

Fact Sheet

Fruit and Vegetable Allergy



What is fruit and vegetable allergy?

Fruit and vegetable allergy is a reaction which occurs soon after exposure to fruit and vegetables. These reactions usually occur within minutes of the exposure, but occasionally can take up to 1-2 hours. The reactions occur against proteins that occur in a number of different fruits or vegetables. The Rosaceae (apple, pear, cherry, peach, and plum) and Cucurbitaceae (cucumber, melon, watermelon, zucchini, pumpkin) families and kiwi fruit are particularly likely to cause allergies. In some cases the proteins are also found in pollens leading to symptoms of pollen and food allergy (The Pollen-Food Allergy syndrome). For example banana, melon, can cross react with ragweed pollen and apple, peach, cherry, pear and plum can cross react with birch pollen. In Australia sensitisation to pollen from plantain weed is common and in some people can cross react with melon, watermelon, tomato, orange and kiwi fruit.

What are profilins?

Profilins are proteins that affect cell shape and function. Profilins have been identified in trees, grass and weed pollens as well as many fruits and vegetables. Profilins are a type of plant protein that is particularly liable to cause allergy. About 1/3 of all pollen allergies are due to allergy to profilins. Fruit and vegetable allergies are also commonly due to allergy to profilins. Allergies to melon, watermelon, citrus fruits, tomato, and banana or a combination of these are suggestive of allergy to profilins.

How common is fruit and vegetable allergy?

Approximately 3% of adolescents have fruit or vegetable allergy. It is less common in young children who are more likely to have cow's milk, egg or peanut allergy than fruit allergy. Sometimes symptoms occur only in the teenage years after sensitisation to the cross reacting pollens and hay fever has occurred. Some young children do however have allergy to banana, kiwi fruit and avocado and more rarely to other fruits and vegetables.

What are the symptoms of fruit and vegetable allergy?

Mild reactions consist of hives around the mouth or where the food has touched the skin. More generalised hives on other parts of the body can occur. Another symptom is abdominal pain and vomiting which occurs soon after eating the food. A common set of symptoms associated with fruit and vegetable allergy is known as the oral allergy syndrome.

What is the oral allergy syndrome?

This is a syndrome where symptoms of itch, tingling, swelling of lips, palate, and tongue occur after exposure to the food. There are rarely more generalised symptoms. The symptoms usually occur within minutes after contact with the fruit or vegetable. Symptoms are more likely to occur with fresh than cooked food. The diagnosis can be confirmed with a skin prick test with the fresh food.

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This type of allergic reaction can occur at any time of the year but is often worse in the pollen season. These patients are often allergic to a large number of foods. The syndrome usually occurs in older children and adults and is generally life long.

How is fruit and vegetable allergy diagnosed?

In most cases the clue to fruit or vegetable allergy is the start of symptoms soon after exposure by ingestion. The presence of allergy IgE antibodies can be confirmed by an allergy skin prick test. The interpretation of the test should be discussed with your doctor.

Can there be a link with latex allergy?

Yes. Some people with latex allergy also have allergy to fruits and other plant products (banana, avocado, chestnut, papaya). Around 40 % of patients with definite latex allergy have allergic symptoms after eating fruits (papaya, avocado, banana, chestnut, passionfruit, fig, melon, mango, kiwi, pineapple, peach and tomato). In some people, allergy to pollen, fruits (often peach) and latex occurs together.

Can one be allergic to Kiwi fruit?

Yes. In school age children kiwi fruit is estimated to cause about 10% of all the food allergic reactions. Kiwifruit allergy is increasing among children. Skin prick tests can be done with raw kiwifruit and are positive in all kiwi fruit allergic children. In contrast skin tests with commercial allergen extracts may be positive in

only a quarter of the allergic children. Some children react to raw but not cooked kiwi fruit after ingestion.

Can a child be allergic to potatoes?

On occasion children can develop worsening of eczema or an acute attack of hives after eating potatoes. Children with eczema may have contact hive type reactions to raw potato, but can usually eat cooked potato with no reactions. Reactions can rarely occur to cooked potatoes. In allergic children tolerance usually develops by the age of 5. Allergy skin tests to potato are usually positive in potato-allergic children.

Can anaphylaxis occur?

Yes but anaphylaxis to fruit or vegetable allergens is quite uncommon when compared with nuts, egg and milk. Kiwi fruit is the fruit most likely to cause more severe reactions.

What are legumes?

Legumes are the edible seeds of plants. Peanut, soybean, fresh or dried bean seeds, pea, green beans and lentils belong to a plant family called *Leguminosae*. In most cases children are only allergic to one type of legume. However a small number of allergic children (about 5%) will react to more than one legume. Clinically important cross-reactivity to legumes in children is very rare and allergy to one type of legume does not warrant dietary elimination of all legumes. Legumes are also a cause of the oral allergy syndrome.

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Because legumes are also derived from plants there can occasionally be cross reactivity between fruits and vegetables and legumes. Most patients with legume sensitivity can eat all types of fruit and vegetables. In some children with peanut allergy an allergy to lupin beans can also be present.

So what fruits and vegetables should I not give my allergic child?

Only the ones to which there has been an obvious reaction. Some parents unnecessarily avoid a wide range of fruits and vegetables, thinking that this is protecting their child. It is best to encourage them to eat as wide a variety of fruits and vegetables as possible for their overall enjoyment of food and to help ensure a good nutrient intake.

Should I delay introducing fruit and vegetables into my baby's diet?

No. Research work suggests that the early introduction of daily fresh fruit or vegetables might decrease the risk of asthma. Also there is no evidence that early introduction increases the risk of developing fruit and vegetable allergy.

Can my child grow out of fruit and vegetable allergy?

Fruit and vegetable allergy, particularly in the form of the oral allergy syndrome is more common in teenagers and young adults than in young children and is likely to persist into adult life. One exception is potato allergy in young children which usually improves with time.

Where can I find more information on the Internet?

- The Australian Society of Clinical Immunology and Allergy (ASCI) website contains useful information on food allergy written by Australian specialists (www.allergy.org.au).
- The patient support group Anaphylaxis Australia offers valuable updates and tips for dealing with food allergies (www.allergyfacts.org.au).

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This fact sheet is for education purposes only. Please consult with your doctor or other health professional to make sure this information is right for your child.

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