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**WARNING!**

Readers are warned that certain pages contain graphic images of real or simulated injuries to real people. All images have been added for the purpose of education only.

This workbook is not suitable for minors
Module 11 – Allergies and Understanding Anaphylaxis

In this lesson, you’ll be learning about:
1) What is an Allergy?
2) What is Food Intolerance?
3) What is Anaphylaxis?
4) Allergy Diagnosis
5) Action Plans
6) Adrenaline (Epinephrine)
7) The EpiPen Autoinjector
8) Anaphylaxis in Victorian Schools
9) Anaphylaxis in Australian Childcare Service
10) Record Keeping and Reporting

Estimated Completion Time: 45 minutes

Topic 11.1 – What is an Allergy?

An allergy is when a person’s immune system reacts to triggers (allergens) that the person is hypersensitive to and is usually harmless to most other people. Symptoms of an allergy can range from mild to potentially life threatening (severe). It occurs when the body mistakes something as harmful and creates a defence system (antibodies) to fight it.

The ways allergens can enter the body:
- Ingested (most common, in the mouth)
- Inhaled (breathed in)
- Injected (bees, wasps, ants or medication)
- Absorbed (through touching the skin)
- Allergy symptoms develop when the antibodies are battling the "invading" allergen

Topic 11.1 – What is an Allergy?

The most common causes of allergic reactions in Australia are:
- Dust mites
- Pollen
- Foods such as peanuts, tree nuts, cow's milk, soy, eggs, wheat, fish, seafood, sesame
- Cats and other furry or hairy animals such as dogs, horses, rabbits and guinea pigs
- Venom from insect stings (bees, wasps or ants) or bites (ticks)
- Moulds
- Drugs/medications such as penicillin, aspirin, herbal medicines
**Topic 11.1 – What is an Allergy?**

**Symptoms**
- Initial signs (these can be used as warning signs to get help)
- May begin with itchy hands, mouth or feet
- Eyes may become red, watery and puffy,
- Tingly around the mouth
- Swollen lips and face
- Rash or hives can develop, especially on the chest, armpits and groin (hives are white itchy bumps which look and feel like insect bites)
- Stomach pain, vomiting, diarrhoea

**Topic 11.1 – What is an Allergy?**

**How the body responds (to allergy):**
The first time you eat, breathe in, touch or be injected by the allergen, your immune system responds by making disease – fighting antibodies (called immunoglobulin E or IgE). When you do this a second time, it triggers the release of IgE antibodies and other chemicals, including histamine. Your body is fighting the allergen and trying to get rid of it. All the signs and symptoms happen the second time you are exposed and the signs and symptoms are a sign that the body thinks it is bad.

Histamine is a powerful chemical that can affect the respiratory system, gastrointestinal tract, skin, or cardiovascular system. If it is released in the ears, nose, and throat, you may have an itchy nose and mouth, or trouble breathing or swallowing. If histamine is released in the skin, you may develop hives or a rash. If histamine is released in the gastrointestinal tract, you likely will develop stomach pains, cramps, or diarrhoea. Many people experience a combination of symptoms but not always all of them.

**Topic 11.2 – What is a Food Intolerance?**

**The difference between food intolerance and an allergy**
Food intolerance is a digestive system (tummy) response rather than an immune system response (fighting germs). Intolerance occurs when something in a food upsets a person’s digestive system or when a person’s stomach is unable to properly digest or breakdown the food. Intolerance to lactose, which is found in milk and other dairy products, is the most common food intolerance.

**Symptoms of food intolerance include:**
- Nausea
- Stomach pain
- Gas, cramps, or bloating
- Vomiting
- Heartburn
- Diarrhoea
- Headaches
- Irritability or nervousness
Topic 11.3 – What is Anaphylaxis?

Anaphylaxis is the most severe form of allergic reaction and can cause death. It must be treated as a medical emergency, requiring immediate treatment and urgent medical attention.

Anaphylaxis often involves more than one body system, e.g. skin (rash), respiratory (breathing), gastro-intestinal (stomach), and cardiovascular (heart and blood pressure).

The most dangerous allergic reactions affect breathing and/or the heart and blood pressure. The signs and symptoms of anaphylaxis could happen straight away or can take up to the first 20 minutes after exposure.

Symptoms: Severe allergic reaction – ANAPHYLAXIS

- Shock
- Altered mental status
- Difficulty breathing, or shortness of breath and gasping
- Casualty may become very anxious and have a great sense of fear
- Respiratory or cardiac arrest and unconsciousness
- Difficulty and/or noisy breathing
- Swelling of the tongue
- Swelling or tightness in the throat
- Difficulty talking or hoarse voice
- Wheeze or persistent cough
- Loss of consciousness and/or collapse
- Pale and floppy (young children)

Image by James Heilman, MD

Common Allergens (triggers) of Anaphylaxis

Food
There are nine (9) food groups that account for approximately 90% of allergic reactions. Milk, eggs, peanuts, tree nuts, sesame, fish, crustaceans, wheat, and soy are the most common food triggers.

However, any food can trigger anaphylaxis. It is important to understand that even a trace (small amount) of food can cause a life threatening reaction. Some extremely sensitive individuals can react to even the smell of a food (e.g. fish, peanut butter).

Foods are the most common trigger in children and young adults while medications and insect bites and stings are more common in older adults.
Insect Venom

Bee, wasp and jumper ant stings are the most common causes of anaphylaxis to insect stings.

Bites from ticks and fire ants also cause anaphylaxis in some individuals. Stomach pain and nausea with this allergen is a severe reaction.

Medication

Medications, both over the counter and prescribed, can cause life threatening allergic reactions, e.g. aspirin, antibiotics such as penicillin.

Individuals can also have anaphylactic reactions to herbal or ‘alternative’ medicines.

Other

Other triggers such as latex (gloves and balloons) or exercise induced anaphylaxis are less common.

Occasionally the trigger cannot be identified despite extensive investigation.
**Topic 11.4 - Allergy Diagnosis**

Allergies often run in families, suggesting that the condition can be inherited. 15,000 Australian children are newly diagnosed with severe allergies each year, and an estimated 4.1 million (19.6% of the population) Australians live with at least one allergy.

It is estimated that by 2050 this will increase to 7.7 million (26.1% of the population). Milder forms of allergic reaction commonly experienced by Australians are hay fever and eczema which, in some cases, can lead to Asthma and Anaphylaxis.

Allergic people who have a history of eczema and/or asthma are at higher risk of anaphylaxis.

If in doubt, give the adrenaline autoinjector. Commence CPR at any time if person is unresponsive and not breathing normally. If uncertain whether it is asthma or anaphylaxis, give adrenaline autoinjector FIRST, then asthma reliever.

**Topic 11.4 - Allergy Diagnosis**

A person who is suspected of having an allergy should obtain a referral to see an allergy specialist for correct diagnosis, advice on how to prevent it happening and emergency treatment.

Those diagnosed with a severe allergy must carry emergency medication as prescribed, as well as an **ASCIA Action Plan for Anaphylaxis** that must be written and signed by their doctor.

When an adrenaline autoinjector has been used, or has expired, the individual’s personal **ASCIA Action Plan for Anaphylaxis** needs to be reviewed by their doctor. If the individual is a child, the photo should be updated each time, so they can be easily identified.

**Topic 11.5 - Action Plans**

Sufferers of severe allergies should always have a personal **ASCIA Action Plan for Anaphylaxis** in case of an emergency. Action Plans are written by the sufferer’s medical doctor and should include step by step actions to be taken for the sufferer when symptoms or signs occur.

These Action Plans are called REACTIVE, which means they are followed after something has happened. A photograph and short description of the sufferer should be displayed on the plan. However, if the patient is a child, the photo should be updated each time, so they can be easily identified. Most plans will include the administering of an autoinjector that has adrenaline in it.
Topic 11.5 - Action Plans

Please read through these so that you are familiar with their layout when you come to your course. You may also have similar documents at your workplace for children in your care, or perhaps for work colleagues.

It is crucial that if you have anyone who suffers from anaphylaxis in your workplace, that a personalised Action Plan has been received and incorporated into the individual’s Anaphylaxis Management Plan which should be reviewed and updated at the beginning of each year or as per organisational procedures.

Topic 11.6 - Adrenaline (Epinephrine)

Adrenaline (epinephrine) is the only medication proven to reverse the symptoms of anaphylaxis. Adrenaline acts as a natural "antidote" to some of the chemicals released during severe allergic reactions and works rapidly to reduce throat swelling, open the airways and maintain blood pressure. Adrenaline must be injected and cannot be taken by mouth.

When someone goes into anaphylactic shock, the sufferer needs a dose of adrenaline. Adrenaline is not harmful and in most cases, will stop the signs and symptoms for a short time. This medication is available via an autoinjector such as an EpiPen®

Please note: If there is no Personal ASCIA Action Plan for Anaphylaxis, follow the guidelines from the General ASCIA Action Plan for Anaphylaxis.
Please note: An individual with a Personal ASCIA Action Plan for Anaphylaxis will have an EpiPen which is a prescribed medication. Due to the legalities involved in using someone else’s prescribed medication, it is strongly advised that your school or child care centre own a number of spare autoinjectors to be used as an emergency. Adrenaline autoinjectors are available from pharmacies without a prescription at full price.

An adrenaline autoinjector (EpiPen) for general use may be required when:
- A child’s medication is unavailable or is out-of-date
- A second dose is required before the arrival of an ambulance
- The device has misfired or been incorrectly discharged
- A previously undiagnosed individual has an anaphylactic episode for the first time

Changes to labels for Adrenaline Autoinjectors

In Australia from April 2016, adrenaline autoinjector labels for EpiPens will start to show ‘adrenaline (epinephrine)’ as the ingredient name. Including both names on Australian medicines should reduce confusion and clarify that these are the same ingredient especially for Australians travelling overseas, visitors to Australia and health professionals trained internationally.

For a mild or moderate allergic reaction, the autoinjector may not be required. As you may have noticed on the Action Plans only medication (tablets or liquid) may need to be given when the signs and symptoms are not severe.

Always remember that if ever in doubt, just administer the autoinjector. Adrenaline is not harmful and can only be a benefit to a casualty!
Topic 11.6 - Adrenaline (Epinephrine)

Whatever treatment you are giving, do not move the casualty. Bring the medication to them. Only move them if there is danger, including more of the allergen that has caused the problem (e.g. a bee hive).

Autoinjectors are single use only. Once it is used it won’t work again.

Once the adrenaline begins to work, the casualty should sweat profusely and have an increase in their pulse and breathing rates. These signs are good!

If the sufferer’s signs and symptoms do not get better after 5 minutes apply their second autoinjector or use the backup autoinjector intended for general use.

Topic 11.6 - Adrenaline (Epinephrine)

Risk and Side effects of Adrenaline

Palpitations (fast strong heartbeat), tremor, general pallor or blanching at the site of injection are the main side-effects experienced after adrenaline is injected. Other common side effects may include, sweating, nausea and vomiting, difficulty breathing, dizziness, weakness, headache, apprehension, nervousness or anxiety. If the casualty is resting, the side effects usually quickly disappear.

Adrenaline is well tolerated in children and when given as specified on an action plan, the benefits would always outweigh the possible side effects.

There are no published reports of death or serious injury resulting from use of adrenaline autoinjectors. No serious or permanent harm is likely to occur from mistakenly administering adrenaline using an adrenaline autoinjector, to an individual who is not experiencing anaphylaxis.

Topic 11.7 - The EpiPen® Autoinjector

The EpiPen® autoinjector contains one dose of adrenaline which should reverse the effects of anaphylaxis.

There are two strengths:
- Adults and children and over 20kg (yellow)
- Children 10kg to 20kg (green)

The doctor will prescribe the correct one and write it on the Action Plan.

Upon use, an adrenaline autoinjector (EpiPen) should be immediately replaced.
**Topic 11.7 - The EpiPen® Autoinjector**

**How to Use an Epi-Pen®**

1. Remove the autoinjector from its container
2. Ensure the expiry date is still valid and that the solution does not look contaminated by viewing the window on the device
3. You will receive guidance on how to do this by your practical trainer at your class
4. EpiPen® should never be stored in a locked up, inaccessible area
5. Remove the blue cap on top *(Refer to Image 1)*

**Topic 11.7 - The EpiPen® Autoinjector**

**How to Use an Epi-Pen®**

6. Find the meaty part of the outer thigh; do not simply jab this in any old place, it should be injected into the muscle. It should work through jeans and lighter materials but try to avoid bulky seams down the side of the leg *(Refer to Image 2)*
7. It should be flush with the skin. Once there, press the plunger in until it clicks, and then HOLD IT IN PLACE FOR A FULL COUNT OF 10. *(Refer to Image 3)*

**Topic 11.7 - The EpiPen® Autoinjector**

**How to Use an Epi-Pen®**

8. Remove when finished *(Refer to Image 4)*
9. Then rub the leg for 10 seconds. The needle will not be exposed
10. Always call an ambulance as the casualty will need extra medical treatment and observation by a doctor
11. The single dose of adrenaline may only buy up to 20 minutes, and then the airway may swell once again. The ambulance will have adrenaline on board to get them to hospital and they will be treated and observed there
12. In a timely manner, accurately convey first aid management steps undertaken to relieving emergency services
13. Give the EpiPen® to the Ambulance officers and a copy of the Action Plan if available
**Topic 11.7 - The EpiPen® Autoinjector**

When administering an EpiPen® it is important that:

- You hold the orange end to the thigh, not the end with the blue safety cap. Previously, confused first aiders would inject their own thumb rather than the sufferer. Remember: The orange end is the needle end!
- After removing the safety cap, ensure you push the pen in hard enough for the spring to activate the needle injection
- The needle stays in the sufferer’s thigh for 10 seconds. Do not remove it too early as the adrenaline may still be releasing
- After administering the EpiPen® it is important that you rub the injection site for 10 seconds to encourage the circulation of the adrenaline
- Call 000 for an ambulance
- Contact parent/guardian or other emergency contact

**DRS ABCD - Basic Life Support flow chart**

The Australian Resuscitation Council (ARC) recommends using the following 7 step acronym when caring for a casualty – **D R S A B C D**

1. **DANGERS** Check for danger (hazards/risks/safety)
2. **RESPONSIVENESS** Check for response (if unresponsive)
3. **SEND** Send for help (Call 000)
4. **AIRWAY** Open the airway
5. **BREATHING** Check breathing (if not breathing / abnormal breathing)
6. **CPR** Start CPR (give 30 chest compressions followed by two breaths)
7. **DEFIBRILLATION** Attach an Automated External Defibrillator (AED) as soon as available and follow the prompts

**First Aid Management of Anaphylaxis:**

- Follow **DRS ABCD**
- Lay the casualty flat. If having difficulty breathing, sit them upright and try to calm them
- If known and possible, remove the source of the allergy
- Use the autoinjector (EpiPen) to inject adrenaline. Specific training is required
- Call 000 / 112 for an ambulance
- Continually monitor the casualty’s airways, breathing and respiration, as a sudden change may occur which may need CPR at any time. Ensure that the EpiPen has been administered before commencing CPR.
- Contact parent/guardian or other emergency contact
- If available, further adrenaline doses may be given if there is no response after 5 minutes
- If uncertain whether it is asthma or anaphylaxis, give adrenaline autoinjector FIRST, then asthma reliever
**Topic 11.7 - The EpiPen® Autoinjector**

**Allergic Reactions - Insect**

**Treatment**

- In the case of a bee sting, remove the sting. Try to scrape it sideways away from the entry point.
- Apply cold compress to the affected area to help reduce swelling and pain for periods of 20 minutes (do not apply ice to the eye area).
- If an anaphylactic reaction occurs, follow the Anaphylaxis Guideline

**Allergic Reactions - Tick**

**Treatment**

- In the case of tick bite, if there is no history of tick allergy, immediately remove the tick
- If the casualty has a history of tick allergy, the tick must be killed where it is, rather than removed.
- If an anaphylactic reaction occurs, follow the Anaphylaxis Guideline

*To kill the tick where it is:*

- For small ticks (larvae & nymphs), use permethrin cream (available at pharmacies)
- For adult ticks, freeze them with an ether-containing spray (available at pharmacies).
- Wait for the tick to drop off or remove it taking the utmost care to not compress the tick (as this will squirt allergen, toxin and possibly infection into you)
- **Note:** Do not use tweezers

**If you are anaphylactic, and own an EpiPen®, you should always ensure:**

- The autoinjector never exceeds its expiry date (12 - 18 months)
- The autoinjector’s window does not display a cloudy or brown colour
- The autoinjector is always stored below 25 degrees (away from direct sunlight) but not in the fridge
- The autoinjector is with you at all times and is accessible for people who are responsible enough to help you administer it
- The autoinjector remains in its sharps storage container
**Topic 11.7 - The EpiPen® Autoinjector**

**Being Prepared for Individuals with Anaphylaxis**

Parents or those who care for individuals with anaphylaxis should be prepared by:

- Knowing their allergic trigger/s
- Knowing how to avoid the trigger/s (if possible)
- Being able to recognise the early symptoms of an allergic reaction and anaphylaxis
- Having a first aid anaphylaxis plan. This would include having an autoinjector device (EpiPen®) available

Critical aspects in caring for a child or young adult with anaphylaxis are identifying risks and hazards and removing or minimising them so that adrenaline can be quickly administered. For example, a child has been stung by a bee; this may mean moving the child from the area to a safe location away from the bees.

**Topic 11.8 – Anaphylaxis in Victorian Schools**

Whilst the following is applicable to Victorian schools it is a very good model to follow in all schools, childcare settings, and workplaces in general.

“Ministerial Order 706”

All Victorian schools must review and update their existing policy and practices in managing students at risk of anaphylaxis to ensure they meet the legislative and policy requirements as per the following:

Any school that has enrolled a student or students at risk of anaphylaxis must by law have a School Anaphylaxis Management Policy in place that includes the following:

- A statement that the school will comply with Ministerial Order 706 and associated guidelines
- An Individual Anaphylaxis Management Plan on an annual basis (that includes an individual ASCIA Action Plan for Anaphylaxis) for each affected student, developed in consultation with the student’s parents/carers and medical practitioner

**An Individual Anaphylaxis Management Plan** must be distributed to all staff responsible per individual at risk and containing the following information:

- Individual personal details
- Parent/carer details (depending on age of individual)
- Emergency contact
- Medical information such as ASCIA Action Plan for Anaphylaxis
  - Photo identification
  - Allergic triggers/allergens
  - First aid response, including prescribed medication
  - Other medical conditions
- Strategies to avoid allergens/triggers
- Location of the adrenaline autoinjector
Topic 11.8 – Anaphylaxis in Victorian Schools

- Information and guidance in relation to the school’s management of anaphylaxis, including:
  - Prevention strategies to be used by the school to minimise the risk of an anaphylactic reaction for in-school and out-of-school settings
  - School management and emergency response procedures that can be followed when responding to an anaphylactic reaction
  - The purchase of spare or ‘backup’ adrenaline autoinjector devices(s) as part of the school first aid kit(s), for general use
  - Development of a Communication Plan to raise staff, student and school community awareness about severe allergies and the School’s Anaphylaxis Management Policy
  - Regular training and updates for school staff in recognising and responding appropriately to an anaphylactic reaction, including competently administering an EpiPen and completion of an Annual Anaphylaxis Risk Management Checklist

(DEECD website, Anaphylaxis guidelines for Victorian Schools, Ministerial Order 706”, 17/05/16, Internet)

Topic 11.8 – Anaphylaxis in Victorian Schools

Staff that are caring and/or educating a child or young adult with anaphylaxis must complete anaphylaxis training covering:

- Schools Anaphylaxis Management Policy
- Causes, symptoms and treatment of Anaphylaxis
- Identities of students diagnosed at risk of Anaphylaxis
- Where medication is located
- How to use an adrenaline autoinjector
- The school’s first aid emergency response plan
- Caring and/or educating a child means: In the classroom, on yard duty, on excursions, camps and special events
- Out of Hours School Care – Qualified staff (with Anaphylaxis training) must be on the premises at all times if the child that has been diagnosed with Anaphylaxis is in their care

Topic 11.8 – Anaphylaxis in Victorian Schools

The principal of a school/director of a centre is responsible for ensuring that a Communication Plan is developed in consultation with all relevant stakeholders and it must include strategies on how to respond to an anaphylactic reaction by a student in various environments including:

- During normal school activities including in the classroom, in the school yard, in all school buildings and sites including gymnasiums and halls
- During off-site or out of school activities, including on excursions, school camps and at special events conducted or organised by the school
- Students with a medical condition that relates to allergy and the potential for anaphylactic reaction and their role in responding to an anaphylactic reaction by a student in their care

Stakeholders may include: Carers/parents, Workplace first aiders, Management, Students, Teachers, Nurses, Casual staff, Specialist staff, Early childhood staff, Food industry staff such as carers, canteen staff, School camp providers, Volunteers, etc.

The communication plan should be annually reviewed to maintain its effectiveness.
Topic 11.9 – Anaphylaxis in Australian Childcare Services

Strategies to reduce the risk of an individual’s exposure to known triggers/allergens should be implemented. This should include organisational policies, staff training, emergency response procedures and all potential risks, for example:

- **Food related risks**
  - Avoid using food in activities or as a reward
  - Should selected food items be banned from the premises?
  - Sharing of food
- **Outdoor activities (Insect stings)**
  - Stay away from flowering plants
  - Children to wear closed shoes, light or dark colours instead of bright
  - Clover to be sprayed (outside of school hours)

The effectiveness of risk minimisation strategies should be reviewed annually, or after an incident.

Topic 11.9 – Anaphylaxis in Australian Childcare Services

- If a child has a first time Anaphylactic Shock, qualified (Anaphylaxis) staff can give the autoinjector without ringing “000” for authorisation
- However, ‘000’ is always called after an autoinjector is given for continuing treatment, or during the process if a phone is nearby
- All staff must know the Management policy at all times
- All staff must have been trained every 3 years in Anaphylaxis
- This also refers to Long Day Care, Family Day Care, OSHC and Pre-schools
- All staff must also practice with autoinjectors every 12 months
- The Centre must have an Action Plan, for each child with an autoinjector, from the parents, which has been completed by a General Practitioner (Doctor) or specialist

Topic 11.9 – Anaphylaxis in Australian Childcare Services

- The Centre must show the policy and provide a copy to parents. This includes a Risk Minimisation, Communication Plan and Emergency Management Plan
  - A risk assessment is undertaken for proposed activities in different environments, e.g. excursions, art, craft, cooking, science, parties, etc.
  - Identification of potential sources of allergens
  - Consider the effect of environments on level of risk, e.g. remote camp location exponentially increases risk
  - Rating of risks
- Staff can give medication for Asthma and Anaphylaxis but must call “000” and a parent/guardian
- An appropriate amount of First Aid kits must be fully stocked and available where the child is being educated
Topic 11.9 – Anaphylaxis in Australian Childcare Services

Regulation 162 says that there must be health information on the enrolment record for each child with:

- Healthcare needs and any medical conditions
- Allergies and if diagnosed as a risk of Anaphylaxis
- Any documents to be followed (e.g. Action Plans)
- Details of dietary restrictions

Regulation 173 (if applicable) says a notice stating that a child who has been diagnosed as at risk of anaphylaxis is enrolled at the education and care service. This must be displayed for all staff.

To maintain confidentiality & privacy, the personalized charts should not be displayed publicly as parents, tradesmen and visitors may have access to the information. A system needs to be developed per centre where approved staff have daily and quick access to the charts while keeping the files away from public eyes.

- The General ASCIA Action Plan for Anaphylaxis should be publicly displayed
- If the child is taken on an excursion their medication and Action Plan must be taken.
- Medication must be recognizable and readily accessible to staff but not to children and stored away from heat. (Education and Care Services, National Regulations 2011)

Topic 11.9 – Anaphylaxis in Australian Childcare Services

10 point allergy action plan for starting school

1. Notify the school about your child’s allergy as early as possible. Be clear about which foods or other allergens may trigger an anaphylactic reaction.

2. Provide the school with a written diagnosis and a personalised ASCIA Action Plan for Anaphylaxis from your treating doctor. This should include details of prescribed medications such as adrenaline or antihistamines.

3. Supply necessary medication and ensure it is clearly labeled, stored correctly and kept up to date. Anaphylaxis Australia recommends an EpiPen® travels with the child at all times between home and the classroom, while a second backup unit is stored permanently in the school office.
**Topic 11.9 – Anaphylaxis in Australian Childcare Services**

10 point allergy action plan for starting school

4. Visit the school and enquire about any other potential risks. E.g. Are children exposed to food allergens during cooking and craft lessons? What can the school do to reduce the risk of insect stings?

5. Ensure teachers and other staff are aware of prevention strategies and ensure they are implemented. Especially plan ahead for special events such as excursions, sports days and parties.

6. Work with the school to develop an emergency action plan. Ensure appropriate staff members are trained and confident to administer medications.

7. Teach your child from a young age not to accept food from others. Provide a lunchbox that is clearly labelled and remind them not to trade food with friends.

8. Be creative in providing safe food treats for your child. Ask the school to store some of your cupcakes in the canteen freezer so your child can join in with birthday celebrations.

9. Encourage your child to become independent. Remind them to always take their medication to school. It can be kept in an insulated lunch bag, together with a copy of the emergency action plan.

10. Record and check expiry dates of EpiPens® used at school and at home and ensure each unit is replaced prior to expiry

**Topic 11.10 – Record Keeping and Reporting**

Incident, injury, trauma and illness policies & procedures and reporting

Law Section 174, Regulations 12, 85-87, 168, 177-178, 183

- Centres must have incident, injury, trauma and illness policies and procedures in the event that a child: (a) is injured; or (b) becomes ill; or (c) suffers a trauma.
- A Centre must ensure that a parent of a child is notified as soon as practicable, but not later than 24 hours after an occurrence, if the child is involved in any incident, injury, trauma or illness.
- The details of the occurrence must be correctly and accurately recorded within 24 hours.
- The occurrence records are stored safely and securely until the child is aged 25 years.
- That the Regulatory Authority is notified of a serious incident which includes: (a) death of a child; or (b) where medical assistance was required; or (c) attendance of emergency services at the education and care service premises was sought, or ought reasonably to have been sought.
Topic 11.10 – Record Keeping and Reporting

It is important that all first aid incidents, inside or outside of work, be recorded in writing.

Each workplace should have appropriate documentation for the reporting of illness or injury.

These documents need to be completed in full and should not be altered. Therefore, correction fluid or pencil should not be used on these documents.

Outside of the workplace, if an incident occurs, first aiders should take accurate, brief and clear notes and keep them on hand in case an investigation takes place.

Notes should include:

1. The time of the incident
2. The date of the incident
3. The location of the incident
4. What the first aider found upon arrival
5. What actions the first aider carried out
6. Any changes in the casualty’s condition
7. Any witness details
8. Handover to medical professional’s details
9. Did the casualty recover and relieve the first aider of their duty of care?

All documentation should be signed and dated by the first aider and stored securely to maintain confidentiality. Keep your notes clear and easy to understand and ensure you write down exactly how things are presented to you.

Recurrent Episodes

It is not uncommon for recurrent episodes of anaphylaxis to occur following the first presentation of anaphylaxis. Studies show that 10-20% of these episodes may occur in the childcare setting. Under such circumstances there should be an anaphylaxis action plan which can be followed.

For an event that has occurred, the Event Record Form (see image) can be used by the casualty, school staff and medical personnel.
Evaluate Incident Response

Once the documentation and reporting process has been completed it is vital that the following steps take place:

- The First aider’s and organisation’s responses to the incident and adherence to the casualty’s ASCIA Action Plan for Anaphylaxis are reviewed and assessed
- The effectiveness of risk minimisation strategies is reviewed
- The casualty’s individual anaphylaxis management plan is reviewed
- Reviews can generate improvements for processes and procedures. If so:
  - Implement improvements as soon as possible
  - Communicate improvements and updates to all stakeholders
Module 12 – Asthma Management

In this lesson, you’ll be learning about:

1) Asthma Truths and Myths  
2) What happens in an Asthma Attack?  
3) What Causes Asthma? (Triggers)  
4) Asthma Action Plans  
5) Relievers and Preventers  
6) Why Use a Spacer  
7) Nebulisers  
8) Types of Asthma  
9) Asthma First Aid  
10) Asthma in Australian Childcare Services

**Topic 12.1 – Asthma Truths and Myths**

**Asthma is a serious health concern:**
Yes, it is. People with Asthma should see a doctor at least twice a year to help keep it under control. There are many medications that can be prescribed to do this.

**No-one dies from Asthma nowadays:**
Yes, they do. Approximately 400 people die every year, in Australia from Asthma.

**Asthma is due to nerves or anxiety:**
No, it is not. Calming someone down will not stop Asthma symptoms. Only medication will but trying to keep them calm is always recommended.

**Exercise is bad for people with Asthma:**
Some Olympic athletes have Asthma but it needs to be under control and advice from a doctor is essential. Warming up and cooling down and using prescribed medication means that asthmatics can have a normal healthy life, including doing regular exercise.

**Taking steroids for Asthma is dangerous:**
Steroid treatment for Asthma is different to the anabolic steroids that people sometimes illegally take to increase performance in sports. With doctors’ advice these medications can be life-saving and keep it under control.
Topic 12.1 – Asthma Truths and Myths

Over 2 million Australians have Asthma:
This is a true fact. Australasia leads the world in incidence and varieties of asthma. 1 in every 10 Adults, 1 in every 7 adolescents, 1 in every 4 primary school aged children.

Asthma is one of the most common reasons for hospital admissions in children:
True. As we have mentioned before, Asthma is a serious health concern

Topic 12.2 – What happens in an Asthma Attack?

Asthma is a respiratory condition in which the casualty suffers the onset of constricted passages in the lower airway and it becomes progressively more difficult to breathe.

- **Muscle spasm** - The layer of muscles surrounding the airways (including those small ones in the lungs) constricts or tightens
- **Inflammation** - The inside of the airways swell up and make the tubes for breathing smaller
- **Excess mucus** - More than usual amounts of mucus is made in each airway and also makes the tubes for breathing smaller

Topic 12.3 – What Causes Asthma? (TRIGGERS)

In asthma, symptoms are made worse by 'triggers'.

Triggers can be something that you:
- Catch: eg. flu, cold
- Breathe in
- Do: eg. exercise
- Feel
- Take in, eat or drink

It is important to know what triggers set off a person’s asthma symptoms
Every person's asthma is different and not all people will have the same triggers.

Triggers can include:
- Viral respiratory infections
- Exposure to known allergens, eg: dust mites, pollens, animal dander, moulds
- Exposure to chemicals or other occupational sensitisers
- Exposure to irritants, eg: cigarette smoke, perfume
- Reflux
- Drugs, eg: aspirin, ibuprofen and beta-blockers
- Foods, eg: nuts, seafood
- Food additives – sulphite preservatives, colourings, metabisulphite, monosodium glutamate (msg)
- Changes in weather, exposure to cool air
- Exercise
- Emotion

**ALLERGIC TRIGGERS**

**Pollens**
Pollens are in the air and come from plants. People with Asthma are more affected during spring time.

**House Dust Mites, Dust and Mould**
Dust mites are in our bedding. Cleaning dust and mould should be done away from those affected and micro fibre cloths can be used so little dust is put into the air.

**Animal Dander**
This is not the fur on the animal that causes Asthma. It is the dead skin coming off and the presence of urine and saliva that causes signs and symptoms.

**Food Preservatives/Additives**
Fresh food is always best.
Food additives that may trigger asthma include:
- Metabisulphite/sulphur dioxide (220-228)
- Tartrazine (synthetic yellow dye [102])
- Monosodium glutamate (621)
- Acetylsalicylic acid (ASA)

Some of these additives may also occur naturally in some foods.
Topic 12.3 – What Causes Asthma? (TRIGGERS)

NON-ALLERGIC TRIGGERS

Smoke - Could be in the air from:
  - Bush fire. Unless advised to evacuate, stay indoors when there is smoke; close all windows and doors and block air vents. Use air conditioner if available.
  - Cigarettes. Almost 40% of children with asthma live with people who smoke. Smoking is one of the biggest triggers for people with asthma.
  - Factories. Air pollution which includes gases, chemicals fumes, particulates and odours that can cause discomfort or harm to a person

Asthma sufferers must be moved away from these hazards.

Infections
Colds and flus (viral infections) are a common trigger causing Asthma signs and symptoms. Doctor’s advice will help.

Emotions
Strong emotions such as laughing, crying, yelling as well as anxiety and stress. Laughing is a common trigger for wheeze in children but should not be avoided. If wheeze happens frequently, then a change in asthma reliever medication may be required.

*Image - Laughter by David Shankbone*

Medications
Non-steroidal anti-inflammatory drugs such as ibuprofen, naproxen and aspirin which are frequently used to reduce fever or treat pain affects between 10% to 20% of adults with asthma. These medications should be totally avoided by known medication asthma sufferers as the results could be severe or even fatal.

Weather changes
Certain weather conditions, from extreme heat to extreme cold, from rain to thunderstorms, humidity and air pressure fluctuations can prompt an asthma attack. Although it’s not possible to control the weather, a person can take steps to limit asthma attacks. Identify the weather triggers and then do what you can to protect yourself from the elements.
**Topic 12.3 – What Causes Asthma? (TRIGGERS)**

**Industrial chemicals and odours**
Fragrances and strong odors have been characterized as triggers that may aggravate asthma symptoms. These may include: car exhaust fumes, perfumes, paint, aerosol sprays such as hair lacquer or furniture polish, cooking smells. Known triggers should be readily avoided.

**Reflux**
Asthma and acid reflux often occur together. Acid reflux can worsen asthma and asthma can worsen acid reflux — especially severe acid reflux, a condition known as gastroesophageal reflux disease (GERD).

**Exercise**
The Asthma sufferer needs to warm up and cool down before and after exercise. Also they may need use a reliever before exercising.

**Topic 12.4 – Asthma Action Plans**

These should be completed by a doctor or nurse and kept with the casualty’s medication. They should be followed when treating the casualty as everyone’s asthma is different.

They should be updated every 12 months, when there is a moderate or severe attack, if any details change or if they need a reliever 3 times a week. Children should see a doctor every 6 months to update their Action Plan.

After a person has had a moderate or severe Asthma attack, you should recommend that they go back to their doctor and update their Action Plan and get their medication checked in case they need something else or more medication.

Please read through the following Action Plans so that you are familiar with it when you come to your course. Either one may be used and provided for a child suffering from Asthma:

- First Action Plan by Asthma Australia
- Second Action Plan by National Asthma Council Australia

**Topic 12.4 – Asthma Action Plans**

![Asthma Action Plan](image-url)
**Topic 12.4 – Asthma Action Plans**

**Good Asthma Control**
If a person's Asthma is under control, they are well and they will:
- Not be waking at night
- Be able to exercise normally
- Be free of symptoms when waking and when going to sleep
- Have hardly any symptoms during the day
- Be using a reliever less than 3 times a week

**Asthma Risk Minimisation and Management Plan**
They are PREVENTATIVE which means they are filled out to try and prevent Asthma attacks, and signs and symptoms from happening in the first place. They show what can be done to reduce the risks and prevent Asthma.

**Topic 12.5 – Relievers and Preventative**

**Relievers:**
- Used in Asthma Emergencies, works in minutes.
- Blue inhaler colour is known as Bronchodilators
- Used to relieve symptoms, can be called puffers or inhalers. You can use someone else's but they can't touch it with their mouth. Use a rolled up piece of paper to separate the puffer from the mouth or use a spacer
- Relaxes the tight muscles around the airways
- Medications inside could be: Ventolin, Asmol, Bricanyl, Airomir, Atrovent

**Preventers:**
- Not to be used in Asthma Emergencies, taken regularly every day to prevent Asthma
- Brown, orange, yellow or white inhaler
- Used to reduce severity of attacks
- Reduces inflammation and mucus in airways
- Medications inside could be: Pulmicort, Intal Forte, Qvar, Alvesco, Flixotide, Singulair (tablets), Tilade
**Topic 12.5 – Relievers and Preventative**

**Symptom Controllers:**
- Not to be used in Asthma Emergencies, taken regularly every day to control Asthma
- Green, Light Blue
- Long acting Relievers (for up to 12 hours) used with preventers
- Relaxes tight muscles around the airways
- Medications inside could be: Oxis and Serevent (green), Foradile (light blue)

**Topic 12.5 – Relievers and Preventative**

**Combination Medication:**
- Not to be used in Asthma Emergencies, taken regularly every day to control Asthma
- Purple, Red
- Combination or preventer and symptom controller
- Medications inside could be: Seretide (purple) and Symbicort (red)

**Topic 12.6 – Why Use a Spacer?**

With a puffer or inhaler, medication shoots to the back of the throat and the casualty swallows some, breathes some in and medication is found all around inside the body. This does not harm the casualty but a lot more medication enters the lungs with a spacer. Reliever or preventer medication taken directly with the puffer approximately 10% of the medication ends up in the lungs. 10% stays in the mouth on the tongue or back of the throat 80% ends up in the stomach. You can see this on the ultrasound pictures below.

When taken through a spacer approximately 80% of the medication ends up in the lungs where it is needed.
Types of Asthma Spacers
A spacer is usually made out of plastic and is shaped as a cylinder or a football. It has a mouthpiece at one end and a hole at the other end where the puffer can be inserted.

Spacers come in two sizes, small volume and large volume. Children under five should not be using a large Volumatic spacer.

Spacers can have a mask attached to them for young children. This makes it easier for them to breath in the medication.

For someone who does not have their spacer they can use a spare that is brand new. Once a spacer has been used, it is owned by the user. Even when cleaned, the spacer may not be used by anyone else at all.

If an asthma sufferer has been given a spare spacer to use (e.g. the schools), it can be purchased as it is theirs from then on.

Spacer Care
Clean the spacer before its first use and then regularly to prevent it from discolouring or getting mouldy. A spacer should be replaced annually if used daily, or earlier, if deterioration has occurred.

Correct Usage
- Shake puffer every time before firing a puff into the spacer
- Put only one puff into a spacer at a time
- Breathe in from spacer as soon as puff is released so that medication does not settle to the bottom
**Topic 12.7 – Nebulisers**

These are air-pump driven devices which deliver medication through a mask or mouthpiece. They are useful for the elderly, or children under two, who have difficulty with a puffer, spacer and mask.

They are also useful for people with severe life-threatening asthma.

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**Topic 12.8 – Types of Asthma**

**MILD ASTHMA**
- Cough
- Wheeze
- Minor difficulty breathing
- Little to no difficulty speaking in sentences (less breath getting in and out - less able to talk)

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**MODERATE ASTHMA**
- Persistent cough
- Moderate to loud wheeze
- Obvious difficulty breathing
- Able to speaking in short sentences only
Topic 12.8 – Types of Asthma

SEVERE ASTHMA

- Gasping for breath (may have little or no wheeze due to little movement of air)
- Severe chest tightness
- Inability to speak more than one or two words per breath
- Feeling distressed and anxious
- Little or no improvement after using “reliever” medication
- ‘Sucking in’ of the throat and rib muscles, use of shoulder muscles or bracing with arms to help breathing
- Blue discolouration around the lips (can be hard to see if skin colour also changes)
- Pale and sweaty skin
- Symptoms rapidly getting worse or using reliever more than every two hours.

As well as the previous symptoms, young children can appear restless, unable to settle or become drowsy.

A child may also ‘suck’ in muscles around the ribs and may have problems eating or drinking due to shortness of breath. A child also may have severe coughing and vomiting.

An asthma attack can take anything from a few minutes to a few days to develop.

Topic 12.9 – Asthma First Aid

Asthma First Aid Charts

Please read through the following two Asthma First Aid Charts. Place either of these around the school or childcare centre so that everyone knows how to treat Asthma.

When treating an Asthma sufferer, follow their personalised Asthma Action Plan. If it doesn’t work or if it is the first time they have had Asthma, follow the 4 x 4 x 4 Management Plan as per the following Asthma First Aid Charts:

- 1st - Asthma First Aid Chart by Asthma Australia
- 2nd - Asthma First Aid Chart by National Asthma Council Australia
**Preliminary Step:**

When starting **DRS ABCD**, check for all possible dangers to the first aider or casualty. Also, check for Environmental Dangers (triggers) like:

- Windy or Cold Weather
- Smoke or Industrial Pollution
- Pollens

You may need to move the casualty away from these Dangers (e.g. take them inside a building or away from some plants). If there are no dangers, don’t move them. Take their medication to them.

**Step 1:**

- Follow their personalised Asthma Action Plan
- Sit the casualty comfortably upright
- Be calm and reassuring
- Do not leave the casualty alone

**Step 2: Emergency procedure with spacer and puffer (4 x 4 x 4 Management):**

1. Check the expiry date on the blue/grey puffer
2. Remove the cap
3. Shake the puffer, then insert puffer into the spacer
4. Place the mouthpiece of spacer into the mouth and close the lips
5. Press the button on top of the puffer
6. One puff, 4 breaths in and out through spacer
7. Repeat points 3 to 5. One puff, 4 breaths in and out through spacer
8. Repeat points 3 to 5. One puff, 4 breaths in and out through spacer
9. Repeat points 3 to 5. One puff, 4 breaths in and out through spacer

This equals a total of four puffs and sixteen breaths
**Topic 12.9 – Asthma First Aid**

**Step 3:**
- Wait 4 minutes
- If the casualty has not improved and still cannot breathe properly, give four more separate puffs (repeat points 2 to 9 as per Step 2)

**Step 4:**
- If they are still no better, immediately ring 000 for an ambulance and say someone is having an Asthma attack
- Keep giving **4 x 4 x 4 Management** until the ambulance arrives and the paramedics take over
- In a timely manner, accurately convey Asthma management steps undertaken to relieving emergency services

**Step 5:**
- Contact parent/guardian or other emergency contact
- Document in a timely manner, presenting all relevant facts and report the incident
- Follow workplace debriefing procedures for emergency asthma incidents

Once you have provided **first aid** to a casualty and handed over responsibility to the paramedics, it is recommended that you undergo a debriefing.

- Talk through your actions with your manager, other first aiders, psychologists, doctors, family or friends.
- Take time to calm down and reflect on your actions, don't go straight back to work if incident occurred in a workplace setting.

**Note:** Anyone around the incident such as the casualty, the first aiders and onlookers which may include children can be affected by stress from the trauma that had occurred. Psychological stress can badly affect people of all ages either during or after the incident. For example, talk with children about their emotions and responses to the incident. Provide support as required.

**Immediately phone (Triple Zero) 000 for emergency assistance:**
- If the person is known to have Anaphylaxis, give adrenaline autoinjector FIRST (Anaphylaxis Action Plan), then asthma reliever (Asthma First Aid)
- If the person becomes unresponsive and not breathing normally, commence resuscitation – CPR
- If the person’s asthma suddenly becomes worse, or is not improving
- If the person is having an asthma attack and a puffer/reliever is not available
- If you are unsure if it is asthma
**Topic 12.9 – Asthma First Aid**

**REMEMBER**

- Use the casualty’s own inhaler if possible. If not, use the first aid kit inhaler if available or borrow one from someone else. Use a rolled up piece of paper between the casualty’s mouth and the puffer
- DO NOT use a spacer that has been touched by another person’s mouth, EVEN IF CLEANED!
- Blue reliever puffers are quite safe and unlikely to harm, even if the person does not have asthma
- Their use may be lifesaving
- An overdose cannot be given by following emergency instructions
- Keep some puffers and spaces spare in your First Aid Kit!
- Take them to activities and camps
- Keep them stocked and ready at all times

**Topic 12.10 – Asthma in Australian Childcare Services**

- If a child has a first time Asthma attack, qualified (Asthma) staff can administer the puffer/reliever without ringing “000” for authorisation
- All staff must know the Workplace Asthma Emergency Management Plan at all times
- This also refers to Long Day Care, Family Day Care, OSHC and Pre‐schools
- The Centre must have an Asthma Action Plan, for each child with a puffer, from the parents, which has been completed by a General Practitioner (Doctor) or specialist
- The Centre must show the policy and provide a copy to parents. This includes a Risk Minimisation, Communication Plan and Asthma Emergency Management Plan
- Staff can give medication for Asthma and Anaphylaxis but must call “000” and a parent/guardian
- Procedures for incident, injury, trauma and illness reporting to be followed
- An appropriate amount of First Aid kits must be fully stocked and available where the child is being educated

**Topic 12.10 – Asthma in Australian Childcare Services**

**Incident, injury, trauma and illness policies & procedures and reporting**

**Law Section 174, Regulations 12, 85-87, 168, 177-178, 183**

- Centres must have incident, injury, trauma and illness policies and procedures in the event that a child:
  - (a) is injured; or (b) becomes ill; or (c) suffers a trauma.
- A Centre must ensure that a parent of a child is notified as soon as practicable, but not later than 24 hours after an occurrence, if the child is involved in any incident, injury, trauma or illness
- The details of the occurrence must be correctly and accurately recorded within 24 hours
- The occurrence records are stored safely and securely until the child is aged 25 years
- That the Regulatory Authority is notified of a serious incident which includes:
  - (b) death of a child; or (b) where medical assistance was required; or (c) attendance of emergency services at the education and care service premises was sought, or ought reasonably to have been sought.
It is important that all first aid incidents, inside or outside of work, be recorded in writing.

Each workplace should have appropriate documentation for the reporting of illness or injury.

These documents need to be completed in full and should not be altered. Therefore, correction fluid or pencil should not be used on these documents.

Outside of the workplace, if an incident occurs, first aiders should take accurate, brief and clear notes and keep them on hand in case an investigation takes place.

Notes should include:

1. The time of the incident
2. The date of the incident
3. The location of the incident
4. What the first aider found upon arrival
5. What actions the first aider carried out
6. Any changes in the casualty’s condition
7. Any witness details
8. Handover to medical professional’s details
9. Did the casualty recover and relieve the first aider of their duty of care?

All documentation should be signed and dated by the first aider and stored securely to maintain confidentiality. Keep your notes clear and easy to understand and ensure you write down exactly how things are presented to you.

National Regulation 136 requires that your emergency Asthma management qualifications to be current. All applicable staff must be trained in Asthma management every 3 years.

The Safe Work Australia First Aid in the Workplace Code of Practice recommends that first aiders should attend refresher training on a regular basis to maintain their first aid knowledge and skills, and to confirm their competence in providing first aid including Asthma.

In workplaces where children are in attendance, there is regulatory requirement for a Working with Children check and/or Police Check to be conducted for any person working on the premises.
Topic 12.10 – Asthma in Australian Childcare Services

Asthma Risk Minimisation

Examples on how to reduce asthma triggers at your workplace are:

- Avoid contact with others that have the flu or a cold
- Mow grounds out of hours
- Limit dust, for example having the carpets and curtains cleaned regularly and out of hours
- Where possible have non-carpet flooring
- Discourage the use of aerosol sprays, strong deodorants or perfumes
- Plant a low allergen garden
- Avoid the use of cleaning products and chemicals with strong odours during opening hours
- Stay indoors with windows and doors closed on days with high air pollution e.g. bush fires

Topic 12.10 – Asthma in Australian Childcare Services

A Workplace Asthma Emergency Management Plan (WAEMP) must be implemented if a child suffering from Asthma is enrolled at the school or centre. The plan should incorporate:

- All Individuals’ Asthma Management Plans
- Emergency first aid management for asthma
- Identification of staff competencies and training requirements
- Identification and risk assessment of avoidable and manageable asthma triggers
- All relevant stakeholders, which may include: Carers/parents, workplace first aiders, management, students, teachers, nurses, casual staff, coaches, specialist staff, early childhood staff, food industry staff such as carers, canteen staff, school camp providers, volunteers, etc.

Implement and establish a communication plan to raise awareness of Asthma and its first aid management in line with the WAEMP. Both the WAEMP and communication plans should be reviewed annually to maintain their effectiveness.

Topic 12.10 – Asthma in Australian Childcare Services

Evaluate Incident Response

Once the documentation and reporting process has been completed it is vital that the following steps take place:

- Review and assess the first aider’s and organisation’s responses to the incident and adherence to the casualty’s Asthma Action Plan
- The effectiveness of risk minimisation strategies is reviewed
- The Workplace’s Asthma Emergency Management Plan (WAEMP) is reviewed
- Reviews can generate improvements for processes and procedures. If so:
  o Implement improvements as soon as possible
  o Communicate improvements and updates to all stakeholders

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