Standard 11 Mining Induction

Learner Guide
Chapter 05 – Apply initial response First Aid
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Contents

First Aid ............................................................................................................................................................................. 6

About First Aid .................................................................................................................................................................. 6

Initial Response First Aid Management .......................................................................................................................... 6

   Australian Resuscitation Council (ARC) ....................................................................................................................... 7

The Law ............................................................................................................................................................................. 7

First Aid Workplace Practices, Policies and Procedures ............................................................................................... 7

First Aid Code of Practice ............................................................................................................................................... 7

   First Aid Kits .............................................................................................................................................................. 8

Duty of Care .................................................................................................................................................................... 8

   Privacy and Confidentiality .......................................................................................................................................... 8

   Consent ......................................................................................................................................................................... 9

Communication ............................................................................................................................................................. 9

   Communication and Emergency Services ................................................................................................................. 9

Phone the Ambulance ................................................................................................................................................... 9

Sending for Help .......................................................................................................................................................... 9

Making the Casualty Comfortable ................................................................................................................................ 10

Reporting, Record Keeping, Documenting .................................................................................................................. 11

   Verbal Reporting ...................................................................................................................................................... 11

   Written Reports ....................................................................................................................................................... 11

   Appendix 1G: Example General First Aid Report Form .......................................................................................... 12

   Appendix 1H: Example Workplace Incident and Investigation Report Form ........................................................... 13

Ethical Issues ................................................................................................................................................................ 14

   Cultural Awareness ................................................................................................................................................... 14

   Providing First Aid for Children, the Aged or Infirmed ............................................................................................ 14

Evaluation of Own Performance .................................................................................................................................. 14

   Debriefing ................................................................................................................................................................. 14

   Signs and Symptoms of Stress ................................................................................................................................ 15

   Symptoms of Fatigue ............................................................................................................................................... 15

   Treating Fatigue ........................................................................................................................................................ 15

Recognising an Emergency .......................................................................................................................................... 16

   Emergency Action Plan ........................................................................................................................................... 17

Hazard and Risk Assessment ......................................................................................................................................... 17

   Dangers to be Aware of When Assessing Safety ..................................................................................................... 18

   Isolate Hazards ......................................................................................................................................................... 19

Infection Control and Standard Precautions ................................................................................................................ 20

   How can Diseases Be Transmitted? ............................................................................................................................ 20

Manual Handling .......................................................................................................................................................... 21
Moving the Injured ................................................................................................................................................................... 22
Moving Techniques .................................................................................................................................................................. 22
Safety ................................................................................................................................................................................ 22
Spinal Immobilisation ............................................................................................................................................................ 23
Bandages and Slings .............................................................................................................................................................. 23
Roller Bandages .................................................................................................................................................................... 23
Triangular bandages ............................................................................................................................................................ 24
Slings from Triangular Bandages ............................................................................................................................................... 24
Emergency Blanket ............................................................................................................................................................... 25
Casualty Assessment ............................................................................................................................................................. 25
Danger .................................................................................................................................................................................. 25
Response ................................................................................................................................................................................. 25
History .................................................................................................................................................................................. 26
Signs and Symptoms ............................................................................................................................................................ 26
How to Examine a CONSCIOUS Casualty .................................................................................................................................. 27
Unconscious BREATHING Casualty ...................................................................................................................................... 28
Unconscious NON-BREATHING Casualty ............................................................................................................................ 29
Resuscitation ......................................................................................................................................................................... 30
Cardiac Arrest ...................................................................................................................................................................... 30
Chain of Survival .................................................................................................................................................................. 30
Cardiopulmonary Resuscitation ........................................................................................................................................... 31
AED Treatment Plan ............................................................................................................................................................. 32
Anatomy and Physiology ....................................................................................................................................................... 33
Brief Description of the Main Systems ....................................................................................................................................... 34
The Cardiovascular or Circulatory System .................................................................................................................................. 34
The Respiratory System .......................................................................................................................................................... 34
The Muscular System ............................................................................................................................................................. 34
The Skeletal System .............................................................................................................................................................. 35
Allergic Reactions ................................................................................................................................................................. 35
Anaphylaxis - Severe Allergic Reaction ................................................................................................................................... 35
Diabetes .................................................................................................................................................................................... 37
Heart Problems ....................................................................................................................................................................... 37
Hyperventilation ...................................................................................................................................................................... 38
Shock ........................................................................................................................................................................................ 39
Stroke ....................................................................................................................................................................................... 39
Basic Wound Care .................................................................................................................................................................. 40
Bleeding ................................................................................................................................................................................... 40
Internal Bleeding ................................................................................................................................................................. 41
External Bleeding .................................................................................................................................................... 41
Burns ........................................................................................................................................................................... 43
Types of Burns............................................................................................................................................................ 43
Chest Injuries .............................................................................................................................................................. 45
Types of Chest Injuries ............................................................................................................................................ 45
Crush Injury ............................................................................................................................................................... 46
Electric Shock ............................................................................................................................................................ 46
Eye Injuries ................................................................................................................................................................ 47
Head Injuries .............................................................................................................................................................. 47
Concussion .............................................................................................................................................................. 48
Soft Tissue Injuries, Sprains and Strains ..................................................................................................................... 48
Envenomation ............................................................................................................................................................ 48
Envenomation is the process by which venom is released via bites or stings .......................................................... 48
Pressure Immobilisation Technique (PIT) ................................................................................................................ 48
Heat Induced Illnesses ............................................................................................................................................ 49
Poisoning .................................................................................................................................................................. 50
Appendix 1I: ARC DRSABCD Poster ...................................................................................................................... 53
First Aid

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! A first aider must know their personal limitations – from their level of physical fitness, and any barriers to action such as fear of failure and litigation.

Initial Response First Aid Management

*First aid must take into account:*

- For the workplace:
  - workplace policies and procedures;
  - safe work practices;
  - industry/site specific regulations, codes of practice;
  - WHS requirements;
  - State and territory legislative requirements;
- The setting in which first aid is provided, including:
  - location and nature of the incident;
  - associated situational risks e.g. electrical and biological hazards, weather, motor vehicle accidents;
  - location of emergency services personnel.
- Australian Resuscitation Council (ARC) guidelines.
- Guidelines from Australian national peak clinical bodies.
- First aid requirements for services under the Education and Care Services National Law as required.
- The age, culture, ability or disability, health and mental status of the casualty.
- **Legal, social and community responsibilities of the first aider including:**
  - stress management techniques and available support;
  - duty of care;
  - respectful behaviour towards a casualty;
  - consent;
  - privacy and confidentiality;
  - debriefing;
  - currency of skill and knowledge.
- Considerations when providing first aid including:
  - safety;
  - the use and availability of first aid equipment and resources;
  - airway obstruction due to body position;
  - appropriate duration and cessation of CPR;
  - appropriate use of a defibrillator;
  - standard precautions and infection control;
  - the differences between adults and children.
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: [www.resus.org.au](http://www.resus.org.au).

All information in this Learner Guide in relation to the provision of CPR and first aid is based on ARC guidelines.

The Law

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.

First Aid Workplace Practices, Policies and Procedures

State and territory legislation relevant to your workplace, and industry or site specific regulations must be taken into consideration when developing policies and procedures for first aid. Included in any document for the provision of first aid must also be emergency plans, safe work practices for risks and hazards and infection control, and how to provide first aid in accordance with guidelines from ARC and clinical peak bodies. A workplace first aider must be able to locate, and have an understanding of, the organisations policies and procedures for safety requirements and for the provision of first aid. First aid requirements will vary from one workplace to the next, depending on the nature of the work, the type of hazards, the workplace size and location, as well as the number of people at the workplace. These factors are taken into account when deciding what first aid arrangements need to be provided. The ‘First Aid Code of Practice’ provides information on using a risk management approach to tailor first aid that suits the circumstances of your workplace.

First Aid Code of Practice

Codes of Practice are practical guides to achieving the standards of health, safety and welfare required under the Work Health and Safety (WHS) Act and the relevant WHS Regulations in a jurisdiction. An approved Code of Practice applies to anyone who has a duty of care in the circumstances described in the code.

Note - A Code of Practice deals with particular issues and does not cover all hazards or risks that may arise. Therefore, health and safety duties also require duty holders to consider all risks associated with work, not only those for which Codes of Practice cover.

The ‘FIRST AID IN THE WORKPLACE’ Code of Practice has been developed by Safe Work Australia and approved under the WHS ACT as a model Code of Practice for providing first aid safely in the workplace.
- For further information, go to: [www.safeworkaustralia.gov.au](http://www.safeworkaustralia.gov.au).

The First Aid Code of Practice provides guidance for:
- using risk management to tailor first aid to suit the circumstances e.g.:
  - identifying hazards that could result in work-related injury or illness;
  - assessing the type, severity and likelihood of injuries and illness;
  - providing the appropriate first aid equipment, facilities and training;
  - reviewing first aid requirements on a regular basis or as circumstances change.
The basic principles and concepts underlying the practice of first aid are:

- To relieve pain and suffering
- To avoid further illness or injury
- To prevent or reduce disability
- To save lives

The number of first aiders required in the workplace;
- the training that first aiders must receive and who provides it;
- the contents of first aid kits and its location;
- other first aid equipment such as automatic defibrillators (AED), eye wash and shower equipment, first aid facilities and rooms;
- procedures including:
  - record keeping for first aid;
  - first aid requirements when managing an emergency.

First Aid Kits

Not only must we have the skills to evaluate and treat the casualties in a workplace environment, we also need a fully stocked first aid kit to be able to render assistance when required.

First aid kits should be checked regularly to ensure that there are sufficient supplies in the kit when it is required. Under state and territory legislation, first aid kits are required in all workplaces. First aid kits should be stored in a location clearly marked with a first aid sign. First Aid personal can find information on how to operate first aid equipment from the Manufacturer’s Specifications, instructions or organisational policies.

First aid kits will vary depending on the number of workers and even what industry you may be working in. The larger the workplace, the larger the kit will need to be. Typical equipment in a first aid kit: AED, bandages and slings, eye washes, saline, face masks, spacer devices, gloves, antiseptic.

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. Act in ‘good faith’ and without recklessness and with reasonable care and skill. First aid must be provided in accordance with established first aid principles. The casualty must be made as comfortable as possible using available resources and equipment. First aid equipment must be operated according to manufacturer’s instructions. The first aider should stay with the casualty unless it is necessary to call for medical assistance, a rescuer of equal or higher ability takes over, or continuing to give aid becomes unsafe. 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.

First aid in the workplace - In a workplace emergency, all workplace first aiders employed and staff have a duty of care. One must use common sense which dictates that, while they should not act beyond their capabilities, they are expected to do as much as they can to take appropriate action.

- Provide treatment - recognise symptoms; administer first aid in accordance with procedures and protocols;
- Report - complete a report as soon as possible after the incident according to relevant procedures and legislation;
- Self-evaluate and debrief - to address individual needs and improve response to future incidents.

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.
Consent

The consent of an injured or ill person must be obtained before any assistance is rendered, regardless of age, ability, health or mental status. If the casualty is a minor, consent must come from a parent or guardian. Legal action and damages may be taken against you if you act without obtaining consent. The requirement for consent may be waived in certain circumstances, or implied, for example, if a casualty is unconscious. Competent adults are legally entitled to refuse any treatment, even if it is life-sustaining. Substitute decision-makers, such as parents or guardians of minors or legal guardians can likewise refuse treatment but only if in the ‘best interests’ of their charge.

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. No matter what the situation effective communication is of utmost importance. 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. When performing first aid, the casualty’s injuries could worsen to the point where they may die or you might put yourself in unnecessary danger if you do not act and make decisions promptly in an emergency situation.

Communication and Emergency Services

Communication with medical and emergency services support may involve:

- establishing and maintaining communication links to medical services;
- requesting ambulance support or appropriate medical assistance according to relevant circumstances;
- administering medication under direct instruction from an authorised health worker as required;
- assisting in the evacuation/transportation of the casualty by following directions given by emergency services.

Phone the Ambulance

Sending for Help

The first aider should arrange for the ambulance to be called and send someone to obtain resources such as masks, gloves and a defibrillator as per the situation and the casualty’s condition. If there is no-one else to assist, they should call the ambulance themselves. When calling for help, the “phone first” concept is recommended by the Australian Resuscitation Council, especially for cardiac arrest situations. This job can be delegated so that first aid can begin but always ensure that the person who rings for the ambulance confirms with you that the call was made and that the location given is exact. Australian Emergency Call Services Numbers:

- **Triple Zero (000)** is the Australian primary emergency call service number and should be used to access emergency assistance from all telephones (landline, mobile phones and payphones) in the first instance. *Please note: you must have reception to make the call from a mobile phone;*

- **112** is an international standard emergency number which can only be dialed on a digital mobile phone. It can be dialed in areas of GSM network coverage with the call automatically translated to that country’s emergency number. It does not require a sim card or pin number to make the call, however phone coverage must be available (any carrier) for the call to proceed;
106 is the text-based emergency call service for people who are deaf or have a hearing or speech impairment. This service operates using a TTY (teletypewriter) and does not accept voice calls or SMS messages.


**How to Make a Triple Zero (000) Call:**

- stay calm and dial Triple Zero (000) from a safe place;
- an operator will answer and ask you if you need Police, Fire or Ambulance. State the service that you require. If you are calling using a mobile or satellite phone, the operator will ask you for additional specific location information;
- you will then be connected to the nominated emergency service operator, who will take details of the situation;
- stay on the line, speak clearly and answer the operator’s questions. You may need to provide details of what has happened, the type of incident / accident – how many people are involved, conditions of the casualty/s, what first aid has been provided, your own name and the number you are calling from, and where the exact location of the emergency is.

**Providing the Location:**

- give the nominated emergency service operator the details of where you are, including street number, name, nearest cross street and locality;
- in rural areas, give the full address and distances from landmarks and roads, not just the name of the property;
- if possible, wait outside at a prearranged meeting point or in a prominent location for emergency services to arrive to assist them to locate the casualty/casualties;
- if you make the call whilst travelling on a motorway or on a rural road, identifying the direction you are travelling and the last exit or town you passed through will assist emergency services to correctly locate the incident.

**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 or clothes under broken limbs or behind a head or back to rest on. **Covering them with blankets, coats or improvised shelter to keep them warm or providing pain relief using bandages and slings, hot or cold packs etc.**

- **Resources** - 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. They can be 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.

- **First aid equipment** - All first aid equipment must be operated according to the manufacturer’s instructions. Never use an item for anything other than what it is intended for.

- **Monitoring and reassuring** - The casualty will also 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.
Reporting, Record Keeping, Documenting

Verbal Reporting

A verbal report to a supervisor, a parent or caregiver of a minor, or emergency services, such as Paramedics may be required. All first aiders should have sufficient oral communication skills in order to make an accurate verbal report. Incident details must be conveyed clearly and accurately. Only facts should be stated. Advise the time of the incident, exactly what happened, what first aid was provided and the casualty’s response to the treatment. Do not embellish or add thoughts and comments about the incident unless asked. A quick, accurate and efficient handover will mean the casualty receives appropriate further treatment sooner.

Handover - After providing first aid treatment, it is most likely that you will need to refer the casualty on for further medical assistance. This may be to their own doctor or if taken to the emergency department by car and handed over to a nurse or in an emergency, to emergency response services and paramedics. It is important that you provide a quick and efficient handover so they can take over care of the casualty. A first aid officer for a workplace will also be required to report the details of the incident to the workplace supervisor.

Written Reports

Although the initial report is done verbally, it can be useful to also do a written report. Memory often fails us when having to respond urgently in an emergency situation. First aiders should try to make notes, if possible, at the time of, straight after or during first aid provision (while the information is fresh on your mind) or fill out official report forms soon after attending an incident. Recording treatment and events will assist with recalling what happened if required to do so in the future.

Documentation that may need to be completed after first aid treatment can include verbal and written reports, casualty details and approved forms such as notification incidents, and first aid report forms.

Reporting incidents and injuries - Workplaces will require an official incident report to be filled out and kept on record. Forms must be filled out in accordance with the workplace policy and procedures, state or territory legislation, and privacy and confidentiality requirements. Only state facts and do not make comments you are not qualified to make judgement on. For example, “the casualty is an alcoholic”. All incidents, regardless of whether there is an injury or not, must be reported to the relevant person in your organisation or work site, (e.g. supervisor, etc.). This includes near misses or dangerous occurrences where there is no injury. Certain reports and documents are to be sent to appropriate bodies as per workplace requirements and legislation. There are strict guidelines and timeframes that must be adhered to.

Notifiable incidents - The Work Health and Safety Act defines that when an incident is deemed to be ‘dangerous’ or ‘serious’, it must be reported to the relevant State Work Health and Safety Authority, or regulator, such as WorkCover. These are called “notifiable incidents”.

When to notify - The regulator must be notified immediately after becoming aware that a notifiable incident has occurred, by the fastest means, and as required by the regulator. This may mean by telephone, fax or email – or a combination of them. There will be a specific format for the information, usually on a form that can be downloaded from the Authority’s web site.

Record keeping - Records of the incident must be kept for at least 5 years from the date that the incident was notified. Ensure strict security practices are upheld to restrict access as required and keep personal information private. Security practices are also required to ensure the records are kept and not lost and that back-ups are made.

REMEMBER: Details of the casualty and any medical information should NOT to be shared with others who are not directly involved in the first aid treatment, reporting or continuing treatment of the casualty.
# Appendix 1G: Example General First Aid Report Form

<table>
<thead>
<tr>
<th>FIRST AID / INCIDENT REPORT FORM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CASUALTY DETAILS</strong></td>
</tr>
<tr>
<td>Name</td>
</tr>
<tr>
<td>Date of Birth / / /</td>
</tr>
<tr>
<td>Phone (Home) Ph# (Work) Ph# (Mobile)</td>
</tr>
<tr>
<td><strong>FIRST AIDER DETAILS</strong></td>
</tr>
<tr>
<td>Name</td>
</tr>
<tr>
<td>Date of Birth / / /</td>
</tr>
<tr>
<td>Phone (Home) Ph# (Work) Ph# (Mobile)</td>
</tr>
<tr>
<td><strong>WITNESS DETAILS</strong></td>
</tr>
<tr>
<td>Name</td>
</tr>
<tr>
<td>Date of Birth / / /</td>
</tr>
<tr>
<td>Phone (Home) Ph# (Work) Ph# (Mobile)</td>
</tr>
<tr>
<td><strong>INCIDENT DETAILS</strong></td>
</tr>
<tr>
<td>Date / / Time <strong><strong>:</strong></strong> am/pm Location of Incident</td>
</tr>
<tr>
<td>Description of Incident:</td>
</tr>
<tr>
<td>Description of Injuries/First Aid Assessments:</td>
</tr>
<tr>
<td><strong>OBSERVATIONS</strong></td>
</tr>
<tr>
<td>Time : am/pm : am/pm : am/pm</td>
</tr>
<tr>
<td>Consciousness</td>
</tr>
<tr>
<td>Pulse</td>
</tr>
<tr>
<td>Respiration</td>
</tr>
<tr>
<td>Description of Treatment:</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>First Aider Signature</td>
</tr>
</tbody>
</table>
## Appendix 1H: Example Workplace Incident and Investigation Report Form

### INCIDENT REPORT

<table>
<thead>
<tr>
<th>COMPANY NAME</th>
<th>CONTRACT NUMBER</th>
</tr>
</thead>
</table>

### INVESTIGATION FORM

**Incident Ref No:**

**Incident Date:** / /

**Injured Surname:**

---

**Supervisor / Trainer to complete:**

<table>
<thead>
<tr>
<th>TYPE OF INCIDENT (Tick)</th>
<th>Near Miss</th>
<th>Minor</th>
<th>Medium</th>
<th>Serious</th>
<th>Major</th>
<th>Catastrophic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workplace Injury (Tick)</td>
<td>Restricted Work Case</td>
<td>Non-classified Case</td>
<td>Time Lost Injury</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Impact (Tick):**

- Environmental Impact
- Safety Impact
- Health Impact

---

**INCIDENT REPORTING**

**REPORTED TO**

**Incident Occurred When**

Time: : am/pm

Date: / /

**Incident Reported When**

Time: : am/pm

Date: / /

**Position:**

Supervisor  
HSE Rep

**Reason for Late Reporting (if applicable):**

---

### PERSONAL DATA

**Complete only if person injured or reporting illness**

**Name of injured person:**

**Person(s) involved in Incident (Tick):**

- Employee
- Subcontractor
- Other:

**Occupation or Job Title:**

Employee No#

**Contact Number (Mobile):**

---

### INCIDENT DESCRIPTION

*Describe what happened – who, when, where, how and why.*

**What work activity was being performed at the time of the incident?** *(Use attachments for more detail where insufficient room)*

**Action(s) taken to provide immediate temporary control:**

---

### DETAILS OF INJURY

**Please tick all that apply.**

<table>
<thead>
<tr>
<th>Nature of Injury/Illness</th>
<th>Fracture</th>
<th>Dislocation</th>
<th>Sprain</th>
<th>Strain</th>
<th>Laceration</th>
<th>Foreign Body</th>
<th>Burn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrasion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bruising</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Puncture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spinal Damage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Location Injury</th>
<th>Head</th>
<th>Face</th>
<th>Eye</th>
<th>Neck</th>
<th>Shoulder</th>
<th>Arm</th>
<th>Hand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finger</td>
<td></td>
<td>Thumb</td>
<td>Chest</td>
<td>Back</td>
<td>Leg</td>
<td>Knee</td>
<td>Foot</td>
</tr>
<tr>
<td>Toe</td>
<td></td>
<td>Ankle</td>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Further treatment required**

- Returned to normal duties
- Returned to alternative duties
- Totally unfit

**Employee Involved**

Sign  
Date / /

**Investigation Conducted by**

Sign  
Date / /
Ethical Issues

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. Offering reassurance and gentle treatment in a culturally appropriate manner, and communicating by making a personal introduction and showing empathy are methods you can adopt to reassure a casualty.

Cultural Awareness

The role of the first aider depends on gaining the trust of casualties. Maintaining trust requires attentiveness and finding culturally appropriate ways of communicating that are courteous and clear. A strong sense of cultural awareness is required for all first aiders. Cultural awareness is required for treating casualties from diverse backgrounds. If in doubt, and possible, ask the casualty about what is appropriate and inappropriate. You need to be able to respect the values of different cultural groups and treat them with sensitivity. It may sometimes be necessary to communicate through verbal and non-verbal communication and you need to have the ability to identify issues that may cause conflict or misunderstanding.

Providing First Aid for Children, the Aged or Infirmed

It pays to be mindful of the age of the person you are treating and act accordingly. There are differences in the way you should communicate for moral reasons and also to gain acceptance and trust.

Children – Must be approached with care and compassion. They may be frightened, especially if the first aider is a stranger. Children don’t like being away from their parents or carers. Reassure them, use a soft kind voice, and give them a distraction to take their mind off the situation, consider giving them something to hold like a band aid. The details of any incident involving children or babies when the parent or caregiver is not present, must be reported to the parent or caregiver. It is important to remember that children may react differently to adults in a first aid situation. Whether they are injured or sick themselves, or they are concerned about one of their fellow students or friends, they will feel affected by the incident. Always find someone to talk to children about their feelings, emotions and responses. Aged or infirmed casualties – As for all casualties, respect and dignity are very important. Things to remember with older people is reduced ability, such as trouble walking and moving or hearing impairment and they may be fragile e.g. brittle bones, skin is thin and damages or tears easily. Be gentle and provide support and assistance with movement, positioning and making comfortable.

Evaluation of Own Performance

Whilst providing the initial care for a casualty, you must be aware of your own skills and limitations. Your basic treatment can save lives, however, evaluating your own performance can provide you with an opportunity for self-improvement. It may be beneficial to speak with the paramedics who attended the incident. 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.

Debriefing

Each person reacts differently to traumatic events and in some instances, a situation may evoke strong emotions, which may affect the health, well-being and work performance of some individuals. What might be minor to one person may be quite significant and traumatic to another. In short, there is no right or wrong way to feel. What a person experiences are valid for that person. In some cases, symptoms can develop into a chronic illness, requiring extensive and long term treatment. ANY traumatic event can leave devastating emotional residue. Symptoms can appear immediately or later, days, months or even years after the original event. In a workplace, debriefing should be done with a supervisor so that the incident can be discussed, evaluated and recorded for future improvement and referral. Also to ensure the first aider is not suffering emotionally and provide closure on any issues or concerns after attending the incident. Where multiple people are involved, a group discussion, meeting or debriefing will be required.
Signs and Symptoms of Stress

Feeling stressed following a first aid response is a perfectly normal occurrence. You must understand the need for stress management techniques and find out what support is available following attendance at an emergency situation. Some of the signs and symptoms of stress include:

- **Physical** - fatigue, headache, insomnia, muscle aches, stiff neck, heart palpitations, chest pains, abdominal cramps, cold extremities flushing/sweating, frequent colds;
- **Mental** - decreased concentration/memory, indecisiveness, mind racing/going blank, loss of sense of humour;
- **Emotional** - anxiety, nervousness, depression, anger, frustration, worry, fear, irritability, impatience, short temper;
- **Behavioural** - pacing, fidgeting, nervous habits, crying, yelling, swearing, blaming, throwing things, eating, smoking, drinking. Feeling anti-social towards others.

Fatigue

Fatigue can be caused by a number of factors working in combination, such as medical conditions, unhealthy lifestyle choices, workplace problems and stress. Fatigue is a known risk factor in motor vehicle and workplace accidents. Always see your doctor for diagnosis if you are suffering from chronic tiredness. **Always notify your supervisor if you, or a coworker, appears to be suffering from fatigue symptoms.**

Workplace-related Causes of Fatigue

Common workplace issues that can cause fatigue include:

- **Shift work** – the human body is designed to sleep during the night. This pattern is set by a small part of the brain known as the circadian clock. A shift worker confuses their circadian clock by working when their body is programmed to be asleep.
- **Poor workplace practices** – can add to a person’s level of fatigue. These may include long work hours, hard physical labour, irregular working hours (such as rotating shifts), a stressful work environment (such as excessive noise or temperature extremes), boredom, working alone with little or no interaction with others, or fixed concentration on a repetitive task.
- **Workplace stress** – can be caused by a wide range of factors including job dissatisfaction, heavy workload, conflicts with bosses or colleagues, bullying, constant change, or threats to job security.
- **Burnout** – can be described as striving too hard in one area of life while neglecting everything else. ‘Workaholics’, for example, put all their energies into their career, which puts their family life, social life and personal interests out of balance.
- **Unemployment** – financial pressures, feelings of failure or guilt, and the emotional exhaustion of prolonged job hunting can lead to stress, anxiety, depression and fatigue.

Symptoms of Fatigue

Fatigue can cause a vast range of other physical, mental and emotional symptoms including:

- chronic tiredness or sleepiness
- headache
- dizziness
- sore or aching muscles
- muscle weakness
- slowed reflexes and responses
- impaired decision-making and judgement
- moodiness, such as irritability
- impaired hand-to-eye coordination
- appetite loss
- reduced immune system function
- blurry vision
- short-term memory problems
- poor concentration
- hallucinations
- reduced ability to pay attention to the situation at hand
- low motivation.

Treating Fatigue

Fatigue is a symptom—something you can feel and describe—not a condition or disease. To reduce your fatigue you first need to understand what the underlying reasons for your fatigue are. If fatigue is having a negative effect on your quality of life, or causing you distress, then consider speaking with a health professional. By asking questions, they will help you work out why you are experiencing fatigue, and offer some suggestions on how to find relief. If necessary, your doctor might suggest certain medical tests if there is a reasonable chance the cause of your fatigue may be an undiagnosed medical issue (for example, anaemia or thyroid dysfunction). Fortunately, for most people fatigue will get better over time on its own or with some simple and practical lifestyle changes.
Recognising an Emergency

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.

An emergency can happen anywhere, on the road, at home, work or play. It is important to recognise when a situation is an emergency.

You may become aware of an emergency because of certain things you observe e.g. 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. 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.

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

Ambulance paramedics can always attend, assess and then leave the person at home if they do not require further emergency treatment. Calling for the paramedics will enable you to handover the care and responsibility of the casualty/casualties.

A first aider must accurately provide the facts about the incident (not what they think is wrong). Paramedics will appreciate a quick and efficient handover so they can assist the casualty.

Once ambulance services arrive, and when you are handing over the casualty to them, you may still be required to assist medical personnel in continuing chest compressions and CPR, completing incident reports and other notes.
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.
- DRSABCD: Danger, Response, Send for help, Airways, Breathing, Compressions/CPR, Defibrillator

1. **ASSESS THE SCENE (SURVEY THE SCENE)** – Identify, assess and manage immediate hazards (e.g. bystanders, bodily fluids, drugs and sharp objects, environmental hazards). If this is not possible, call for assistance from emergency response services. Do not make an attempt to respond if it is dangerous.

**D – Danger**
- Check for and remove physical hazards to health and safety, minimise risk;
- Protect yourself and others from any dangers at the scene;
- Protect yourself with gloves and other PPE, such as apron and eye protection, if available;
- Protect the casualty from further injury and from the weather or environment;
- Ensure that you do not injure yourself whilst carrying out first aid.

2. **ASSESS THE CASUALTY (PRIMARY SURVEY)** – Obtain consent. Assess the casualty and check for life threatening situations. Recognise the need for first aid. Check their response, vital signs, injuries and signs and symptoms (SECONDARY SURVEY).

**R – Response**
- “Are they alive?”
- “Are they responding?”
- “Are they moving?”
- “Are there signs of life?”
- “Are they unconscious?”
- If conscious and responding, seek consent;
- Use appropriate and respectful communication;
- “What are the signs and symptoms?”
- “Are the injuries or illness serious or minor?”

3. **ASSESS WHAT TO DO NEXT** – If you establish the need for further assistance, coordinate others to call for help and get resources or do it yourself. Provide first aid following procedures and principles. Monitor and reassure the casualty until help arrives. Handover the casualty.

**S – Send for Help**
- Call the ambulance and send for resources.

**Treat the Unconscious:**
**AB – Airway, Breathing**
- Open Airway;
- “Are they breathing normally or at all?”
- YES breathing, turn on side;
- NO normal breathing, then CPR.

**CD – CPR, Defibrillation**
- Until help arrives.

**Treat the Conscious:**
- Recognise illness or injury and commence treatment;
- Provide confidence and reassurance;
- Build teamwork and avoid panic;
- Be calm, firm, and compassionate;
- Know when and how to obtain further help;
- Monitor casualty until help arrives.

Hazard and Risk Assessment

It is important that a first aider understands how to evaluate the scene of an emergency as they approach the sick or injured using hazard identification. When 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, or make them safer, before providing first aid. Personal safety is of the utmost importance. This process must be done very quickly in an emergency situation. It must be done and done effectively.
How to Assess the Safety of the Scene at an Emergency

1. IDENTIFY HAZARDS

A HAZARD
Anything that is likely to cause an injury or illness

A RISK
The likelihood and consequences of an injury or illness occurring from exposure to the hazard

2. IDENTIFY RISKS

For any particular hazard there may be more than one risk factor e.g. a chemical may be toxic if spilt and absorbed through the skin, it could also be highly flammable and/or give off fumes that are harmful when inhaled.

3. ASSESS RISKS

Take action, use appropriate safety precautions, remove, control or minimise hazards and associated risks. Provide information and direct others to assist with making the area safe.

4. PRIORITISE

Check that the controls in place are working. If it is safe, then proceed. If hazards or risks are still present, then make any adjustments or improvements as required, check again, then proceed when safe. Remember, safety is an ongoing process.

5. REVIEW CONTROLS

Dangers to be Aware of When Assessing Safety

In all cases, do not proceed if unsafe.

<table>
<thead>
<tr>
<th>Examples of Hazards</th>
<th>Risk they may Pose</th>
<th>Examples of how to Minimise Risk/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body fluids (e.g. blood)</td>
<td>Being infected</td>
<td>PPE, gloves, eye wear, aprons etc</td>
</tr>
<tr>
<td>Aggressive behaviour</td>
<td>Being attacked</td>
<td>Be calm, reassuring, get help from others, don’t continue if they remain aggressive</td>
</tr>
<tr>
<td>Needle stick injuries</td>
<td>Being stuck by the needle and becoming contaminated</td>
<td>Look for, move away from needles that are found, advise others, don’t pick up</td>
</tr>
<tr>
<td>Lifting or moving heavy objects or casualties</td>
<td>Back injuries</td>
<td>Safe manual handling, ask others to help, use devices such as back boards</td>
</tr>
<tr>
<td>Machinery</td>
<td>Being injured by the equipment Equipment failure</td>
<td>Shut down or shield dangerous moving parts</td>
</tr>
<tr>
<td>Chemical fumes/biological</td>
<td>Being poisoned</td>
<td>Wait for professionals to declare safe, use PPE, shut down power, consult the Safety Data Sheet (SDS) for the substance</td>
</tr>
<tr>
<td>Traffic</td>
<td>Being hit by a vehicle</td>
<td>Move to a safer location, put up warning signs, position vehicles, have others direct traffic, slow vehicles down or stop</td>
</tr>
<tr>
<td>Fallen power lines</td>
<td>Electrocution</td>
<td>Arrange for the authorities to shut down power, use non-conductive materials to remove casualty</td>
</tr>
<tr>
<td>Fire</td>
<td>Being burnt; Risk of explosion Falling or collapse of building Being trapped; Smoke</td>
<td>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</td>
</tr>
<tr>
<td>Environment (e.g. storms, snow, wind, rain)</td>
<td>Falling or tripping; Being struck by falling or flying objects; Too cold or too hot</td>
<td>Protect with cover, move to a safer area</td>
</tr>
<tr>
<td>Location (e.g. rough terrain, confined spaces) etc</td>
<td>Falling or tripping, becoming trapped, unsafe atmosphere</td>
<td>Move to a safer area, follow safety procedures, call emergency services</td>
</tr>
</tbody>
</table>
**Conduct a Dynamic Risk Assessment**

To conduct a risk assessment of an identified hazard you need to:

- Determine the likelihood of the event happening.
- Determine the consequence if the event should occur.
- Determine the risk level (likelihood and consequence combined) associated with the hazard.

A Dynamic Risk Assessment (DRA) is undertaken in a situation that has the potential to change dramatically and suddenly.

The concepts behind a dynamic risk assessment include:

- The assessment of risk in dynamic situations is undertaken prior, during and after the execution of an operation.
- The benefits of proceeding with a task must be weighed carefully against the risk.
- Think before you act rather than act before you think.

What sets a DRA apart from systematic risk assessments is that it is applied in situations where:

- There are unpredictable/unforeseen risks.
- The risk environment rapidly changes.
- An individual needs to make a risk judgment.
- Personnel/workers need a consistent approach to assessing risk.

**Isolate Hazards**

Hazards to yourself and others can be isolated by:

- Asking people not involved in the treatment process to make space and/or leave the scene of the accident.
- Relocating the casualty to a place that doesn’t contain hazards.

Above all you must act quickly to make the situation as safe as possible. Your own safety is most important in any situation so it is important to reduce risks as much as possible, but do not allow the process to take so long that the casualty is worse off for lack of treatment.

Refer to the first aid or emergency response plan for information on how to act in order to resolve the situation as quickly and effectively as you can.

Where possible get the people around you to help out with controlling hazards, provided they are trained to do so.
**Infection Control and 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. To do this, you must follow standard precaution procedures to ensure a basic level of infection control, especially when handling blood or body substances.

Standard precautions are practices that are applied to injured or ill casualties and their blood and body substances, regardless of their infectious status. Standard precautions include hand hygiene, use of personal protective equipment (PPE), and working safely, such as appropriate handling and disposal 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.

Wash hands with soap and water or apply alcohol-based hand rub before and after administering first aid. Use and wear personal protective equipment to prevent contact with blood and body substances, including disposable gloves. Eye protection, masks and protective clothing may also be necessary, if splashes of blood or body substances are likely to occur.

**Before first aid:**

- wash your hands;
- always use plastic or disposable gloves, check they are in good condition first;
- if you have cuts or wounds on your hands, ensure that they are covered by a waterproof dressing before applying gloves;
- use a plastic apron and eye protection if available.

**During first aid:**

- use a resuscitation mask if available;
- wear gloves and ensure that they don’t get torn;
- 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 any used dressings, bandages and disposable gloves;
- after removing disposable gloves, always wash your hands thoroughly with soap and water.

**Infection control for resuscitation** - It is recommended that resuscitation masks be used for performing rescue breaths. It may be prudent to allow the partner of the casualty to do the rescue breathing if you do not have a resuscitation mask available. There are several types of resuscitation masks available, even ones that can be carried on your key ring. Compression only resuscitation may be used if there are obvious signs of blood or vomit and you don’t have a mask, or if you do not want to do the rescue breaths for fear of infection.
Workplace procedures, personal hygiene and safe work practices - A workplace should have established procedures to avoid workers becoming ill and exposing others to illness when handling blood or body substances. These procedures could include:

- how and when to use and store personal protective equipment (PPE);
- proper hand hygiene practices such as washing your hand, covering cuts and bruises;
- how to clean surfaces;
- how to use, clean and store re-usable equipment;
- how to manage spills, and handle and clean soiled laundry;
- how to handle and dispose of sharps and infectious waste;
- training requirements, such as completing an accredited sharps handling course.

First aid - If a first aider does have accidental contact with blood or body substances, a sharps injury, or contact with a person known to have a contagious illness, they should follow procedures immediately. For example, any part of the body that comes in contact with blood or body substances, should be washed with soap and water immediately, reported and prompt medical advice obtained. All first aidsers in a workplace should be offered Hepatitis B virus vaccination.

Contaminated items - Follow the procedure for the workplace, industry and jurisdiction (state or territory). All items that are soiled with blood or body substances should be placed in plastic bags and tied securely. Waste disposal should comply with any state or local government requirements.

Sharps, including scissors and tweezers that have become contaminated with blood or body substances should be disposed of in a rigid-walled, puncture-resistant sharps container by the person that used them. The materials, design, construction, colour and markings of sharps containers should comply with Australian standards.

Cleaning spills - Cleaning should commence as soon as possible after an incident involving blood or body substances. Safe work practices and procedures should be followed in accordance with the situation and the workplace.

Manual Handling

You must be aware of possible injuries you can receive whilst providing first aid. Most common are injuries to the back, 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 (manual handling) and 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 your back is bent over them.

Steps for effective lifting:

Mental preparation:

- what - weight and size of casualty;
- where - casualty is to be moved to;
- how - lifting technique and number of helpers;
- know - your limitations;
- ask - for help if required.

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;
- grip - load securely.

Lifting:

- use - thigh and leg muscles;
- avoid - twisting, rotating or jerking;
- communicate - take charge, provide good instruction;
- team work - co-ordinate and work together.
Moving the Injured

*Where possible, do not move the casualty*

The condition of a collapsed or injured casualty may be worsened by movement, causing increased pain, injury, blood loss and shock. However, all casualties who are in danger must be moved to safety. Concern for protecting the neck should not hinder the evaluation process or lifesaving procedures. Remember - the airway takes precedence over any fracture or other injuries; the breathing unconscious casualty must remain on his/her side.

**Reasons for moving a casualty may include:**

- to ensure safety for yourself and the casualty;
- in danger if they are not moved (e.g. lying on a road or railway line, etc);
- to protect from extreme weather conditions;
- difficult terrain making it impossible to treat the casualty;
- to prepare for evacuation (e.g. from remote areas, to a helicopter etc);
- to make possible the care of airway and breathing (e.g. turning casualty onto side, or onto his/her back for CPR);
- to make possible the control of severe bleeding (e.g. move out of a car to reach the bleeding wound);
- to conduct a basic triage for a multiple casualty incident.

Where possible someone (the most experienced first aider would be best) should stay with the casualty, whilst others seek assistance. When moving the casualty becomes necessary *(e.g. hazards in the environment or restrictions accessing the casualty for proper treatment, may mean they need to be moved)* and others are available to help, the most experienced first aider should take charge and explain clearly and simply the method of movement to the assistants and to the casualty, if conscious.

Moving Techniques

**Emergency moves** - there are a range of lifting and moving techniques that can be used for moving a casualty. The most common emergency techniques used when the casualty or rescuer are in immediate danger include:

- clothing drag - dragging the casualty by their clothing;
- blanket or sheet drag – using a blanket or sheet to drag the casualty;
- bent arm drag - reach under the casualty’s armpits from behind, grasp the forearms or wrists and drag.

**Non-emergency moves** - the type of move used will depend upon the illness or injury the casualty is suffering from, factors at the scene, equipment and personnel resources available. These moves involve 2-3 rescuers to transfer a casualty to a better location, to a stretcher or other device:

- direct ground lift - 2-3 rescuers to lift to a stretcher;
- extremity lift - not if spinal injury suspected, short distances, to stair chair;
- blanket lift – not if head/spinal injuries suspected;
- draw sheet method - roll casualty from bed to stretcher;
- log roll – trained team, roll casualty from supine to side for examination of back or place a spine board under.

**Safety**

- ensure safety when preparing to move the casualty;
- always inform the casualty of your intentions prior to the move. The uninformed casualty may suddenly reach out or attempt to grab onto something. This may result in the rescuers stumbling or falling which could cause an unexpected injury.
Casualty safety whilst moving:

- use resources if available, such as spine boards, stretchers (stretchers are helpful to minimise the amount of disruption to the casualty and avoid further injury to them), blankets etc., to assist with the move;
- make sure carrying device is locked in position and ready to use as per manufacturer’s instructions;
- cover the casualty if possible with a sheet or blanket and secure them to the device, tuck loose straps and items away, never leave casualty alone;
- avoid bending or twisting the casualty’s neck and back, spinal injury can be aggravated by rough handling;
- try to have 3 or 4 people to assist with support of the head and neck, chest, the pelvis and limbs, and spinal immobilisation if required.

First aider safety whilst moving a casualty:

1. Communicate - Decide ahead of time how the casualty is to be moved and what verbal commands will be used. During the lift, be in charge and provide appropriate instructions to those assisting.
2. Safe manual handling - Consider the weight of the casualty and the weight of the stretcher or other equipment being carried before lifting. Determine if additional help is needed. e.g. 4 people on all corners over rough terrain. Know your own physical limitations, consider that of others assisting.
3. Lift without twisting or rotating your body - This can put additional strain on the back muscles resulting in injury. Flex at the hips, not the waist and bend at the knees.
4. Maintain a firm grip - Turn corners slowly and squarely, avoid any sideways movements. Be aware of trip hazards such as rugs, grates, door jams etc.

Spinal Immobilisation

Manual stabilisation - Can be provided by standing behind an upright casualty or lying/kneeling above the head of a casualty lying on their back. Hold the casualty’s head firmly, whilst stabilising arms by locking elbows together or resting elbows on the ground. The aim is to maintain the casualty’s head in a neutral position aligned with the body, thus avoiding side to side movements.

Using devices - There are risks associated with using specific devices. Consider the time taken in application, which may lead to delays in getting them to a hospital or providing other necessary first aid.

Bandages and Slings

A bandage is a piece of material used in first aid to support a medical device, such as a dressing or splint, to assist with controlling bleeding, immobilising a limb or joint, for compression and to restrict blood flow for certain bites and stings. Bandages are an important component for a first aid kit. There are essentially 2 main types of bandages; one is called a roller bandage, because it rolls onto a limb, and the other is called a triangular bandage. However, bandages can often be improvised as the situation demands, using clothing, blankets or other material.

Roller Bandages

A long narrow strip of sterile fabric (of variable width) rolled into a cylinder to facilitate application. They can be conforming bandages, which are elastic or crepe.

Roller bandages are used for:

- holding dressings in place;
- helping to control bleeding;
- helping to reduce swelling;
- providing some support;
- creating pressure for strains, sprains;
- Pressure Immobilisation Technique (PIT) for snake and spider bites
How to apply a roller bandage:

- the injured person should sit or lie down;
- position yourself in front of the casualty on their injured side;
- support the injured body part in position before starting;
- the casualty may be able to help by holding the padding in place;
- wrap the ‘tail’ of the bandage one full turn around the limb to anchor it;
- if there is no assistance and there is padding over a wound, wrap the ‘tail’ of the bandage directly around the padding;
- roll upwards continuing to unwind the bandage around the limb;
- overlap the bandage by about two thirds its width as you unwind
- make sure the bandage isn’t too tight. Check by pressing on a fingernail or toenail of the injured limb. If the pink colour returns within a couple of seconds the bandage isn’t affecting the circulation. If the nail remains white for some time, loosen the bandage. Keep checking and adjusting the bandage, especially if swelling is a problem.

Triangular bandages

After being bandaged, an injured forearm or wrist may require an arm sling to lift the arm and keep it from moving. The usual slings are commercially made bandages called triangular bandages. The most effective sling can be found in your first aid kit, but there are many alternatives that do not require a commercially made sling. For example, using a head scarf or piece of material, or turning a person’s clothing up over their arm is a quick method, especially in sporting accidents, and may be the quickest and easiest alternative.

Uses - Triangular bandages may be folded to create an upper arm sling, lower arm sling and a collar and cuff sling. They may also be used to create a broad bandage for splinting fractures of the upper legs and a narrow fold bandage for lower leg fractures.

How to fold a triangular bandage:

- place an open triangular bandage on a clean flat surface;
- to create a broad bandage for splinting fractures of the upper legs - fold again in the same direction;
- to create a narrow fold bandage for lower leg fractures - fold one more time in the same direction;
- to create a sling - fold from the (point) to the middle of the bandage.

Slings from Triangular Bandages

Upper arm sling:

- support the injured arm in a ‘V’ so that it is held in front of their body and bent at the elbow with the hand resting in the hollow where the collarbone meets the shoulder;
- with the point of the triangular bandage positioned at the elbow, place the bandage over the top of the arm; tuck the upper point under the casualty’s fingertips;
- pass the base of the bandage up under the forearm to create a cradle or hammock;
- join the bandage together at the elbow and twist towards the casualty into a long spiral;
- bring the long spiral around and then up the person’s back;
- tie the two ends together firmly at the person’s fingertips;
- secure at the elbow with a pin, tape or twist;
- check circulation to the arm, wrist and fingers;
- secure additional bandages to support the sling, if needed.
Lower arm sling:
- support the injured forearm parallel to the ground;
- with the point of the triangular bandage at the elbow, place under the arm;
- extend the upper point of the triangular bandage over the shoulder on the uninjured side;
- bring the lower end of the bandage up to meet the other end and tie in the hollow of the neck just above the collarbone on the uninjured side to avoid any pressure on the neck;
- check for circulation to the arm and fingers.

Collar and cuff sling:
- for a shoulder injury where the arm is already in a natural 45-degree position;
- form two loops - one over and one under;
- put the loops together;
- place the casualty’s wrist through the loops and tie in the hollow of the neck just above the collarbone on the uninjured side;
- check circulation.

Emergency Blanket
An emergency blanket (also known as a space blanket, thermal blanket or weather blanket) is an especially low-weight, low-bulk blanket made of heat-reflective thin plastic sheeting. They are designed to reduce the heat loss in a person’s body and prevent hypothermia. Their compact packaged size, and their light weight, makes them ideal for first aid kits and in camping equipment. They can also be used in a hot environment, to provide shade and as a shelter from rain.

Casualty Assessment
When a casualty is sick or injured, we need a system to evaluate their condition or illness.

Danger
Firstly, you must ensure that it is safe for you to assist the casualty. Protect everyone from any danger, protect yourself with gloves and other protective equipment, and call for help immediately. Do not proceed with treatment if it is too dangerous, call for experts.

Response
Secondly, 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 and call the ambulance immediately.

For casualty assessment there are to 2 stages:
1. **Primary survey** - the first stage follows the DRSABCD action plan. This is where you try to get a response from the casualty as described above and ensure there is no life-threatening situations.
2. **Verbal secondary survey** - the second stage is carried out using the ‘no touch technique’ and involves a visual and verbal examination of his/her injuries without touching them. Gain consent from the conscious casualty, or their carers, and explain what you are going to do. Listen carefully to the casualty’s responses to the questions that you ask. Check casualties’ injuries if no life-threatening situations found.

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.**
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 AMPLEx history.

A - Allergies
M - Medications (Anticoagulants, insulin and cardiovascular medications especially)
P - Previous medical/surgical history
L - Last meal (Time)
E - Events /Environment surrounding the injury;
  i.e. exactly what happened.

Signs and Symptoms

Signs - Are observations about the casualty’s condition. Look for visible signs of injury or illness. For example, is the casualty pale? Is the casualty sweaty? Is the casualty bleeding?

Symptoms - Are how the casualty feels. Ask them to tell you what they are feeling. For example, are you suffering from a headache? Are you in pain? Do you feel sick, dizzy or unwell?

Blood pressure (BP) - When a person loses blood, the blood pressure falls and the casualty will have pale, cold, clammy skin. The pulse is usually faster than normal and they may become thirsty. Another good indicator of blood loss is the colour of the tongue. If it’s pale, it means blood loss. Although taking a blood pressure is not part of first aid, there are several indicators or signs that would lead the first aider to suspect blood loss.

- Normal or adequate - A person is said to have an adequate blood pressure if the colour immediately returns when you press and release pressure on a fingernail or skin;
- Inadequate - If the area is still pale after 2 seconds, this indicates their blood pressure is low, which may be a cause for concern.

Skin colour:

- Pale skin colour - A person who has suffered significant blood loss will be pale;
- Reduced oxygen - If the oxygen levels are reduced, they could have a blue colour to the ear lobes, lips and fingers. 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. The casualty is ‘unresponsive’.

Cardiac arrest - A collapsed casualty that is unconscious and not breathing normally or at all.
**VERBAL SURVEY**

For each step, DON'T TOUCH, ASK about pain and LOOK for visible signs

<table>
<thead>
<tr>
<th>1. NECK</th>
<th>5. LIMBS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tell the casualty not to move his / her neck or head and ask:</td>
<td>Look over each limb:</td>
</tr>
<tr>
<td>“Do you have pins and needles in the hands or feet?”</td>
<td>Look for loss of movement;</td>
</tr>
<tr>
<td>“Can you move your limbs normally?”</td>
<td>Look for swelling, deformity or bruising;</td>
</tr>
<tr>
<td>“Do any of your limbs feel weak?”</td>
<td>Look for equal strength in both arms;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. TOP OF HEAD</th>
<th>6. BACK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tell the casualty not to move his / her head:</td>
<td>Ask how the back feels, any pain, tingling or numbness?</td>
</tr>
<tr>
<td>Look over the head, face and nose for swelling, deformity, bleeding or fluid coming out of the ears;</td>
<td>If you are completely sure that there is no injury to the spinal cord and there are no other injuries to the casualty that need your attention, then you can roll them over to visually check for signs of injury;</td>
</tr>
<tr>
<td>Look for loose teeth or the inability to open the mouth or talk.</td>
<td>With assistance, gently log-roll the casualty onto his/her side;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. CHEST</th>
<th>4. STOMACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there an injury to the chest area?</td>
<td>Any pain in the stomach area?</td>
</tr>
<tr>
<td>Look for the rise and fall of the chest (both sides);</td>
<td>Ask – “Do you feel pain when you move or breathe?”</td>
</tr>
<tr>
<td>Look for deformity of the ribcage or rabid breathing;</td>
<td>Listen for noisy breathing (obstructed breathing);</td>
</tr>
<tr>
<td>Listen for noisy breathing (obstructed breathing);</td>
<td>Ask – “Do you have pain when you move or breathe?”</td>
</tr>
<tr>
<td>Ask – “Do you have pain when you move or breathe?”</td>
<td></td>
</tr>
</tbody>
</table>

**The CONSCIOUS Casualty**

How to Examine a CONSCIOUS Casualty

After the initial assessment or primary survey is completed, follow an examination routine to identify any injuries that the casualty may have. Use the verbal secondary survey, which is done, where possible, without touching the casualty, asking questions, observing and noting the answers given.

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, roll 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.
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.

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

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

**Signs and symptoms:**
- does not respond, cannot answer you or wake up but is breathing;
- a casualty showing only a minor response, such as groaning without opening their eyes, should be treated as unconscious.

**First aid:**
- assess response (follow DRSABCD);
- call an ambulance;
- open the airway and check for breathing;
- turn onto their side, keep airway open;
- control any bleeding and other injuries if required;
- monitor for changes in condition.

With an unconscious breathing casualty, care of the airway takes precedence over any injury, including the possibility of a spinal injury. When a casualty is unconscious their muscles become relaxed, including the muscles that assist in swallowing, the tongue falls to the back of the throat blocking air.

The mouth may fall open, but this still tends to block, rather than open the airway. If they are not placed on their side, they can choke, or their stomach contents can enter their lungs. They are at further risk of choking, due to not being able to swallow or cough out foreign material. This can cause death. It is that important.

The greatest danger, to an unconscious breathing casualty, exists whilst they are lying on their back. Handle gently when clearing obstructions. Where possible, an assistant should support the head, when an injured casualty is being moved, but no time should be wasted.

Positioning an unconscious casualty on his/her side maintains a clear airway and facilitates free drainage of fluids. It also reduces the risk of inhaling foreign material. Good observation of, and access to the airway, should also be possible from this position. Once on their side, you can try to obtain information about what happened from family or witnesses. Also, visible 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) may provide some clues.
One Method for Turning a Casualty onto their Side

**Single first aider:**
- kneel beside the casualty;
- if the casualty is on his/her back, bend the arm nearest to you and place their hand comfortably beside their head;
- bring the other arm across their chest and hold their hand near their closest cheek;
- bend the leg on same side as the arm placed across chest, keeping their foot on the ground;
- keeping their hand on their cheek, pull the bent leg, and very, very gently roll the casualty onto his/her side;
- special care should be taken to provide support and avoid any forward movement to the head, neck and spine in case of spinal injury;
- adjust them accordingly, the casualty should be on his/her side with their head gently tilted back to allow free drainage of fluid;
- the bent knee prevents rolling;
- the bent arm provides stability;
- once a casualty is on his/her side, the first aider should be positioned facing their front.

**More than one first aider:**
- it is better to have as much assistance as possible. When two or more first aiders are available, head support and spinal alignment is much easier to maintain.

**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 - 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.
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;
- paralytic or impairment of the nerves and/or muscles of breathing.

Cardiac Arrest

Cardiac arrest is a term that is used to describe that the collapsed casualty is unconscious, unresponsive, not breathing normally, or at all, not moving. Cardiac arrest is the single 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 Chain of Survival is the rapid administration of CPR in sudden cardiac arrest to maximise its life saving potential.

The first link: Early access to the ambulance; includes early recognition of the cardiac emergency and early notification of ambulance service. Dial Triple Zero (000). Time is essential to preserve life. Send for defibrillator immediately if one is available.

The second link: Early CPR assess and support airway, breathing and circulation. Cardiopulmonary resuscitation (CPR) is the technique combining chest compressions and rescue breaths (ventilations) for all ages regardless of the numbers of rescuers present. The purpose of cardiopulmonary resuscitation 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.

The third link: Early defibrillation to treat cardiac arrest caused by Ventricular Fibrillation (VF, an abnormal, irregular heart rhythm with rapid, uncoordinated contractions). Defibrillation is a process in which an electronic device, called an automated external defibrillator, or AED, helps re-establish normal contraction rhythms in a heart that's not beating properly. External defibrillation provides 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, if the casualty is in cardiac arrest due to Ventricular Fibrillation (VF). 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

Cardiopulmonary resuscitation (CPR) is the technique of chest compressions combined with rescue breathing. The purpose of cardiopulmonary resuscitation is to temporarily maintain a circulation sufficient to preserve brain function until specialised equipment is available to restart the heart.

First aiders should start CPR if the casualty is 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 onto their back, open the airway, for adults, use the head tilt / chin lift manoeuvre, for infants under 1-years-old, do not tilt the head, just support the jaw and keep the mouth open. Failure to maintain backward head tilt and chin lift is the most common cause of obstruction during resuscitation.

   - **Backward head tilt / chin lift - ADULTS** - 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 this for children under 1-years-old, gently support the lower jaw at the point of the chin maintaining an open mouth.

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 and Listen’ technique. Casualty’s that are gasping or breathing abnormally and are unresponsive require immediate resuscitation.

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

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. If airway becomes obstructed during CPR, promptly roll onto side and clear, reassess response and breathing, then recommence CPR as required. 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.

   - **Chest compressions** - helps oxygen circulate around the body. Compressions should be paused when doing rescue breaths and for defibrillation if required. Casualties should be placed on their back on a firm surface. Compressions are done on the centre of the chest, rhythmically at 100 compressions per minute and around one third of the depth of the chest. If there is more than one first aider present, rotate approximately every 2 minutes to reduce fatigue.

   - **Rescue breaths or ventilations** - can be done by mouth to mask (preferable), mouth to mouth, mouth to nose (usually for infants and small children) or rarely mouth to stoma (hole in the front of the neck). Kneel beside their head. Maintain an open airway (backward head and chin lift). 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 from 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.

   - **Protection** - rescue breathing is a life-saving manoeuvre and whilst protective devices such as standard precautions and masks and gloves should be used if available, they are not mandatory and rescue breaths should not be delayed if such a device is unavailable. Concern about disease transmission is one of the causes for the reluctance to perform rescue breathing in different settings. A resuscitation mask is a protective device that prevents direct contact between the mouth, face or nose of the first aider and the casualty.
The main reasons for their use are 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; however, use of a resuscitation mask reduces the risk even further. If the first aider is unwilling or unable to complete the rescue breaths, they should do ‘compressions only CPR’.

- **Compressions only CPR** - if unwilling or unable to do rescue breathing, do chest compressions only. Follow all requirements for compressions continuously, only pausing if response or breathing returns, for defibrillation or handover.

- **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 shoulders flat using padding under the right buttock to give pelvic tilt to the left side.

4. **Defibrillation with an AED** - An automated external defibrillator (AED) can accurately identify the cardiac rhythm as “shockable” or “non-shockable”. **Used when the casualty is having a sudden cardiac arrest (SCA), by providing an electrical shock to start the heart muscle during the initial 3-5 minutes.** Anyone can use a defibrillator, however, formal training assists with speed of use, correct pad placement and confidence.

- If available, use as soon as possible. Continue CPR until the AED is turned on and pads attached. Quickly check the equipment. Turn on AED, attach pads to bare chest, attach leads to AED, allow AED to analyse, STAND CLEAR, follow the prompts, do not touch the casualty during shock delivery.
- Continue to follow AED prompts (Defibrillator machine - AED makes decisions on what to do) until responsiveness and normal breathing returns, ambulance arrives and takes over CPR, you can no longer continue due to fatigue or a health care professional directs that CPR be ceased.
- Pad placement - Pads are placed on the exposed chest. All pads have a diagram on the outer covering demonstrating the area suitable for pad placement. Avoid placing pads over implantable devices. Standard adult AEDs and pads are suitable for use in children older than 8 years, and over 40kg. 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. **You must not use an AED in a flammable gas environment, or if you are under the influence of drugs and / or alcohol.**
Anatomy and Physiology

A first aider must have a basic understanding of anatomy, physiology and certain body systems, in relation to injury, illness and body positioning.

- **ANATOMY** is the study, classification, and description of structures and organs of the body.

  For example – **Anatomy of the external chest** - The exterior of all humans’ chests are basically the same. However, the size, shape, and function of breasts vary between the sexes and age groups.

- **PHYSIOLOGY** is the study and process of the function of the human being.

  *For example* - **Physiology relating to response/consciousness** - The brain requires circulating blood and oxygen to function, a sudden drop in oxygen and blood in the brain causes fainting or unconsciousness. This can be due to trauma or illness. An absence of normal breathing means circulation of oxygen in the blood and to the brain has stopped and will cause the brain to cease functioning.

**BODY SYSTEM** cells combine to form tissues, tissues combine and form organs, a group of organs combine to form a body system, a body system is a group of organs that work together to accomplish a bodily function. When a person is injured or becomes ill it effects one or more of the body systems.

**The 11 main systems of the body:**

- Integumentary;
- Skeletal;
- Muscular;
- Nervous;
- Endocrine;
- Circulatory;
- Lymphatic;
- Respiratory;
- Digestive;
- Urinary;
- Reproductive.

**All Bodies Are Different**

It is important to remember that there are obvious differences in physiology and anatomy between infant, children and adults. Thus, certain first aid treatments and body positioning will be different, for example, as discussed in the Resuscitation / CPR section. The most significant are the differences in size, respiratory systems, and clinical values such as pulse and respirations. Airways in children are narrower, the larynx is higher, and the tracheal cartilage is softer and smaller in length and diameter. The jaw is proportionally small, and the tongue proportionally larger. Care needs to be taken not to injure or damage the airways when providing CPR. *Vital signs can change rapidly*. The casualty’s condition may deteriorate or improve according to the treatment being administered; the need for routine monitoring of the casualty is very important. Vital signs that need to be monitored during first aid management: Body temperature, pulse (heart rate), blood pressure and respiratory rate.

**Average Vital Signs by Age Group**

<table>
<thead>
<tr>
<th>AGE</th>
<th>PULSE (per minute)</th>
<th>RESPIRATIONS (per minute)</th>
<th>BLOOD PRESSURE (MM HG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn</td>
<td>120 - 160</td>
<td>40 – 60</td>
<td>80/40</td>
</tr>
<tr>
<td>1 Year</td>
<td>80 – 140</td>
<td>30 – 40</td>
<td>82/44</td>
</tr>
<tr>
<td>3 Years</td>
<td>80 – 120</td>
<td>25 – 30</td>
<td>86/50</td>
</tr>
<tr>
<td>7 Years</td>
<td>70-115</td>
<td>20 – 25</td>
<td>94/54</td>
</tr>
<tr>
<td>15 Years</td>
<td>70 – 90</td>
<td>15 – 20</td>
<td>110/64</td>
</tr>
<tr>
<td>Adult</td>
<td>60 – 100</td>
<td>12 - 24</td>
<td>120/80</td>
</tr>
</tbody>
</table>

Normal body temperature is 36 to 37 degrees Celsius.

Normal body temperature is 36 to 37 degrees Celsius.

Normal body temperature is 36 to 37 degrees Celsius.

Normal body temperature is 36 to 37 degrees Celsius.
Brief Description of the Main Systems

The Cardiovascular or Circulatory System

**Comprised of** - The heart and a closed system of vessels called arteries, veins, and capillaries.

**Responsible for** - Pumping blood around a closed circle or circuit of vessels, it passes again and again through the various "circulations" of the body.

Like all other tissues in the body, the heart muscle needs oxygen-rich blood to function. The work of the heart is to pump blood to the lungs through pulmonary circulation and to the rest of the body through systemic circulation. This is accomplished by systematic contraction and relaxation of the cardiac muscle. The heart has two types of valves that keep the blood flowing in the correct direction.

Heart rate is the number of heartbeats per unit of time - expressed as beats per minute (bpm) - varies as the body’s need to absorb oxygen and excrete carbon dioxide changes.

**Blood transports** – oxygen, nourishment, hormones, disease fighting substances, waste.

The Respiratory System

**Comprised of** - Mouth, upper respiratory tract – Nose, pharynx (throat) and larynx (voice box), lower respiratory tract - windpipe or trachea, bronchial tree, two lungs and a breathing muscle called the diaphragm.

**Responsible for** - Works with the circulatory system to provide oxygen and remove the waste products of metabolism. It also helps to regulate pH of the blood. Breathing (pulmonary ventilation). The blood and tissue cells utilise the oxygen for their specific activities.

**Respiratory distress is labored breathing or shortness of breath.**

- Inspiration (inhalation) - the process of taking air into the lungs.
- Expiration (exhalation) - the process of letting air out of the lungs.

The Muscular System

**Comprised of** - Specialised cells called muscle fibres. The body is made up of 3 types of muscle tissue:

1. **Skeletal** - help the body move;
2. **Smooth** - involuntary, are located inside organs, such as the stomach and intestines;
3. **Cardiac** - found only in the heart. Its motion is involuntary.

**Responsible for** – Muscle tissue can contract and expand, allowing the body to move and function. Movement (by using bones as levers), heat production, protection, controlling size of blood vessels and Bronchioles, Peristalsis (“milking” action of gastrointestinal organs), posture, joint stability.
The Skeletal System

Comprised of - 206 named bones, cartilage, ligaments, tendons.

Responsible for - Support body against pull of gravity. Bones work together with muscles as simple mechanical lever systems to produce body movement. Protection for soft body parts. The fused bones of the cranium surround the brain to make it less vulnerable to injury. Vertebrae surround and protect the spinal cord and bones of the rib cage help protect the heart and lungs of the thorax.

Allergic Reactions

Mild to moderate allergic reactions are not generally life-threatening. Small singular welts, an itch or a small localised rash is relatively harmless. However, some mild to moderate reactions may develop further into anaphylaxis and so careful monitoring is needed.

**SIGNS AND SYMPTOMS** - May include mild swelling of face, eyes and lips, hives, welts on skin, tingling mouth, stomach pain and vomiting (if this occurs after insect bite, then consider as signs of anaphylaxis) or envenomation.

**FIRST AID** - If signs and symptoms are present, the casualty may consider self-administering their own antihistamines for relief. Stay with person to monitor them. Remove any visible hazards e.g. for insect allergy, flick out the sting if it can be seen. Move the casualty to a safer area away from the source of the reaction e.g. flower bed, etc. If treating a child, contact the parent/guardian or other emergency contact.

Anaphylaxis - Severe Allergic Reaction

Anaphylaxis is the most severe form of allergic reaction and is potentially life-threatening. It must be treated as a medical emergency, requiring immediate treatment. It is an allergic reaction that may involve more than one body system. The most dangerous allergic reactions involve the respiratory system and/or cardiovascular system. A severe allergic reaction usually occurs within 20 minutes of exposure to the trigger.

**Causes or Common Triggers:**

- **Food** - peanuts, tree nuts (e.g. hazelnuts, cashews, almonds), eggs, cow’s milk, wheat, soybean, fish and shellfish etc. Even trace amounts can cause anaphylaxis. Extremely sensitive individuals may react to a food smell.
- **Insect venom** - most commonly bee, wasp and jack jumper ant stings. Sometimes, ticks, green ants and fire ants.
- **Medication & drugs** - over-the-counter and prescribed, e.g. penicillin, herbal or alternative medicines.
- **Other triggers** - such as latex or exercise induced anaphylaxis are less common.

Symptoms can appear as mild or moderate and onset can range from within minutes to hours after exposure to a trigger; however, rapid onset and development of potentially life-threatening symptoms are characteristic markers of anaphylaxis.
**SIGNS AND SYMPTOMS** - May include difficult/noisy breathing, swelling tongue, tightness in the throat, difficulty talking and/or hoarse voice, a wheeze or persistent cough, paleness and floppiness in young children, persistent dizziness/loss of consciousness and/or collapse, abdominal pain, vomiting, signs of envenomation.

**FIRST AID** - Management of anaphylaxis should be started straight after the onset of symptoms. Prevent further exposure (e.g. flick out stings, remove food items); Consult the action plan if available. Lay the casualty down and administer Injectable adrenaline via a pre-loaded auto-injecting pen containing an exact dose of adrenaline. This works rapidly to reverse the signs and symptoms. Adrenaline must only be used for life-threatening anaphylaxis.

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**Adrenaline** - In most cases, the helpful effects of adrenaline will be felt within seconds. The heart speeds up and a feeling of anxiousness or nervousness may be felt. These are the normal effects of adrenaline, which is a stress hormone produced naturally in the body by the adrenal glands. Further adrenaline should be given if no response is seen after 5 minutes. An ambulance should be called as soon as possible after developing an anaphylactic reaction. Medical attention must be sought even after recovery from adrenaline.

- For more information, visit: [www.allergy.org.au](http://www.allergy.org.au)
Diabetes

- For more information, visit: www.diabetesaustralia.com.au

For bodies to work properly, they need the hormone insulin to help convert glucose (sugar) from food into energy. Glucose is carried around the body in the blood. Blood glucose level is called glycaemia. In people with diabetes, insulin is no longer produced or not produced in sufficient amounts by the body. So when people with diabetes eat glucose, which is in foods such as breads, cereals, fruit and starchy vegetables, legumes, milk, yoghurt and sweets, it can’t be converted into energy. Instead, the glucose stays in the blood. This is why blood glucose levels are higher in people with diabetes. Diabetics need to monitor and regulate the amount of sugar (glucose) that is in their body. This can be controlled by medication, either tablet or injection, or in some cases by diet. Many diabetics wear or carry a medical alert bracelet, necklet or warning card. They may also carry sugar, lollies or glucose or a ready-made ‘Hypo’ pack.

- Hyperglycaemia (high blood sugar) - A condition with a slower onset. Generally, not a condition confronting first-aiders.

- Hypoglycaemia (also called a ‘hypo’, low blood glucose or insulin reaction) - When blood glucose (sugar) levels drop too low.

The majority of first aid deals with the issue of low blood sugar or hypoglycaemia.

Causes - Too little food or delayed food intake, too much exercise or alcohol. Can also be caused by too much insulin or diabetes tablets.

**SIGNS AND SYMPTOMS** - Vary from person to person. Common feelings are confusion, sweating, light headedness or dizziness. Casualty may also experience feelings of weakness, trembling or shaking, headache, lack of concentration, irritability, hunger, numbness around the lips and fingers. If hypoglycaemia is not treated quickly, the blood glucose level can continue to drop, which may progress to loss of coordination, slurred speech, confusion; loss of consciousness; fitting.

**FIRST AID:**

Conscious casualty - Make them comfortable. If they can safely swallow, give high-energy foods, sugar or honey or a glucose tablet. The casualty will respond quickly if low blood sugar levels are the cause. When they recover he/she may be a little confused. Make sure they eat a normal meal immediately.

Unconscious, drowsy or unable to swallow - THIS IS AN EMERGENCY. Place them on their side, clear their airway and call an ambulance immediately (dial 000) stating a ‘diabetic emergency’. Do not give them any food or drink. Wait with them until the ambulance arrives.

Heart Problems

**Angina** – A condition where there is insufficient blood flow and oxygen to the heart muscle. The heart muscle is serviced by the coronary arteries. If these arteries are narrowed, the reduced blood flow means that the heart muscle receives less oxygen than it needs to function properly. A person with angina may experience pain or discomfort in the middle of the chest, feel short of breath and sweating, pressure or a feeling of tightness in the chest. They may also have radiating pain to the neck, jaw and left arm or both arms and sometimes, in the upper back and shoulders. Treatment options depend on the severity of the condition. Casualties must rest to reduce the workload of the heart. They may also be prescribed a drug called Anginine to ease the pain.

Pulmonary oedema – A condition where the heart and lungs are unable to pump the blood out around the body, causing a backup of fluid in the lungs. This is often referred to as fluid around the heart.

Congestive cardiac failure – A condition where the heart can no longer pump effectively and the casualty becomes seriously ill.
Heart attack – A sudden blockage of one of the coronary arteries that supplies the heart muscle. The interruption results in an immediate risk of life-threatening changes to the heart muscle. If not corrected quickly there is also a risk of serious, permanent heart muscle damage. To reduce the chance of sudden death from heart attack, urgent medical care is required – “every minute counts”.

Survival after heart attack can be improved by current treatments and clot-dissolving medications that clear the blocked artery restore blood supply to the heart muscle and limit damage to the heart. These therapies are most effective if administered as soon as possible following the onset of symptoms with these benefits declining with delays in treatment.

Heart attack is different from, but may lead to, cardiac arrest. Most people experience some warning signs. Unfortunately, a person experiencing a heart attack may detrimentally pass off their symptoms as ‘just indigestion’.

**SIGNS AND SYMPTOMS** – Not all heart attacks are accompanied by pain. Some casualty’s simply look and feel unwell. Some may dismiss their symptoms as ‘indigestion’. However, more commonly they will feel a constant dull heavy pain or discomfort in the centre of the chest described as tightness, heaviness, fullness or squeezing.

The pain may radiate into jaw, neck, throat, shoulders, arms, wrists and hands. They may feel nausea, dizziness and/or shortness of breath and their skin may be very pale and sweaty and they do not look well.

**Warning signs** - Remember, if the warning signs are severe, get worse quickly or last longer than 10 minutes, an ambulance must be called immediately. If possible, stay with the person and call for assistance to get medications.

**FIRST AID** - Call an ambulance immediately:
- keep the casualty still, discourage any physical activity, make comfortable;
- stay with them until the ambulance arrives;
- if prescribed medication such as a tablet or oral spray to treat chest pain or Angina, assist them to take as directed;
- give aspirin (300 mg) if directed. The Australian Resuscitation Council state this is considered to be a reasonable approach if the carer is able to exclude a history of anaphylaxis or bleeding disorder.

Hyperventilation

*(Usually related to severe feeling of anxiety)*

**Causes** – It is usually triggered by stress or an emotional upset. For example, as a result of bad news such as a break up of a relationship or a domestic dispute or even a person losing a job. The person will start ‘over-breathing’. The rate and depth of breathing exceed that required to maintain normal levels of carbon dioxide in the blood. Consequently, the carbon dioxide level in the arterial blood falls, resulting in a range of symptoms and signs.

**SIGNS AND SYMPTOMS** - The person may feel light-headed, short of breath, panic, tingling lips, fingers and toes, palpitations and severe anxiety. They may have a feeling of impending death or detachment. They may also have a rapid pulse, an altered level of consciousness e.g. fainting and have hand and finger spasms (the fingers and wrists become claw-like with the thumb held stiffly across the palm). These symptoms will subside when the casualty calms down. Not every person who is breathing deeply or rapidly has hyperventilation syndrome.

More serious conditions which could cause hyperventilation include: asthma, heart attack, some poisoning incidents or uncontrolled diabetes. If these conditions are suspected, call an ambulance immediately.

**FIRST AID** - Be assertive and provide calm reassurance, help them regain composure. Instruct them to only breathe in and out through their nose slowly. This is difficult and makes the casualty concentrate on something else. Continue assertive instructions until the casualty slows their breathing or reduces the amount of anxiety and reaction to the incident.
Shock
In medicine and first aid the term ‘shock’ refers to a loss of effective circulating blood volume.

Causes - Can range from severe bleeding, burns, diarrhoea and vomiting, sweating and dehydration (heat-stroke), severe infection, allergic reactions, or major or multiple fractures, spinal injury, heart disorder including a heart attack, abnormal dilation of blood vessels.

SIGNS AND SYMPTOMS - When a casualty loses a large amount of blood or fluid they will usually have an increased pulse rate, a fall in blood pressure and feel thirsty, dizzy and cold. The tongue of the casualty will look pale instead of the usual red/pink colour. In severe cases, the ear lobes and lips can have a tinge of blue colour. They may also experience muscle weakness, anxiety, restlessness, nausea, and shortness of breath.

FIRST AID - The casualty should be kept warm and an ambulance must be called immediately for someone in shock.
- control any bleeding;
- manage the airway and unconsciousness;
- if they vomit, place on their side;
- keep them warm and still;
- provide reassurance, monitor until the ambulance arrives.

Stroke
- For more information, go to: - www.strokefoundation.com.au

Causes - A stroke is a life-threatening medical emergency. The longer a stroke remains untreated, the greater the degree of stroke-related brain damage. When an artery to the brain blocks or ruptures, brain cells in the area die from lack of oxygen. Sometimes this can result in death.

Warning signs - Transient Ischaemic Attacks (TIAs), or mini strokes, can be an important warning sign that a stroke may occur in the future. TIAs generally last for no longer than 60 minutes. Recognition and early assessment and treatment are vital in preventing the progression from TIA to stroke. Even if warning signs have resolved, it is still important to seek urgent medical assessment.

SIGNS AND SYMPTOMS - The warning signs or symptoms of stroke or TIA may occur alone or in combination. They may last a few seconds or hours and may or may not disappear. The severity of the symptoms depends on the area of the brain affected and the cause.

FAST is a simple way for remembering the signs of stroke.

Face: Can the person smile? Has his/her mouth or eye drooped?
Arms: Arm weakness. Can the person raise both arms?
Speech: Is his/her speech slurred? Can they understand what you say?
Time: Is critical. If you see any of these signs call 000 straight away

FIRST AID - Call an ambulance immediately, even if the symptoms don’t last for long:
- do not give anything to eat or drink;
- if conscious – place in position of comfort, a pillow behind the head is often helpful to maintain posture and balance;
- if unconscious – place on side with the facial droop facing down, follow ABCD;
- place on side if vomiting or if fluid comes from the mouth;
- monitor until ambulance arrives.
Basic Wound Care

Skin is the largest organ of the human body. It is soft to allow movement, but tough enough to resist breaking or tearing. It varies in texture and thickness from one part of the body to the next.

**Infection control** - Open wounds are prone to infection. Reduce the risk during first aid by washing your hands and using gloves. Try to avoid breathing or coughing over the wound. The wound should be cleaned in accordance to the type and severity of the wound, including the severity of bleeding. Do not clean a wound that is severely bleeding; cleaning the wound might dislodge a blood clot and make the wound bleed again, or bleed more.

**Tetanus** - Some wounds are more likely to encourage the growth of tetanus bacteria than others. Most people are immunised against tetanus. If it is more than five years since their last dose or they are not immunised, they should get a tetanus shot. See a doctor without delay.

There are 2 broad categories of skin wounds:

1. **Abrasions** - The surface layers of the skin (epidermis) has been broken. Thin-skinned bony areas such as knees, ankles and elbows are more prone to abrasions. The scraped skin of an abrasion can contain particles of dirt. These wounds should be cleaned, but not scrubbed, and antiseptic applied.

2. **Incised wounds** - Caused by sharp objects, such as knives or shards of glass, slicing into the skin. Depending on the injury, underlying blood vessels can be punctured, leading to significant blood loss. A severed artery is a medical emergency because the muscular action of this blood vessel will pump the entire blood supply out of the wound in just a few minutes.

**Chronic wounds** - A skin wound that fails to heal, heals slowly, or heals but tends to recur, is known as a chronic wound. Some of the many causes of chronic skin wounds can include trauma, burns, skin cancers, infection or underlying medical conditions such as diabetes. Chronic wounds need special care. Medical attention is required if the wound won’t stop bleeding, has increasing pain, has pus or discharge from the wound and the casualty has a fever.

**FIRST AID:**

- avoid breathing, coughing or sneezing over the wound;
- clean with a non-fibre shedding material or sterile gauze soaked in normal saline or clean water (do not use cotton wool or material that will fray or leave fluff);
- don’t scrub embedded dirt, this can traumatis the site even more;
- see a doctor if dirt cannot be removed to reduce the chance of infection;
- apply an antiseptic;
- cover with a non-stick sterile dressing such as a band aid or a non-adhesive dressing held in place with a non-allergenic tape, (try not to touch the dressing’s surface before applying it);
- change the dressing according to the manufacturer’s instructions (some may be left in place for several days to a week).

**Bleeding**

The human body requires the correct amount of blood and fluid to be transported around the body in order to function properly. The blood transports oxygen to every cell in the body and then transports the waste products away from the cell.

**Causes** - Bleeding is the loss of blood from the circulatory system. The loss can range from minor external bleeding, through to severe external bleeding, or internal bleeding, which can range from minor to massive. Injuries or trauma to the body can also result in internal bleeding.
Internal Bleeding

May be difficult to recognise, but should always be suspected where there are symptoms and signs of shock.

**Causes** - Internal bleeding can result from trauma or occur spontaneously resulting from disease. If a casualty is suffering from internal bleeding, you may not be able to see actual evidence of the blood loss, as the blood loss may be contained within one of the body cavities. However, signs of shock will be obvious (pale, cold and clammy skin).

**Types of internal bleeding**

1. **Visible** - The most common type of visible internal bleed is a bruise, when blood from damaged blood vessels leaks into the surrounding skin. Some types of internal injury can cause visible bleeding from a body opening. For example:
   - bowel injury – bleeding from the anus;
   - head injury – bleeding from the ears or nose;
   - lung injury – coughing up frothy bloodied spit;
   - urinary tract injury – blood in the urine

2. **Not visible** – It is important to remember that an injured person may be bleeding internally even if you can’t see any blood. An internal injury can sometimes cause bleeding that remains contained within the body; for example, within the skull or abdominal cavity.

**FIRST AID** - Prompt medical help is vital:

- check response;
- conduct a verbal survey and listen carefully to what the person tells you about their injury;
- lay them down and keep them still;
- look for signs of shock;
- cover with a blanket or something to keep them warm;
  - casualty’s knees may be flexed, which may help reduce the pain;
- don’t give the person anything to eat or drink;
- offer reassurance. Manage any other injuries;
- if the casualty vomits blood, place on their side to help eliminate;
  - if they become unconscious, place them on their side;
- monitor until the ambulance arrives.

External Bleeding

**Causes** - External bleeding can be minor from small cuts, abrasions and wounds, nose bleeds, severe from major or deep cuts and wounds or from amputation.

**Capillary bleeding** - Caused by small lacerations or abrasions, usually oozes and can easily be controlled with a pad and bandage.

**Venous bleeding** - Usually caused by lacerations, which can bleed freely, but can be adequately controlled.

**Arterial bleeding** - Usually caused by a severe laceration which spurts vigorously because the artery has been sliced, causing the heart to pump out the blood with each contraction. Immediate action is required, as the casualty can lose a large amount of blood quickly.

**FIRST AID** - For severe external or internal bleeding is critical, in order to limit the loss of blood until emergency medical aid arrives. Always call Triple Zero (000) in an emergency. Reduce exposure to the risk of cross infection, always wear gloves and follow standard precautions. When the casualty is lying down, external bleeding should be controlled by applying direct pressure over the wound and raising the injured area above the casualty’s heart.
Minor bleeding - Small cuts and abrasions that are not bleeding excessively, can be treated as a ‘basic wound’.

Nose bleeding - Bleeding from the nose is usually not severe:
- sit the casualty upright;
- ask them to tilt their head forward to avoid blood flowing down throat;
- using the thumb and forefinger, ask the casualty to squeeze the nostrils shut, applying direct pressure over soft part of nostrils below bridge of nose;
- remain seated and hold for at least 10 minutes;
- on hot days or after exercise, it might be necessary to maintain pressure for at least 20 minutes;
- release the hold gently and check for bleeding. If the bleeding has stopped, avoid blowing your nose or picking at it for the rest of the day;
- if bleeding does not stop after 20 minutes, seek medical assistance.

External bleeding:
- lay the casualty down, restrict movement and reassure;
- raise the injured area above the level of the casualty’s heart (if possible);
- instruct the casualty to place pressure directly on their wound, if they are able, so you can get the padding, dressings and bandages ready;
- if the casualty is unable to assist, apply pressure yourself using gloved hands or a pad;
- pull edges of the wound together if required before applying a dressing or pad;
- apply a pad over the wound and secure it firmly with a bandage;
- if blood saturates the initial dressing, do not remove it. Pad over the top and secure with a bandage. If bleeding continues through the second pad, replace the second pad and bandage. If major bleeding continues remove initial pad(s) to ensure that a specific bleeding point that can be controlled by direct pressure has not been missed.

Embedded/foreign objects:
- do not remove an embedded object because it may be plugging the wound and restricting bleeding. Examples may include a knife or a stingray barb;
- place padding around, or above and below, the object to protect the area from further damage, and apply pressure over the pads. Do not bandage over the object.

Amputation:
- apply a pad over the wound and secure it firmly with a bandage;
- place the amputated body part into a clean plastic bag and seal it completely, ensure that it is waterproof;
- place that plastic bag into another plastic bag and seal it again;
- place the plastic bag/s into a container of cool water, make sure no water touches the amputated part;
- if normal bleeding control, such as direct pressure and correct bandaging, does not stop the bleeding, and the bleeding is life-threatening, follow procedures for a tourniquet.***
Life-threatening external bleeding *** apply a tourniquet.

Tourniquet - For life-threatening bleeding only, and as a last resort, where other methods of controlling bleeding have failed, a tourniquet may be applied to a limb to control life-threatening bleeding; for example, traumatic amputation of a limb or major injuries with massive blood loss (e.g. shark attack);

- apply a bandage of at least 5cm wide high above the bleeding point. Tight enough to stop all circulation to the injured limb and control the bleeding;
- note the time of application and provide this information to the paramedics;
- do not apply over a joint or wound, and do not cover (hide) with bandages or clothing;
- once applied a tourniquet should not be removed until the casualty receives specialist care.

Burns

A burn causes the partial or complete destruction of skin.

**Causes** – Hot water or oil, fire, electricity and direct contact with heat, chemicals, radiation or frozen surfaces. There are two layers of the skin. Once the skin is burnt, the extent of damage can be minimised by effective immediate first aid treatment.

**Types of Burns**

**Thermal burn or injury** – Exposure to heat sufficient enough to cause damage to the skin and possibly deeper tissue. Most thermal burns are caused in one of the following ways, FLAME, HOT LIQUIDS, HOT OBJECTS, FLASH INJURIES and SUNBURN.

**Inhalation burn** – Damaged airways may occur from inhalation of flames or heated air. Suspect an inhalation burn when an individual is trapped in an enclosed space for some time with hot or toxic gas or fumes produced by a fire, a leak, chemicals etc. Injury may also result from irritant gases, i.e. agents that produce a chemical burn and an inflammatory response. Severe damage to the airways may result in swelling and possible airway obstruction. Some agents may produce delayed pulmonary inflammation, which may develop up to 24 hours later.

**Scald burn injuries** – Can be caused by hot liquids, grease, or steam. Liquid scalds can be further divided into spill and immersion scalds.

**Electrical burns** – Are associated with high or low voltage. High current flow may be associated with an entry and exit wound, but most of the damage is to the deep unseen tissues. They are typically more severe than is apparent from external appearance. Cardiac arrest may also result from current flow through the heart. Be sure to turn off the power before going near or touching the casualty. Electrical burns include lightning strike.

**Chemical burns** – Acids and alkalis react with body tissue and cause a burn. Alkali burns are more serious than acid burns, as they penetrate more deeply. No attempts should be made to neutralise either acid or alkali burns, this will increase heat generation and may cause even more damage. Any contact with the chemical must be avoided. Refer to a Material Safety Data Sheet (MSDS) for specific treatment.

**Phosphorus burns** – Found in flares, fireworks and weapons. When exposed to air it may ignite spontaneously.

**Hydrofluoric acid burns** – Used as a cleaning agent by jewelers, in glass etching and in other industries. One of the most dangerous and corrosive acids, which cause a full thickness skin burn and excruciating pain. Urgent medical attention is required, may be life-threatening if untreated.

**Petroleum burns (not flame)** – May cause a chemical burn due to direct toxic effects. Prolonged contact has been associated with organ failure and death. Copious irrigation with water is required.

**Radiation burns** – May be caused by sunburn, welder’s arc, lasers, industrial microwave equipment and nuclear radiation.

**Bitumen burns** – Occur from friction against the surface. Bike or skateboard accidents are the most common causes.
**SIGNIFICANT or SEVERE burns include burns that are:**

- greater than 10% of total body surface area;
- of special areas such as the face, hands, feet, genitalia;
- deep and greater than 5% of total body surface area;
- from electrical or chemical sources;
- associated with inhalation injury;
- all the way around a body part, such as the limbs or chest;
- to the very young or very old;
- in people with pre-existing medical disorders that could complicate management, prolong recovery, or increase mortality;
- associated with trauma.

**SYMPTOMS may include** - Pain around the burnt area, localised blistering to the skin, red to black marks around the burnt area. Evidence of inhalation burns e.g. burns to face, nasal hairs eyebrows or blackness around nose and mouth, coughing, hoarse voice and breathing difficulty. Reduced responsiveness, reduced circulation, shock and poor vital signs. Airway obstruction as a result of upper airway swelling, or breathing difficulties due to hypoxia (fire consumes oxygen).

**FIRST AID** - The aim for treatment of burns should be to stop the burning process, cool the burn with water for at least 20 minutes, cover the burn and seek medical assistance for further treatment. Maintain casualty's temperature (keep casualty warm). An ambulance must be called if the casualty is a child or for significant burns and conditions such as inhalation.

**Important** - During initial or emergent care, wound care is of secondary importance.

The ABC's (airway, breathing, circulation) of trauma take precedent over caring for the burn.

- do not enter a burning or toxic atmosphere without appropriate protection;
- if still on fire – stop drop cover and roll, smother flames with a blanket, move away from the burning source to a safe environment;
- stop the burning process, cool the burn and cover the burn;
- assess responsiveness, shock and vital signs;
- assess adequacy of airway and breathing and perform CPR if required (ABCD);
- treat all burns with water, lots of it, for at least 20 minutes, (do not use ice or ice water to cool the burn as further tissue damage may result);
- if water is not available Hydrogel products may be used as an alternative;
- check for other injuries, prioritise and treat;
- keep at rest and monitor until further medical assistance arrives;
- if possible remove all rings and tight clothing before swelling occurs;
- do not peel off clothing which has stuck to burnt area;
- do not break blisters or apply lotions, ointments, creams or powders;
- elevate the injured part to reduce swelling (if associated injuries permit);
- cover the burnt area with a loose and light non-stick dressing, preferably a sterile or clean, dry and lint-free material, such as plastic cling wrap, handkerchief, sheet or pillowcase.

**Specifically:**

- **Inhalation** - seek further medical treatment for inhalation burns;
- **Scalds** - remove wet clothing, but keep the rest of the casualty warm by covering unburnt areas;
- **Chemical** - cut off contaminated clothing, do not remove clothing contaminated by chemicals over the head or face; refer to instruction on the container or the relevant Safety Data Sheet (SDS) if available; **call the poisons information centre on 13 11 26**; flush chemicals from the eyes;
  - **Phosphorus** - dress wounds with saline soaked dressings to prevent ignition of the phosphorus by contact with the air;
- **Hydrofluoric acid** – life-threatening, seek urgent medical care;
- **Bitumen** – holds heat, irrigate for 30 minutes at least; do not remove from skin.
Chest Injuries

The chest is the region of the body between the neck and the abdomen. Vital organs such as the heart, lungs and major blood vessels in the chest cavity are mostly protected and supported by the ribcage. When trauma involves the chest, the ribs and the organs located directly underneath, the ribs can also be damaged. Injuries are difficult to recognise and many injuries can go unnoticed until they become very serious.

Types of Chest Injuries

Open chest injuries or penetrating chest wound (sucking chest wound) – The chest wall has been penetrated (by knife, bullet, falling onto a sharp object) fractured ribs damage the soft tissues. Treatment must commence immediately as this injury may cause the lung to collapse and create significant breathing difficulties.

Closed chest injuries – Internal bleeding or damage to organs and bones.

Rib injuries – The curved shape of the ribcage can help to deflect the force of some injuries, but damage to cartilage or the ribs themselves can still result. While a single broken rib can be very painful for the casualty, a number of broken ribs can lead to other complications. A casualty with broken ribs may take very shallow breaths, without even noticing it, as their body tries to prevent the pain from taking a full breath.

- Fractured ribs – Can be caused by direct force to the chest area. Fractured ribs may be a simple or a complicated injury. The fracture may be isolated to just bone damage, or it may damage the underlying lung causing bleeding.

- Flail segment – Occurs when several ribs are fractured in two or more places. This causes part of the ribcage to become loose. The fractured ribs involved, then move in the opposite direction to the rest of the ribcage making breathing very painful and less effective. Common causes; motor vehicle accidents, especially with the elderly. It has the potential to cause serious damage to the lungs. A flail segment can also have an associated open chest injury, possibly from a fractured rib.

Punctured lung – The lung collapses and can become a very serious injury. Causes may be from a broken rib piercing the lung, or the layers of the lung, or from being pierced by a knife or bullet.

**FIRST AID** – May be difficult for a first aider to manage. The muscle and bones that serve to protect vital organs (ribs) can hide injuries or contribute to them. It is important to consider that there may be injuries beneath the skin. Medical assistance for all chest injuries should be arranged immediately as the casualty’s condition may deteriorate very quickly.

- keep the casualty sitting upright, lean the injured side down;
- conduct a verbal secondary survey i.e. ask the casualty about their pain;
- do not remove any embedded objects, pad around the object to control bleeding;
- cover any wounds with a dressing;
- escaping air wound – place a ‘Flutter valve’ over wound:
  - get some sort of plastic that is bigger than the wound;
  - tape the plastic patch over the wound on only 3 sides. The 4th side is left open, allowing blood to drain and air to escape. This opening should be at the bottom (as determined by the casualty’s position);
  - when the casualty inhales, the bag will be sucked in, but when the casualty exhales, the air will exit through the un-taped side;
- if a flail segment is suspected, tightly secure a bulky dressing (such as a tightly folded hand towel) to help stabilise the injury;
- treat for shock as required and monitor carefully until help arrives.
Crush Injury

Causes – A variety of situations such as vehicle entrapment, falling debris, industrial accident, mining accidents and cave-ins or by prolonged pressure to a part of the body due to their own body weight in an immobile casualty.

Why – A body part subjected to a high degree of pressure from being squeezed between two heavy or immobile objects.

Injuries – Laceration, fracture, bleeding, bruising, spinal injury and in severe cases, crush syndrome may develop.

Note – A crushing force to the head, neck, chest or abdomen can cause death from breathing failure or heart failure so it must be removed promptly.

The casualty may have no pain and there may be no external signs of injury. They may go into shock or become unconscious. An ambulance should be called immediately. All casualties who have been subjected to crush injuries should be taken to hospital for immediate investigation.

**FIRST AID:**

- call an ambulance:
  - if it is safe and physically possible, all crushing forces should be removed from the casualty as soon as possible;
  - control any bleeding;
  - keep casualty warm and still;
  - make comfortable, use padding and pillows for fractures or dislocations;
  - monitor the casualty’s condition and vital signs until ambulance arrives;
  - DO NOT leave the casualty except if necessary to call an ambulance;
  - DO NOT use a tourniquet for the first aid management of a crush injury.

Electric Shock

Causes – Downed power lines, faulty equipment, overloading power boards, lightning strike.

Electric shock may result in respiratory arrest; cardiac arrest; burns. When power lines are in contact with a vehicle or a person, do not approach the casualty until the situation is declared safe by rescue authorities. Ensure that all bystanders remain at least 10 metres clear of any electrified material, e.g. car body, cable, pool of water etc. Remember, metal and water conduct electricity and may be extremely hazardous. First aid should only be provided if it is certain that it is safe to do so. Treatment of other associated injuries and burns can be done whilst waiting for the ambulance. All casualties of electric shock must be referred for medical assessment.

**FIRST AID:**

- call an ambulance and keep bystanders back;
- remember, metal and water conduct electricity and may be extremely hazardous, do not touch the casualty or any conducting material touching them until:
  - the supply of electricity is turned off and, if possible, the appliance is unplugged from the power supply;
  - or, with extreme caution, disconnect the casualty from the electricity supply using a dry non-conducting material (e.g. wooden stick or dry clothing);
- treat any other injuries that may be present;
- use water to cool any entry or exit wounds and burns;
- promptly refer all casualties of electric shock for medical assessment;
- the same treatment applies for people that have been struck by lightning;
- if in cardiac arrest commence CPR if required.
Eye Injuries

The eye can be injured by a chemical, foreign object or direct blow. There will usually be pain and redness associated with an eye injury. There may also be bleeding, tearing, sensitivity to light, swelling and/or discolouration.

Categories of eye injuries

1. **Trauma:** being struck by an object or falling and banging the eye, cuts and bruises;
2. **Burns to the eye;**
3. **Smoke in the eyes;**
4. **Minor foreign bodies;**
5. **Major foreign bodies;**
6. **Welding injuries:**
   - *flash burn:* an electric welding arc produces ultraviolet (U.V.) light which will damage the retina;
   - *mechanical damage* from being struck by flying particles and chipped slag.

**FIRST AID** – The eyes are very delicate, thus making eye injuries especially difficult to deal with. Correct treatment for an eye injury immediately following an accident can prevent loss of sight. Any first aid provided must be extremely gentle and careful. Ice packs may reduce pain and swelling. Flushing may remove foreign objects; however embedded objects should only be removed by a medical professional. Padding should be used to control bleeding. Medical attention should always be sought. An ambulance should be called for serious injuries. The casualty should be monitored at all times.

Black eye:
- cold compress, ice pack wrapped in thin towel, or ice cubes tied into cloth;
- DO NOT attempt to remove contact lenses, medical professional will do this;
- a black eye or blurred vision can be a sign of damage inside the eye.

Minor foreign object:
- never use sharp object such as tweezers to try to remove foreign bodies;
- floating objects in the eye which can be visualised may be flushed from the eye with water or saline;
- if the object cannot be removed in this manner, seek medical attention.

Major foreign object – **call for ambulance:**
- DO NOT allow casualty to touch or rub eye, attempt to remove object, wash or use eye drops, bandage or put any pressure directly on the object or the eye;
- cut hole in thick dressing or folded cloth. Place over BOTH eyes, with impaled object sticking out through hole. Position a paper cup over injured eye and impaled object. DO NOT touch eye or impaled object. Secure cup in place with bandage or scarf that covers BOTH eyes;
- alternatively, use a ring pad over the affected eye and bandage in place to prevent the foreign body/eye from moving.

Head Injuries

Head injuries may cause loss of consciousness, bleeding, neck or spinal injury, damage to the brain, eyes, ears, teeth, airways and mouth, or other structures. Severe trauma and injuries may lead to death or permanent brain damage.

**Causes** – Head injury should be suspected when any of the following has occurred:
- trips and falls from heights;
- when found, the casualty was unconscious;
- blunt force injury (e.g. from impact with or ejection from a car);
- injury caused by diving;
- the casualty’s head protection or helmet was broken;
- a high-impact sports injury.
Concussion

A temporary loss or altered state of consciousness after a head injury:

**SIGNS AND SYMPTOMS** – May experience headache or dizziness, loss of memory, particularly of the event, confusion, altered state of consciousness, wounds on the head (face and scalp), nausea and vomiting.

**FIRST AID** – Seek urgent medical assistance if casualty shows a subsequent decline in the level of consciousness. He/she may be suffering from a more serious head injury. A thorough assessment of the casualty should be completed, including the spine, eyes and ears.

Soft Tissue Injuries, Sprains and Strains

Soft tissue injuries may be sudden or get worse gradually. They can take between 2 and 12 weeks to heal, depending on the injury, initial and ongoing treatment and the age and general health of the person. Further treatment depends on the type and severity of the injury. Always see your doctor if pain persists after a couple of days.

**Causes** – Sudden twists or jolts can apply greater force than the tissue can tolerate. The fibres overstretch beyond their capacity and tear. Bleeding from broken blood vessels causes the swelling.

- **A sprain** – Joint injury - tearing of the ligaments and joint capsule. Common sites - thumb, ankle and wrist.
- **A strain** – Injury to muscle or tendons. Common sites - the calf, groin and hamstring.

**FIRST AID – R.I.C.E.**

- **Rest** - stop the activity; take casualty to the sideline or first aid room; stop movement.
- **Ice** - for the first 24 to 48 hours, ice or cold packs for 15 minutes every 2 hours.
- **Compression** - bandage the injured area firmly with a roller bandage, extend the wrapping above and below the injury. You may soak the compression bandage (crepe bandage) in cold water as it immediately reduces blood flow into the bruise which will assist the healing process.
- **Elevation** – if injuries permit, elevate the injured area above the level of their heart.
  - avoid heat, alcohol or massage, which can exacerbate the swelling;
  - if symptoms get worse in the first 24 hours, seek further medical advice.

**Note** – It is not only ice that reduces the swelling, but any application of a cold treatment regime. A cold compression bandage assists healing by reducing bleeding into the tissues and reduces pain and swelling. To avoid cold injury and frostbite, do not apply the ice directly to the skin.

Envenomation

Envenomation is the process by which venom is released via bites or stings.

**Pressure Immobilisation Technique (PIT)**

PIT is useful for some bites and stings, but not all. It is ideal for Australian venomous snakes and for funnel web spiders, blue ring octopus and cone fish. It is not recommended for any other types of bites and stings.

A simple pressure bandage over the bitten area and immobilisation of the limb, slows the flow of the venom through the lymphatic system. The lymphatic system is a network of tubes that drains fluid (lymph) from the body’s tissues and empties it back into the bloodstream. Venom may produce pain and/or tissue damage.
Bandaging the wound firmly tends to squash the nearby lymph vessels, which helps to prevent the venom from leaving the puncture site. If you don’t have any bandages at hand, use whatever is available, including clothing, stockings or towels. Firmly bandage the wound, but not tight enough to cause numbness, tingling or any colour change to the extremities.

**PIT IS RECOMMENDED for bites and stings by the following creatures:**
- All Australian venomous snakes, including sea snakes;
- Funnel web spider;
- Blue ringed octopus;
- Cone shell;

**PIT IS NOT RECOMMENDED for bites and stings by the following creatures:**
- Other spiders including redback spider;
- Jellyfish stings;
- Fish stings including stone fish;
- Bites or stings by ticks, scorpions, centipedes or beetles.

**Heat Induced Illnesses**

Heat stress can cause mild conditions such as a rash or cramps, serious and life-threatening conditions such as heat stroke, and can worsen pre-existing medical conditions. Heat stress occurs when the body can’t cool itself and maintain a healthy temperature. The body normally cools itself by sweating, but sometimes sweating isn’t enough and the body temperature keeps rising. Once the body becomes too dehydrated to sweat, the body temperature can rise rapidly and dramatically. The young and the very old are more prone to heat induced illness. **You can help prevent heat related illness by drinking lots of water and fluids while you are working, adjusting work rates and increasing breaks where necessary, and adjusting work patterns so that strenuous physical work is done in the cooler parts of the day.**

**Dehydration**

Water is essential for the human body to function. The body cannot store water and must have fresh supplies every day to perform virtually every metabolic process.

**Causes:**
- not drinking enough water, increased sweating due to hot weather, humidity, exercise or fever;
- insufficient signalling mechanisms in the elderly – sometimes they do not feel thirsty even though they may be dehydrated;
- increased output of urine due to a hormone deficiency, diabetes, kidney disease or medications;
- excessive diarrhoea or vomiting;
- recovering from burns.

**SIGNS AND SYMPTOMS** – If a person becomes dehydrated, they don’t sweat as much and their body temperature keeps rising. They may feel tired and weak. They will usually have a headache. Lips and nasal passages become dry. They may experience mood swings, respond slowly, feel confused or have hallucinations. Urine will usually become dark.

**FIRST AID** – Dehydration occurs when the water content of the body is too low. This is easily fixed by increasing fluid intake. If dehydration is not countered by fluid intake, eventually urination stops, the kidneys fail and the body can’t remove toxic waste products. In extreme cases, dehydration may result in death. Dehydration in the elderly, babies and children can be very serious, even a life-threatening condition in children.
Hyperthermia

Causes:
- excessive heat production (e.g. activity or physical exertion or heavy dark clothing on a hot day);
- excessive heat absorption from a hot environment (e.g. high humidity, unventilated buildings);
- failure of cooling mechanisms or inadequate fluid intake;
- alteration in body’s set temperature (e.g. infection or illness, drugs).

Heat cramps – Muscle cramps following prolonged exertion. The body temperature is still usually normal.

Heat exhaustion (37° – 40°C) – Recognised by fatigue, headache, nausea, pallor, sweating, thirst, fainting and moderately elevated body temperature, dizziness and possible collapse.

Heat stroke (+40°C) – Very serious. May cause impaired mental function and very high body temperature, which may lead to unconsciousness and death. All body organs are affected. May have a lack of sweating or sweating may be profuse. This is a life-threatening condition.

**FIRST AID:**
- call the ambulance, move to a cooler area such as shade;
- lay the casualty down, loosen and remove excessive clothing;
- remove the cause and assist the normal cooling mechanisms;
- cool and moisten skin with atomiser sprays, moist cloths, fans, fanning etc;
- apply wrapped ice packs to neck, groin and armpits;
- give water to drink if fully conscious;
- monitor until help arrives.

Poisoning

**Poison** - A substance (other than an infectious substance) that is harmful to human health, that can cause injury, sickness and death.

**Toxins** - Poisons that are produced by living organisms.

**Venoms** - Toxins that are injected by an organism.

Poisons can enter the body by:
- **Ingestion** - by eating or drinking poisonous substances;
- **Injection** - through drug use;
- **Absorption** - through the skin via contact with various poisons;
- **Inhalation** - breathing the gas vapours or fumes into the lungs.

Causes – Poisoning may be accidental or deliberate. Most pharmaceuticals are poisonous, even I et ha l in overdose. If poisoning occurs in an industrial area, farm or laboratory setting, suspect particularly dangerous agents and take precautions to avoid accidental injury. If more than one person simultaneously appears affected by a poison, there is a high possibility of dangerous environmental contamination.

FOR ALL POISONING, call The Australian Poisons Information Centre on 13 11 26 anywhere in Australia 24 hours a day, 7 days a week. The ambulance should be called.
**SIGNS AND SYMPTOMS** – A person may complain of physical symptoms without realising these are due to a poison. They may exhibit abnormal behaviour that may be misinterpreted as an alcoholic confusion or psychiatric disturbance. Speed of effects is determined by the nature of the poison, its concentration and the time of exposure. A wide range of symptoms and signs may occur including: unconsciousness, nausea, vomiting, burning pain in the mouth and throat, headache, blurred vision, seizures, respiratory arrest or cardiac arrest.

**FIRST AID** – Where possible, ascertain what has caused the poisoning, how much has been taken and when. The type and source of medical advice will depend on the situation. Decontamination will be in accordance with the type of poison and how it entered the body. The poisons information centre will provide advice on what to do. Monitor the casualty and manage as required until the ambulance arrives.

**Unconscious casualty:**
- place on their side, maintain an open airway;
- if not breathing normally or at all, wash the poison from the face of the casualty, use a facemask, commence resuscitation;
- perform compression only CPR if no protection is available.

**If swallowed:**
- give a sip of water to wash out their mouth;
- DO NOT try to make them vomit;
- DO NOT use Ipecac Syrup.

**Skin contact:**
- remove contaminated clothing, taking care to avoid contact with the poison;
- flood skin with running cold water;
- wash gently with soap and water and rinse well

**If inhaled:**
- immediately get the casualty to fresh air, without placing yourself at risk;
- avoid breathing fumes (don’t go into an unsafe environment);
- if it is safe to do so, open doors and windows.

**Enters the eye:**
- flood the eye with saline or cold water from a running tap or a cup/jug;
- continue to flush for 15 minutes, holding the eyelids open.

**Medication or Drug Overdose**

Many medications or illicit drugs have dangerous side effects, particularly if they are mixed together or taken with alcohol. If an overdose on drugs or medications is suspected, the person must not be left to ‘sleep it off’. It is very important to call Triple Zero (000) as many overdoses cause death.

**Causes** – Drug use is very common in today’s society. It is very hard to keep up with the range of drugs that are available and the so called “party drugs”. Whilst the major cause of drug overdose is illegal drugs, legal and prescription drugs taken in the wrong doses or combinations can also be of concern. Regardless of the drug taken, getting help as soon as possible is vital.

Recognising what type of drug has been used will be very difficult without witnesses or bystander information or actual evidence such as syringes, empty bottles, containers, left over drugs. Witnesses should be assured that they will not get into trouble by the police if they admit that illegal drugs were involved. It is way more important to get that information so the casualty can be treated appropriately.
**SIGNS AND SYMPTOMS** – A person that has overdosed may have pale, cold clammy skin, be very drowsy and nauseous and could vomit. They may also experience breathing difficulties, abdominal pain and have a decreased level of consciousness or become unconscious. Other possible side effects could include hallucinations, violence, anxiously and excitability.

**FIRST AID** – Treatment provided should be in accordance with the casualty’s condition. Try to ascertain what has been taken, how much and when. Call the Australian Poisons Information Centre on 13 11 26. Get medical advice quickly, call an ambulance. Treat the unconscious and resuscitate if required. Monitor the casualty and manage as required until the ambulance arrives.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>Although legal, alcohol is a drug. It causes an abnormal condition when a casualty suffers from an overdose. The most obvious result can be falls or even an obstructed airway if the casualty is not being cared for appropriately.</td>
</tr>
<tr>
<td>Heroin</td>
<td>One of a group of drugs known as 'opiates'. Heroin and other opiates are 'depressant' drugs.</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>The name of the group of drugs commonly known as ‘benzos’, minor tranquilizers, pills or sleepers.</td>
</tr>
<tr>
<td>Cocaine</td>
<td>A drug derived from the leaves of the coca plant. Cocaine can be snorted, injected, ingested, or converted to a free-base form and smoked. Amphetamines belong to a group of drugs commonly known as 'speed', that stimulate the central nervous system.</td>
</tr>
<tr>
<td>Ecstasy</td>
<td>The common name for the illegal synthetic drug called methylenedioxymethamphetamine (MDMA). Ecstasy alters the user’s perception of reality.</td>
</tr>
<tr>
<td>Liquid Ecstasy</td>
<td>A different drug to ecstasy. Liquid ecstasy is gamma-hydroxybutyrate or GHB, and is also known as grievous bodily harm or fantasy. GHB is a depressant drug, with sedative and anaesthetic effects. GHB is usually a colourless, odourless, bitter or salty-tasting liquid, sold in small bottles or vials. It also comes as a bright blue liquid, sometimes called ‘blue nitro’ or as a crystal powder.</td>
</tr>
<tr>
<td>Crystal Meth</td>
<td>Made of highly volatile, toxic substances (based on such chemical “precursors” as methylamine and amyl amine) that are melded in differing combinations, forming what some have described as a &quot;mix of laundry detergent and lighter fluid&quot;.</td>
</tr>
</tbody>
</table>
Appendix 1I: ARC DRSABCD Poster

Basic Life Support

D - Dangers?

R - Responsive?

S - Send for help

A - Open Airway

B - Normal Breathing?

C - Start CPR
   30 compressions : 2 breaths
   if unwilling / unable to perform rescue breaths continue chest compressions

D - Attach Defibrillator (AED)
   as soon as available and follow its prompts

Continue CPR until responsiveness or normal breathing return

December 2019