an antihistamine and feel your symptoms are not improving then you may need additional treatment and you should seek medical advice. Do not rely on antihistamines or an asthma inhaler if you have a food allergic reaction which affects your breathing or circulation (causing faintness).

Will I need investigations for my pollen food syndrome?

Often your healthcare professional can diagnose pollen food syndrome from your consultation without any need for further testing. However, if your diagnosis is not

clear your healthcare professional may recommend that you have a blood test or skin prick testing where facilities are available. In skin prick testing the skin is pricked with prepared allergen extracts, however, as fruit and vegetable allergens can be affected by processing, testing may also involve prick testing with the relevant fresh fruit or vegetable, rather than using a prepared extract. If you are allergic, an itchy bump will come up within minutes of the test. This can be very itchy in the first few minutes, but will settle down over about an hour. A blood test is not usually necessary if skin prick tests are available, but occasionally your allergy healthcare professional may request a specific blood test called 'component testing' to confirm a diagnosis.

What should you do if you think you have pollen food syndrome?

If you have symptoms that are suggestive of pollen food syndrome it is important that you seek advice from a healthcare professional. If necessary, they will refer you to a consultant allergist (physician). This will ensure that you receive a correct diagnosis and appropriate treatment. There are many 'alternative' allergists offering food allergy diagnosis by unscientific and unproven testing and these should be avoided. Your healthcare professional will take details of your reactions to decide whether there is evidence of more serious allergy and will advise if you require any diagnostic testing or medication.

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Pollen	Fruit	Vegetables	Seeds and spices	Nut
Tree pollen (typically birch and alder)	Apple, apricot, cherry, coriander, kiwi, nectarine, parsley, peach, pear, plum, strawberry	Celery, bean sprouts, carrot, mange tout, green pepper, potato, soya, tomato, parsnip, peas	Basil, coriander, fennel, oregano, parsley, paprika, pepper, thyme	Almond, brasil nut, hazelnut, walnut
Grass pollen	Kiwi, melon, orange, watermelon, date	Potato, swiss chard, tomato, wheat, peas		Peanut
Weed pollen (typically mugwort)	Apple, melon, orange, peach, tomato, watermelon	Celery, carrot, green pepper, onion	Sunflower seed, aniseed, celery salt, mustard, spices, coriander, fennel, parsley	

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Additional Resources / References

Allergic Rhinitis and Hay Fever Factsheet

<https://www.allergyuk.org/resources/allergic-rhinitis-and-hay-fever-fact-sheet/>

Lipid Transfer Protein Allergy

<https://www.allergyuk.org/resources/lipid-transfer-protein-allergy/>

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