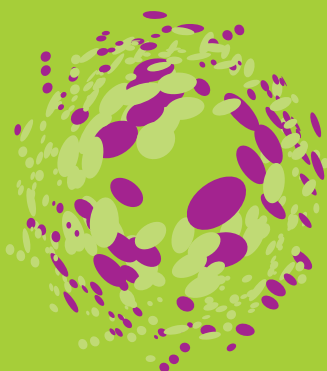


CPR Pre-Course Work

Instructions for use

Please ensure that you read all of the information contained in this booklet prior to your face to face training session



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AUSTRALIAN | PACIFIC TRAINING SOLUTIONS

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22nd January 2015

FIRST AID ROLES AND RESPONSIBILITIES

About first aid

First aid is the initial care provided to someone who has suddenly fallen ill, or who has been injured, until more advanced care is provided or the person recovers. Immediate and effective first aid may reduce the severity of the injury or illness and promote recovery. Knowledge of first aid is important for everyday life at home, work, or in the community. Not every incident requiring first aid will be life threatening, however the more people with basic first aid knowledge, the better the chances are of saving a life!



Australian Resuscitation Council (ARC)

The Australian Resuscitation Council is a voluntary coordinating body that creates uniformity and standardisation for resuscitation techniques and for the provision of first aid. They develop guidelines for the provision of CPR and first aid. The guidelines can be viewed on their website: resus.org.au

Ethics and first aid

First aid training

If you are trained in first aid, it is imperative that you maintain currency of skills and knowledge. Routinely attend refresher courses and be aware of changes to legislation, policy and procedures and ARC guidelines in relation to first aid.



Duty of care

If a first aider decides to provide assistance to a person in need, they must provide a standard of care appropriate to their training (or lack of training) and never go beyond their own skills and limitations. They must act in 'good faith' and without recklessness and with reasonable care and skill. First aid must be provided in accordance with first aid principles, making the casualty as comfortable as possible using available resources and equipment. First aid equipment used must be operated according to manufacturer's instructions. The first aider should stay with the casualty unless it is necessary to leave to call for medical assistance, a rescuer of equal or higher ability takes over, or continuing to give aid becomes unsafe.

The Good Samaritan Law

A 'Good Samaritan' is defined in legislation as a person acting without expecting financial or other reward for providing assistance. First aiders need not fear litigation if they come to the aid of a fellow human in need as long as they do not act recklessly and try to avoid further harm. Most Australian states and territories have some form of Good Samaritan protection. In general these offer protection if care is made in good faith.

Respect and ethics

Ethical issues are dependent on law, cultural beliefs and principles, and on moral grounds. Simple ethics include always displaying respectful behaviour towards the casualty, maintaining respect for their beliefs, privacy and dignity, and paying careful attention to consent and confidentiality.

Privacy and confidentiality

Personal information about the health of a casualty must be kept confidential and should only be accessed by authorised people. Information includes details of medical conditions, treatment provided and the results of tests. Disclosure of personal information, without that person's written consent, is unethical and in some cases may be illegal. Confidentiality of records and information must be maintained in line with statutory and/or organisational policies.

Consent and refusal of treatment

The consent of an injured or ill person must be obtained before assistance is rendered, regardless of age, ability, health or mental status (unless the casualty is unconscious). If the casualty is a minor, consent must come from a parent or guardian if available. Legal action and damages may be taken against you if you act without obtaining consent.

Adults are entitled to refuse treatment, even if it is life-sustaining. Substitute decision-makers such as parents or legal guardians of minors, or those with a disability, can likewise refuse treatment but only if in the 'best interests' of their charge.

Making the casualty comfortable

The casualty should be made as comfortable as physically possible by using available resources and equipment. This might mean placing pillows under broken limbs or behind a head or back, covering them to keep warm or providing pain relief using hot or cold packs etc. The resources you use must be available at the scene or close by. They could be commercially made items from a first aid kit such as bandages, slings, gauze or an emergency blanket, or, you could use 'make do' items such as rolled up jumpers for a pillow, towels or large coat for a blanket, a t-shirt torn into strips for a bandage etc.

Monitoring and reassuring

The casualty will feel better knowing that you are going to stay with them and care for them until further help arrives. A first aider should monitor the casualty and respond to changes to their condition in accordance with first aid principles.

First aid in the workplace

First aid requirements vary from one workplace to the next, depending on the nature of the work, the type of hazards, the workplace size, location and number of workers. These factors are taken into account when deciding what first aid arrangements and facilities need to be provided, along with adhering to the Australian resuscitation guidelines and the relevant state and territory legislation.

Policies and procedures

When they are developed, policies and procedures for first aid in the workplace take into account the relevant legislation, such as Acts, Regulations and Codes of Practice. They provide information on providing first aid, reporting incidents, and emergency plans. A workplace first aider must be able to locate, understand and adhere to their organisations policies and procedures for the provision of first aid. For example, workplaces will have procedures for dealing with major and minor accidents/incidents in the workplace.

Minor incident - Where a casualty requires minor first aid treatment on site, but is able to immediately return to work.

Serious notifiable accident - Is an injury to a worker where transportation to hospital is required for medical treatment.

First aid Code of Practice

Codes of Practice are practical guides under the *Work Health and Safety Act* and Regulations for safety in the workplace. The 'FIRST AID IN THE WORKPLACE' Code of Practice provides information using a risk management approach for first aid, i.e. take into account the size and type of workplace, identify potential hazards and assess the risk to determine first aid requirements such as training for first aiders, the requirements for first aid facilities and the appropriate content and number of first aid kits.



First aid kits

Legislation requires all workplaces to have a first aid kit that is stored in an accessible location clearly marked with a first aid sign. The number of kits, the contents and size will vary depending on the number of workers and the type of industry. First aid kits should be checked regularly to ensure that there are sufficient supplies in the kit when it is required in a first aid situation.



First aid equipment

All first aid equipment must be operated according to the manufacturer's instructions and never used for anything other than what it is intended for.

Communication

A first aider will be required to communicate in many different ways. It may be directly with the casualty, their relatives, parents or carers. It may be to direct bystanders, ask for assistance, consult witnesses, call emergency services or provide a verbal handover to paramedics or ambulance officers. No matter what the situation effective communication is of utmost importance.

Effective communication

The aim is to gain trust, provide reassurance and get others to assist you. Those assisting will need clear direction and coordination. To communicate effectively is to speak clearly, be precise, direct and get straight to the point. Use a confident firm tone of voice, don't yell or order abruptly. Consider culture and ethics. Show leadership. Check that directions are understood and followed, for example making sure the person you asked to call the ambulance has actually done so. Effective listening is also an essential part of communication.

Communication and cultural awareness

Attentiveness and using culturally appropriate ways of communicating that are courteous and clear assists with gaining the trust of casualty. First aiders may be called upon to treat casualties from diverse backgrounds. The values of different cultural groups should be respected and everyone should be treated with sensitivity. For example, it may be necessary to communicate through non-verbal means (body language, hand signals etc.) due to language or hearing barriers. A first aider should have the ability to identify issues that may cause conflict or misunderstanding and approach them accordingly.



Communicating and providing first aid for children, the aged or infirmed

Be mindful of the age of the person being treated and act accordingly. There are differences in the way you should communicate for moral reasons and also to gain acceptance and trust.

Children and babies – Approach with care and compassion. They may be frightened, especially if they don't know you and they are away from their parents or carers. Reassure, use a soft kind voice and give them a distraction to take their mind off the situation, e.g. giving them something to hold like a band aid. The details of an incident involving children or babies when the parent/caregiver is not present must be reported to the parent/caregiver. Also, children may react differently to adults after a first aid situation. Whether injured or sick themselves, or concerned about a friend, they will feel affected by the incident. Someone should talk to children about their feelings, emotions and responses and provide assistance to help recovery.

Aged or infirmed casualties – Respect and dignity are very important. Remember with older people they may have reduced ability, such as trouble walking or moving, be hearing impaired, be fragile e.g. brittle bones, thin skin which damages or tears easily, etc. Be patient, gentle and provide support and assistance with movement, positioning and making comfortable.

Sending for help

When calling for help, the "phone first" concept is recommended by the Australian Resuscitation Council, especially for cardiac arrest situations. The first aider should arrange for the ambulance to be called, but always ensure that the person who rings for the ambulance confirms with you that the call was made and that the exact location is given. They should also send someone to obtain resources such as masks, gloves and a defibrillator etc.

If no-one is close by, try calling out for help or assistance. If there is no-one available to assist, the first aider should call the ambulance themselves.



Phone the ambulance

Stay calm. Call from a safe place. Select the service required. Provide your location. Follow instructions.

Triple Zero (000) is the Australian primary emergency number for all telephones (landline, mobile phones and payphones). *Please note: you must have reception to make the call from a mobile phone.

Note: **112** is an international standard emergency number automatically translated to the emergency number of the country the caller is in, and **106** is a text-based emergency call service for people who are deaf or have a hearing or speech impairment.



Evaluations after first aid

Own performance

You must be aware of your own skills and limitations whilst providing care for a casualty. Evaluating your own performance after an incident can provide you with an opportunity for self-improvement. It may be beneficial to speak with the paramedics who attended the incident to ask for advice.

Psychological impacts

It is extremely important to recognise the possible psychological impacts on yourself, other rescuers and children (if you work with children), especially when involved in critical incidents. Each person reacts differently to traumatic events and in some instances a situation may evoke strong emotions, which may affect health, well-being and work performance. Symptoms can appear immediately or later, days, months or even years after the original event. There is no right or wrong way to feel. What a person experiences is valid for that person.

Debriefing

Debriefing should be conducted to address individual needs and children should be provided with someone to talk with about their emotions and responses to events. All first aiders should talk about the event and how they feel and seek professional help if they recognise the signs and symptoms of stress.



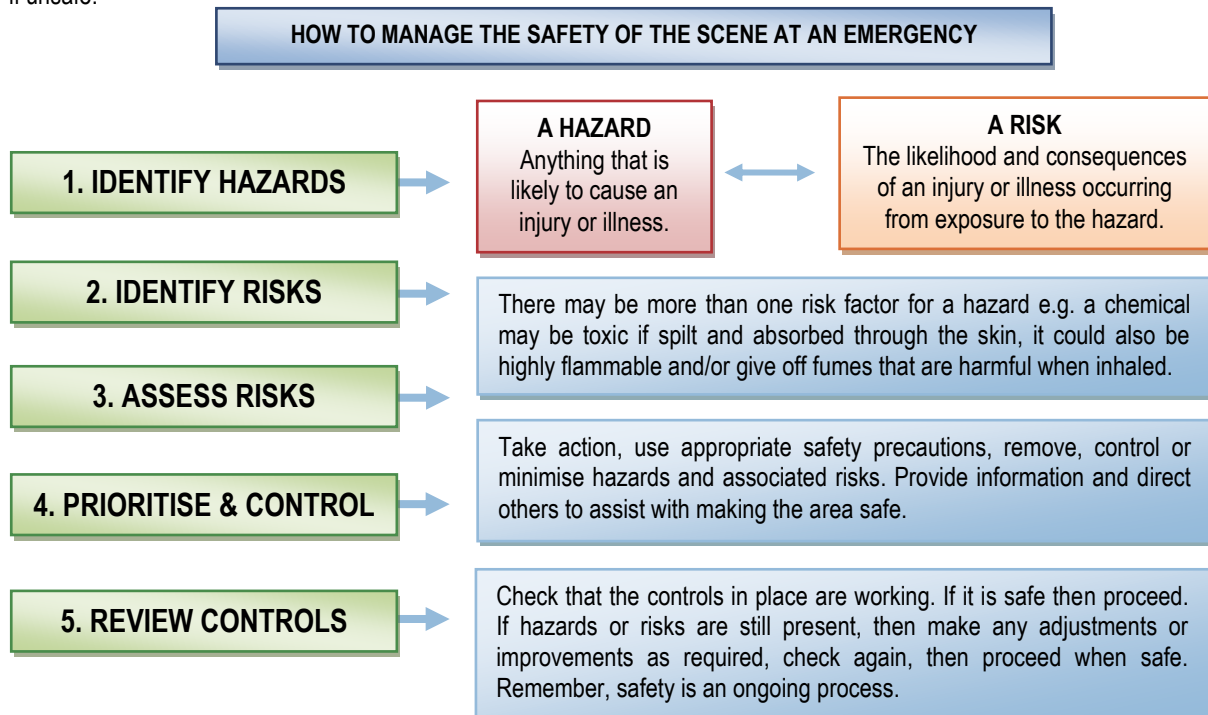
Evaluate incident management

In a workplace, evaluation of an incident should be done with a supervisor and all involved so that the incident can be discussed, evaluated and recorded for future improvement. This consultation can lead to improved action plans or contingency plans being developed and will also ensure the first aider/s is not suffering emotionally after attending an incident. Support services for personnel involved in any incident should be arranged.

Dangers and safety precautions

Hazard and risk assessment

Before providing first aid, a first aider must evaluate the scene of an emergency on approach using hazard identification. If hazards have been identified, it is important to assess the risk that they pose. This is called risk assessment. The next step is to decide what to do to remove the risks posed by the hazard or make them safer. Personal safety is of the utmost importance. This process must be done very quickly and effectively in an emergency situation. In all cases, do not proceed if unsafe.



Hazards to the casualty

A first aider should be aware of the dangers and hazards that may cause harm to the casualty, as well as themselves. Always ensure your own safety in these situations and then protect the casualty.

Airway obstruction due to the position of the casualty's body is a common hazard. The biggest danger of this occurring is whilst they are unconscious however; in a conscious person, obstruction of breathing can occur in a person who is pinned down, or restricted whilst on their back, possibly causing suffocation. Vomiting is another danger which may cause suffocation or choking, therefore always assist the casualty in to a position that allows for drainage. **Exposure** to the weather or being in a **dangerous situation** such as on a road or unstable surface are other common hazards.

Hazard and risk management

Examples of hazards	Risk they may pose	Examples of how to minimise risk/s
Body fluids (e.g. blood)	Being infected	PPE, gloves, eye wear, aprons etc.
Aggressive behaviour	Being attacked	Be calm, reassuring, get help from others, don't continue if they remain aggressive
Needle stick injuries	Being stuck by the needle and becoming contaminated	Look for, move away from, needles that are found, advise others, don't pick up
Lifting or moving heavy objects or casualties	Back injuries	Safe manual handling, ask others to help, use devices such as back boards
Machinery	Being injured by the equipment Equipment failure	Shut down or shield dangerous moving parts
Chemical fumes/biological	Being poisoned	Wait for professionals to declare safe, use PPE, shut down power, consult the Safety Data Sheet (SDS) for the substance
Traffic	Being hit by a vehicle	Move to a safer location, put up warning signs, position vehicles, have others direct traffic, slow vehicles down or stop
Fallen power lines	Electrocution	Arrange for the authorities to shut down power, use non-conductive materials to remove casualty
Fire	Being burnt Risk of explosion Falling or collapse of building Being trapped Smoke	Extinguish fire if safe and trained to do so, remove sources or move casualty to safe area, call fire brigade and emergency services and wait for them if unsafe
Environment (e.g. storms, snow, wind, rain)	Falling or tripping Being struck by falling or flying objects Too cold or too hot	Protect with cover, move to a safer area
Location (e.g. rough terrain, confined spaces) etc.	Falling or tripping, becoming trapped, unsafe atmosphere	Move to a safer area if possible, follow safety procedures, call emergency services
Manual Handling	Injury to the body Dropping a casualty	Use appropriate manual handling techniques Know your limitations, ask for assistance

Manual handling

You must be aware of possible injuries you could receive whilst providing first aid. People move and have characteristics that must be taken into account when moving lifting or assisting casualties (manual handling). Unpredictable behaviour such as sudden movements and the need to adopt awkward or static working postures can put you at risk. Most common are injuries to the back as a result of poor manual handling. The shape of our spinal column, which curves forward in the neck and lumbar region means this area receives the greatest stress when moving or lifting. The majority of back injuries occur in the lower lumbar area. Avoid using back muscles to lift a casualty and most importantly never lift a casualty while you are bent over them. Never attempt to manually lift the person from the floor, or attempt to lift a person alone.

Follow these steps effective lifting:

1. Mental preparation:	What Weight and size of casualty	Where is the casualty to be moved to	How Lifting technique Number of helpers Use resources to assist	Know your limitations	Ask for help if required, or ask the person to assist where possible
2. Position:	Arms and casualty close to your body	Feet shoulder width apart	Hips Flex at hips, not waist, Bend at the knees	Back Keep in alignment with shoulders and pelvis	Head Hold straight
3. Lifting:	Grip load securely	Use thigh and leg muscles	Avoid twisting, rotating or jerking	Communicate Take charge Provide good instruction	Team work Co-ordinate Work together

Infection control & standard precautions

In every first aid situation you should try to minimise the risk of transmission of infection to yourself, the casualty and to any bystanders. Follow standard precaution procedures to ensure a basic level of infection control, especially when handling blood or body substances. Standard precautions are practices applied regardless of a casualty's infectious status. This includes hand hygiene, use of personal protective equipment (PPE), appropriately handling and disposing of sharps and waste, cleaning techniques and managing spills of blood and body substances.

How can diseases be transmitted?

- Droplet transmission – e.g. Sneezing or coughing;
- Airborne transmission – e.g. Ventilation systems and air conditioning units;
- Contact – e.g. Blood or body fluids coming into direct contact with skin, eyes etc.;
- Contaminated objects – e.g. skin contact with needles, mosquitoes etc.

Providing first aid safely - Always assume that there is a risk of being exposed to infection.

Before first aid:

- Wash your hands with soap and water or apply alcohol-based hand rub;
- If you have cuts or wounds on your hands, cover with a waterproof dressing;
- Check gloves are in good condition;

During first aid:

- Wear gloves and ensure that they don't get torn;
- Use a plastic apron and eye protection if available and splashes of blood or body substances are likely to occur.
- Use a resuscitation mask if available for rescue breaths *;
- If you come into contact with body fluids, wash the area immediately with running water and seek medical advice.

After first aid:

- Safely dispose of used dressings, bandages and infectious waste, e.g. in to plastic bags marked infectious waste;
- Carefully remove disposable gloves, dispose of them in to an appropriate bin or container, then wash your hands thoroughly with soap and water or apply alcohol-based hand rub.

* There are several types of resuscitation masks available, even ones that can be carried on your key ring. If a resuscitation mask is unavailable, you could ask the partner of the casualty to do the rescue breathing, or do compression only CPR, especially if there are signs of blood or vomit, or you do not want to do the rescue breaths for fear of infection.



Wash your hands



Disposable gloves



Resuscitation mask

First aid emergencies

Recognising an emergency

An emergency can happen anywhere, on the road, at home, work or play. The sound of someone in distress, a spilled chemical container, unusual behaviour (e.g. panic) and/or symptoms and signs of the casualty such as severe bleeding may be indicators of an emergency. You will not know if first aid is needed until you approach the scene or the individual. For example, you may see a person slip, they may not be in need of any help at all, or the person may be unconscious and need immediate medical assistance.



A medical emergency is a sudden illness such as heart attack which requires immediate medical attention.

An injury is damage to the body, such as broken arm which results from a violent force. Some injuries can be serious enough to be considered emergencies.

What to do when you recognise an emergency - Always call Triple Zero (000). If you are not sure, call 000 anyway. Calling an ambulance can be the difference between life and death.

Capabilities of emergency services – Emergency services personnel have specialised training to manage casualties. They carry advanced equipment and have access to additional resources/technical experts. They also have the ability to readily communicate and coordinate with other emergency services if required.

Emergency action plan

An emergency action plan is a guideline a first aider can follow to assist them to remain calm, but respond quickly and provide effective treatment. Following an emergency action plan also ensures safety.

First actions are based on the **DRSABCD** protocol

1. ASSESS THE SCENE

Danger – Identify, assess and manage immediate hazards. If this is not possible, call for assistance from emergency response services. Do not make an attempt to respond if it is dangerous. Evacuate casualties to a safer area if required and you can do so without putting yourself in danger. For multiple casualty incidents, conduct a basic triage.

2. ASSESS THE CASUALTY

Response – If conscious, obtain consent. Assess the casualty. Recognise the need for first aid. Check their response, vital signs, injuries and signs and symptoms. Recognise the need for assistance.

3. ASSESS WHAT TO DO NEXT

Send for help – If further assistance required, coordinate others to call for help and get resources, or do it yourself. Provide first aid following procedures and principles.

Treat the unconscious: **AB** – Airway, Breathing **CD** – CPR, Defibrillation

Treat the conscious: Manage injuries or illnesses. Monitor and reassure the casualty until help arrives.

Handover the casualty.

Consciousness

A casualty may experience different levels of consciousness.

- **Conscious** - A person is walking, talking, doing normal things, is said to be 'conscious'.
- **Unconscious** - A person is said to be 'unconscious' when they cannot be woken from what looks like a sleep, but they are still breathing and they have a pulse. You cannot gain a purposeful response.
- **Cardiac arrest** - A collapsed casualty that is unconscious and not breathing normally or at all.

History

A history is the complete story concerning the accident or illness. What happened prior to the illness or accident can be vital when working out what is wrong with the casualty, especially if they are unconscious. It is a short story that leads up to and includes the incident. It includes any previous or current health conditions and medications. The casualty, bystanders or relatives can be invaluable in these cases.

Ask questions such as:

- "Do they suffer from any allergies?"
- "Are there any previous relevant illnesses?"
- "Are they on any medications?"
- "Has this happened before?"
- "What were they doing at the time?"
- "What signs or symptoms were they showing?"

A way to remember what to find out is using **AMPLE** history.

- A** Allergies they have
- M** Medications they take
- P** Previous medical/surgical history
- L** Last meal (Time)
- E** Events /Environment surrounding the injury; i.e. exactly what happened.

Medic alert

Is a bracelet or necklet, providing instant access to primary medical conditions/allergies or "special needs". They have an internationally recognised emblem, a 24hr telephone hotline number and information relevant to the person engraved on them.



Casualty assessment

For casualty assessment there are 2 stages. The first being the **primary survey (response)** and next being the **secondary survey (verbal and visual)**.

1. Primary survey (response)

This first stage follows the DRSABCD action plan, where you try to get a response from the casualty, send for help/call an ambulance if they are unconscious or seriously injured, check their breathing and respond with CPR, or move to the verbal survey, if they are conscious.

Response

Are they alive? You must try to get a response from the casualty. If they appear unconscious, gently shake their shoulders, firmly ask questions (but don't shout), like "can you hear me?" Ask them to try to squeeze your hand. If the casualty responds and can talk, assess their state of consciousness (slurred speech, dizzy etc.) and move onto the verbal secondary survey. If they are not responding, treat them as unconscious send for help and call the ambulance immediately.



Unconscious casualties

Airway and Breathing

Are they breathing? If a person is unconscious, you must open their airway and check their breathing. To check whether or not the casualty is breathing normally use the 'Look, Feel and Listen' technique. That is, **LOOK & FEEL** for movement (rise and fall) of the upper abdomen or lower chest. **LISTEN** for the escape of air from the nose and mouth. If the casualty's chest does not rise and fall with each breath, their chest does not rise at all, and no air is escaping from the nose or mouth, then they are not breathing normally. If they are breathing abnormally, or only occasionally gasping or and are unresponsive they require immediate resuscitation.



Unconscious BREATHING casualty

When a person is breathing, but they cannot be woken from what looks like a sleep, they are unaware of their surroundings and no purposeful response can be obtained, they are said to be unconscious. It should also be noted that a casualty showing only a minor response, such as groaning without opening their eyes, should be treated as unconscious.

Causes - Combinations of different causes may be present e.g. a head injury and under the influence of alcohol. The acronym – **AEIOUTIPS**, will help evaluate the reasons why the casualty is unconscious.

- A Alcohol** (e.g. too much);
- E Epilepsy** (e.g. a seizure);
- I Insulin** (e.g. too much or too little insulin in the body);
- O Overdoses** (e.g. heroin/sleeping tablets);
- U Uraemia** (renal failure can be difficult to diagnose for a first aider);
- T Trauma** (e.g. accidents, falls, hangings, severe blood loss);
- I Infections** (e.g. to the brain);
- P Pretending** (e.g. pretending to be unconscious to get medical attention to avoid a situation);
- S Stroke** (a rupture or blockage to an area in the brain).



Priority - Care of the airway takes precedence over any injury, including the possibility of a spinal injury.



Airway obstruction due to body position - The greatest danger, to an unconscious breathing casualty, exists whilst they are lying on their back. When a casualty is unconscious their muscles become relaxed, including the muscles that assist in swallowing and the tongue falls to the back of the throat blocking air. Their stomach contents can enter their lungs, or they could choke due to not being able to swallow or cough out foreign material.

Position on their side

Positioning an unconscious casualty on his/her side maintains a clear airway and facilitates free drainage of fluids and reduces the risk of inhaling foreign material. It also allows for good observation of, and access to the airway. Gently clear any obstructions (vomit, food etc.). Tilt their head back and using correct manual handling skills, roll them onto their side using their arm and a bent leg. Where possible, an assistant should support the head when an injured casualty is being turned over, but no time should be wasted.

Once on their side, you can try to obtain information about what happened from family or witnesses (history) and look for visible clues such as injuries and evidence in the surrounding area (e.g. a ladder and spilt paint may indicate the casualty has fallen from the ladder and struck his/her head).



Unconscious NON-BREATHING casualty

An unconscious casualty that is not responding, not breathing at all, or has minimal response and is not breathing normally, needs urgent treatment. Even if the casualty takes occasional breaths or gasps, first aiders should suspect that cardiac arrest has occurred and should start CPR.

First aid – With an unconscious non breathing casualty, do not roll onto his/her side, **immediately follow the steps for the chain of survival, and DRSABCD** emergency action plan.

Calling for help is an urgent priority.



Conscious casualties

2. Secondary survey (verbal and visual)

This second stage is carried out using the 'no touch technique' and involves a systematic visual and verbal examination of his/her injuries without touching them. Gain consent to assess them. Explain what you are going to do. Listen carefully to the casualty's responses to the questions that you ask observing and noting the answers given.

If injuries are found during these examinations, then further evaluate what treatment is required. Where there is more than one casualty, THE CARE OF THE UNCONSCIOUS CASUALTY HAS PRIORITY.

How to examine a CONSCIOUS casualty

After the primary survey - Follow an examination routine to identify any injuries that the casualty may have.

More about the verbal survey - A systematic routine starts from the top of the body, starting at the neck, to the head, the chest, then the stomach, followed by the limbs and finally, if injuries allow, rolling the casualty and examine the back. The entire survey should be continued, even if they provide an answer that leads you to suspect something, such as a limb fracture. Not completing a thorough examination, or simply asking the casualty to describe the painful area, may prevent you from discovering something serious, such as a spinal injury.

RESUSCITATION

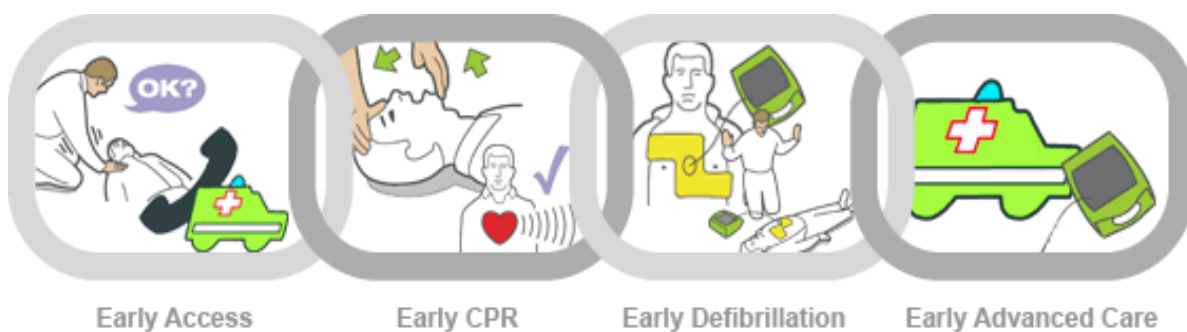
Any casualty who is gasping, or breathing abnormally, and is unresponsive, requires resuscitation. Breathing may be absent or ineffective as a result of:

- Upper airway obstruction;
- Cardiac arrest;
- Problems affecting the lungs;
- Drowning;
- Suffocation;
- Paralysis or impairment of the nerves and/or muscles of breathing.

Cardiac arrest

Cardiac arrest is a term that is used to describe a collapsed casualty that is unconscious, unresponsive, not breathing normally, or at all and not moving. Cardiac arrest is the largest cause of death. The best way to increase the chance of saving sudden cardiac arrest casualties outside of a hospital setting is to follow every link in the chain of survival.

Chain of survival



The first link: Early access to the ambulance - Time is essential to preserve life. Dial Triple Zero (000). If available, immediately send for a defibrillator. Includes early recognition of the cardiac emergency and early notification of ambulance service.

The second link: Early CPR - Assess and support the airway, breathing and circulation. Cardiopulmonary resuscitation (CPR) is the technique combining chest compressions and rescue breaths (ventilations). The purpose of CPR is to temporarily maintain a circulation sufficient to preserve brain function until specialised equipment is available to re-start the heart.

When to stop CPR - A first aider should continue cardiopulmonary resuscitation until:

- The casualty responds or begins breathing normally;
- It is impossible to continue (e.g. exhaustion);
- Someone else can take over CPR;
- A health care professional directs CPR to be ceased.

Having a defibrillator in a workplace or shared between a number of workplaces is vital in giving a cardiac arrest casualty every chance of survival.

The third link: Early defibrillation - Defibrillation is used to treat cardiac arrest caused by Ventricular Fibrillation (VF, an abnormal, irregular heart rhythm with rapid, uncoordinated contractions). It is a process in which an electronic device, called an automated external defibrillator (AED), helps re-establish normal contraction rhythms in a heart that is not beating properly by providing a brief, effective shock through the person's chest to their heart, interrupting the abnormal rhythm and hopefully allowing the heart's natural rhythm to regain control. The time to defibrillation is a key factor that influences survival. For every minute defibrillation is delayed, there is approximately 10% reduction in survival. An AED can safely be used on pregnant casualties.

The fourth link: Early advanced care relates to the response of highly trained paramedics who can assist the casualty, provide for the administration of drugs, advanced airway procedures and other interventions and protocols.

Cardiopulmonary resuscitation (CPR)

First aiders should start CPR as soon as they assess the casualty as not responding. The indicators would be that the casualty is unconscious, unresponsive, not moving and not breathing normally. Even if the casualty takes occasional breaths, or gasps, first aiders should suspect that cardiac arrest has occurred and should start CPR.

1. Manage airway - Roll the casualty on to his/her back to open the airway. Failure to maintain an open airway is the most common cause of obstruction during resuscitation.

- **ADULTS** - Use backward head tilt / chin lift. Place one hand on their forehead. The other hand provides chin lift. Hold the chin up using your thumb and fingers (pistol grip). Tilt the head backwards (NOT the neck). The jaw is held open slightly and pulled away from the chest. Avoid excessive force.

- **INFANTS** - Do not use backward head tilt / chin lift for children under 1 year old, keep the head in a neutral position by gently supporting the lower jaw at the point of the chin maintaining an open mouth.



Open airway



Check breathing

2. Breathing - After an unconscious casualty's airway is cleared, the next step is to check whether or not the casualty is breathing normally using the 'Look, Feel, Listen' technique. Casualties who are only occasionally gasping or breathing abnormally and are unresponsive require immediate resuscitation.

- **LOOK & FEEL** for movement (rise and fall) of the upper abdomen or lower chest. **LISTEN** for the escape of air from the nose and mouth.



30 Compressions

3. CPR - 30 chest compressions, 2 rescue breaths alternatively and continuously until recovery, defibrillator arrives, someone else takes over or you are directed to stop by a medical professional. Resuscitation can be done with a **single operator**; however, it is more beneficial to complete CPR with **two first aiders** i.e. one person completing the rescue breaths and one person doing compressions.

- **Regurgitation or airway obstruction** - If airway becomes obstructed during CPR, promptly roll the casualty on to his/her side and clear. Reassess response and breathing, then recommence CPR as required.
- **Chest compressions** - Help oxygen circulate around the body. Compressions should only be paused when doing rescue breaths and for defibrillation (if required). If there is more than one first aider present, rotate approximately every 2 minutes to reduce fatigue. Casualties should be placed on their back on a firm surface*. Compressions are done on the centre of the chest, about half way along the sternum (breastbone)** , rhythmically at 100 compressions per minute and around one third of the depth of the chest.



2 Rescue breaths



Defibrillate

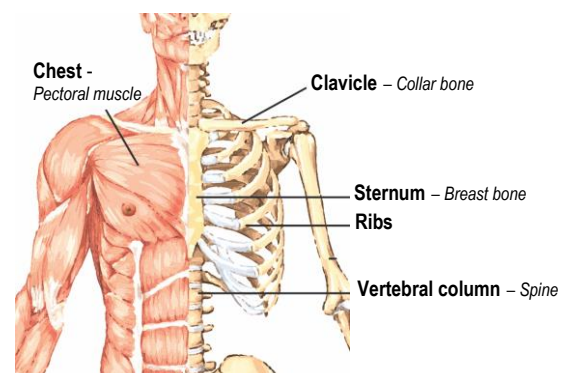


- **ADULT** use two interlocked hands.
- **INFANT** use two fingers.

- ***Resuscitation in late pregnancy** - In the obviously pregnant woman the uterus causes pressure on the major abdominal vessels when she lies flat on her back, reducing the venous return of blood to the heart. Position her on her back with her shoulders flat and use padding under her right buttock to give pelvic tilt to the left side.

- ****Anatomy of the chest** - A first aider will need to understand the basic anatomy of the chest when performing CPR so that they can correctly identify where to place their hands for compressions, watch for chest rise during rescue breaths and position the pads of a defibrillator.

- **Compressions only CPR** - If the first aider is unwilling or unable to do the rescue breaths, CPR can be performed by doing the chest compressions only. Follow all requirements for compressions continuously, only pausing if response or breathing returns, for defibrillation, or handover.



- **Rescue breaths or ventilations** - Mouth to mask (preferable), mouth to mouth, mouth to nose (infants and small children) or rarely, mouth to stoma (hole in the front of the neck). Kneel beside their head. Maintain an open airway. If using a mask position it and hold in place. Blow into the mask and inflate the lungs. Look for chest rise. Remove your mouth the mask, to allow exhalation. Turn your head to listen and feel for the release of air.

If the chest does not rise, re-check head tilt, chin lift and mask seal.

Do this 2 times then go back to compressions.

Do the same if not using a mask, only create a seal with your mouth over theirs.



- **ADULTS** use a full breath.
- **INFANTS** only use puffs.



- **Protection** - A resuscitation mask is a protective device which prevents direct contact between the first aider and the casualty. Reasons for use - to avoid unpleasant, intimate contact with vomit, blood and saliva and to overcome the associated fear of transmission of an infectious disease. Risk of disease transmission during rescue breaths is very low; using a resuscitation mask reduces the risk even further. Remember though, rescue breathing is a life-saving manoeuvre and whilst masks should be used if available, they are not mandatory. Do not delay rescue breaths if protection is unavailable. If the first aider is unwilling or unable to do rescue breaths they should do 'compressions only' CPR.



- **Bag-valve-mask (BVM) resuscitator** - Is used to manually provide mechanical ventilation instead of mouth-to-mouth resuscitation. The BVM consists of a flexible air chamber about the size of a rugby ball attached to a face mask via a shutter valve. When the air chamber or "bag" is squeezed, the device forces air into the casualty's lungs. When the bag is released it self-inflates, drawing in air or a low pressure oxygen flow supplied from a regulated cylinder, while the casualty's lungs deflate through the one way valve.



4. Defibrillation with an AED - An automated external defibrillator (AED) can identify the cardiac rhythm as "shockable" or "non-shockable". Anyone can use a defibrillator, however, formal training assists with speed of use, correct pad placement and confidence. There are many different types of AEDs, however they all follow the same principle. Always, only use equipment as per the manufacturer's instructions.

- If available, use as soon as possible. Continue CPR until the AED is turned on and pads are attached. Quickly check the equipment, turn on the AED and follow the AED treatment plan (below). Do not touch the casualty during shock delivery.
- Pads are placed on the exposed chest. Pads have a diagram on the cover showing where to place the pads. Avoid placing pads over implantable devices. Standard adult AEDs and pads are suitable for use in children older than 8 years. Ideally, for children between 1 and 8 years paediatric pads should be used. If paediatric pads are not available, then the standard adult pads can be used. Follow instructions.
- Continue to follow AED prompts (the AED makes decisions on what to do) until the casualty's responsiveness and normal breathing returns, the ambulance arrives and paramedics takes over, you are too exhausted to continue, or a health care professional directs you to stop.



AED treatment plan

