

australian
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training

First Aid Manual
eBook

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Warning

Images and information about medical conditions, injuries and treatments contained in this education publication, may be disturbing to some people.

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EMERGENCY CONTACT NUMBERS

In Australia, the national emergency number is 000.

112 can be used on a mobile phone only, to call emergency services, anywhere in the world where there is mobile phone service coverage.

Ask for the service you require: Ambulance - Fire – Police.

Remain calm and answer the operator's questions as best you can.

They will need to know the location/address of the casualty, the number of casualties, and the nature of the emergency.

Other Useful Numbers:

Poisons Information Centre 13 11 26

Diver Emergency Network 1800 088 200

Asthma Australia 1800 645 130

National Asthma Council Australia 03 9929 4333

Allergy & Anaphylaxis Australia 1300 728 000

Diabetes Australia 1300 136 588

Stroke Foundation 03 9670 1000

Heart Foundation 1300 724 475

Epilepsy Action Australia 1300 374 537

Life Line 13 11 14

Beyond Blue 1300 224 636



AUSTRALIAN RESUSCITATION COUNCIL (ARC)

The Australian Resuscitation Council (ARC) provides guidelines on resuscitation techniques and terminology for all major groups involved in the teaching and practice of resuscitation and First Aid. The ARC is a member of the Australian and New Zealand Committee on Resuscitation (ANZCOR), which is a member of the worldwide International Liaison Committee on Resuscitation (ILCOR).

A First Aider must provide First Aid in accordance within the current Australian Resuscitation Council guidelines. For more information on the ARC, please visit: <https://resus.org.au>

The ARC recommends that individuals refresh their skills in CPR every 12 months; every 3 years for First Aid and Emergency First Aid.

ADDITIONAL TRAINING FOR FIRST AIDERS

As per the [Model First Aid in the Workplace Code of Practice](#), the following excerpt notes the additional training requirement for qualified First Aiders:

First Aiders should attend training on a regular basis to refresh their First Aid knowledge and skills and to confirm their competence to provide First Aid. Refresher training in CPR should be undertaken annually, and First Aid qualifications should be renewed every 3 years.

Where workers or others at the workplace have known existing medical conditions, First Aiders should be trained to respond to these conditions if the topic has not been covered in previous First Aid training.

PRINCIPLES OF FIRST AID

First Aid is an important part of everyday life at home, work or at play. Everyone should learn First Aid and be willing to administer basic care until emergency assistance arrives. Not every incident requiring First Aid is a life-and-death situation. First Aid knowledge is commonly used to manage minor injuries at home or work.

First Aid is the immediate care of an injured or suddenly sick person. It is the care that is applied as soon as possible after an accident or sudden illness. This prompt care and attention prior to the arrival of the ambulance can sometimes mean the difference between life and death or between a full or partial recovery. The 5 principles of First Aid are to:

1. **Preserve life** – This includes the life of the casualty, bystander and rescuer.
2. **Protect the casualty from further harm** – Ensure the scene is safe.
3. **Provide pain relief** – This could include the use of ice packs or applying a sling.
4. **Prevent the injury or illness from becoming worse** – Ensure the treatment you provide does not make the condition worse.
5. **Provide reassurance** – Stay with the casualty, providing emotional reassurance.

It is important to understand that First Aid has its limitations and does not take the place of professional medical treatment.

Taking immediate action is the essential principle in First Aid. Bystanders or relatives may not recognise the symptoms of an injury or illness and may wait too long before calling for help. Often people worry about “doing the wrong thing” and don’t attempt First Aid at all.

A casualty who cannot breathe effectively or is bleeding heavily, requires immediate assistance. Prompt, effective First Aid provides the casualty with the best possible opportunity to recover.

Each emergency is different. So providing you with a list of things to do for every emergency is not possible.

Prompt action should never lead to panic. The First Aider needs to formulate a plan. Careful and deliberate action undertaken without too much delay will benefit the casualty most. If the casualty is stressed or panicking, remain calm and think your actions through. A calm, decisive First Aider will give everyone confidence the event is under control and being managed effectively.

Communicating details of an incident to Paramedics and Emergency Workers

When the paramedics and emergency workers arrive, they will want to know about both the casualty and the incident— about the actions you’ve taken, the treatment you’ve provided, time of the incident, any medications involved, and the behaviour of the casualty. It’s important you provide accurate and detailed information, calmly and in a way that recognises it is time-critical.

LEGAL CONSIDERATIONS OF FIRST AID

Providing First Aid to a person can lead to legal consequences. Therefore, as a First Aider, you need to be aware of the following:

- Duty of care
- Negligence
- Consent
- Privacy and confidentiality
- Own skills and limitations



Duty of care

Duty of care is your obligation as an individual to ensure the safety or well-being of others as well as yourself. As a First Aider, if you've commenced treatment for an individual, then you have a duty of care to provide a standard of reasonable care for First Aid treatment.

Duty of care arises because you have the relevant skills and knowledge to provide First Aid during an emergency situation. A breach in duty of care occurs when the individual providing treatment fails to act in accordance with their First Aid training.

The common law does not impose an automatic duty on First Aiders to go to the aid of every casualty they come across. However, First Aiders do have a duty to provide First Aid assistance if they have voluntarily taken on that role. For example, a nominated First Aid officer in a workplace has a duty of care to assist others in that workplace.

Legislation can also impose a duty of care. For instance, some States have legislated that staff working in childcare centres must provide medical aid to a child who becomes ill or is injured. In the Northern Territory, the Criminal Code makes it a criminal offence for a person who is able to provide First Aid, to 'callously fail' to provide a person urgently in need and whose life may be endangered. The penalty is up to 7 years in prison.

When you start First Aid treatment of a casualty, you take on a duty of care to provide First Aid with a reasonable standard and ensure that your actions do not cause further harm or injury to the casualty. You should continue to provide First Aid once this treatment has begun, until:

- The scene becomes unsafe
- Another trained First Aider arrives and takes over
- Qualified help arrives and takes over
- The casualty shows signs of recovery
- You become physically unable to continue

Australian States and Territories, with the exception of Queensland and Tasmania, exclude from liability a person who, in an emergency, helps a person who is, or risks being, injured. Such protection from civil liability for an act or omission exists as long as:

- The person rendering assistance does so in good faith (that is, acting honestly, without fraud, collusion or participation in any wrongdoing)
- The person's action was without expectation of reward or payment
- The person was not responsible for the injury in relation to which the assistance was provided
- The person's capacity to exercise reasonable care and skill was not significantly impaired by being under the influence of alcohol or drugs
- The person exercises reasonable care and skill
- The person does not impersonate a healthcare or emergency services worker or a police officer or otherwise falsely represents that he or she has skills or expertise in connection with the rendering of emergency assistance

In addition, each Australian jurisdiction has legislation that provides protection for volunteers of charitable, religious, educational and benevolent community organisations. Such volunteers are protected from civil liability for acts or omissions made or done in good faith within the scope of the activities organised by the community organisation.

The protection does not extend to damage caused by the volunteer's criminal conduct or impairment of the volunteer's ability by alcohol or drugs

Negligence

In the unlikely event that legal action is taken against a First Aider in relation to providing First Aid treatment, the courts would identify the circumstances surrounding the incident to determine whether the First Aider acted negligently in the treatment of First Aid. The following factors must all be present for a First Aider to be found negligent:

1. A duty of care existed between the First Aider and the casualty.
2. The First Aider did not provide a standard of reasonable care and skill in providing First Aid.
3. The First Aider breached the relevant standard of care.
4. The casualty suffered harm or injury as a result of an act or omission of the First Aider.

A First Aider is not considered a medical professional. Therefore, a court would need to identify the First Aider's level of training and assess the standard of care a reasonable person would provide in the same emergency situation. It's in the public's interest to encourage people to provide assistance to others, so the Australian courts would view a First Aider as liable if the evidence showed that the behaviour of the First Aider was excessively negligent during the emergency situation.

Example: A First Aider gives cardiopulmonary resuscitation (CPR) to a casualty in cardiac arrest. During CPR, a rib is broken. The resuscitation is successful and after the event, the casualty decides to sue for the rib injury.

The court would look at the facts and may decide that:

- It is reasonable to expect a First Aider might break a casualty's rib while delivering CPR to save the casualty's life
- The First Aider acted with reasonable care and skill
- The First Aider was not negligent in providing CPR in this way
- The outcome for the casualty of not performing CPR could have been far worse than suffering a broken rib

Consent

Prior to commencing First Aid on an individual, you will need to obtain permission or agreement to provide treatment, wherever possible. This safeguards the rights of the individual regarding any unwanted personal contact or treatment. If a competent adult does not consent to you providing them First Aid treatment, you must respect their decision and not proceed. *However, if the individual is unconscious or not breathing, the legal requirement to obtain consent before assistance or treatment is waived under Common Law and Statute law in several circumstances.*

Adults are assumed competent unless they have impaired decision-making capacity. Children are regarded as having impaired decision-making capacity until the age of 18. However, most states permit younger persons to make decisions if they are able to understand the issues involved.¹

In the case of infants and other children who are not capable of understanding the issues, refusal to receive treatment can be difficult to interpret. In general, it is the parent/guardian who decides whether the advantages outweigh the potential for distress caused by treatment. In the absence of a parent/guardian, rescuers should regard children as having impaired decision-making capacity.²

As part of their child's enrolment, parents usually sign consent for First Aid, in the event of an emergency, to be provided by the education or care facility while it is responsible for the child.

1. Excerpt from ANZCOR Guideline 10.5 November 2015, Paragraph 7, Page 4

2. Excerpt from ANZCOR Guideline 10.5 November 2015, Paragraph 8, Page 4

Although treatment normally requires consent, an injured or ill person should not be deprived of treatment simply because they lack decision-making capacity. The key legal factors that determine whether treatment can be given without consent are: whether the victim has or does not have decision-making capacity; whether an advance care directive exists; the degree of urgency of the situation and whether a substitute decision-maker is present, willing, and able to consent.³

If the victim is unable to give consent and no substitute decision maker is present, the legal requirement to obtain consent before assistance or treatment is waived under Common Law and Statute law in several circumstances.⁴

ANZCOR recommends that rescuers seek the consent of a victim before giving treatment. If the victim is incapable of consenting, a rescuer may give urgent treatment to preserve life and health without consent, unless an advance care directive prohibits such treatment. If the victim is incapable of consenting and the treatment proposed is not urgent, the consent of a person responsible, if present and willing to give consent, should be sought.⁵

Privacy and Confidentiality

Privacy and confidentiality in First Aid refer to ensuring that information about the casualty is protected from third parties. The First Aider has a legal responsibility to safeguard the privacy of the casualty, including information about their condition, as well as the incident details.

Examples of breaches of privacy and confidentiality include:

- Using your mobile phone to take pictures
- Disclosing the casualty's personal details to others
- Discussing the incident details with others

PRIVATE & CONFIDENTIAL

Information about the incident, or the condition of the casualty, **must only** be provided to Emergency Services personnel and/or the workplace supervisor, if appropriate.

Own Skills and Limitations

It is vital for a First Aider to know and understand their level of First Aid training undertaken and to keep their skills up-to-date. At no time can a First Aider go beyond their level of training. Be aware of your own skill level and its limitations. DO NOT attempt any process or procedure for which you have not trained.

RESPECTFUL BEHAVIOUR

As a First Aider, you must always behave respectfully towards the casualty. When communicating and interacting with the casualty, you must maintain respect when in regard to privacy, cultural beliefs, religious belief, ethnicity, languages, genders, disabilities and age. This could include speaking in a clear, calmly-paced manner, avoiding eye contact, avoiding personal contact with the casualty. You should avoid treating the person when another First Aider is available who is the same sex as the casualty.

3. Excerpt from ANZCOR Guideline 10.5 November 2015, Paragraph 1, Page 5

3. Excerpt from ANZCOR Guideline 10.5 November 2015, Paragraph 2, Page 5

Excerpt from ANZCOR Guideline 10.5 November 2015, Paragraph 4, Page 9

FIRST AID IN THE WORKPLACE

Code of Practice: First Aid in the Workplace

The Model Code of Practice on First Aid in the workplace is an approved code of practice under section 274 of the Work Health and Safety Act (the WHS Act).

An approved code of practice provides practical guidance on how to achieve the standards of work health and safety required under the WHS Act and the Work Health and Safety Regulations (the WHS Regulations) and effective ways to identify and manage risks.⁶

The Model Code of Practice for First Aid in the workplace gives directional guidance on:

1. First Aid in the workplace
 - a. Who has health and safety duties in relation to First Aid?
 - b. What is required in providing First Aid?
2. How to determine First Aid requirements for your workplace
 - a. The nature of the work and workplace hazards
 - b. Size and location of the workplace
 - c. The number and composition of workers and others at the workplace
3. First Aid equipment, facilities and training
 - a. First Aid kits
 - b. First Aid signs
 - c. Other First Aid equipment
 - d. First Aid facilities
 - e. First Aiders
 - f. First Aid procedures
 - g. Providing First Aid information
 - h. Reviewing your First Aid requirements

Each State and Territory has implemented its own Code of Practice (CoP) on First Aid in the workplace. A number of States though, have implemented their First Aid CoP based on the national model code of practice developed by Safe Work Australia as part of the harmonisation of work health and safety laws. This applies to all States and Territories except Victoria and Western Australia, which meet national legislative requirements but have their own State-based versions of the First Aid Code of Practice.

Hazards that may Require First Aid

Providing immediate and effective First Aid to workers or others who have been injured or become ill in the workplace, may reduce the severity of the injury or illness and promote recovery. In some cases, it could mean the difference between life and death.

Certain work environments have greater risks of injury and illness due to the nature of the work being carried out and the nature of the hazards in the workplace. For example, the risks involving immediate medical treatment would be greater for factories, motor vehicle workshops, and forestry operations, than for offices or libraries. Their First Aid arrangements would therefore be different.

6. Excerpt from the [Model First Aid in the workplace Code of Practice](#); July 2019, Paragraphs 1 & 2, Page 4

Table 1: Injuries associated with common workplace hazards that may require First Aid

Hazard	Potential harm
Manual tasks	Overexertion can cause muscular strain.
Working at height	Slips, trips and falls can cause fractures, bruises, lacerations, dislocations, concussion.
Electricity	Potential ignition source could cause injuries from fire. Exposure to live electrical wires can cause shock, burns and cardiac arrest.
Machinery and equipment	Being hit by moving vehicles or being caught by moving parts of machinery can cause fractures, amputation, bruises, lacerations, dislocations.
Hazardous chemicals	Toxic or corrosive chemicals may be inhaled or contact skin or eyes, causing poisoning, chemical burns, irritation. Flammable chemicals could result in injuries from fire or explosion.
Extreme temperatures	Hot surfaces and materials can cause burns. Exposure to heat can cause heat, stress and fatigue. Exposure to extreme cold can cause hypothermia and frostbite.
Radiation	Welding arc flashes, ionizing radiation and lasers can cause burns.
Violence	Behaviours including intimidation and physical assault can cause nausea, shock and physical injuries
Biological	Infection, allergic reactions
Animals	Bites, stings, kicks, scratches can cause infections, respiratory distress, cardiac arrest, bruises, dislocations, fractures.

Keeping a record of all injuries, ‘near misses’, and other information will help assess risks in the workplace and inform appropriate First Aid decisions. First Aid equipment, such as properly stocked First Aid kits, automated external defibrillators (AED), eye wash, shower equipment, and facilities should be located in areas where a higher risk of an injury or illness exists.

First Aiders

The person/s conducting a business or undertaking (PCBU) must ensure an adequate number of workers are trained to administer First Aid at the workplace or that workers have access to an adequate number of other people who have been trained to administer First Aid.

As a minimum, First Aiders should hold nationally recognised Statement/s of Attainment issued by a Registered Training Organisation (RTO) for the nationally endorsed First Aid unit of competency Provide First Aid or a course providing equivalent skills. A higher level or additional training may be required to ensure your First Aiders have appropriate skills for the risks you have identified in your workplace.⁷

Workplace First Aid Kits

All workers must be able to access a First Aid kit. This will require at least one First Aid kit to be provided at their workplace.

Contents

The First Aid kit should provide basic equipment for administering First Aid for injuries including:

- Cuts, scratches, punctures, grazes and splinters
- Muscular sprains and strains
- Minor burns

7. Excerpt from the [Model First Aid in the workplace Code of Practice](#): July 2019, Paragraphs 1 & 5, Page 17

- Amputations and/or major bleeding wounds
- Broken bones
- Eye injuries, and
- Shock

Contents of First Aid kits should be based on risk assessment. Higher risks of eye injury and a need for more eye pads apply to a workplace that involves machinery or chemicals. For example, where:

- Chemical liquids or powders are handled in open containers
- Spraying, hosing or abrasive blasting operations are carried out
- There is a possibility of flying particles causing eye injuries
- There is a risk of splashing or spraying of infectious materials, or
- Welding, cutting or machining operations are carried out.

Extra equipment may be needed in remote workplaces, for example, for serious burns, breathing difficulties or allergic reactions.⁸

Medication, including analgesics, such as paracetamol and aspirin, should not be included in First Aid kits. This is due to their potential to cause adverse health effects in some people, including pregnant women and people with medical conditions, such as asthma. Supply of these medications may also be controlled by drugs and poisons laws. Workers requiring prescribed and over-the-counter medications should carry their medication for their own use as necessary.

However, workplaces may consider including an asthma-relieving inhaler and a spacer to treat asthma attacks and an epinephrine auto-injector for the treatment of anaphylaxis or severe allergies. These should be stored according to the manufacturers' instructions. Appropriate training in their use should be provided for First Aiders.

Some types of workplaces may require extra items to treat specific types of injuries or illnesses. These may also require your First Aiders to have additional training.⁹

Design of kits

First Aid kits can be any size, shape or type to suit your workplace, but each kit should:

- Be large enough to contain the necessary items
- Be immediately identifiable with a white cross on green background prominently displayed on the outside
- Contain a list of the contents for that kit, and
- Be made of material that will protect the contents from dust, moisture and contamination¹⁰



Image: Commander FB 6 Series workplace First Aid kit from Aero Healthcare

8. Excerpt from the [Model First Aid in the workplace Code of Practice](#): July 2019, Paragraphs 4 to 7, Page 12

9. Excerpt from the [Model First Aid in the workplace Code of Practice](#): July 2019, Paragraphs 1 to 3, Page 31

10. Excerpt from the [Model First Aid in the workplace Code of Practice](#): July 2019, last Paragraph, Page 12

For most workplaces, a First Aid kit should include the following items as shown in the table:¹¹

First Aid Item	Quantity
Instructions for providing First Aid—including cardiopulmonary resuscitation (CPR) flow chart	1
Notebook and pen	1
Resuscitation face mask or face shield	1
Disposable nitrile examination gloves (nitrile is a latex-free rubber suitable for people with latex allergies)	5 pairs
Gauze pieces 7.5 x 7.5 cm, sterile 3 per pack	5 packs
Saline, 15 ml	8
Wound cleaning wipe, single 1% Cetrimide BP	10
Adhesive dressing strips—plastic or fabric, packet of 50	1
Splinter probes, single-use, disposable	10
Tweezers/forceps	1
Antiseptic liquid/spray 50 ml	1
Non-adherent wound dressing/pad 5 x 5 cm (small)	6
Non-adherent wound dressing/pad 7.5 x 10 cm (medium)	3
Non-adherent wound dressing/pad 10 x 10 cm (large)	1
Conforming cotton bandage, 5 cm width	3
Conforming cotton bandage, 7.5 cm width	3
Crepe bandage, 10 cm, for serious bleeding and pressure application	1
Scissors	1
Non-stretch, hypoallergenic adhesive tape—2.5 cm wide roll	1
Safety pins, packet of 6	1
BPC wound dressings No. 14, medium	1
BPC wound dressings No. 15, large	1
Dressing—Combine Pad 9 x 20 cm	1
Plastic bags—clip seal	1
Triangular bandage, calico or cotton, minimum width 90 cm	2
Emergency rescue blanket for shock or hypothermia	1
Eye pad, single use	4
Access to 20 mins of clean running water — if not available, hydrogel 3.5gm sachets	5 sachets
Instant ice pack for treatment of soft tissue injuries and some stings	1

Record-keeping – Incident Report

A record of any First Aid treatment provided should always be kept by the First Aider and reported to managers to assist reviewing First Aid arrangements. WH&S regulations require that an incident report must be completed every time an incident in the workplace has occurred.

When preparing a report, some general guidelines that should be followed:

- Use black or blue ink only
- Any corrections should be crossed out with a single line and initialled
- Do not use correction fluid to correct any mistakes

11. Excerpt from the [Model First Aid in the workplace Code of Practice](#): July 2019, Table, Pages 30 & 31

- Sign and date the record
- The information should be kept confidential and should only be accessed by authorised personnel. In a workplace incident, a copy should be provided to authorised employer representatives for auditing and Workplace Health & Safety (WHS) monitoring. The format that is used to report injury and illness varies in different workplaces and different States due to different legislative requirements.
- For further information on safe work practices please visit: www.safeworkaustralia.gov.au

Incident, Injury, Trauma and Illness Report Form (Task M6)			
Complete the following incident report form based on the completed CPR practical scenario			
Treated Person's Details		Date of Birth: 11/1/2018	Gender:(circle) <input checked="" type="radio"/> M <input type="radio"/> F <input type="radio"/> X
Given Name/s: ADAM		(Family/last) Surname: STRAW	
Incident / Injury / Trauma / Illness Details			
Location: CHILD CARE	Time: 11 am/pm	Date: 04/10/2018	
Circumstances leading up to the occurrence / or what was found at scene upon arrival	ENTERED THE ROOM AND FOUND STAFF MEMBER HOLDING A BABY DISTRESSED ADVISING HIS NOT BREATHING		
Nature of Injury / Trauma / Illness		Mark location/s of injury or aid given	
<input type="checkbox"/> Abrasion, scrape <input type="checkbox"/> Bite <input type="checkbox"/> Broken bone / fracture <input type="checkbox"/> Bruise <input type="checkbox"/> Burn <input type="checkbox"/> Concussion <input type="checkbox"/> Cut <input type="checkbox"/> Sprain <input checked="" type="checkbox"/> Swelling <input checked="" type="checkbox"/> Unconscious / not breathing <input type="checkbox"/> Other (please specify)			
Details of action taken:	CHECKED THE INFANT FOR RESPONSE; WHEN THE INFANT VOMITED THEY WERE TURN ONTO THEIR SIDE TO CLEAR THE AIRWAY, CPR COMMENCED AS CASUALTY HAS NOT BREATHING. CPR CONTINUE UNTIL INFANT RESPONDED, PLACED INFANT INTO RECOVERY POSITION		
Treatment Outcome (ambulance attended, left on own, left with parent/friend/carer)			
AMBULANCE CALLED.			
First Aider Details	Name: MILIELLE DOE	Date: 4/10/2018	
	Signature:	Time: 11 am/pm	

Information that **must** appear on an incident report:

- Date and time of incident
- Brief personal details (name, address, date of birth)
- History of the illness/injury
- Observations (signs, symptoms and vital signs)
- First Aider's assessment of injury/illness
- Name, title and signature of First Aider
- Date of report

The First Aider must keep a copy of the incident report in a secure place. A copy of the report should be sent with the casualty to the hospital or medical facility.

POST-INCIDENT DEBRIEF AND REVIEW/EVALUATION

It is important for those involved in an incident to take part in a post-incident debriefing/evaluation to identify, assess, and examine areas for improvement. Factors to consider when reviewing the First Aid response are:

- Did the First Aider/s have the appropriate training for the First Aid provided and required?
- How long did it take for the First Aiders to appear on the scene?
- Was the appropriate First Aid equipment — such as an AED, EpiPen, Asthma puffer — available, in date, and in good working order?
- Was the First Aid kit appropriately stocked with the required items and were they in date?
- Were the required equipment and supplies at hand or was there an extended time before they arrived upon the scene.

- Was the First Aid event managed in line with the workplace's First Aid Plan?
- Is improvement needed regarding the response, supplies or equipment?

Psychological Impacts

Post-incident debriefing/evaluations also give those involved in the incident a chance to discuss and express how they felt, thus reducing possible psychological impacts.

Emergencies of any size can cause unusual stress in those who have been directly and indirectly affected by it. Every person will react differently and a range of responses to an emergency is normal and to be expected.

Emotional responses to disasters can emerge immediately or sometimes months later. Understanding what you're feeling and taking positive steps can help you cope better. Some common responses to emergencies include:

- Crying for "no apparent reason"
- Difficulty making decisions
- Difficulty sleeping
- Disbelief, shock, irritability, anger, disorientation, apathy, emotional numbing, sadness and depression
- Excessive drinking or drug use
- Extreme hunger or lack of appetite
- Fear and anxiety about the future
- Feeling powerless
- Flashbacks
- Headaches and stomach problems

Methods to reduce psychological impacts include but are not limited to:

- Debriefing the situation with a supervisor
- Writing down what happened and your feelings about it
- Talking with a friend or colleague about how it felt to be involved
- Getting back into balance by reflecting with nature, going bush, sitting near water

If you have strong feelings that won't go away, professional help from a doctor, counsellor, or help-line for support, is recommended.

BASIC ANATOMY AND PHYSIOLOGY OF THE CHEST

The Heart and the Lungs are the major organs located within the chest cavity. They are the principal organs of the Cardiovascular and Respiratory systems.

Cardiovascular system

The cardiovascular system is one of the major body systems. It transports oxygen, carbon dioxide, waste products, nutrients and hormones to and from various parts of the body. The cardiovascular system is made up of the heart muscles, the blood vessels, and blood. The body has major vessels called 'veins' that carry deoxygenated blood back to the heart from the body, and major vessels called 'arteries' that carry oxygenated blood away from the heart, to all the parts of the body.

Heart

The heart is a hollow organ about the size of a fist and is composed of special muscle tissue (cardiac muscle). It lies under the breast bone in the centre of the chest cavity.

In the average lifetime, the heart beats 250 million times and pumps 340 million litres of blood. The heart is a sophisticated pump that is controlled by an electrical current initiated in the brain.

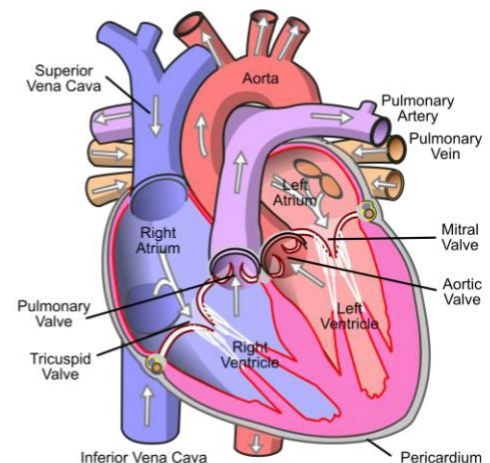


Image of the heart: by Wapcaplet, Own work, CC BY-SA 3.0

First, the upper chambers of the heart relax and fill with blood as the lower chambers contract, forcing out blood through the aorta. Next, the lower chambers relax, allowing blood to flow into them from the contracting upper chambers. The cycle then repeats. This happens approximately 70 to 80 times per minute in an average healthy person.

The typical normal resting heart rates, which vary with age, are as per the table:

Average resting normal heart rates by age per minute

Age Range	Heart Rate
1–12 months	100–160
1–5 years	80–130
6–14 years	60–110
15–adult	60–100

Respiratory System

The respiratory system is composed of the airway (mouth, nose, trachea, larynx, bronchi and bronchioles) and the lungs (including the small air sacs called *alveoli*). The respiratory system provides oxygen to the blood and takes away the waste product (carbon dioxide). Oxygen is extracted from air inhaled through the airway and enters the bloodstream through the lungs' membranes. Maintaining a casualty's airway is of primary importance to the First Aider.

Oxygen is needed by cells to produce heat and energy. The cells produce carbon dioxide as waste. Inhaled air is moistened and warmed as it passes through the upper respiratory tract — the nose, the pharynx and the larynx. The clean air passes through the lower respiratory tract — the trachea and lungs where exchange of gases takes place.

Respiration involves the passage of air in and out of the lungs via the trachea. In the lungs, the bronchi then branch into thousands of smaller bronchioles that each have air sacs called alveoli attached to them. Exchange of oxygen and carbon dioxide takes place at this level, between the alveoli and the blood capillaries. Through this process, oxygen enters the bloodstream to be transported around the body.

Rate Ranges for Normal Respiration

The normal respiration rate, of a person at rest, is 12-20 per minute. This rate rises as the person engages in physical or emotion activity. It can also rise as result of injury or medical conditions such as 'shock', 'asthma', 'hyperventilation', and others. Generally, children have faster respiratory rates than adults, while women breathe more often than men.

Typical normal respiration rates for different age groups are as per the table:

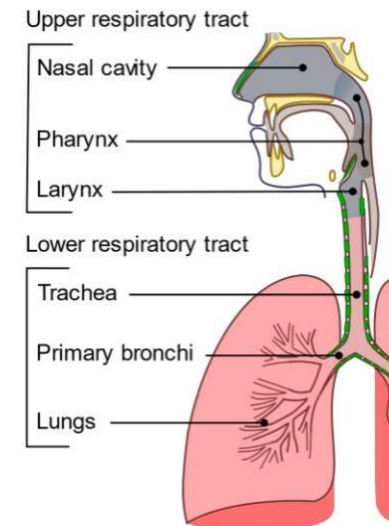


Image: Conducting passages of the human respiratory system by Lord Akryl, Jmarchn - cancer.gov, Public

Average normal respiration rates

Age Range	Respiratory Rate
1–12 months	30-60
1–5 years	20-40
6–14 years	15-30
15–adult	12-20

Normal Breathing, Ineffective Breathing and Abnormal Breathing

Normal respiration is regular, quiet and effortless and can be influenced by exercise, exertion, fatigue, strong emotions, rest or sleep.

Observe a person's breathing...

- **Rhythm:** Breaths in and out should occur at regular intervals
- **Character:** Is the breathing steady/normal; laboured; fast or slow; difficult; gurgling, gasping, noisy/harsh sounding?
- **Depth:** Effortless, natural is normal. Is the breathing now shallow/minimal or heavy and deep?

Ineffective, abnormal or absent breathing can occur due to:

- Choking, upper airway obstruction
- Drowning
- Suffocation
- Cardiac arrest
- Respiratory distress – asthma, etc

During cardiac arrest, the casualty may show signs of abnormal gasping for air — described as gurgling, laboured or agonal breathing. If the casualty is unresponsive to strong stimulation, the gasping should be considered ineffective breathing and CPR should be commenced immediately.

Digestive system

The digestive system includes the oesophagus, stomach and intestines. Fluid and solids pass through the oesophagus to the stomach for further digestion before being absorbed into the body through the membranes of the intestines. The digestive system has accessory organs — the liver and pancreas — to help process food into various chemical substances used by the body.

Endocrine system

This system involves organs and glands that secrete chemicals in the form of hormones to stimulate and activate the body's functions. The pancreas, for example, controls a variety of important functions by releasing insulin and influencing the body's metabolic process.

Integumentary system

This is the system that includes skin, hair, fingernails, and toenails. Their pigmentation (colour) and growth are linked to the endocrine system. The skin is the body's largest organ and plays an important role in protecting the body from infections. Made from tough, elastic fibres that can stretch without tearing easily, the skin shields against injury and keeps body fluids in.

Lymphatic system

The lymphatic system is a slow-moving system where toxins such as venom tend to accumulate after a bite has occurred. The system provides lymphatic fluid that drains from the body's tissues, which is important as a 'flushing' mechanism. Most absorbed or injected toxins and infections are collected by the lymphatic system and 'strained' through lymph nodes in the armpits, neck and groin. The lymphatic fluid eventually drains into the blood stream.

STANDARD PRECAUTIONS AND INFECTION CONTROL

Ensuring cleanliness in all First Aid situations is extremely important. Good First Aid hygiene procedures include precautions to ensure the risk of infection is minimised.

Bacteria, viruses, parasites, or fungi, cause infections to the human body and, in some cases, are transmitted by contact or by cross-infection. The usual methods of transmission are:

- Direct contact (with an infected person)
- Indirect contact (through coughing, air conditioning or similar)
- Or through a host (insects, worms)

Many deadly infectious diseases have been eradicated, but several, such as *poliomyelitis* (a virus), are on the increase. Examples of infectious diseases include:

- **Viral infections:** Measles, mumps, rubella, hepatitis, influenza, chickenpox, HIV and the common cold.
- **Bacterial infections:** Throat infections, whooping cough, diphtheria, rheumatic fever, tuberculosis, cholera, staphylococcus infection, and some forms of meningitis.
- **Parasitic infections:** Malaria, tapeworm, hookworm, itch mites, pubic and body lice.
- **Fungal infections:** Ringworm, tinea ('Athlete's Foot'), and thrush.

The human body has natural defences and remains immune to certain types against infection. While the body responds quickly, its initial defences can be overwhelmed if the infectious agent is numerous.

When providing First Aid treatment, it's therefore important to maintain due regard for the danger of cross-infection and take precautions to limit the risk and avoid direct contact with the infection. Simple rules of personal hygiene and wearing gloves when treating or caring for a casualty are sufficient to guard both the First Aid provider and the casualty from contamination.

NOTE: *The advice below applies to ideal circumstances. In many emergencies, a first responder may not have access to gloves, masks, and other equipment. You may need to 'improvise', using plastic bags, clothing, or whatever is available, to try to protect yourself and the casualty.*

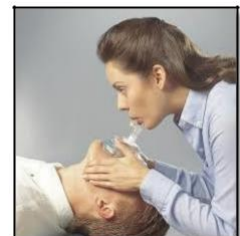
Prior to treatment

- Wash hands with soap and water or rinse with antiseptic
- Ensure hands are washed thoroughly between fingers and under nails
- Place a barrier between you and the casualty's body fluids
- Always wear nitrile or latex gloves if available
- Take care not to touch any unclean object when wearing gloves or once your hands are washed
- If possible, use a protective cover over clothing
- Cover any adjacent areas likely to produce infection



During treatment

- Use a face shield or mask with a one-way-valve or filter, if available, when performing resuscitation
- Use only clean bandages and dressings
- Avoid coughing, breathing or speaking over the wound
- Avoid contact with body fluids
- Avoid treating more than one casualty without washing hands and changing gloves



After treatment

- Clean up both casualty and yourself
- Clean up the immediate vicinity
- Dispose of dressings, bandages, sharps, gloves and soiled clothing safely and correctly
- Wash hands with soap and water thoroughly, even if gloves were used



CHAIN OF SURVIVAL

Chain of Survival illustrates 4 important actions to take during life-threatening emergencies:

1. Early access and recognition, then for help

This first link refers to the importance of early recognition or access to those at risk of cardiac arrest, then calling for help immediately for early treatment.

2. Early CPR

Early cardiopulmonary resuscitation (CPR) performed by a First Aider can buy life-saving time for a casualty in cardiac arrest.



3. Early defibrillation

Early defibrillation is the third and perhaps most significant link. Automated external defibrillation is an emergency procedure in which trained First Aiders apply an electronic device to the chest of a cardiac arrest casualty. The device automatically delivers a controlled electric shock to the casualty's heart.

4. Early advanced care (Post resuscitation care)

The final link in the Chain of Survival — effective advanced care — focuses on preserving function, particularly of the brain and heart. This is performed by ambulance paramedics and other highly trained medical personnel.








Basic Life Support (DRSABCD)

This 7 step emergency action plan, also known as the 'primary survey' and 'basic life support flowchart', is known as **D.R.S.A.B.C.D.** (*Drs ABCD is an easy way to remember this*).

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BASIC LIFE SUPPORT

D		DANGER Check Danger: To Yourself - To Bystanders - To Casualty.
R		RESPONSE Check for response by talk and touch If safe to do so.
S		SEND FOR HELP If unresponsive CALL 000 for an ambulance Access First Aid and defibrillator (AED) if required
A		AIRWAY Open mouth & check for a clear airway. Only roll patient if they have come from water or have an obstructed airway.
B		BREATHING Look, listen and feel for normal effective breathing. Take no more than 10 seconds to do this.
C		CPR Give hard and fast chest compressions to a 1/2 chest depth and at a rate of approx. 100 - 120 compressions per minute. You may also administer breathing via a mask or oxygen's air bag if competent.
D		DEFIBRILLATION Attached an AED, if one is available. Turn AED on and follow voice prompts.

CONTINUE CPR UNTIL RESPONSIVE OR NORMAL BREATHING RETURNS

Some of our specialist consulting & training services include:

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• Oxygen - Defibrillation (AED)	• Life Skills - Mental Health	• Work Health & Safety
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(DRSABCD) Danger (hazards, risks, safety)

In an emergency situation, you need to check for potential hazards and ensure the safety of all those at the scene. Quickly and thoroughly survey the scene to look for any threats to safety. Check for any risk to yourself, bystanders and the casualty.

Hazards may include:

- Body fluids (blood, saliva, vomit, excrement, urine)
- Bio-hazards, chemicals, fuels etc
- Electricity, gases, fire, smoke, fumes, flammable materials
- Fallen structures, trees, power lines
- Traffic, pedestrians, bystanders
- Sharp objects, glass, metal edges, slippery or unstable surfaces
- In motor vehicles accidents:
 - Fuel spills
 - Unexploded airbags
 - Body fluids
 - Injured casualties
 - Glass, sharp metal, debris

Some situations allow for hazards to be removed. Others may require the casualty to be moved away from the hazard.

Seriously dangerous situations should be left to emergency personnel with the right equipment and training. Risking your own safety may increase the number of casualties to manage.

Moving a casualty

You should check a casualty in the position in which you find them, provided they are not at further risk. You may need to roll them onto their back. Do this gently, while supporting the head and neck.

Moving a casualty — especially an unconscious casualty — is very difficult and should be left to ambulance personnel who have the necessary training and equipment. If you need to move the casualty before an ambulance arrives, get assistance from bystanders, take extreme care, and use good manual handling practices.

Basic manual handling techniques involve: using good body mechanics by maintaining a straight back and bending your legs, not your back. Do not lift and twist at the same time. Don't move a casualty on your own. Keep the load close to your body when lifting — do not reach and lift.

(DRSABCD) Response

The causes of unconsciousness can be classified into 4 broad groups:

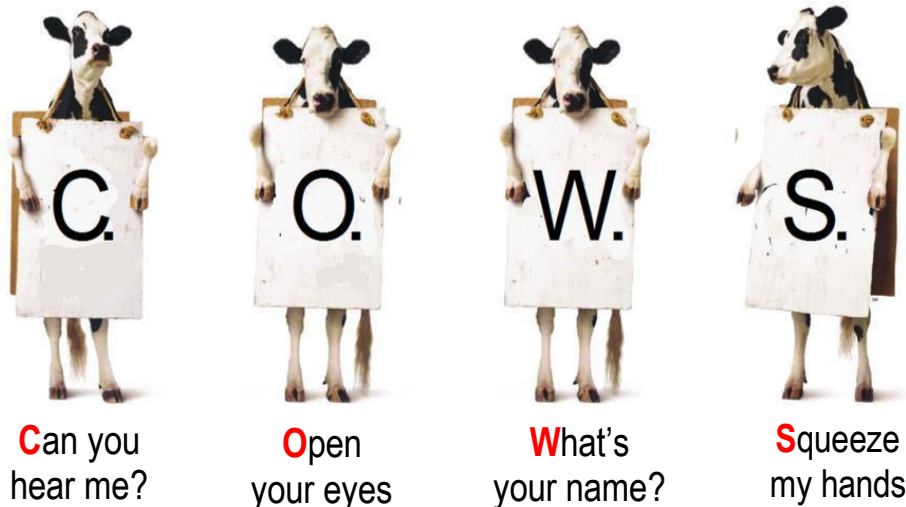
- Low brain oxygen levels
- Heart and circulation problems (e.g. Fainting, abnormal heart rhythms)
- Metabolic problems (e.g. Overdose, intoxication, low blood sugar)
- Brain problems (e.g. head injury, stroke, tumour, epilepsy)

Different causes may be combined in the unconscious person — e.g. head injury while under the influence of alcohol.

Before loss of consciousness, the person may experience yawning, dizziness, sweating, change from normal skin colour, blurred or changed vision, or nausea.¹²

12. Excerpt from ANZCOR Guideline 3 January 2016, Paragraphs 1 - 3, Page 2

C.O.W.S. is a method to assess if the casualty is responsive. It uses touch as well as questions and commands. The acronym, COWS, makes it easier to remember.



Can you hear me? Ask “Can you hear me?” “Are you hurt or sick?” Also, ask if you can help the casualty. Along with the possibility of eliciting a response, this has the added advantage of gaining consent, or not.

Open your eyes. Instructing the casualty to open their eyes is the most instinctive action the casualty will take, if they are able to. If their eyes are open, are they able to ‘look left’, look right’?

What is your name? Asking their name is also instinctive. The name is irrelevant, so long as they respond to your question.

Squeeze my hands. Squeeze the casualty’s hand to see if they squeeze back in response. A casualty that cannot hear you, may feel your squeeze and respond accordingly.

NOTE: Do not shake children and infants. There is no need to aggressively shake a casualty to gain a response. Just touch them on the hand/shoulders and talk assertively — this is sufficiently effective and will awaken a sleeping person. It is possible for a casualty to be conscious, but not responding, for example, a person having an Absence Seizure, where they remain conscious but unable to respond to questions and commands. Therefore, you should always treat a casualty, who is unresponsive, as unconscious.

If the casualty DOES respond:

If the casualty responds by speaking or moving and appears conscious, leave them in the position in which you found them (provided there’s no further danger or risk). Do a ‘secondary survey’ with a verbal and visual assessment of their condition.

- Your verbal assessment should ask questions of the casualty, such as: What happened? Are you injured? Do you have any pain? Do you feel ill? Do you have a medical condition?
- Your visual assessment should involve a head-to-toe examination, looking for bleeding, burns, bites, abnormal swelling, etc. Also, look for medical alert bracelets. Is medication in the casualty’s hand or laying nearby?
- Get help if required
- Observe and reassess the casualty regularly

If the casualty DOES NOT respond:

- Send for help

(DRSABCD) Send for help

Sending for help as early as possible is vitally important.

- Shout for help to alert nearby people
- Where possible, direct a bystander to call for an ambulance
- Ask someone find and bring an AED if available
- If you are on your own, use your mobile phone to call the ambulance



In Australia, 000 (Triple Zero) is the national emergency number for Fire, Ambulance and Police.

112 can also be dialled from any mobile phone, in any phone company’s network coverage area. All mobile phones have an Emergency Call feature on the lock screen when the phone is turned on. The 112 system can also be dialled from anywhere in the world with GSM coverage.

NOTE: this system only uses GSM mobile phone technology, and does not use satellite technology.

106 is the text-based emergency call service for people who are deaf or have a hearing or speech impairment. This service operates using a TTY (teletypewriter) and does not accept voice calls or SMS messages.

You, or your bystander, should give some basic information to the operator. The operator will guide you. Just answer their questions as best you can.

The operator will ask you:

1. Which emergency service do you want, Ambulance, Fire or Police?
2. What is the location (exact address) of the casualty? (Tip: use your mobile phone to find your location, e.g. Google Maps)
3. Your name and phone number (to call you back if required)
4. The nature of the emergency. Tell them what you think has happened.



(DRSABCD) Airway

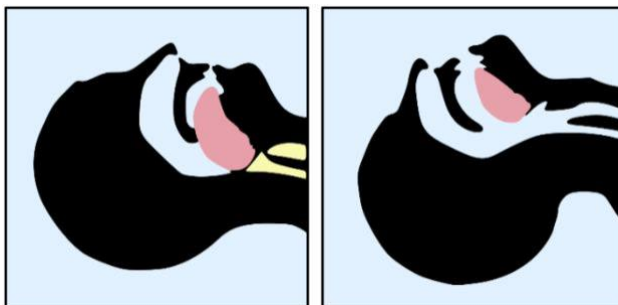
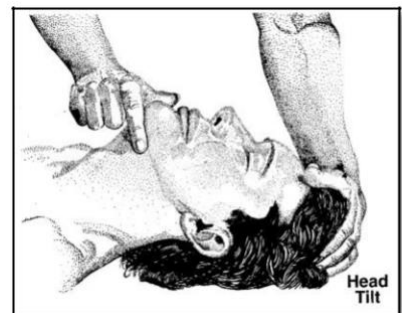
An open and clear airway is essential. This takes priority over any injuries.

If possible, check the airway without moving the casualty. However, you may need turn the casualty onto their side or back.

Adults (8 years & over)

A gradual full head tilt is recommended:

- Place your hand on the forehead
- Place your fingertips under the point of the casualty’s chin
- Gently tilt the head back and lift the chin to open the airway



Children (1 – 8 years)

A gradual full head tilt is recommended for children from 1 year up to 8 years of age. Children should be managed as for adults.¹³

13. Excerpt from ANZCOR Guideline 4 January 2016, Paragraph 2, Page 4

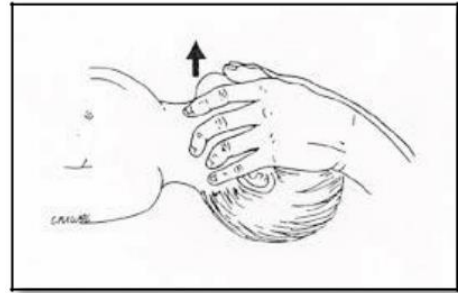
Infants (under 1yr)

For infants, maintain a neutral head position/jaw support. Do not tilt their head back, as this can compromise their airway.

Clearing the airway

Look into the back of the throat to see if anything is blocking the pathway into the lungs, especially the following items:

- Casualty's own tongue, as it can fall back into the airway.
- Regurgitation – stomach contents rising up the oesophagus but not being ejected, e.g. vomit.
- Foodstuffs
- Fluids, such as saliva, blood, mucus
- Foreign items
- Loose dentures, mouthguards



(DRSABCD) Breathing

Is the casualty breathing 'normally'?

While keeping the airway open, assess their breathing using the '**Look, listen and feel**' method (see image):

- **Look** to see if the chest rises and falls
- **Listen** at the mouth for sounds of normal breathing
- **Feel** for air against your cheek



Look, listen and feel for no more than 10 seconds to assess if breathing is 'normal'. In the first few minutes after a cardiac arrest, the casualty may be taking infrequent, slow and noisy gasps, as well as making gasping, gurgling or sighing sounds. This type of ineffective breathing should be treated as 'not breathing'.

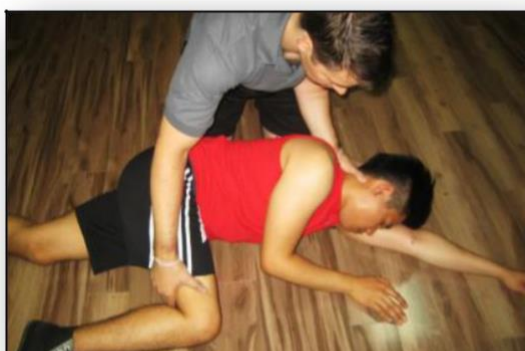
If casualty IS breathing 'normally':

- Promptly roll them into the '**recovery position**'
- Check the casualty's condition and be sure to call for an ambulance
- Observe and reassess the casualty for continued breathing every 60 seconds
- Assess for injuries and treat accordingly while waiting for medical help to arrive

The 'Recovery Position'

ARC guidelines advise that an unresponsive/unconscious person who is breathing normally, should be placed in a lateral, side-lying recovery (lateral recumbent) position. This is because if they are left on their back, there is an extremely high risk of them choking.

There are several effective versions of the 'recovery position' (see below images), designed to ensure the casualty's airway stays open and clear.



An infant should not be left laying on their side, rather they should be held in this position (*as shown*), as they are likely to roll back on to their back.



In general, it does not matter which side you lay the casualty on.



**** Important - Pregnant Women:**

An unconscious, breathing casualty who is **heavily pregnant**, should be placed on their **LEFT side** (refer to image), so the weight of the baby does not put pressure on a major vein on the right side of the abdomen.

If casualty is **NOT** breathing 'normally', or stops breathing normally:

- Send someone to urgently find and bring an AED
- Commence CPR without delay

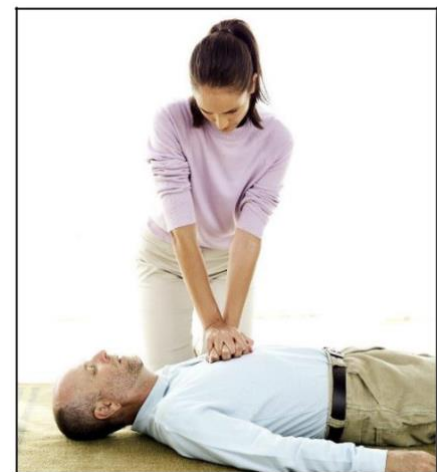
(DRSABCD) Cardiopulmonary Resuscitation (CPR)

ANZCOR Guideline 8

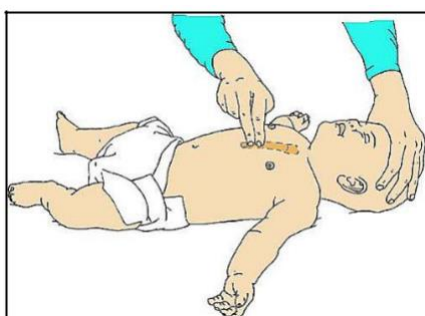
30 compressions, followed by 2 rescue breaths, at a rate of 100-120 compressions per minute for all ages

Chest Compressions:

- Kneel by the side of the casualty and place the heel of one hand (or two fingers on an infant), in the centre of the casualty's chest, on the lower half of their sternum
- Place your other hand over the top of the first one
- Press straight down on the sternum, one third the depth of the chest
- Allow complete recoil of the sternum back to its starting position
- Repeat 30 times, at a speed of 100 – 120 times per minute (approx. 2 compressions per second)



Note: Rib fractures and other injuries are common but acceptable consequences of CPR.

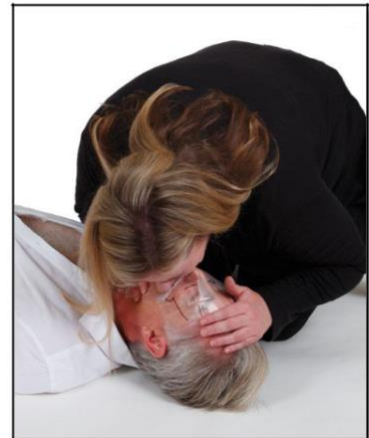


Use the two-finger technique on infants as shown. For children, use either one hand or two hands.

Image courtesy of European Resuscitation Council

Rescue Breaths:

- Breath Volume:
 - Adult: Full
 - Child: Shallow
 - Infant: Puff
- Give 2 rescue breaths – open the airway with head tilt and chin lift – block off the nose with your cheek, or pinch the casualty's nose closed.
- **Infants must be left in a neutral position. Covering the infant's nose and mouth with your mouth, puff air into both at the same time.**
 - allow the mouth to open, while maintaining chin lift
 - take a normal breath and place your lips around the mouth, making sure you have a good seal
 - breathe into the casualty's mouth until the chest rises
 - watch for the chest rise (do not over inflate, especially on children)
 - maintaining head tilt, turn your head and watch the fall of the chest
 - give second breath without delay



Continuing Cardiopulmonary Resuscitation (CPR)

- Without delay, return your hands or fingers quickly to the centre of the casualty's chest, then give the next 30 compressions and 2 breaths
- **Continue giving 30 compressions and 2 rescue breaths at 100-120 per minute**
- Apply Automated External Defibrillator (AED) as soon as possible, if available
- Ask for help from bystanders where possible

*** Do not apply any pressure over the casualty's ribs, upper abdomen, or the bottom end of the bony sternum (breastbone)**



(DRSABCD) Defibrillation

Automated external defibrillators (AEDs) are safe and effective to use. (Refer to image)

Use of an AED makes it possible to defibrillate many minutes before professional help arrives.

- Ensure safety.
- Send someone to retrieve AED if not already done so.
- CPR should continue while another individual opens and sets up AED.
- Follow the spoken/visual prompts of the AED.
- Remove clothing from chest and ensure chest is dry before attaching electrode pads, as shown on pads.
- Make sure no one touches the casualty while the AED is analysing rhythm and/or when a shock is being delivered.



If a shock is indicated:

- Ensure nobody touches the casualty
- Push the shock button as directed.
 - Note: fully-automatic AEDs will deliver the shock automatically
- When directed, resume CPR (30 compressions: 2 breaths)
- Continue to follow the voice/visual prompts of the AED



If no shock is indicated:

- Immediately resume CPR (30 compressions: 2 breaths)
- Continue to follow the voice/visual prompts of the AED

Unsuccessful rescue breaths

If rescue breaths do not make the chest rise with each attempt, proceed to compressions and give 30 compressions before your next attempt at rescue breaths:

- Check the casualty's mouth and remove any visible obstructions
- Ensure there is adequate head tilt and chin lift

Do not attempt more than two rescue breaths each time before returning to chest compressions.

Compression-only CPR

If for any reason rescue breaths are not given, chest compressions should still be administered as some oxygen will still be circulated. Compress in the centre of the casualty's chest continuously at 100 - 120 times per minute.

Re-checking for signs of life

Do not stop to re-check the casualty for signs of life unless they start breathing normally again. It is important to minimise interruptions to chest compressions.

Multiple rescuers

- Ensure an ambulance has been called
- Ensure someone has been sent to get equipment, e.g. AED
- If there more than one rescuer is present, swap the role of performing CPR approximately every 2 minutes to reduce fatigue
- Change over with minimal delay between compressions

When to stop CPR

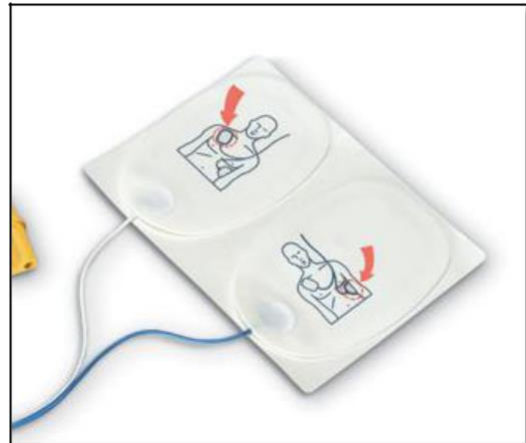
- The casualty starts breathing normally
- The scene becomes too dangerous to continue
- Healthcare professional takes over
- An authorised healthcare professional tells you to stop
- You become physically unable to continue

AUTOMATIC EXTERNAL DEFIBRILATOR (AED) EQUIPMENT

One of the main functions of an AED is to determine whether the casualty has a 'shockable' or 'non-shockable' rhythm. The AED will not deliver a shock for a non-shockable rhythm.

AED electrode pads

Defibrillation pads are soft, thin foam about the size of a hand. The pads are adhesive and have a layer of gel that helps pick up the electrical signals. They normally have a cable attached to each pad. Sets of pads are usually packaged in special sealed pouches. An expiry date is printed on the packages as the pads can 'dry out'.



Pads must adhere firmly to the chest, so it's important to roll the pads onto the chest so no air pockets form under the pads. Press the pads on firmly, including edges of the pads.

Pads may not stick securely for several reasons, including moisture and excessive hair on the chest. A towel or cloth can be used to wipe away moisture. You may need to clip or shave excessive hair off the chest around the pad area.

AED manufacturers include instructions for applying the pads on the packaging and on the pads themselves. Follow those instructions.

In general, standard placement instruction is: Place pads on the person's exposed chest in an anterior-lateral position: one pad slightly below the right collar bone, one pad below the left arm pit.¹⁴

Pad placement – Children and Infants

Standard adult AEDs and pads are suitable for use on children over 8 years. Ideally, for children under 8 years, paediatric pads and an AED with paediatric capability should be used (see guideline 12.6). These pads also come with a diagram of where they should be placed and are placed as per adult pads.

If the AED does not have a paediatric mode or paediatric pads, then it's reasonable to proceed with adult AED pads. Ensure the pads do not touch each other on the child's chest.



Apply the pads firmly to the bare chest, in the anterior-lateral position as shown for adults. If the pads are too large and likely to cause pad-to-pad arcing, use the front-back position (antero-posterior): one pad placed on the upper back (between the shoulder blades), the other pad on the front of the chest, if possible, slightly to the left.¹⁵

Separate the electrodes

Do not allow the electrodes or connected pads to touch when the AED is 'on'. This could complete a circuit and cause an electrocution.

14. Excerpt from ANZCOR Guideline 7 January 2016, 4.1: Paragraph 2, Page 3

15. Excerpt from ANZCOR Guideline 7 January 2016, 4.2: Paragraphs 1 & 2, Page 4

Safety

An AED has safety precautions to prevent injury. The AED operator is responsible for making sure no one is touching the person when a shock is delivered. Say loudly, “Don’t touch the casualty!” or “Stand clear!” Look to confirm no one is touching the person before pressing the shock button.

The AED should never be connected to anyone other than a casualty in cardiac arrest, nor should an AED be attached to a person for training or demonstration purposes.

Beware of water

Ensure the casualty’s chest area is dry. Do not use an AED if the casualty is in water. Water is an effective conductor of electricity and the shock may be transmitted to the AED operator.

Storage

The AED should not be locked away and inaccessible. It needs to be easily accessible, visible, and located where it’s most likely to be needed. Best stored dry and dust free.

Signage should be used to indicate AED location. Ensure all staff and visiting workers are aware of the locations.

Maintenance

AEDs require little maintenance. If AEDs pads have been used (or opened/tampered with), replace them immediately.

Batteries, AED pads and other consumable items (e.g. shears, towels, plastic gloves) should be replaced in line with their expiration dates (usually 3-5 years, sooner with batteries). In all cases, manufacturer recommendations are to be followed.

All current model AEDs perform regular self-checks. If a problem is detected, in most cases it will be indicated by a warning or light visible on the front of the machine, or by an audible alert, similarly to a failing smoke detector battery. The owner of an AED needs a process in place to have it checked regularly and frequently (ideally daily) and for appropriate action to be taken when necessary.¹⁶



Video showing CPR and AED use on Sydney’s Bondi Beach

Please watch this enlightening CPR video:

<https://www.youtube.com/watch?v=88uCTEmuGI>



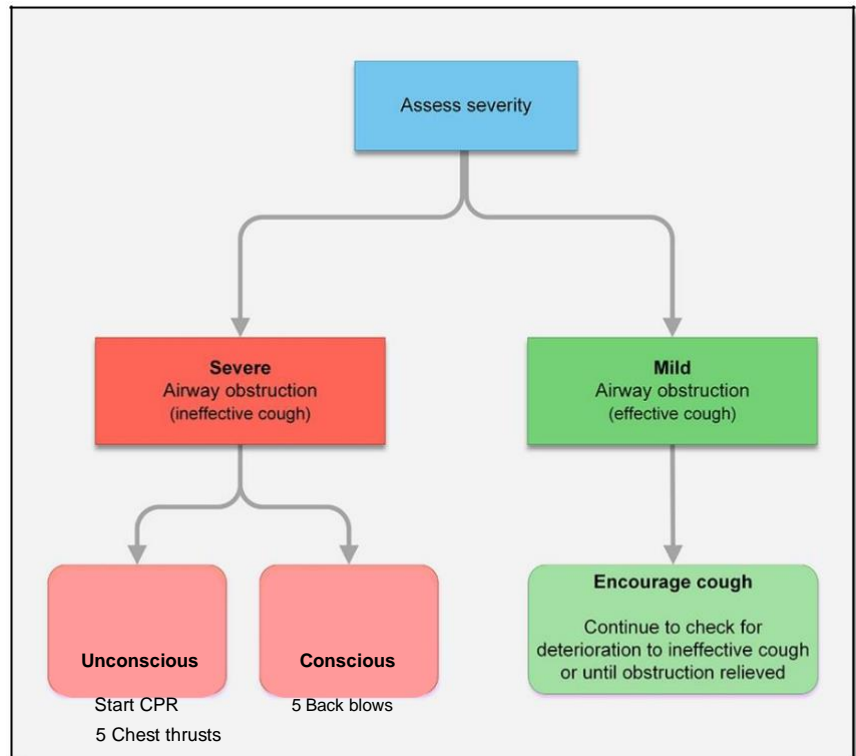
16. Excerpt from ANZCOR Statement - A Guide to AED’s: Paragraphs 10 & 11, Page 7

CHOKING

Choking, following the lodgement of a foreign object in a casualty's airway, is a life-threatening emergency. In some instances, the object lodges at the epiglottis, the entry to the airway, but does not actually enter the airway itself. Both situations cause coughing, which is the body's reflex action to dislodge the object.

Coughing, with an object at the entrance to the airway, will generally expel it. However, coughing may not expel an object lodged firmly in the airway — but it can keep it high in the trachea at least.

Should you encounter a person with an apparent obstruction who is coughing effectively, **DO NOT SLAP** them on the back. If the obstruction is at the entrance to the trachea, reactions to the slaps may cause the person to inhale the object and cause complete obstruction. When a casualty appears to be in increasing distress, then the object may be totally obstructing the airway.



Effective Cough (Mild/Partial Obstruction)

SIGNS AND SYMPTOMS

- Difficulty and noisy breathing, but still able to cough
- Cyanosis (blue skin colour)

CARE AND TREATMENT

- Encourage the casualty to keep coughing
- If blockage has not been cleared, call Triple Zero (000) for an ambulance
- Reassurance

**** Do not slap the back of the casualty with a partial obstruction.**

Ineffective Cough (Severe/Complete Obstruction)

SIGNS AND SYMPTOMS

- Unable to breathe, speak, cry or cough
- Agitated and distressed
- May grip the throat (not infants)
- Cyanosis (Bluish skin colour around lips)
- Deterioration of consciousness in children and infants
 - flaring of the nostrils
 - in-drawing of the tissues above the sternum and between the ribs



CARE AND TREATMENT

Conscious Casualty

Adult and children over 1yr of age:

Deliver up to five (5) firm back blows as follows –

1. Position yourself to deliver back blows
 - Stand slightly behind and to the side of the casualty
 - Support the chest with one hand
 - Lean the casualty well forward
2. Deliver up to five firm back blows between the shoulder blades using the heel of the hand, pausing to check airway between each blow.
3. If back blows are unsuccessful, deliver up to five chest thrusts
 - Chest thrusts are given in a similar way to chest compressions but are sharper and delivered at a slower rate. May be treated in the sitting or standing position; place your hand in the centre of the chest as for CPR and push down sharply
4. Check airway after each chest thrust
5. Repeat cycles of back blows and chest thrusts if obstruction not relieved

Infant (under 12mths of age):

Deliver up to 5 firm back blows as follows –

Position yourself to give back blows

1. Stand or sit with infant face-down over your forearm, supporting the infant's head by holding the cheekbones between thumb and middle finger. Ensure infant's jaw is relaxed so object can be released out of the mouth.
 - Place your arm, with infant, over your thigh, head down at approx. 45 degrees, then give a firm, sharp blow between the shoulder blades using the heel of your hand. Ensure you fingers are raised so as not to hit the back of the infant's head.
2. Repeat this up to five times, pausing between each blow to check if airway is cleared.
3. If back blows are unsuccessful, deliver up to five chest thrusts.
 - The infant should be placed head downwards, and on their back, across the rescuer's thigh.
4. Check airway after each chest thrust
5. Repeat cycles of back blows and chest thrusts if obstruction not relieved



Unconscious casualty

- Support the casualty carefully to the ground
- Use a finger sweep if solid material is visible in the airway
- Call Triple Zero (000) for an ambulance
- Commence CPR

CHEST PAIN (Cardiac Conditions)

Chest pain is one of the more difficult observations to make, as the cause of pain may be from one of many conditions. Always ask open questions, such as “Can you describe your pain to me?” Pain can be described as squeezing, crushing, vice-like, heavy, dull, sharp, pressure, and more. Cardiac pain is usually in the centre of the chest or behind the breastbone. The pain may, but not always, spread or radiate to the shoulders, neck, jaw and/or arms.

SUDDEN CARDIAC ARREST (SCA)

Sudden Cardiac Arrest is the unexpected collapse of a casualty whose heart has ceased to function due to an electrical malfunction of the heart, disrupting that muscle's normal rhythm.

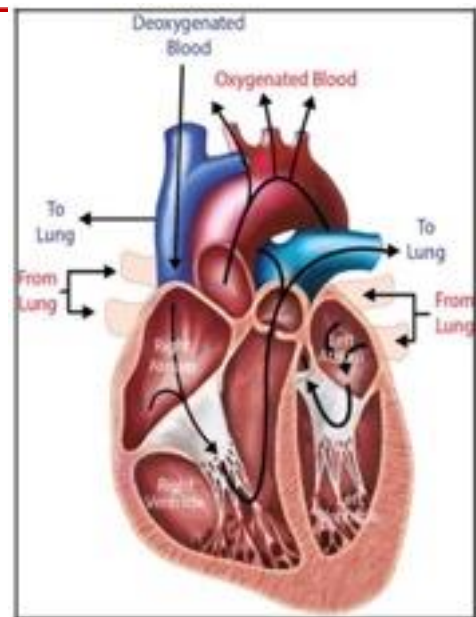
SCA is not a heart attack, which is a problem with the plumbing of the heart. In a heart attack, one or more of the arteries delivering blood to the heart is blocked, so oxygen in the blood cannot reach the heart muscle and the heart muscle is damaged.

During Sudden Cardiac Arrest, the electrical signals to the pump suddenly become erratic. The ventricles may flutter or quiver (ventricular fibrillation) and fail to effectively deliver blood to the body. Blood flow to the brain is reduced and the casualty loses consciousness. Unless emergency treatment is begun, death will follow.

Cardiac arrest is closely linked to sudden chest pain. During SCA, the heart twitches irregularly, most often in adults due to ventricular fibrillation (VF), and cannot pump oxygenated blood efficiently to the brain, lungs and other organs. The casualty quickly stops breathing and loses consciousness.

There are rarely any prior symptoms of sudden cardiac arrest.

Successful resuscitation of such a casualty depends on quick decisive action taken in sequence, like the links in a chain.



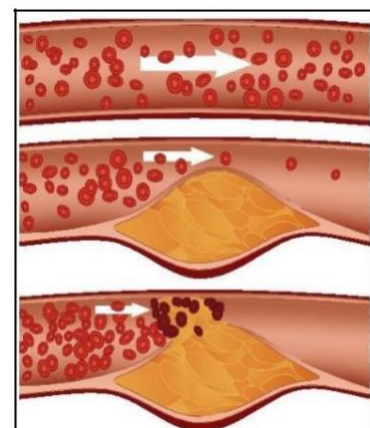
HEART ATTACK

Heart attack is the biggest killer in Australia. The Heart Foundation of Australia records around 54,000 heart attacks a year. That's 148 a day, of 28 — or approximately 11,000 a year — are fatal.

A heart attack occurs when a coronary artery is suddenly blocked by a blood clot and the part of the heart muscle supplied by that artery is damaged due to lack of oxygen. Also known as a coronary occlusion or myocardial infarction, a heart attack can occur at any time, at any age, to any person.

Coronary Heart Disease (CHD) is when fatty deposits, called plaque, build up inside blood vessels and reduce the blood flow (*refer to image*). This can occur slowly over many years and there are very few signs or symptoms to show that it's happening. CHD is a factor in approximately 20,000 deaths every year in Australia. In some cases, the plaque builds up so the vessel is blocked completely. Reduced blood flow can also allow a clot to form and block the vessel. Blockage can occur in one or several coronary arteries. When a blockage occurs, oxygen is not delivered to the heart and part of the heart muscle dies.

Although heart attacks are often classed as mild, moderate, and severe, all require immediate medical attention.



*** With heart attack, every minute counts. If the warning signs are present, do not waste time wondering whether or not it's a heart attack. Take immediate action!**

SIGNS AND SYMPTOMS

- Pale
- Sweating
- Rapid, shallow respirations or difficulty breathing
- Chest pain or discomfort, usually in the centre of the chest, may spread or radiate to the shoulders, neck, jaw and/or arms
- Nausea and/or vomiting



CARE AND TREATMENT:

- Call Triple Zero (000) for an ambulance
- Call for someone to bring an A.E.D.
- Follow DRSABCD
- Rest the casualty in a position of comfort, usually sitting
- Help the casualty take any prescribed heart medication they have (usually tablets or spray that is placed under their tongue)
- Provide reassurance
- Stay with casualty and monitor vital signs until the ambulance arrives
- The A.R.C. recommends giving the casualty 300mg of aspirin, preferably dissolved in water

ANGINA

Angina Pectoris (literally 'pain in the chest') is a condition caused by constriction of the blood vessels supplying the heart muscle with blood. The chest pain or discomfort is due to a reduction of blood supply to the heart.

Angina has similar signs and symptoms to a heart attack. Some casualties do not feel 'pain', just an unpleasant sensation or discomfort in the chest. Angina will usually occur when the heart has to work harder than normal, such as during exercise or in response to stress. Under normal everyday demand, no angina is experienced because the blood supply, although reduced, is able to keep up.

Angina is usually relieved by rest. When rest alone does not bring rapid or effective relief, then a prescribed medication, in the form of a spray or tablet, is often needed. Within a couple of minutes, the pain or discomfort is usually relieved, however, if symptoms last more than 10 to 15 minutes, call an ambulance and treat the casualty as if for a heart attack.

SIGNS AND SYMPTOMS

Angina and heart attack have very similar signs and symptoms.

- Pale, cool skin
- Chest pain or discomfort, usually in the centre of the chest, may spread or radiate to the shoulders, neck, jaw and/or arms
- Sweating
- Rapid, irregular or weak pulse
- Breathlessness

CARE AND TREATMENT:

- Call Triple Zero (000) for an ambulance
- Reassure and rest the casualty in a position of comfort, usually sitting
- Assist the casualty to take their prescription medication (tablets or spray)
- Monitor vital signs
- If the pain does not diminish after 5mins, the condition should be treated as a heart attack.

HEART FAILURE

Heart failure occurs when the heart is unable to perform its proper function. Blood and fluid collect around the lungs and in the body. The casualty finds it difficult to breathe and swelling of the ankles and legs occurs as fluid pools in the extremities.

SIGNS AND SYMPTOMS

Very similar to Heart Attack and Cardiac Arrest

- Pale, cold, clammy skin
- Chest discomfort, difficulty breathing
- 'Bubbly', gasping breaths
- Frothy sputum
- Swelling of the extremities, especially the ankles, which may show 'dimples'
- Partial collapse

CARE AND TREATMENT:

- Call Triple Zero (000) for an ambulance
- Rest, position of comfort, usually sitting (do not raise the legs)
- Reassurance

STROKE

According to the National Stroke Foundation, stroke is Australia's second single greatest killer after coronary heart disease and a leading cause of disability.

Australians suffer around 60,000 new and recurrent strokes every year, of which around 10,000 are fatal (27 deaths every day). A stroke is a brain attack and when a person suffers a stroke, essential supplies of blood and oxygen are cut off from the cells in the brain. Treat stroke with the same degree of seriousness as a heart attack.

Two common causes prompt strokes:

- A blocked blood vessel to the brain
- A ruptured blood vessel causing bleeding into the brain

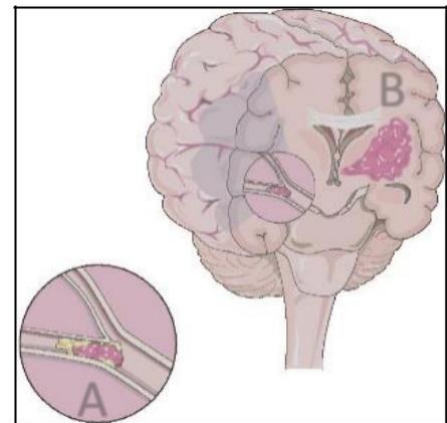
When a stroke occurs, brain cells are damaged because they are no longer receiving oxygen and nutrients needed to function. Brain cells usually die within an hour from the beginning of the stroke. Stroke is most common in the elderly, but people of any age or gender, and any level of physical fitness, can suffer the injury.

Strokes occur in two main forms:

Cerebral Vascular Accident (CVA) which causes permanent damage to the brain tissue through oxygen starvation (blocked vessel) or pressure (bleeding). There is permanent damage to the brain, resulting in physical and/ or sensory impairment.

Transient Ischemic Attack (TIA) is when the signs of stroke are present but go away within 24 hours. The term TIA is sometimes referred to as a 'mini stroke' — a temporary condition that is usually caused by a minor blockage of the brain's blood vessels.

TIA blockage lasts long enough to show the signs and symptoms of a CVA. TIAs may last from several minutes to several hours. In TIAs where the symptoms only last a few minutes, the casualty regains normal function quickly, and may not realise they've had a serious illness. The symptoms of a TIA should be regarded as a warning that the person is at risk of a stroke and should be investigated promptly. **A TIA should never be ignored.**



**** Always call for an ambulance immediately as the first sign of a stroke.**

Recognise STROKE Think F.A.S.T.

F
Has their **FACE** drooped?

A
Can they lift both **ARMS?**

S
Is their **SPEECH** slurred and do they understand you?

T
Call 000, **TIME** is critical

Stroke FOUNDATION

If you see any of these symptoms
Act FAST
call **000**

SIGNS AND SYMPTOMS

Use the **F.A.S.T.** method to identify stroke.

Facial weakness. Can the person smile? Has their mouth or eye drooped?

Arm weakness. Can the person raise both arms?

Speech problems. Can the person speak clearly and understand what you say?

Time to act. Call Triple Zero (000) for an ambulance

**** Should the casualty fail any one of the FAST tests, call Triple Zero (000) immediately.**

Other symptoms

- Sudden severe headache
- Sudden nausea and/or vomiting
- Warm, flushed, clammy skin
- May have distended neck veins
- Lost or blurred vision in one or both eyes
- May have unequal pupils
- Paralysis, numbness, weakness or loss of coordination of limbs, usually on one side of body
- Dizziness, loss of balance
- Difficulty swallowing or salivary drool
- Urinary incontinence
- Brief loss of consciousness
- Unconscious – ‘snoring’ respirations
- May have seizures

CARE AND TREATMENT:

- If the casualty fails any one of the FAST tests, act FAST and call Triple Zero (000)
- Adopt position of comfort, taking care that the airway does not become obstructed
- Reassurance – talk to the casualty even if unconscious
- Recovery position if unconscious and breathing, constantly observe
- Maintain body temperature

Prompt action can prevent further damage to the brain and help the casualty make a full recovery. Delays in obtaining treatment can result in death or major long-term disabilities.

For further information contact National Stroke Foundation: call **1800 787 653** or visit <https://strokefoundation.org.au/>

SEIZURES AND FEBRILE CONVULSION

Seizures are a disruption of brain function that interrupts normal electrical activity of the brain.

Epileptic Seizures

In epileptics, neurons 'fire' or send electrical impulses, stimulating neighbouring cells to fire at the same time. This causes an 'electrical storm' within the brain, resulting in seizures or 'fits'. It is only when there's a tendency for recurrent seizures that epilepsy is diagnosed. In 70% of all cases the cause of epilepsy cannot be identified. The remaining 30% are attributed to head injuries, strokes, brain tumours, infections such as meningitis, lead poisoning or injury during childbirth. There are many different types of seizures.

The main types of seizures are:

6. Tonic-clonic seizures
7. Absence seizures
8. Complex partial seizures



Convulsive seizures

Tonic-clonic seizures are convulsive seizures where the body stiffens (tonic phase) followed by general muscle jerking (clonic phase). These seizures involve the whole brain. The person loses consciousness, their body stiffens and limbs jerk, generally lasting up to 3 minutes. After the seizure, the person may want to sleep, have a headache, or be confused and disoriented. Prior to a tonic-clonic seizure, the person may experience an 'aura' which may act as a warning, giving the person time to find a safe place before losing consciousness.

Non-convulsive seizures

An *absence* seizure causes the person to lose contact with their surroundings for about 30 seconds with little or no outward sign that anything is wrong. A *complex partial* seizure is accompanied by impaired consciousness and recall. It may also involve staring, automatic behaviour, such as lip smacking, chewing, mumbling, walking, grunting, or the repetition of words or phrases.

CARE AND TREATMENT

For all seizures, regardless of cause...

First Aid Management – DO:

- Stay calm and remain with the casualty
- Note the start time and length of the seizure
- Protect the head from impacts
- Remove nearby objects and/or bystanders to protect from harm
- Loosen tight clothing
- Follow the casualty's seizure management plan (if there is one in place)
- When convulsions stop, or if vomiting starts, roll into recovery position and maintain airway
- Observe and monitor breathing
- Call for an ambulance
- Reassure and let the person rest until fully recovered

First Aid Management – DO NOT:

- Do not put anything in the casualty's mouth
- Do not restrain the casualty
- Do not move the casualty unless they are in danger

Febrile convulsions

Children's growing brains are more sensitive to fever and when normal brain activity is upset, a convulsion or 'fit' can occur. Febrile convulsions are common. Approximately 3% of children aged 6 months to 6 years can convulse when they have a high temperature. Convulsions can last a few seconds or up to 15 minutes, often followed by a brief period of drowsiness.

Normal body temperature may vary by person, age, activity, time of day, and which part of the body is used to measure temperature. Temperature readings too low or too high can indicate serious issues for the casualty as per the table below.

The seizure affects not only the child, but also parents and bystanders who may not have seen this phenomenon before. The greatest fear for parents is that their child might die. First Aid providers should reassure the witnesses.

SIGNS AND SYMPTOMS

- Child is usually quiet and appears sick
- Flushed, hot skin
- Eyes 'roll back'
- Have difficulty breathing
- Child begins convulsing
- May become pale or 'blue'
- Become unconscious or unaware of their surroundings

CARE AND TREATMENT:

First Aid Management – DO:

- ✓ Stay calm and remain with the child
- ✓ Remove nearby objects and/or bystanders to protect from harm
- ✓ Protect the head from impacts
- ✓ Loosen tight clothing and if possible, remove or open clothes from the waist up
- ✓ Note the start time and length of the seizure

First Aid Management – DO NOT:

- ✗ Do not put anything in the child's mouth
- ✗ Do not restrain the child
- ✗ Do not put the child into a bath
- ✗ Do not give them anything to eat or drink

First Aid Management once the convulsion has stopped:

- ✓ Roll the drowsy child into the recovery position
- ✓ Place cool washcloths to the neck and forehead
- ✓ Use tepid water (not cold) to sponge the rest of the child's body
- ✓ Contact professional medical help (Call 000) if:
 - The convulsion lasted more than 5 minutes
 - Child had more than one convulsion in a short period of time
 - Child does not wake up
 - Child has been injured or appears quite ill
- ✓ Contact local family doctor if:
 - Convulsion lasted less than 5 minutes
 - Child had a previous illness before the convulsion

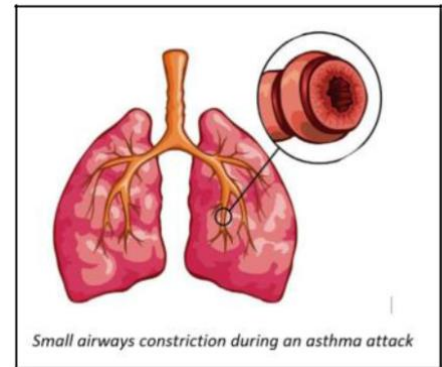
Temperature readings for children and adults	
Temperature	Body Effects
> 41.5° C	Dangerous high temperature
40 – 41.4° C	High temperature
38.4 – 39.9° C	Hyperthermia
37.5 – 38.3° C	Fever
37°C	Normal
34 – 35.9° C	Mild hypothermia
32 – 33.9° C	Moderate hypothermia
30.1 – 31.9° C	Moderate deep hypothermia
< 30° C	Severe hypothermia

ASTHMA

Australia has one of the highest rates of asthma in the world. Around 10% of the population are asthmatic and more than 400 Australians die from asthma each year, with many deaths being preventable. Asthma sufferers have very sensitive upper airways and, when exposed to certain triggers, their airways narrow making it difficult for them to breathe. An asthma attack can develop over a few minutes or a few days.

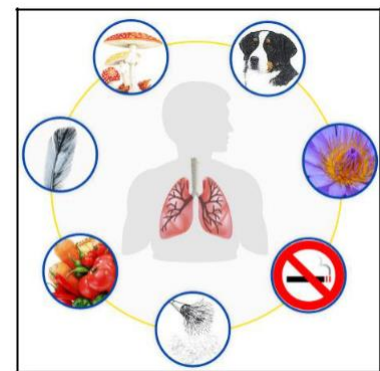
Airways react to triggers with 3 main effects:

- The inside lining of the airways becomes red and swollen (inflamed)
- The muscle around the airways constrict (tighten)
- Extra mucus may be produced



Trigger factors for asthma may include:

9. Colds and flu
10. Exposure to known allergens, e.g. dust mite, pollens, animal dander, moulds
11. Exposure to chemicals or other occupational sensitisers
12. Exposure to irritants, e.g. cigarette smoke, perfume
13. Reflux
14. Drugs, e.g. aspirin and beta-blockers
15. Foods, e.g. nuts, seafood
16. Food additives, colourings, monosodium glutamate (MSG)
17. Changes in weather, exposure to cool air
18. Exercise
19. Strong emotions



Asthma is usually considered in 3 classifications of severity: mild, moderate, severe.

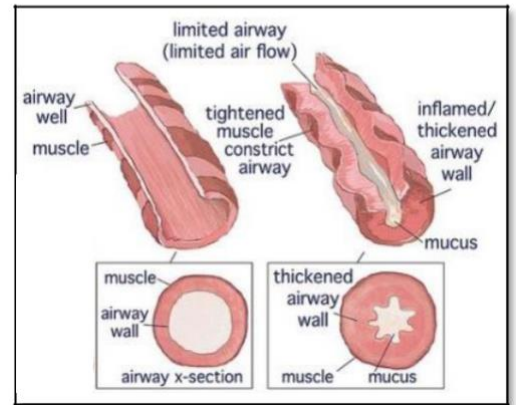
Symptoms	Mild	Moderate	Severe and life-threatening*
Altered consciousness	No	No	Agitate Confused/Drowsy
Oximetry on presentation (SaO ₂)	94%	94–90%	Less than 90%
Talks in	Sentences	Phrases	Words Unable to speak
Pulse rate	Less than 100 beats/min	100–200 beats/min	More than 200 beats/min
Central cyanosis	Absent	Absent	Likely to be present
Wheeze intensity	Variable	Moderate to loud	Often quiet
PEF**	More than 60% predicted or personal best	40–60% predicted or personal best	Less than 40% predicted or personal best Unable to perform
FEV ₁	More than 60% predicted	40–60% predicted	Less than 40% predicted Unable to perform

*Any of these features indicates that the episode is severe. The absence of any features does not exclude a severe attack.

**Children under 7 years old are unlikely to perform PEF or spirometry reliable during an acute episode. These tests are usually not used in the assessment of acute asthma in children.

SIGNS AND SYMPTOMS

- Pale, cool, clammy skin
- Coughing, especially at night
- Shortness of breath – using all the chest and diaphragm muscles to breathe
- ‘Sucking in’ of the throat and rib muscles
- Severe chest tightness
- Wheezing – a high pitched raspy sound
- Cyanosis around the lips (bluish colour)
- Anxiety and distress
- Exhaustion
- Rapid, weak pulse
- Little or no improvement after using reliever medication
- Severe asthma attack: collapse – leading to eventual respiratory arrest



CARE AND TREATMENT:

- Assess the site for danger to self, casualty and others, and minimise any danger
- Sit the casualty comfortably upright
- Be calm and reassuring
- Do not leave casualty alone, continue to monitor
- If casualty has an Asthma Action Plan written by their doctor, follow its directions

4 x 4 x 4 Technique — 1 puff, 4 breaths, 4 times, 4 Minutes

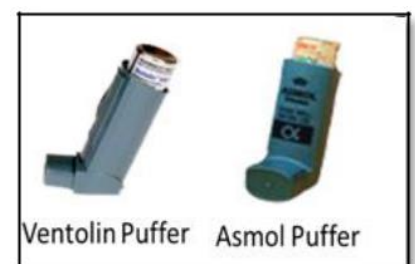
With spacer:

- Shake inhaler (before each puff), insert mouthpiece into spacer
- Place spacer mouthpiece in casualty's mouth and give 1 puff of a blue/ grey reliever puffer, then ask the casualty to breathe in and out, through the spacer FOUR times
- Repeat until FOUR puffs have been given
- Wait 4 minutes. If there is little or no improvement, repeat the above sequence
- If still no improvement, call Triple Zero (000) and report that someone is having an asthma attack. Continue the sequence every 4 minutes



Without spacer:

- Shake inhaler (before each puff)
- Place inhaler mouthpiece in casualty's mouth and give 1 puff of a blue/ grey reliever puffer, then ask the casualty to hold that breath for 4 seconds
- Repeat until FOUR puffs have been given
- Wait 4 minutes. If there is little or no improvement, repeat the above sequence
- If still no improvement, call Triple Zero (000) to inform them someone is having an asthma attack. Continue the sequence every 4 minutes



Collapsed casualty:

- Call Triple Zero (000) for an ambulance
- If possible, assist with 4 puffs of a reliever
- If little or no immediate improvement, repeat reliever medication every 4 minutes until the ambulance arrives
- Be calm and reassuring
- Continue to monitor, if unconscious and not breathing normally, commence CPR

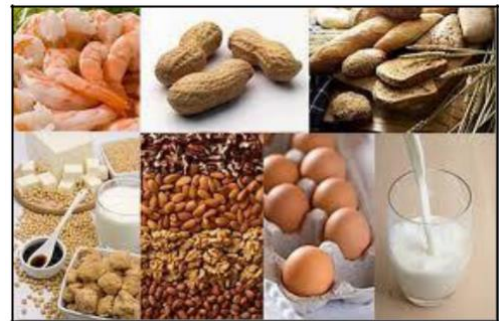
ALLERGIC REACTIONS AND ANAPHYLAXIS

Anaphylaxis is a severe form of allergic reaction and has the potential to be life-threatening. Anaphylaxis occurs after exposure to an allergen, such as food (e.g. nuts), herbal remedies, latex, insect stings (e.g. bees), or medicine to which a person is already extremely sensitive.

Symptoms may be mild and nothing more than, for example, tingling or itching in the mouth.

It takes only 1 to 2 minutes, however, for a mild allergic reaction to escalate to anaphylaxis. Anaphylaxis is preventable and treatable. The most important aspect in managing life-threatening allergic reactions is avoidance of known triggers, such as:

- **Food.** Most commonly nuts, sesame seeds, shellfish, dairy, soy, eggs, wheat.
 - Food triggers cause up to 90% of allergic reactions
- **Herbal remedies.** Such as Royal Jelly.
- **Insect stings.** Such as bees and wasps. Venom from these insects is different in each case, therefore allergy to one does not increase the risk of reaction to another.
- **Latex allergy.** Rare, but more common in some people frequently exposed to latex, such as healthcare workers.
- **Medication.** Particularly antibiotics and sometimes X-ray contrast dyes.
- **Animal Dander.** Such as cat or dog hair.



Casualties with a history of anaphylaxis are often prescribed self-administered adrenaline using an EpiPen® or EpiPen® Jr. In this case, help the casualty self-administer their EpiPen® adrenaline.

SIGNS AND SYMPTOMS

Mild to Moderate Allergic Reaction

- Swelling of lips, face, eyes
- Hives, welts or body redness (*Refer to image*)
- Tingling mouth
- Abdominal pain, vomiting (these are signs of a severe allergic reaction to insects)



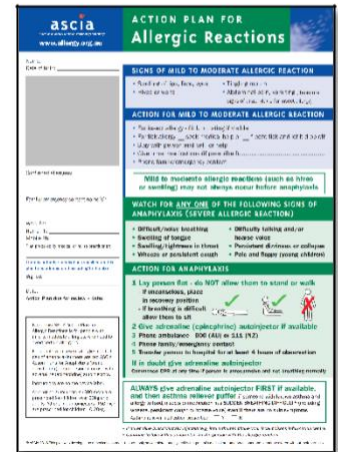
Severe Reaction: Anaphylaxis

- Swelling of the throat, lips, tongue or around the eyes
- Difficulty and/or noisy breathing
- Difficulty talking and/or hoarse voice
- Persistent cough or wheeze
- Abdominal cramps, nausea, vomiting or diarrhoea
- Anxiety or a sense of doom
- Persistent dizziness or collapse
- Loss of consciousness
- Small children can become pale and 'floppy' in appearance

CARE AND TREATMENT

Mild to Moderate Allergic Reaction

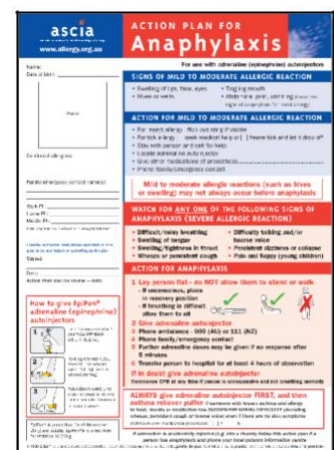
- Be calm and reassuring
- For insect allergy – flick out sting if visible
- For tick allergy – freeze-dry tick and allow to drop off
- Apply cold compress to bite/sting site
- Stay with casualty and call for help
- If casualty has an ‘ASCIA Action Plan for Allergic Reactions’ written by their doctor, follow directions. (*Refer to plan image*)
- Give other medications (if prescribed)
- Phone family/emergency contact



Severe Reaction: Anaphylaxis

Be calm and reassuring

- Lay casualty flat. Do not allow them to stand or walk
 - Sit casualty up if breathing is difficult
 - If unconscious, place them in recovery position
- If possible, prevent further exposure to the triggering allergen (*Image by www.allergy.org.au*)
- If casualty has an ‘ASCIA Action Plan for Anaphylaxis’ written by their doctor, then follow the plan (*Refer to plan image*)
- Assist with EpiPen® administration
- Call Triple Zero (000) for an ambulance immediately, regardless of how the casualty feels
- Phone family/emergency contact
- Further EpiPen® or EpiPen® doses may be given if no response after 5 minutes, and if one is available
- If unsure whether it is asthma or anaphylaxis, give the EpiPen® FIRST, then asthma reliever
- Continue to monitor. If, at any time, the casualty becomes unresponsive and not breathing normally, immediately commence CPR



NOTE: An ambulance must ALWAYS be called after giving an EpiPen®, as it is not a cure for the allergy, the effect only lasts 15 – 20 minutes, and the casualty may relapse into Anaphylaxis again.

Administering an EpiPen

- Remove the EpiPen® from the packaging. (*Refer to image by www.allergy.org.au*)
 - Form a fist around EpiPen® then remove blue cap (safety release) from end
- Hold leg still and place orange end against outer mid-thigh (with or without clothing).
- Push down hard until a click is heard or felt, then hold in place for 3 seconds
 - Remove EpiPen®
- Observe for relapse as severe symptoms sometimes recur after around 15 to 20 minutes.



**** If in doubt, give adrenaline auto injector**

**** Mild to moderate allergic reactions may or may not proceed to anaphylaxis**

EpiPen

- Child: Green adrenaline auto injector (<20kg)
- Adult: Yellow adrenaline auto injector (>20kg)
- Regularly check the expiry date of the auto injector
- Store EpiPen® at room temperature, away from sunlight and extreme temperatures
- Single-use only (one measured dose). Immediately replace with a new one.



For further information contact:

- Allergy & Anaphylaxis Australia call 1300 728 000 or visit <https://allergyfacts.org.au/>
- Australasian Society of Clinical Immunology and Allergy (ASCIA) visit <https://www.allergy.org.au/>

DIABETES

Diabetes is a condition caused by an imbalance of sugar or glucose in the blood. The body takes in complex sugars in a normal diet because all human cells require sugar as food. The pancreas is the organ in our bodies that secretes a protein hormone called insulin, which attaches to the sugars. This allows the cells to recognise the sugars as food and absorb the necessary glucose.

Diabetes is due to an imbalance in the production of, or effectiveness of, vital insulin. It is estimated that one in 12 Australians have diabetes and this rate is increasing.

***** All diabetic emergencies are treated as Hypoglycaemia or low blood sugar.**

The common forms of diabetes are:

Type 1 Diabetes – around 18% of diabetics are Type 1. It is usually diagnosed before the age of 40. It is the most life-threatening form of diabetes, as the patient's body cannot produce insulin at all and they are dependent on insulin injections in order to survive. The cause of Type 1 diabetes is still unknown and there is no cure. They are most at risk of a hypoglycaemic emergency.

Type 2 Diabetes – the most common type of diabetes, affecting around 82% of all diabetics. It is usually diagnosed after the age of 40, and although not immediately life-threatening, can lead to many complications, including loss of limbs. In Type 2 diabetes, the body becomes insulin resistant. It can be controlled with diet, lifestyle changes and medication. Type 2 diabetics are most at risk of **hyperglycaemia**, and very rarely have a **hypoglycaemic** emergency.

A third type '**gestational diabetes**', which is less common, may develop in pregnancy.

Diabetic emergencies have two causes - **Hypoglycaemia** and **Hyperglycaemia**.

Hypoglycaemia

Hypoglycaemia or low blood sugar, is a dramatic imbalance where the tissues, especially the brain cells, become starved of essential blood sugar. This condition is especially dangerous as its onset is rapid. This can lead to the casualty becoming unconscious and death may follow within hours.

Common causes of low blood sugar levels include:

- Drinking alcohol without food
- Missing, skipping or delaying meals and snacks
- Not eating enough carbohydrate (starchy) food
- Too much insulin or diabetes tablets
- Unexpected physical activity without eating extra food
- In the setting of illness

SIGNS AND SYMPTOMS

Low blood sugar

- Pale
- Profuse sweating
- Hunger
- Light headedness or dizziness
- Headache
- Tingling around the mouth and lips
- Slurred speech
- Confused or aggressive – may appear to be drunk
- Rapid pulse
- Shaking, trembling or seizures
- Tiredness or weakness
- Drowsiness may lead to becoming unconscious

CARE AND TREATMENT

- Cease any exercise, rest and reassure
- If conscious try to have the casualty eat one of the following:
 - 5 – 20 jelly beans (depending on brand) or 4 to 5 glucose tablets 4 gram
 - 200ml of soft drink, fruit juice (not diet, or sugar free, or zero, or low-cal)
 - 2 – 4 teaspoons of sugar or honey
 - 100ml of Lucozade
- Monitor closely for 10 minutes
- If no improvement within 10 - 15 minutes, call Triple Zero (000) and repeat step 2
- If casualty deteriorates, follow DRSABCD
- If casualty improves, assist with medication and encourage ingestion of carbohydrate (starchy) food such as a piece of fruit, glass of milk, sandwich or 2 – 4 dry biscuits



**** Do not attempt to give insulin injection.**

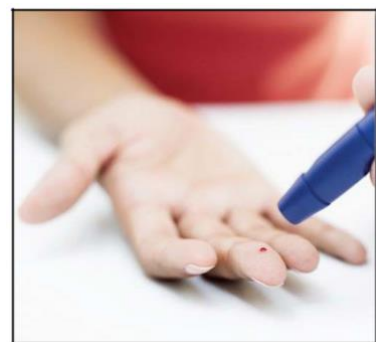
***** All diabetic emergencies are treated as Hypoglycaemia or low blood sugar.**

Hyperglycaemia

Hyperglycaemia or high blood sugar, is an imbalance of blood sugar, which usually requires the affected person to supplement their insulin requirements by periodic injections of the hormone. A casualty who is unable to obtain this supplement is liable to collapse into a serious state called diabetic coma. This condition can develop over many hours or days.

Common causes of high blood sugar levels include:

- Sickness or Infection
- Stress
- Too much carbohydrate (starchy) food at once
- Not enough insulin or diabetes tablets
- Other tablets or medicines



SIGNS AND SYMPTOMS

High blood sugar

- Hot, dry skin with sunken eyes
- Feeling constantly thirsty
- Passing large volumes of urine, frequently
- Smell of acetone (nail polish remover) on the breath
- Drowsiness and extreme tiredness
- Abdominal pain, nausea and vomiting
- Rapid pulse, rapid breathing
- Blurred vision
- Unconsciousness, progressing to coma

CARE AND TREATMENT

- If the diabetes casualty has a diabetes management plan, that plan should be followed
- Definitive treatment for high blood sugar requires medical expertise
- If unsure whether the casualty has low or high blood sugar, treat as for low blood sugar

**** Do not attempt to give insulin injection.**

***** When unsure treat as Hypoglycaemia or low blood sugar**

Useful resources - Diabetes Australia: www.diabetesaustralia.com.au

DROWNING

Drowning occurs after the casualty experiences respiratory impairment from submersion/immersion in liquid causing a lack of oxygen. Drowning is a common cause of accidental death. The most important consideration for the First Aid provider is to ensure safety. Do not attempt a rescue beyond your capabilities.

Remove all drowning casualties from the water by the fastest and safest means. Use a rescue aid, rope, or buoyant aid if the casualty is close to dry land. Use a boat or other water vehicle if possible.

Begin resuscitation as quickly as possible. All casualties who have had a drowning experience need immediate medical attention.



SIGNS AND SYMPTOMS

- Pale, cool skin
- Absent, rapid or laboured breathing
- Absent or decreased level of consciousness
- Coughing, wheezing, spluttering
- Cyanosis (bluish colour around lips)

**** Untrained rescuers should not attempt any form of resuscitation on a casualty in deep water.**

CARE AND TREATMENT

20. Remove from water immediately without endangering your own safety
21. Call Triple Zero (000) for an ambulance
22. Lay casualty on their back, tilt head back, check for airway obstruction (tongue, fluid or solid)
23. Only roll into recovery position to clear an airway obstruction
24. Check for breathing
25. If breathing normally, roll into recovery position
26. If not breathing normally, commence CPR
27. Place in recovery position once breathing is restored and closely monitor
28. Treat hypothermia if present



**** Compression-only CPR is not the recommended resuscitation method for a drowning victim as it fails to address the casualty's need for immediate ventilation.**

ELECTRIC SHOCK

WARNING: Casualty may be LIVE!

Be careful not to touch the casualty's skin before the electrical source is disconnected. Be alert for the presence of water or conducting materials that may be in contact with the casualty.

The human body is an efficient conductor of electricity. When a casualty receives an electric shock from a household appliance or a power line, electricity is conducted through the body. A casualty may receive significant burns, or the electric shock may interfere with the heart's electrical system. Burns to the casualty may be internal and greater than they appear on the surface.

Domestic voltage

Take urgent steps to disconnect the casualty from the electrical source by either:

- Turning off the power supply and disconnecting any plugs from the outlet and isolating the electricity supply at the main power board if possible
- Removing the casualty from the electrical source by pushing or pulling them with non-conducting materials, e.g. timber paling/board, rope, curtains or blanket.

Do not touch the casualty's skin before the electrical source is disconnected and be alert for the presence of water or conducting materials that may still be in contact with the casualty.

High voltage

High voltage electricity involves an extreme degree of risk to rescuers. If the electrical source is part of the electrical distribution grid (poles, pylons, underground cables, transformers or stations), until electrical authorities have certified it safe, you must not enter the area.

You can do nothing for a casualty within the zone of danger! Protect yourself and others.

SIGNS AND SYMPTOMS

- Difficulty breathing
- Evidence of burns
- Evidence of fractures
- Entrance and exit wound burns

CARE AND TREATMENT

- Inform electrical authorities if high voltage involved
- Isolate/turn off the power supply without touching the casualty
- Follow DRSABCD
- Cool burns if safe to do so, with cool running water for 20 minutes
- Cover burns with non-stick dressings
- Call Triple Zero (000) for an ambulance
- Reassurance

HEAT RELATED EMERGENCIES

The human body maintains a temperature between 36-37° C. Any excessive variation to this range has a detrimental effect on body functions. As a general observation, the human brain does not react well to excessive body heat and the heart is sensitive to cold.

The body has some natural defence mechanisms against excessive heat and cold. It regulates body heat by sweating, releasing heat through the body surface (heat loss) and through lung moisture evaporation. Cold is managed by shivering, which generates heat within the body.

Often, environmental influences determine the stability of the human body's temperature. These influences are important in relation to First Aid. Heat- and cold-related conditions may bring on serious functional impairment.

Heat-related conditions are those brought on by exposure to high temperatures and humidity. The most spectacular example of a serious heat-related problem, is the televised distress suffered by athletes in long distance running events that have been held in hot and humid conditions.



Heat may induce heat cramps, heat exhaustion and/or heat stroke.

Dehydration

Dehydration is a condition caused by loss of fluids exceeding the casualty's fluid input, through drinking, dehydration occurs. Their blood volume is diminished. Although not life threatening, it can lead to further complications such as Hyperthermia.

SIGNS AND SYMPTOMS

- Pale, cool, clammy skin
- Rapid breathing
- Profuse and prolonged sweating
- Thirsty
- Loss of skin elasticity ('pinch test' on back of hand)
- Sunken eyes in children
- Irritability
- Headache, fatigue

CARE AND TREATMENT

- Complete rest in the shade, no further exertion
- Remove unnecessary clothing
- Give frequent small amounts of cool water, or electrolyte drinks (sports drinks)
- Ensure casualty has assistance when recovered



Hyperthermia

Hyperthermia is a condition whereby the individual's body temperature is above the usual body temperature. Hyperthermia has various stages including heat cramps and heat exhaustion.



Heat Cramps

Heat cramps are caused by loss of complex salts (electrolytes) through an imbalance in the body's fluid requirements – the body is losing more fluids than it is replacing. This debit causes the hard-working muscles to lose their vital electrolyte balance, causing muscular contraction (cramping).

SIGNS AND SYMPTOMS

- Pale, clammy skin
- Sweating if associated with exertion
- Cramping pains in the limbs or abdomen
- Nausea
- Uncontrolled spasms of affected limb(s)

CARE AND TREATMENT

- Rest in the shade
- Gently stretch the affected muscle
- Apply ice pack
- When nausea passes, give sips of cool water to drink (with caution)



**** Avoid massaging affected limb.**

**** Avoid any further exercise.**

Heat exhaustion

Heat exhaustion is caused by exertion accompanied by heat and high humidity.

SIGNS AND SYMPTOMS

- Fatigue, exhaustion and lethargy
- Pale, cool, clammy skin
- Rapid breathing
- Profuse and prolonged sweating
- Cramps in the limbs and/or abdomen
- Thirst, nausea and/or vomiting
- Constant headache
- Dizziness, which may be accompanied by collapse



CARE AND TREATMENT

- Complete rest in the shade, no further exertion
- Lie casualty down
- Remove unnecessary clothing
- Cool casualty by sponging with water
- When nausea passes, give cool water to drink (cautiously)
- Ensure casualty seeks medical assistance when recovered

Heat stroke

This condition is *not to be confused* with 'sun stroke'— the common ailment of headache and nausea suffered by children and careless adults who remain in the sun too long without a hat. Also known as 'core temperature emergency', with a core temperature above 40.6 ° C, *heat stroke is life threatening*. In this condition, the body's temperature regulation centre in the brain has been rendered inoperable and the body temperature continually rises, causing eventual brain damage. Immediate, active intervention is necessary to avoid coma and death.

**** Risk is highest with high temperatures and/or high humidity and/or vigorous activity.**

SIGNS AND SYMPTOMS

- The first signs of heat stroke show in the function of the brain and the nervous system
- Hot dry skin
- Lack of sweating in most cases (sometimes the casualty can sweat profusely)
- Disoriented, abnormal walking, coma or seizures
- Irrational, confusion, incoherent speech,
- Core body temperature over 40° C
- Life threatening, all body organs affected

CARE AND TREATMENT

- **STRIP** the casualty of as much clothing as possible (respectfully) and move them to a cooler environment
- **SOAK** with available water. If available, apply wrapped ice packs to neck, groin and armpits.

- **FAN** vigorously by whatever means possible – improvise, e.g. use a clipboard
- When available, cool or ice water immersion is the most effective cooling means
- **IMMERSE** the casualty up to the neck in a cool or ice bath (must be held at all times by multiple people to ensure airway) OR
- **COVER** all of the body with ice-soaked towels that are changed frequently
- **Call 000 or 112** for emergency services but do so only when you are certain First Aid cooling is being implemented

**** Remember it is early recognition and First Aid in heat stroke that is critical to save a life.**

COLD RELATED EMERGENCIES

Hypothermia

Exposure to cold has effects no less serious than exposure to heat and humidity. In an unheated house during winter, an elderly person who is incapacitated and unable to summon assistance, is at risk from exposure to cold and hypothermia. Other common situations where persons suffer from exposure to low temperatures include being caught out hiking in inclement weather, being soaked in cold water and unable to change, being subject to cold winds (wind chill) without proper protection, or being unable to afford adequate heating and clothing.



Hypothermia results from prolonged exposure to cold temperatures and the body's control mechanisms fail to maintain a normal body temperature above 35° C. Factors that commonly increase the risk of hypothermia include advanced or very young age, substance abuse, impaired mental status, and immersion in cold water.

SIGNS AND SYMPTOMS

Mild Hypothermia

- Pale, cold skin
- Shivering uncontrollably (mild hypothermia)
- Fatigue, lethargy
- Impaired coordination
- Slurred speech
- Responsive but with apathy or confusion



Moderate to Severe Hypothermia

- Absence of shivering (severe hypothermia)
- Slow, shallow respirations
- Blurred or double vision
- Unable to move limbs, muscle stiffness
- Slow irregular pulse, low blood pressure
- Casualty is silent, may appear asleep, difficult to rouse; may be unconscious
- Casualties often feel that they are not ill
- If very cold, may have non-reacting pupils and appear 'death-like'

CARE AND TREATMENT

- Call Triple Zero (000) for an ambulance
- Remove from cold environment. Provide shelter from cold, rain, wet ground and wind
- Remove cold or wet clothing as soon as possible. Dry casualty if wet
- Warm casualty, wrap in blanket, 'space blanket'
- If fully conscious, give warm, sweet drinks
- Once casualty commences shivering, reassess heating
- Be prepared for sudden collapse and resuscitation.



**** Warm up slowly – no direct heat or hot bath. Do not expose to excessive heat.**

**** Do not rub skin to create warmth.**

**** Do not give alcohol.**

HYPERVENTILATION

Hyperventilation is breathing more than is necessary to meet the body's needs. This leads to low levels of carbon dioxide in the blood, causing many of the symptoms of hyperventilation. The reduced levels of carbon dioxide cause arteries to constrict, reducing blood flow throughout the body. When this occurs, the brain and body will experience a shortage of oxygen.

Anxiety, fear, or highly charged emotional responses can all cause a person to hyperventilate. It's a normal reaction to stressful situations to over-breathe. Usually, when the event has passed, breathing returns to normal rates. But sometimes, for instance with prolonged stress or a physical trigger, the pattern of over-breathing continues and does not return to a normal level. Reassuring the casualty and a calm approach often quickly relieves the condition.

SIGNS AND SYMPTOMS

- Rapid deep respirations
- Rapid pulse
- Shortness of breath
- Pressure, tightness or pain across the chest
- Palpitations
- Anxiety, feeling of panic and/or impending death
- Dry mouth

In extreme cases that have continued for some time:

- Blurred vision
- 'Tingling' in fingers, toes and lips
- Hand and finger spasms and pain

CARE AND TREATMENT

- Reassurance
- Remove the cause of anxiety, if possible
- Encourage the casualty to slow their breathing rate
- Call Triple Zero (000) for an ambulance if no improvement
- Follow DRSABCD
- Monitor the casualty until the ambulance arrives

Not everyone who is breathing rapidly is suffering from hyperventilation due to anxiety. In some cases, the rapid respirations may be a sign of another, more serious, condition. It is important to eliminate more serious causes of rapid breathing, such as asthma and cardiac conditions.

**** Do not use a bag for rebreathing. This can be dangerous.**

SOFT TISSUE INJURIES

Soft tissue injuries are those injuries affecting the joints and muscles of injured, but not fractured, limbs. Sprains and strains are considered soft tissue injuries. Some authorities also include bruising. Treating soft tissue injuries is based on resting the injured part, applying ice packs to limit swelling and reduce pain, applying a firm compression bandage as support and elevating the limb.

This treatment is known as '**RICER**'.

- **R**est. The injured part is rested immediately to reduce internal bleeding and swelling and to prevent the injury from becoming worse.
- **I**ce helps to limit inflammation and reduce pain and swelling in the injured part.
- **C**ompression. Wrapping the injured part with an elastic bandage helps limit swelling
- **E**levation. Raising the injured part above the heart reduces blood flow to the injured part.
- **R**eferral. Refer the casualty to a medical professional for assessment of the extent of soft tissue damage.

Ice packs should be placed on the injured area for 10–15 minutes, removed, then re-applied when it becomes warm again (about 30–60 minutes). Never apply ice onto the skin directly, as this may cause tissue damage. Always use a barrier, such as cloth, between the ice pack and the skin.

Sprains

Sprains involve over-extension of a joint, usually with partial rupture of the ligaments.

SIGNS AND SYMPTOMS

- Sudden pain in the joint
- Loss of power and ability to bear weight
- Substantial swelling, bruising (*refer to image*)
- Site becomes tender, painful to palpate



CARE AND TREATMENT

- Use R.I.C.E.R.

**** Note: R.I.C.E.R. is most important for the first 48 – 72 hours.**

Strains

Strains involve over-stretching of the major muscles or tendons and occur when the fibres of a muscle or tendon are over-stretched and tear. This injury is usually less severe than a sprain but, if not managed correctly, can still have complications.

SIGNS AND SYMPTOMS

- Pain, increasing on movement
- An audible 'pop' may be heard if the tendon parts from the bone
- May have discernible deformity to the muscle area
- Tenderness, discomfort when weight bearing

CARE AND TREATMENT

- Use R.I.C.E.R.
- Avoid stretching or massaging the injured limb for 24 hours
- When the pain subsides, start activity slowly and in moderation
- If pain persists, seek medical aid

**** While it is still painful, avoid using the strained muscle.**

Slings

Use a sling to support an injured arm or to supplement treatment for another injury, such as fractured ribs, *but only if it does not hurt the casualty to do so.*

Never force an arm into a sling. If a sling is not appropriate, find another way to support the arm. Generally, the most effective sling is made with a triangular bandage. Every First Aid kit, no matter how small, should have at least one of these bandages as an essential item.

Although triangular bandages are preferable, any material, e.g. tie, belt, or piece of thick twine or rope, can be used in an emergency. If no likely material is at hand, an injured arm can be adequately supported by inserting it inside the casualty's shirt or blouse. Similarly, a safety pin applied to a sleeve and secured to clothing on the chest may suffice.

There are essentially 3 types of sling: the arm sling for injuries to the forearm; the elevated sling for injuries to the shoulder; and the 'collar-and-cuff' or clove hitch for injuries to the upper arm and as supplementary support to fractured ribs.

After applying any sling, always check the circulation to the limb by feeling for the pulse at the wrist or squeezing a fingernail and observing for change of colour in the nail bed. All slings must be in a position that is comfortable for the casualty.

**** Remember: Never force an arm into the 'right position'.**

Arm sling

- Support the injured forearm approximately parallel to the ground, with the wrist slightly higher than the elbow
- Place an opened triangular bandage between the body and the arm, with its apex towards the elbow
- Extend the upper point of the bandage over the shoulder on the uninjured side
- Bring the lower point up over the arm, across the shoulder on the injured side to join the upper point, and tie firmly with a reef knot
- Ensure the elbow is secured by folding the excess bandage over the elbow and securing with a safety pin



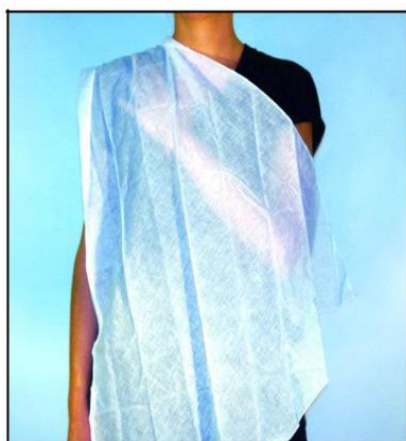
'Collar-and-cuff'

- Allow the elbow to hang naturally at the side and place the hand extended towards the shoulder on the uninjured side
- Using a narrow fold triangular bandage, form a clove hitch by forming two loops – one towards you, one away from you
- Put the loops together by sliding your hands under the loops and closing with a 'clapping' motion
- If you are experienced at forming a clove hitch, then apply a clove hitch directly on the wrist, but take care not to move the injured arm
- Slide the clove hitch over the hand and gently pull it firmly to secure the wrist
- Extend the points of the bandage to either side of the neck and tie firmly with a reef knot
- Allow the arm to hang comfortably. Should further support be required, e.g. for support to fractured ribs, apply triangular bandages around the body and upper arm to hold the arm firmly against the chest



Elevated sling

- Support the casualty's arm with the elbow beside the body and the hand extended towards the uninjured shoulder
- Place an opened triangular bandage over the forearm and hand, the apex towards the elbow
- Extend the upper point of the bandage over the uninjured shoulder
- Tuck the lower part of the bandage under the injured arm, bring it under the elbow and around the back, then bring the lower point up to meet the upper point at the shoulder
- Tie firmly with a reef knot
- Secure the elbow by folding the excess material and applying a safety pin, then ensure the sling is tucked under the arm giving firm support



FRACTURES AND DISLOCATIONS

There are 206 bones in the human body — integral to the body’s strength, providing the frame for our skin, and producing blood and essential blood cells through the bone marrow. Some bones have a protective function (skull), some a supporting function (pelvis), while others are for movement (fingers). When a bone is broken or fractured, it affects not only blood production and function. There can also be complications associated with the muscles, tendons, nerves and blood vessels that are attached, or are close, to the bone.

Dislocations

Dislocations involve displacement of bone from a joint. These injuries are often underestimated and can have serious consequences in the form of damage to nerves and blood vessels. Many people have joints that dislocate easily due to a congenital condition or weakened ligaments that have been stretched by previous repeated dislocations.

SIGNS AND SYMPTOMS

- Sudden pain in the affected joint
- Loss of power and movement
- Deformity and swelling of the joint (*refer to image*)
- Tenderness
- May have some temporary paralysis of the injured limb



CARE AND TREATMENT

- Support affected joint/limb in a position that is comfortable for the casualty
- Do NOT move the injured area any more than is necessary to make it comfortable
- Seek medical assistance, either by calling for an ambulance or transporting to hospital
- Any attempt to reduce a dislocation should only to be made by a doctor

Fractures

Fractures are generally classified as (in order of severity):

- Closed. Where the bone has fractured but there is no obvious external wound.
- Open. Where a wound is exposing the fracture site or bone is protruding from the skin.
- Complicated. Which, as a result of the fracture, may involve damage to associated vital organs and major blood vessels.

Immobilisation is the preferred way to manage fractured limbs, as it helps reduce movement and pain associated with fractures.



Image: Closed fracture: Midshaft fracture of the humerus. Image by James Heilman MD

Fractures may be caused by:

- Direct force. Where force caused the bone to fracture at the point of impact.
- Indirect force. Where force or kinetic energy to a large, strong bone was transmitted up the limb, causing the weakest bone/s to fracture.

Exercise caution when assessing an elderly casualty. Osteoporosis, the condition known as ‘chalky bones,’ causes bones to fracture easily, often in several places. If an elderly person complains of pain or loss of power to a limb, always suspect a fracture. Be especially alert for fractures at the neck of the femur (near the hip), a very common fracture in the elderly.

Young children are also prone to fractures. Arm and wrist fractures are common with children. As young bones do not harden for some years, children’s fractures tend to ‘bend and splinter’, similar to a broken branch on a tree – hence the common name ‘greenstick fracture’.

SIGNS AND SYMPTOMS

Some or all of the following:

- Pale, cool, clammy skin
- Pain and tenderness at the site
- Loss of power to limb
- Associated wound and blood loss
- Nausea
- Deformity

CARE AND TREATMENT

Care and treatment of fractures consists of supporting the injury until professional medical help arrives. If the fracture is particularly complex, the associated wound may be difficult to control. Circulation must be checked at the end of a limb, in case the fracture has affected blood flow.

- Support the injured area in a position that is comfortable for the casualty
- Do NOT use splints. Splints should only be applied by medical professionals
- Do not move the fractured area any more than is absolutely necessary
- Call for Ambulance, or transport to hospital

Fractured arm/collar bone

Check for warmth and circulation to the hand. If no circulation, gently and carefully adjust the position of the limb until blood flow returns.

- Treat any bleeding wounds
- If safe, and doesn't cause further pain, apply appropriate sling
- Reassess circulation after sling applied

Fractured leg

Check for warmth and circulation to the foot. If no circulation, gently and carefully adjust the position of the limb.

- Treat any wounds
- Support the injured leg in a way that it is comfortable for the casualty
- Do not move any more than is absolutely necessary

Suspected fractured pelvis

- Call Triple Zero (000) for an ambulance
- Support the casualty in as comfortable a position as possible, using pillows, blankets, towels, etc. Do not move more than necessary
- Maintain the casualty's body temperature
- Assess and treat for shock

Fractured jaw

A common injury in certain contact sports is dislocation or fracture of the lower jaw (mandible). The casualty will have pain in the jaw, be unable to speak properly, and may have trouble swallowing.

- Call Triple Zero (000) for an ambulance
- Support the jaw
 - Sit the casualty leaning slightly forward
 - Rest the injured jaw on a pad held by the casualty

**** Do not apply a bandage to support the jaw.**

Observe the casualty carefully for signs of breathing difficulties and any indication they are becoming drowsy or unconscious.

SPINAL INJURY

The spinal column consists of a series of interconnected bones, called vertebrae that enclose the spinal cord. An integral part of the central nervous system, the spinal cord and its attached nerves provide the means by which we breathe, move and use our senses

Between each vertebra are discs of cartilage that act as shock absorbers and allow the spinal column a degree of flexibility.

The spine is divided into 5 areas:

- Cervical spine (neck), 7 vertebrae
- Thoracic spine (chest), 12 vertebrae
- Lumbar spine (back), 5 vertebrae
- Fused vertebrae of the sacrum
- A small vertebra called the coccyx

Any injury to the spinal cord has serious ramifications for our ability to function normally. The nearer the head the lesion occurs the more serious it is, affecting all levels of the body below it and potentially causing death if the nerves to the heart and lungs are involved. Even in less severe cases, spinal injury can cause restricted spinal flexibility and chronic back pain.

Spinal injuries are caused by a variety of physical incidents, among them, motorcycle accidents. Riders and pillion passengers are thrown unprotected to the roadway and invariably land heavily in an awkward manner, putting stress on the spinal column. Motor vehicle incidents, diving and sporting accidents, falls, and head injuries are responsible for the majority of spinal casualties.

Carefully assessing the history and nature of both the incident and the injury will benefit the First Aid provider before they apply active treatment.

**** All head injured, and unconscious patients potentially have spinal injuries as well.**

SIGNS AND SYMPTOMS

- History of the trauma, especially high-speed accidents or contact sports
- Unnatural posture
- May have pale, cool, clammy skin
- Numbness, tingling, and/or unusual or absent feeling in limbs, especially fingers and toes
- Loss of skin sensation in the limbs
- Absence of pain in limbs despite other injuries to these areas
- Inability to move arms and/or legs, or weakness of movement
- Onset of shock
- Headache or dizziness
- Nausea
- Loss of bladder or bowel control
- Breathing difficulties



CARE AND TREATMENT

If casualty is CONSCIOUS and breathing normally:

- Call Triple Zero (000) for an ambulance.
- Take extreme care in initial examination.
- Encourage the casualty to remain still in the position they were found.
- Support the casualty's head and neck region, by having someone place their hands either side of the casualty's head, cradling the back of the head in their fingers, but do not cover the ears. Do not move any more than is required to maintain airway and breathing.
- Examine for shock. Maintain body temperature.
- Treat any bleeding injuries by applying pressure to wound. Cool any burns with water.

**** DO NOT proceed further until directed to do so by a Medical Professional.**

**** Cervical collars and spinal boards are only to be used by trained medical personnel.**

If casualty is UNCONSCIOUS and BREATHING normally:

- Call Triple Zero (000) for an ambulance.
- Gently roll casualty into the recovery position, using the spinal roll technique (the H.A.I.N.E.S. technique is especially recommended).
- Support the casualty's head and neck region.
- Warm or cool casualty as required to maintain body temperature.
- Treat any bleeding injuries by applying pressure to the wound. Cool any burns with water.

**** Airway and Breathing take priority over all Spinal Injuries.**

Do Not Remove Helmet

Helmets should *only* be removed by trained medical professionals. The helmet could be helping prevent (further) spinal or head injuries. Undo the chin strap and open the visor to assess airway and breathing. Only tilt the head back to open airway if necessary. Immobilise the casualty's head and spine by having one person place their hands either side of the casualty's head (palms inwards) to keep it from moving. Call 000 for further instructions.

**** Do not use improvised neck braces.**

HEAD INJURIES

Injuries to the head are always regarded as serious because of potential damage to the brain and spinal cord, as well as to bone and soft tissue. As a result, head injuries can be devastating to the casualty. Head injuries are not always visible.

In many instances, a casualty who appeared unaffected after an incident, suddenly collapses with life-threatening symptoms some hours later. This may be due to 'whiplash', the sudden movement of the head forward and backward on impact, which may cause a small bleed in the brain that eventually increases and applies excessive pressure on the brain tissue.

With no expected signs and symptoms immediately after an incident, such injuries can easily mislead the First Aider. As a First Aid provider you should always take head injuries seriously. Always check the patient's response for any alteration of consciousness. Ask age-appropriate questions such as: 'What is your name? Do you know where you are? What colour is my shirt? Wiggle your fingers? Can you count to 5 for me?' Consider the history of the incident and the mechanism of injury. If, in your opinion, the patient's conscious state is altered, or the incident had the potential to cause serious injury, assume the worst. Treat this as a serious head injury.

In some instances, serious head injury is readily identified by signs peculiar to the injury.

- Fluid oozing from the nose or ears could relate to cerebrospinal fluid (CSF). When a fracture occurs, usually at the base of the skull, CSF, which surrounds the brain, leaks out under pressure into the ear and nose canals.
- Uneven-sized pupils. The pupils of both eyes should always be the same size – smaller when in a bright environment, and bigger when in a dark environment. If one pupil is larger than the other, it's likely there is an issue with the brain function affecting the optic nerve.
- Black eyes and bruising. Kinetic energy from a blow can radiate through the head and brain to be expelled through soft tissue, i.e. the eyes and behind the ears. Bruising at these points indicates the head has experienced impact of considerable force.

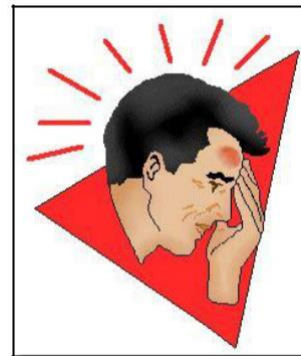
Remember it doesn't always indicate a blow to the face, when a casualty has two black eyes – 'raccoon eyes' may actually indicate a forceful impact elsewhere on the skull. Blurred or double vision is common with concussed casualties. It indicates the brain has been dealt a blow that has temporarily affected its ability to correctly process the sense of sight.

Concussion is the body's way of protecting the brain. Of all the head injuries, the severity of this is often underestimated and many casualties succumb several hours after the incident.

SIGNS AND SYMPTOMS

Some or all of the following:

- History and mechanism of injury
- Head wounds
- Deformation of the skull
- Altered/deteriorating level of consciousness
- Evidence of fluid leaking from ears or nose
- May have unequal pupils
- Headache, mild or severe
- Raccoon eyes
- Nausea and/or vomiting
- Restlessness and irritability, confusion
- Blurred or double vision



CARE AND TREATMENT

- Call Triple Zero (000) for an ambulance
- Immobilise the casualty's head and spine by having one person place their hands either side of the casualty's head (palms inwards), but do not cover the ears
- Treat any wounds
- If unconscious or drowsy, put casualty in the recovery position while supporting the head
- Allow any fluid from ears to drain freely — in recovery position, injured side down, place a pad under the ear to collect the fluid
- If the casualty becomes unresponsive and is not breathing normally, commence CPR

***** Do not allow concussed casualties to 'play on'.***

***** All casualties who appear to have suffered a head injury (including a minor head injury) should be assessed by a healthcare professional before continuing sport or other activity.***

***** All head injury and unconscious patients must be treated for spinal injuries as well.***

CRUSH INJURY

Crush injury refers to situations where an individual has been crushed by a heavy object, such as a fallen tree, car accident, collapsed building. A crush injury can result in internal bleeding, fractured bones, ruptured organs, and impaired blood supply.

CARE AND TREATMENT

- Follow DRSABCD and ensure the area is safe
- Call Triple Zero (000) and seek advice from the operator
- If it's safe, and physically possible, remove the crushing object as soon as possible
- If unable to physically remove the object (tree, car, etc) seek medical advice
- Control any bleeding and manage any other injuries
- Treat for shock
- Remain with the casualty, comfort, reassure and continue to monitor
- If the casualty becomes unresponsive and is not breathing normally, commence CPR

**** All crush injuries should be assessed by a medical professional**

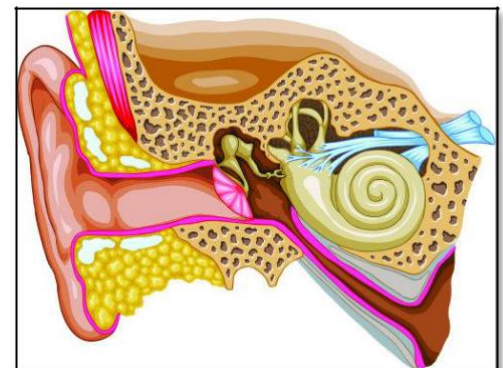
**** A tourniquet should not be used for First Aid management of a crush injury**

EAR INJURIES

The ear has two functions: as the receptacle of the auditory senses (hearing) and as the organ of balance. Injuries to the ear usually affect the hearing function rather than balance.

Children are especially at risk of ear damage, often inserting objects into the ear canal. This can have serious effects on the tympanic membrane or 'eardrum'. An old, but sensible, saying is 'nothing smaller than the elbow should be poked in the ear'.

The eardrum is easily damaged. Holes or tears may occur when swimming, diving, and from changes in altitude (flying) or by vigorous nose-blowing when 'stuffed up' with a cold or flu. Minor eardrum injuries can repair themselves over a period of hours.



CARE AND TREATMENT

Ear obstruction

- If it's an insect, shine a bright light into the ear to encourage the insect to escape. Failing that, lay casualty on their side, ear facing up, and drizzle clean vegetable oil or baby oil into the ear. Allow to settle for 15 seconds before letting the oil run out. The insect will often come out with the oil. Alternatively, you may be able to flush it out of the ear using warm water and a syringe (without the needle).
- If it's an object, lay the casualty on their side, ear facing down, allowing gravity to help the object fall out.
- If unsuccessful, immediately seek medical aid

**** Do not poke anything into the ear**

**** Do not use water to flush the ear if you suspect a perforated eardrum (signs of this are pain, bleeding or discharge from the ear)**

Suspected ruptured eardrum

- Place cover over affected ear to guard against infection
- Immediately seek medical aid

**** Avoid using ear drops unless directed by a doctor and avoid swimming or water sports**

EYE INJURIES

The eye is a robust but delicate organ. It can sustain quite severe damage and with the proper treatment, recover to its former state. In some instances, however, a seemingly 'minor' injury can be permanently disabling. Always consider preventing eye injuries and taking sufficient protective measures (such as protective glasses or goggles).

Minor eye injuries

This is when a foreign object — dirt, sand, a sliver of glass, metal filing etc — causes irritation or remains on the surface of the eye. It is characterised by a bloodshot eye, irritation, and an urge to rub the eye.

CARE AND TREATMENT

- Irrigate the eye for 5 mins with a steady stream of saline solution or clean water to wash the object out
- If this fails, gently cover the eye with a dressing, seek medical aid

**** Do not pull on the eyelids or 'push' the object around the eye's surface.**

**** Do not allow casualty to 'rub' the eye.**

**** Only use eye-drops if prescribed by a doctor.**

Major eye injuries

These injuries involve penetration of the body of the eye, or involve severe blunt trauma, such as a finger poking the eye or impact from a flying object. Penetrating objects, blood in the eye, disturbance of vision, protrusion of eye contents, and severe pain and spasm are characteristic of these injuries. The casualty may also see 'black spots' in their vision that move when the eye moves. Medical care in this case is critical and should be left to the experts.

CARE AND TREATMENT

- Lay the casualty flat, at complete rest
- Call Triple Zero (000) for an ambulance
- Do not remove any protruding object
- Cover the affected eye, using a 'ring bandage'
- Cover the unaffected eye, to reduce movement of the injured one, but remove it if the casualty becomes anxious
- Be calm and provide reassurance

**** With children, keep their hands away from the eye.**

**** Eye-drops are not to be used under any circumstances.**

Welder's flash

A flash burn and welder's flash are results of staring or inadvertently looking at the intense light caused during metal welding, while not wearing the correct eye protection. Care must be taken to supervise children if welding is being conducted near them and they should be removed from the location. The damage caused to the eye's cornea by exposure to this intense light can be painful and, in some cases, permanent.

CARE AND TREATMENT

- Apply cool compresses and cover the eyes with pads
- Seek medical attention
- Seek urgent medical attention if casualty is seeing 'spots' or 'shadows' in their vision that move when they move their eye

BURNS

Burns damage and kill skin cells. Most commonly caused by exposure to flames, hot objects, hot liquids, chemicals, radiation or a combination of these, burns also include scalding caused by contact with wet heat, such as boiling fluids or steam. Electrical burns are less common, but are potentially more serious as the depth of the burn is usually greater than is apparent and heart irregularities may occur.

As with most serious injuries, prevention is better than cure. All homes should be fitted with smoke detectors. Keep hot objects, such as kettles, safely out of reach of children and make sure to turn off heaters and stoves when not in use. Anyone who has inhaled smoke, fumes, or superheated air, or has been burned on the face, should seek medical aid as soon as possible after the incident. With the inability to determine burn severity and the risk of cardiac (heart) irregularities, electrical burns need to be treated as very serious.

Burns are classified as either (*refer to image*):

Superficial

- Reddening (like sunburn)
- Damage to outer layer of skin only

Partial thickness

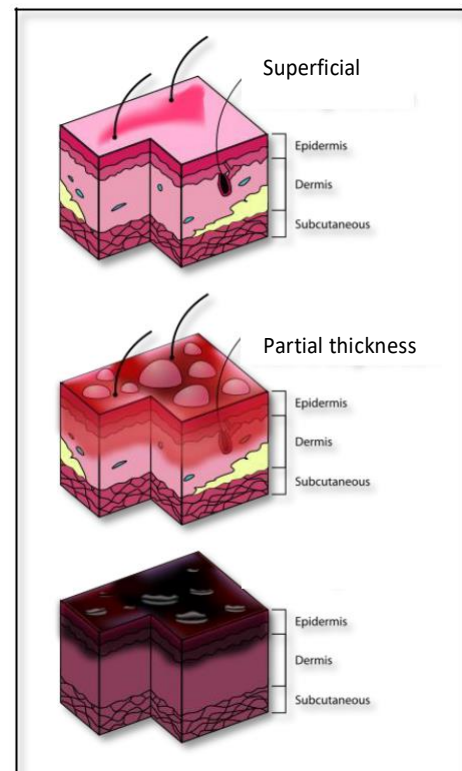
- Blistering
- Damage to outer and inner layers of skin

Full thickness

- White or blackened areas
- Damage to all layers of skin, plus underlying structures and tissues

SIGNS AND SYMPTOMS

- Obvious red, blistered, white or blackened skin
- Signs of shock
- Full thickness
- Pain in superficial and partial thickness burns
- Breathing difficulties
- Hoarse voice and/or snoring sound when breathing



CARE AND TREATMENT

Burns to the face may have an effect on the casualty's breathing and these effects may take some time to appear. The objective of First Aid treatment of burns is to stop the burning process, cool the burn and cover the burn. This will minimize tissue loss and provide pain relief.

Initial response for burns

- Ensure safety for all: rescuers, bystanders and casualty
- Do not enter a burning or toxic atmosphere without appropriate protection.
- Stop the burning process:
 - Stop, Drop, Cover and Roll
 - Smother any flames with a blanket
- Move away from the burn source to a safe environment as soon as possible.
- Assess the adequacy of airway and breathing.
- Check for other injuries.¹⁷
- Call Triple Zero (000) for an ambulance

17. Excerpt from ANZCOR Guideline 9.1.3 January 2016, Last paragraph, Page 1

Thermal and heat burns

- Cool only with clean running water for 20 minutes
 - if possible, resist using other substances
- When cool, cover with a clean, non-stick sterile dressing (plastic wrap etc.)
- If possible, without causing further tissue damage to the burned area, remove tight clothing and objects, e.g. rings, jewellery
- Contaminated or smouldering clothing should only be removed by a trained medical professional
- To prevent the risk of hypothermia, keep the rest of the casualty warm. Cover unburnt areas as needed
- Treat for shock if the burn is severe

**** Do not break blisters.**

**** Avoid the use of ice, ice water, powders, ointments, lotions and creams.**

**** Ensure cooling is not excessive resulting in shivering.**

**** Do not peel off clothing that is stuck to the skin.**

**** Hydrogel dressings or gel are a suitable alternative when water is not available.**

Seek medical aid if the:

- Burn is larger than the casualty's palm
- Casualty is an infant, child or elderly
- Burns involve the hands, face, feet, or genitals
- Burn was caused by: laser beams or industrial microwave equipment

Inhalation burns

Casualty has inhaled smoke, fumes or superheated air. If there are burns to the face, nasal hairs, eyebrows or eyelashes, or the appearance of carbon deposits in the nose or mouth, always view it as an inhalation burn injury.

- Move casualty away from burn inhalation source to fresh air
- DR**S**ABCD – Check, assess and manage the casualty's airway
- Call Triple Zero (000) for an ambulance
- Monitor casualty and provide reassurance

Chemical burns

The aim of First Aid for chemical burns is not to cool the burn but to dilute the chemical.

- Use appropriate PPE, e.g. gloves, goggles, to avoid contact with any chemical or contaminated material
- Move the casualty to a safe area
- Refer to chemical container or to Safety Data Sheet (SDS) for specific treatment instructions
- As soon as practical, remove the chemical and any contaminated clothing and jewellery
- Brush powdered chemicals from the casualty's skin
- Immediately run cool running water directly onto the area for one hour or until the stinging stops, while ensuring you don't spread the chemical to unaffected areas
- If the chemical has entered the eye, thoroughly and continuously flush the effected eye(s) with clean water for as long as is tolerated
- Even if no burn mark is obvious, apply a non-adherent dressing
- Call the Poisons Information Centre for further advice
- Call Triple Zero (000) for an ambulance

**** Flushing of the eye is more important than immediate transfer for medical care.**

**** Remove phosphorus particles using forceps only. Keep phosphorous burns wet at all times.**

**** Do not attempt to remove bitumen from the skin or eyes. Flush area for at least 30 minutes.**

**** Do not use water on alkali or acid burns, as this will increase heat and cause further harm.**

Electrical burns

Lightning strikes and electrical burns are often related with other injuries involving cardiac and respiratory systems, loss of consciousness and trauma.

- Manage the hazard and control the risk. Safely isolate/turn off the power source without touching the casualty
- DRSABCD – Commence CPR if required
 - Lightning may cause cardiac arrest
- If safe to do so, cool burn with clean running water for 20 minutes
- Call Triple Zero (000) for an ambulance

BLEEDING CONTROL

The body must have enough circulating blood volume to keep the body functioning and keep the organs supplied with oxygen. Blood consists of red cells, which convey oxygen throughout the body; white cells, which fight introduced infection; platelets, which assist in the clotting process; and plasma, the fluid portion of blood. There are between 5 and 7 litres of blood in the average adult body which makes up 7-8% of the body weight.

Blood is moved around the body under pressure by the heart and blood vessels. Without adequate blood volume and pressure, the human body soon collapses. When blood vessels rupture due to a severe injury, bleeding or haemorrhage, poses a threat because blood loss causes both the volume and pressure of the blood within the body to decrease.

Severe blood loss is one of the common causes of death in accidents. The aim of the First Aider is to reduce loss of blood from the casualty.

External bleeding

External bleeding is usually associated with wounds. Serious wounds involve damage to blood vessels.

External Bleeds can be categorised into three main types:

- **Arteries** — Damage to an artery is characterised by blood which can ‘spurt’ and ‘pulse’ with each heartbeat.
- **Veins** — Damage to veins tends to flow, sometimes heavily, rather than spurt.
- **Capillaries** — Damaged capillaries are associated with wounds close to the skin and oozes rather than flows.

Types of wounds include cuts, abrasions, amputations, incisions, lacerations and punctures.

- **Abrasion** is a wound where skin layers have been scraped off from a fall on a rough surface, pieces of shells, claws of animals, machinery, etc. These wounds have torn or irregular edges and they tend to bleed less.
- **Amputation** is the severing or partial severing of part of the body, such as a finger or toe, a limb or part of a limb. This a life-threatening bleed.
- **Incision** is a wound characterised by ‘slicing’ as with a sharp knife or sharp piece of metal. It is often characterised by a narrow wound that has cut cleanly and bleeds extensively.
- **Laceration** is a jagged-edge wound with associated tissue loss, such as from a barbed wire injury or where a rider’s ankles, knees, elbows or wrists have abraded at speed, colliding with a road surface. These may be life threatening.
- **Puncture** wounds are perforations, from anything from a corkscrew to a bullet, and generally with a limited external area but potentially quite deep, possibly affecting internal organs. They may also leave an object embedded in the wound. These may be life threatening.

CARE AND TREATMENT

Basic wound care

The principles for basic wound care refer to the basic ways a wound is cared for to reduce risk of infection before any dressings are applied. These are irrespective of the type or level of wound.

- Whenever possible, follow infection control principles, e.g. wash hands, wear gloves, etc
- Cleanse the wound:
 - Try to avoid causing further harm
 - Use mild soapy water and then rinse using clean water
 - To remove any lodged particles, use sterile instruments to pick out and remove any particles or flush under pressure using a saline solution
- Cleanse the skin around the wound to remove any possible contaminants
- Gently pad the area dry

Minor injuries (e.g.: small abrasions, cuts and scratches)

- Follow 'basic wound care' steps
- Apply pressure to the wound to stop further bleeding
- Apply a sterile wound dressing to protect from further harm

Bleeding

- Follow 'basic wound care' steps
- Use **R.I.D.** Principles: Rest, Immobilize and Direct pressure
 - Casualty to rest and remain still
 - Apply firm, direct pressure sufficient to stop the bleeding
 - Apply pressure using hands or a pad ensuring that the pressure is maintained directly over the wound.
 - Immobilize bleeding limb to restrict movement
- Call Triple Zero (000) for an ambulance
- Be calm and provide reassurance
- Help casualty into a comfortable position, if possible have them lying down
- Regularly monitor vital signs.
- If the casualty becomes unresponsive and not breathing normally follow DRSAB**CD**
- Keep the casualty warm and treat for shock



**** Do not give any food or liquids, including medications**

Nosebleed

SIGNS AND SYMPTOMS

- Bleeding from either or both nostrils
- A sensation of flowing liquid at the back of the throat
- The urge to swallow frequently



CARE AND TREATMENT

- Put on disposable gloves if available
- Have the casualty pinch the fleshy part of the nose just below the bone
- Have the casualty sit down and lean forward
- Maintain the pressure and posture until bleeding stops
 - Keep casualty seated and resting for 10 minutes
 - 20 min if after exercise or in hot weather
- If bleeding persists and does not stop within 20 minutes, obtain medical aid

**** Advise the casualty not to blow or pick their nose for several hours, and not to swallow blood.**

Life threatening bleeding

Bleeding should be managed as severe, life-threatening bleeding in the following situations:

- amputated or partially amputated limb above wrist or ankle
- shark attack, propeller cuts or similar major trauma to any part of the body
- bleeding not controlled by local pressure¹⁸

If bleeding is severe or life-threatening, control of bleeding takes priority over airway and breathing interventions

- Call Triple Zero (000) for an ambulance
- Follow 'bleeding' steps
- If available, use standard precautions, e.g. gloves, protective glasses
- If bleeding from a limb that cannot be controlled by pressure, apply an arterial tourniquet above bleeding point, if trained in its use and one is available
- If the wound site is not suitable for a tourniquet, or a tourniquet is not available or has failed to stop the bleeding, apply a haemostatic dressing if trained in its use and one is available
- For the majority of non-life-threatening cases, follow DRSABCD, where control of bleeding follows establishing airway and commencing CPR if required¹⁹
- Lie the casualty down, immobilise the injured part, maintain body temperature
- Check circulation every 2 minutes
- Treat for shock if required

Constrictive bandage (Arterial Tourniquet)

Arterial tourniquets should only be used for life-threatening bleeding from a limb, where the bleeding cannot be controlled by direct pressure.

- Apply a commercially manufactured arterial tourniquet approx. 5 – 7cm above the wound
 - *(Refer to image Combat Application Tourniquet from ANZCOR Guideline 9.1.1)*
- Wrap tourniquet around the limb, and apply as per manufacturer instructions
- Note the time the bandage was applied
- If bleeding does not stop, check position and application
- If still bleeding, apply another tourniquet preferably above the previous one's position
- Once tourniquet is applied, the casualty requires urgent transfer to a hospital. Call Triple Zero (000) for an ambulance and inform them you have applied an arterial tourniquet



**** Do not cover the bandage. Ensure the constrictive bandage remains easily seen.**

**** Once applied, the tourniquet should not be removed until the casualty receives specialist care.**

**** An elastic venous tourniquet (designed to assist drawing blood samples) is not suitable for use as an arterial tourniquet.**

**** Arterial tourniquets are a measure of last resort and should only be used on a limb in a life-threatening situation where all other methods have failed.**

18. Excerpt from ANZCOR Guideline 9.1.1 July 2017, Last paragraph, Page 1

19. Excerpt from ANZCOR Guideline 9.1.1 July 2017, 1st paragraph, Page 2

Embedded object

- Follow 'basic wound care' steps
- Use or make a 'ring bandage' and place over the embedded object, without applying pressure to the object itself (*refer to images below*)
- Apply pressure to ring bandage using hands or with a bandage if on a limb
- Immobilise the area and call Triple Zero (000) for assistance

**** Do not remove any penetrating object.**

**** Do not put pressure over penetrating object.**



Amputation

- Treat as for bleeding from wounds
- Note: A constrictive bandage will be needed for amputations above the wrist or ankle
- After bleeding is controlled
 - collect amputated part – keep dry, do not wash or clean
 - seal amputated part in a plastic bag or wrap in waterproof material
 - place in iced water – **do not allow amputated part to come in direct contact with ice.**
Freezing will kill tissue
- Ensure the amputated part goes to the hospital with the casualty. Often the part can be re-attached using microsurgery

If bleeding occurs through the existing dressing, place a second dressing over the first, leaving the existing dressing in place. Remove and replace only the bandage and padding. Maintain direct pressure over the bleeding area as much as possible. Avoid disturbing the bandage or pad once the bleeding has been controlled.



Wounds can be cleaned with clean water or sodium chloride.

With all wounds, the casualty should obtain medical advice for tetanus prevention.

Internal bleeding

Internal bleeding is classified as either visible (where the bleeding can be seen), or concealed, (where no direct evidence of bleeding is obvious). Always consider internal bleeding after injury, understanding it cannot be controlled by the First Aider. Obtaining an adequate history of the incident or illness will, in most instances, give the First Aid provider the necessary clue as to whether internal bleeding may be present.

Remember, current signs and symptoms or the lack of them, do not necessarily indicate the casualty's condition. Due to the stealth of bleed, certain critical signs and symptoms may not appear until well after the incident, becoming apparent despite there being no visible cause, only when the casualty worsens.

SIGNS AND SYMPTOMS

Visible internal bleeding

Visible internal bleeding is referred to in this way because the bleeding can be seen from:

- Ears: Blood or blood mixed with clear fluid.
- Lungs: Frothy, bright red blood coughed up by the casualty.
- Stomach, bowel or intestines: Bright, dark or tarry blood coughed up by the casualty.
- Under the skin (bruising): The tissues appear dark due to blood under the skin.

Concealed internal bleeding

Detecting internal bleeding relies on good observation and an appreciation of the physical forces that have affected the casualty. In these cases, the First Aid provider considers the history, signs and symptoms. If you are unsure, assume the worst and treat for internal bleeding. Consider important observations that may indicate internal bleeding, which include:

- Rapid, shallow, or irregular breathing
- 'Guarding' of the abdomen, with foetal position if lying down
- Pain or discomfort and/or swelling of the abdomen
- Nausea and/or vomiting
- Altered consciousness
- Pale, clammy skin

CARE AND TREATMENT

- Call Triple Zero (000) for an ambulance
- Wear disposable gloves if available
- If conscious – lie the casualty down on their back with both legs bent at the knees
- If unconscious – recovery position with both legs bent at the knees
- Provide reassurance
- Treat for Shock

ABDOMINAL INJURIES

Abdominal injuries are caused by blunt or penetrating trauma and can involve internal bleeding or the exposure of the internal organs to air. Such injuries invariably affect vital organs. The First Aid provider should be alert for shock due to internal bleeding regardless of the injury cause or whether there is a wound or not.

Blunt or penetrating trauma

Initial First Aid treatment is the same regardless of whether the injury is penetrating or caused blunt trauma, e.g. a severe blow to the abdomen without any visible wound.

SIGNS AND SYMPTOMS

- History of the incident
- Pale, cool, clammy skin
- There may or may not be evidence of wound
- Rapid, weak pulse, with evidence of shock
- Rapid, shallow breathing
- Abdominal rigidity
- May be incontinent
- 'Guarding' of abdomen – foetal position if lying down

CARE AND TREATMENT

- Call Triple Zero (000) for an ambulance
- Follow 'basic wound care' steps
- Stop any bleeding
- Stabilise any object where it is, and pad around the wound
- If the wound permits and the casualty is conscious, lay casualty on back and elevate legs, bent at the knees
- Provide reassurance

**** Avoid removing or touching penetrating objects.**

Evisceration (exposed internal organs)

Evisceration is the protrusion of abdominal organs from a wound in the abdomen. Avoid applying material to the wound that would stick to the organs. Note that often there is little pain associated with this type of injury and the casualty may walk around or offer to help.

SIGNS AND SYMPTOMS

- Obvious protrusion of organs
- Pale, cool, clammy skin
- Rapid, weak pulse, with evidence of shock
- Rapid, shallow breathing
- May be faecal odour if organs have been lacerated
- Anxiety
- Nausea

CARE AND TREATMENT

- Call Triple Zero (000) for an ambulance
- Follow 'basic wound care' steps
- Cover organs with non-stick dressing (if unavailable, wet any clean dressing or use plastic wrap)
- Place supporting bandage over wound, if practical
- Lay casualty on their back with legs bent at the knees
- Provide reassurance
- If unconscious, recovery position, legs bent at knees

**** Do not attempt to clean the organs, or put them back into the body!**



SHOCK

Shock is a life-threatening condition. It should be treated as top priority — second only to attending to safety, obstructed airway, absence of breathing, cardiac arrest or severe life-threatening bleeding. Shock is a deteriorating condition that does not allow a casualty to recover without active medical intervention.

Causes of shock

The most common cause of shock is loss of blood. Blood loss may occur immediately or may be delayed. Blood loss could be either seen externally or unseen internally within a particular system or organ. The greater the loss of blood, the greater the chance of developing shock. Slow, steady loss of blood can also produce shock.

- Abdominal emergencies. Burst appendix, perforated intestine or stomach, intestinal obstruction, pancreatitis.
- Loss of body fluids. May be due to extensive burns, dehydration, severe vomiting or diarrhoea.
- Heart attack. Failure of the heart to function due to obstructed blood supply to the heart itself, can produce shock.
- Sepsis or toxicity. Infections can cause bacteria in the blood stream that can produce shock.
- Spinal injury. Due to the injury and the reaction of the nervous system.
- Crush injuries. Injuries following explosions, building collapses etc.
- Multiple injuries where the immune system endeavours to protect the vital organs.

As a First Aider attending a casualty, ask yourself the following questions:

- Does the injury appear serious?
- If I don't do anything to help, is the casualty likely to become worse?
- If the casualty's condition worsens, is death a possibility?

If the answer to any of these questions is 'YES', then you should treat for shock.

SIGNS AND SYMPTOMS

- Assess the history of the incident and mechanism of injuries
- Casualty's skin becomes cold to the touch, pale and clammy
- Casualty starts feeling cold (even on a warm day)
- Dizziness
- Thirst
- Rapid, shallow breathing
- Casualty feels short of breath
- Nausea and/or vomiting
- Evidence of loss of body fluids or high temperature
- Collapse and altered consciousness
- Progressive 'shutdown' of body's vital functions

CARE AND TREATMENT

- Call Triple Zero (000) for an ambulance
- Follow 'basic wound care' steps
- Control any bleeding
- If conscious, lie the casualty down on their back
- If unconscious, place into the recovery position
- Provide reassurance and monitor
- Keep casualty warm by whatever means necessary, but DO NOT apply heat.
- Treat any other injuries



**** Do not raise the legs. Keep the casualty lying flat.**

SUBSTANCE MISUSE

Possible causes

Overdose

A drug overdose will occur when a person takes more than the medically recommended dose. Similarly in the case of illicit drugs — when more of the drug is taken than the body can handle or metabolise at any one time. An overdose of any drug may be accidental or deliberate.

Alcohol

When a person who has been drinking alcohol presents with symptoms of slow breathing, clammy cold skin, and lack of consciousness, this constitutes a medical emergency and the person will need to be hospitalised immediately.



Amphetamines and Cocaine Overdose

The signs of an amphetamine overdose emergency may include signs of a heart attack, including shortness of breath, nausea, sweating, anxiety, pain, and numbness in the chest, arms and neck. Other signs of overdose might include a racing pulse, seizure where the person has uncontrollable twitching movements, rapid breathing and rapid eye movements.

Opiate Overdose

Unlike amphetamines, opiates depress the activity of the CNS and cause the person to slow down. An overdose from opiates (e.g. heroin, morphine, and methadone) can range from quite subtle to life-threatening. At the life-threatening end you might observe that the person is unconscious, there is a weak thready pulse or no pulse at all, shallow breathing or breathing has stopped. They might also have blue lips.

CARE AND TREATMENT

- Follow DRSABCD and be prepared to perform CPR
- Call Triple Zero (000) for an ambulance and treatment advice
- Keep yourself and others safe

**** NOTE: All casualties suspected of suffering from some form substance abuse must be treated with great care, as they can become dangerous, violent or erratic at any time, without warning.**

NEEDLE STICK INJURY

The principal risk associated with needle stick injury is contracting blood-borne viruses, such as HIV (AIDS) and HBV (hepatitis B), although the risks are quite low that the discarded needle is infected with AIDS, hepatitis B and hepatitis C.

The most common sharps injuries are from needle sticks, typically on the index finger and thumb. Needle-stick injuries account for up to 80% of all accidental exposures to blood.

Measure taken to reduce the risk of needle-stick injuries include:

- Workers who may come in contact with blood or body fluids should receive hepatitis B vaccinations.
- Follow all safety procedures in the workplace
- Never bend or snap used needles
- Never re-cap a needle
- Always place used needles into a clearly labelled and puncture-proof sharps-approved container.



CARE AND TREATMENT

- Wash away the blood or body fluid with soap and water or handwash for 30 seconds
- If the eyes are contaminated, rinse eyes while open, with water or saline for 15 min
- If blood gets into the mouth, spit it out and then repeatedly rinse with water
- Refer the person immediately to a doctor or hospital emergency department who will assess the risk of transmission and discuss options for testing and treatment
- Ensure the safe disposal of the sharp
- Report the incident immediately

MULTIPLE INJURY MANAGEMENT

In situations where there are either multiple casualties or the casualty has multiple injuries that cannot all be treated at once, call 000 for advice and assistance.

- Always follow DRSABCD. Conduct a verbal and visual assessment of casualties.
- Casualties who are **not breathing** take first priority, followed by unconscious, breathing casualties.
- Treat Bleeds first, then Burns, then Bites and Stings, then Breaks (fractures) and Dislocations.
- Treat for Shock

**** Do not be afraid to call Triple Zero (000) for an ambulance.**

POISONS

Poisons are substances that, when inhaled, ingested, absorbed or injected, harm the structures or functions of the body. Some types of poisons may act immediately on the body. Others may act more slowly. Some poisons, such as cyanide, are so toxic that only a tiny amount is harmful, while others, such as garden sprays, are cumulative with exposure over time leading to toxic levels. Some may be carcinogenic and cause fatal cancers some years after exposure.

How to prevent poisoning

- Store medicines, chemicals and household products safely out of reach and out of sight of children — up high (at least 1.5m) in a locked or child-resistant cupboard.
- DO NOT take other people's medicines.
- Separate medicines from household products.
- Use medicines and chemicals safely. Be sure that all products are properly labelled and in their original containers.
- Clean out your medicine cupboard periodically. Take out-of-date medicines to a pharmacy for disposal.
- Children tend to mimic adults, so avoid taking medicines in their presence.
- Refer to medicines by their correct names. They are not sweets or lollies.
- Use personal protective equipment (PPE) when spraying or painting. Ensure there is adequate ventilation, with circulating air.
- Take off any contaminated clothing immediately.
- Keep everything in original containers, never in cups or soft drink bottles, since the original containers will be labelled with the appropriate warnings. Using a different container may give a child the mistaken impression that the product is both safe and drinkable.

If poisoning occurs, obtain a history, look for empty bottles, containers and sometimes suicide notes. If possible, ascertain what poison or medicine has been taken, including how much and when.

SIGNS AND SYMPTOMS

The wide variety of poisons present with a similarly wide variety of signs and symptoms.

CARE AND TREATMENT

First Aid advice depends on the route of poisoning:

- Swallowed:
 - Do not try to induce vomiting
 - Do not use Ipecac Syrup unless recommended by the Poisons Information Centre or your doctor
- Skin contact:
 - Remove contaminated clothing, taking care to avoid contact with the poison
 - Flood skin with cool running water
 - Gently wash with soap and water. Rinse well
- Inhaled:
 - Immediately aid the casualty to fresh air, without placing yourself at risk
 - Avoid breathing in the fumes
 - If it is safe to do so, open doors and windows wide
- Entered the eye:
 - Flood the eye with cool water from a running tap or a cup/jug
 - Continue to flush for 15 minutes, holding the eyelids open
- If safe to do so, take a smartphone photo of the label or note down the product details
- Phone the **Poisons Information Centre on 13 11 26** for advice (open 24 hrs/7 days a week)
- Follow the operator's instructions
- Monitor the casualty at all times
- Follow DRSABCD and be prepared to perform CPR



You can also call the Poisons Information Centre on 13 11 26 when:

- You suspect that you or someone in your care may have been poisoned
- **DO NOT** wait for any symptoms to occur before calling **13 11 26**
- If a person is bitten or stung by a marine creature, animal, reptile, spider or insect
- If you have any questions or concerns about:
 - Prevention of poisoning, hazards associated with drugs, medicines, chemicals, plants, pesticides and any other products

**** If in doubt call and check.**

**** Recommended treatments for poisoning are constantly improving. When you ring the Poisons Information Centre you will receive the most up-to-date advice as their information databases are updated many times each year.**

BITES AND STINGS

Venomous bites and stings are a type of injected poison. Many of Australia's creatures are particularly poisonous with 11 of the world's 12 most venomous snakes residing here. However, only 20% of snakes found in Australia are regarded as venomous. As for general poisoning, prevention is better than cure — take care when in an area frequented by snakes and spiders and treat venomous sea creatures with respect.

Snakes

Approximately 176 species of snakes are found in Australia, including 10 of the 12 most dangerous snakes in the world. On average, about 3,500 people are treated for snakebite each year, although only 5 people die from snakebite each year in Australia. Research suggests only around 20% of snake bites in Australia are envenomations.

Australia's most dangerous venomous snakes are:

- Eastern Brown
- King Brown snake and several other "Brown Snake" species
- Inland and Coastal Taipan
- Tiger Snake
- Death Adder
- Red Bellied Black snake
- Black Snake (several species)
- Copperhead Snake
- Rough Scaled Snake
- Many types of sea snakes



Although the Taipan is the most venomous snake in the world, the snakes with the most fearsome reputation in Australia are brown snakes. These snakes, especially the Eastern Brown, as well as Tiger snakes and Death Adders, are responsible for most of the fatal encounters with humans.

In most cases, snakes strike swiftly and inject venom below the surface of the skin into the tissues, which is then absorbed by the lymphatic system.

The lymphatic system is a network of tubes that drains fluids (lymph) from the body's tissues to be emptied back into the bloodstream. Only rarely does snake venom penetrate directly into the blood stream.

Should you see a snake, **LEAVE IT ALONE** – do not attempt to kill it. All snakes are protected by law and besides, the creature will defend itself vigorously. Stay clear of likely habitats and pay special attention always to young children playing near long grass and bush.

It's difficult to accurately identify a snake once it has bitten someone, as snakes are similar in shape and have many different colours, even within the same species. The effects of snake venom can take up to 2 hours to become apparent, so symptoms are not always obvious straight away.

Anti-venom is generally available for all species.

**** ALL snake bites must be treated as venomous until proven otherwise by a doctor at a hospital.**

SIGNS AND SYMPTOMS

- Puncture marks or parallel scratches on skin – rarely any pain
- Discoloration around the bite site (not always)
- Pale, cool skin with progressive onset of sweating
- Rapid, shallow breathing
- Blurred vision, drooping eyelids
- Difficulty swallowing and speaking
- Abdominal pain, nausea and/or vomiting
- Headache
- Collapse – progressing to unconsciousness



**** Remember: effects may take up to 2 hours to become apparent.**

**** The bite may be painless and without visible marks.**

CARE AND TREATMENT

The main treatment for snake bite is the application of 'pressure immobilisation technique' (PIT).

- Casualty must remain as still as possible to slow venom travelling through the body
- Keep casualty under constant observation and at rest. Provide reassurance.
- Follow DRSABCD and be prepared to perform CPR
- Apply the 'pressure immobilisation technique' (PIT)
 - If on a limb, ASAP, apply a wide heavy elastic bandage (10 – 15 cm wide) over the bite site
 - The bandage should be firm and tight. To test, you should not be able to easily slide a finger between the bandage and the skin
 - Apply a second heavy elastic bandage, starting from the fingers or toes and winding as far up the limb as possible. Consistent coverage (overlapping half over half), and consistent pressure (firm but not cutting circulation) are the key to an effective PIT
- Immobilise the limb and joints with a splint so that limb movement is restricted
 - Use a sling for a bite to the arm
- Keep the limb immobilised until ambulance arrives



** If only one bandage is available, start just below the bite site and wind as far up the limb as possible, ensuring to cover the bite site.

** If no bandages, or splints available, improvise with clothing or whatever you can from the surrounding environment.

**** Do not wash the bitten area, as a venom sample may be obtained.**

**** Do not elevate the limb.**

**** Do not use an arterial tourniquet.**

**** Do not remove the bandage once it has been applied, even if casualty is feeling well.**

**** Do not try to capture or kill the snake.**

**** Do not cut the bite and suck the venom out.**

Spiders



Funnel web spider

The Sydney Funnel Web spider is considered to be the world's most venomous spider. Found in the NSW coastal zone, from Nelson's Bay to Nowra, its habitat is under rocks and houses, in a web-lined burrow.

The spider is very aggressive and will attack at the slightest provocation.

Despite its fearsome reputation, there are only 14 recorded deaths due to funnel web spider

bite. However, when the spider attacks, it injects a dangerous quantity of venom. The effects can be rapid and severe. Death can follow within an hour.

A second type of funnel web spider is also recorded as being responsible for fatal bites. Its habitat ranges over most of the NSW coast and the Great Dividing Range. This creature lives in trees behind the bark or in holes in the trunk. There are at least 37 species of funnel web spiders. All are medium to large robust spiders, mostly dark or black in colour, with stout legs and large fangs.

The funnel web will bite repeatedly if in contact with the skin. When bitten by the funnel web spider, the venom enters the body similarly to that of snakes. Anti-venom is available.

SIGNS AND SYMPTOMS

- Severe pain at the site of the bite
- Pale, cool skin
- Tingling or numbness around the mouth/lips
- Rapid onset of breathing difficulties
- Nausea and vomiting
- Abdominal pain
- Muscular twitching
- Profuse sweating
- Copious production of saliva and pulmonary fluids
- Confusion leading to collapse – coma – death

CARE AND TREATMENT:

Same as for snakebite

- Casualty must remain as still as possible to slow venom travelling through the body
- Keep casualty under constant observation and provide reassurance. Casualty. Keep casualty at rest
- Follow DRSABCD and be prepared to perform CPR
- Apply the '**pressure immobilisation technique**' (PIT)
 - If on a limb, ASAP, apply a wide heavy elastic bandage (10 – 15 cm wide) over the bite site
 - The bandage should be firm and tight. To test, you should not be able to easily slide a finger between the bandage and the skin
 - Apply a second heavy elastic bandage, starting from the fingers or toes and winding as far up the limb as possible. Consistent coverage (overlapping half over half), and consistent pressure (firm but not cutting circulation) are the key to an effective PIT
- Immobilise the limb and joints with a splint so that limb movement is restricted
 - Use a sling for a bite to the arm
- Keep the limb immobilised until ambulance arrives

Redback spider

This spider with the tell-tale red or orange mark on its thorax is the female of the species. The Redback spider is common all over Australia. Its preferred habitat is under any old building material or inside sheds and garages.

The spider's bite is not generally regarded as fatal, although there are recorded deaths prior to the introduction of the anti-venom in 1959.

Young children are more susceptible to Redback venom and should be referred to medical care.



Less than 20% of bites actually result in significant envenomation, but generally, the bite is very painful and causes distress.

SIGNS AND SYMPTOMS

- Intense burning pain at the site of the bite
- Localised redness, swelling and sweating around the bite area
- Nausea, vomiting and abdominal pain
- Tenderness in the armpit or groin of the affected limb
- Loss of coordination
- Profuse sweating, especially at the bite site
- Rapid, shallow breathing



CARE AND TREATMENT

- Reassure
- Apply **cold compress** to relieve pain up to periods of 20 minutes
- Observe casualty for any sign of deterioration

**** If casualty is a young child (under 8 years) call 000 for an ambulance**

Ticks

Only the Australian paralysis tick or 'scrub tick' causes envenomation in humans. They feed on their host's blood, burying their head under the skin, leaving their body visible. Ticks are capable of spreading diseases, e.g. scrub typhus. Ticks can be found anywhere on the body, especially hairy areas, skin clefts and crevices which should be examined carefully.



SIGNS AND SYMPTOMS

- Local irritation
- Lethargy, muscle weakness, especially in children
- Unsteady gait
- Double vision
- Difficulty swallowing or breathing
- Symptoms of severe allergic reaction (anaphylaxis) may occur:
 - Signs and symptoms generally develop over several days but allergic symptoms can occur within hours
 - This can also occur in casualties without previous exposure or seeming susceptibility



CARE AND TREATMENT

Due to the risk of Anaphylaxis, removal of ticks by force is no longer recommended by the Australian Resuscitation Council.

- Follow DRSABCD and be prepared to perform CPR
- If the casualty displays signs of anaphylaxis, follow Anaphylaxis Guideline
- Immediately kill the tick where it is, using an **ether-containing spray** (for suitable products, refer to your pharmacist)
- Wait for the tick to drop off
- If the casualty has a history of tick allergy, seek medical attention from a doctor to remove the dead tick
- Move the casualty to a safe place
- Apply a **cold compress** to help reduce pain and swelling
- Monitor the casualty at all times. Be alert for signs of an allergic reaction
- Provide reassurance



**** Casualty should then seek medical advice from a doctor/hospital for further treatment.**

**** Do not try to pick out a tick from a casualty's skin using tweezers or other tick removal devices**

**** Avoidance of tick bites is the best option.**

Visit Tick-induced Allergies Research & Awareness (TiARA) for further information: www.tiara.org.au

Bees and Wasps

Bee stings and wasp stings for most people are only a temporary irritation. For others, however, these stings have the potential to cause death. The venom associated with bee stings can cause a severe allergic reaction in susceptible people and can cause respiratory and cardiac arrest.

SIGNS AND SYMPTOMS

- Evidence of bee sting with the barb present
- Pain and itching and swelling at the site
- In allergic casualties:
 - onset of wheezing and breathing difficulties
 - facial swelling and hives
 - abdominal pain and vomiting



CARE AND TREATMENT

- Calm and reassure the casualty
- Remove bee sting by scraping with fingernail or similar as quickly as possible
- Apply a **cold compress** to reduce swelling and pain
- Monitor the casualty for signs of an allergic reaction
 - If onset of allergic reaction
 - Call Triple Zero (000) for an ambulance
 - Follow anaphylaxis treatment guideline
 - Follow DRSABCD and be prepared to perform CPR



Fire ants

Similar in appearance to ordinary house or garden ants, Fire ants are small, coppery-brown in colour on the head and body, with a darker abdomen, and their sizes within one nest, range from 2 – 6 mm. Fire ants' nests have no obvious entry or exit holes at the top of the nest. A distinguishing feature of fire ants is their aggressive behaviour, particularly near the nest.



SIGNS AND SYMPTOMS

- Fire ants inflict a fiery sting, which causes a small blister to form at the site of each sting after several hours. Blisters become itchy while healing and are prone to infection if broken
- Pain, burning and itching at the site
- Swelling of the stung area
- In allergic casualties:
 - onset of wheezing and breathing difficulties
 - facial swelling and hives
 - rapid pulse
 - collapse

CARE AND TREATMENT

- Calm and reassure the casualty
- Apply a **cold compress** to reduce swelling and pain
- Gently wash the affected area with soap and water
- Leave the blisters intact
- Monitor the casualty for signs of an allergic reaction
 - If onset of allergic reaction:
 - Call Triple Zero (000) for an ambulance
 - Follow anaphylaxis treatment guideline
 - Follow DRSABCD and be prepared to perform CPR

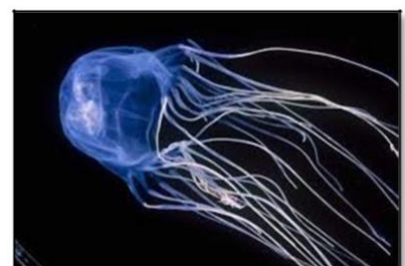


MARINE STINGS

Box jellyfish

Box jellyfish, also known as 'stingers', are prevalent on the northern Australian coastline from November to March.

The head of the jellyfish is box-shaped, about 20 - 25cm across. They have between 40 and 60 tentacles that extend up to 3 metres in length. Each tentacle has 3000 to 5000 stinging cells.



These creatures are deadly and are responsible for many fatal encounters. Warning signs at popular beaches should be complied with and extreme care taken at unpatrolled locations. Respect local knowledge.

SIGNS AND SYMPTOMS

- Immediate severe pain, with irrational behaviour due to the pain
- Frosted pattern of sting marks (*refer to image*)
- Welt marks from tentacles
- Tentacles left on skin
- Cardiac arrest
- Collapse leading to unconsciousness and death
- Difficulty breathing



CARE AND TREATMENT

- Remove the casualty from the water
- Call Triple Zero (000) for an ambulance and call lifesavers urgently
- Assess casualty, follow DRSABCD and be prepared to perform CPR
- Apply liberal quantities of **vinegar** for a minimum of 30 seconds
- Pick off any remaining tentacles (this is not harmful to the First Aider)
- Calm and reassure the casualty
- Apply a cold compress to relieve pain



**** Do not wash with fresh water.**

Irukandji Jellyfish

The Irukandji Jellyfish is also prevalent on the northern Australian coastline during the season from November to March.

These are only the size of a 10c coin with just 4 tentacles, about 10cm long. (refer to image)

Their venom is rarely fatal, but causes body aches and pains that become excruciating and require the casualty to be placed into intensive care for a week or more.



SIGNS AND SYMPTOMS

Their sting does not cause any pain or leave any welt marks, which means many victims do not know they have been stung until the effect of the venom takes hold, which can take up to 30 minutes.

CARE AND TREATMENT

- Call Triple Zero (000) for an ambulance and call lifesavers urgently
- Assess casualty, follow DRSABCD and be prepared to perform CPR
- Apply liberal quantities of **vinegar** for a minimum of 30 seconds
- Calm and reassure the casualty



Stonefish/ Bullrout

The stonefish is virtually invisible among rocks. The bullrout is the fresh water relative and very similar, with the same camouflage that looks like rocks and stones. They live in the tropical regions and as far south as Forster/Tuncurry in NSW.

This fish grows to about 30cm in length and have highly venomous spines on their backs that it erects when threatened or stepped on. They are regarded as having the most painful venom of any creature in the world.



SIGNS AND SYMPTOMS

- Extremely severe pain at the site of envenomation
- Large swelling of the bite site
- Open puncture wound and/or bleeding
- Irrational, panicking behaviour
- Breathing difficulties
- Collapse – coma

CARE AND TREATMENT

- Calm and reassure the casualty
- Call Triple Zero (000) for an ambulance
- If the sting is to abdomen or chest or there is an embedded object (sting), assess the casualty for signs of bleeding
 - Follow bleeding guidelines
- If sting is to a limb, use **HOT water** immersion of the site for up to 20 minutes to relieve pain – as hot as casualty can tolerate. Ensure the water will not scald the casualty



**** Do not use any pressure bandage over the wounds.**

Blue-Ringed Octopus

The blue-ringed octopus is brown to straw colour, no more than 7cm in size and lives in rock pools on the shores of Australia. When threatened, the creature 'pulses' luminous bright blue rings on its body. Its bite is painless and will only occur if the creature is handled or if the creature thinks it is in danger.

Can cause paralysis and respiratory failure within 30 minutes resulting in death.



SIGNS AND SYMPTOMS

- A spot of blood
- Numb feeling of the face, lips and tongue
- Eventual collapse
- Respiratory arrest
- Progressive weakness in the legs and body

CARE AND TREATMENT

- Calm and reassure the casualty
- Urgently call Triple Zero (000) for an ambulance
- Apply the '**pressure immobilisation technique**' (PIT)
- Follow DRSABCD if casualty becomes unresponsive and not breathing normally
- Keep casualty at rest



Cone Shell

The cone shell is actually a snail — usually brown and white — that is common on tropical beaches. The snail contains a dagger-like spine, which can inject toxin into any unwary person who handles the creature.

Can cause paralysis and respiratory failure within 30 minutes resulting in death.

SIGNS AND SYMPTOMS

- A spot of blood
- Numb feeling of the face and tongue
- Progressive weakness in the legs and body
- Eventual collapse
- Respiratory arrest

CARE AND TREATMENT

Same as for blue-ringed octopus



Bluebottle Jellyfish

The Portuguese man-of-war or 'bluebottle', found on most beaches in Australia, is actually a colony of small creatures living as one. They are no more than 8cm long and have several tentacles up to one metre long.

The creatures have small stinging cells which, when encountered as a group, impart a venomous sting. People who are susceptible to bee stings are usually sensitive to bluebottle venom. No one has ever died from a bluebottle sting, though they are very painful.



SIGNS AND SYMPTOMS

- 'Trails' of blue 'tentacles' adhering to the body or limbs
- Stinging sensation associated with the contact
- Reddening of the skin
- Pain for some hours
- May cause severe allergic reaction (very rare)

CARE AND TREATMENT

- Calm and reassure, while monitoring the casualty
- Pick off any remaining tentacles (this is not harmful to the First Aider)
- Remove any 'invisible tentacles' with a copious amount of sea water
- **HOT water** immersion of the site to relieve pain – make sure not to scald the casualty
- If hot water fails, then a dry cold compress may relieve pain
- Call Triple Zero (000) for an ambulance, if:
 - Pain is generalised or is persistent and does not cease
 - Stung area is larger than half a limb
- It involves a sensitive area, e.g. eyes
- If nearby and available, seek assistance from a lifeguard



**** Do not rub the affected area.**

Fish stings

Many fish, such as the flathead and the stingray, have poisonous spines that can inject venom deeply, causing excruciating pain. Handle all fish with care, avoiding areas along the backbone and around the gills. Constant handling of fish may also cause skin irritation due to fish oils.

SIGNS AND SYMPTOMS

- Intense pain at the site
- Swelling
- Bleeding
- Often a grey/bluish discolouration at the site
- There may be an open wound or barb in skin
- Irrational behaviour or panic may occur

CARE AND TREATMENT

- Calm and reassure the casualty
- Call Triple Zero (000) for an ambulance
- If the sting is to abdomen or chest or there is an embedded object (sting), assess the casualty for signs of bleeding
- Follow bleeding guidelines
- If sting is to a limb, use **HOT water** immersion of the site for up to 20 minutes to relieve pain – as hot as casualty can tolerate. Make sure the water will not scald the casualty



**** If handling fish without protective gloves, wash hands frequently to avoid skin problems.**

NATIONAL AUTHORITIES AND APPLICABLE REGULATIONS

Australian Children's Education and Care Quality Authority (ACECQA)

The Australian Children's Education and Care Quality Authority (ACECQA) is an independent national authority, based in Sydney, that assists governments in implementing the [National Quality Framework \(NQF\)](#) for early childhood education and care.

It is guided by a governing board whose members are nominated by each state and territory and the Commonwealth. The Board is accountable to the Education Council.

ACECQA works with the Australian and state and territory governments to:

- Implement changes that benefit children, from birth to 13 years of age, and their families
- Monitor and promote the consistent application of the [Education and Care Services National Law](#) across all states and territories
- Support the early childhood education and care sector to improve quality outcomes for children

Education and Care Services National Law

The [National Quality Framework \(NQF\)](#) provides a national approach to regulation, assessment and quality improvement for early childhood education and care, as well as outside school hours care services across Australia.

The NQF operates under an applied law system, comprising the [Education and Care Services National Law](#) and the [Education and Care Services National Regulations](#).

The purpose of the applied law system is to set a national standard for children's education and care across Australia. In effect, it means the same law is applied in each state and territory, but with some varied provisions as applicable to the needs of each state or territory.

Important laws and regulations for the early childhood sector that affect First Aid, Record Keeping and Reporting requirements are: Law 169, 174, Regulations 12, 85-87, 89, 136, 168, 176-178, 183.

Law:

169 Offence relating to staffing arrangements

(2)... ensure that each educator educating and caring for children for the service meets the qualification requirements relevant to the educator's role as prescribed by the national regulations.

174 Offence to fail to notify certain information to Regulatory Authority

An approved provider must notify the Regulatory Authority of the following information... (a) any serious incident ... (b) any complaints alleging— (c) that a serious incident has occurred... (d) that this Law has been contravened.

Regulations

12 Meaning of serious incident

The following are prescribed as serious incidents: (a) the death of a child... (b) any incident involving serious injury or trauma to, or illness of a child... would consider required urgent medical attention from a registered medical practitioner... (c) any incident where the attendance of emergency services... was sought, or ought reasonably to have been sought... (d) ... (e) appears to be missing or cannot be accounted for...

85 Incident, injury, trauma and illness policies and procedures and 168 Education and care service must have policies and procedures

Centres must have incident, injury, trauma and illness policies and procedures in place in the event that a child: (85) (a) is injured; or (b) becomes ill; or (c) suffers a trauma.

86 Notification to parents of incident, injury, trauma and illness

...must ensure that a parent of a child... is notified as soon as practicable, but not later than 24 hours after the occurrence, if the child is involved in any incident, injury, trauma or illness...

87 Incident, injury, trauma and illness record

Details of the occurrence must be comprehensively, correctly, and accurately recorded within 24 hours

89 First aid kits

...must ensure that First Aid kits are kept... appropriate number... suitably equipped... easily recognisable and readily accessible...

136 First aid qualifications

... must ensure that the following persons are in attendance at any place where children are being educated... at least one educator who holds **current** approved... First Aid qualification... anaphylaxis management training... emergency asthma management training. Note that regular refresher training is required to maintain currency in the qualifications. Within 3 years for First Aid, asthma and anaphylaxis, and within 1 year for CPR.

176 Time to notify certain information to Regulatory Authority

That the Regulatory Authority is notified within 24 hours 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.

177 Prescribed enrolment and other documents to be kept by approved provider.

178 ... family day care educator

...an incident, injury, trauma and illness record...

178 Prescribed enrolment and other documents to be kept by family day care educator

(b) an incident, injury, trauma and illness record as set out in regulation 87

183 Storage of records and other documents

The records must be kept— (a) if the record relates to an incident, illness, injury or trauma suffered by a child... until the child is aged 25 years;

**** 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.**

ASCIA

ASCIA is the **Australian Society for Clinical Immunology and Allergy** — the peak governing body for immunology and allergy in Australia and New Zealand. In 2015 ASCIA and 'Allergy & Anaphylaxis Australia' developed the first National Allergy Strategy for Australia, in conjunction with other key stakeholders. Implementation of the National Allergy Strategy commenced in 2016-2017.

ASCIA Objectives

Standards – Promote the highest standards of allergy and immunology medical training, practice and care

Education – Provide high quality allergy and immunology education for health professionals, patients, consumers and carers

Advice – Utilise ASCIA and stakeholder expertise to address allergy and immunology issues, provide advice and representation to government and other organisations

Advocacy – Increase the profile of allergy, immunology and immunopathology and advocate for patients

Research – Promote and fund research to improve health and quality of life of people with allergy and other immune diseases

Sustainability – Ensure sustainability of ASCIA initiatives

CHILD AND INFANT SPECIFIC INFORMATION

Basic Anatomical Difference Between an Adult and Child

Anatomically and physiologically a child is not simply a small adult.

Educators and carers of children should be aware that all the normal physiological values differ and basic anatomical positioning must be changed to meet these differences.

Consider the following differences when providing First Aid:

Airway Assessment in Children

- An infant is an obligatory nose breather for the first 6 months, which means that a blocked nose can lead to respiratory failure.
- Infants have very short and softer tracheas than adults. This means that overextension during airway manoeuvres may result in airway collapse (not too dissimilar to kinking a narrow garden hose). This is why an infant's head/neck should never be tilted back when providing First Aid.
- Due to the head size of an infant compared to its body, when laid on its back, the head naturally tips forward towards the chest. A slight backward tilt may be needed to place the head into a neutral position.
- Infants have proportionately large heads, short necks and large tongues, which again, makes airway obstruction more likely.
- Both infants and even toddlers have a long and floppy epiglottis, which means more chance of airway obstruction.

Assessing Breathing in Children

- A child/infant has much smaller upper and lower airways which results in a greater chance of respiratory difficulties and failure.
- Infants are abdominal breathers who rely primarily on the muscles of the diaphragm. This means abdominal distension can lead to respiratory problems.
- Children and infants have underdeveloped muscles associated with respiration and are consequently more prone to fatigue.

Assessing a Child's Neurological Status

A child's behaviour and general appearance needs to be assessed during a neurological assessment, and needs to be compared to what is normal for that child. Ask the parents/care givers to compare the child's presentation with his or her normal general appearance.

- An infant will normally track their eyes to follow motion

Assessing a Child's Temperature

Infants lose heat more rapidly than adults because the surface area on their heads is larger by comparison to their body mass. Also, young children have an undeveloped hypothalamus (a region of the brain), which means that their ability to regulate temperature is impaired.

Dehydration

Children are more prone to dehydration than adults, and should be monitored closely as they will show signs of this much earlier than adults.

CPR on Children and Infants

Compressions

The principles of performing CPR on children and infants are essentially the same as on an adult.

The compression depth is still 1/3 the depth of the chest, and the compression rate is still 100 – 120 compressions per minute. However, with an infant, only two fingers should be used to perform compressions. With a child aged 1 to 8 years, either one or two hands may be used.

Rescue Breaths

In children, the method is the same as in adults, but using a smaller volume of air.

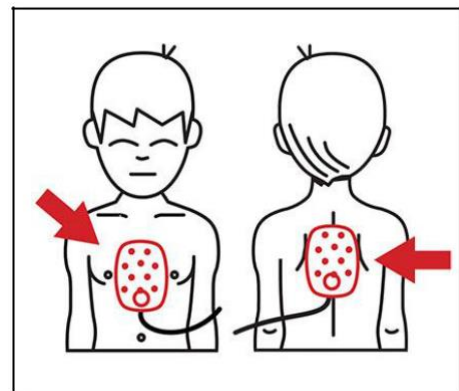
With an infant, the head should not be tilted back, but the jaw thrust is still used to keep the mouth open. Support the chin, cover the nose and mouth with your mouth, and only a puff of air is required to make the chest rise. Be careful not to over inflate the lungs.

Automated External Defibrillator use on Children and Infants

Standard adult AEDs and pads are suitable for use in children older than 8 years. Ideally, for those under 8 years, paediatric pads should be used. These pads also are placed as per the adult. The pads come with a diagram of where on the chest they should be placed.

If the AED does not have paediatric pads, then it is reasonable to proceed with standard adult AED pads. However, one must ensure the pads do not touch each other on the child's chest. Apply the pad firmly to the bare chest in the anterior-lateral position as for adults.

If the pads are too large and there is a danger of pad-to-pad arcing, use the front-back position (antero-posterior): one pad placed on the upper back (between the shoulder blades), the other pad on the front of the chest, if possible, slightly to the left. As shown:



Post Incident Debriefing with Children

Children, by nature, react to incidents differently to adults. In children, stress caused by witnessing incidents involving other people, especially other children, can manifest itself in different ways.

- Physically: such as headaches, stomach ache, nausea, not eating normally, behaving unusually quiet/aloof/distant
- Emotionally: such as anger, fear, anxiety, fear of reoccurrence, fear of being left alone, loss of sense of safety, nightmares

These are often seen as 'over reacting' to adults, but are quite real to children

Who should be Contacted in the Event of an Emergency?

In a childcare facility, the following people/groups should be notified of the incidents (*Refer to National Authorities and Applicable Regulations section: pages 78 to 79*):

For serious incidents:

- Supervisor
- Parent/guardian
- WHS/OHS officer in your State
- ACECQA

For minor incidents:

- Verbally and in writing to the parent/guardian of the child
- Notification to parents of other children in the class

**** An incident report must be completed for all incidents in any childcare facility.**

Normal Clinical Values

The term ‘normal clinical values’ usually refers to the *Heart Rate*, *Breathing Rate*, and *Blood Pressure* of the patient/casualty. These measurements are taken by a medical professional when assessing a patient. As a general rule, infants and young children breathe faster, have a higher heart rate, and lower blood pressure than older children and adults.

ASTHMA

Asthma Action Plans

An ‘Asthma Action Plan’ is a document written by a doctor that instructs the reader on how to help the plan’s owner treat their asthma attack as everyone’s asthma is different.

These plans 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 Asthma Action Plan.

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

Irrespective if it is an infant, child or an adult, a copy of a person’s Asthma Action Plan needs to be provided to their care centre, school or employer. With the person’s or guardian’s consent, all First Aid staff should be notified that there is an Asthma Action Plan available, should the individual have an asthma attack. Example of typical action plans:

Plan by National Asthma Council Australia

Plan by Asthma Australia

For further information contact:

- National Asthma Council Australia call 03 9929 4333 or visit <https://www.nationalasthma.org.au/>
- Asthma Australia call 1800 278 462 or visit <https://www.asthmaustralia.org.au/vic/home>

Asthma Medications

Below is a guide to the main types of asthma and COPD medications available in Australia (as of May 2018) - Chart by National Asthma Council Australia

ASTHMA & COPD MEDICATIONS

SABA RELIEVERS

- Bricanyl Turbuhaler † ^
- Ventolin Inhaler † ^
- Airormir Autohaler † ^
- Asmol Inhaler † ^

NON STEROIDAL PREVENTERS

- Singular Tablet [®]
- Montelukast Tablet [®]
- Inhal Inhaler †
- Tiade Inhaler †

SAMA MEDICATION

- Atrovent Metered Aerosol † ^

ICS PREVENTERS

- Fixotide Inhaler †
- Fluticasone Cipla Inhaler †
- Fixotide Accuhaler †
- Pulmicort Turbuhaler †
- QVAR Inhaler †
- QVAR Autohaler †
- Alvesco Inhaler †

ICS/LABA COMBINATIONS

- Symbicort Turbuhaler †
- DuoResp Spiromax †
- Symbicort Rapihaler †
- Seretide MDI †
- Fluticasone + Salmeterol Cipla Inhaler †
- Seretide Accuhaler †
- Breo Ellipta †

LAMA MEDICATIONS

- Spiriva Respimat # †
- Spiriva Handihaler #
- Bretaris Genuair #
- Seebri Breezhaler #
- Incruse Ellipta #
- Trelegy Ellipta [®]

LAMA/LABA COMBINATIONS

- Spiolto Respimat [®]
- Brimic Genuair [®]
- Ultibro Breezhaler [®]
- Anoro Ellipta [®]

LABA MEDICATIONS

- Oxis Turbuhaler †
- Serevent Accuhaler †
- Ombrez Breezhaler ^

RESOURCES

TREATMENT GUIDELINES

Australian Asthma Handbook: asthmahandbook.org.au

COPD-X Plan: copdx.org.au

INHALER TECHNIQUE

How-to videos, patient and practitioner information nationalasthma.org.au

Inhalers/MDIs should be used with a compatible spacer

2018

© National Asthma Council Australia

PBS PRESCRIBERS † Asthma unrestricted benefit ‡ Asthma restricted benefit § Asthma authority required ^ COPD unrestricted benefit # COPD restricted benefit † COPD authority required Check TGA and PBS for current age and condition criteria

Relievers

Anyone with asthma will need to use a reliever when they are faced with asthma symptoms or emergencies and should carry one with them at all times. They mainly come in two forms of delivery devices: **A** puffer or **B** inhaler (*Bricanyl Turbuhaler* shown).

Relievers are bronchodilator medicines, and when correctly used, can provide quick resolution of bronchoconstriction.



Preventers

Preventers are used as an ongoing program to reduce airway inflammation by decreasing redness, swelling and helping to dry up mucus. It should be taken regularly as directed by medical practitioners.

**** Preventers are not to be used when faced with asthma symptoms or emergencies.**

Techniques in using Asthma Medication Devices

Each medical device delivering asthma medication requires specific directions for correct use so the patient can get the maximum benefit from the inhaled medication. Refer to the link for full directions on each delivery device as provided by National Asthma Council Australia:

[LINK](#)



Asthma Risk Minimisation

A workplace needs to minimise the risk of an asthma episode occurring. The following are some examples of strategies that can be used to reduce asthma triggers:

- Avoid contact with others that have the flu or a cold
- Thoroughly wash hands with soap and warm water
- Avoid the occurrence of intense and high levels of emotions
- Avoid medications that may cause or worsen asthma such as aspirin, etc.
- Prevent exposure to cigarette smoke
- Avoid processed foods that have chemicals that may cause asthma symptoms
- Avoid animals/pets that have previously caused reactions
- Minimise mould:
 - Areas to be well ventilated
 - When possible use air conditioning
 - Use products in wet areas to that kill and prevent mould – Avoid strong odour products and use out of hours
 - Use exhaust fans to vent steam in kitchens, laundries, bathrooms
- Mow grounds out of hours
- Plant a low allergen garden
- 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
- 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
- Avoid going outside on windy days, and during and after a thunderstorm
- After outdoor activities, bathe eyes frequently, and shower to remove pollens from hair and skin, wash clothing that was worn

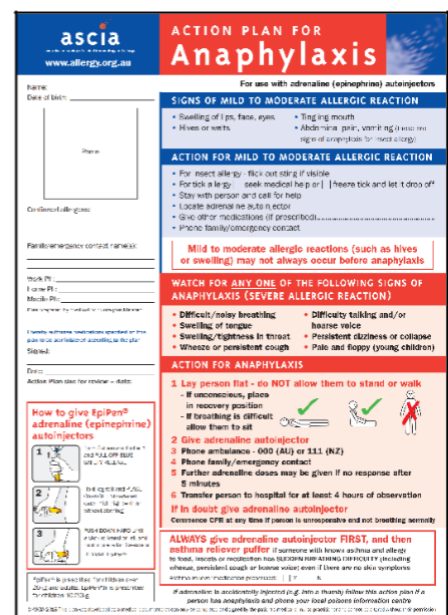
ANAPHYLAXIS

ASCIA Action Plan for Anaphylaxis

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

The Action Plan for Anaphylaxis instructs the reader on how to help the plan's owner treat their anaphylactic reaction. Individuals who suffer anaphylaxis should provide a copy of their 'anaphylaxis action plan' to their childcare centre, school, or employer. (*refer to image*)

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.



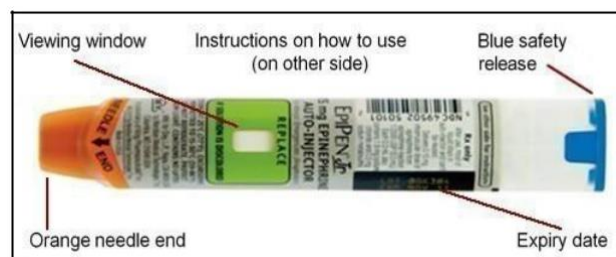
Action Plans should include step-by-step actions to be taken for the sufferer when symptoms or signs occur of anaphylaxis. Most plans will include administering an autoinjector that has adrenaline in it.

It is crucial for anyone who suffers from anaphylaxis, that a personalised Action Plan is made available to their childcare centre, school or workplace. The individual's Anaphylaxis Management Plan should be reviewed and updated at the beginning of each year or as per organisational procedures. This plan needs to be made available to those working with the child or employee so that effective assistance can be provided to the person if they have an anaphylactic reaction.

Adrenaline Autoinjector

Prescribed or general-use adrenaline autoinjectors need to be stored correctly and be able to be accessed quickly, because, in some cases, exposure to an allergen can lead to an anaphylactic reaction in as little as 5 minutes. Some guidelines to follow for adrenaline autoinjectors:

- If prescribed, the device should be clearly labelled with the person's name
- To never exceed its expiry date. Record date and regularly check (Usually expires within 12 - 24 months from DOM)
 - Is replaced before expiry due date
- Regularly check condition. Window should not display a cloudy or brown colour. (*refer to image*) Replace if discoloured
- Always store below 25 degrees (away from direct sunlight) but not in a refrigerator or freezer
- All staff should know where the devices are located and they should be easily accessible for people who are responsible to administer it
- Remains in its sharps storage container



Anaphylaxis Risk Minimisation

To reduce the risk of an individual's exposure to known triggers/allergens, strategies need to be implemented. Minimising this risk of anaphylaxis is everyone's responsibility and should include organisational policies, staff training, emergency response procedures and potential risk management, for example:

- Food related risks
 - Avoid using food in activities or as a reward
 - Should selected food items be banned from the premises? (Not always recommended as it can cause complacency among staff and students)
 - 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)
- Consider assessments for: art, craft, cooking, science, incursions, canteens, parties/special event days, excursions, camps



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

Anaphylaxis in Victorian Schools

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

“Ministerial Order 706²⁰”

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
- 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

Staff Training

Staff who 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 - on a yearly basis
- 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

20. Source: <https://www.education.vic.gov.au/school/principals/spag/health/Pages/anaphylaxis.aspx> 26.11.18, Internet)

EMERGENCY MANAGEMENT: ASTHMA AND/OR ANAPHYLAXIS

Education and Care Services National Regulations

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 or Asthma
- Any documents to be followed (e.g. Personal 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 and privacy, the personalised 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. (Refer to image)
- If the child is taken on an excursion, their medication and Individual Action Plan must be taken.
- Medication must be recognisable and readily accessible to staff but not to children and stored away from heat.

Though the above guidelines specifically apply to the childcare sector, the principles can still be applied to most workplaces.

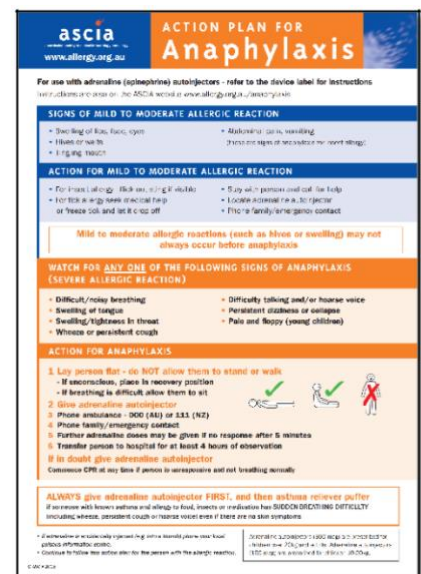
Workplace Emergency Management Plan

A **Workplace Emergency Management Plan (WEMP)** for either asthma and/or anaphylaxis must be implemented if a child or a staff member is suffering from asthma/anaphylaxis who is enrolled at the school or centre or employed at a workplace. The WEMP needs to be distributed to all staff responsible per individual at risk.

The management plan should incorporate:

- Date of implementation of the plan
- Name and details of the individual
- All Individuals' asthma/anaphylaxis Management Plans
- Emergency First Aid management for asthma/anaphylaxis
- Identification of staff competencies and training requirements for assigned First Aiders
- Identification and risk assessment strategies of avoidable and manageable asthma/anaphylaxis triggers
- The location of the individual's plan and medication
- Name of emergency contact persons should an emergency episode occur
- Details of 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/Anaphylaxis and its First Aid management in line with the WEMP. Both the WEMP and communication plans should be reviewed annually to maintain their effectiveness.



Communication Plan

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 or asthma attack 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/asthma and the potential for anaphylactic/asthma reaction, and their role in responding to an emergency episode 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.

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 the organisation's responses to the incident and adherence to the casualty's Asthma/Anaphylaxis Action Plan
- The effectiveness of risk minimisation strategies is reviewed
- The Workplace's Emergency Management Plan for Asthma/Anaphylaxis 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

END OF FIRST AID MANUAL
