

How to recognise and manage severe allergic reactions in children (EpiPen®)

Information for
parents and carers



What is an allergic reaction?

An allergic reaction happens when the body's immune system overreacts to contact with normally harmless substances. An allergic person's immune system treats certain substances as threats and releases substances such as histamines to defend the body against them. The release of histamine can cause the body to produce a range of mild to severe symptoms. An allergic response can develop after touching, tasting, eating or breathing in a particular substance.

What can cause allergic reactions?

Foods

For example:

- tree nuts and peanuts
- fish and shell fish
- eggs and milk.

Most allergic reactions to food occur immediately after swallowing, although some can occur up to several hours later.

Food allergies are more common in families who have other allergic conditions such as asthma, eczema and hay fever.

Insect stings

Reaction to an insect sting is immediate (usually quicker than allergic reactions to food).

Natural rubber latex

Some common sources of latex are:

- balloons
- rubber bands
- carpet backing
- furniture filling
- medical or dental items such as catheters, gloves, disposable items.

Medicines

Medication rarely causes a severe allergic reaction in children.

How to avoid contact with allergens

The most important way to manage a child at risk of allergic reactions is to **avoid the substances they are allergic to**. As soon as the child is able to understand and take part, it is important to involve them in avoiding the allergic substance.

Food

When a food allergy has been identified, it is essential that the child does not eat even a tiny quantity of the food that they are allergic to (unless advised differently by the allergy clinic). An allergic reaction may also happen even if they touch that particular food.

A major problem with food allergies is accidental exposure to a particular food, when it is not listed or a hidden ingredient. It is important to:

- Read all labels carefully even if the product has been eaten before. This is because manufacturers regularly change the ingredients they put in products.
- Be more careful when children are eating out, on holidays, on outings and at adult and children's parties. These are times when accidental ingestion may occur. Always be alert!
- Ask about ingredients in food when eating in restaurants or having take-away food. Foods are generally unlabelled in these places. Stress the seriousness of the allergic condition to the staff. Talk directly with the chef if necessary. If they cannot guarantee that a specific dish is safe, it is best to choose a dish which they can confirm is safe or eat elsewhere.
- Ask retailers and manufacturers for a product list of foods which are free from certain ingredients, such as peanuts, nuts, egg and milk.
- Dietitians can give advice about how to avoid particular foods and have very useful information leaflets.

Cross-contamination

Cross-contamination is a risk for children with food allergy. This happens when a food has come into contact with the allergenic food without anyone knowing. Here are some ways to reduce the risk of cross-contamination:

- Take extra care when preparing food so contaminated cutlery, crockery, or work surfaces do not come into contact with the child's 'safe' food. Use clean utensils and wipe down surfaces with hot soapy water.
- Keep the allergenic food safely out of reach.
- If you have been eating the allergenic food, wash your hands and rinse your mouth well before touching or kissing your child.

Insect stings

Here are some steps to help prevent putting your child at risk from getting stung:

- Avoid dressing your child in shiny or brightly coloured clothing.
- Make sure your child wears shoes when outside.
- Avoid eating food outside.
- Avoid drinks in cans when there are wasps around. Boxed drinks with straws may be safer.
- When outside, avoid open rubbish bins and keep food covered.
- Use insect repellents.

Latex

A severe allergic reaction is most likely to occur when latex has come into contact with mucous membranes (such as the mouth, eyes or ears) or directly with tissue (during surgery). It is important to:

- Warn doctors, dentists, paramedical staff and hairdressers that your child is allergic to latex.
- Be aware of all substances that may contain latex (see separate leaflet on latex allergy).

Medicines

- Make sure that you know all the names of the medicines that your child is allergic to, as medicines sometimes have more than one name.
- Always check any medicines prescribed for your child either by your GP or in hospital.

Signs and symptoms of an allergic response

Despite avoiding substances that cause allergic responses, accidents can happen. In an allergic reaction any of the following symptoms may occur in any order and they may quickly progress from mild to severe.

Milder reactions are much more common. Anaphylaxis, the most severe type of allergic reaction, is uncommon. It can be life-threatening but is very rarely fatal in children.

Most reactions occur within 5 minutes or up to an hour after ingestion or contact with the allergen, but some reactions can occur up to a few hours later. There can also be a second phase of the reaction when symptoms reoccur. It is important to keep an eye on your child for about 6-8 hours after the first sign of a reaction.

Children with asthma have a higher risk of having a severe or anaphylactic reaction. It is important to keep your child's asthma well controlled. If they have a steroid inhaler prescribed it is recommended that it is taken regularly. If your child is wheezy and using their reliever inhaler more than twice a week then their asthma needs to be reviewed in the asthma clinic at their health centre. They may need a change in medication.

Mild/moderate allergic symptoms

- tingling, itching or burning sensation in the mouth (useful warning that child has eaten food they are allergic to)
- rapid development of nettle rash/wheals/hives (urticaria)
- intense itching
- swelling, particularly of the face
- feeling hot or very chilled
- rising anxiety or feeling scared
- pale or flushed
- abdominal (tummy) pain
- nausea and/or vomiting

Severe symptoms (known as anaphylaxis)

- Difficulty in breathing. Either noisy or unusual wheezy breathing, hoarseness, croupy or choking cough or not able to talk normally. Breathing difficulties are due to swelling inside the throat and airway.
- Decreased level of consciousness, faint, floppy, very pale, blue lips or unresponsive. This is due to a drop in blood pressure.
- Collapse.

Action plan

Always carry an emergency pack containing:

1. 1-2 adrenaline auto injectors (EpiPen®).
2. Antihistamines, either in syrup or tablet form depending on the age of your child and their ability to swallow tablets. If your child can easily swallow tablets then it may be good to swap to these, as they are easier to carry.
3. If prescribed, a reliever inhaler such as salbutamol (Ventolin) and ideally a spacer.

Children who are of secondary school age should carry these medications with them.

Mild/moderate symptoms

1. As soon as any symptoms are noticed any food still in the mouth should be spat out. If some water is available swill it round the mouth and then spit out (if child able to do so) and a grown up informed.
2. The child/young person should be watched carefully and given some oral antihistamine, such as chlorphenamine (brands include Piriton) or cetirizine (brands include Piriteze or Zirtek). Cetirizine is recommended for children over 1 year old, as it is a non-sedating antihistamine, which is longer acting and does not usually cause drowsiness.
3. It is important to stay with the child, keep them calm and do not allow them to run around, and continue to monitor the allergic reaction to make sure it is getting better, not worse.

Severe symptoms

Remember mild symptoms may develop into a more serious reaction.

1. Stay with the child – do not leave them alone.
2. If the symptoms do become severe (anaphylactic), as listed earlier, recommended treatment is with adrenaline which is given as an injection into the thigh muscle. This is available as an adrenaline auto injector which is a prefilled injection. There are various adrenaline auto injectors available. The enclosed action plan gives instructions on how to administer your child's auto injector and a more detailed management plan.
3. Phone 999 and ask for an ambulance. Inform the ambulance that you have a **child** with severe allergic reaction or anaphylaxis (Ana-fil-ax-is). If adrenaline has been given, the child should always be checked by the hospital.
4. If wheezy, and prescribed, can have 10 puffs of reliever inhaler, such as salbutamol (Ventolin), via a spacer.
5. Continue to monitor your child's condition. If there is no improvement after 5 minutes, a second dose of adrenaline can be given via another auto injector (one dose per auto injector) in the other leg. Note the time of both doses.

Side effects of adrenaline

The main side effects of adrenaline include a fast heart rate, sweating, nausea, vomiting and heart arrhythmias (irregular heart beat). An irregular heart beat is only likely to happen if the adrenaline is injected into a vein. This is extremely unlikely when using an adrenaline auto injector.

Things to remember about the adrenaline auto injector

Use it when you need to!

- **There is evidence to show that in severe allergic reactions, if adrenaline is given early on, then there is a better outcome for the child.**
- The adrenaline can be given through clothing, but be careful to avoid folds, seams and pockets. If the child is young then it may be easier to remove clothing to expose the thigh.
- When you are using the auto injector **do not** put your thumb over the end of the injector to push it, as this can stop it from working.
- There are different types of adrenaline auto injectors, such as EpiPen®, Jext® and Emerade®. The most important thing is that you know exactly how to use the type your child has been prescribed. Please refer to the specific official adrenaline auto injector website or the leaflet inside the box.

It is safer to have the same type of auto injector at nursery/school and at home. Adrenaline is rarely given, so to only have one type of auto injector makes more sense, as they are all used slightly differently.

If your child is prescribed Jext® or Emerade® then you can get further information and a trainer pen from:

www.jext.co.uk or www.emerade.com

- Do not be afraid to use the adrenaline in a severe allergic reaction. It is a safe drug and is the most effective treatment for anaphylaxis (severe allergic reaction). If your child is severely unwell with an allergic reaction, they are more at risk from the reaction than from the adrenaline.

Check the expiry date

Always check the expiry date of all adrenaline auto injectors. Please read the manufacturers instructions for storage advice. EpiPen® has a viewing window to check the contents are clear and colourless. If your auto injectors are out of date or the contents are discoloured, you can get new ones from your GP. However, in an emergency, treatment using an expired auto injector, as long as the contents are NOT discoloured, is better than no treatment.

How to store the adrenaline auto injector

Adrenaline is light-sensitive, EpiPen® should be stored at room temperature, eg, not in direct sunlight or in the car overnight etc. Keep it in the tube provided.

Action plan

Keep an action plan with the auto injector (a pull-out example is enclosed in the centre of this leaflet).

Adrenaline access

Always have the adrenaline available wherever your child goes. It should not be carried by them until they are over the age of 11, although it is important they are familiar with the auto injector so they are not scared if it is necessary to use it. Encourage secondary school aged children to recognise the symptoms of allergic reactions and teach them how and when to use their own auto injector using a trainer.

EpiPen® sizes

There are two sizes of EpiPen®, a smaller dose for children under 30kg (up to approximately 10 years old) and the larger adult dose for those over 30kg in weight.

The recommended number of auto injectors is:

- for younger children – 2 auto injectors at school/nursery and 2 at all other times
- for children over 11 years old – 1 at school, 1 at home and 1 with the young person.

Who needs training?

- Make sure you and other carers of your child are clear about when and how to use the adrenaline auto injector. If you are unsure, please contact the allergy nurse (see back sheet for contact details or your local school nurse).
- Do ask for a trainer auto injector, so that other members of the family and friends can be shown how to use it. Every few months check you remember when and how to use the adrenaline. Use the enclosed general action plan, your child's specific action plan from their consultant and the trainer as a reminder. A free trainer and more information can be obtained from www.epipen.co.uk
- Do practise with the trainer on your child, so they become familiar with it. **It is important that if ever they need the adrenaline they do not run away from having it, as any exercise will make the allergic reaction worse. During an allergic reaction your child needs to sit or lie fairly still and keep calm.**
- Do check that carers and teachers in your child's nursery or school have had anaphylaxis training. They can contact the allergy nurse, health visitor or school health nurses if they are unsure.

Going away?

When going on holiday take 2 auto injectors with you. If travelling by air make sure your child's antihistamines, inhalers & spacer (if prescribed) and auto injectors are in the hand luggage. Please note that some airlines may require a covering letter from your GP when carrying injections and liquids. Check with the booking agency.

Be prepared!

If travelling abroad, find out the emergency telephone numbers for the specific country and where the nearest hospital is in relation to your holiday destination. Also find out the word for allergy and the foods your child is allergic to in the local language. It's always best to be prepared!

Nurseries/activity groups, child minders and schools

Please tell your child's carers about their allergy and what they need to avoid. They will need an emergency pack available as detailed above. All medication for nurseries and schools, etc. will require printed labels from the pharmacist with your child's name and dose.

School

Guidelines have been produced in conjunction with the Local Education Authority to ensure that young people at risk of anaphylaxis can be managed in schools. This includes training appropriate staff. It is important that you make sure that these guidelines are in place if your child has been prescribed adrenaline. It is the School Health Nurse who is responsible for this.

Nurseries

Your child's nursery will need to source their own auto injector training.

Other carers including family

You may like to give a copy of the pull-out action plan to other carers to advise them how to treat your child if they have an allergic reaction. Other carers may also wish to practice with the trainer so they are comfortable using it.

Emergency alert tags

We recommend using these alert tags when your child is more independent, for example at secondary school age. These are wristbands, bracelets, or necklaces that are internationally recognised and show vital details about your child's condition. They can be obtained from many different companies but here are a few we have found:

Medic Alert Foundation

Tel: 01908 951 045

www.medicalert.org.uk

The ID Band Company Limited

Tel: 0800 999 3669

www.theidbandco.com

Medi-Tag

Tel: 0121 200 1616

www.medi-tag.co.uk

Medical Tags

Tel: 0121 233 7455

www.medicaltags.co.uk

How to contact us

If you have any questions or concerns, please contact:

Dr T. Umasunthar

Consultant Paediatrician with an interest in allergy

Tel: 01865 221 652

Dr F. Obetoh

Consultant Paediatrician with an interest in allergy

Horton General Hospital

Tel: 01295 229 012

Dr J. Sims

Consultant Paediatrician with an interest in allergy

Horton General Hospital

Tel: 01295 229 012

Dr C. Robertson

Consultant Paediatrician with an interest in allergy

Tel: 01865 221 652

Dr J. Reed

Consultant Dermatologist

Department of Dermatology

Churchill Hospital

Tel. 01865 228 269

Children's Allergy Nurses

Horton General Hospital

Tel: **01295 229 012**

John Radcliffe Hospital

Tel: **01865 221 652**

Further information

British Society for Allergy and Clinical Immunology (BSACI)

Tel: 0207 501 3910

www.bsaci.org

The Anaphylaxis Campaign

Helpline: 01252 542 029

www.anaphylaxis.org.uk

Itchy Sneezzy Wheezy Project

For information on allergy, eczema, asthma and rhinitis.

www.itchysneezzywheezy.co.uk

Allergy UK

Helpline: 01322 619 898

www.allergyuk.org

Asthma UK

Helpline: 0300 222 5800

www.asthma.org.uk

National Eczema Society

Tel: 0207 281 3553

Helpline: 0800 448 0818

www.eczema.org

British Association of Dermatologists (BAD)

Tel: 0207 383 0266

www.bad.org.uk

EpiPen®

For more information on EpiPens and to obtain a free EpiPen® trainer.

Tel: 0845 460 0000

www.epipen.co.uk

How to give feedback about your experience

We would like to hear about your experience with our Children's Services. There are different ways to feed back to us:

Online: **www.ouh.nhs.uk/childrens-feedback**

Email: **childrens.patientexperience@ouh.nhs.uk**

Or you can ask for a paper survey to fill in.

Further information

If you would like an interpreter, please speak to the department where you are being seen.

Please also tell them if you would like this information in another format, such as:

- Easy Read
- large print
- braille
- audio
- electronic
- another language.

We have tried to make the information in this leaflet meet your needs. If it does not meet your individual needs or situation, please speak to your healthcare team. They are happy to help.

Authors: Dr C. Robertson, Paediatric Consultant with an interest in allergy
Judith Ward, Children's Allergy Nurse
Leah Jones, Children's Allergy Nurse

December 2021

Review: December 2024

Oxford University Hospitals NHS Foundation Trust
www.ouh.nhs.uk/information



Making a difference across our hospitals

charity@ouh.nhs.uk | 01865 743 444 | hospitalcharity.co.uk

OXFORD HOSPITALS CHARITY (REGISTERED CHARITY NUMBER 1175809)

