

# Oral Allergy Syndrome or Pollen-Food Syndrome



## 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 pollens from trees, grasses and weeds 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 of a hay fever sufferer, and can trigger an allergic reaction in a susceptible person. This condition therefore usually affects people who get spring or summertime hay fever, but can occur in people who do not have hay fever but test positive to pollens. The most common pollen involved in PFS in UK sufferer 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 usually apples, peaches, kiwi, hazelnuts and almonds, but just about any fruit vegetable or nut can be involved. 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.. Soya milk may cause quite severe reactions in some people who have PFS as it contains very large amounts of a protein which cross-reacts to birch pollen. Lightly cooked vegetables can also cause reactions, so stir fried vegetables such as bean sprouts, mange tout and carrots may 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 occasions be severe and also include nausea and vomiting. These symptoms usually start within minutes of eating and settle down within an hour.

In addition to reactions occurring due to pollen-food cross-reactions, a far smaller number of people may be affected by foods which cross-react to one of the proteins in natural rubber latex. Typical latex cross-reacting foods include avocado, chestnuts, banana, mango, melon, papaya, kiwi fruit and tomato. 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.

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

If you have PFS symptoms, it is important that you go to your GP and if necessary they will refer you to a consultant allergist (physician). This will ensure that you have 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

doctor 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 application of prepared allergen extracts. As fruit and vegetable allergens may be inactivated by processing, testing may also involve prick testing to 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 than accurate than a fresh food test for easily inactivated allergens.



## 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 you need not worry about eating well-cooked foods that cause reactions when raw. 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 shock, you should avoid the 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 provoked symptoms.

**If you have a reaction**, keep calm, rinse your mouth with some plain water and rest. A hot (but not scalding) drink may help to inactivate residual allergen. The tingling, itching and swelling should settle within 30 minutes to an hour. If the symptoms are very unpleasant you may take a dose of an antihistamine such as cetirizine or loratadine. However, mild symptoms will usually settle within 30 minutes, before an antihistamine has had time to start working.

If you have difficulties with breathing, your voice becomes hoarse, your throat is closing up or you feel faint, 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. A dose of antihistamine may be taken if you are able to swallow. Do not rely on antihistamine or an asthma pump if you have a food reaction affecting your breathing or circulation (faintness). You need an injection of adrenaline urgently in such a situation. Fortunately, most people with PFS do not experience severe symptoms.

**Preparation of food for your family** may cause reactions, such as sneezing attacks, (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 weal's 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.

## Foods commonly involved in PFS reactions

Fruit	Vegetable	Nuts	Peanuts	Spices and other
Apple	Carrot	<b>Hazelnut</b>	Peanut	
Peach	Celery	Almond		
Pear	Peeling potatoes	Walnut		
Plum	Soy milk	Brazil nut		
Cherry	<b>Tomato</b>			
Nectarine				
Apricot				
Kiwi				
Strawberry				

## Foods occasionally in PFS reactions

Fruit	Vegetable	Nuts	Spices and other
Orange	Swiss chard		Coriander
Melon	Beans and peas		Cumin
Watermelon	Mange tout		Aniseed
Mango	Bean sprouts		Caraway
Pineapple	<b>Parsley</b>		Mustard
	<b>Fennel</b>		Sunflower seeds
	<b>Cucumber</b>		Honey
	<b>Peppers</b>		
	<b>Courgettes</b>		

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