

Fact Sheet

Allergy and allergy tests



What is allergy?

- Allergy is when the body has a reaction to a protein (e.g. foods, insect stings, pollens) or other substance (e.g. antibiotic).
- These substances are called allergens. For most people most allergens are harmless, except for example bee stings, which can be harmful even if you are not allergic but get stung many times.

What types of things can cause allergic reactions?

- Common things that people are allergic to include food (e.g. peanuts, nuts, shellfish, milk, eggs, wheat and fish), pollens, grasses, house dust mite and animals or insect stings.

Are there different types of allergy?

- Basically allergic reactions can be divided into those that occur within 2 hours of a person coming into contact with whatever they are allergic to (immediate type) and those that only occur after a longer period, often over 24 hours later (delayed type).
- Most immediate type reactions are caused by a reaction between a protein in the blood called Immunoglobulin E (IgE) and the substance you are allergic to.
- A process not involving IgE causes delayed type reactions.
- Only the immediate type can be identified using skin tests or blood tests.
- Only the immediate type can cause anaphylaxis (immediate life threatening reactions).

What types of allergic reactions can you get?

- Allergy to pollens, house dust mite and animal dander usually causes symptoms of allergic rhinitis (runny nose, blocked nose, itchy eyes). When caused by seasonal pollens, it is called hay fever. They may also cause symptoms (wheeze and cough) in people with asthma.
- Allergy to foods may cause skin problems such as hives and itch or bowel problems such as tummy pain, vomiting or diarrhoea. Occasionally, people may develop problems with their breathing passages or lungs e.g. swelling of the tongue, cough, hoarse voice or wheeze.
- In some people with eczema, their eczema may get worse if they eat a food they are allergic to.

What is anaphylaxis?

- Anaphylaxis is a severe allergic reaction.
- It involves breathing problems and sometimes a low blood pressure or even collapse and unconsciousness which can be life threatening.

What is a skin test?

- There are different types of skin tests. The most common type of skin test to investigate allergies is a skin prick test.
- In a skin prick test, a small drop of a protein extract is placed on the skin (usually the forearm) and a small prick is made in the skin through the drop. The size of the swelling (wheal) is measured after 10- 15 minutes.

Fact Sheet

Allergy and allergy tests



What is a positive skin test?

- A skin prick test which results in a wheal (hive) bigger than 2mm by 2mm is positive.
- Skin tests are useful for detecting immediate type allergies, they do not detect other types of delayed reactions.

My child's skin test was positive, what does that mean?

- If they have hay fever symptoms and have a positive skin test for a protein commonly associated with hay fever (e.g. pollen), then their symptoms may be due to that protein.
- Children with allergic asthma may have a positive result for the substance that causes many of their asthma symptoms.
- If your child has had an allergic reaction recently (e.g. hives), when they ate a certain food, a positive skin may help confirm that they are allergic to that food.
- A positive skin test for a food that your child has never, or at least not recently eaten, means that they are sensitised to that food. This means that their body has produced IgE antibody against that food protein. It means they could have an allergic reaction if they eat the food. But it does not **always** mean they will have an allergic reaction if they eat the food.
- Many people will have a positive skin test for foods they already eat with no problems.
- If it has been a long time since your child had an allergic reaction when they ate a particular food, a positive skin test which is the same size or larger makes it likely they will have an allergic reaction to the food again. If the skin test is getting smaller then

they may not have an allergic reaction if they eat the food again.

- As well as helping to diagnose an allergy if they are positive, skin tests are very useful if they are negative. If a skin test is negative, it is extremely unlikely that your child has an immediate allergy to that food.

Why are skin tests done?

- If your child has had a recent allergic reaction after eating but you are not sure what caused the reaction, a skin test might (but does not always) help to identify the cause.
- Skin tests can be used to monitor allergies i.e. if the skin test becomes negative as your child gets older they are probably no longer allergic to the food.
- Skin tests can be helpful in deciding whether to do a food challenge.
- The size of the reaction (wheal) is not very informative but in general if the reaction to a food is just big enough to be positive the food is less likely to cause allergy than if the wheal is large (e.g. > 8-10 mm diameter).

So how do you determine if the foods that came up positive on a skin test will be a problem?

- If your child has *recently* had a definite immediate allergic reaction after eating a food they are shown to be allergic to on skin testing, that is very good evidence on its own that they are allergic to that food.
- It is often difficult to decide if they are really allergic to a food because:
 1. Often symptoms are vague and don't obviously happen immediately after eating the suspected food. This is

Fact Sheet

Allergy and allergy tests



particularly true of bowel symptoms like pain or diarrhoea.

2. Occasionally your child has never eaten the food for which their skin test is positive or it has been a long time since they last had a reaction or contact with the suspected food.
 3. Sometimes you are not sure whether they actually ate the food or if it simply came into contact with the skin.
- In these circumstances, the only sure way to diagnose food allergy is with a food challenge.

Why is it so important to find out for sure whether my child is really allergic? Can't I just assume my child will have a reaction to the foods that are positive on their skin tests?

- Allergies, especially food allergies are not simply a nuisance, they do have a large impact on many aspects of life.
- There are a few very important reasons to find out the true nature of suspected allergies:
 1. If your child is really allergic, you need to know whether the allergy is potentially life threatening or not so that adequate precautions can be taken.
 2. Your child may not be allergic! It is a great pity to be labeled as allergic to a food that actually causes no problems. This may lead to significant anxiety, restrictions in terms of eating at home or in social circumstances away from home and

in some cases children have been placed on such restrictive diets that they are malnourished.

3. The diagnosis of allergy has implications (financial, lifestyle etc) therefore although it is important to make the diagnosis of allergy if it is present, it is also important not to falsely diagnose allergy when it is not present.

Remember

- Allergy is caused by a reaction between IgE and another substance.
- Allergies may cause hay fever, asthma or reactions to foods such as hives.
- The most severe type of allergy is called anaphylaxis.
- A positive skin or blood test for foods does not necessarily mean that your child will have an allergic reaction if they eat the food and sometimes a challenge is needed to sort this problem out.

**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.**

This document was reviewed on Wednesday, 24 March 2004.

the
children's
hospital at Westmead

www.chw.edu.au

 **SYDNEY
CHILDREN'S
HOSPITAL
RANDWICK**

www.sch.edu.au