MILITARY CADETS

FIRST AID MODULE

Surname: _____

First name: _____

Cadet Number: _____

Military Cadets First Aid Course Readings

Website: http://www.parasolemt.com.au/

1. http://www.parasolemt.com.au/principles-of-first-aid/
2. http://www.parasolemt.com.au/legal-issues-in-first-aid/
3. http://www.parasolemt.com.au/first-aid-hygiene/
4. http://www.parasolemt.com.au/human-anatomy/
5. http://www.parasolemt.com.au/examination-of-a-casualty/
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7. http://www.parasolemt.com.au/triage/
8. http://www.parasolemt.com.au/chain-of-survival/

Website: http://www.stjohn.org.au/

1. http://www.stjohn.org.au/images/stjohn/information/fact_sheets/DRSABCD%20A4%20poster.pdf
2. http://www.stjohn.org.au/images/stjohn/information/fact_sheets/FS_asthma.pdf
3. http://www.stjohn.org.au/images/stjohn/information/fact_sheets/FS_bites_table.pdf
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23. http://www.stjohn.org.au/images/stjohn/information/fact_sheets/FS_sprains.pdf
24. http://www.stjohn.org.au/images/stjohn/information/fact_sheets/FS_stroke.pdf

Principles of First Aid

First aid is an important part of everyday life at home, work or at play. Everyone should learn first aid and be willing to administer basic care until emergency assistance arrives.

Not every incident requiring first aid is a life-and-death situation. First aid knowledge is commonly used to manage minor injuries at home or work.

What is first aid?

First aid is the immediate care of an injured or suddenly sick person. It is the care a person applies as soon as possible after an accident or sudden illness.

This prompt care and attention prior to the arrival of the ambulance can sometimes mean the difference between life and death or between a full or partial recovery.

The main aims of first aid are to:

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

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

Immediate action

Taking immediate action is the essential principle in first aid. Bystanders or relatives may not recognise the basic symptoms of an injury or illness and may wait hours before calling for help. Often people are worried about "doing the wrong thing", so don’t attempt any first aid at all. If a person is sick or injured, then they need help and they need it immediately.

A casualty who is not breathing effectively or is bleeding heavily, requires immediate assistance. Prompt effective first aid gives the casualty a much better chance of a good recovery.

It is important that prompt action does not lead to panic and the first aider should form a plan of action. Careful and deliberate action undertaken without too much delay is most beneficial to the casualty. Try to remain calm and think your actions through. A calm and controlled first aider will give everyone confidence the event is being handled efficiently and effectively.

Each emergency is different, so it is impossible to provide you with a precise list of things you need to do for every emergency. However, if you follow the 'principles of first aid' as outlined, you should deliver appropriate care, even if you are not sure of what the underlying problem is.

Getting help

Triple Zero (000) is Australia's 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.

Alternative ways to call for help

'112' is the GSM standard emergency call service number for use with GSM mobile phones and offers special access features. 112 can also be dialled from other mobile phones, but will only offer the same features that dialling Triple Zero (000) provides. The 112 system can be dialled from anywhere in the world with GSM coverage and is then automatically translated to that country's emergency number. 112 can also be dialled in any network coverage area (for example, in Australia, it could be dialled on an Optus mobile that is out of coverage and be connected to the emergency number by Vodafone where there is coverage) even without the presence of a SIM card or having the PIN number for the phone.

'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.

Both 112 and 106 are secondary emergency call services numbers because they are for use only in relation to particular technologies. In a workplace there may be an internal number to call in an emergency and this should be clearly displayed on or around the telephone. Freeways and major roads have emergency phones marked by blue signs and with an arrow to point you in the direction of the nearest phone. These are linked to control centres, allowing them to pinpoint your position and get help to you quickly. There are many other methods of calling for help that can be considered when a telephone is not available. These include:

- satellite phones
- HF/VHF radio
- two way radio
- e-mail
- flags flares
- Personal Locator Beacons (EPIRBS)

If you are attending to a casualty, have a bystander telephone for help. If you are on your own, you may have to leave the casualty for a short time to make a call.
The specific circumstance surrounding the incident will dictate whether you call for help or whether you send a bystander. You should instruct the bystander to give some basic information to the operator. Get them to repeat it back to you to ensure the information is correct. Memory lapse is a common experience in an emergency situation. There are three important things to remember when calling for help:

1. State which emergency service you want: Ambulance, Fire or Police.
2. Stay on the line until connected with the emergency service operator as they will need to talk to you before sending assistance.
3. Give as much information as possible about the location of the emergency. The information required will depend on whether you are in an urban or rural area and include:

    - Exact address or location
    - Street name and number
    - Suburb, city/town
    - Nearest cross road or street
    - Landmarks and distance from landmark, intersection or roadside box/number
    - Caller's name
    - Phone number from where the call is being made
    - What happened – e.g. car accident
    - Number and condition of the casualties, including level of consciousness, breathing and circulation

Medical identification tags

As a form of assistance and notification, people with medical conditions may wear or carry a form of medical identification, usually a wrist band, bracelet or necklace.

These medical-alert devices are imprinted with the person's identity, the relevant medical condition, allergies, drugs required and specialised medical contact information.

Medical conditions that may be shown vary from specific heart diseases, to diabetes, epilepsy, asthma and serious allergies.

Reassurance

The psychological value of reassurance is as important in first aid as the treatment that you give.
Comfort and reassure the casualty, as in some cases all the casualty needs is emotional support and reassurance.

A calm approach by the first aider and keeping the casualty informed of what is happening, will also assist in the reassurance process.

Remember many people who have assisted you in delivering care to an injured or ill casualty may need reassurance themselves. Relatives of the casualty may be concerned they let the casualty down or made a mistake in not getting help earlier; workmates may feel they contributed little to helping the casualty; onlookers may feel guilty they provided little practical assistance.

Take some time out at the end of the incident to tell people how important their contribution was. Let them know that effectively caring for a casualty is a team effort and every little job counts. This is especially true if the outcome of the emergency was unsuccessful.

Cultural Awareness

Cultural awareness is understanding the likely impact of your behaviour and beliefs on health, illness and care. Ensure you obtain permission to examine a casualty or provide treatment.
You should always treat the casualty with respect and observe their rights not to be touched or treated.

Your response to an emergency

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

Emotional responses to disasters can appear immediately or sometimes months later. Understanding what you're feeling and taking positive steps can help you cope with this disaster.

Some common responses to emergencies and disasters are:

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

If you have strong feelings that won't go away or if you are troubled for longer than four to six weeks, you may want to seek professional help.

The clean up

After an incident it is important to put some time aside for yourself. Very often first aiders become concerned they did not do a good enough job and they were not effective in their role.
When you think about how you handled the incident, the first thing you should keep in mind is that by stepping forward and offering first aid you have done more for the casualty than anyone else could ever do. As the great humanitarian Albert Schweitzer said,

> "The purpose of this life is to serve and show compassion and the will to help others."

In dealing with this, go and get a cup of tea and talk to a family member, friend or colleague. When you go over how you handled the incident be realistic about your expectations. Time must also be allocated to the clean up of the scene and equipment and to restock your first aid kit.

You should:

- Take a break
- Talk about the incident with peers
- Try to relax as much as possible
- Clean up the scene
- Clean up any equipment used
- Restock your first aid kit:
    - replace all items used
    - look for any soiled unopened items that will need to be replaced
- Complete any documentation
- Securely file documentation

Legal Issues in First Aid

The information in this chapter is a guide only. It is provided to help first aiders understand the potential legal consequences of becoming involved in an incident. You should seek your own independent legal advice if you have any specific questions about legal issues associated with first aid procedures or become involved in legal action.

There are four main legal considerations relating to first aid:

- Duty of Care (your obligation)
- Negligence
- Consent
- Recording

Duty of care

“Duty of care” describes the legal duty owed by one person to another to act in a certain way. As a first aider, you have a duty of care towards your casualties to exercise reasonable care and skill in providing first aid treatment. The duty arises because you have knowledge and skills relevant to a medical emergency situation.

If you choose to provide first aid assistance, you have a duty to use your knowledge and skills in a responsible way.

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

Legislation can also impose a duty of care. For instance, legislation in some States says staff in child care centres must provide medical aid to a child who becomes ill or is injured. In the Northern Territory, the Criminal Code makes it a criminal offence, for a person who is able to do so, to ‘callously fail’ to provide first aid to a person urgently in need and whose life may be endangered. The penalty is up to seven years imprisonment.

Once you start first aid treatment of a casualty you do take on a duty of care to provide first aid with reasonable skill and care and ensure your actions do not increase the risk to the casualty. You should continue to provide first aid once this treatment has begun, until:

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

Various Australian States and Territories (excluding Queensland and Tasmania) exclude from liability a person where, in an emergency, they help a person who is or risks being, injured. Such protection from civil liability for an act or omission exists as long as:

- The person rendering assistance does so in good faith (that is, acting honestly, without fraud, collusion, or participation in any wrongdoing);
- The person's action was without expectation of reward or payment;
- The person was not responsible for the injury in relation to which the assistance was provided;

- The person's capacity to exercise reasonable care and skill was not significantly impaired by being under the influence of alcohol or drugs;
- The person exercises reasonable care and skill; and
- The person does not impersonate a health care or emergency services worker or a police officer or otherwise falsely represents that he or she has skills or expertise in connection with the rendering of emergency assistance.

In addition, each Australian jurisdiction has legislation that provides protection for volunteers of charitable, religious, educational and benevolent community organisations. Such volunteers are protected from civil liability for acts or omissions made or done in good faith within the scope of the activities organised by the community organisation.
The protection does not extend to damage caused by the volunteer's criminal conduct or impairment of the volunteer's ability by alcohol or drugs.

Negligence

In the unlikely event that a first aider is sued in connection with providing first aid assistance, the courts would look at the circumstances surrounding the event to see if the first aider acted negligently in the way the first aid was provided. The following factors must all be present for a first aider to be found negligent:

1. A duty of care existed between the first aider and the casualty.
2. The first aider did not exercise reasonable care and skill in providing the first aid.
3. The first aider breached the relevant standard of care.
4. The casualty sustained damage as a result of an act or omission of the first aider.

A first aider is not considered a 'professional' in most cases. A court would look at the first aider's training and at what a prudent and reasonable person would have done with the same level of training in the same circumstances.

Because encouraging people to assist others is in the public interest, it is likely the Australian courts would only see first aiders as liable if it can be shown their behaviour was grossly negligent and would take into account all the circumstances of the event.

The court may examine issues to establish whether the first aider exercised reasonable care, such as:

- What was the first aider's level of knowledge?
- What information was available for the first aider, including:
    - was adequate questioning used?
    - was a thorough examination of the casualty undertaken?
    - were all the facts available taken into account?
- Were accepted first aid procedures complied with?
- What were the circumstances in which the first aider provided assistance?

Example:

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

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

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

Consent

Before you start treating a casualty you should ask for and receive the casualty's consent for your treatment. If the casualty is unconscious or is unable to give consent due to their injuries, you can assume consent and start treatment. If the casualty is under 18 years old, then you should seek consent from a parent or guardian. If a parent or guardian is not present, you can start treatment.
You should not start treatment if an adult, who seems of sound mind and able to make a decision, refuses your offer of treatment.

You only have the casualty's consent to treat them for a condition that affects their immediate health. You should not provide help for any ailment that goes beyond your knowledge of first aid.

Recording
First aiders should always make notes or fill out a casualty report for any event attended, no matter how minor. Proper records will help you to recall the incident if you are ever asked about it at a later stage.

The responsibility is greater if you have a role as a first aider in your workplace and you may have reporting obligations under your State or Territory occupational health and safety (OH&S) legislation. You can check this with your workplace OH&S representative.

Records may be used in a court, so ensure your reports or notes are legible, accurate, factual, contain all relevant information and are based on observations rather than opinions.

When preparing a report some general guidelines should be followed:

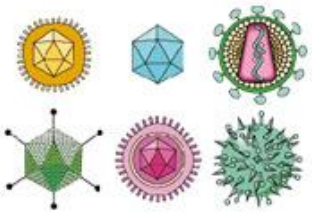
- Use black or blue ink only
- Any corrections should be crossed out with a single line and initialled. Do not use correction fluid to correct any mistakes.
- Sign and date the record.
- The information should be kept confidential, and should only be accessed by authorised people. Who is authorised to access the records varies in different State or Territories.
- In a workplace incident, a copy should go to authorised employer representatives for auditing and OH&S monitoring purposes.

First Aid Hygiene

Ensuring cleanliness in all first aid situations is extremely important. A first aider must take precautions to ensure the risk of infection is minimised by practising good first aid hygiene procedures.

Infectious diseases are diseases that cause infections to the human body and, in some cases, are transmitted by contact or by cross-infection.

Infection may be due to bacteria, viruses, parasites or fungi.



The usual methods of transmission are: direct contact (with an infected person); indirect contact (through coughing, air conditioning or similar); or through a host (insects, worms).

Many deadly infectious diseases have been eradicated, but several, such as poliomyelitis (a virus), are again on the increase. Many are preventable by immunisation. Some, such as the human immunodeficiency virus (HIV), have no cure or immunisation as yet.

Examples of infectious diseases are:

Viral Infections

Measles, mumps, rubella, hepatitis, influenza, chickenpox, HIV and the common cold.

Bacterial Infections

Throat infections, whooping cough, diphtheria, rheumatic fever, tuberculosis strains, cholera, staphylococcus infection and some forms of meningitis.

Parasitic Infections

Malaria, tapeworm, hookworm, itch mites, pubic and body lice.

Fungal Infections

Ringworm, tinea ('Athlete's Foot') and thrush.

The human body has natural defences against infection and remains immune to certain types. Immunity usually comes from surviving previous exposure with resultant antibodies being produced. The blood contains leucocytes (white blood cells), which help produce antibodies. The leucocytes and antibodies [try to] combat any infection which invades the body.

Unfortunately, while the body responds quickly to infection, the initial defences can be overwhelmed if the infectious agent is numerous. When this happens the casualty develops the disease.

It is at this stage the body requires help from medically prescribed antibiotics or similar drugs.

General precautions

While there is little a first aider can do to cure an infection there is a great deal you can do to limit the risk of infection and treat symptoms of minor infections. However, the first aid provider should be familiar with the signs and symptoms of the common diseases and advise the infected person to seek appropriate medical attention.

Advice that the first aid provider can offer is:

- care of the susceptible, ie. the ill, the elderly, and the very young
- care in nutrition and preparation of food
- maintenance of personal hygiene
- maintenance of sanitary standards
    - Avoid direct contact with infection
    - Avoid transmitting infection

First aid hygiene

It is important first aid procedures have due regard for the danger of cross-infection. Simple rules of personal hygiene and wearing gloves are sufficient to guard both the first aid provider and the casualty from contamination when treating or caring for a casualty.

Prior to Treatment

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

During Treatment

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

After Treatment

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

Waste materials can be placed inside a plastic bag, which is then placed inside another plastic bag and tied securely. Use a biohazard bag if possible. Do not place in rubbish bin. Seek advice from your local health department on disposal options.

Needle-Stick Injuries

The principal risk associated with needle stick injury is contracting blood borne viruses such as HIV (AIDS) and HBV (hepatitis B).

There is a low risk of a person who is pricked or scratched by a discarded needle being infected with AIDS, hepatitis B and hepatitis C.

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

Ways of reducing the risk of needle-stick injuries include:

- It is generally recommended workers who may come in contact with blood or body fluids should receive hepatitis B vaccinations
- Latex or nitrile gloves will not protect you against needle-stick injuries
- Follow all safety procedures in the workplace
- Never bend or snap used needles
- Never re-cap a needle
- Always place used needles into a clearly labelled and puncture-proof sharps approved container.
- Wash away the blood or body fluid with soap and water
- If the eyes are contaminated, rinse eyes while open with water or saline
- If blood gets into the mouth, spit it out and then repeatedly rinse with water
- Refer the person immediately to a doctor or hospital emergency department who will assess the risk of transmission and discuss options for testing and treatment
- Ensure the safe disposal of the sharp
- Report the incident immediately

Dispose of waste in accordance with the requirements of the relevant local, State, Territory or Commonwealth authorities.

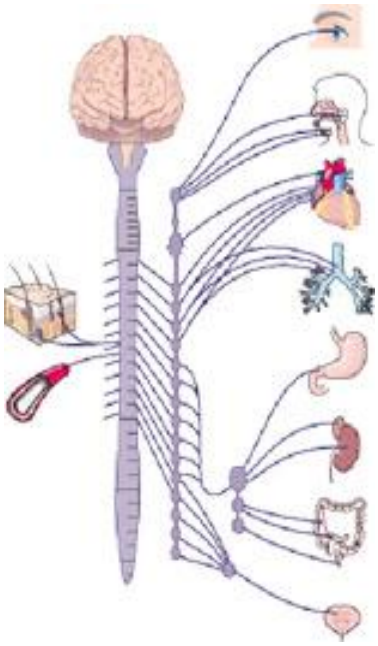
Human Anatomy

The human body is composed of a number of ‘systems’, each with a specific role in the function of the body as a whole.

It is useful for a first aider to have a basic awareness of the major systems and their functions. Knowledge of human anatomy will assist you in a first aid diagnosis and will also provide a firm basis for the care and treatment of a casualty.

Essentially, there are ten anatomical systems, with some more important than others. This section will address those systems that are of significance in first aid delivery.

The nervous system

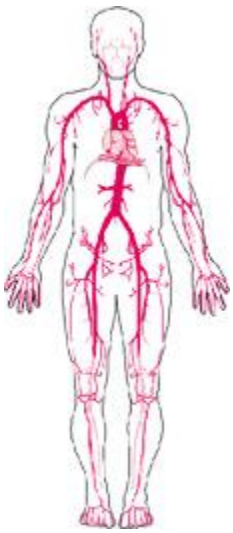


The nervous system is considered in two main parts, the central nervous system and the peripheral nervous system.

The central nervous system comprises the brain and spinal cord. The brain controls all functions of the body and is the most complex of all body systems. The brain regulates all body functions, including the respiratory and cardiovascular systems. The spinal cord delivers the signals to all parts of the body.

The motor and sensory nerves, which involve movement, are known as the peripheral nervous system and these are directed by the brain. Some peripheral nerves function without conscious thought and these are known as autonomic nerves. Breathing is a function attributable to these nerves.

The cardiovascular system



This system involves the heart, blood vessels and blood. The heart is the pump that drives the blood around the body.

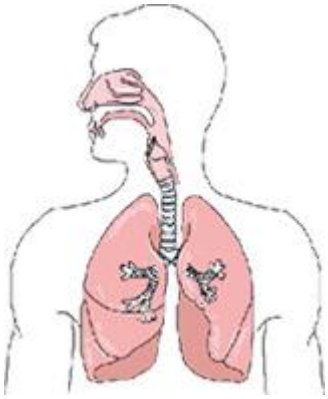
The body's main vessels are arteries, which take the blood from the heart and veins, which return the blood to the heart.

There are smaller blood vessels such as arterioles, venules and capillaries, most of which are located at the body’s extremities and usually close to the skin.

Blood is the medium that transports oxygen, from the respiratory system to the body’s cells. Blood also transports sugars, chemicals, proteins, hormones and many other substances around the body for use and elimination.

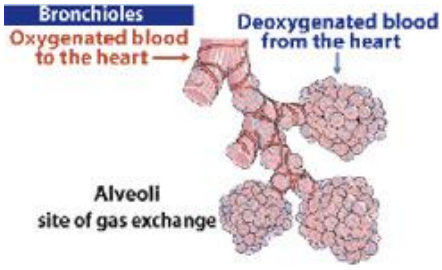
As the heart pumps blood, a pulse beat can be felt at various locations in the body and each pulse beat corresponds to one heartbeat. The heart rate of the average adult at rest is between 60 to 100 beats per minute, depending on age, medical conditions and general fitness.

The respiratory system



This system is composed of the airway (mouth, nose, trachea, larynx, bronchi and bronchioles) and the lungs (including the small air sacs called alveoli).

The respiratory system provides oxygen to the blood and takes away the waste product called carbon dioxide.



Oxygen is extracted from air inhaled through the airway and goes into the blood stream through the membranes of the lungs. For the first aider, maintaining a casualty's airway is of primary importance.

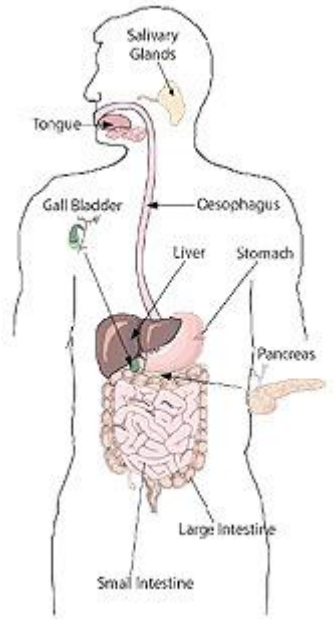
The musculoskeletal system

This system involves the bones, ligaments, tendons and muscles that support the body, protect the internal organs and enable movement.

Most muscles used for movement work by contracting and relaxing in conjunction with a bone.
The action of raising your leg involves contracting several muscles, creating an opposing force in the leg and causing it to move upwards.

Some muscles, such as the diaphragm that makes the lungs expand and contract, do not need bones, but function attached to large masses of tissue.

The digestive system

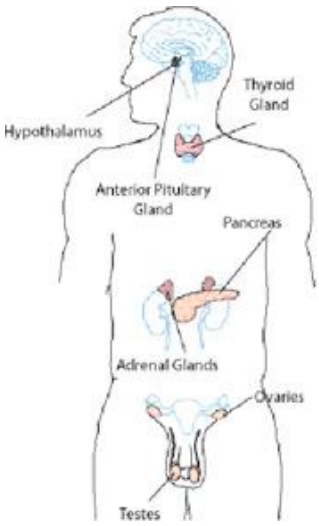


This system includes the oesophagus, stomach and intestines.

Fluid and solids are passed through the oesophagus to the stomach where they are processed for further digestion. They are then absorbed into the body through the membranes of the intestines.

Some organs, such as the liver and pancreas, are considered accessories to the digestive system as they help process food into various chemical substances used by the body.

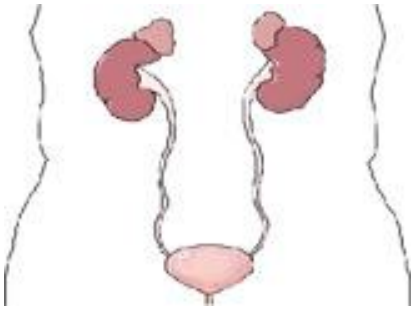
The endocrine system



This system involves those organs and glands that secrete chemicals in the form of hormones to stimulate and activate the body's functions.

The pancreas for example, controls a variety of important functions by releasing insulin and influencing the body's metabolic process.

The urinary system



This important system flushes waste products suspended in fluid from the body. It includes the kidneys, bladder and urinary tract and plays a vital role in keeping the body healthy.

Should the urinary system fail (especially the kidneys), then the affected person requires external assistance to get rid of the waste products by ‘flushing’ the blood. This is called haemodialysis or, more commonly, ‘dialysis’.

The reproductive system

This is linked to the body’s endocrine system, through the female’s ovaries and the male’s testes. These are known as the gonads or ‘sex glands’.

The female reproductive system consists of the ovaries, which produce the human egg, the uterus (or ‘womb’), where the fertilised egg is lodged for growth and the vagina.

The male reproductive system is composed of the testes, which produce sperm, the seminal vesicle that provides the fluid medium for the sperm and the penis.

The integumentary system
This is the system that includes skin, hair, fingernails and toenails. Their pigmentation (colour) and growth are linked to the endocrine system.

The skin is the body’s largest organ and plays an important role in protecting the body from infections. The skin’s other functions include acting as a shield against injury and keeping body fluids in. The skin is made from tough, elastic fibres which have the ability to stretch without tearing easily.

The lymphatic system

The lymphatic system is a slow moving system where toxins such as venom tend to accumulate after a bite has occurred.

This system provides lymphatic fluid that drains from the body's tissues, which is important as a 'flushing' mechanism. Most toxins and infections absorbed or injected into the tissues are collected by the lymphatic system and 'strained' through lymph nodes in the armpits, neck and groin. The lymphatic fluid eventually drains into the blood stream.

Examination of a Casualty

Accurate casualty treatment, and later medical treatment, depends on accurate and detailed information from the incident scene.

At an incident, it is important you note as much information as you can. Details such as the estimated speed at which a car was moving, the way it hit an object, the size and shape of the object and whether the casualty was conscious or unconscious when you arrived.

Note all this and report it to the ambulance personnel or doctor. These are important details for emergency personnel trying to evaluate the casualty's injuries. You must approach the incident in a confident and methodical way. This not only allows you to gain information, but also presents you as someone who knows what they are doing. This attitude imparts confidence to the casualty and bystanders.

The approach
Take the time to look at the scene for anything that may threaten your safety or the safety of those on or around the scene.

Look for the number of casualties involved. Look for bystanders who may be able to supply information on what happened and the number of casualties.

What are your impressions as you approach the incident?

- Is it a road traffic accident?
- Has a person fallen from a ladder?

Quickly confirm in your mind just what is present; bystanders, other vehicles, power lines, power cables or collapsed structures.

Primary examination

Check to see if the casualty is conscious. If unconscious, treat as per the Emergency Action Plan.
Check to see if there is severe life threatening bleeding and control immediately.

Try to obtain a history from:

- Casualty
- Bystanders

At this point you are able to decide what approach and treatment is appropriate.

If the casualty is conscious ask three important questions:

- What happened?
- Where does it hurt the most?
- Can you take a deep breath?

These three questions will give you information from the casualty, including whether the casualty remembers the incident (were they unconscious), what injury hurts the most and if any chest injuries may be affecting breathing.

Pay attention to:

History - the incident (**SAMPLE**)

- **S**igns And Symptoms
- **A**llergies
- **M**edication
- **P**ast illnesses
- **L**ast time the casualty ate or drank
- **E**vent - history of injury/illness (what happened, where and when)

Signs - what you can see or feel for yourself

- Bleeding, swelling, bruising

Symptoms - what the casualty tells you

- Pain, blurred vision, nausea

Observations

One of the most important things a first aider can do is take and record accurate observations. There are four vital observations that should be, if possible, written down against the time and the name of the casualty. These observations are:

- Skin appearance
- Conscious state
- Pulse
- Respiration

The first set of these observations, once taken and recorded, becomes the ‘baseline observations’. All changes in the casualty’s observations are measured against this baseline for improvement or worsening of their condition.

Skin Appearance

The appearance of the skin can be a good indicator of the casualty’s condition. Check colour, condition and temperature of the skin.

Colour. Check the colour of skin in the mouth and lips. Red, pink, pale or blue. (Checking the lining of the mouth and lips allows a quick assessment of casualties from all ethnic backgrounds).

Temperature. Is the skin warm or cool to touch?

Condition. Is the skin dry or wet?

Conscious State
Check the casualty for a response by touching the casualty on the shoulders and asking loudly "**are you all right**?"

Note the following:

- Is the casualty alert and aware of time and place?
- Is the casualty confused, violent or agitated?
- Is the casualty roused by touch or pain?

There are 4 levels of consciousness (**AVPU**).

1. **A**lert - the casualty is responsive and alert and aware of time and place.
2. Responsive to **V**erbal stimulus - the casualty is not aware of time and place.
3. The casualty responds only to **P**ainful stimuli.
4. **U**nresponsive - the casualty does not respond to stimuli.

Pulse

The pulse can be difficult to find and should only be used when time permits and when assessing a casualty that is breathing.

DO NOT use a pulse to determine if resuscitation is required.

The neck is the best location to check for a pulse, which is called the carotid. The carotid is the strongest and most easily accessible of all the pulse points. The radial pulse (wrist) is often the easiest to find. When taking a pulse, note how fast the pulse rate is over one minute. A normal adult will have a pulse rate of 60 to 100 beats per minute. Children and babies have a faster heart rate than adults. Note the rate, rhythm and strength of the pulse.

- Rate - How many beats per minute? Count for 15 seconds and multiply by 4
  - Adults - 60 to 100 beats per minute
  - Children - 90 to 130 beats per minute
  - Infants - 120 to 160 beats per minute
- Rhythm - Is the pulse regular or irregular?
- Strength - Is the pulse strong or weak?

Respiration

- **Rate** - How many breaths per minute? Count for 15 seconds and multiply by 4
- **Rhythm** - Is the breathing regular or irregular?
- **Sounds** - Is there gasping, gurgling, wheezing or snoring?

Pain

Pain can be one of the most difficult observations to make as every person has a different 'pain threshold'. Ask open questions such as "can you describe your pain to me", not "does your pain feel sharp".

As pain is subjective the first aider needs to use a tool such as the **PQRST** of pain.

- **P**rovocation - What brought the pain on? Did the pain start when the casualty was at rest or did it start with activity or injury?
- **Q**uality - How is the pain described? Is it intermittent, sharp, dull, heavy, burning or an ache?
- **R**egion/**R**adiation - Where is the pain situated, and does it travel to other areas of the body?
- **S**everity - Measure the pain on a scale of 1 to 10. A rating of 10 on this scale would be severe pain.
- **T**ime - How long ago did the pain start?

Secondary examination

Now that you know the casualty's basic observations and condition you have more time to thoroughly examine a conscious casualty by systematically Looking and Feeling (**LAF**).

- **L**ook for deformity, wounds and swelling
- **A**nd
- **F**eel for deformity, tenderness and swelling

A good tool to remember the signs of injury is **DOTS**.

- **D**eformity
- **O**pen wounds
- **T**enderness
- **S**welling

Conduct a head-to-toes secondary examination. Remember to be sensitive to the age, sex and culture of the casualty.

Start the secondary examination by informing the casualty of what you are going to do and the reason for doing the examination. Listen carefully to what the casualty tells you while doing your examination.

Head:

- Bleeding
- Fractures
- Bruising
- Swelling
- Tenderness or pain
- Cerebral spinal fluid (CSF) from ears. CSF is a clear colourless fluid that may also have blood present
- Ask casualty to bite to check for fractured jaw

Neck:

- Bleeding
- Fractures
- Bruising
- Swelling
- Deformity
- Tenderness or pain
- Numbness or tingling
- Check for Medical Alert necklace
- Ask casualty to wiggle fingers and toes
- Ask casualty to squeeze your hands to check for strength

Shoulders and chest:

- Bruising
- Swelling
- Gently ‘spring' the ribs to check for tenderness or pain
- Look for unequal rise of the chest with each breath
- abdomen and pelvis:
- Rigidity
- Tenderness or pain
- Swelling
- ‘Guarding' and incontinence
- Gently ‘spring' the pelvis to check for tenderness or pain

Arms and legs:

- Bleeding
- Fractures
- Soft tissue injuries
- Tenderness or pain
- Loss of strength
- Check for medical alert bracelet
- Check circulation in extremities
- Ask casualty to move each limb in turn

Back and Spine:

- Bleeding
- Deformity
- Tenderness or pain
- ‘Log roll' and look at all areas of the back of the casualty for signs of injury

Road Traffic Accidents

Most modern vehicles are designed to withstand impacts of a certain force, and to provide protection to drivers and passengers. Seat belts, ‘crumple zones', collapsible steering wheels, airbags, roll bars - all these and similar devices are designed to provide personal protection in an accident. Unfortunately, not all vehicles on Australian roads are equipped with these modern design benefits, and many provide little or no protection at all.

As a first aid provider, you may be required to render assistance at the scene of a road traffic accident. If so, remember, be calm and methodical in your actions as others involved who have not had the benefit of first aid training will look to you for support and guidance - for leadership.

Approaching the scene
Consider your safety and that of bystanders and the casualty. Always take time to have a good look at the scene before you approach. Approach the scene methodically, keep away from traffic, and ask someone to accompany you as an assistant.

Examine the scene - give yourself time to think about your next action.

There are many things to consider, including:

- Is the vehicle stable; will it roll or move?
- Is there spilt fuel?
- Is there any risk of fire?

- Are power poles involved?
- What about oncoming traffic?
- If a van or truck; is the load safe?
- **DO NOT touch anything until you are sure that it is safe.**

Controlling the scene

As you move to the scene, ask bystanders to move back. Ask a responsible person to slow down or redirect any oncoming traffic (ask if anyone has a torch). Ask someone else to make sure that bystanders (especially children) don't become involved with passing traffic. Ask bystanders not to smoke near any damaged vehicles.

Unless there is someone else present with more advanced medical knowledge, you become the person in charge of the casualties.

Assess the scene

What are your initial impressions.

- How many casualties?
- Are they walking around?
- Unconscious?
- Talking?
- Any obviously dead?
- Any trapped?
- Immobile?

After the initial quick assessment, ask the person who accompanied you to contact the ambulance service and give them information on location, number of casualties, estimated seriousness of injuries, and if road rescue is required for trapped casualties.

Ask bystanders for help; ‘Are there any first aiders here?', ‘Did anyone see what happened?' ‘Could someone give me a hand?' It is at this point that you may be required to triage the casualties (refer to Triage on page 112) - remember, first aid is provided to the casualties who will benefit most, eg the unconscious, the person bleeding profusely.

Without adequate help, do not become committed to resuscitating a cardiac arrest victim at the expense of others who require urgent assistance.

Access to the casualties

Ensure that any vehicle involved is safe. Do not touch the vehicle unless you are certain it is safe to do so. Check the vehicle is not in contact with an electrical power source.

If you attempt to gain entry, do not wrench open the door unless you know that it is not in contact with a casualty. In certain circumstances, casualties have become impaled or entrapped by contact with a door. Be careful of broken glass if you insert your head through a window. Make sure that you can gain effective entry beside and behind the casualty. Beware of sharp metal and broken glass.

Attending the casualties

Perform a primary examination of the casualties. This will tend to confirm your initial triage. Use any helpers to move the casualties with minor injuries (‘walking wounded') away from the scene to a safe place. This will give you more room to attend to the more serious cases.

Always try to have a responsible person to help you attend to serious casualties - it helps to have assistance and support.

What to look for

Always consider the outcomes of the accident: Was the vehicle struck on the side (‘T-boned')? Did it roll over? Was it a high-speed impact? Was the motorcyclist hit by his own bike? There are certain injuries that appear associated with particular types of impact (‘mechanism of injury'), and considering the accident's effects may point you towards any suspected, but perhaps less visible, injuries:

Side impact. Fractured upper leg (femur) and/or lower leg on the side of impact. Consider a fractured pelvis. Suspect a shoulder or upper arm injury on the side of impact, and if the ‘B' pillar has been damaged, suspect a head injury.

High speed impact. Deceleration injuries involving severe internal bleeding, multiple fractures, impacted pelvis, head and spinal injuries, and multiple lacerations. Be alert for deterioration in unconscious casualties with head injuries.

Rear end collisions. Cervical spine injuries (‘whiplash' effect) and facial injuries.

Ejection from the vehicle. Head and spinal injuries, unconsciousness, multiple fractures, multiple lacerations to upper body and head, and internal bleeding.

Roll over. This mechanism of injury provides for the complete range of damage to the human body. Drivers and passengers are usually thrown around, irrespective of their seat belt restraints, and they have no control over their movements.

Pay particular attention to children, as they are often not correctly restrained by seatbelts designed for adults.

Motorcycle accidents. Injuries commonly sustained by riders and pillion passengers are fractures of the femur, wrist and ankle fractures, head injuries, and deceleration injuries resulting in severe internal bleeding.

Motor cyclists' helmets **MUST NOT** be removed unless the airway is obstructed or the casualty is not breathing.

Casualties should remove their own helmets wherever possible. If a helmet has to be removed, it requires two rescuers to do so, and it should be done carefully with no movement of the neck.

Bicycle accidents. Cyclists are liable to sustain multiple fractures, multiple lacerations, and head injuries. Children are susceptible to ‘greenstick' fractures of the arms, and wrist injuries through falling off at relatively low speed.

Pedestrians. Generally, adults are struck on their side as they try to turn away from the vehicle. Their injuries are usually more pronounced on the side that has received the impact.

Children and the elderly are more likely to be struck as they turn to face the oncoming vehicle.
Most pedestrians are ‘run under' rather than ‘run over' as they are forced off their feet by the impact and may be thrown over the vehicle, or for some distance from the point of impact. Head and spinal injuries are common, especially where the casualty's head has struck the vehicle's bonnet or windscreen. Small children may be ‘run over', and be still under the vehicle when it stops.

Treatment of casualties

Treat any casualties in accordance with your training. **DO NOT** remove any seriously injured casualties from the vehicle unless fire, fear of further collision, airway protection, control of severe bleeding, or CPR are necessary.

Wait for the ambulance to arrive. Provide what treatment and reassurance you can, keep the casualties warm with blankets if available, and periodically check on the ‘walking wounded' who have been moved from the scene.

Remember that shock is a life-threatening condition, and may be present after trauma sustained in a road traffic accident. Be ready to treat any signs and symptoms that indicate a casualty is progressing into shock.

Do not confuse shock with the adrenaline ‘rush' associated with the ‘fight or flight' mechanism which causes people involved to shiver, shake, cry and feel faint after an accident. This is not a serious condition, and others can look after them while you attend to the needy casualties.
On arrival of the ambulance, give the crew what information you have and advise them of any treatment you have provided. Your intervention will be appreciated by all concerned - especially the casualties.

Triage

Triage (pronounced ‘tree-ahz'), is a French word used in the first aid and medical contexts to indicate the sorting and classification of casualties, and the establishment of treatment priorities. It usually refers to a mass casualty situation, such as an earthquake or bus accident.

Even though triage generally applies to large numbers of casualties, it is also relevant to other first aid situations involving two or more casualties.

There are times when members of the public, trained in first aid, have had to make decisions on the treatment and care of casualties which normally would have been the responsibility of ambulance officers or a doctor. This is especially relevant in country areas where medical aid may be some hours away. A common example of this circumstance is when a member of the public travelling a remote country road comes across a motor vehicle accident involving several casualties.

Unfortunately, to effectively provide the best treatment for the most needy, some seriously injured casualties may have to be temporarily ignored. Basically, the requirement is for your limited first aid resources to be allocated to the casualties who will survive because of it, and not to those who are likely to die.

To triage an incident, your approach has to be objective. To assume the responsibility for these decisions is an unenviable position to be in.

You should ask yourself three questions:

1. Who needs immediate treatment to save their life?
2. Who will really benefit, and who won't?
3. If I treat one person, will others suffer seriously from lack of attention?

Safety, airway, breathing, circulation, control of severe bleeding, shock, and burns, are still the priorities when attending multiple casualties with little, or no assistance.

Casualties in cardiac arrest are only given CPR if there are no other seriously injured casualties requiring life-saving treatment. If you become distracted with a casualty in cardiac arrest, you will be fully committed performing CPR (usually to no avail), at the expense of another who may be saved by your active intervention.

An unconscious casualty on their back, a person with severe bleeding, a casualty with a head injury going into shock - all are high priorities because without your intervention they may die. A conscious casualty with a fractured leg is less urgent and can wait until the more serious casualties are dealt with. A conscious casualty walking around, complaining of a sore shoulder, for example, is at the bottom of the triage list.

The most knowledgeable or experienced person present should undertake triage.

Chain of Survival

The actions linking sudden cardiac arrest (SCA) with survival is called the chain of survival. Cardiopulmonary resuscitation plus defibrillation within three to five minutes of collapse can

produce survival rates as high as 75%.

The four links in the Chain of Survival are:

1st Link - Early Recognition and Call for Help

The first link shows the importance of the early recognition of those at risk of cardiac arrest and then calling for help immediately in the hope that early treatment can prevent cardiac arrest.

2nd Link - Early CPR

Early cardiopulmonary resuscitation (CPR) performed by a first aider on a casualty who is in cardiac arrest can buy life-saving time.

3rd Link - Early Defibrillation

Early defibrillation is the third and perhaps most significant link. Automated external defibrillation is the emergency procedure where specially trained first aiders apply an electronic device to the chest of a cardiac arrest casualty and the device automatically delivers a controlled electric shock to the casualty's heart.

4th Link - Post Resuscitation Care

The final link in the Chain of Survival, effective post-resuscitation care, is targeted at preserving function, particularly of the brain and heart. This is performed by ambulance paramedics and other highly trained medical personnel.