

# Oral Allergy Syndrome or Pollen-food Syndrome

Advice provided by [allergyuk.org](http://allergyuk.org)



## What is Pollen-food Syndrome?

Oral Allergy Syndrome (OAS), also known as Pollen Food Syndrome (PFS), usually occurs in people who are allergic to pollen from trees, grasses or weeds. It has been shown that these pollens contain proteins of similar structure to those present in many different fruits, vegetables, nuts, and even spices. These proteins, which have essential roles in plant growth and defence against disease, are recognised by the immune system and can trigger an allergic reaction in a susceptible person. This condition usually affects people who get spring or summertime hay fever as this is usually caused by grass or tree pollen, but PFS can also occur in people who do not have hay fever but test positive to pollens. The most common pollen involved in PFS in UK sufferers is birch tree pollen; this is because the main allergen in birch pollen, Bet v 1, is highly cross-reactive to many plant foods.

Fresh fruit, raw vegetables and raw nuts are common causes of PFS. 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 be a cause. Fortunately, in most cases the allergens are easily inactivated by cooking, processing and digestion. The result is the symptoms tend to be limited to the mouth and throat and only occur with the raw fruit or vegetable, although some people do react to both raw and roasted nuts. Nuts and soya milk have

the capacity to cause more severe reactions in some people who have PFS because they contain large amounts of the cross-reactive proteins. Lightly cooked vegetables such as stir fried vegetables, for example bean sprouts, mange tout and carrots, can also cause reactions. People who have PFS will usually experience mild itching and/or swelling of all or part of the lips, tongue, mouth or throat, but this can, on occasion, be severe, including nausea and vomiting. These symptoms usually start within minutes of eating and settle down within an hour.

Pollen-Food syndrome is a common condition which affects about 2% of the UK population. 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. However, since latex is no longer routinely found in most healthcare settings, this type of food allergy is rare. Some people have more serious fruit, vegetable and nut reactions which are not due to PFS. Reactions to nuts and seeds could be caused by seed storage protein allergens that are not inactivated by heat. There are also heat stable proteins called Lipid transfer proteins, which are present in all plant foods including fruit, vegetables, nuts and cereals. An allergist's opinion and testing will identify the more severe allergies.



For more help, contact the **Allergy UK helpline:**  
Monday to Friday, 9am to 5pm  
**01322 619 898**

[info@allergyuk.org](mailto:info@allergyuk.org)

### Key facts

**fresh fruit, raw vegetables and raw nuts are common causes of Oral Allergy Syndrome**

**People who have PFS will usually experience mild itching and/or swelling of all or part of the lips, tongue, mouth or throat, this can, on occasion, be severe**

**This condition usually affects people who get spring or summertime hay fever**



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## What should you do if you think you have PFS?

If you have PFS symptoms it is important that you go to your GP. 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: these should be avoided. The allergist will take details of your reactions to decide whether there is evidence of more serious allergy and will advise if you should carry adrenaline. This is particularly important for those with nut reactions.

As part of your diagnosis, you might need to have skin prick testing. During this procedure the skin is pricked after the application of prepared allergen extracts. As fruit and vegetable allergens may be inactivated 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 and may be less accurate than a fresh food test for easily inactivated allergens. It is important for a diagnosis of PFS that you are only tested with those foods to which you have reactions as you might have positive tests to foods that you are eating without any problems.

## Avoidance

Avoidance of the foods that cause your reactions is most important. Usually, you will only need to avoid raw foods as cooking destroys the allergens. Most people with PFS can tolerate well-cooked fruits and vegetables although roasted nuts can cause symptoms in some people. Some people find that different varieties of fruits or vegetables can be tolerated, so it is worth checking to see whether you can tolerate one type of apple, even if another type

causes symptoms. However, if you have had severe reactions, such as breathing difficulties or anaphylaxis, you should avoid those foods in any form. Similarly, if you have another type of plant food allergy, such as an allergy to nuts or to lipid transfer proteins, you also need to avoid any form of the food that has caused symptoms.

If you have a reaction, 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 an antihistamine. Most people with PFS have mild to moderate symptoms, but sometimes more severe symptoms can occur after foods with a large amount of allergen such as nuts, soya milk or freshly squeezed juice, or if you suffer from asthma. If you have taken an antihistamine but develop difficulties with breathing, your voice becomes hoarse, your throat is closing up or you feel faint then you may need additional treatment and you should call urgent medical attention stating that you are having an anaphylactic reaction. If you have an adrenaline auto-injector you should administer a dose and call for an ambulance. Do not rely on antihistamine or an asthma pump if you have a food reaction which affects your breathing or circulation (causing faintness). You need an injection of adrenaline urgently in such a situation.

Preparation of food for your family may cause reactions, such as sneezing attacks, (because when peeling or scraping fruit and vegetables, particles can get in the air), conjunctivitis (if you touch your eye after touching the fruit or vegetable) and wheals on your hands (if there is broken skin, allergens can penetrate). Wearing gloves or a mask can help, but avoid latex (rubber) gloves as these can also cause allergic reactions.

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## foods commonly involved in PFS reactions

fruit	Vegetable	Nuts / Peanuts	Spices and Other
Apple	Carrot	Hazelnut	
Peach	Celery	Almond	
Pear	Peeling potatoes	Walnut	
Plum	Soy milk	Brazil nut	
Cherry	Tomato	Peanuts	
Nectarine			
Apricot			
Kiwi			
Strawberry			

## foods occasionally involved in PFS reactions

fruit	Vegetable	Nuts / Peanuts	Spices and Other
Orange	Swiss chard	Peanuts	Coriander
Melon	Beans and peas		Cumin
Watermelon	Mange tout		Aniseed
Mango	Bean sprouts		Caraway
Pineapple	Parsley		Mustard
	Fennel		Sunflower seeds
	Cucumber		Honey
	Peppers		
	Courgettes		

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