

This handbook contains relevant first aid information for a wide range of workplace, home and outdoor first aid emergencies. The scope of information is designed to support you in coping with a first aid emergency until rescue services arrive.

First Training first aid courses

This handbook is intended to be used in conjunction with a First Training first aid course. First Training first aid courses provide a mixture of theory and hands-on scenarios in small groups, developing you into a skilled and confident first responder.

First aid courses offered by First Training:

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- Outdoor First Aid
- Provide Basic Emergency Care

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First Training Private Training Establishment (PTE) contact information

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First aid in the Auckland region

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PRIORITIES OF FIRST AID

The priorities of first aid are to:

- Preserve life.
- Prevent the patient's condition worsening
- Promote recovery

Knowing and applying these principles is especially important where:

- There is more than one patient - THE CARE OF AN UNCONSCIOUS PERSON HAS PRIORITY
- A patient has more than one injury

In these situations, it is important to deal first with immediately life-threatening conditions; then attend to conditions which could get worse; and then do what is possible to assist the patient to recover.

Early recognition is a key step in initiating early management of an emergency situation.

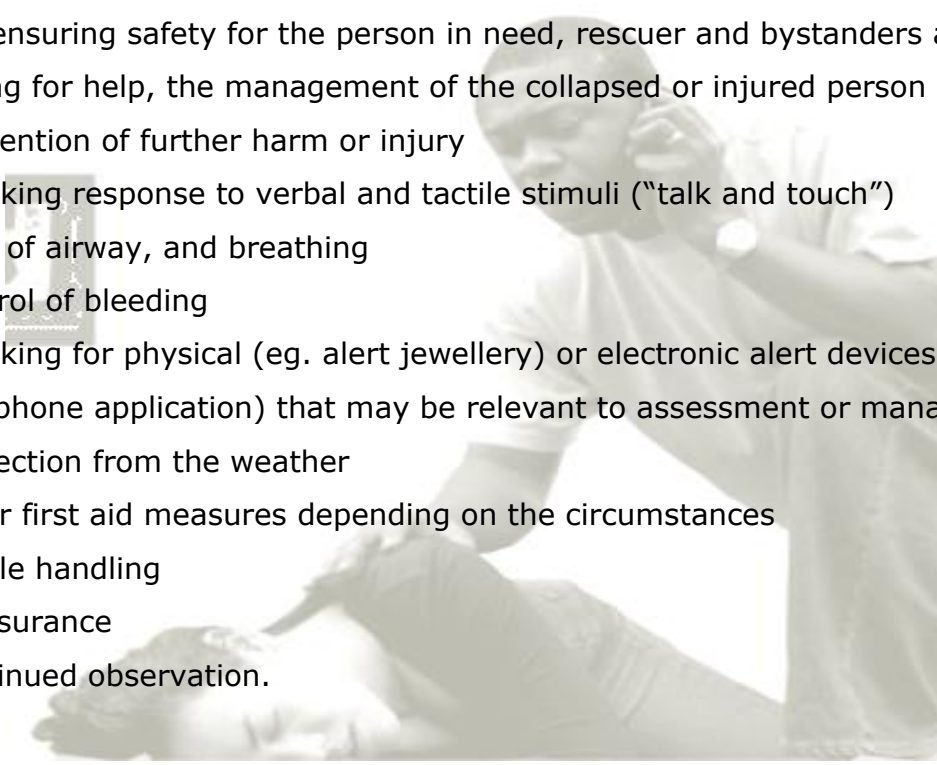
In all emergencies, the rescuer should:

- quickly assess the situation
- Check for danger (assess and manage risks to the rescuer and others. This may mean moving the person in need)
- send for help (call an ambulance).

General principles of management:

After ensuring safety for the person in need, rescuer and bystanders and sending for help, the management of the collapsed or injured person involves:

- prevention of further harm or injury
- checking response to verbal and tactile stimuli ("talk and touch")
- care of airway, and breathing
- control of bleeding
- checking for physical (eg. alert jewellery) or electronic alert devices (eg. smartphone application) that may be relevant to assessment or management
- protection from the weather
- other first aid measures depending on the circumstances
- gentle handling
- reassurance
- continued observation.



ACCIDENT MANAGEMENT

Safety: STOP - THINK - RESPOND

In the event of an accident always think "AM I SAFE?" Take a few seconds to calm down and assess the whole scene before acting. Then, are the bystanders safe? Is the patient or are the patients safe? Respond to any dangers before approaching the patient.

Leadership

Leadership needs to be established early to control the scene and if appropriate give clear, calm instructions to remove the patient from immediate danger. Is there more than one patient? The leader needs to be able to co-ordinate the whole scene. To do this the leader needs to stand back and delegate as many tasks as possible.

Patient Management

The person with the best first aid skills should attend to the patient. If the leader is the one with these skills, then delegate the leadership role.

Delegate someone to be the Patient Care Giver (comfort). The comforter's prime purpose is to be the patient's constant companion, looking after their emotional needs, giving support, and keeping the patient informed about what is happening. This person can also support and help the first aider

Are "gofers" available to fetch and carry any resources needed? e.g. first aid equipment, relaying messages, etc.

Is someone available to be the recorder, writing down all relevant information, the time, what happened, what is happening, etc?



Calling for help

Knowing how to call for help quickly and effectively is critical to ensure the patient gets appropriate support without delay in the event of an emergency. In most cases calling for help will be calling 111.

For non-urgent situations or medical advice there are medical support services that can provide advice on general or specific medical conditions. Information on those is provided on the following page.

What happens when you call 111 for an ambulance?

When you call 111, an operator will answer your call and ask which emergency service you want - Fire, Ambulance or Police. Ask to speak to **Ambulance**.

An Emergency Medical Dispatcher will ask you a number of questions:

1. What is the location of the emergency?
In addition to the address, provide as much detail as you can.
What is your phone number?
2. What exactly happened?
You will be asked specific questions about the medical emergency so that the correct care for the patient can be arranged. Questions may include:
 - Are you with the patient?
 - How old is the patient?
 - Is this a male or female?
 - Are they awake?
 - Are they breathing?

Once all the information has been gathered you will receive instructions on how to assist yourself/the patient. If necessary, the Emergency Medical Dispatcher will stay on the line to give you support and further instructions until help arrives. During this time, we might ask some additional questions to provide as much information as possible.

PLEASE DON'T HANG UP UNTIL THE CALL HANDLER SAYS YOU CAN

Help them to find you

It's critical in an emergency to accurately describe how the ambulance can find you. They don't always know where you are, especially if you're calling from a mobile phone. If you're at home, it will be easier to give the communicator the right information if you've written it down beforehand. Make sure you, your visitors or children can quickly provide:

- phone number
- suburb
- town/district
- RAPID number (available to rural residents from local authorities).

If you're on the move, give street, road or bridge names or other geographical features as reference points.

Healthline (0800 611 116)

Healthline is a free telephone health advice service for all the family, there to help you 24 hours a day, 7 days a week.

- Healthline's registered nurses ask you questions about the symptoms, condition or illness you're ringing about. From your answers, they'll recommend the best thing to do.
- They can also tell you where to find your nearest GP after-hours service, hospital emergency department, pharmacy, or out-of-hours dental surgery.
- Healthline can also provide general health information on a wide range of topics.
- Phone calls are free from within New Zealand – this includes calls from a mobile phone.

Call Healthline if you're:

- feeling unwell – but not sure whether you need to see a doctor
- needing some urgent advice about a family member or friend who's sick
- on holiday and want to know where the nearest doctor or pharmacy is.

A list of important numbers, including those for specific emergencies, is provided on the back page of this handbook. They are also listed in the "*More information*" section of the relevant first aid topic.



Be prepared

- During an emergency it is easy to become disoriented or upset, so all important phone numbers should be readily available.
- The best time to prepare for an emergency is before one happens. Make sure everybody in the family or workplace knows where to find emergency phone numbers



Aims of patient assessment

A first aider needs to be able to identify if the patient's condition is immediately life threatening, possibly life threatening or not life threatening. The highest priority of first aid is responding to life threatening conditions. However, a possibly life-threatening condition can quickly deteriorate to life threatening if not treated promptly and appropriately.

1. Immediately life threatening

- Not breathing or gasping or breathing abnormally and are unresponsive
- Cardiac arrest
- Choking
- Severe bleeding
- Severe internal bleeding
- Major crush injuries

These need to be assessed and attended to immediately

2. Possibly life-threatening conditions/injuries:

- Shock
- Seizures/Epilepsy
- Asthma
- Diabetes
- Heart attack
- Angina
- Stroke
- Head injuries
- Spinal injuries
- Fractures
- Dislocation
- Heat induced illness (Hyperthermia)
- Cold induced illness (Hypothermia)
- Tick bites and bee, wasp and ant stings
- Anaphylaxis
- Poisoning
- Burns

Any of these may lead to an immediately life-threatening status if not treated quickly and correctly.

3. Not life-threatening conditions/injuries:

- Wounds
- Soft-tissue injuries
- Dehydration

Moving a person in need

The condition of a collapsed or injured person may be made worse by movement: increasing pain, injury, blood loss and shock. However, a person lying in a hazardous area, for example on a road or railway, may need to be moved to ensure safety.

A rescuer should move a person when needed to:

- ensure the safety of both rescuer and the person in need
- protect from extreme weather conditions
- enable evacuation from difficult terrain
- enable the care of airway and breathing (e.g. turning the unconscious breathing person onto the side or turning a collapsed person onto their back to perform CPR)
- enable the control of severe bleeding.

It is reasonable to roll a face-down unresponsive person onto their back to assess airway and breathing and initiate resuscitation. Concern for protecting the neck should not hinder the evaluation process or life-saving procedures.

Ideally, the most experienced rescuer should take charge and stay with the person in need while another rescuer is sent to seek help. If movement is necessary and help is available, the rescuer in charge should explain clearly and simply the method of movement to the assistants, and to the person in need if they are conscious. When ready to move the person in need:

- avoid bending or twisting the person's neck and back: a spinal injury can be aggravated by rough handling
- try to have three or more people to assist in the support of the head and neck, the chest, the pelvis and limbs while moving the person. A spine board may be used if available
- a single rescuer may need to drag the person. Either an ankle drag or arm-shoulder drag is acceptable
- make prompt arrangements for transport by ambulance to hospital

Management of a Road Accident

- Approach with caution and make the accident scene as safe as possible.
- Do not touch a vehicle, or attempt to rescue a person from within ten metres⁷ of a fallen power line unless an appropriate electrical authority has declared the area safe.
- Use hazard lights, road triangles, or torches to warn oncoming traffic of the accident scene. Bystanders may also be used where it is safe to do so.
- Turn off the ignition of a crashed vehicle and activate the park brake. If unable to activate the park brake, place a chock under a wheel. Be cautious that airbags that have not deployed may activate following a crash.
- Remove a motorbike helmet from a person if it is necessary to manage the airway, assist breathing or control bleeding.
- If an unconscious breathing person can be managed within the vehicle, do not remove them from the vehicle unless there is a threat to life. Clear the airway of foreign material; maintain head tilt and jaw support and continuously reassess the airway and breathing.
- If the person in the vehicle is unconscious and not breathing normally despite opening the airway, remove the person from the vehicle if possible and commence CPR immediately following the Basic Life Support guidelines.

Care of an Unconscious patient

Unconsciousness may be caused by injury, medical conditions, infection or a substance affecting the brain.

Some possible causes of unconsciousness are:

- Head Injury
- Stroke
- Diabetes
- Hypothermia
- Heat Stroke
- Choking
- Epilepsy
- Meningitis or other infections
- Alcohol or drug abuse

There are various levels of consciousness. A patient may be:

- **Conscious and alert.** The patient knows who they are, where they are, and responds normally.
- **Conscious and confused.** The patient has confused speech and memory, may have difficulty answering simple questions, e.g. "What is your name?" They may ask repetitive questions, e.g. "What happened?"
- **Semi-conscious** and responds to **voice**. The patient may be able to open their eyes or squeeze a hand when asked.
- **Semi-conscious** and responds to **pain**. The patient may react by wincing or trying to move away from a painful stimulus, e.g. tapping collarbone.
- **Unconscious.** The patient does not respond at all.

As the treatment is the same for the semi-conscious and unconscious patient, the term "unconscious" will be used for both.

Considerations for caring for an unconscious patient

- Remember, the unconscious patient may still be able to hear, so talk and offer constant reassurance as you would to a conscious patient. Don't allow anything negative or humiliating to be said within earshot.
- At all times have someone checking that the patient is breathing.
- Assess the patient's level of consciousness
- Record the vital signs, including the level of consciousness, approximately every 5 minutes.



Most importantly

The most important thing to remember with an unconscious patient is to never leave them unattended lying on their back. They cannot stop the tongue from falling across the back of the throat and blocking the airway. They cannot cough, swallow, or gag – all normal reflexes that protect the airway of the conscious person

Basic Life Support Assessment

Using the DRSABCD approach for a primary assessment you are able to identify any immediately life-threatening conditions and respond to them in the best possible way. **Note: Be fast but thorough!**

D	Dangers?
R	Responsive?
S	Send for help Call 111
A	Open Airway
B	Normal Breathing?
C	Start CPR 30 compressions:2 breaths
D	Attach Defibrillator (AED) As soon as available, follow prompts

Continue CPR until responsiveness or normal breathing returns

Repeat the DRSABCD sequence as required

	What to check	What to do and say
D	Look for any dangers to <ul style="list-style-type: none"> • yourself • the patient • bystanders 	➔ Remove dangers Do you need to move patient from danger?
R	Check if patient is responsive	➔ Shout and tap "Are you OK?" "Can you hear me?"
S		Call 111 immediately if unresponsive, seriously ill or injured. If bystander available to help say: "We need an ambulance urgently. Call 111 and report back to me when it's done."
A	Check for airway obstruction If unresponsive If conscious and injured	➔ Open airway (head tilt - chin lift) ➔ Tell patient: "Please keep your head and neck still."
B	Assess if breathing is present no more than 10 seconds If not breathing or gasping or breathing abnormally and are unresponsive. If breathing and conscious - assess if obstructed, slow or difficult If breathing and unconscious	➔ LOOK for movement abdomen or lower chest; LISTEN for of air from nose and mouth; and FEEL for air at the mouth and nose. ➔ Start CPR 30:2 ➔ Make sure breathing is easy and not obstructed (ask patient). Semi sitting position for difficult breathing if not in shock Recovery position
C	If not breathing If bleeding heavily If signs of shock	➔ Start CPR 30:2 ➔ Control bleeding ➔ Manage shock - check for medic alerts, medication, clues Ask: "Do you feel dizzy or faint?"
D	If not breathing	➔ Attach defibrillator ASAP and follow prompts

If you don't find any immediately life-threatening conditions, start a secondary assessment of the patient.

Secondary assessment

SAMPLE

The acronym SAMPLE can be used in the assessment of all patients. It is especially helpful when dealing with medical patients.

S – Signs and symptoms (Ask where it hurts, other pain, sensation, movement)

A – Allergies (Ask about any allergies)

M – Medications (Ask about any medical conditions, medications, medic alert)

P – Past Medical History (Ask about any previous major illness or operations)

L – Last meal and drink (Ask what and when)

E – Events leading up to injury or illness (Ask how the injury or illness occurred)

Examine and check the patient head to toe:

- Examine injury, feel it, compare it
- Check circulation below injury
- Check range of movement
- Check sensation below the injury

You are looking for deformity, bleeding, pain, bruising and swelling.

Vital Signs

If possible, write these down to get a base recording and then hand it over to rescue services.

Vital Signs	Descriptive words to use
Breathing	Slow, fast, shallow, wheezy, difficult, odour
Pulse	Fast, slow, weak, irregular Normal range 5-12 yrs - 60-120, Adolescents - 60-105, Adult - 60-80
Skin	Pale, red, sweaty, dry, rash
Body Temperature	Hot, Cold
Pupil Reaction	Reaction to light, pupil size, equal reaction
Levels of Consciousness	A,V,P,U – A lert, responds to V oice, responds to P ain, U nconscious

Patient Record

Name

Address

Age

Accident Details

Sign and Symptoms

Other

Allergies Medical Conditions

Medical Alert On Medication

VITAL SIGN	BREATHING		PULSE		SKIN & TEMP	PUPILS	LOC
Record Time	Rate/Min	Depth, noise, odours	Rate/Min	Rhythm, strength	Colour, temp, moisture	Size, react to light	Alert, confused, unresponsive

TIME	FOOD & DRINK	PAIN LEVELS	MEDICATION AMOUNT & ROUTE

General Care and Ongoing Treatment

General care includes routine actions you must consider for every ill or injured patient. Remember that, in the outdoors, ongoing treatment may have to be continued for some considerable time.

- **Protect** the patient
- **Reassure** the patient
- **Rest** the patient
- **Remain** with the patient if possible and monitor for changes
- **Remove/Loosen** clothing that obscures bleeding points or fracture sites.
- **Stabilise the patient's temperature** by covering, insulating from the ground, active warming or cooling

Recovery position and emergency rollover

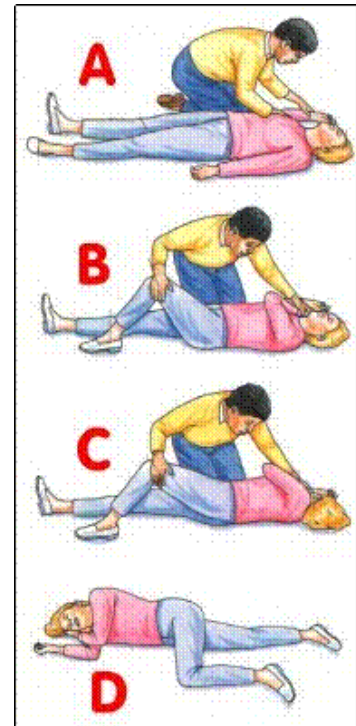
Recovery Position

The aim of the recovery position is to:

- Prevent the tongue or vomit from blocking the airway
- Stop fluid from reaching the lungs
- Enables the first aider to leave patient on their own and go for help

Considerations:

- The patient should be on their side, unable to roll onto their back or front.
- Pressure should be avoided on the patient's chest.
- The airway should be open.
- The position should not cause further injuries.



Emergency rollover for an unconscious patient

The aim of the emergency rollover is to clear vomit from the airway. It must be done fast, regardless of injuries.

Method:

- Grab clothing at shoulder and hip and pull victim towards you and onto your knees
- Allow fluid to drain away and then use their finger to wipe out their mouth
- If a neck/spinal injury is suspected the neck must be supported in the rollover – kneel next to patient

Medical conditions

People with known medical conditions usually have their condition well under control and can enjoy a normal life.

If a family member, friend or work associate has a medical condition, (e.g. asthma, diabetes or epilepsy) it may be appropriate to know about their condition and how to treat it in a medical emergency situation.

In general, you need to know:

- What the condition is
- Possible triggers/causes
- How to recognise the onset
- What the treatment is
- What and where the medication is
- How it is given
- What the dose is
- What you can expect to happen after the medication is given
- How to recognise when the condition has become a medical emergency needing medical help

Other medical conditions, such as strokes or abdominal pain, can occur unexpectedly and it can be very difficult deciding what to do. Remember that the first aider is not required to make a diagnosis – that's the doctor's responsibility.

As a first aider, the priorities are to:

- Get medical help to the patient
- Get a detailed history
- Make the patient comfortable
- Treat any symptoms
- Prevent the condition getting worse – if possible

IMMEDIATELY LIFE-THREATENING CONDITIONS



Adult/Child CPR

STEP	ACTIVITY	ACTIONS
1	Danger Response	Danger to you, then your patient. Tap shoulder, shout at patient
2	Send for help or Call 111	Tell them position, problem, people
3	Airway.	Open the airway using head tilt and chin lift
4	Breathing? Look, listen and feel for no more than 10 seconds	Kneel beside patient, keep airway open Listen for breathing Watch chest for rise/fall Feel air on cheek, hand
5	Do 30 chest compressions For an Adult/ Child	Position hands correctly each time in the middle of the chest. Use one hand for child Compression Rate: 120 per minute
6	Re-tilt Head Remove any visible objects from the mouth. Emergency rollover if needed.	Keep airway clear and open as much as possible.
7	Give 2 effective breaths:	Pinch nose, make a tight seal around the patient's mouth. Watch the chest rise and fall between breaths. Effective = enough to see chest rise and fall Turn your head away between breaths
8	Do 30 chest compressions	Body weight straight over the top of the patient, straight arms.
9	Give 2 breaths	
10	Continue until paramedics arrive or an AED (defibrillator) is attached or patients shows signs of life	



Infant CPR

STEP	ACTIVITY	ACTIONS
1	Danger Response	Danger to you, then your patient. Tap shoulder, shout at patient
2	Send for help or Call 111	Tell them position, problem, people
3	Airway	Open the airway in neutral alignment
4	Breathing? Look, listen & feel for no more than 10 seconds	Kneel beside patient, keep airway open Listen for breathing Watch to see chest rise or fall Feel air on cheek and hand
5	Remove any visible objects from the mouth.	Keep Airway clear and open as much as possible.
6	Do 30 chest compressions	Position fingers correctly each time in the middle of the chest. Two fingers for a Baby. Compression depth is 4 cms Rate: 120 per minute
7	Give 2 puffs infant	Mouth and nose for infant Watch chest rise & fall between puffs Effective = enough to see chest rise and fall Turn your head away between breaths
8	Continue compressions and breathing until paramedics arrive or patient shows signs of life	

For first aid purposes the following age guidelines apply:

Infant: under 1 year old
 Child: 1 to 8 years old
 Adult: over 8 years old

If you are unsure when treating a baby, start with the process for an infant. If you find it too difficult, treat the baby as a child.

Notes

Breathing may be absent or ineffective as a result of:

- direct depression of, or damage to, the breathing control centre of the brain
- upper airway obstruction
- paralysis or impairment of the nerves and/or muscles of breathing
- problems affecting the lungs
- drowning
- suffocation

General

Aim of CPR is to keep oxygenated blood flowing to the brain and vital organs until defibrillator arrives

- The risk of disease transmission is very low and rescuers should not be deterred from giving rescue breaths if you do not have a barrier device. However, you should consider protecting yourself by using a CPR face shield and wearing gloves
- Spread your knees apart so that you don't need to shuffle back and forth between breathing and compressions
- Compression depth is 5cms
- Ratio is 30 compressions to 2 breaths. 30:2
- Ensure a flat, firm surface
- Leave false teeth in unless they are loose and blocking the airway

Child CPR

1 to 8 years old

- It is more common for children/babies to need CPR due to airway problems or drowning
- Place one hand in centre of chest to commence compressions
Compression depth is 5cms
- Ratio is 30 to 2 no matter who

Infant CPR

Birth to 1 year old

- Head tilt for a baby is neutral
- Cover infant's nose and mouth with your mouth
- Compression depth is 4cms
- Use 2 fingers for compressions middle of chest
- Ratio is 30 to 2 no matter who

Automated External Defibrillators (AED)

The development of AEDs has made defibrillation part of basic life support. AEDs can accurately identify the cardiac rhythm as "shockable" or "non shockable". The increased public availability of AED has increased survival of patients from 10% - 60% in adult cardiac arrest outside of a hospital setting

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 victim is in cardiac arrest due to Ventricular Fibrillation (VF). 1 CPR alone will not save a person in VF. Hence a defibrillator should be applied to the person in need as soon as it becomes available so that a shock can be delivered if necessary

While waiting for a defibrillator to arrive, start effective CPR. This maintains blood circulation to the brain to keep it alive.

CPR alone will not start the heart. It will only maintain circulation until a defibrillator arrives.



Using an AED

- Turn Power "On"
- Follow the voice prompts
- Attach pads as indicated to clean dry surface. Shave chest if necessary
- Electrodes will automatically analyse the heart rhythm and determine whether to shock
- If shock is advised – tell everyone to stand clear. Press "Shock" Button
- When shock has been delivered the AED will ask you to give CPR for 2 minutes before another shock will be given on prompting by AED
- If the shocks are successful and normal heart rhythm is returned, recovery of consciousness and breathing might be delayed. Continue CPR if no breathing is present.

Airway obstruction (choking)

An airway obstruction may be partial or complete and the patient may be conscious or unconscious. The causes of airway obstruction may include, but are not limited to:

- relaxation of the airway muscles due to unconsciousness
- inhaled foreign body
- trauma to the airway
- anaphylactic reaction.

The symptoms and signs of obstruction will depend on the cause and severity of the condition. Airway obstruction may occur gradually or suddenly, and may lead to complete obstruction within a few seconds. For this reason, the patient must be observed continually. A conscious patient can lose consciousness at any time.

Infants can become unconscious very quickly. You must act immediately as they can die within minutes.

Airway obstruction will cause the diaphragm muscle to work harder to achieve adequate ventilations. The abdomen will continue to move out but there will be limited or no rise of the chest during inhale.

Partial obstruction can be recognised where:

- breathing is laboured
- breathing may be noisy
- some escape of air can be felt from the mouth.

Complete obstruction can be recognised where:

- there may be efforts at breathing
- there is no sound of breathing
- there is no escape of air from nose and/or mouth.

Airway obstruction may not be apparent in the non-breathing unconscious person until rescue breathing is attempted.



Airway obstruction conscious adult/child



Signs and symptoms

- Extreme anxiety, agitation
- Loss of voice
- This may progress to the universal choking sign (see picture)



Treatment

- Check scene for dangers
- Ask "Are you choking?"
- Reassure patient
- Be confident in approach to the patient

If patient is coughing and spluttering:

- Encourage them to cough

If airway is completely obstructed:

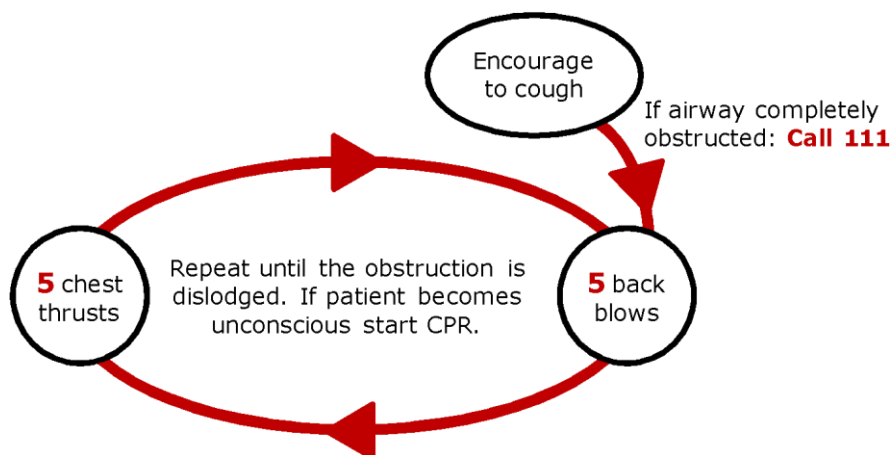
- **Call 111**
- Stand to side and slightly behind patient, support their upper chest with one hand
- Give up to 5 back blows between the shoulder blades with the heel of your other hand

If object is not dislodged:

- Give 5 chest thrusts:
 - Stand behind patient (kneel behind a child if needed), wrap arms around patient's chest
 - Place fist thumb side in the middle of the sternum.
 - Grasp the fist with the other hand and pull 5 times or have the patient standing up with their back against a wall and push 5 times.

If obstruction still not dislodged:

- Repeat 5 back blows and 5 chest thrusts until the obstruction is dislodged or the patient becomes unconscious



Airway obstruction – unconscious adult/child



Signs and symptoms

- Weak or ineffective cough
- Possibly blue around the lips
- Patient cannot breathe, cry or cough

This is an immediately life-threatening condition and requires help straight away!

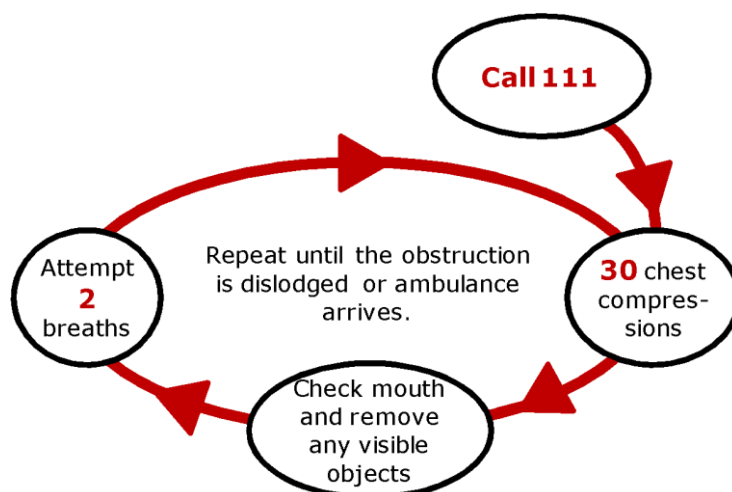


Call 111 immediately



Treatment

- Check scene for dangers
- **Call 111**
- Position patient on their back
- Open airway, then commence CPR:
 1. 30 chest compressions
 2. Check mouth and remove any visible objects
 3. Attempt 2 rescue breathsRepeat steps 1 to 3 until the object becomes dislodged or ambulance arrives
Once obstruction is cleared, check breathing is present:
 - Place the patient in the recovery position.



Airway obstruction (choking) – conscious infant



Signs and symptoms

- Weak or ineffective cough
- Possibly blue around the lips
- Infant may not be able to breathe, cry or cough

This is an immediately life-threatening condition and requires help straight away!

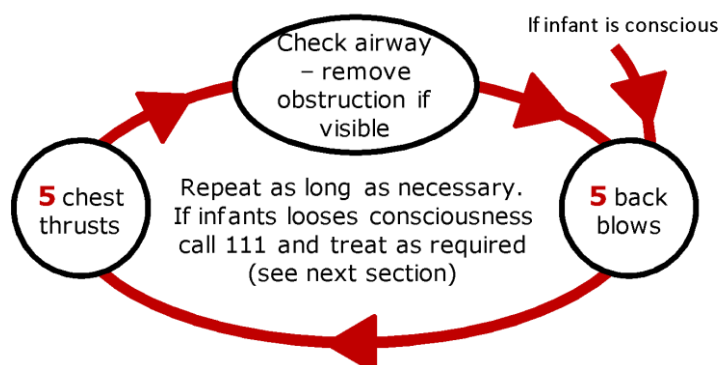


If an infant loses consciousness call 111



Treatment

- Check scene for dangers
 - 1. Straddle infant over your arm, face down, head supported
 - 2. Give 5 back blows between the shoulder blades (see picture)
 - 3. Sandwich infant between your arms and turn over, head low
 - 4. Give 5 chest thrusts (2 fingers) – as for CPR
 - 5. Check airway – remove obstruction if visible
- Repeat steps 1 to 5 as long as necessary
- If infants loses consciousness, call 111 and treat as required (see next section)



Airway obstruction – unconscious baby



Signs and symptoms

- Possibly blue around the lips
- Infant cannot breathe, cry or cough

This is an immediately life-threatening condition and requires help straight away!

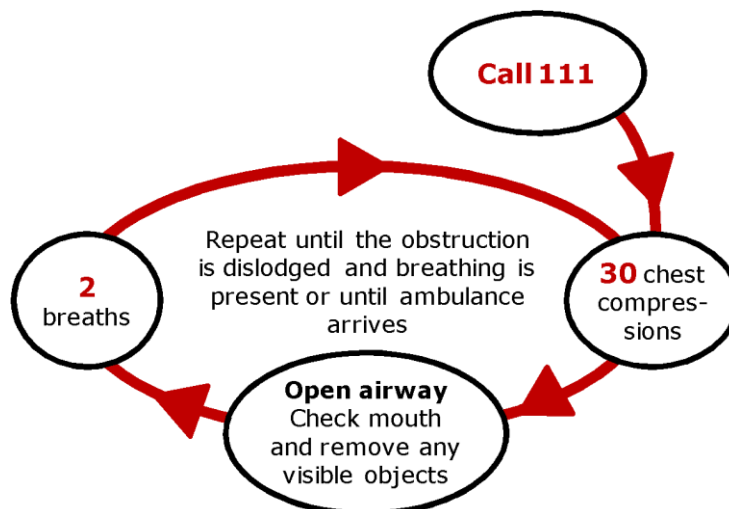


Call 111 immediately



Treatment

- Check scene for dangers
- Call 111
- Position infant on a firm surface on their back
 1. 30 compressions
 2. Open airway
 3. Check mouth and remove any visible objects
 4. Give 2 breathsRepeat steps 1 to 4 until infant is breathing or ambulance arrives
- Once obstruction is cleared, check breathing is present



Severe bleeding

Blood vessels can be damaged by cuts from sharp objects, blows from blunt objects, or falls resulting in broken bone ends.



Signs and symptoms

- Blood (but remember that large wounds and significant blood loss can be concealed under clothing)
- Embedded objects
- Pain
- Shock



Call 111



Treatment

- Use standard precautions (e.g. gloves)
- Reassure the patient
- Assist patient into position of comfort, encourage to lie down
- Attempt to stop the bleeding by applying sustained direct pressure on the wound or, in the case of an embedded object, indirect pressure near the wound
- Monitor the signs of life at frequent intervals
- **Do Not** give anything orally, including medications and/or alcohol

Direct pressure:

Where the bleeding point is identified and no object is embedded, control bleeding by applying pressure as follows:

- apply firm, direct pressure sufficient to stop the bleeding
- apply pressure using hands or a pad ensuring that sufficient pressure is maintained and that the pressure remains over the wound. If bleeding continues, apply another pad and a tighter dressing over the wound.

To assist in controlling bleeding, where possible:

- restrict movement
- immobilise the part
- advise the victim to remain at total rest.

If bleeding continues it may be necessary to remove the pad(s) to ensure that a specific bleeding point has not been missed. The aim is to press over a small area and thus achieve greater pressure over the bleeding point. For this reason, an unsuccessful pressure dressing may be removed to allow a more direct pressure pad and dressing on the bleeding location.

Indirect pressure (for embedded objects):

- Do not remove the embedded object because it may be plugging the wound and restricting bleeding.
- Place padding around or above and below the object and apply pressure over the pads.

Use of a Tourniquet

- Arterial tourniquets should **only** be used for life-threatening bleeding from a limb, where the bleeding cannot be controlled by direct pressure. Ideally, a tourniquet should not be applied over a joint or wound, and must not be covered up by any bandage or clothing
- Commercially manufactured tourniquets, such as those based on military designs are more effective than improvised tourniquets. An example of a military tourniquet is shown below
- All arterial tourniquets should be applied in accordance with the manufacturer's instructions (or 5 cm above the bleeding point if no instructions) and tightened until the bleeding stops.
- If a tourniquet does not stop the bleeding, its position and application must be checked. Ideally the tourniquet is not applied over clothing nor wetsuits and is applied tightly, even if this causes local discomfort.
- If bleeding continues, a second tourniquet (if available) should be applied to the limb, preferably above the first.
- If a correctly applied tourniquet(s) has failed to control the bleeding consider using a haemostatic dressing in conjunction with the tourniquet.
- Improvised tourniquets are unlikely to stop all circulation to the injured limb without risk of tissue damage. Improvised tourniquets which do not stop all circulation can increase bleeding. Nonetheless, in the context of life-threatening bleeding, an improvised tourniquet is likely to be better than no tourniquet. Tourniquets, ideally of a similar broad width to commercial types, can be improvised using materials from a first aid kit (e.g. triangular bandage, elastic bandage) from clothing, a surfboard leg rope or other available similar items. Improvised tourniquets should be tightened by twisting a rod or stick under the improvised tourniquet band, similar to the windlass in commercial tourniquets.
- The time of tourniquet application must be noted and communicated to emergency/paramedic personnel. Once applied, the person requires urgent transfer to hospital and the tourniquet should not be removed until the person receives specialist care.



Internal bleeding

Internal bleeding may result from a medical condition such as a perforated stomach ulcer or from a serious injury. There may be no visible signs of injury, but a lethal amount of blood can be lost from the circulatory system into surrounding tissues. Internal bleeding may be difficult to recognise, but should always be suspected where there are symptoms and signs of shock



Signs and symptoms

- Bruising, haematomas
- Pain, tenderness or swelling over or around the affected area
- The appearance of blood from a body opening, e.g.:
 - bright red and/or frothy blood coughed up from the lungs
 - vomited blood which may be bright red or dark brown "coffee grounds"
 - blood-stained urine
 - vaginal bleeding or bleeding from the penis
 - rectal bleeding which may be bright red or black and "tarry"
- Might be associated with fractures
- May occur from complications of pregnancy



Call 111



Treatment

- Reassure the patient
- Lie the person down
- Treat for shock
- Keep patient warm
- Monitor the vital signs at frequent intervals
- **Do Not** give food or drink orally, including medications
- If a person is unresponsive and not breathing normally, follow the Basic Life Support flowchart.

Major crush injuries

Falling trees, car crashes, working under cars, etc. can cause major crush injuries. They can cause fractures and serious damage to underlying organs and body tissue. There is often considerable blood loss.



Signs and symptoms

- Pain
- There may be no pain and no external signs of injury
- Bruising
- Deep cut or tear in skin
- Crushing object
- If areas of the body have been deprived of blood for too long after a crush injury accident occurs, the patient may experience muscle death (this is called compartment syndrome). In this case extreme pain is followed by the tingling sensation of "pins and needles" that a limb experiences when it is "asleep" and then eventually paralysis of the limb. A visual sign of compartment syndrome is swollen skin with a shiny appearance



Call 111



Treatment

- Ensure the scene is safe
- Call 111
- If safe and physically possible, remove crushing force from the patient as soon as possible. Crushing force applied to the head, neck, chest or abdomen can cause death from breathing or heart failure so must be removed promptly
- All victims who have been subjected to crush injury, including their own body weight, should be taken to hospital for immediate investigation
- Treat for shock
- Treat any bleeding
- DO NOT leave the victim except if necessary to call an ambulance



Specialist medical help is needed when

- If significant areas of the body, e.g. the whole lower limb, have been crushed for longer than 30 minutes, all circulation to the legs has been cut off for that length of time. The result is a build-up of toxins, which can cause serious problems when released suddenly into the circulatory system. Medical help is required urgently. If the crush object has been in place for more than 30 minutes, request specialised medical personnel to come to the scene to administer the appropriate intravenous fluids and drugs to counteract the toxins and to give oxygen.

POSSIBLY LIFE-THREATENING CONDITIONS



Shock

Shock is the name given to the condition when the circulatory system fails to provide sufficient oxygen to cells of the body. This can cause life threatening organ failure.



Signs and symptoms

When the brain first detects that the blood flow is inadequate it immediately starts to compensate by reducing the body's need for oxygen. At this stage, the patient will have the following early signs and symptoms:

- Pale, cool skin, as the blood is drawn from the surface of the skin to the core of the body containing vital organs
- Nausea and possible vomiting caused by the digestive system closing down so oxygen can be diverted to more essential organs
- Fast and weak pulse, as the heart is trying to keep the vital organs supplied with blood. Weak because of lower volume. If the shock is caused by a heart attack, the pulse may be slow
- Rapid breathing, to get more oxygen into the body
- Dizziness, when oxygen is reduced to the brain, causing the patient to lie down so blood flows more easily to the brain
- May feel anxious

If the shock increases, the brain loses the ability to compensate and there will be later signs, such as:

- Confused speech
- Listlessness
- Cold, moist, blue skin
- Decreased body temperature
- Slow reacting, dilated pupils
- Restlessness
- Severe thirst
- Unconsciousness and, possibly, death

How quickly these signs and symptoms appear will depend on the cause. A person suffering a heart attack or major injury will usually appear to be "shocked" very quickly, while symptoms may take hours to appear with a slow internal bleed.

Note that a fit, healthy person may not show signs of shock for some time after an accident. Initially, a fit body can compensate for even a significant loss of blood. If the history of the accident suggests a serious injury, the patient should be treated for shock.



Call 111



Treatment

The aim is to keep blood circulating through the vital organs

- Check and monitor ABCs
- Reassure the patient. This can be the easiest and often most useful treatment. It can begin before even reaching the patient by making reassuring voice contact. Anxiety, worry and/or pain create electrical activity in the brain using precious and limited oxygen. The simple act of reassurance can prevent, reduce, or stop this activity, enabling a more effective use of the oxygen
- Lie the patient on insulated ground, with the head and body flat and the feet and legs raised just above the level of the heart.
- If the patient is unconscious place them in recovery position.
- Administer treatments relevant to the cause of the shock (if known).
- Keep the patient warm, maintaining normal body temperature. Do not place hot water bottles at the feet. That will draw blood away from the core of the body
- Do not give anything to drink at first. If the digestive system is not functioning, the fluid cannot be absorbed and the patient may vomit. Moisten the lips of the very thirsty patient. If the patient is fully conscious and alert, and their condition is not deteriorating, give small sips of water.
- Never give alcohol; it causes the blood vessels to dilate and will increase the level of shock. For the same reason, do not allow the patient to smoke



Shock may be difficult to identify

- The symptoms, signs and rate of onset of shock will vary widely depending on the nature and severity of the underlying cause. Shock is a condition that may be difficult to identify.

Management of Electric Shock

Vehicle Accidents:

When power lines are in contact with a vehicle or a person, do not approach until the situation is declared safe by authorities. The rescuer should ensure that all bystanders remain at least ten metres clear of any electrified material; examples being a car body, cable, pool of water. Metal and water conduct electricity and may be extremely hazardous.

At home:

In a domestic or similar situation, it is essential to promptly separate the person in need from the electricity supply. Turn off the supply of electricity and, if possible, unplug the appliance from the power outlet. Until the power is off, avoid direct skin contact with the person or any conducting material.

- If the person is unresponsive and not breathing normally, follow Basic Life Support Flowchart
- Other injuries may require treatment. Burns are common and should be managed.
- Promptly refer all who have suffered an electric shock for medical assessment.
- Assess the person who has been struck by lightning: if unresponsive and not breathing normally, follow the Basic Life Support flowchart page 11.



Epilepsy

Epilepsy is a condition that takes the form of seizures due to a disturbance to the normal electrical or chemical activity of the brain. Anything that injures the brain may cause epilepsy, but, in many cases, the cause is unknown.

There are many different types of seizure, the three most common being:

- Absence – no medical attention needed
- Complex partial – reassure and stay with the patient until they are aware of their environment. No medical help needed
- Tonic clonic (formerly Grand Mal) – Tonic clonic is the type of seizure that most people identify with epilepsy. The person occasionally knows that a seizure is about to start



Signs and symptoms

Tonic clonic

- They may utter a cry before falling unconscious to the ground
- Their body stiffens briefly, then muscle contractions cause jerky convulsive movements
- There may be bubbly saliva, possibly red if the mouth was bitten
- Breathing may stop for up to 30 seconds and the lips and face go blue
- Bowel and bladder control may be lost
- The seizure may last up to 4-5 minutes, then the person may be deeply unconscious for several minutes
- They steadily improve and within one hour should be fully recovered – being easily roused, but still very sleepy and may have a headache



If severe call 111



Treatment

- Stay calm and reassure bystanders
- Protect the person from danger
- Put something soft under the head and remove glasses
- Loosen any clothing that may restrict breathing
- Don't put anything in the mouth. It may cause damage or choking
- Don't try to restrain the person
- If appropriate move bystanders away for privacy
- After the seizure stops, put the person in the recovery position, insulated from the ground until they regain consciousness
- Don't be alarmed if the breathing is laboured and erratic. It takes a while for the brain to settle back into a normal rhythm
- Offer assistance, understanding and privacy, if bladder and bowel control was lost
- Watch for signs and symptoms of a possible head injury that may have occurred during the seizure
- Allow the person to sleep and rest until fully recovered

Epilepsy



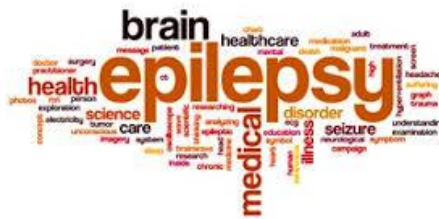
Urgent medical help is needed when

- The seizure lasted more than 5 minutes
- One seizure follows another
- The person does not recover, i.e. is not easily roused within 1 hour
- The seizure occurred in water, causing possible damage to lungs and subsequent breathing problems
- This is the first seizure
- If in any doubt, medical help is the wisest course of action



More information

- Epilepsy New Zealand (<http://epilepsy.org.nz/>)



Seizures

A seizure may be associated with:

- lack of oxygen (hypoxia);
- onset of cardiac arrest;
- medical conditions affecting the brain, e.g. low blood sugar, low blood pressure, head injury, neurological diseases, epilepsy;
- trauma to the head;
- some poisons and drugs;
- withdrawal from alcohol and other substances of dependence;
- fever in children under six years.

If severe call 111

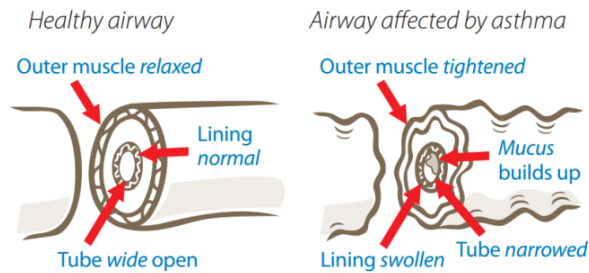


Treatment

- remove the victim from danger or remove any harmful objects which might cause secondary injury
- note the time the seizure starts;
- protect the head;
- avoid restraining the victim during the seizure unless this is essential to avoid injury;
- lay the victim down and turn the victim on the side when practical;
- maintain an airway;
- reassure the victim who may be dazed, confused or drowsy;
- frequently reassess the victim.

Asthma

Asthma is the narrowing of the airways caused by swelling, spasms and mucus.



Signs and symptoms

- Tight Chest
- Cough
- Short of breath
- No energy
- May be wheezing



If severe call 111



Treatment

- Remove patient from the trigger/cause if possible
- Help patient to use their own reliever and follow their action plan
- Encourage the patient to breathe slowly and deeply and calmly reassure
- Help patient into the position easiest for them to breathe
- Give small sips of fluid – this reduces the viscosity of the mucus



Urgent medical help is needed when

- The patient has pale skin and blueness of the lips, hands, feet
- Use of inhaler has not given relief after 10 minutes
- The patient is short of breath, and is unable to walk more than a few steps
- The patient has difficulty speaking full sentences
- There is abnormal sucking in of the skin at the base of the neck and in between the ribs
- Pulse rate is more than 120, plus faster breathing



More information

- The colour of the reliever is usually BLUE
- If the patient has no medication, it is safe to use Salbutamol or Ventolin
- Asthma Foundation New Zealand (<http://asthmafoundation.org.nz/>)

Diabetes

This condition is when blood glucose levels are too high due to a deficiency of insulin or the inability of the body to use the insulin available.

Type 1 Diabetes: Insulin dependent (about 10% of diabetic population)

Type 2 Diabetes: Non-Insulin dependent. Adult-onset diabetes



Signs and symptoms

Hypoglycemia (low blood sugar)

- Faint/weak
- Extreme hunger
- Sweaty/pale
- Irritable/anxious
- Uncoordinated

Hyperglycemia (high blood sugar)

- Very thirsty
- Nausea/vomiting
- Acetone breath
- Drowsy, tired
- Passes urine frequently



If severe call 111



Treatment

Hypoglycemia (low blood sugar)

- **If conscious, give something sweet containing sugar**
- **If better after 10 minutes, give a meal or snack**
- **Patient to check blood sugar levels**
- **If not better after 10 minutes, call 111**
- **If unconscious, put in the recovery position and call 111**

Hyperglycemia (high blood sugar)

- **Patient to administer their own insulin**
- **If conscious, give plenty of water**
- **If unconscious, put in the recovery position and call 111**



In the event of a diabetic emergency

- Always assume hypoglycemia (low blood sugar) and **give sugar**



More information

- Diabetes New Zealand (<https://www.diabetes.org.nz/home>)

Heart Attack

A person experiences a heart attack when there is a sudden partial or complete blockage of one of the coronary arteries that supply the heart muscle. As a result of the interruption to the blood supply, there is an immediate risk of life-threatening changes to the heart rhythm. 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”.

Heart attack is different from, but may lead to, cardiac arrest. Cardiac arrest is cessation of heart action.

For some victims, sudden cardiac arrest may occur as the first sign of heart attack – however most experience some **warning signs**. It is important to note:

- a heart attack can occur in a victim without chest pain or discomfort as one of their symptoms
- the most common symptom of heart attack in a victim without chest pain is shortness of breath
- a victim who experiences a heart attack may pass off their symptoms as ‘just indigestion’

Some people are more likely to describe atypical or minimal symptoms and include:

- the elderly;
- women;
- persons with diabetes;
- Australian Indigenous population and Māori and Pacific Island people.

These people should seek urgent assessment by a health care professional if they have any warning signs of heart attack, no matter how mild.



More information

- Heart Foundation (<http://www.heartfoundation.org.nz/know-the-facts/conditions/heart-attack>)

Heart Attack



Signs and symptoms

Does the patient feel any

pain

pressure

heaviness

tightness

in one or more of their

chest

neck

jaw

arm/s

back

shoulder/s

They may also feel

nauseous

a cold
sweat

dizzy

short of
breath



Treatment

- STOP the patient from doing what they are doing and tell them to rest
- ASK them what they are feeling

If they take angina medicine

- Take a dose of medicine
- Wait 5 minutes. Still has symptoms?
Take another dose of angina medicine
- Wait 5 minutes. Still has symptoms?

If not

- Are symptoms severe?
- Getting worse quickly?
- Have lasted for 10 minutes?



Call 111

- Administer aspirin/disprin (300 mg) if available - must chew
- Reassure patient.
- Sit up if breathless
- Lie down if feeling dizzy
- Locate your nearest AED/Defibrillator

Angina

Angina is a medical condition that people will usually know they suffer from. It is caused by narrowing coronary arteries resulting in a lack of blood supply to the heart muscles causing pain, and is triggered by exercise, stress or cold.



Signs and symptoms

- Chest pain
- Breathlessness
- Pale skin
- Nausea
- Irregular pulse



If severe call 111



Treatment

- Reassurance
- Rest
- Medication – usually Nitrolingual spray or tablets administered under the tongue
- If not settling within a few minutes, the patient needs urgent medical help



Urgent medical help is needed when

- The patient's condition is not improving within a few minutes



More information

- Heart Foundation "Know the Facts - Angina"
(<http://www.heartfoundation.org.nz/know-the-facts/conditions/angina>)

Stroke

A stroke occurs when the supply of blood to part of the brain is suddenly disrupted or when spontaneous bleeding from a blood vessel within the skull occurs.

When stroke is caused by an interruption to the blood supply to a part of the brain, that area of the brain is damaged and may die. However, if the blockage can be rapidly cleared and blood supply restored, the amount of damage to brain tissue can be significantly reduced. Rapid recognition, protection and support of the airway, breathing and circulation, and rapid access to definitive stroke care can all contribute to reducing deaths and long-term damage from stroke.



Signs and symptoms

The stroke assessment system FAST helps remember the signs of stroke:

- **F**acial weakness: Can they smile? Has their mouth or eye drooped?
- **A**rm weakness: Can they raise both arms?
- **S**peech difficulty: Can they speak clearly and understand what you say?
- **T**ime to act fast: Seek medical attention immediately – Call 111

Other common symptoms of strokes include:

- numbness of the face, arm or leg on either or both sides of the body
- difficulty swallowing
- dizziness, loss of balance or an unexplained fall
- loss of vision, sudden blurred or decreased vision in one or both eyes
- headache, usually severe and of abrupt onset or unexplained change in the pattern of headaches
- drowsiness, confusion, reduced level of consciousness



Call 111 even if signs/symptoms were brief or have resolved



Treatment

- If patient is unconscious, put in recovery position
- Reassure the patient, they can probably still understand you
- Care for patient's hygiene and toilet needs, handle paralysed limbs gently
- Do not give anything to eat or drink



If in doubt manage as stroke

- When there is doubt over diagnosis, the victim should be managed as having a stroke until proven otherwise



More information

- Stroke Foundation of New Zealand (<http://www.stroke.org.nz/>)

Head injuries

Head injury may be caused by a number of mechanisms including falls, assaults, motor vehicle crashes and sporting injuries.



Signs and symptoms

- Pain (head, neck)
- Bleeding, bruising
- Confusion, loss of memory, irritability
- Dizziness, loss of coordination, blurred vision
- Nausea

Note: There may be no immediate symptoms



Call 111 if patient has lost or altered consciousness



Treatment

- Call 111 if there has been a loss of consciousness or altered consciousness at any time, no matter how brief.
- A patient who has sustained a head injury, whether or not there has been loss of consciousness or altered consciousness, should be assessed by a health care professional
- Ensure that the airway is clear
- Protect the neck whilst maintaining a clear airway
- Identify and control any significant bleeding with direct pressure if possible

All patients who appear to have suffered a head injury (including minor) should be assessed by a health care professional before continuing with sport.



Concussion

- Concussion is a very common head injury. It occurs from a blow to the head or violent shaking.
- If somebody has a concussion, or thinks they have a concussion encourage them to TAKE IT SERIOUSLY and see a doctor.
- Problems could arise over 24 hours. The patient must go to hospital if:
 - Their headache gets worse
 - They are very drowsy or can't be woken up
 - They can't recognise people or places
 - They pass out or have a blackout
 - They vomit more than 3 times
 - Behave unusually or seem confused
 - They have seizures
 - They have weak arms or legs, or are unsteady on their feet
 - They have slurred speech
- Ministry of Health (<http://www.health.govt.nz/your-health/conditions-and-treatments/accidents-and-injuries/head-injury>)

Spinal injuries

The spinal cord contains the nerves that carry messages between the brain and body. The cord passes through the neck and back and is protected by vertebrae. Fractures or dislocations to the vertebral bones may result in injury to the spinal cord. A spinal cord injury is very serious because it can cause loss of movement (paralysis) below the site of the injury.



Signs and symptoms

- Pain in the injured region
- Mechanism of injury indicates a spinal injury
- Tingling, numbness in the limbs and area below the injury
- Weakness or inability to move the limbs (paralysis)
- Nausea, headache or dizziness
- Altered or absent skin sensation.
- Head or neck in an abnormal position, signs of an associated head injury
- Altered conscious state
- Breathing difficulties
- Shock
- Change in muscle tone, either flaccid or stiff
- Loss of bladder or bowel control
- Priapism (erection in males)



Call 111



Treatment

- If it is necessary to move the patient from danger (e.g. out of the water, off a road), care must be taken to support the injured area and minimise movement of the spine in any direction
- If conscious: Tell the patient to remain still but do not physically restrain if uncooperative
- If unconscious: Airway management takes precedence over any suspected spinal injury. It is acceptable to gently move the head into a neutral position to obtain a clear airway. If the patient is breathing but remains unconscious, it is preferable that they be placed in the recovery position (aim to maintain spinal alignment).
- Treat for shock



Airway management

- Suspected spinal injuries of the neck, particularly if the patient is unconscious, pose a dilemma for the rescuer because correct principles of airway management often cause some movement of the cervical spine.
- In patients needing airway opening, use manoeuvres which are least likely to result in movement of the cervical spine. Jaw thrust and chin lift should be tried before head tilt.

Fractures

A fracture is a broken or cracked bone.



Signs and symptoms

- Cracking sound as bone is injured
- Pain and swelling
- Deformity
- Grating noise or feeling when moved
- Signs and symptoms of shock
- Unable to weight bear or use injured part of body



Call 111 or, if not severe, take patient to hospital



Treatment

- To prevent further injury or pain immobilise the area by holding it, or the patient holding it, above and below fracture site until help arrives
- Help the patient find the most comfortable position



Complications

- Any loss of circulation to the limb
- Infection if an open fracture

Dislocation

A dislocation is the separation of two bones that form a joint.



Signs and symptoms

- Extreme pain
- Deformity
- May be discolouration



Call 111 or, if not severe, take patient to hospital



Treatment

- Place a cold pack over the injury site
- Place packing around injury site or bind/splint for transportation
- It is often difficult to decide whether an injury is a fracture or dislocation. Whenever there is any doubt, manage as a potential fracture.

Heat induced illness (Hyperthermia)

Heat induced illness may be caused by:

- excessive heat absorption from a hot environment
- excessive heat production from metabolic activity
- failure of the cooling mechanisms
- an alteration in the body's set temperature.

The very young and very old are more prone to heat induced illness.

Heat Exhaustion

Heat exhaustion is when the body temperature is less than 40°C and conscious state will become normal once the victim is lying down.

Heat Stroke

Heat stroke is the most serious form of heat related illness and may lead to unconsciousness and death. All body organs may be affected. Heat stroke may be recognised by body temperature above 40°C.



Signs and symptoms

Heat exhaustion

- Pale, cool skin
- Dizziness
- Headache
- Nausea and vomiting
- Thirst
- Increased pulse

Heat stroke

- Confused and irrational behaviour
- Hot, dry skin (may still be moist)
- Loss of coordination
- Rapid pulse
- Loss of consciousness
- Seizures may occur



Treatment

Heat exhaustion

- Move to cooler shaded area
- Sit or, if dizzy, lie down and elevate feet
- Give sips of drink, preferably electrolyte
- Remove excess clothing
- Sponge bare skin with cool water then fan, particularly around the head and neck
- Rest

Heat stroke



Call 111

- Seek shade
- Remove excess clothing
- Cover trunk with cool, wet cloths; refresh them regularly
- Fan the patient
- If conscious, give sips of drink, preferably electrolyte
- Recovery position if unconscious
- Monitor vital signs frequently

Cold induced illness (Hypothermia)

Hypothermia is the condition of having an abnormally (typically dangerously) low body temperature. This condition can become life-threatening quickly, so the patient must be treated quickly.

Severe hypothermia is when the body temperature drops below 30°C. This is often fatal.

Hypothermia is usually caused by being in a cold environment for a long time. This could be from staying outdoors in cold conditions, falling into cold water, or from living in a poorly heated house. Elderly people, babies, homeless people and anyone who is thin and frail or not able to move around easily are particularly vulnerable.



Signs and symptoms

Mild hypothermia

- Feeling cold and tired
- Numbness of hands and feet
- Shivering (intermittent to uncontrollably)
- Starts to fumble with clothing and equipment
- Judgement impaired
- Slurred speech
- Behaving strangely
- Physically and mentally lethargic

Moderate to severe hypothermia

- Shivering usually absent
- Profoundly lethargic and apathetic
- Loss of co-ordination
- Loss of consciousness
- Muscles become rigid
- Skin pale, pulse slow and pupils dilate
- Looks 'dead'



Treatment

Mild hypothermia

- Shelter from wind and rain
- Take off all wet items and replace with layers of dry clothing, including hat and gloves
- Put the patient in a sleeping bag if possible. Emergency foil blankets may be used. An insulating pad should be placed under the patient
- Lie the patient down and handle as little as possible
- Slowly reheat the patient by providing a warm environment
- Do not allow the patient to exercise again until adequately re-warmed and returned to a normal mental status (at least 24 hours).

Moderate to severe hypothermia



Call 111

- The patient must not be allowed to continue exercise; they should be kept horizontal
- Great care must be taken to treat the patient gently to minimise the risk of developing life-threatening heart rhythms
- If evacuation is delayed, attempt to re-warm using heating pads around neck, armpits and groin
- DO NOT give food or drink and NEVER give alcohol

Bee, wasp, and jelly fish stings

Single stings from a bee, wasp or jelly fish while painful, seldom cause serious problems except for persons who have an allergy to the venom. Multiple insect stings can cause severe pain and widespread skin reaction. Stings around the face can cause breathing difficulty even if the person is not known to be allergic.

It is important to remember that bee stings with the venom sac attached continue to inject venom into the skin, whilst a single wasp or ant may sting multiple times.

In susceptible people, bites or stings may cause a severe allergic reaction or anaphylaxis, which can be life threatening. This can also occur in victims with no previous exposure or apparent susceptibility.



Signs and symptoms

Minor

- Immediate and intense local pain
- Local redness and swelling

Major/serious

- Allergic reaction/anaphylaxis
- Abdominal pain and vomiting in the case of allergic reaction



If severe call 111



Treatment

- If the patient is unresponsive and not breathing normally follow the basic life support assessment (DRSABCD)
- If the patient has signs of anaphylaxis, treat for anaphylaxis
- If there is no history of an allergy, immediately remove the sting
- If in a remote location, consultation with healthcare professionals is recommended
- Move patient as little as possible
- Apply a **cold** compress to help reduce pain and swelling for bees and wasps
- Apply **warm** water to a jelly fish sting
- Monitor the victim for signs of allergic reaction (difficulty speaking, breathing difficulties, collapse and generalized rash).
- Refer the victim to A&E or hospital if the sting is to the face or tongue



Urgent medical help is needed when

- Airway obstruction results from swelling of the face and tongue due to anaphylaxis, or from insect stings in or around the mouth. This may occur immediately or over several hours and always requires urgent medical care.

Anaphylaxis

Anaphylactic shock is a severe allergic reaction. Many substances can cause anaphylaxis, but more common causes include foods (especially peanuts, tree nuts, cow's milk, eggs, wheat, seafood, fish, soy and sesame), drugs (e.g. penicillin) and venom from bites (ticks) or stings (e.g. bees, wasps or jellyfish).



Signs and symptoms

Onset: Seconds to hours (usually within 20 minutes of exposure to the trigger)

- Hay fever symptoms
- Puffy face, swollen tongue/lips
- Itchiness in the throat, difficulty in swallowing,
- Difficult/noisy breathing, wheezing or persistent cough
- Itchy skin, flushing of the skin
- Red blotchy raised rash (hives)
- Abdominal cramps and nausea
- Sudden feeling of weakness
- Persistent dizziness, loss of consciousness and/or collapse
- Signs and symptoms of shock



Call 111 for any anaphylaxis



Treatment

- Lay the patient flat, do not stand or walk. If breathing is difficult, allow to sit (if able)
- Prevent further exposure to the triggering agent if possible
- Give the patient their own medication (usually epinephrine/adrenaline)
 - People who have had a prior episode of anaphylaxis often have prescribed medication (epinephrine/adrenaline) in the form of an auto-injector. The early administration of adrenaline is the priority.
 - A second dose should be administered to patients if there is no response 5 minutes after the initial dose.
- Give asthma medication for respiratory symptoms
- If allergic reaction or anaphylaxis has occurred from an insect bite or sting follow treatment for tick bites and bee, wasp and ant stings
- Antihistamine tablet if patient can swallow
- Treat for shock



Urgent medical help is needed

- Anaphylaxis must be treated as a medical emergency, requiring immediate treatment and urgent medical attention. **Call 111**



More information

- Allergy New Zealand (<http://www.allergy.org.nz/A-+Allergies/Anaphylaxis.html>)

Poisoning

A poison is a substance (other than an infectious substance) that is harmful to human health if ingested, inhaled, injected, or absorbed through the skin. Substances that are benign or therapeutic at low levels (for example, pharmaceuticals and herbal remedies) may be poisonous at higher concentrations.

Signs and symptoms



- unconsciousness
- nausea, vomiting
- burning pain in the mouth or throat
- headache
- blurred vision
- seizures
- difficulty breathing, respiratory arrest and cardiac arrest

Poisons may have a rapid effect, but their effects may also be delayed. Speed of effect is determined by the nature of the poison, its concentration, and the time of exposure.



If severe call 111



Treatment

Separate the victim from the poisonous substance. How this is done will depend on the type of the poison. Examples are listed below.

If the poison is **SWALLOWED**

- Give the person who has swallowed the poison a sip of water to wash out their mouth.
- Do NOT try to make them vomit. Do NOT use Ipecac Syrup.

If the poison 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.

If the poison is **INHALED**

- Immediately get the person to fresh air, without placing yourself at risk.
- Avoid breathing fumes. Special breathing apparatus may be required, for example, with cyanide or agricultural chemicals poisoning.
- If it is safe to do so, open doors and windows wide.

If the poison contacts the **SKIN**

- 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 the victim is unconscious or is not breathing normally, commence resuscitation if necessary

- Before commencing resuscitation, quickly wipe obvious contamination from around the mouth

Prevention of poisoning of the rescuer

- During first aid and subsequent treatment, the suspected poison should be identified and safely handled to minimise further exposure. The patient may pose a danger if the poisonous substance can be transferred to the rescuer (for example, by contact with contaminated clothing).
- If the poisoning occurs in an industrial, 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.
- The rescuer may need to wear personal protective equipment (PPE) during decontamination and resuscitation. The need for PPE will be guided by knowledge of the likely poison. If equipment is not available to safely decontaminate and treat a patient, rescue may not be possible



Always seek medical assessment

- It is important to seek medical assessment or advice after significant exposure to a poison, even if symptoms are initially mild or absent.



More information

- New Zealand Poisons Centre (<http://www.poisons.co.nz/>)
- In case of poisoning 24/7 call 0800 POISON (0800 764 766)



Burns

A burn is an injury caused by heat, cold, electricity, chemicals, gases, friction and radiation (including sunlight) The severity of burns is measured by the area, depth and location. A burn is considered severe if it involves hands, feet, genitals or face, covers more than 10% of the body surface or other injuries are present.



Signs and symptoms

- Severe pain
- Red, blistered or blackened skin
- Swelling
- Fluid weeping from the injured area



If severe call 111



Treatment

- ABCs
 - Remove from source
 - Stop the burning process:
 - Stop, Drop, Cover and Roll
 - Smother any flames with a blanket
 - Remove anything that retains heat
 - Cool area with cool water for 20 minutes
 - Cover lightly with glad wrap or cling to prevent exposure to air
 - Place glad wrap between fingers or toes if needed
 - Elevate
 - Treat for shock
 - Give sips of fluid
 - Monitor
- DO NOT:**
- Remove clothing stuck to a burn
 - Apply creams or ointments other than hydrogel
 - Use ice or ice water to cool the burn as further tissue damage may result
 - Break blisters



Urgent medical help is needed when

- Patient is very young or old
- Full thickness burn covers more than 10% of the body
- Any burn covers more than 30% of the body
- Severe burns to hands, genitals, feet, face
- Inhalation burns causing swelling of airway
- Burns from lightning or electricity



More information

- Burn Support Group Charitable Trust (<http://www.burns.org.nz/>)

Sepsis

There are many conditions that present in the community that need urgent assessment and treatment by health care professionals. The nature of most of them is obvious but some are difficult to diagnose even under ideal circumstances in hospital. One frequent example is sepsis. There are a number of other conditions that are hard to distinguish from sepsis. However, the diagnosis of the exact condition is not important for the first aider because these conditions share a common set of symptoms and signs. It is more important to recognise that a person needs urgent medical care than to diagnose the nature of the illness. There is very little published about the first aid management or recognition of these conditions. There is a growing body of evidence about how health care professionals should "recognise the deteriorating patient." The purpose of this guideline is to help the first aider recognise the person in need of urgent medical care but is not intended for the diagnosis of illnesses.

Causes

Anyone can deteriorate quickly with a serious illness, but certain people are at higher risk including:

- children under 10
- people over 65 years of age
- people with chronic diseases
- people with weakened immune systems

Recognition

Early recognition of serious illness is critical as early treatment improves outcomes. These symptoms and signs set out below may indicate serious illness. These symptoms and signs are common to many conditions and it is their combination that alerts health professionals to the possibility of serious illness and prompts further investigation and treatment. The more signs and symptoms in combination, the higher the risk that the underlying problem is a serious illness. Perhaps the most important indicator is that the person with a serious illness feels "not right" or say they might feel they are "going to die". This is even more significant if the people that know this person have noticed a change in their behaviour.

Red Flags for Serious illness

- rapid breathing (breathing rate ≥ 22 / minute) is the most reliable indicator of serious illness in adults
- breathlessness or feeling short of breath
- restlessness, agitation, dizziness, decreased level of consciousness, confusion, slurred speech or disorientation
- shivering or shaking, fever or feeling very cold
- unexplained muscle pain or discomfort
- passing little or no urine • rapid heart rate
- nausea and or vomiting
- new rash or blotchy, pale, or discoloured (often described as mottled) skin
- a person may say they 'don't feel right' or they might say they feel like they 'are going to die'.



Always seek medical assessment

- It is important to seek medical assessment or advice for someone who appears unwell.

Serious illness in children and infants

Children and infants with serious illness can deteriorate quickly. Symptoms and signs of serious illness in infants and children may include:



Signs and symptoms

- rapid breathing, weak cry or grunting
- hard to wake, lethargic or floppy
- seizure or fit
- a rash that doesn't fade when pressed
- discoloured, mottled, very pale or bluish skin
- fever, feeling cold or cold to touch
- vomiting repeatedly
- not passing urine (or no wet nappy) for several hours
- not feeding or drinking.

Children often cannot express how they feel so look for the combination of an infection with any of the signs and symptoms listed. In children, parental concern that this illness is more severe or different and care providers thinking "something is wrong" are predictive of the presence of sepsis.

Management – Serious illness

Serious illness is a medical emergency and typically requires in-hospital management and the prompt administration of medications or an operation which targets the infection or other illness.

Send for an ambulance if:

- you suspect sepsis or other serious illness;
- an infection related illness is not improving;
- carer is concerned that this illness is more severe or different
- care providers (including first aiders) think “something is wrong”.



Call 111

Those that are unresponsive, unconscious or fitting

Send for an ambulance.

- if the person is unresponsive and not breathing normally, commence resuscitation following the Basic Life Support Flowchart
- if the person is unconscious but breathing, lie them on their side, ensure the airway is clear and keep them under observation
- if the person is having a seizure, lie them on their side, ensure the airway is clear and keep them under observation



Call 111



Always seek medical assessment

- It is important to seek medical assessment or advice after significant exposure to a poison, even if symptoms are initially mild or absent.

NOT LIFE-THREATENING CONDITIONS



Wounds

Wounds occur when the skin is broken or damaged because of injury. Injuries may be the result of mechanical, chemical, electrical or thermal sources. The skin can be damaged in a variety of ways depending upon the mechanism of injury.

- **Inflammation** is the skin's initial response to injury.
- **Superficial (on the surface) wounds and abrasions** leave the deeper skin layers intact. These types of wounds are usually caused by friction rubbing against an abrasive surface.
- **Deep abrasions** (cuts or lacerations) go through all the layers of the skin and into underlying tissue like muscle or bone.
- **Puncture wounds** are usually caused by a sharp pointed object entering the skin. Examples include a needle stick, stepping on a nail or knife stab wound.
- **Human and animal bites** can be classified as puncture wounds, abrasions, or a combination of both.
- **Pressure sores** (bed sores) can develop due to lack of blood supply to the skin caused by chronic pressure on an area of the skin (for example, a person who is bedridden, sits for long hours in a wheelchair, or a cast pressing on the skin). Individuals with diabetes, circulation problems (peripheral vascular disease), or malnutrition are at an increased risk of pressure sores.



Signs and symptoms

- Pain (in areas with few nerve endings there may only be little pain)
- Swelling
- Bleeding



If severe call 111



Treatment

Proper wound care is necessary to prevent infection, assure there are no other associated injuries, and to promote healing of the skin

- | | |
|---|---|
| <ul style="list-style-type: none">● Clean the wound with lots of water or saline solution (for at least 5 to 10 minutes), dry and cover (saline solution is good)● Check for signs of infection● Do not attempt to clean a life-threatening wound | If infected: <ul style="list-style-type: none">● Seek medical help● Clean and change dressings daily● Soak infected area in warm water 3-4 times a day to encourage blood flow● Give paracetamol to reduce high temperature and reduce pain |
|---|---|



More information

- The New Zealand Wound Care Society (<http://www.nzwcs.org.nz/>)

Soft-tissue injuries

A soft tissue injury is an injury that involves body tissues apart from bone. They include sprains, strains and bruises. The cause and tissues involved in each injury are different; however, the treatment is the same.

Sprains are injuries that involve the ligaments and other soft tissues around a joint, such as an ankle or wrist.

Strains involve a torn or overstretched muscle or tendon, commonly in the calf, thigh or lower back.

Bruises involve the skin and nearby tissues following a break of blood vessels close to the body surface. Bruising may be seen with either a sprain or strain.



Signs and symptoms

- Swelling
- Pain, tenderness
- Loss of function



If severe call 111



Treatment

Treatment should commence promptly and follow the **RICED** procedure:

- **Rest** Avoid movement of the injured part and don't put weight on it
- **Ice** Cold reduces swelling
 - Ice cold water or insulated/wrapped cold compression/ice
 - Apply for 20 minutes every 2 hours for the first 48 hours
- **Compression** Helps relieve swelling and provide support
 - Firm bandage, check for circulation
- **Elevation** Helps stop bleeding and swelling
 - Raise the injured area on a pillow for comfort and support
- **Diagnose** If concerned or if no significant improvement within 48 hours



Avoid HARM

Chances of a full recovery will be helped if the H.A.R.M. factors are avoided in the first 48 to 72 hours:

- **H**eat
- **A**lcohol
- **R**unning or exercise
- **M**assage



More information

- Coaching Toolbox (<http://www.coachingtoolbox.co.nz/rugbysmart/riced-a-harm/>)

Dehydration

This condition has been linked directly to the cause of many accidents as it produces poor concentration and decision-making.

The adult body needs a minimum of 1 – 1.5 litres of fluid a day to maintain normal mental and physical efficiency. Dehydration is caused by not drinking enough fluid or the wrong sort of fluid.

Try to:

- Drink before you become thirsty (thirst is an early sign of dehydration)
- Drink often during the day

Try to avoid:

- Tea, coffee, coke, energy drinks – all contain caffeine which causes the body to lose more fluid
- Pure fruit juices and soft drinks – their high sugar content sucks fluids from the body



Signs and symptoms

- Reduced urine output
- Urine strong and dark yellow



Treatment

- Sit patient down – ask about their fluid intake to establish if this is the cause
- Give electrolyte drinks. These have the right balance of minerals and sugars. Examples are:
 - Dehydration sachets
 - Pure fruit juice watered down 50%
 - 1 cup of water with 1 tsp of sugar and a pinch of salt
- Sip slowly to avoid vomiting
- Continue drinking until urine is straw coloured
- Arrange medical help if more serious symptoms are present