

FIRST AID Training Manual

Easy to learn vital steps in providing first aid care

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First Aid learning made easy!

The **Everyday Learning First Aid Training Manual** aims to help people learn the life saving skills of first aid and CPR (cardiopulmonary resuscitation). The information presented in this manual follows the advice contained in the Australian Resuscitation Guidelines and is current at the time of publication.

If you see a person who may need resuscitation or first aid assistance you are encouraged to provide assistance to the best of your ability, provided it is safe to do so.

The Australian Resuscitation Council Guidelines clearly state "any attempt at resuscitation is better than none"

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Sales and marketing	Liz.hopwood@everydaylearning.com.au
Second Edition	June 2012
ISBN	978-0-9871153-2-4

Disclaimer

This manual is not intended to be a substitute for professional medical advice, diagnosis or treatment. In the event of any first aid or medical emergency you should immediately contact the emergency services or seek advice from a medical professional.

The contents of this manual are intended for informational purposes only. The author and publisher have taken all care to provide information that is accurate at time of publication. This information may change over time.

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Introduction to First Aid

First aid is the initial care of a sick or injured person.

Prompt first aid can save lives in the critical time before emergency services or medical aid arrive.

First aid can also prevent an injury or illness from becoming worse and provide comfort and reassurance to a casualty.

The key aims of first aid:

- Preserve life of anyone involved in incident
- Protect any unconscious person
- Prevent any further injury or existing injury becoming worse
- Promote recovery of casualty



First aid legal obligations

As a first aider you may be concerned that if you provide first aid to a casualty you could be legally liable if they do not make a full recovery. As long as you follow accepted first aid guidelines and act as a "reasonable person" you need not be concerned.

Consent

Before providing first aid care to a casualty, you must obtain consent from that casualty or their parent/guardian/carer.

Say to the casualty "I am a first aider, can I help you?"

If the casualty is reluctant to accept your help but it appears obvious they are seriously unwell or injured then you should consider calling an ambulance or other emergency assistance.

In an emergency if a casualty is unconscious or unable to communicate the law assumes that the casualty would give their consent.

Duty of Care

As a first aider you do not automatically have a legal obligation to provide first aid care to any person unless you already have a "duty of care" for that person. People who may have an existing "duty of care" can include workplace first aiders, teachers or carers and family members.

If you start to provide first aid care for a casualty then you have established a voluntary "duty of care" and you should do all that you can safely do to care for the casualty until emergency or medical assistance arrives.

Negligence

As a first aider it is unlikely that you would be considered to be negligent when you provide first aid care to a casualty if you follow accepted first aid guidelines.

The following would need to be established for negligence to be proven:

- The first aider owed a duty of care to the casualty and did not provide any care
- The expected level of first aid care was not provided to the casualty
- The casualty suffered further injury as a result of the care given
- There was some direct relationship between the first aider's actions and the injuries sustained

Assessing a sick or injured person

The ability to quickly gather information about the condition of a casualty can help you to make an accurate assessment. This will help to make sure that the correct first aid care is provided as quickly as possible. Collecting as much information as possible about the history, signs and symptoms that relate to an incident will help in deciding what has actually happened and how best to care for the casualty.

History

You may be able to work out the history of what happened by carefully observing the scene of the incident and by questioning the casualty and any witnesses or bystanders.

Signs

Signs are things that you can observe when carefully assessing the casualty's condition. These signs can include:

- Breathing rate, depth and effort required
- Speed, strength and evenness of pulse
- Skin colour or temperature
- Level of consciousness
- Visible wounds, injuries or deformities



Symptoms

A symptom is something the casualty tells you they are feeling. If the casualty is unconscious you must rely on your observations.

Symptoms can include:

- Nausea
- Discomfort
- Pain or tenderness
- Feeling hot or cold
- Loss of sensation or feeling
- Dizziness

Medical history

A person with an existing medical condition may have information with them about their condition.

Medical history information could be:

- SOS bracelet or pendant
- MEDIC ALERT bracelet or medallion
- Other written information
- Information from colleagues, family members
 or witnesses
- Any medications they are taking





Secondary assessment

When assessing a casualty look for and deal with any life threatening injury or illness first. You should follow the steps in the Basic Life Support flow chart on page 12.

You should then undertake a secondary assessment of the casualty to identify any other injury or illness you may need to care for until an ambulance or medical aid arrives.

Vital steps

- Question casualty and any witnesses about history of incident
- Conduct a careful head-to-toe assessment of casualty (if casualty is conscious explain what you are doing and ask permission)
- Look for any signs or symptoms
- Care for most serious injury or illness first
- If there is more than one casualty care for casualty with most serious injury or illness first
- Get any bystanders to help if needed
- Monitor and record casualty's vital signs until ambulance or medical aid arrives



Vital signs

Checking, monitoring and recording a casualty's vital signs such as pulse, breathing, level of consciousness, skin colour and temperature and eyes can give a good indication of their overall wellbeing.

It can also help you work out whether their condition is stable, improving or deteriorating.

Checking a casualty's vital signs every few minutes and taking note of any changes can provide important information for ambulance or medical personnel when they take over caring for a casualty.





What to look for:

•	Pulse	Fast or slow? Weak or strong? Regular or irregular?
•	Breathing	Fast or slow? Deep or shallow? Easy or hard to breathe?
•	Consciousness	Fully alert and able to answer questions clearly? Drowsy or confused? Unconscious (ie no response to "talk and touch")?
•	Skin	Cold, sweaty, hot or dry? Pale or flushed?
•	Eyes	Pupils react to light? Both pupils react in same way?

Infection control

As a first aider you may be concerned you could catch some kind of infectious disease. In any first aid incident there is a risk of "cross infection" (infection passing between people involved in the incident). However there are a number of simple steps you can take to make sure any risk is kept as low as possible.

There are recommended standard precautions that you should always follow to help reduce the risk of cross infection. You should always assume that all blood and bodily fluids are a potential source of infection.

Important standard precautions that will reduce the risk of cross infection:

- Always use any suitable Personal Protective Equipment (PPE) including:
 - o Gloves
 - o Resuscitation mask or face shield
 - o Eye protection
 - o Protective clothing
- Always treat every casualty as if there is infection present
- Use sterile or clean dressings whenever possible
- Wash hands before and as soon as possible after contact with casualty
- Take care when cleaning up any blood, bodily fluids and contaminated items
- Seek urgent medical advice if exposed to risk of infection



Communicating in an emergency

Being able to communicate clearly in an emergency is a vital skill. You need good communication skills to gather information about what has happened, provide advice and reassurance to a casualty and give accurate information to emergency services.

Vital steps

- Speak clearly, calmly and with confidence
- Introduce yourself to casualty and tell them you know first aid
- Ask casualty their name and use it when talking to them
- Keep your communications short and simple
- Avoid medical jargon or slang
- Listen carefully and watch for non-verbal clues
- **Do not** make assumptions ask questions if you are not sure of anything
- Explain to casualty and any bystanders what you are going to do and why
- Follow any instructions given by emergency services
- Always be aware of casualty's feelings and feelings of any bystanders or family members





First aid care records

First aid care records are an important part of managing any first aid incident. Accurate care records and incident reports are often a legal requirement in workplaces and they can assist in investigations into an incident.

First aid care records should be:

- Clear and easy to read
- Written in ink **do not** use correction fluid or tape
- Accurate and provide all relevant facts
- Signed and dated by first aider and casualty (if possible)

If available you should use an injury or incident report form.

If specific report forms are not available or if there is not enough space on forms, record all relevant details and make sure they are kept for future reference.

First aid care records should include at least the following information:

- Full name and date of birth of casualty
- Date, time and location of incident/assessment
- History of illness or injury
- Description of incident
- Description of illness or injuries
- Signs, symptoms and observations taken
- First aid care or advice given
- Method of referral and transport to medical aid
- Name and contact details of first aiders and any witnesses

First aid care records are confidential documents and information in them should only be released if requested by an authorised person.

An example of a First Aid Care Record form is shown on page 11.

FIRST AID	CARE	RECORD
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	-					
Details of the person recei	iving first aid	care:				
Surname:			_ Given Names:		Date of Birth:	Sex: M F
Address:				Contact Numbers:		
City/Town			State:	Postcode:		
Details of the Illness or Inj	ury					
Date:		and Time:		am/pm		
Location where event happe	ened? Be speci	fic, e.g. address	/ room / building			
Name of any Witnesses				Conta	ct Nos.	
History of Illness or Injury						
Allergies				Medication		
Observations	Time	Time	Time		Assessment	
Level of Consciousness	-				\cap	\cap
Fully Conscious		1		Abrasion	(Ξ)	52
Drowsy				Burn	A	215
Unconscious				Contusion	$(1 \cdot \cdot 1)$	(1)
Pulse				Deformity		M = M
Rate				Fracture	IA N	$I \downarrow N$
Description				Haemorrhage	CI Y NS 6	SLAD)
Breathing	N			Laceration	A A A	
Rate				Pain) [(11/
Description				Rigidity	(1)	(()
Skin				Swelling	\0/	10/
Colour				Tenderness	//(HH
Other Observations					www.	00
Assessment of problem						
First aid care provided						
Follow Up/Referral - Non Comments	e 🗌 Nurse 🗌] Doctor 🗌 Amt	oulance 🗌 Hospit	al [] Other []		
First Aider (Print):			Time:	Casualty		
Signature:			Date:	Signature:		Date:

Basic Life Support



Continue CPR – until qualified help arrives or signs of life (responsiveness, normal breathing) return

Danger

Before you start to provide any first aid care you **must** make sure the scene is safe for you, the casualty and any bystanders.

You **must** assess the scene for any **dangers** and take note of any information that may assist you to manage the incident safely and effectively.



Dangers that you may find at the scene of an incident include:

- Traffic hazards
- Fire risks
- Dangerous chemicals or substances
- Toxic gases, smoke or fumes
- Electrical hazards
- Weather or temperature extremes
- Risks posed by witnesses or bystanders
- Animals

•

- Infection risks
- Collapsed buildings, unstable structures or vehicles

If you observe any dangers:

- Make the area **safe** by removing or containing any dangers
- If you cannot **safely** remove the dangers carefully move any casualty to a safer area if it is possible and **safe** to do so
- If you cannot **safely** remove the dangers or move the casualty:
 - o Remain a safe distance from any dangers
 - o Call 000 for emergency services assistance
 - o Warn approaching people or vehicles of the dangers

Response

Once it is safe to do so **immediately** check for a response from any collapsed casualty to see if they are conscious.

You should check for a response to "talk and touch" by asking some simple questions and giving some basic commands:

- Can you hear me?
- Open your eyes if you can hear me
- What is your name?
- Squeeze my hand and let go if you can hear me

If the casualty **does not respond** grasp and firmly squeeze the casualty's shoulders to see if they respond.

If the casualty **does not respond** (or gives only a minor response) manage them as an unconscious casualty and give necessary Basic Life Support care.

If the casualty **does respond** they are conscious and you will need to carefully assess the reason for their collapse and provide appropriate first aid care.





Send for help

If the casualty is unconscious or needs CPR you **must** send for or call for help as soon as possible.

If there are any bystanders ask them to call for help while you care for the casualty.

If you are alone call for help as soon as you know the casualty is not responding.

Calling an ambulance

- Dial **000**
- Ask for ambulance
- Be ready to answer the following questions:
 - o What is the exact address of the incident?
 - o What phone number are you are calling from?
 - o What is the problem? What exactly happened?
 - o Is the casualty conscious?
 - o Is the casualty breathing?
 - o What is the casualty's name, age and gender?
 - o Are there hazards at the scene or in the area?
- Answer any other questions you are asked
- **Do not** hang up until told to do so
- Call again if the casualty's condition becomes worse or changes





Airway

Everyone needs to have a clear airway to be able to breathe.

An unconscious casualty is unable to cough or swallow to keep their airway clear. In addition their tongue can also block their airway.

Therefore it is vital to **immediately** check that the casualty's airway is clear and open.

Check if the casualty's airway is clear and open **without** rolling them onto their side (it takes less time and avoids moving the casualty unnecessarily.)

Only turn them onto their side to check their airway if you already suspect there may be water, vomit, or other foreign material in their mouth.





Vital steps

- Look in casualty's mouth and check for anything that may block their airway
- Clear out any foreign material from casualty's mouth
- Take care: If there is water, vomit or blood in casualty's mouth turn them onto their side to assist in clearing this out
- Take care: Tilt casualty's head back while lifting and supporting their chin to open their airway
- Check for normal effective breathing

Breathing

Normal and effective breathing is vital to maintain life. A casualty who is gasping or breathing abnormally and is **not** responsive needs resuscitation.

Gasping and breathing at irregular intervals is **not** normal breathing. Abnormal gasping (agonal gasps) is not uncommon when cardiac arrest occurs.

Movement of the lower chest and upper abdomen **does not** automatically mean the casualty is breathing normally and effectively.



Vital steps

- Look for regular movement of lower chest or upper abdomen
- Listen for any sounds of breathing from mouth or nose
- Feel for any air leaving mouth or nose
- Feel for any regular movement of lower chest or upper abdomen
- If casualty is breathing normally and effectively place them on their side in a stable position
- If not breathing normally and effectively start CPR immediately

Breathing unconscious casualty

Care of an unconscious casualty's airway takes precedence over any other injury, even a possible spinal injury.

If the casualty is unconscious but breathing normally place them on their side and monitor their condition until the ambulance or medical aid arrives. This will help to establish and maintain a clear airway, assist to drain any fluids from their mouth and reduce the risk of them inhaling foreign material.

Take care: Handle the unconscious casualty carefully and avoid twisting or forward movement of the head and spine.

Vital steps



 Place furthest arm out beside casualty and nearest arm across casualty's chest



2. Lift up casualty's nearest knee



3. Support casualty at shoulder and thigh



 Take care: Roll casualty onto side – avoid any twisting of spine



5. Place casualty's upper knee at right angle to body to stabilise them



6. Allow casualty's upper arm to rest in natural position



 Ensure position of casualty's head allows any fluids to drain from mouth



 Check for response and normal breathing at least every 2 minutes

Cardiopulmonary Resuscitation (CPR)

CPR is the process of providing chest compressions combined with rescue breathing to preserve brain function by temporarily maintaining circulation of blood and oxygen until ambulance or medical aid arrives.

Start CPR immediately

if the casualty is unresponsive and not breathing normally. This will dramatically increase the chance of survival for a casualty who needs resuscitation.

Signs and symptoms

- Collapsed and unresponsive
- Not breathing normally
 or effectively





Vital steps

- Give 30 chest compressions at rate of almost 2 per second
- Give 2 rescue breaths
- Continue to give regular cycles of 30 chest compressions then 2 rescue breaths at rate of 5 cycles every 2 minutes

If you are unwilling or unable to give rescue breaths, give continuous chest compressions at rate of 100 per minute (almost 2 per second)

 Continue CPR until qualified medical help arrives or casualty starts breathing

Defibrillation – Using an AED

For a casualty needing CPR, **early defibrillation** using an Automated External Defibrillator **(AED)** has been proven to be a vital step in Basic Life Support.

Each minute that passes before an AED is used decreases a casualty's chance of survival.

AEDs are increasingly available to first aiders as they become more widely distributed throughout workplaces and the community. They consist of a control unit and two electrodes or pads that go on the casualty's chest. If an AED detects a "shockable" cardiac rhythm after a cardiac arrest occurs it can then deliver a measured electric shock to attempt to restore the heart to a normal effective rhythm.

Signs and symptoms

- Collapsed
- No response to "talk and touch"
- Not breathing normally or effectively
- CPR is in progress

Vital steps when AED is available



1. Open or turn on AED and follow voice or visual prompts



2. Attach AED pads to casualty's bare chest as instructed

Vital steps when AED is available (continued)



3. Continue CPR until AED advises to stop



- 4. Stop CPR when advised by AED
- Make sure no one is touching casualty
- Wait for AED to analyse heart rhythm



5. Deliver shock if AED instructs you to



- **6.** Resume CPR after shock delivered or if shock not advised by AED
- Follow any further instructions given by AED
- Monitor casualty for any response or normal breathing

Cardiopulmonary Resuscitation (CPR)



CPR – Chain of Survival

The Chain of Survival highlights 4 key stages in the care of a casualty whose heart and breathing have stopped and needs resuscitation.

Each link in the chain represents a vital step in the care given to a casualty that needs CPR. If one link in the chain fails then the chance of a good outcome for the casualty decreases significantly.

Chain of Survival – 4 links:

- 1. Early Access to get help as soon as you identify a problem
- 2. Early CPR to buy time
- 3. Early Defibrillation to re-start the heart
- **4.** Early Advanced Life Support to stabilise casualty in order to minimise damage and increase the chance of a full recovery

As a first aider, you play a vital role in the Chain of Survival. Your actions in the first 3 links can increase the success of the final link.



DRSABCD – Step-by-step instructions









1. Check for danger –

Make sure it is safe to approach casualty

2. Check for response

- Can you hear me?
- Open your eyes if you can hear me
- What is your name?
- **S**queeze my hand and let go if you can hear me

3. Send for help – Call 000 and ask for ambulance

4. Clear and open airway

- Look in casualty's mouth and check for anything that may block their airway
- Clear out any foreign material from casualty's mouth
- Take care: If there is water, vomit or blood in casualty's mouth turn them onto their side to assist in clearing this out
- Take care: Tilt casualty's head back while lifting and supporting their jaw to open airway

DRSABCD – Step-by-step (continued)









5. Check for normal breathing

- Look for regular movement of lower chest or upper abdomen
- Listen for any sounds of breathing from mouth or nose
- Feel for any regular movement of lower chest or upper abdomen

6. Start CPR – 30 chest compressions

- Place your hands on lower half of sternum in centre of chest
- Compress lower half of sternum approximately 1/3 of chest depth
- Give compressions at rate of almost 2 per second (approximately 100 per minute)

7. Give 2 rescue breaths

- Ensure casualty's mouth and nose are sealed
- Blow gently into casualty's mouth until their chest rises
- Remove your mouth to allow air to be expired from casualty's chest
- Give 2nd rescue breath

8. Continue to give regular cycles

• 30 chest compressions then 2 rescue breaths at rate of 5 cycles every 2 minutes

DRSABCD – Step-by-step (continued)







9. Attach defibrillator / AED (if available)

- As soon as possible and follow its instructions
- Re-start CPR as soon as shock has been delivered or as soon as AED indicates that no shock is advised

10. Continue CPR

- Until casualty starts breathing
- Until ambulance or medical aid arrives and takes over
- Until it becomes dangerous to continue due to fatigue or other hazards

11. Watch for any signs of recovery

- Return of normal breathing
 and response
- Casualty starts breathing normally but is still unconscious (place them on their side in a stable position)

CPR – Chest compressions

This will compress the heart between the sternum (breastbone) and the spine so that blood circulates throughout the casualty's body, especially to the brain and other vital organs.

Vital steps

- Place your hand/s or fingers on lower half of sternum in centre of chest
- Use 2 hands for an adult; 1 or 2 hands for a child; 2 fingers for an infant
- Compress lower half of sternum approximately 1/3 of chest depth each time (adult = more than 5cm; child 1 to 8 years = approximately 5cm; infants under 1 year = 4cm) (ARC Guideline 6, December 2010)
- Maintain an even rhythm by allowing equal time for each compression and recoil of chest – allow chest to recoil completely before next compression
- Give compressions at rate of almost 2 per second (approximately 100 per minute)
- After every 30 chest compressions, give 2 rescue breaths to help maintain oxygen levels in casualty's body
- If you are unwilling or unable to do rescue breaths give continuous chest compressions at rate of 100 per minute
- If more than one first aider is available swap the task of doing chest compressions every 2 minutes to prevent first aider fatigue and avoid possibility of a decrease in quality and depth of compressions











CPR – Rescue breaths

Rescue breathing is the process of blowing air from your lungs into a casualty who is not able to breathe for themselves. There is enough oxygen remaining in the air you breathe out of your lungs to provide some oxygen to a casualty who needs CPR.

There are several ways of performing rescue breaths. These include mouth-to-mouth, mouth-to-mask, mouth-to-nose, mouth-to-mouth and nose, and mouth-to-neck (through a laryngectomy stoma).

Mouth-to-mouth



Take care: Tilt casualty's head back and lift chin up



Pinch casualty's nose closed or block their nostrils with your cheek

•



- Open your mouth and place it completely over casualty's mouth
- Blow air into casualty's mouth to inflate their lungs



- Remove your mouth, turn your head to watch for fall of chest, listen for expired air
- Give a second rescue breath then resume chest compressions

CPR – Rescue breaths (continued)

Mouth-to-mask



Place mask over casualty's mouth and nose



Grip mask to seal on casualty's face and maintain head tilt and chin lift

•



Blow into mask
 mouthpiece to inflate
 casualty's lungs



- Remove your mouth, watch for fall of chest, listen for expired air
- Give a second rescue breath then resume chest compressions

Mouth-to-nose



Take care: Tilt casualty's head and lift their chin to maintain open airway



Close and seal casualty's mouth



- Place your mouth over casualty's nose
- Blow into casualty's
 nose to inflate their
 lungs



- Remove your mouth, watch for fall of chest, listen for expired air
- Give a second rescue breath then resume chest compressions

CPR – Rescue breaths (continued)

Mouth-to-mouth and nose (usually used for an infant or small child)



 Maintain correct amount of head tilt and chin lift to suit casualty (for correct head tilt information see CPR -Summary Page 32)



Place your mouth over casualty's mouth and nose



Gently blow into casualty's mouth and nose to inflate their lungs



- Remove your mouth, watch for fall of chest, listen for expired air
- Give a second rescue breath then resume chest compressions

Mouth-to-neck stoma (a surgical opening in neck)

•



 Take care: Tilt casualty's head back to assist access to the opening



Seal opening in casualty's neck with your mouth, blow air into opening to inflate their lungs



If you hear air escaping from casualty's mouth or nose seal off their mouth and nose and try again

CPR – Pregnant casualty

Performing CPR on a pregnant casualty and caring for a pregnant unconscious, breathing casualty requires some small changes in technique. During the later stages of pregnancy the size of the baby in the womb may put increased pressure on the blood vessels returning blood to the woman's heart.

If a visibly pregnant woman is unconscious but breathing place her in a stable position lying on her **left** side – this will assist with blood circulation returning to her heart.

If a visibly pregnant woman needs CPR place her on her back and make sure her shoulders are flat but raise and support her right hip slightly (use any available padding or ask a bystander to raise and support her right hip) – this will assist with blood circulation returning to her heart.





CPR – Summary

CPR steps	Adult & older child (9 years +)	Younger child (1 to 8 years)	Infant (Up to 1 year)
Head tilt	Fully tilted back	Partial – to suit age	No – head in neutral position
Chin lift	Yes	Yes	Yes
Breaths	2 full breaths	2 small breaths	2 puffs
Chest compressions	2 hands	1 or 2 hands	2 fingers
Compression depth	1/3 of chest depth – more than 5cm	1/3 of chest depth – approx 5cm	1/3 of chest depth – approx 4cm
Compression rate	Approx 100 per minute	Approx 100 per minute	Approx 100 per minute
Compression to breath ratio (applies to 1 or 2 first aiders performing CPR)	30 compressions: 2 rescue breaths	30 compressions: 2 rescue breaths	30 compressions: 2 rescue breaths
Ideal CPR cycle rate	5 cycles of 30:2 every 2 minutes	5 cycles of 30:2 every 2 minutes	5 cycles of 30:2 every 2 minutes



Asthma

Asthma is a potentially life threatening condition affecting the airways (air passages) of the lungs. During an asthma attack a casualty can experience difficulty breathing. This is caused by inflammation, swelling and narrowing of the airways in the casualty's lungs. Thick mucus in the lungs may also contribute. Common causes or triggers of an asthma attack include plant pollen, house dust mites, animal fur, moulds, exercise, tobacco smoke and cold air. People affected by asthma will often use medication to prevent asthma attacks happening as well as medication to relieve their symptoms if an attack does happen.

Signs and symptoms (mild to moderate)

- Short of breath
- Dry, irritating, persistent cough
- Chest tightness
- Wheezing

Signs and symptoms (severe)

- Severe difficulty breathing
- Difficulty speaking
- Symptoms getting rapidly worse
- Feeling frightened or panicked
- Lips turning blue
- Little or no improvement from reliever medication
- Loss of consciousness





Vital steps

- Reassure casualty and sit them comfortably upright
- Do not leave casualty alone
- Give 4 puffs of reliever medication, preferably using a spacer device
 - Have them take 4 breaths between each puff
- Wait 4 minutes
- If no improvement give another 4 puffs of reliever medication (as above)
- If little or no improvement call ambulance immediately
- Continue to give 4 puffs of medication every 4 minutes until ambulance arrives or condition improves
- If unconscious, follow Basic Life Support steps
Allergic reactions and anaphylaxis

An allergic reaction happens when a casualty's immune system overreacts to a substance that should normally be harmless. The substance that causes the reaction is known as an allergen. Allergens can be swallowed, inhaled, absorbed through the skin or injected. An allergic reaction can be mild to moderate, or severe. A severe allergic reaction is known as **anaphylaxis**. What starts out as a mild to moderate allergic reaction can guickly become more serious so it is vital to closely monitor the casualty's condition for any signs of anaphylaxis developing. If a person has a history of mild to moderate allergic reactions they may have been prescribed antihistamine medication to help treat the reaction. If a person is suffering from anaphylaxis, adrenaline is the only suitable medication to treat the reaction. There are two adrenaline auto injector devices available for use in Australia and New Zealand: EpiPen® and Anapen® - junior versions of EpiPen® and Anapen[®] are normally prescribed for children aged between 1 and 5 years.



Allergic reactions and anaphylaxis (continued)

Mild to moderate allergic reaction

Signs and symptoms

- Swelling of face, lips or eyes
- Hives or welts on skin
- Itching
- Stomach pain, vomiting (these are signs of a severe allergic reaction to insect stings)







- Remove any visible sting if reaction caused by insect sting (**do not** remove ticks)
- Stay with casualty call for help if needed (**do not** leave them alone)
- Try to keep casualty comfortable
- Assist them to take any prescribed medications
- Locate adrenaline auto injector (EpiPen[®] or Anapen[®]) if available
- Watch closely for any signs of anaphylaxis

Severe allergic reaction – anaphylaxis

Signs and symptoms

- Difficulty breathing
- Noisy breathing
- Swelling of tongue
- Swelling or tightness of throat
- Difficulty talking or hoarse voice
- Wheezing or persistent cough
- Persistent dizziness or collapse
- Pale and floppy (young children)
- Loss of consciousness









- Lay casualty flat do not make them stand or walk (if breathing is difficult allow them to sit up)
- Use adrenaline auto injector (EpiPen[®] or Anapen[®]) if available
- Call ambulance
- If no improvement after
 5 minutes give additional adrenaline doses if available
- If casualty stops breathing start CPR immediately

Choking – Partial airway obstruction

Choking happens when a casualty's upper airway is partly or completely blocked by food or other foreign material.

Partial airway obstruction

A partial airway obstruction is when there is some air movement in and out of the casualty's lungs and they are able to cough effectively – this means they are still breathing.

Signs and symptoms

- Difficulty breathing
- Noisy breathing
- Some air movement from mouth or nose when casualty breathes or coughs



Vital steps

- Reassure casualty and try to keep them calm
- Encourage them to cough
- If obstruction cannot be cleared call ambulance



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Choking – Complete airway obstruction

A complete airway obstruction is when there is no air movement in or out of the lungs and the casualty is **unable** to cough effectively. If the casualty is conscious they will usually be trying to breathe or cough to clear the obstruction. If the casualty is unconscious you may not be aware of the airway obstruction until you try to clear their airway or give rescue breaths.





Vital steps

• Call ambulance

- If casualty is conscious give up to 5 separate back blows between shoulder blades (use the heel of your hand)
- If obstruction does not clear give up to 5 separate chest thrusts in centre of chest (use the heel of your hand as you would for CPR compressions)
- If obstruction does not clear continue to give back blows followed by chest thrusts
- If casualty is **unconscious**
 - Check and clear airway
 - Start **CPR**

Signs and symptoms

- No sound of breathing
- No air movement from mouth or nose





Croup

Croup is caused by an infection in the throat and windpipe that causes these airways to become inflamed and swollen. The swelling narrows the airways making it harder for a casualty to breathe. Croup most commonly affects children under 5 years old.

Signs and symptoms

- High pitched noise or "squeak" when casualty breathes in
- Harsh barking cough sometimes known as "seal bark" cough
- Distressed and anxious
- Obvious difficulty
 breathing
- Obvious use of neck and chest muscles when casualty breathes
- Bluish lips or tongue
- Symptoms are usually worse at night







- Comfort child and try to keep them as calm as possible
- Keep them warm
- Prevent child from becoming dehydrated by giving clear fluids to drink
- If breathing difficulty is severe or if symptoms get worse seek medical aid

Hyperventilation

Hyperventilation is a condition caused by over breathing. When a person is breathing faster or deeper than they need to, this can lower the level of carbon dioxide in their blood stream and cause hyperventilation.

Signs and symptoms

- Rapid breathing and pulse
- Irregular deep, sighing breaths
- Feeling dizzy or lightheaded
- Tingling or numbness of fingers and toes
- Feeling anxious or frightened
- Spasms of hands and fingers





Vital steps

- Reassure casualty and try to keep them comfortable
- Encourage them to slow their breathing
- Monitor pulse and breathing
- If casualty does not recover quickly seek medical aid
- Take care: Just because

 a casualty is breathing
 deeply and rapidly
 do not assume that
 they are suffering
 hyperventilation. If
 you suspect that their
 condition may be
 more serious always

call ambulance

and describe what is happening.

Drowning

Drowning occurs when a casualty's breathing is restricted because their airway is immersed in water or other liquid, interrupting the supply of oxygen to their brain. This can also cause other serious medical complications, even if the casualty is successfully resuscitated. Early rescue, clearing their airway and providing CPR are the vital steps that increase a casualty's chance of surviving a near-drowning incident. You **must** not attempt a water rescue that is beyond your swimming ability or puts you in danger. Every year people die unnecessarily when they attempt a water rescue beyond their capabilities.

Signs and symptoms

- Casualty's airway is immersed (and therefore blocked) in water or other liquid
- Coughing or difficulty
 breathing
- Vomiting
- No response to "talk or touch"
- Not breathing normally









Vital steps

- Remove casualty from water or liquid without putting yourself in danger
- Call ambulance
- Follow Basic Life Support steps
- Place casualty on side when checking airway and breathing
- Provide CPR if required
- Give oxygen if available and safe to do so
- Casualty should
 always seek medical
 aid even if they seem
 to recover as they can
 experience serious
 medical complications
 as a result of a near drowning incident

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Chest pain

Chest pain may be caused by a number of different medical conditions. These conditions include heart attack, angina, indigestion and muscle strain or inflammation in the ribs near the breastbone. Without prompt medical assessment it is impossible to know whether chest pain is being caused by a heart attack or something else. If chest pain is severe, getting worse or lasts more than 10 minutes, it may indicate a heart attack and it is vital that the casualty gets medical assistance as quickly as possible – "every minute counts".

Signs and symptoms

- Pain, pressure, tightness or heaviness in the:
 - chest, shoulder(s), neck, arm(s), jaw or back
- Nausea or vomiting
- Sweating
- Pale, cool, clammy skin
- Feeling dizzy, light-headed or short of breath
- Collapse
- Loss of consciousness







Vital steps

Call ambulance

- Assist casualty to rest immediately
- Assist them to take any prescribed medication
- If casualty is conscious sit them in safe comfortable position
- Monitor and record vital signs
- If casualty is unconscious follow
 Basic Life Support steps

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Heart attack

A heart attack occurs when the blood supply to part of the heart muscle is suddenly blocked and that part of the heart muscle becomes deprived of oxygen and starts to die. If the casualty does not get urgent first aid assistance and expert medical treatment, damage to the heart can be permanent and is often fatal. It is vital to recognise the warning signs of a heart attack as early as possible.

Warning signs of a heart attack

The most serious likely cause of chest pain is a heart attack. The signs and symptoms are described in the section on chest pain (previous page 44). If there is any doubt about whether the casualty might be having a heart attack always **call ambulance**.

Vital steps

• See Vital Steps for managing chest pain on previous page 44



Angina

Angina (angina pectoris) is a term used to describe chest pain caused when the arteries that supply the heart muscle become restricted, resulting in reduced blood flow to the heart muscle. Angina usually occurs when the heart has to pump more blood due to physical exercise or emotional stress.

Signs and symptoms

- Chest pain that may spread to other areas
- Pale, cool, clammy skin
- Feeling weak or faint
- Nausea



- Try to keep casualty comfortable
- Assist them to take any prescription medication
- Reassure casualty and monitor their condition
- If no improvement within 10 minutes or if condition gets worse call ambulance

Shock

Shock occurs when the supply of oxygen and nutrients to the body's tissues is insufficient due to a lack of effective circulation Possible causes of shock include bleeding, plasma loss due to burns, fluid loss caused by vomiting, diarrhoea or dehydration, reduced pumping ability of the heart, blood pooling in peripheral blood vessels (away from vital organs) and emotional trauma. Shock can be difficult to identify. You should **always** look for possible signs and symptoms of shock in a casualty and provide care that may prevent or minimise the severity of the shock where possible.

Signs and symptoms

- Rapid or weak pulse
- Pale, cool, sweaty skin
- Rapid, shallow breathing
- Feeling dizzy or light-headed
- Feeling anxious or restless
- Nausea or vomiting
- Feeling thirsty
- Possible pain (due to cause of shock)
- Feeling confused
- Deteriorating level of consciousness









- Control any bleeding
- Call ambulance
- If casualty is unconscious follow Basic Life Support steps
- Reassure casualty
- Assist them to rest in a comfortable position (preferably lying down)
- Maintain their body temperature
- Monitor and record vital signs
- Give oxygen if available and safe to do so

External bleeding

Bleeding is the escape of blood that can happen when arteries, veins or capillaries are damaged or ruptured. It is important to limit any blood loss as quickly as possible as losing large amounts of blood can be life threatening. External bleeding is usually obvious because you can see the blood outside the body. The best way to control external bleeding is to apply pressure directly on or as near as possible to the site of the bleeding. Different types of wounds may require different techniques to care for them. When controlling bleeding you should **always** try to use the recommended standard precautions to reduce the risk of cross infection.

Signs and symptoms

- Visible blood loss from one or more wounds
- Pain at site of wound
- Signs and symptoms of shock (see page 46)









- Investigate wound carefully
 - Determine exact location and size
 - Look for any embedded
 objects in wound
 - Check for possible
 fractures
- Apply and maintain firm direct pressure to stop bleeding
 - Use sterile or clean pad where possible
- If nothing else available use your hands to apply pressure
- **Call ambulance** if injury is severe
- Elevate wound if possible
- Restrict movement of injured area
- Reassure casualty and try to keep them comfortable
- Monitor and record vital signs
- Give oxygen if available and safe to do so
- Seek medical aid

Embedded object in wound

When there is an object embedded in a wound, it may not be possible to apply pressure directly onto the wound to control the bleeding. You need to apply indirect pressure **around** the wound to slow the flow of blood to the wound to reduce any blood loss and assist the natural blood clotting process.











- Investigate wound to determine exact location and size of embedded object
- Do not remove embedded object
- Use pads, dressings and bandages to apply and maintain pressure around object
- Call ambulance
- Elevate wound if possible
- Restrict movement of injured area
- Reassure casualty and try to keep them comfortable
- Monitor and record vitals signs
- Give oxygen if available and safe to do so

Internal bleeding

Internal bleeding may be difficult to recognise. You should always suspect it when a casualty shows the signs and symptoms of shock or has been involved in an incident that may have caused internal injuries.

Signs and symptoms

- History of incident likely to cause internal injuries
- Medical condition likely to cause internal bleeding
- Shock
- Pain, tenderness or swelling around injured area
- Blood coming from any body opening including:
 - Bright red or frothy blood coughed up from lungs
 - Vomit containing bright or dark blood
 - Blood-stained urine or stools
 - Vaginal bleeding
 - Rectal bleeding (bright red or black and "tarry")

Vital steps

• Call ambulance

- Follow Basic Life Support steps
- Reassure casualty
 and try to keep them
 comfortable
- Treat casualty for shock
- Monitor and record vital signs
- Give oxygen if available and safe to do so
- **Do not** give any food or drink



Amputations

When a body part has been amputated you must **always** care for the casualty and control any bleeding before looking after the amputated part. After caring for the casualty you should then recover the amputated part if it does not put you in danger (**do not** remove any amputated parts from gloves or footwear – treat the gloves or footwear as an amputated part).











Vital steps

Casualty

- Control bleeding by applying direct pressure to injured area
- Elevate injured area if possible

Call ambulance

- Reassure casualty and try to keep them comfortable
- Treat casualty for shock
- Monitor and record vital signs
- Give oxygen if available and safe to do so

Amputated part

- Keep the part as clean, cool and dry as possible using anything available
- If possible:
 - Put part in clean plastic bag
 - Inflate and seal bag
 - Put sealed bag in ice water
- **Do not** wash part or allow to get wet
- **Do not** pack part directly in ice

Nose bleeds

Bleeding from the nose can have a number of different causes. A nose bleed usually responds well to first aid but if you suspect it may be caused by a head injury or by high blood pressure you should seek medical aid.



Vital steps

- If nose bleed is caused by a head injury call ambulance
- Pinch together the soft part of the nose (**below** the bridge of the nose) and hold pressure for 10 minutes
- Have casualty lean forward and spit out any blood in mouth
- Have casualty breathe through mouth
- Have casualty rest for at least 10 minutes (20 minutes on a hot day or after exercise)
- If bleeding continues for more than 20 minutes **seek medical aid**

Minor wounds

Minor wounds are small (less than 2.5cm), shallow, with only superficial damage to the skin and where bleeding is minimal and stops quickly. Minor wounds do not automatically need medical attention and providing good first aid may be all that is needed. If there is any doubt about the severity of the wound always seek medical aid. If any wound is contaminated or has a high risk of infection or already shows signs of infection you should seek medical aid.

- Assess extent and severity of wound
- Clean wound with saline solution or clean warm water
- Cover with sterile dressing strip or non-stick wound pad
- Check regularly for any redness, swelling, weeping or other signs of infection
- If necessary seek medical aid

Stroke

A stroke occurs when the blood supply to part of the brain is suddenly disrupted. This disruption can be caused by either a blockage or rupture of blood vessels within the brain. When brain cells do not receive enough blood supply these cells begin to die from lack of oxygen. If you suspect a stroke has occurred always call ambulance. In some cases the signs and symptoms may be temporary, but any casualty experiencing possible stroke symptoms needs urgent medical assessment.

OOO Stay calm



Signs and symptoms

- Weakness, numbness or paralysis of face, arm or leg (either or both sides of body)
- Difficulty speaking or understanding
- Difficulty swallowing
- Feeling dizzy, loss of balance or unexpected fall
- Loss of vision, sudden blurred or decreased vision in one or both eyes
- Headache (usually severe)
- Loss of consciousness



Vital steps

• Call ambulance

- If casualty is conscious reassure them and try to keep them comfortable
- **Do not** give anything to eat or drink
- Stay with casualty until ambulance arrives
- If casualty becomes unconscious follow Basic Life Support steps

Diabetes

Diabetes is a medical condition that occurs when insulin is no longer produced or not produced in sufficient amounts by the body. Insulin is a hormone that is essential for the body to be able to convert the glucose (sugar) in food into energy for the body to use. People with diabetes may suffer from low blood glucose levels (hypoglycemia) or high blood glucose levels (hyperglycemia). Low blood glucose levels usually occur more rapidly than high blood alucose levels.

Signs and symptoms – Hypoglycemia

- Feeling weak, trembling or shaking
- Feeling dizzy or light-headed
- Sweating
- Headache
- Feeling irritable, tearful or crying
- Lack of concentration
- Feeling hungry
- Numbness around lips and fingers









Vital steps

If casualty is conscious, cooperative and able to swallow:

- Have them eat or drink some quickly absorbed sugars
- Reassure casualty and try to keep them comfortable
- Stay with casualty until they recover
- If casualty's condition improves have them eat some longer acting carbohydrate
- After casualty improves seek medical aid
- If no improvement or casualty's condition gets worse **call ambulance**

If casualty is unconscious, uncooperative or unable to swallow

- Call ambulance
- Follow Basic Life Support steps
- **Do not** give casualty any food or drink

Seizures

Seizures are caused by disruptions of the electrical activity within the brain. Seizures can have many different causes including epilepsy, poisons, alcohol or other drugs, stroke, head injuries, meningitis, brain tumour, lack of oxygen, febrile convulsions and diabetes. Seizures commonly last from 30 seconds up to 3 minutes and may not cause any lasting damage. However if a seizure lasts more than 5 minutes or a casualty has repeated seizures and does not regain consciousness between seizures, you should seek urgent medical aid.

Signs and symptoms

- Sudden muscle spasm and collapse
- Loss of consciousness
- Jerking movements of head, arms and legs
- Noisy breathing, excessive saliva
- Loss of bladder or bowel control









- Protect casualty from injury and dangerous surroundings
- **Do not** restrain casualty unless essential to avoid injury
- **Do not** put anything in casualty's mouth
- As soon as seizure stops follow Basic Life Support steps
- Reassure casualty when they wake up as they can be dazed, confused or sleepy
- Seek medical aid
- If you have any doubt about cause, length or severity of seizure call ambulance

Epilepsy

Epilepsy occurs when the electrical activity in the brain is disrupted. Epilepsy is diagnosed when a person has repeated seizures. There are 40 different types of epileptic seizures which can be divided into 2 major groups. Partial or focal seizures start in one part of the brain and may spread to other parts of the brain. Generalised seizures are caused by abnormal activity throughout the whole brain at the same time.

Signs and symptoms

- Sudden muscle spasm and collapse
- Loss of consciousness
- Jerking movements of head, arms and legs
- Noisy breathing, excessive saliva
- Loss of bladder or bowel control





- Protect the casualty from injury and dangerous surroundings
- **Do not** restrain casualty unless essential to avoid injury
- **Do not** put anything in casualty's mouth
- As soon as seizure stops follow Basic Life Support steps
- Reassure casualty when they wake up as they can be dazed, confused or sleepy
- Stay with casualty until they recover or someone takes over their care
- Call ambulance if:
 - Seizure lasts more than 5 minutes
 - Repeated seizures occur
 - Casualty remains unconscious for more than 5 minutes after seizure stops
 - Casualty has suffered
 any injury
 - Casualty is pregnant
 - Seizure occurs in water
 - It is the casualty's first seizure
 - You feel uncomfortable dealing with seizure

Febrile convulsions

A febrile convulsion is a type of seizure that can occur in young children (up to 6 years old) and is usually caused by a sudden change in the child's body temperature. This is generally due to a high fever associated with an infection in the body. Febrile convulsions are not usually harmful to children but they can be very frightening for parents or carers to witness.

Signs and symptoms

- · Child is unresponsive or unconscious
- Muscles may stiffen or jerk
- Hot flushed skin
- Pale or blue in face
- Difficulty breathing
- Convulsion may last several minutes
- Movements stop, child regains consciousness but remains sleepy or irritated



- Stay calm and don't panic
- Place child on soft surface or place padding under child's head
- Observe convulsion carefully
- Time the length of convulsion if possible
- After convulsion stops follow Basic Life Support steps
- Seek medical aid
- **Do not** actively cool child
- Call ambulance if:
 - Convulsion lasts more
 than 5 minutes
 - Child does not wake up after convulsion stops
 - Child looks very sick
 after convulsion stops

Fainting

Fainting is a sudden, brief loss of consciousness. Things that can cause fainting include standing for long periods in hot weather or a hot shower. the sight of needles or blood, injections and pain. Loss of consciousness is usually brief, lasting from a few seconds to 1 or 2 minutes. Casualties who faint often regain consciousness quickly once they are lying down flat. Brain damage or death can occur if the casualty remains supported in an upright position like sitting in a chair or jammed upright in a crowd





Signs and symptoms

- Feeling dizzy or light headed
- Nausea
- Collapse and loss of consciousness
- Rapid return of consciousness when lying flat



- Lay the casualty down flat
- Raise and support their legs
- Check for any injury caused by collapsing
- Monitor level of consciousness until they recover fully
- **Do not** allow casualty to sit in a chair with their head between their knees
- As casualty recovers
 do not allow them to sit
 up or stand up quickly
- If they remain unconscious follow Basic Life Support
 Steps and call ambulance

Burns

A burn injury can have many causes including flame, hot objects, hot liquids or gases, electricity, chemicals, friction, radiation and cold. To stop the burn getting worse all burns need first aid treatment as quickly as possible. You need to stop the burning process, cool the burnt area and then cover the burn. Before treating any burn you **must** make sure it is safe to do so.





Signs and symptoms

- Red, swollen or charred skin
- Pain
- Blisters
- Clothing melted or stuck to skin
- Shock





- Cool burn immediately with cool running water for at least 20 minutes
- If possible remove any jewellery, constricting items and clothing not stuck to burn
- Cover burn with clean non-fluffy dressing
- Raise burnt limbs to minimise swelling
- If burn is severe
 call ambulance
- **Do not** use ice or ice water to cool burn
- Do not break blisters
- **Do not** apply any lotions, creams or powders

Large burns or scalds

If a burn covers a large area (larger than the casualty's palm) there is an increased risk of shock and serious infection.



Vital steps

In addition to normal Vital Care steps you should:

- Call ambulance
- Monitor casualty for shock and treat if required
- Keep rest of casualty warm remove any wet clothing and cover unburnt areas



Inhalation (airway) burns

Breathing in hot or toxic gas or fumes can damage a casualty's airway and lungs. Always assume inhalation burns or injury if the casualty has burns to their face, eyebrows, eyelashes or nasal hairs or if you can see carbon deposits in the casualty's mouth or nose. Some chemicals can cause problems that may take several hours to become obvious. Inhalation burns always need medical treatment.



Vital steps

Call ambulance

- Cool any visible burns
- Give oxygen if available and safe to do so



Signs and symptoms

- Redness, swelling or blisters on face or in mouth
- Burnt or singed hair, eyelashes, eyebrows or nasal hair
- Difficulty breathing
- Loss of consciousness

Electric shock

Casualties suffering electric shock, including lightning strike, will often have serious burns as well as other injuries that require first aid and medical treatment. There may be an entry and exit wound or burn where electrical current has flowed through the casualty's body. Any casualty who suffers an electric shock must seek medical aid to make sure they have no internal injuries or other complications.

Signs and symptoms

- Fallen power lines, electrical appliances or power leads
- Collapse
- Muscle spasms
- Burnt or smoking clothing
- Burnt, blistered or charred skin around any entry and exit wound
- Difficulty breathing
- Internal injuries
- Fractures
- Loss of consciousness
- Cardiac arrest









Vital steps

Call ambulance

- Follow Basic Life Support steps
- Remain at least 10 meters away from any fallen power lines
- Isolate power source before touching casualty
- If you cannot safely isolate power source call emergency services and power company
- After power source is isolated extinguish any burning clothing
- As soon as power source is isolated cool burnt area with running water
- Give oxygen if available and safe to do so

Radiation burns

A radiation burn can be caused by sunburn, arc welding flash, reflected sunlight, lasers, industrial microwave equipment and nuclear radiation. A radiation burn may not be painful straight away – it may take up to several hours after exposure before the casualty experiences pain.





SEEK MEDICAL AID

Vital steps

- Cool burnt area with cool running water for at least 20 minutes
- If pain returns after initial cooling repeat step above
- If large areas burnt, extensive blistering or eyes are affected seek medical aid

Signs and symptoms

- Red painful skin
- Swelling or blistering of exposed skin
- Bloodshot, itchy or watery
 eyes
- Eyes sensitive to light

Chemical burns

A chemical burn can be caused by many different substances. Before starting any treatment you **must** ensure your own safety and the safety of others. You should take care that any chemicals involved are not spread further on casualty or others. Specific safety instructions and first aid treatment instructions will be on the Material Safety Data Sheet (MSDS) for the substances involved - you should follow those instructions if available

Signs and symptoms

- Chemical containers, spilt chemicals, fumes
- Pain, swelling or blistering of burnt area
- Difficulty breathing
- Clothing stuck to skin





000 Stay calm

- **Do not** approach unless safe to do so
- Avoid contact with chemical or contaminated clothing
- Follow any specific treatment instructions on container or MSDS
- Call **Poisons Information Centre** on **13 11 26** for further advice
- Remove chemical and any contaminated clothing if possible
- Immediately flush burnt area with cool water for at least 20 minutes
- Call ambulance

Specific chemical burns

Phosphorus burns

Phosphorous is a chemical that can be found in flares, fireworks, weapons and explosives. When phosphorous is exposed to air it can ignite spontaneously and burn fiercely.

Vital steps

- Cover phosphorous burns with saline soaked dressings to exclude air and prevent phosphorous from re-igniting
- Call ambulance

Hydrofluoric acid burns

Hydrofluoric acid is a very corrosive and dangerous acid. It can cause deep extremely painful burns and even a small area burn needs urgent medical treatment. Hydrofluoric acid burns can be life threatening if not treated urgently.

Bitumen burns

Bitumen burns can be very serious as the bitumen seals in the heat and makes it more difficult to effectively cool the burnt area. **Do not** remove bitumen from the casualty's skin as this may cause further damage to the skin.

- Immediately flush burnt area with large amounts of running water
- Cover burnt area with **calcium gluconate** gel as quickly as possible (calcium gluconate gel should always be available wherever hydrofluoric acid is used or stored)
- Call ambulance
- Cool burnt area with cool running water for at least 30 minutes
- Consider cutting or cracking the bitumen to release heat (if it is completely covering a limb or digit)
- Call ambulance

Liquid petroleum burns

Liquid petroleum (not flame) may cause a chemical burn due to direct toxic effects. Prolonged contact with liquid petroleum may cause organ failure and death.

- Flush burnt area with large amounts of running water
- Call ambulance



Spinal injuries

You must consider the possibility of a spinal injury with any trauma casualty, especially if the casualty has been involved in any:

- Vehicle accident
- Accident causing loss of consciousness
- Dive or jump into shallow water or water with obstacles
- "Dumping" incident in the surf
- Fall from greater than standing height
- Sporting accident
- Fall by an elderly casualty

Important: You must follow the Basic Life Supports steps **before** managing a possible spinal injury.

Signs and symptoms

- History of incident
- Pain at or below injury site
- Tenderness at injury site
- Numbness or tingling in hands or feet
- Weakness or loss of movement below injury site

Conscious casualty

Unconscious casualty

000 Stay calm



Vital steps

- Call ambulance
- **Do not** move the casualty unless they are in danger
- Tell the casualty not to move
- Carefully support the casualty in the position you found them



- Call ambulance
- Follow Basic Life Support steps
- Handle casualty gently with no twisting and minimal movement of head, neck and torso
- Turn casualty onto side to ensure airway kept clear – Take care: if possible seek assistance to help maintain spinal alignment when turning casualty onto side
- **Do not** use cervical collars or other spinal immobilisation devices unless trained to do so

Head injuries

A head injury can cause skull fractures, concussion, brain swelling or compression, loss of consciousness and brain damage. A severe head injury can cause death or permanent brain damage. You should seek a medical assessment for any head injury even if the casualty seems to have recovered as their condition may get worse over time.

Concussion

Concussion is a brief, complete or partial loss of consciousness after a head injury, usually followed by a quick recovery (often described as "brain shaking")

Cerebral compression

Compression of the brain is a serious condition that occurs when there is a build up of pressure on the brain. This can be caused by bleeding inside the skull, brain swelling, stroke, infection or brain tumour.

Signs and symptoms

- Temporary confusion or memory loss
- Headache, blurred or double vision
- Mild to moderate irritability or refusal of assistance
- Nausea and vomiting
- Numbness, tingling or loss of power in limbs
- Seizure
- Blood or fluid coming from ear, nose or mouth
- Change in size or shape of eye pupils
- Feeling drowsy or vague
- Loss of consciousness





Vital steps

Call ambulance

- Follow Basic Life Support steps
- Control external bleeding
- If you need to move casualty immobilise head and neck
- Lightly cover open wounds
- Reassure casualty and try to keep them comfortable
- Monitor and record vital signs
- **Do not** leave casualty alone

Head wounds

Significant external bleeding can occur from facial or scalp wounds. You should control any obvious bleeding by applying direct pressure using a bulky dressing or padding if possible. Serious bleeding can also occur under the skin, especially in children, which can produce a large lump. You should apply direct pressure to the injury as soon as you observe any swelling. Facial or scalp wounds often need stitches or other special care.





- Investigate wound
- If no signs of a fracture apply direct pressure
- Assist casualty to rest with head and shoulders raised
- Seek medical aid



Eye injuries

Minor eye injuries

A minor eye irritation can occur when the casualty's eye becomes contaminated by things such as an eyelash, dust or other foreign material. Sore, irritated or itchy eye's can be relieved by removing the cause.



Serious eye injuries

If you suspect a serious eye injury you should seek medical treatment urgently to minimise the risk of any permanent damage or loss of sight.





Vital steps

- Tell casualty to not rub their eye
- Flush the eye carefully with saline solution or clean water
- If no improvement seek medical aid

Vital steps

- Call ambulance
- Protect and cover injured eye
- Assist casualty to rest with head raised
- Tell casualty to keep eyes closed and to not move them
- **Do not** remove anything stuck in eye
- If there is any chemical in the eye, open and flush the eye thoroughly with water for at least 20 minutes

Signs and symptoms

- Pain in or around eye
- Eyelid spasms
- Bleeding or swelling in or around eye
- Blurred or double vision
- Loss of vision



Ear injuries

An ear injury is when a casualty has damage to the outer ear, has a foreign object or insect in the ear or damage to the inner ear or eardrum. They may also have bleeding or discharge from the ear as a result of a head injury.

Minor ear injuries

Vital steps

- Control bleeding from the outer ear by applying pressure to the ear using a pad and bandage (as long as there are no signs of a skull fracture)
- Remove any foreign object if it can be easily grasped **do not** poke anything into the ear as this can push the object further in
- Try to attract any insect out by shining a light in the ear you can also try to float them out using warm water

Serious ear injuries

Signs and symptoms

- Pain in or around ear
- Difficulty hearing
 or deafness
- Loss of balance
- Bleeding from ear
- Signs and symptoms of head injury





- Call ambulance
- Assist casualty to rest with head raised and tilted down towards injured side
- Cover ear loosely with dressing and bandage
- **Do not** plug ear or try to stop discharge from ear
- Treat for shock if necessary
- Monitor and record vital signs
- If casualty becomes unconscious follow Basic Life Support steps
Needle stick injuries

A needle stick injury occurs when a used hypodermic needle accidently pierces a casualty's skin. There are a number of blood-borne diseases that may be spread by a needle stick injury and even though this risk may be quite low, this type of injury can be very frightening for the casualty. The casualty should consider seeking counselling support as well as appropriate medical treatment.









Vital steps

- Remove needle
- Allow wound to bleed freely for a few seconds
- Immediately wash wound thoroughly with soap and water
- Cover wound with a sterile dressing
- Carefully collect needle and keep in a safe container
- Seek medical aid

immediately

Crush injuries

A crush injury can occur in any situation where a casualty has been subjected to a crushing force or weight. You should try to remove the cause of any crushing force affecting a casualty's head, neck, chest or abdomen – if not removed quickly the casualty may die from breathing failure, heart failure or blood loss. Even though the casualty may seem alert and not badly injured, they may have suffered severe and irreversible damage and their condition may become rapidly worse.





- Call ambulance
- Remove cause of crushing force as quickly as possible if safe and possible to do so
- Follow Basic Life Support steps
- Reassure casualty and try to keep them comfortable
- Monitor and record vital signs
- **Do not** use an arterial tourniquet to manage a crush injury





Fractures

A fracture is when a bone is broken, either partly or completely. There are several types of fractures, however as a first aider the most common fractures that you will be able to identify are a "closed" fracture, where the skin has not been broken and an "open" fracture, where the bone has pierced the skin or there is a wound leading to the broken bone. Both open and closed fractures can be "complicated". A complicated fracture is where there has been damage to the surrounding nerves, tissues or organs caused by the broken ends of the bones. A complicated fracture and a fracture of a large bone can also cause major internal or external blood loss and severe shock.

Signs and symptoms

- Pain or tenderness
- "Snap" of bone can be felt or heard
- Swelling, inflammation or bruising
- Bleeding (open fracture)
- Loss of strength or movement of affected area
- Deformity
- Signs and symptoms of shock

- Control any bleeding
- Avoid moving injured part if possible
- Support and immobilise injured part in the position you find it
- Reassure casualty and try to keep them comfortable
- Treat casualty to minimise shock
- Call ambulance
- **Do not** try to straighten broken bones
- **Do not** move casualty unless in danger



Fracture care

If you need to care for a casualty for some time before an ambulance arrives or if you have to move a casualty for safety reasons, you may need to further immobilise or splint the suspected fracture. You should only do this if absolutely necessary as it may cause further pain and shock to the casualty. You can use a splint, sling, bandages, clothing or other parts of the casualty's body to help immobilise the suspected fracture.

Vital steps

- Use other parts of casualty's body to support and immobilise injury if possible
- Splint the injured part in the position you find it
- Immobilise injured area and joints either side of the injury
- Use only a well-padded splint wherever possible
- Check circulation around injury before and after immobilising

Note: Examples of possible ways to support and immobilise some common fractures are shown in Chapter 14 (Page 102)



Dislocations

A dislocation occurs when a bone is displaced from its normal position at a joint. It can be difficult to tell if an injury involving a body joint is a dislocation or a fracture. If there is any doubt you should always treat the injury as a fracture.

Signs and symptoms

- Pain or tenderness
- Deformity
- Swelling, inflammation or bruising
- Unable to move joint normally
- Signs and symptoms of shock







- Support and immobilise injured area
- Elevate injured area if possible
- Apply ice pack or cold compress
- Treat to minimise shock
- **Do not** try to relocate injured part
- Seek medical aid or if injury is severe call ambulance

Bruising

A bruise (or contusion) occurs when soft tissues of the body are damaged and there is bleeding under the skin, often caused by a blow or impact. Bruising is usually red or purple at first but will change colour over time as the blood is reabsorbed by the body and the damaged tissues heal. Bruising can also indicate a more serious underlying injury or internal bleeding.





Vital steps

- Provide first aid as for sprain or strain
- Rest
- Ice pack
- Compression bandage
- Elevation of injured area
- **R**eferral to medical aid
- If you suspect bruising is caused by a complicated fracture or other serious injury **call ambulance**

Signs and symptoms

- Pain or tenderness
- Swelling
- Discolouration under the skin
- Loss of strength or movement (if associated with a sprain, strain or possible fracture)
- Signs and symptoms of shock



Sprains and strains

A sprain is caused when a casualty overstretches or tears ligaments around a joint. A strain is caused when a casualty overstretches muscles or tendons. Sprains and strains are often referred to as soft tissue injuries. The signs and symptoms for each of these injuries are similar which means the first aid treatment is the same for both.

Signs and symptoms

- Pain or tenderness at injury site
- Swelling, discolouration or bruising
- Loss of power or movement in affected area
- Signs and symptoms of shock









- Have casualty stop any activity immediately
- **R**est Rest and support the injured area
- Ice Apply a wrapped ice pack or cold compress to injured area. Use an ice pack for 10-20 minutes every 2 hours for first 48-72 hours. Remove ice pack if it starts to become painful.
 Do not apply ice directly to bare skin
- Compression Apply a firm bandage to injured area that does not cause any further pain or restrict circulation to the area
- Elevation Raise the injured area above the level of the heart if possible
- Referral Casualty should seek medical aid to make sure there is not any serious damage and to get best treatment advice



Poisons

Exposure to poisons can occur in many ways and can be accidental or deliberate.

Poisons can enter the body by being:

- Inhaled breathed in through the mouth or nose
- Ingested swallowed accidentally or deliberately
- Absorbed through the skin
- Injected by people or via bites and stings from various creatures

If you think a casualty has been exposed to a poison **do not** wait for symptoms to appear. Calling the **Poisons Information Centre** is the best way to get the most up-to-date advice on how to deal with any poisoning incident. Treatment advice is constantly being updated and any advice that you may have been given in the past may no longer be the recommended treatment. You can call the **Poisons Information Centre** on **13 11 26** at any time from anywhere in Australia.

Signs and symptoms

- Nausea and vomiting
- Burning pain in mouth or throat
- Headache
- Blurred vision
- Difficulty breathing
- Seizure
- Loss of consciousness



Vital steps

- Call Poisons Information Centre on
 13 11 26 have any poison container with you
 if safe to do so or write down the product name
 and any ingredients listed on container
- **Call ambulance** immediately and follow Basic Life Support steps if casualty:
 - Shows signs of anaphylaxis
 - Has difficulty breathing
 - Has a seizure
 - Collapses
 - Is unconscious

Swallowed poisons

- Give casualty a small sip of water to wash out their mouth
- **Do not** try to make casualty vomit
- Call Poisons Information Centre on 13 11 26 and follow instructions given

Poison on skin

- Remove contaminated clothing –
 Take care: Avoid any contact with the poison
- Flush skin thoroughly with cool running water
- Wash skin gently with soap and water then rinse well
- Call Poisons Information Centre on 13 11 26 and follow instructions given

Inhaled poisons

- Get casualty to fresh air as soon as possible if safe to do so
- Open doors and windows if safe to do so
- Call Poisons Information Centre on 13 11 26 and follow instructions given
- If casualty is having difficulty breathing call ambulance
- Follow Basic Life Support steps

Poison in the eye

- Hold the eyelid open and flush the eye gently with running water for 15 minutes
- Call Poisons Information Centre on 13 11 26 and follow instructions given



Drug and alcohol misuse

Misuse of prescription or over-the-counter medications, illegal drugs, chemical substances or alcohol can result in a first aid emergency. An overdose occurs when a casualty takes a harmful amount of one or more of these substances. It can be difficult to find out what substances may have contributed to an overdose.

Signs and symptoms

- Nausea or vomiting
- Feeling drowsy or confused
- Hallucinations
- Abdominal cramps
- Diarrhoea
- Internal bleeding
- Seizure
- Mood changes including anxiety, aggression or depression
- Difficulty breathing
- Loss of consciousness

- Follow Basic Life Support steps
- Reassure casualty
- Try to identify substance involved
- Call Poisons Information Centre on 13 11 26 and follow instructions given
- If breathing or level of consciousness is affected **call ambulance**
- If casualty is unconscious make sure their airway is not blocked by vomit or other foreign material





Bites and stings – first aid care summary

Treatment	Ambulance 000	Medical aid	Pressure Immobilisation Technique	lce pack or cold compress	Hot water	Vinegar
Bite or sting						
Snake	Yes		Yes			
Funnel web or mouse spider	Yes		Yes			
Redback spider		Yes		Yes		
Other spiders		Yes		Yes		
Bee, wasp, ant	If allergic		If allergic	Yes		
Tick	If allergic	Yes		Yes		
Dog, cat, other		Yes				
Jellyfish in tropics	Yes					Yes
Jellyfish in non tropics	If severe	Yes		lf heat does not help	Yes	
Blue-ringed octopus	Yes		Yes			
Cone shell	Yes		Yes			
Fish spine stings		Yes		lf heat does not help	Yes	
Stingray	If severe	Yes		lf heat does not help		

Snake bites

Bites from a number of Australian venomous snakes can be fatal. While more than 1,000 snake bite cases are recorded in Australia each year, on average less than 5 people die. To greatly reduce the risk of a snake bite proving fatal you should provide the correct first aid for snake bite as soon as possible and seek prompt medical aid.

Signs and symptoms

- Puncture or scratch marks caused by fangs
- Headache
- Nausea or vomiting
- Abdominal pain
- Blurred or double vision, drooping eyelids
- Difficulty speaking, swallowing or breathing
- Swollen or tender glands in groin or armpit of bitten limb
- Limb weakness or paralysis
- Loss of consciousness





Vital steps

Call ambulance

- Keep casualty as still as possible
- Reassure casualty and try to keep them calm
- Bandage bite area using Pressure Immobilisation Technique
- Monitor casualty's condition closely
- **Do not** cut bite site
- **Do not** use an arterial tourniquet
- **Do not** wash or suck the bite site
- **Do not** try to catch or kill the snake

Pressure Immobilisation Technique (PIT)

The Pressure Immobilisation Technique (PIT) of bandaging was originally developed to treat Australian venomous snake bites and is also recommended for a number of other bites and stings. The PIT is also recommended for treating severe allergic reactions to some injected venoms.

PIT is recommended for bites and stings of the following:

- All Australian venomous snakes, including sea snakes
- Funnel web or mouse spider
- Blue-ringed octopus
- Cone shell
- Allergic reactions to bee, wasp and ant stings

PIT **is not** recommended for bites and stings of the following:

- Redback spider or other spider bites
- Jellyfish stings
- Fish stings including stone fish
- Bites or stings by scorpions, centipedes or beetles









- Reassure casualty and keep them still and calm
- Apply a broad (10-15cm wide) pressure bandage over bite site
- Apply another broad pressure bandage starting at toes or fingers and bandage up limb as far as possible
- Bandage should be as firm as for a sprained ankle but not tight enough to stop blood flow
- Splint limb to prevent any muscle, limb or joint movement
- Keep casualty and limb completely still
- Make sure **ambulance** has been called
- If bite is not on a limb, keep casualty completely still and calm and apply firm direct pressure on bite site

Spider bites

The bites from many different spiders can cause severe pain or other serious symptoms. The recommended first aid treatment for a spider bite will depend on the type of spider involved. If serious signs or symptoms develop after any spider bite you should always seek medical aid.

Funnel web or mouse spider bites

The bites of only a few species of funnel web spiders are known to be potentially life threatening but the Australian Venom Research Unit advises that **all** suspected bites from funnel web and mouse spiders should be considered dangerous. Antivenom is available for a funnel web bite.

Signs and symptoms

- Pain at bite site
- Tingling around the mouth
- Profuse sweating or saliva
- Abdominal pain
- Muscular twitching
- Difficulty breathing
- Confusion leading to unconsciousness

Take care: Life-threatening symptoms can develop quickly





- Call Ambulance
- Follow Basic Life Support steps
- Apply Pressure Immobilisation Technique (PIT) bandage immediately
- Keep casualty still and calm and monitor vital signs

Spider bites (continued)

Redback spider bites

A redback spider's body is about 1cm long with a characteristic red, orange or pale stripe on its back. A redback bite can be life threatening for a child but is unlikely to be as dangerous for an adult. The pain from this spider's bite can range from mild to severe. It occurs rapidly after a bite but serious symptoms usually take some time to develop. Antivenom is available for a redback spider bite.

Signs and symptoms

- Immediate pain at bite site that increases and spreads
- Bite site becomes red, hot and swollen
- Abdominal pain, nausea or vomiting
- Profuse sweating, especially at bite site
- Swollen, tender glands in groin or armpit of bitten limb

Vital steps

- Follow Basic Life Support steps
- Apply ice pack or cold compress to reduce pain
- Seek medical aid





White-tailed and other spider bites

The bites of many species of spiders, including the white-tailed spider, can cause local pain, redness or swelling.

- Apply ice pack or cold compress to reduce pain
- If bite starts to blister, ulcerate or show any signs of infection seek medical aid

Bee, wasp and ant stings

A single sting from a bee, wasp or ant is painful but not usually dangerous unless the casualty has an allergy to the specific venom. If a casualty has multiple stings, stings around their face or airways or an allergic reaction they can have difficulty breathing and the situation is much more serious.



- Immediate and intense pain at sting site
- Local redness and swelling
- Allergic reaction (see page 36)







- Remove stinging insect from skin
- Move casualty to safe area if required
- If any "stinger" still in skin remove by brushing sideways without squeezing any venom sac
- Apply ice pack or cold compress to reduce pain
- If casualty requires additional pain relief
 seek medical aid
- If casualty has difficulty breathing or signs of any allergic reaction call ambulance
- Follow Basic Life Support steps

Tick bites

The bites of various species of ticks can inject venom that can cause a recurring fever, an allergic reaction and paralysis. Ticks can attach to anywhere on a casualty's body to feed on their blood. The paralysis tick (also known as "hard or scrub tick") may have been attached for several days before it is noticed – you should remove it as soon as it is found. Paralysis may still occur after the tick has been removed as the venom injected is slow acting. Soft ticks attach only briefly for feeding.

Signs and symptoms

- Local irritation near tick
- Lethargy
- Muscle weakness, especially in children
- Difficulty walking
- Double vision
- Difficulty swallowing or breathing

Vital steps

- Use fine-pointed tweezers to grasp tick as close to casualty's skin as possible
- Gently pull the tick out using slow, steady, upward pressure
- Wash bite site and apply an antiseptic **after** removal

Seek medical aid

- Always check casualty's entire body for any other ticks (including ears, skin creases and hair)
- If casualty develops a rash, persistent headache, fever or aching joints seek immediate medical aid
- If casualty shows any signs of allergic reaction **call ambulance**
- Follow Basic Life Support steps



Dog, cat and other animal bites

Any bite that breaks the skin can cause an infected wound. Animal bites can cause serious bleeding as well as damage to muscles and other tissues. The casualty should seek medical aid for any animal bite.

SEEK

AID

MEDICAL

- Make sure there is no danger of further attack from animal
- Control any bleeding
- If wound is minor:
 - Clean wound thoroughly using soap and water
 - If punctures in skin soak wound
 - Apply sterile dressing
- Seek medical aid as there can be a risk of tetanus or other infection
- If wound seems serious or casualty is in shock **call ambulance**



Jellyfish stings

The stings of many species of jellyfish and other marine creatures found in Australian coastal waters can be painful and cause serious or even fatal illness. The sting of the box jellyfish (generally found in tropical waters) is the most severe and has caused many deaths. The recommended first aid treatment for a jellyfish sting will depend on whether the sting occurred in tropical or non-tropical Australia (this is because it can be difficult for a first aider to identify the type of jellyfish).

Signs and symptoms

- Easily visible tentacles on the skin
- Skin markings very visible, painful marks and blisters through to marks that are very hard to find
- Immediate pain mild irritation through to very severe, sharp or burning pain
- General muscle aches
- Severe muscle cramps in limbs, chest or abdomen

Severe stings

- Severe pain
- Headache, nausea or vomiting
- Feeling restless and behaving irrationally
- Profuse sweating (sometimes only in sting area)
- Difficulty breathing or breathing stops
- Loss of consciousness
- Cardiac arrest

In tropical Australia

In non-tropical Australia

000 Stay calm





Vital steps

- Remove casualty from water and restrain if required
- Call ambulance if sting seems severe
- Follow Basic Life Support steps
- Spray or wash sting area with vinegar for at least 30 seconds
- Pick off any tentacles on skin
- Apply cold pack or ice in a dry plastic bag to reduce pain (do not allow any fresh water on skin)
- Monitor vital signs closely



Vital steps

- Reassure casualty and try to keep them comfortable
- **Do not** allow anyone to rub sting area
- Pick off any tentacles and flush well with sea water
- Immerse stung area in hot water, no hotter than first aider can comfortably tolerate, for 20 minutes
- If heat does not relieve pain or hot water is not available apply cold pack or ice in a dry plastic bag
- If pain persists or if any doubt about casualty's condition **call ambulance**



Note: For advice on any marine stings contact:

Australian Venom Research Unit on 1300 760 451 or Poisons Information Centre on 13 11 26

Blue-ringed octopus and cone shell

The blue-ringed octopus is found in all Australian coastal waters and can inflict a potentially fatal venomous bite. Many species of cone shells found in tropical waters can inject venom if handled or trodden on with bare feet. The venom of both these creatures can cause prolonged muscle weakness and paralysis which can result in breathing failure in as little as 30 minutes.

Signs and symptoms

- Painless bite site with spot of blood visible
- Numbness of lips and tongue
- Progressive weakness of breathing muscles
- Breathing stops
- Casualty may be completely paralysed and unable to respond but still aware of what is happening around them



Vital steps

• Call ambulance

- Reassure casualty and keep them still
- Monitor vital signs
- Apply Pressure
 Immobilisation Technique
 (PIT) bandage immediately
- Follow Basic Life
 Support steps



Fish spine stings

Painful injuries can be caused by the injection of venom or wounds from the spines of various fish species. Stonefish and bullrouts spines can inject venom deeply into wounds causing severe pain. Stingray spines can cause deep, painful puncture wounds.

Signs and symptoms

- Intense pain
- Swelling
- Grey/blue wound discolouration
- Open bleeding wound
- Fish spines embedded in wound
- Panic or irrational behaviour due to pain



- Immerse wound in hot water (only as hot as first aider can comfortably stand)
- If hot water does not ease pain apply ice pack or cold compress
- Seek medical aid or if symptoms are severe call ambulance



Cold illness – hypothermia

Hypothermia is a serious medical condition that occurs when the body temperature drops below 35 C. If the casualty's body temperature keeps falling, their body systems and organs can progressively fail resulting in death (usually from cardiac arrest). Hypothermia is commonly caused by exposure to cold, wet and windy conditions without adequate clothing or protection. Other causes include drugs (especially alcohol and sedatives), trauma, infections and some medical conditions. Infants and elderly people have a higher risk of hypothermia developing.

Signs and symptoms

- Pale, cold skin and shivering (in early stages)
- Apathy and confusion, eg slurred speech
- Poor coordination eg stumbling
- Feeling exhausted and disoriented
- Slowing irregular pulse
- Collapse and loss of consciousness (in later stage)









- Remove casualty from cold environment improvise shelter if necessary
- Call ambulance
- Carefully remove wet clothing only if dry clothing or blankets are available
- Rewarm casualty gradually
- Monitor vital signs closely
- Follow Basic Life Support steps
- **Do not** use direct heat or massage to re-warm casualty
- Do not give alcohol or hot drinks

Frostbite

Frostbite can occur when body parts are exposed to extreme cold resulting in the skin or the skin and underlying deep tissue becoming frozen. The freezing of the tissue causes ice crystals to form and the small blood vessels to become blocked. Superficial frostbite is when only the skin is frozen and deep frostbite is when both the skin and deeper underlying tissue are frozen. The most commonly affected areas are the face, including the ears, together with the fingers and toes.

Dehydration

Dehydration occurs when the body does not have enough water and fluids to function properly. Dehydration can be caused by not drinking enough water and fluids, by losing too much fluid or a combination of both. Babies, young children and the elderly have a higher risk of becoming dehydrated. Dehydration can cause serious health problems including heat exhaustion or heat stroke.

Signs and symptoms

- Pale, waxy, hard skin
- Initial pain or tingling of affected part followed by loss of feeling
- Itching
- Swelling or blistering
- Mottled, blotchy skin

Vital steps

- Seek shelter from cold/wet
- Gently re-warm casualty and affected area, use dry clothing/ blankets if available
- **Do not** allow thawed area to re-freeze
- **Do not** massage or rub frozen tissue
- **Do not** use direct heat to rewarm the affected area
- Seek medical aid

SEEK MEDICAL AID

Early signs and symptoms

- Feeling thirsty
- Warm, dry skin
- Feeling dizzy
- Cramps in arms or legs

As dehydration increases

- Dark yellow urine
- Passing little or no urine
- Hot, flushed skin
- Sunken eyes
- Rapid pulse
- Confused or irrational behaviour

- Reassure the casualty and rest them in coolest available place
- Replace lost fluids
- If casualty is conscious give regular small drinks of cool water
- If no improvement within one hour or casualty's condition gets worse
 seek medical aid



Heat cramps

Heat cramps are painful contractions or spasms of muscles often experienced by a casualty who has been sweating heavily during strenuous physical activity. Heat cramps commonly affect the arms, legs and abdomen. They can be one of the first symptoms noticed by a casualty who may be experiencing the onset of heat exhaustion.





Signs and symptoms

- Profuse sweating
- Feeling tired or thirsty
- Heat rash
- Nausea
- Twitching or spasms of muscles
- Painful involuntary
 muscle cramps





- Rest casualty in cool or shade if possible
- Gently stretch affected muscles
- If nausea passes give sips of cool water
- Reassure casualty and try to keep them comfortable
- Observe casualty for signs of heat exhaustion/ heat stroke
- **Do not** give salt tablets
- If cramps persist seek
 medical aid

Heat exhaustion

Heat exhaustion is caused by a mild rise in body temperature (to less than 40 C). The casualty can become mildly dehydrated from excessive sweating and not replacing this lost body fluid. If recognised early and treated promptly the casualty will often recover quite quickly. If not recognised and treated quickly the casualty may suffer heat stroke.





Vital steps

- Reassure casualty and lie them down in coolest available place
- Loosen or remove excess clothing
- Cool casualty by fanning and sponging with water
- If victim is conscious give regular small drinks of cool water
- Monitor and record vital signs
- If no improvement or casualty's condition gets worse call ambulance

Signs and symptoms

- Pale, cold, clammy skin
- Rapid, weak pulse
- Rapid breathing
- Profuse sweating
- Feeling thirsty
- Nausea, vomiting
- Headache
- Cramps
- Feeling dizzy, fainting





Heat stroke

Heat stroke is the most serious heat-related illness. It is a life-threatening condition that occurs when the body overheats and is unable to regulate its temperature normally - the casualty is seriously dehydrated and can no longer cool the skin surface by sweating. As the internal body temperature rises, organ damage can occur to the heart, brain or kidneys and toxins can be released into the circulation as the major muscles "melt down"

Signs and symptoms

- Hot, dry skin
- Rapid pulse
- Not sweating
- Irrational, aggressive
 behaviour
- Vomiting
- Staggering, fatigue
- Headache
- Cramps
- Collapse, seizure
- Loss of consciousness









Vital steps

Call ambulance

- Reassure casualty and lie them down in coolest available place
- Remove excess clothing
- Cool casualty by sponging with water and fanning repeatedly
- Apply wrapped ice packs to neck, armpits and groin
- Follow Basic Life Support steps



Practical skills

If you are able to quickly and comfortably bandage or support different types of injuries this can assist to relieve pain and reduce the risk of injuries getting worse. In this chapter there is information about some of the different types of bandages often found in first aid kits and how these bandages can be used to manage different injuries. This information is provided as a guide only and you must always carefully assess every situation to work out the best way to provide first aid care in that situation.

You should always make sure you have a suitable first aid kit available in the workplace, at home, during sporting or leisure activities and in any vehicle you drive. If an injury happens when you do not have easy access to a first aid kit you should make use of whatever is available around you to help manage the injury.

Triangular bandages

Triangular bandages are bandages made from triangle-shaped pieces of material that can have a variety of first aid uses. Triangular bandages can be used for securing dressing pads, controlling bleeding, as slings and to support or immobilise injured areas.

Slings

A sling is a type of bandage that is used to immobilise and support a casualty's arm when the arm or chest is injured. Triangular bandages are ideal to use for slings but you can improvise with any material you have available.

Arm sling



 Position bandage between 2. Bring lower end of arm and chest bandage up to sup



 Bring lower end of bandage up to support forearm. Hand should be level with elbow or slightly higher



3. Tie ends of bandage together at the side of casualty's neck



 Twist together or use a safety pin to secure end of bandage at the elbow. Check that blood circulation is not restricted by sling

Elevation sling



1. Place bandage over elevated forearm



2. Tuck bandage under hand, forearm and elbow



3. Wrap bandage around casualty's chest and bring bandage ends together



4. Tie bandage ends together at the side of casualty's neck near their fingers



5. Twist together or use a safety pin to secure end of bandage at the elbow



6. Check that blood circulation is not restricted by sling

Collar and cuff sling



 Ask the casualty to hold injured arm in most comfortable position



2. Make two loops in bandage as shown



 Bring loops together and carefully place over casualty's hand. Adjust sling to comfortable position and tie bandage ends at side of casualty's neck



 Check that blood circulation is not restricted by sling

Practical skills (continued)

Wound dressings

A wound dressing (or field dressing) contains a sterile dressing pad with a gauze bandage attached to secure it with. Wound dressings are designed to use to control bleeding from serious wounds and come in three sizes (small, medium & large).



Fracture immobilisation examples

Forearm fracture

Upper arm



 Support forearm with a padded splint. Bandage arm to splint above and below suspected fracture location



2. Support injured arm in sling. Check circulation is not restricted



 Carefully place padding between upper arm and chest. Use collar and cuff sling to support arm. Secure arm to chest below and then above suspected fracture with narrow bandage

Rib fractures



1. Place padding between upper arm and chest. Secure upper arm to chest with broad bandage

Lower leg fracture



2. Support arm in elevation sling. Check that circulation is not restricted in arm



 Place padding between legs. Secure feet and ankles together



2. Secure knees together with broad bandage



3. Apply narrow bandage below suspected fracture location



4. Apply narrow bandage above suspected fracture location

Ankle fracture



 Rest lower leg on pillow or similar padding. Carefully raise padding both sides of injury



2. Secure padding around injury with bandages



3. Raise and support injured foot if possible

Index

This index lists the first aid topics covered in this manual and the page number where the information is found. Information on other first aid or medical terms that are not explained in detail in the manual text may be found in the Glossary of Terms on page 107.

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Glossary of terms

This glossary provides definitions of any first aid or medical terms and conditions that have been used in this manual which may not have been explained detail in the relevant section of the manual. These terms are defined in everyday language rather than providing detailed medical definitions.

AED – Automated External Defibrillator Amputation – injury where a body part has been cut off completely Anus – the external opening of the rectum Arc welding flash – very bright light caused by welding which can cause radiation burns Arterial tourniquet – a tourniquet applied to upper arm or leg to stop blood in past that point Bitumen – black tarry substance which is often heated and used to make roads Bladder – organ where urine is stored in the body Bowel - Part of digestive system where food wastes are processed Bullrout – a type of stone-fish Calcium gluconate gel – a gel used to treat hydrofluoric acid burns Cardiac arrest – when the heart has stopped pumping Cross infection – infection of any type that spreads between two or more people Diarrhoea - frequent passing of loose, watery bowel motions or stools Glucose – a simple type of sugar Hormone – a substance that circulates in body that has a specific effect on cell activity Hypodermic needle – device used to inject substances through skin Indigestion – symptoms or feelings of discomfort caused by poor digestion of food Inflammation – body's response to an injury resulting in pain, heat, redness and swelling Insulin – a hormone produced by the pancreas which controls levels of sugar in blood and cells Ligaments – flexible tissues that connect and support bones at a joint Meningitis – inflammation of the membranes that cover brain or spinal caused by an infection Mouse spider – a spider similar to a funnel-web whose bite can have similar effects as funnel-web Plasma – the liquid part of the blood Rectum – part of digestive system where body waste is stored before being passed out the anus Standard Precautions – general procedures followed to minimise the risk of spreading infection whenever treating any casualty or patient Stools - bowel motions or food wastes passed out of body from rectum Tendons – ends of a muscle that attach to a bone Tourniquet – something used to compress blood vessels to block the flow of blood Urine – Liquid containing waste products removed from the blood by kidneys

Vagina - lower part of female reproductive organs

Notes

Basic Life Support



Continue CPR – until qualified help arrives or signs of life (responsiveness, normal breathing) return



About this manual

The **Everyday Learning First Aid Training Manual** provides current first aid information in a way that is easy to understand and easy to use in the classroom. This manual covers information required to teach the Perform CPR, Provide Basic Emergency Life Support and Apply First Aid units of competency contained in the nationally accredited Health Training Package (HLT07). With clear easy to follow information on how to provide first aid care to manage a wide range of illnesses and injuries, the key features include:

- Background information
- Signs and symptoms
- Vital steps using visual and written instructions
- Up to date first aid information based on Australian Resuscitation Council guidelines and recommendations from key Australian health care organisations.

About the author

John Morris has been teaching first aid and working in public safety and community education roles for over 30 years. John has extensive experience in training delivery and management with a range of organisations including Australian Red Cross, Victoria State Emergency Service, University of Ballarat, St John Ambulance and Ambulance Victoria. He also has extensive practical experience providing first aid care.

John is passionate about encouraging everyone in the community to learn first aid skills. He has identified the need for a relevant easy to use training manual to help teach everyday people the vital steps in providing first aid when needed.

For information about the full range of Everyday Learning products available go to

www.everydaylearning.com.au



