allergy and anaphylaxis GUIDELINES

for early childhood services and schools

Allergy NEW ZEALAND
www.allergy.org.nz

Contents

Introduction

"It is essential that all early childcare centres and schools are prepared to provide care for children at risk of severe allergic reactions. This necessitates having systems in place to ensure all staff know the children at risk, and that staff can recognise the signs and symptoms of an allergic reaction and know what to do. These guidelines provide a vital resource for childcare centres and schools to assist with ensuring all appropriate precautions are in place."
Dr Jan Sinclair, paediatric immunologist, Starship Hospital.

A large responsibility of care rests on childcare services and school staff, as children can spend up to a third of their waking life in childcare, preschool and school.
It is not uncommon for a severe food allergic reaction to present for the first time while at these services.

These guidelines have been created to assist early childhood centres (ECC) and schools develop key policies and procedures that will ensure the health and safety of children and students with allergies while in their care. The three key objectives are:

- To minimise child/student exposure to triggers (allergens) as much as possible.
- To ensure staff are prepared at all times to respond appropriately in case of a life-threatening reaction (anaphylaxis).
- To ensure children/students with allergies are able to participate in the same educational and recreational school activities as their peers.

There are children and teenagers with allergies enrolled in most schools and child-related services. Their allergies can range from mild to moderate to severe life-threatening anaphylaxis.

At least 20 per cent of the population is sensitive to allergy triggers, also known as allergens. These allergens are mainly pollen, grasses and house dust mites. For most people, allergic reactions to these are mild, such as hay fever (allergic rhinitis), itchy eyes and rashes.

Eczema, allergic rhinitis and asthma cases have been increasing in New Zealand over the past decade. Many children lose a significant amount of time at school and miss out on sporting and other extracurricular activities due to the chronic symptoms associated with their allergies. While these chronic allergies are not life-threatening, they can significantly impact on quality of life and learning.

Some allergies (e.g. food, insect venom, medications, and latex) can cause more serious allergic reactions including anaphylaxis. Anaphylactic reactions are not uncommon and may be increasing in prevalence, particularly in young children. Teenagers are also identified as being at increased risk of

anaphylaxis due to some risk-taking behaviours, including not carrying their autoinjector at all times or not disclosing their allergy to teachers or peers for fear of being seen as 'different'.

Anaphylactic reactions must always be treated as a medical emergency.

Approximately 90 per cent of children and 80 per cent of adults with asthma have the tendency to develop allergies. When they do, their allergic reactions tend to be more severe than an allergic person who does not have asthma.

To ensure the allergic child's health and safety needs are met when enrolled in ECC and school services, a cooperative partnership with clear communication is needed between parents, Boards of Trustees, school staff, school nurses, public health nurses and doctors.

In recognition of this, these *Allergy and Anaphylaxis Guidelines* have been produced as a resource for New Zealand schools, ECC, public health nurses, school nurses, students and parents to provide reliable evidence-based information about the prevention, recognition and first aid treatment of allergic reactions, including anaphylaxis.

Allergens

Allergens, also known as allergic triggers, come in a variety of forms.

Airborne allergens: dust mites, pollen, mould spores, cat and dog dander.

Skin contact or inhalation of airborne allergens can cause skin rash, swelling of the eyes, hay fever and wheeze.
Airborne allergens are not often a trigger for anaphylaxis.

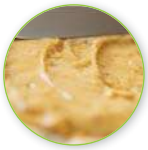
Food allergens: any type of food can trigger an allergic reaction.

The majority of food allergic reactions are triggered by eight foods:

- **egg**

- **cow's milk** (dairy)

- **peanuts**



- **tree nuts**
  (e.g. cashew, almond, Brazil etc)

- **fish**

- **shellfish**

- **soy**

- **wheat**

Egg and dairy are common triggers in infants.
Peanuts, tree nuts and seafood are the most common triggers in older children, adolescents and adults, and tend to be life-long in approximately 80 per cent of people with these allergies.

Food can trigger reactions ranging from localised swelling through to generalised reactions, including anaphylaxis.

Insect venom is an injected allergen from stinging insects, such as bees and wasps. The venom from each of these insects is different and being allergic to one does not mean being allergic to others.
Reactions range from local reactions, which can be large and may last for a number of days, to immediate and generalised reactions, including anaphylaxis.
Note: Because a sting punctures the skin, anaphylaxis can be rapid.

Honey bees leave a venom sac behind. To avoid any further injection of honey bee venom, it is recommended that this sac is immediately 'flicked off' and not 'pinched' out to remove.

Medication, including natural and herbal products, may trigger an allergic reaction. Antibiotics (commonly penicillin) are the most common reported trigger. Medications may trigger an allergic reaction at any age.

Other triggers include allergy to latex in rubber products (e.g. rubber gloves, balloons, pacifiers or 'dummies'). If a child has latex allergy, it is vital that dental nurses/dentists are notified.

Some children are allergic to cold (cold urticaria) which can be triggered by swimming pools, snow.

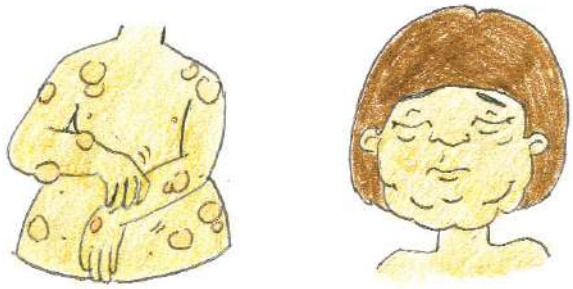
In adolescents and adults, exercise can also be a cause of anaphylaxis.

Special Note: **allergic reactions to food, insect venom or medication may be more severe in children who have asthma compared with children who do not have asthma.**

Allergic reaction: what to look for

How do you know if a child or student is having an allergic reaction, including anaphylaxis?

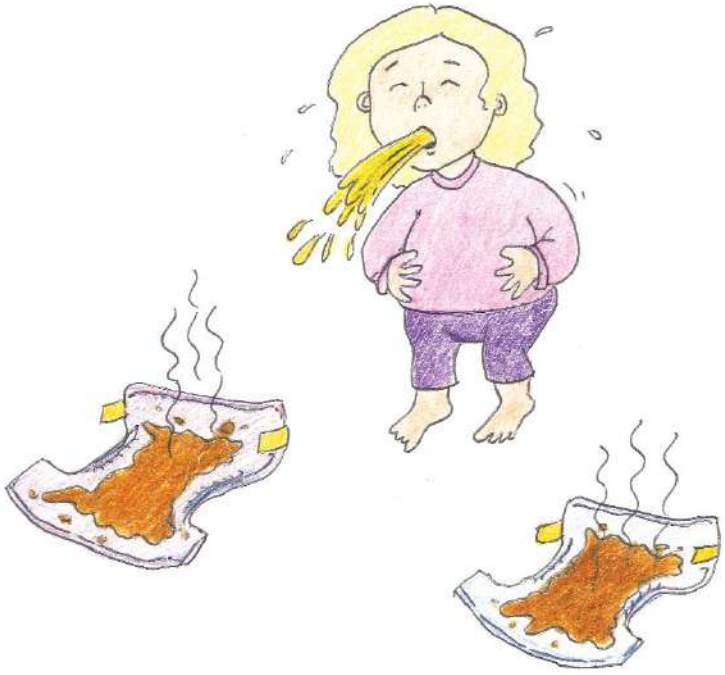
Mild to moderate allergic reaction:



- swelling of lips, face, eyes
- hives or welts
- tingling mouth
- abdominal pain*, vomiting*

A person may have one, some, or all of these symptoms during an allergic reaction.

** Abdominal pain or vomiting are signs of a mild to moderate reaction to food allergens but are signs of anaphylaxis with insect allergy.*



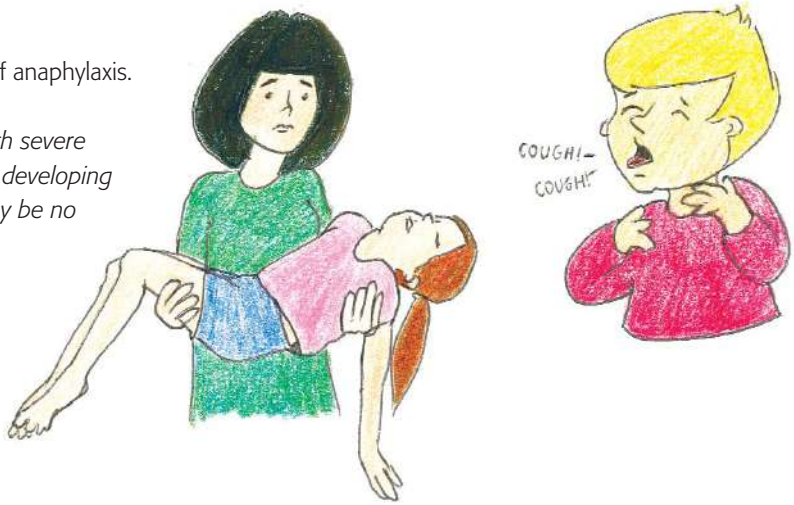
Severe allergic reaction

ANAPHYLAXIS:

- difficult/noisy breathing
- swelling of tongue
- swelling/tightness in throat
- difficulty talking and/or hoarse voice
- wheeze or persistent cough
- loss of consciousness and/or collapse
- pale and floppy (young children)

Any one or more of these symptoms is a sign of anaphylaxis.

**Some individuals (10-20 per cent) present with severe symptoms and experience anaphylaxis without developing mild or moderate symptoms first, e.g. there may be no noticeable hives/welts or swelling.*



Anaphylaxis

Anaphylaxis is a severe allergic reaction and is potentially life-threatening.

It should always be treated as a medical emergency, requiring immediate treatment. Symptoms, severity and time of onset may vary between children and from one episode of anaphylaxis to another. Symptoms usually occur within 5-30 minutes of exposure to an allergen. However reactions can occur up to several hours later.

Life-threatening signs and symptoms

Airway

- swelling of tongue,
- difficulty talking and/or hoarse voice
- swallowing difficulties

Breathing

- difficult/noisy breathing
- wheeze or persistent cough

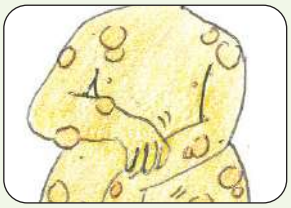
Circulation

- pale and floppy (young children)
- shock (pale, clammy)
- persistent dizziness
- collapse
- loss of consciousness

Other signs and symptoms

Skin

- hives
- welts
- swelling of lips, face, eyes



Gastrointestinal

- abdominal pain
- cramps
- diarrhoea
- vomiting

Nervous System

- anxiousness
- confusion
- agitation

Emergency treatment

For children with an adrenaline auto-injector and action plan:

1. **Lay the child flat** and elevate his or her legs. If breathing is difficult, allow to sit. DO NOT STAND OR WALK — even after adrenaline.

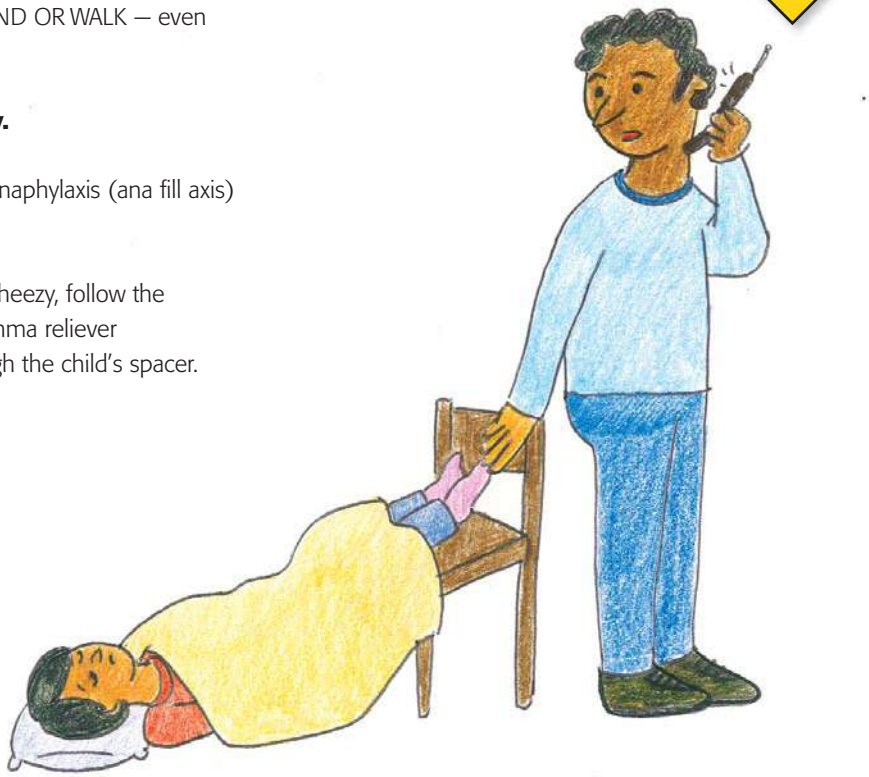
2. **Give ADRENALINE immediately.**

3. **Call the ambulance, 111.** Say, "Anaphylaxis (ana fill axis) - need adrenaline".

4. If the child has asthma and is still wheezy, follow the instructions on the Action Plan: asthma reliever medication, such as Ventolin, through the child's spacer.

5. Call parents.

6. Follow the standard resuscitation measures (ABC) if the child's pulse or breathing is absent.



Frequently asked questions

I'm not sure if it is anaphylaxis. Should I use an adrenaline autoinjector?
If in doubt, it is better to use an adrenaline autoinjector than not use it, even if the reaction is not anaphylaxis. Under-treatment of anaphylaxis is more harmful (and potentially life-threatening) than over-treatment of a mild or moderate allergic reaction.

After using the adrenaline autoinjector should the individual be sitting, standing or lying down?
It is important to lay an individual with anaphylaxis flat to improve blood flow to the heart. An upright position (standing) can lead to insufficient blood returning to the heart, a subsequent drop in blood pressure and increased risk of death. If breathing is difficult, allow the individual to sit, but not stand. If vomiting, lay the individual on their side in the recovery position.

If I am not sure if an individual is experiencing asthma or anaphylaxis, when should an adrenaline autoinjector be used?
In an individual with asthma, who is also at risk of anaphylaxis, the adrenaline autoinjector should be used first, followed by asthma reliever medication, calling an ambulance, continuing asthma first aid and following the ASCIA Action Plan for Anaphylaxis.

Source: ASCIA Adrenaline Auto-injector frequently asked questions and answers FAQ. http://www.allergy.org.au/content/view/395/365/

Action plans

NOTE: specific administration instructions relating to the autoinjector are on the bottom left hand side of the plan. Ensure the adrenaline autoinjector is kept with the action plan that matches the autoinjector brand.

Action Plan for Anapen

ascia
australasian society of clinical immunology and allergy inc.
www.allergy.org.au

ACTION PLAN FOR Anaphylaxis

for use with Anapen® or Anapen® Jr adrenaline autoinjectors

Name: _____

Date of birth: _____

Photo

Confirmed allergens: _____

Family/emergency contact name(s): _____

Work Ph: _____

Home Ph: _____

Mobile Ph: _____

Plan prepared by:

Dr _____

Signed _____

Date _____

How to give Anapen® or Anapen® Jr

PULL OFF BLACK NEEDLE SHIELD.

PULL OFF GREY SAFETY CAP from red button.

PLACE NEEDLE END FIRMLY against outer mid-thigh at 90° angle (with or without clothing).

PRESS RED BUTTON so it clicks and hold for 10 seconds. REMOVE Anapen® and DO NOT touch needle. Massage injection site for 10 seconds.

MILD TO MODERATE ALLERGIC REACTION

- swelling of lips, face, eyes
- hives or welts
- tingling mouth
- abdominal pain, vomiting (these are signs of a severe allergic reaction to insects)

ACTION

- **For insect allergy, flick out sting if visible. Do not remove ticks**
- Stay with person and call for help
- Give medications (if prescribed) .....
  dose: .....
- Locate Anapen® or Anapen® Jr
- Contact family/emergency contact

Watch for any one of the following signs of Anaphylaxis

ANAPHYLAXIS (SEVERE ALLERGIC REACTION)

- difficult/noisy breathing
- swelling of tongue
- swelling/tightness in throat
- difficulty talking and/or hoarse voice
- wheeze or persistent cough
- persistent dizziness or collapse
- pale and floppy (young children)

ACTION

1 **Lay person flat, do not stand or walk. If breathing is difficult allow to sit**
2 **Give Anapen® or Anapen® Jr**
3 **Phone ambulance - 000 (AU), 111 (NZ), 112 (mobile)**
4 **Contact family/emergency contact**
5 **Further adrenaline doses may be given if no response after 5 minutes (if another adrenaline autoinjector is available)**

If in doubt, give Anapen® or Anapen® Jr

Anapen® Jr is generally prescribed for children aged 1-5 years.
*Medical observation in hospital for at least 4 hours is recommended after anaphylaxis.

Additional information _____

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www.allergy.org.au

Action plan for Anaphylaxis

for use with EpiPen® or EpiPen® Jr adrenaline autoinjectors (with blue safety release and orange needle end)

Name: _____

Date of birth: _____

Photo

Confirmed allergens:

Family/emergency contact name(s):

Work Ph:

Home Ph:

Mobile Ph:

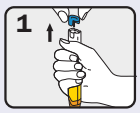
Plan prepared by:

Dr

Signed

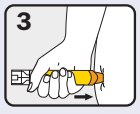
Date

How to give Epipen® or Epipen® Jr

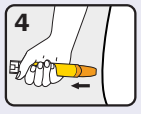


Form fist around EpiPen® and PULL OFF BLUE SAFETY RELEASE.

PLACE ORANGE END against outer mid-thigh (with or without clothing).



PUSH DOWN HARD until a click is heard or felt and hold in place for 10 seconds.



REMOVE EpiPen® Massage injection site for 10 seconds.

MILD TO MODERATE ALLERGIC REACTION

- swelling of lips, face, eyes
- hives or welts
- tingling mouth
- abdominal pain, vomiting (these are signs of a severe allergic reaction to insects)

ACTION

- **For insect allergy, flick out sting if visible. Do not remove ticks**
- Stay with person and call for help
- Give medications (if prescribed) .....
  dose: .....
- Locate EpiPen® or EpiPen® Jr
- Contact family/emergency contact

Watch for any one of the following signs of Anaphylaxis

ANAPHYLAXIS (SEVERE ALLERGIC REACTION)

- difficult/noisy breathing
- swelling of tongue
- swelling/tightness in throat
- difficulty talking and/or hoarse voice
- wheeze or persistent cough
- persistent dizziness or collapse
- pale and floppy (young children)

ACTION

1. **Lay person flat, do not stand or walk. If breathing is difficult allow to sit**
2. **Give EpiPen® or EpiPen® Jr**
3. **Phone ambulance* - 000 (AU), 111 (NZ), 112 (mobile)**
4. **Contact family/emergency contact**
5. **Further adrenaline doses may be given if no response after 5 minutes (if another adrenaline autoinjector is available)**

If in doubt, give EpiPen® or EpiPen® Jr

EpiPen® Jr is generally prescribed for children aged 1-5 years.
*Medical observation in hospital for at least 4 hours is recommended after anaphylaxis.

Additional information

Adrenaline autoinjectors

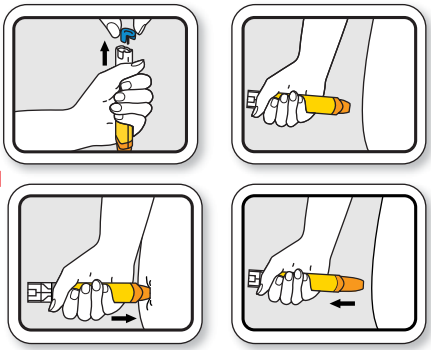
There are two brands of adrenaline autoinjectors available in New Zealand: Anapen and EpiPen.

Adrenaline autoinjectors contain a single, pre-measured dose of adrenaline. They have been designed to be given by people who are not medically trained, such as a friend, teacher, childcare worker, parent, passerby or by the patient themselves (if they are not too unwell to do this).

Source: ASCIA

Anapen

EpiPen



After administering:

- do not touch the needle end
- massage the injection site for 10 seconds.

Managing mild to moderate allergic reactions

If a child shows <u>any</u> of these symptoms:

- swelling of lips, face, eyes
- hives or welts
- tingling mouth
- abdominal pain, vomiting

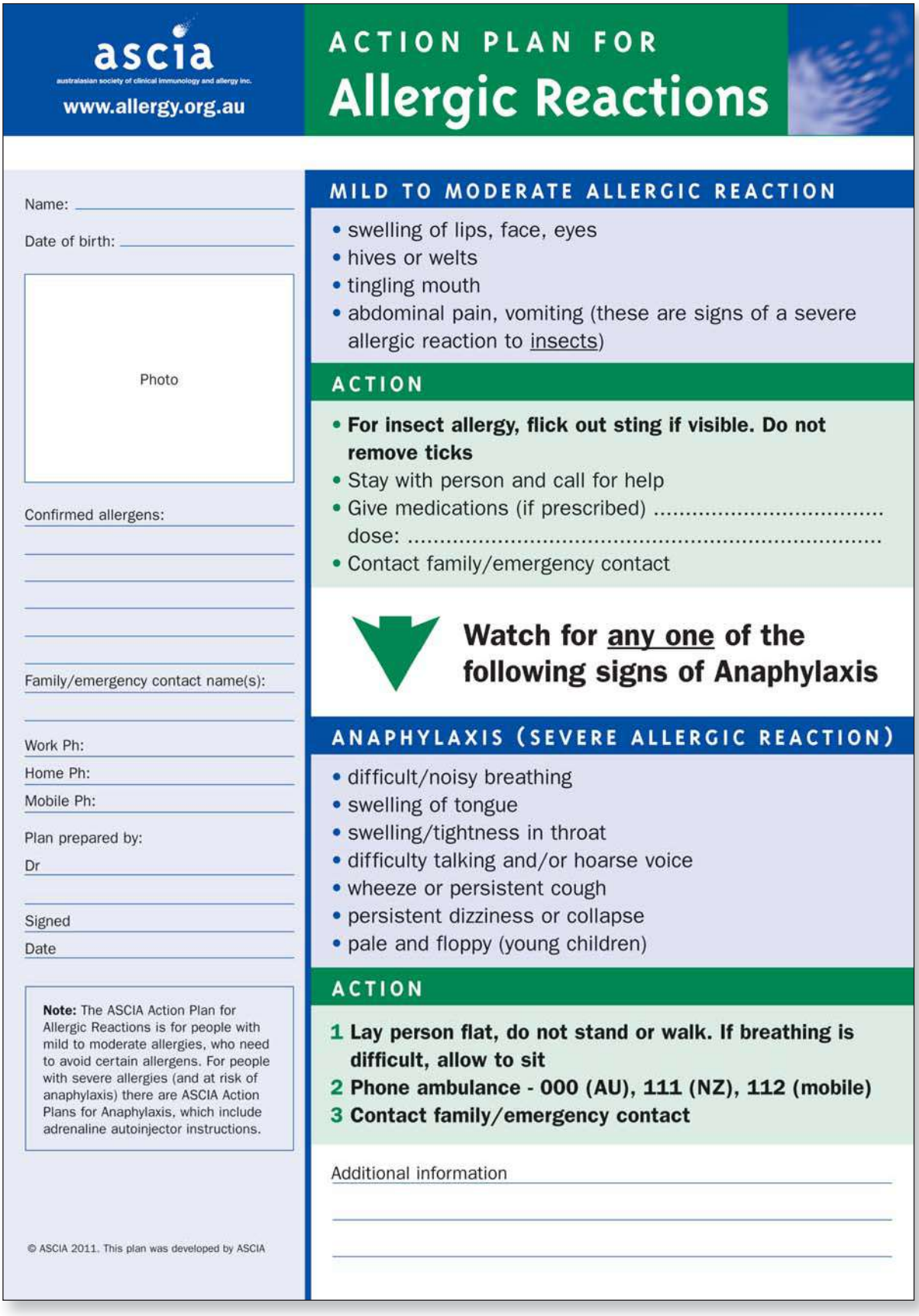
follow the steps on the Action Plan for Allergic Reactions on next page.

1. Stay with the child and call for help
2. Give medications if prescribed
3. Contact family/carer.

** Remember that abdominal pain or vomiting are signs of a mild to moderate reaction to most allergens, but are signs of anaphylaxis in insect allergy.*

Example of some inhaled allergies - pet dander

Action Plan for Allergic Reactions
Used when the student does not have an adrenaline auto-injector



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www.allergy.org.au

ACTION PLAN FOR Allergic Reactions

Name: _____

Date of birth: _____

Photo

Confirmed allergens:

Family/emergency contact name(s):

Work Ph:

Home Ph:

Mobile Ph:

Plan prepared by:

Dr

Signed

Date

Note: The ASCIA Action Plan for Allergic Reactions is for people with mild to moderate allergies, who need to avoid certain allergens. For people with severe allergies (and at risk of anaphylaxis) there are ASCIA Action Plans for Anaphylaxis, which include adrenaline autoinjector instructions.

MILD TO MODERATE ALLERGIC REACTION

- swelling of lips, face, eyes
- hives or welts
- tingling mouth
- abdominal pain, vomiting (these are signs of a severe allergic reaction to insects)

ACTION

- **For insect allergy, flick out sting if visible. Do not remove ticks**
- Stay with person and call for help
- Give medications (if prescribed) .....
  dose: .....
- Contact family/emergency contact

Watch for any one of the following signs of Anaphylaxis

ANAPHYLAXIS (SEVERE ALLERGIC REACTION)

- difficult/noisy breathing
- swelling of tongue
- swelling/tightness in throat
- difficulty talking and/or hoarse voice
- wheeze or persistent cough
- persistent dizziness or collapse
- pale and floppy (young children)

ACTION

1 **Lay person flat, do not stand or walk. If breathing is difficult, allow to sit**
2 **Phone ambulance - 000 (AU), 111 (NZ), 112 (mobile)**
3 **Contact family/emergency contact**

Additional information

Asthma spacer

For children with allergies who also have asthma, the doctor may have written, "If still wheezing after adrenaline, give six puffs of Ventolin via the spacer" on the bottom of the Anaphylaxis Action Plan.

Spacers are clear plastic tubes with a mouthpiece or mask on one end and a hole for the inhaler or 'puffer' at the other end.

There are a variety of different spacers, each with their own directions, which you will need to follow. Below are the instructions for one of the more common spacers.

To give the reliever medication, e.g. Ventolin, via the spacer correctly:

1. Shake the reliever inhaler ('puffer') well, holding it upright.
2. Fit the inhaler into the opening at the end of the spacer.
3. Place the mask so it seals around the child's nose and mouth or ask them to seal their lips firmly round the mouthpiece.
4. Press the inhaler once only.
5. Watch as the child takes five or six breaths in and out through the mouth. Do not remove the spacer from mouth between breaths.
6. Repeat steps 1-5 until all six 'puffs' of the reliever have been given.

Go to www.asthma-nz.org.nz Asthma New Zealand or www.asthmanz.co.nz the New Zealand Asthma Research Foundation for downloadable asthma management plans and more information.

"Ensure asthma inhalers are replaced as required and are kept with the anaphylaxis kit in a central location"

Prevention of food anaphylactic reactions: ASCIA

The following guidelines have been developed by the Australasian Society of Clinical Immunology and Allergy (ASCIA) to provide advice for minimising the risk of food induced anaphylaxis in schools, preschools and childcare centres.

ASCIA is a professional medical organisation, comprising predominantly clinical immunologists, allergy specialists and immunology scientists. ASCIA promotes education and the highest standard of ethical medical practice.

It is recommended you take the time to read through this information carefully, as these are very informative and definitive guidelines you can share with staff and families to clarify the reasons you have food policies.

Guidelines for prevention

of food anaphylactic reactions in schools and early childhood schools

These guidelines have been prepared to assist in preventing life-threatening anaphylaxis. This document has been reviewed by ASCIA members and takes account of the published literature at the time of review. It is not intended to replace professional medical advice. Any questions regarding a medical diagnosis or treatment should be directed to a medical practitioner.

The intent of these guidelines is to provide advice for minimising the risk of food-induced anaphylaxis in schools, preschools and childcare centres.

In developing these guidelines the ASCIA Anaphylaxis Working Party has taken into account established guidelines [1] and has been mindful of the:

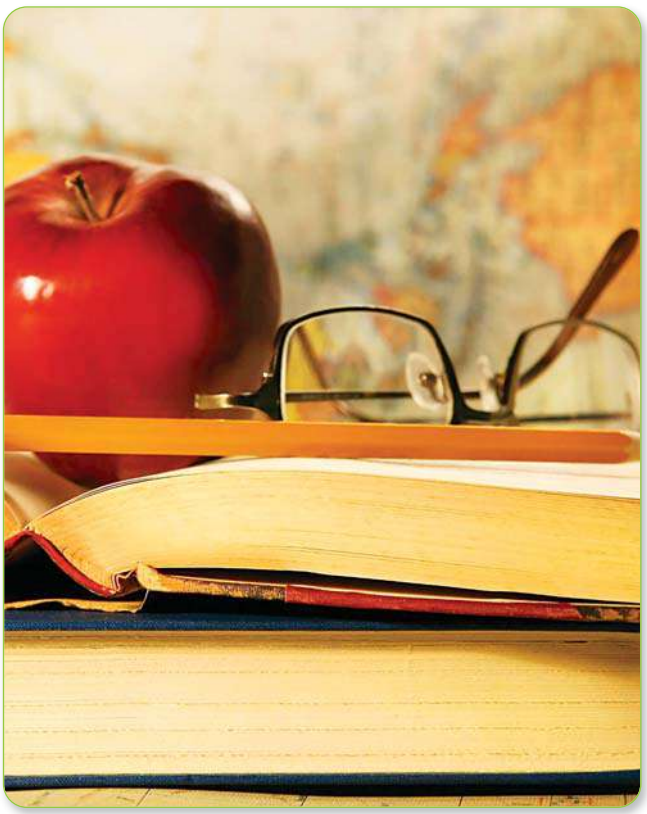
- needs of the food allergic child
- difficulties in advocating measures that are not necessarily proven to be effective
- stresses on parents [2] teachers and carers
- available epidemiological information on food anaphylactic reactions in preschool and school age children
- nationwide implications of the recommendations.

Although allergic reactions to food are common in children, severe life-threatening reactions are uncommon and deaths are rare.

- The majority of food reactions, even to highly allergenic foods such as peanuts are not anaphylactic [3].
- In Australia the prevalence of food-induced anaphylaxis in pre-school age children was 1 in 170 and in school age children was 1 in 1900 [4].
- The majority of food allergic and anaphylactic reactions occur in preschool-age children. An Australian survey of over 4000 children indicated that more than 90 per cent of anaphylactic food reactions [13/14] occurred in preschool-age children and only one in a school-age child [4].
- However more than 90 per cent of fatal reactions to foods have occurred in children aged five years and older [5]. This indicates the importance of food avoidance for those school-age children considered to be at risk.
- The risk of anaphylaxis in an individual case depends on a number of factors, including the age of the child, the particular food involved, the amount of the food ingested and the presence of asthma.
- Peanuts and other nuts are the most likely foods to cause anaphylaxis.
- Anaphylaxis is very unlikely to occur from skin contact or exposure to food odours [6].

The four steps in the prevention of food anaphylactic reactions in children at risk in schools, preschools and childcare centres.

1. Obtaining medical information about children at risk by school, preschool or childcare centre personnel.
2. Education of those responsible for the care of children concerning the risk of food anaphylaxis.
3. Implementation of practical strategies to avoid exposure to known triggers.
4. Age-appropriate education of children with severe food allergies.



1) Obtaining medical information

- The initial step should be that schools, preschools and childcare centres ask for medical information at the time of enrolment of children.
- Following identification of children with allergies, the next step is the provision of documentation by parents, such as an ASCIA Anaphylaxis Action Plan, which has been provided by a registered medical practitioner and includes the following:

1. Clear identification of the child (photo)
2. Documentation of the allergic triggers
3. Documentation of the first aid response including any prescribed medication
4. Identification and contact details of the doctor who has signed the action plan.

- Concerning identification at schools, preschools or childcare centres, a signed anaphylaxis action plan containing photo identification of the child is considered sufficient. The identification of children by MedicAlert bracelets or other forms of distinction is not considered mandatory. As food allergies may change with time it is important that schools, preschools or childcare centres ensure that the medical information is reviewed every one to two years. Some services find that having one or two named staff members for medical needs and medicines helps to keep systems in place and communication with parents straightforward.

2) Education of carers

- Recognition of the risk and understanding the steps that can be taken to minimise food anaphylaxis by all those responsible for the care of children in schools, preschools or childcare centres, are the basis of prevention.
- Important topics that need to be addressed in the educational process are:

1. What is allergy?
2. What is anaphylaxis?
3. What are the triggers for allergy and anaphylaxis?
4. How is anaphylaxis recognised?
5. How can anaphylaxis be prevented?
6. What should be done in the event of a child having a severe allergic reaction?
7. Instruction on Anapen and EpiPen use.

- Ideally, education of all staff on these topics should be provided by appropriately qualified professionals, such as allergy nurse educators, doctors or qualified first aid trainers, and reinforced at yearly intervals.

3) Practical strategies to avoid exposure to known triggers

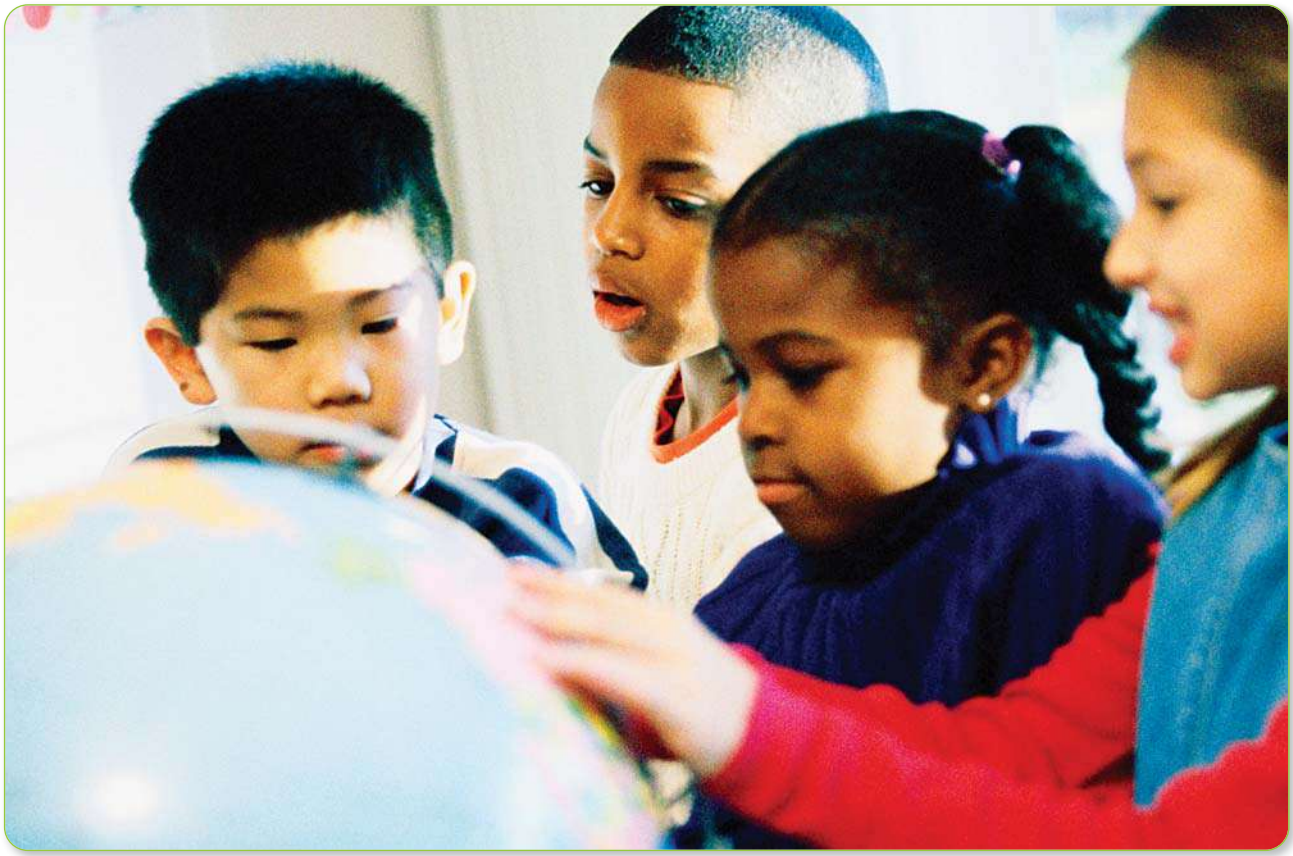
- Avoidance of specific triggers is the basis of anaphylaxis prevention.
- Appropriate avoidance measures are critically dependant on education of the child, his/her peers and all school personnel.
- The measures that are appropriate will depend on the nature of the institution, the possible routes of exposure to food allergens and the age of the child.
- As a general principle it is not recommended that children in schools, preschools or childcare centres with a food allergy be physically isolated from other children.

4) Age-appropriate education of children with severe food allergies

- Whilst it is primarily the responsibility of parents that the child is taught to care for him/herself, the school also has a role to implement the care plan and reinforce appropriate avoidance and management strategies.
- In childcare centres and preschools, children are dependant on carers for providing a safe environment.
- As children mature they are able to take more responsibility for their own care.

General food policy measures

- There should be no trading and sharing of food, food utensils and food containers.
- It is ideal that children with severe food allergies should only eat lunches and snacks that have been prepared at home.
- Bottles, other drinks and lunch boxes provided by the parents for their children should be clearly labelled with the name of the child for whom they are intended.
- The use of food in crafts, cooking classes and science experiments may need to be restricted depending on the allergies of particular children.
- Food preparation personnel should be instructed about measures necessary to prevent cross contamination during the handling, preparation and serving of food.



- Examples would include the careful cleaning of food preparation areas after use and cleaning of utensils when preparing allergenic foods.
- The risk of a life-threatening anaphylaxis from casual skin contact, even with highly allergenic foods such as peanuts, appears to be very low [6].
- On occasions casual skin contact will provoke urticarial reactions (hives).
- Simple hygiene measures such as hand washing and bench-top washing are considered appropriate [7].
- Food removal from preschools or childcare centres should only occur following recommendation by a relevant medical specialist and the provision of documentation of this recommendation.

Food policy measure specific to school-age children

Risk minimisation with regard to particular foods (peanuts and tree nuts) is indicated, however the implementation of blanket food bans or attempts to prohibit the entry of food substances into schools are not recommended. Issues considered in not recommending blanket food bans were:

- the practicalities of such measures
- the issue that for school-age children an essential step is to develop strategies for avoidance in the wider community as well as at school
- the lack of evidence of the effectiveness of such measures
- other guidelines and position statements [1;8] and experts do not recommend such measures [9;10]
- some guidelines state that such a policy should be 'considered' for a specific foodstuff such as peanut [11] rather than recommended
- food bans at schools are not recommended by allergy consumer organisations
- the risk of complacency about avoidance strategies if a food is banned.

For schools where there are children with severe allergies to nuts (peanuts and tree nuts) a risk minimisation policy for school canteens should be implemented. This involves removal of items with the relevant nut as an ingredient, but does not apply to those foods labelled 'may contain traces of nuts'.

Risk minimisation in schools may also include asking parents of classmates not to send peanut butter on sandwiches if a class member in early primary years (Kindergarten to seven-

year-old) has peanut allergy. This is due to the higher risk of person-to-person contact in younger children.

On school camps where there are children with severe nut allergy, it should be requested that foods containing nuts are not taken or supplied, consistent with the nut minimisation policy in the school canteen.

Bullying by provoking food allergic children with food to which they are allergic should be recognised as a risk factor and addressed by anti-bullying policies.

Food policy measures specific to preschool-age children where meals are brought from home.

- Measures should be taken to remove highly allergenic foods where transfer from one child to another is likely (such as whole eggs or egg-containing foods and peanut products). Parents of all children should be asked not to send meals containing highly allergenic foods such as egg and nut products to preschools or childcare centres at which there is a child at risk of anaphylaxis to these foods.
- It is realised that it is not possible to eliminate all food products such as milk products in bread or margarines from the foods brought to preschools or childcare centres.
- In some circumstances it may be appropriate that a highly allergic child does not sit at tables where the food to which they are allergic is being served.

Where meal preparation is undertaken at child care centres and preschools.

- For severely allergic children the best option may be to bring meals prepared from home.
- If it is decided to provide meals prepared at the preschool or childcare centre to a child at risk, then the meal prepared for all children should not contain the ingredients such as milk, egg and nut products to which the child is at risk.
- Meals prepared at preschools or childcare centres which contain ingredients with 'May contain traces of nuts' on a label should not be given to nut allergic children.
- Food removal from preschools or childcare centres should only occur following recommendation by a relevant medical specialist and provision of documentation of this recommendation.

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Allergy New Zealand acknowledges ASCIA for giving us permission to reprint their guidelines.

School and ECC responsibilities

Role of the School / ECC

Schools have a legal obligation to provide a safe physical and emotional environment for students, and these following points outline the role of the school and ECC:

1. Staff should ask about allergic disease when enrolling pupils and have clear policy and planning in place for children with asthma and allergy.

2. The school/EEC should arrange regular education for staff, at least annually, facilitated by relevant health care providers such as public health nurses, school nurses or a registered first aid trainer. This would include identifying signs and symptoms of allergic reactions, management of allergic reactions including anaphylaxis, how to use adrenaline autoinjectors and risk management included in training. **Free e-anaphylaxis training for teachers is listed under useful resources.*

3. Have a system in place so all staff, including temporary or new staff, are aware of – and can identify – each child diagnosed as being at risk of anaphylaxis.

4. All staff know of, and are able to implement, the written individual anaphylaxis action plan and allergy management plan. This includes knowing where medication is kept. If the child has multiple allergies, it is recommended the teacher liaise with the parent and public health nurse/ school nurse to create a personalised care plan for the child at the start of the school year

5. Emergency and relieving medication is stored with the action plan in a personalised named kit in an **unlocked** cupboard, away from heat, out of reach of children and accessible to staff at all times. **Older students** may carry their autoinjector on themselves in agreement with parents and the school.
6. Ensure prevention and treatment continues on school trips/holidays.

7. Obtain written consent from the parent(s) for:
    a. the sharing of medical information between the school/ECC, GP and other health professionals as required.
    b. the school/ECC staff to administer medication as required by the allergy or anaphylaxis action plan, which has been authorised by the child's doctor.

8. Schools should aim to maintain healthy indoor and outdoor air quality, including environmental allergen control. For example, remove privet, silver birch trees and ensure rubbish bins are emptied daily.

Note: The school or ECC should have an annual review, as a student's allergies or needs may change. This is a good opportunity for the school to support a child's growing responsibility and implement age-appropriate strategies. It is important to note that even though an older student may be able to manage their allergy and carry their own medication, the school's responsibility remains the same. Studies indicate that adolescents are actually more vulnerable to a severe reaction due to several factors, including not disclosing their allergy and risk-taking behaviour. In the case of anaphylaxis, a student may be dizzy or lapse into unconsciousness and be unable to self-administer adrenaline.

Parent's responsibilities

1. Comply with recommended health management including relevant allergen avoidance.
2. Inform school of allergy diagnosis on enrolment form.
3. Where appropriate, obtain a written allergy action plan or anaphylaxis action plan from the doctor, and provide a copy for the school along with an adrenaline autoinjector. If the child has asthma, an asthma management plan may be useful.
4. Ensure all prescribed medication is provided to the school, kept up-to-date and replaced as soon as possible when used, especially adrenaline autoinjectors and asthma inhalers. Provide written consent for teachers to administer prescribed medication.

Note: If a parent does not supply the adrenaline autoinjector, this should be clearly documented and the school can follow the steps on the Green ASCIA Action Plan.

5. If the child has multiple allergies, it is recommended the parent liaise with the teacher and public health nurse/school nurse to create and help implement a personalised care plan for the child at the start of the school year.
6. Annually review and update medical information and medications.
7. Provide their children with named lunchbox and drink bottle with non-allergenic foods when at ECC/school.
8. May consider a 'treat box' of allergy appropriate food to be kept at preschool or school to be used by the child with allergies when other children are having food celebrations.
9. Parents can contact their school public health nurse for advice and support on working with the school to manage allergies.

Role of family doctor/allergy specialist

1. Diagnose or exclude allergies and communicate the results to the family
2. Provide a written allergy management plan/ anaphylaxis action plan in plain language with clear identification of the allergens, the main symptoms of an allergic reaction and how to treat them, with instructions for administration of emergency medication.
3. If the child has asthma, an asthma management plan should also be provided by the child's doctor.

Role of public health nurse/school nurse

1. To provide annual training to school staff on:
   - What is allergy?
   - What is anaphylaxis?
   - What are the triggers for allergy and anaphylaxis?
   - How is anaphylaxis recognised?
   - How can anaphylaxis be prevented?
   - What should be done in the event of a child having a severe allergic reaction?
   - Instruction on adrenaline autoinjector use.
2. For children who have severe or multiple allergies it is optimal for the public health nurse/school nurse to meet with the teacher and parent to create an individualised care plan together.
3. To keep up-to-date with health information and treatment relating to allergies, including autoinjectors.
4. To provide advocacy and support for children with severe allergies in the school environment.

Incident management

1. School commitment to best practice

Depending on the child and the experience they have had, there may be a need for debriefing following an anaphylactic episode. Likewise, the staff involved in managing the anaphylactic incident may require the opportunity to debrief. This process can help minimise potential anxiety related to a specific incident from becoming an ongoing problem. Acknowledging that the incident occurred, that procedures are in place and followed appropriately, can help reassure children and parents that if there is a next time, the staff know what to do and everything is in place to ensure the best possible outcome. It can also be an opportunity to reflect on how the incident was managed and whether there is a need to improve emergency procedures. In this process you can seek further information and training from your health professionals and ECC/school management.

2. Reporting a severe reaction/anaphylaxis

Schools have a legal responsibility to provide a safe physical and emotional environment for students. There is legislation governing this and what to do in the event of a student having anaphylaxis.

The following information outlines how.

1. Reporting a severe reaction/anaphylaxis:
The National Administration Guidelines require Boards of Trustees to provide a safe physical and emotional environment for students: NAG 5
Each board of trustees is also required to:
(a) provide a safe physical and emotional environment for students;
(b) promote healthy food and nutrition for all students; and
(c) comply in full with any legislation currently in force or that may be developed to ensure the safety of students and employees.
www.minedu.govt.nz/NZEducation/EducationPolicies/Schools/PolicyAndStrategy/PlanningReportingRelevantLegislationNEGSAndNAGS/TheNationalAdministrationGuidelinesNAGs.aspx

A School's Health and Safety Policy must include:
- School commitment to accurate reporting and recording
- Reporting to the Board of Trustees on accident frequencies and severity (see Action Guide 7, Toolkit 10F)
- Reporting of serious harm injuries to OSH and the Ministry of Education
- School commitment to continuous improvement and encourage best practice in health and safety management

www.minedu.govt.nz/NZEducation/EducationPolicies/Schools/SchoolOperations/HealthAndSafety/CreatingAHealthAndSafetyFrameworkForSchools.aspx

Anaphylaxis to a known trigger is accepted by ACC as an accident. It also meets the definition of serious harm as defined in the Health and Safety in Employment Act, 1992.

Therefore if a child/student or teacher has an anaphylactic reaction while on school grounds or in association with a school activity, this should be recorded, and reported to OSH (Department of Labour) within seven days. More information can be found at:
www.minedu.govt.nz/NZEducation/EducationPolicies/Schools/SchoolOperations/HealthAndSafety/InjuryAndIncidentReporting.aspx

Adrenaline autoinjectors

frequently asked questions

The following frequently asked questions and answers about adrenaline autoinjectors are based on inquiries that have been received by, or forwarded to ASCIA since 2003, mostly from parents, patients, first aid providers, schools and childcare service staff. This document was last updated in June 2011 and will be updated as new questions are received and/or new information becomes available.

What are adrenaline autoinjectors?

Adrenaline autoinjectors are automatic injectors that contain a single, pre-measured dose of adrenaline, designed for use by any person whether they are medically trained or not.

Why do you need to use adrenaline to treat anaphylaxis?

Adrenaline is the first-line emergency treatment for anaphylaxis (potentially life-threatening severe allergic reaction) and must be used promptly. When injected, adrenaline works rapidly (within minutes) to reduce throat swelling, open up the airways and maintain blood pressure. Withholding or delaying adrenaline may result in deterioration and can contribute to the death of an individual experiencing anaphylaxis.

Whilst antihistamines may be used to treat a mild or moderate allergic reaction, they do not prevent anaphylaxis. Therefore if signs of anaphylaxis develop, adrenaline should be given even if antihistamines have already been used.

What types of adrenaline autoinjectors are available?

In Australia and New Zealand, there are two brands of adrenaline autoinjectors (EpiPen and Anapen) and each of these is also available in a Junior version (EpiPenJr and AnapenJr). As EpiPen and Anapen products have different administration techniques, only one brand should be prescribed per individual and their ASCIA Action Plan for Anaphylaxis must be specific for the brand they have been prescribed.

What is the difference between the new-look EpiPen (introduced mid 2011) in contrast to the original EpiPen?

The new-look EpiPen has the same mechanism as the original EpiPen and hence the instructions are the same. The differences between the devices are as follows:

- The new-look EpiPen has a blue safety release cap and orange needle end, whereas the original EpiPen has a grey safety release cap and black needle end.
- The shape of the new-look EpiPen barrel is oval (for better grip).
- After the new-look EpiPen has been used an orange needle shield automatically covers the needle, preventing accidental injury from touching the needle after use.

The original EpiPen will be gradually phased out from mid 2011 to mid 2012.

Who can use an adrenaline autoinjector?

Adrenaline autoinjectors have been designed for use by people who are not medically trained in an emergency, such as a friend, teacher, childcare worker, parent, passer-by or the individual with anaphylaxis themselves (if they are not too unwell or too young to do this). Instructions are shown on the barrel of each device and included in the device specific Action Plans.

At what age is it appropriate for children to carry their own adrenaline autoinjector?

Children at risk of anaphylaxis usually only carry their own adrenaline autoinjector/s once they travel independently to and from school (e.g. using a bus or train). This often coincides with high school or the latter years of primary school. In younger children it is usually not appropriate for them to carry their own adrenaline autoinjector as neither they nor their peer group have the level of maturity and self-management skills necessary to take on this responsibility. When at school, staff are still responsible for the adrenaline autoinjector, even if it is kept with the student.

If I'm not sure it is anaphylaxis should I use an adrenaline autoinjector?

If in doubt, it is better to use an adrenaline autoinjector than not use it, even if the reaction is not anaphylaxis. Adrenaline is a hormone that is produced naturally in the human body and is very safe when given as instructed via an adrenaline autoinjector. Under-treatment of anaphylaxis is more harmful (and potentially life-threatening) than over-treatment of a mild or moderate allergic reaction.

I am not sure if an individual is experiencing asthma or anaphylaxis, when should an adrenaline autoinjector be used?

In an individual with asthma, who is also at risk of anaphylaxis, the adrenaline autoinjector should be used first, followed by asthma reliever medication, calling an ambulance, continuing asthma first aid and following the ASCIA Action 0Plan for Anaphylaxis.

Why do adrenaline autoinjectors need to be administered into the outer mid thigh?

Adrenaline is most rapidly absorbed when the autoinjector is administered into the muscle of the outer mid thigh (compared with other parts of the body), as shown in the diagrams on the barrel of the device, the package insert, and the ASCIA Action Plan for Anaphylaxis. Injecting adrenaline into the muscle of the outer mid thigh makes it extremely unlikely that damage to nerves and tendons will occur, or that it will be accidentally injected into an artery or vein. It is also the least painful part of the body to give an injection. Adrenaline autoinjectors can be administered through clothing, but not through more than one layer of clothing such as seams, pockets or the multiple layers of cargo pants.

What needs to be done after using an adrenaline autoinjector?

An ambulance should be called immediately after using an adrenaline autoinjector to take the individual to hospital so they can be given further treatment, if necessary, and remain under observation for at least four hours. The used adrenaline autoinjector should be placed in a rigid container, labelled clearly with the time it was given and then handed over to the ambulance. Transient (temporary) side effects of adrenaline, such as increased heart rate, trembling and pallor (pale skin), are to be expected.

After using the adrenaline autoinjector should the individual be sitting, standing or lying down?

It is important to lay an individual with anaphylaxis flat to improve blood flow to the heart. An upright position (standing) can lead to insufficient blood returning to the heart, a subsequent drop in blood pressure and increased risk of death. If breathing is difficult, allow the individual to sit, but not stand. If vomiting, lay the individual on their side in the recovery position.

When does an additional adrenaline autoinjector need to be used?

Further adrenaline doses may be given if there is no response five minutes after giving the previous dose.

Can adrenaline autoinjectors be re-used?

No. Each adrenaline autoinjector releases one single dose of adrenaline once the device is triggered.

What precautions should be taken when using an adrenaline autoinjector?

There are no absolute contraindications (factors which make it unwise to give treatment) for use of an adrenaline autoinjector in an individual who is experiencing anaphylaxis. However, it is important to follow the instructions and ensure that the needle end of the adrenaline autoinjector is on the individual's mid outer thigh and that you do not touch the needle after administration to avoid needle-stick injury.

Where should adrenaline autoinjectors be stored?

Adrenaline autoinjectors should be kept out of the reach of small children; however, they must be readily available when needed and not in a locked cupboard. An ASCIA Action Plan for Anaphylaxis should always be stored with an adrenaline autoinjector as the plan includes instructions on how to use the adrenaline autoinjector and the signs and symptoms of anaphylaxis. ASCIA Action Plans are available on the ASCIA website: www.allergy.org.au/content/view/10/3/#r1

At what temperature should adrenaline autoinjectors be stored?

Adrenaline is light and heat sensitive so adrenaline autoinjectors need to be stored in a cool dark place at room temperature, between 15˚ and 25˚ Celsius. This may be achieved by using an insulated wallet and these are available from Allergy New Zealand www.allergy.org.nz. Adrenaline autoinjectors must not be refrigerated nor stored on ice as temperatures below 15˚ Celsius may damage the autoinjector mechanism and cause it to jam.

When do adrenaline autoinjectors expire?

The shelf-life of adrenaline autoinjectors is normally around one to two years from date of manufacture. The expiry date on the side of the device needs to be marked on a calendar and the device must be replaced prior to this date.
Registration with Epiclub www.epiclub.com.au or Analert www.analert.com.au may be of assistance as they provide reminders about expiry dates. Expired adrenaline autoinjectors are not as effective when used for treating allergic reactions. However, a recently expired adrenaline autoinjector should be used in preference to not using one at all.

Who should be prescribed the 'Junior' version of adrenaline autoinjectors?

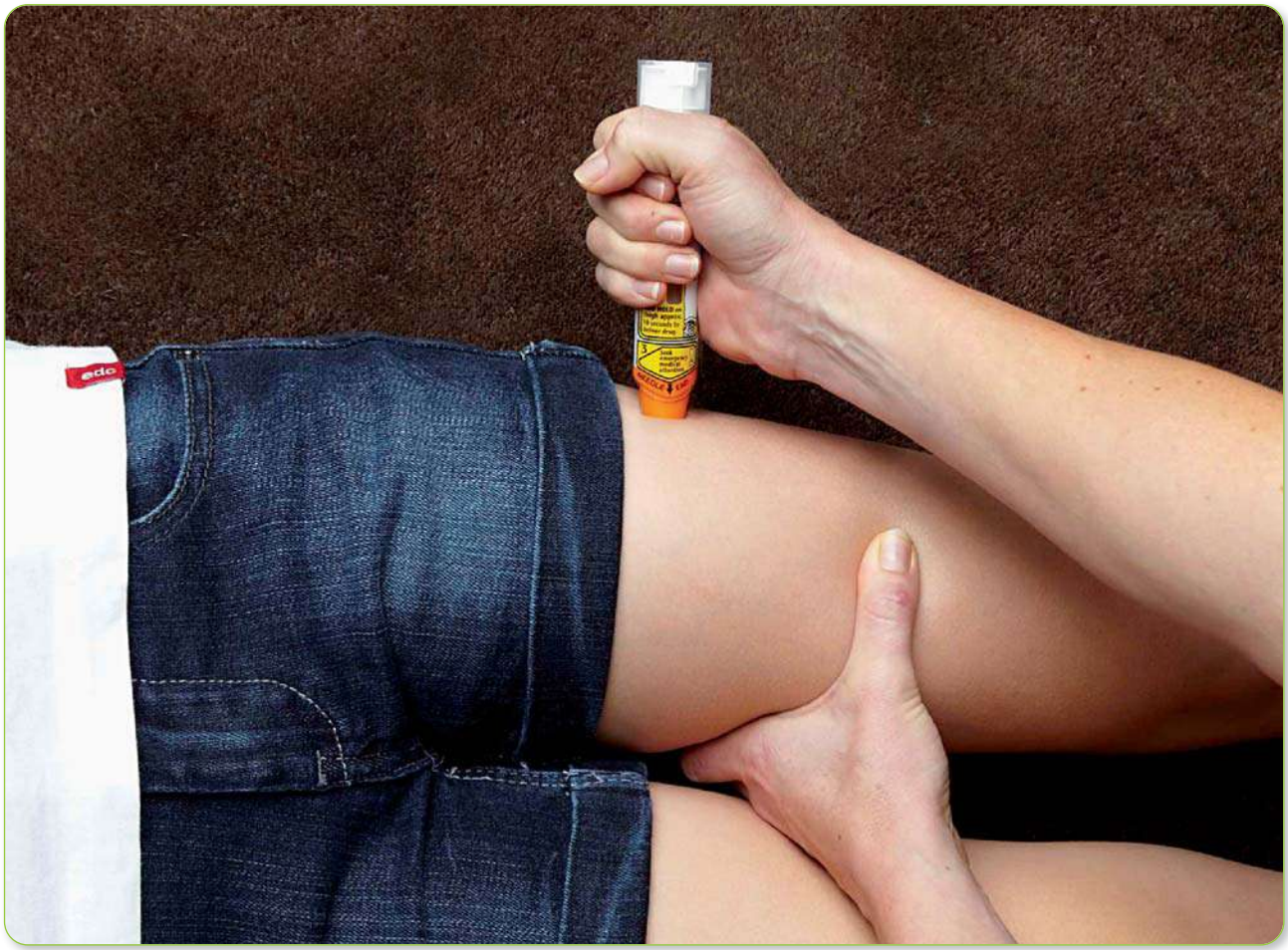
The ASCIA's Prescribing Guidelines recommends EpiPenJr and AnapenJr for children weighing 10-20kg and EpiPen or Anapen for adults and children weighing more than 20kg www.allergy.org.au/content/view/10/3/#r5.
This recommendation is based on consensus and standard practice by ASCIA members and is published in the Australian

Medicines Handbook and the National Prescribing Service information on adrenaline autoinjectors. It is also consistent with recommendations from the American Academy of Allergy, Asthma and Immunology (AAAAI) position statement www.aaaai.org/media/resources/academy_statements/position_statements/ps34.asp.

What documentation do I require to take an adrenaline autoinjector in my hand luggage on an airline flight?
ASCIA has developed a Travel Plan for people at risk of anaphylaxis, which needs to be completed and signed by the individual's treating doctor and attached to the ASCIA Action Plan for Anaphylaxis. The ASCIA Travel Plan is available at www.allergy.org.au/content/view/10/3/#r2

The patient support organisation Allergy New Zealand also has information on travelling with severe food allergies
It is also prudent for individuals to carry their adrenaline autoinjector in a container that includes a pharmacy label, particularly if travelling in the USA. They should also notify their travel agent, insurer and airline in advance regarding their allergy and requirement to carry an adrenaline autoinjector in case additional documentation or preparation is required.

Are adrenaline autoinjectors available without a prescription?
Yes. Adrenaline autoinjectors are available from pharmacies without a prescription at full retail price (not Pharmac subsidised). If they are purchased directly from pharmacies without a prescription individuals should request training from the pharmacist on how to use the adrenaline autoinjector.



Can an adrenaline autoinjector be purchased for general use (e.g. for inclusion in a first aid kit)?

Some schools, childcare services, workplaces and restaurants choose to purchase an adrenaline autoinjector for general use, which serves as a back-up for the adrenaline autoinjectors prescribed for individuals. Even if an adrenaline autoinjector is available for general use, individuals at high risk of anaphylaxis should always have their own prescribed adrenaline autoinjector/s readily available.

In most regions an adrenaline autoinjector for general use may be administered to individuals who appear to have anaphylaxis, but have not been previously diagnosed be at risk of anaphylaxis. Advice and training from the local education and/or health authorities should be sought regarding adrenaline autoinjectors available for general use. Further information about adrenaline autoinjectors for general use is available on the ASCIA website www.allergy.org.au/content/view/10/3/#r3

Where can I obtain adrenaline autoinjector training devices?

Autoinjector trainer devices (which can be re-used for practice as they do not contain adrenaline and do not have needles) are available from pharmacies, the patient support organisation Allergy New Zealand (www.allergy.org.nz) and the adrenaline autoinjector distributors in Australia and New Zealand:

- Mylan (EpiPen, EpiPenJr) www.epiclub.co.nz
- Link Pharmaceuticals (Anapen, AnapenJr) www.analert.com.au

Where can I obtain information about training?

The Australasian Society of Clinical Immunology (ASCIA) is a professional medical society and does not conduct face-to-face anaphylaxis training. The ASCIA website www.allergy.org.au/content/view/10/3/#r11 includes links to government and relevant patient organisation websites and most of these include information on how to access face-to-face training in different regions. ASCIA anaphylaxis e-training for schools and childcare services is available on the ASCIA website www.allergy.org.au and can be completed by anyone, at no charge. This training has been developed to be used where face-to-face anaphylaxis training is not available (or feasible), as a refresher, or for interim training whilst waiting for face to face training.

Other sources of information

Patient support organisations:
Allergy New Zealand www.allergy.org.nz
Anaphylaxis Australia www.allergyfacts.org.au

Adrenaline autoinjector distributors in Australia and New Zealand:
Mylan(EpiPen, EpiPenJr) www.epiclub.co.nz
Link Pharmaceuticals (Anapen, AnapenJr) www.analert.com.au

Get protected with MedicAlert®

The World Health Organisation and World Allergy Organisation recommend MedicAlert, so to do the US Dept of Health & Human Sciences who unequivocally state (www.guideline.gov/content.aspx?id=6887)

"Summary Statements. Evaluation and Management of the patient with a history of Episodes of Anaphylaxis (Item 5): The patient **should be instructed to wear and/or carry identification** denoting his or her condition **(e.g. Medic Alert jewelry)** (C)."

A real MedicAlert emblem will always have this logo:

On the back vital emergency information is engraved.

Reasons you can trust MedicAlert:

- Only MedicAlert requires your vital medical information comes directly from your doctor(s).
- You receive a 24-hour emergency hotline service, every day of the year.
- MedicAlert is instantly recognised by emergency services, doctors, teachers and others.
- It's an important diagnostic tool; it helps protect you from misdiagnosis that can harm you.
- It saves time in an emergency so you get better treatment, faster.

In an emergency dial 111 and always tell the ambulance operator:

111

- The patient (or you) has MedicAlert
- The phone number on the emblem
- The member ID
- The patient's (or your) symptoms

Paramedics (and doctors) can then find out:

- Your emergency medical information
- Who you are and how to locate your family
- Who your doctor is
- Other very important information on your emergency MedicAlert record.

At any time you can look at your record to see:

- When your MedicAlert record was looked at
- Who looked at it
- Why they looked at your MedicAlert record, or
- Update your contact details, emergency contacts and more.

Do you need MedicAlert ?

W: www.medicalert.co.nz
T: 0800 840 111
Ask your doctor to do an electronic referral or fill in an enrolment form.

MedicAlert®

Useful Resources

Allergy New Zealand - www.allergy.org.nz
Reliable information and resources for people with, or caring for, people with allergies. Includes online shop with a variety of educational resources for schools and early childhood including:

• *The No Biggie Bunch,* book for preschool – junior's. Conversation starters and assertiveness coaching for children with allergies.

• *Medikidz.* A superhero comic for intermediate - teens. Allergies explained in a cool way so everyone understands.
• *Letting Go, teaching an allergic child responsibility.*
• *Alexander the elephant who couldn't eat peanuts.* Book and DVD.
• Anapen and Epipen 'trainer pens' to practice with.

Asthma New Zealand, The Lung Association - www.asthma-nz.org.nz
See the Ministry of Education publication "Health Conditions in Education Settings:
supporting children and young people" Appendix 1; p.38-40
www.minedu.govt.nz/index.cfm?layout=document&documentid=11787&indexid=9921&indexparentid=6871
The School High Health Needs Fund (SHHNF) application form can be downloaded from the Ministry of Education website:
www.minedu.govt.nz/index.cfm?layout=document&documentid=5373&data=1
Note that the fund is not available to support young children in pre-school settings, except for the purpose of transition to school.
Medsafe: A Guide for Schools when Developing a Protocol for Administration of Adrenaline to Pupils for the treatment of Severe Allergic Reactions www.medsafe.govt.nz/Consumers/devices/adrenaline.asp
www.allergy.org.au
An online training resource designed for school teachers and early childhood educators can be found here, click on Anaphylaxis Resources for school & early childcare to do the training.

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Allergy New Zealand was first incorporated as a society in 1981 and is a registered charity: CC10148.

Our Mission is to enhance the health and well being of people living with allergies by sharing current knowledge and expertise and leading positive change through being a strong and credible national voice

Further information can be found on our website: www.allergy.org.nz

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