

Basic First Aid



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What is First Aid ?



“Help given to a sick or injured person until full medical treatment is available”

“...provision of initial care for an illness or injury”

An ambulance can take an average of 8 minutes to arrive. Without first aid, the casualty



Course Content?



This course provides an overview of basic first aid techniques. To be a First Aider you should complete an accredited course of training and practical assessment. Topics include:

1. DR ABC
2. RECOVERY POSITION
3. HEART ATTACK
4. STROKE
5. CPR
6. BURNS
7. CHOKING
8. FRACTURES

The purpose of this presentation is to give you life saving techniques and increase your confidence if confronted with an emergency situation.





Aim of First Aid



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There are 3 main aims when administering first aid:

Preserve life

Prevent worsening of the condition (if possible)

Promote recovery

For example, applying a plaster is preventing the condition (a cut) from worsening by stopping infection.

These aims are known as the 'three Ps' of first aid



Preserve Life



Prevent Worsening



Promote Recovery

Role of the First Aider



A first aider has various **roles** and **responsibilities**. They should:

- Manage the incident and ensure the continuing safety of themselves, the patient and bystanders
- Provide initial assessment of the patient and find out the nature & cause of their injuries
- Call for medical help or other emergency services to attend
- If trained, prioritise casualties based upon medical need
- Provide appropriate first aid treatment as trained
- If able, make notes/observations of casualties
- Fill out any paperwork as required
- Provide a handover when further medical help arrives



Calling the Emergency Services

Give clear and precise information on

- Exact location of the incident and if there are any difficulties accessing the area or hazards
- Number of casualties involved and nature of injury
- Age of patient

Ensure you know the best emergency service number to use, depending on where you are located.

- United Kingdom: 999, European Union 112, USA 911
- Other countries https://en.wikipedia.org/wiki/List_of_emergency_telephone_numbers
- If using a mobile phone, use the handset on loud speaker to ensure you can continue to treat the patient



Incident Management



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The First Aider MUST conduct a risk assessment before going into any situation. Look for any **potential hazards** to yourself, bystanders or the patient (e.g: moving traffic, fire & smoke, electricity). Never put yourself or other bystanders in danger.

Remember, **YOU** are the most important person

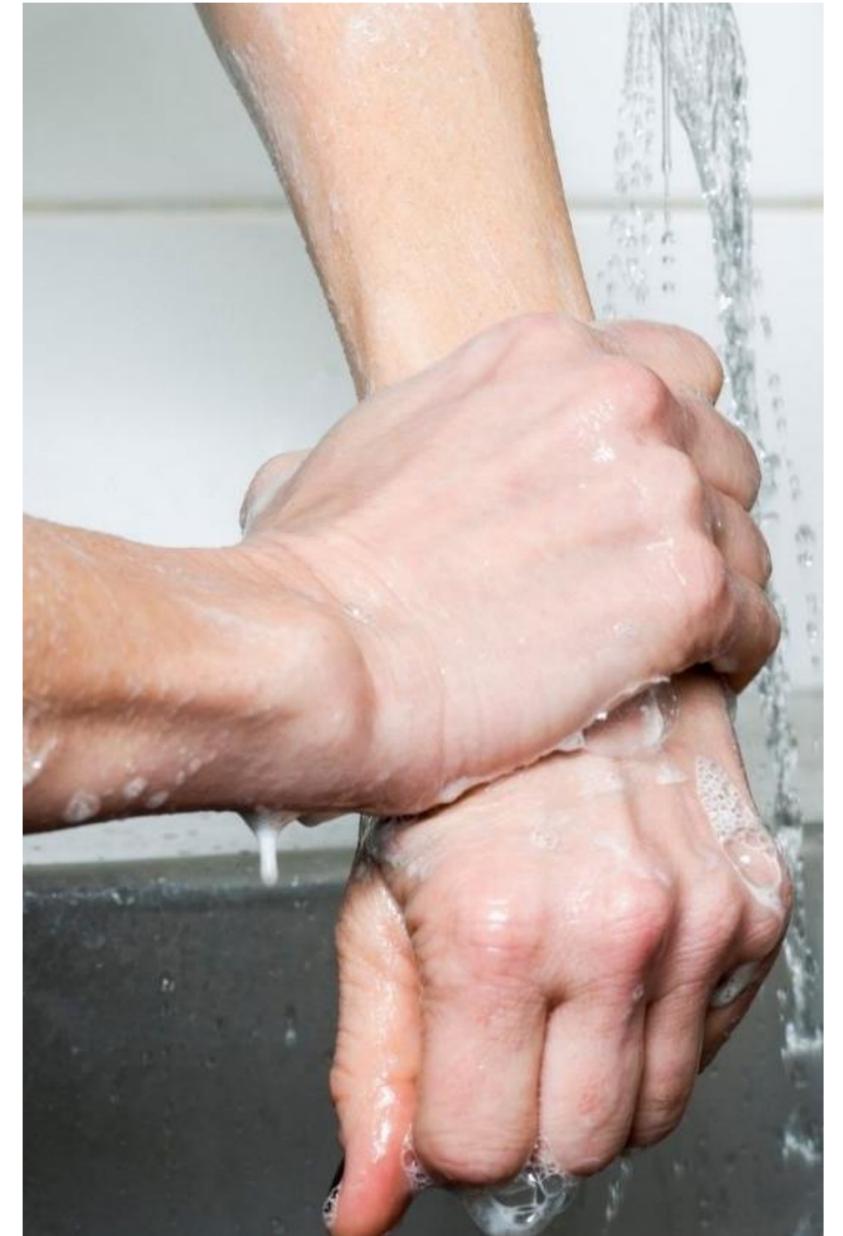
If the incident is too dangerous to approach, **stay back** and await the arrival of the emergency services.

Various diseases can be transmitted via blood and body fluids (for example HIV and Hepatitis B & C)

If possible, always wear disposable gloves when dealing with bodily fluids **HOWEVER:** This is not always practical! In an emergency situation you can improvise and use anything to create a barrier. e.g: a plastic carrier bag

Ensure any cuts/open injuries to your hands are covered with waterproof plasters or dressings.

Wash your hands with soap and running warm water whenever possible





Patient Assessment



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Many of us if we found an unconscious person we would not know how to react. This simple formula will help you save a life, before the emergency services or medical help arrives.

If you find someone collapsed, you can use **DR ABC** to help you remember what actions to take.

- **D**anger
- **R**esponse

- **A**irway
- **B**reathing
- **C**all / **C**ommence CPR



Ensure there are no dangers to yourself, the patient or anyone else nearby

Think - why has the person collapsed? Are there hazards closeby which could have caused the collapse? Am I at risk?

Dangers could include electricity, water, vehicles, fire, smoke, other people

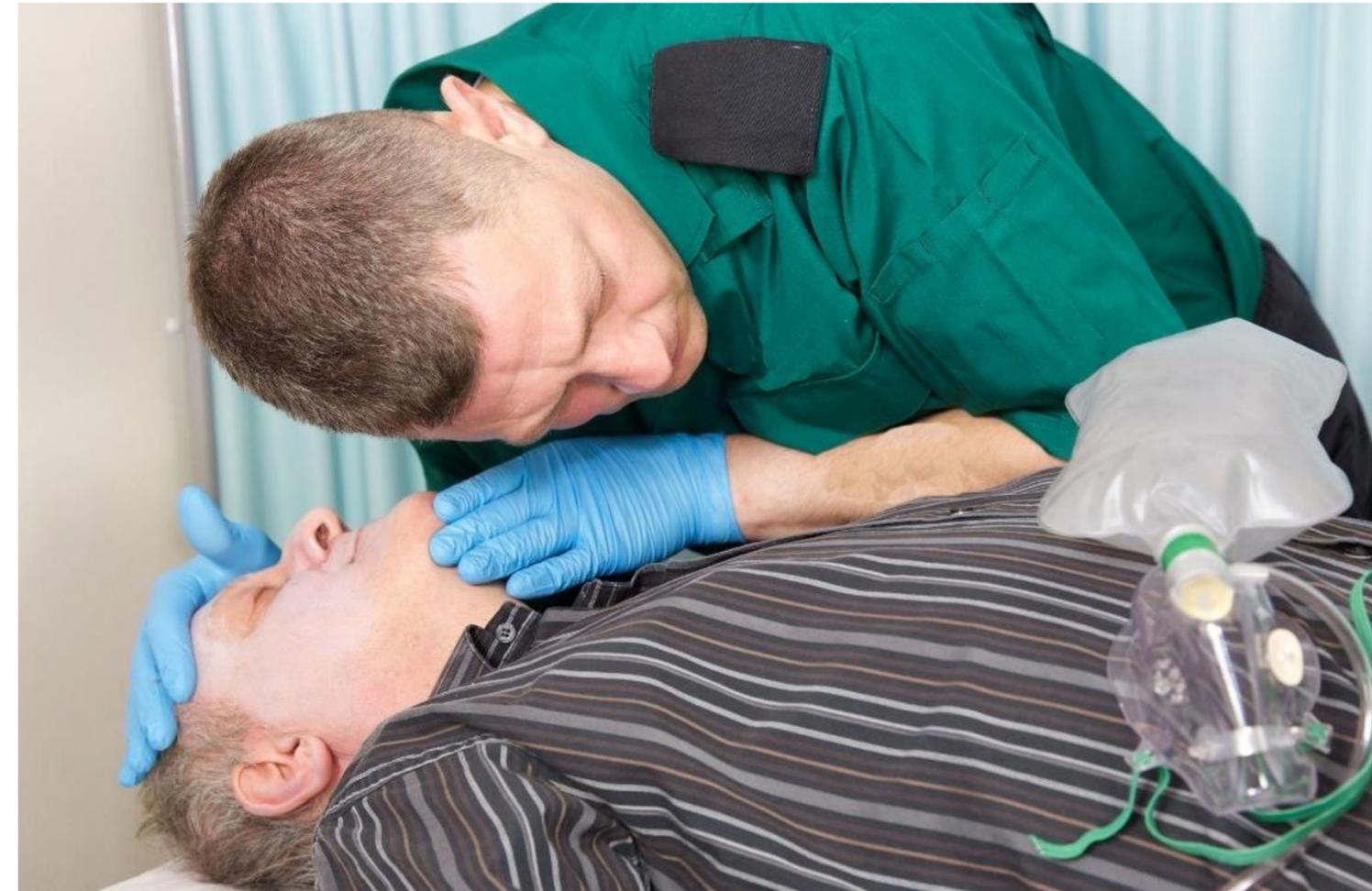
Only go to a situation if it is **safe** for you.



Try and wake the victim up - are they responding to you?

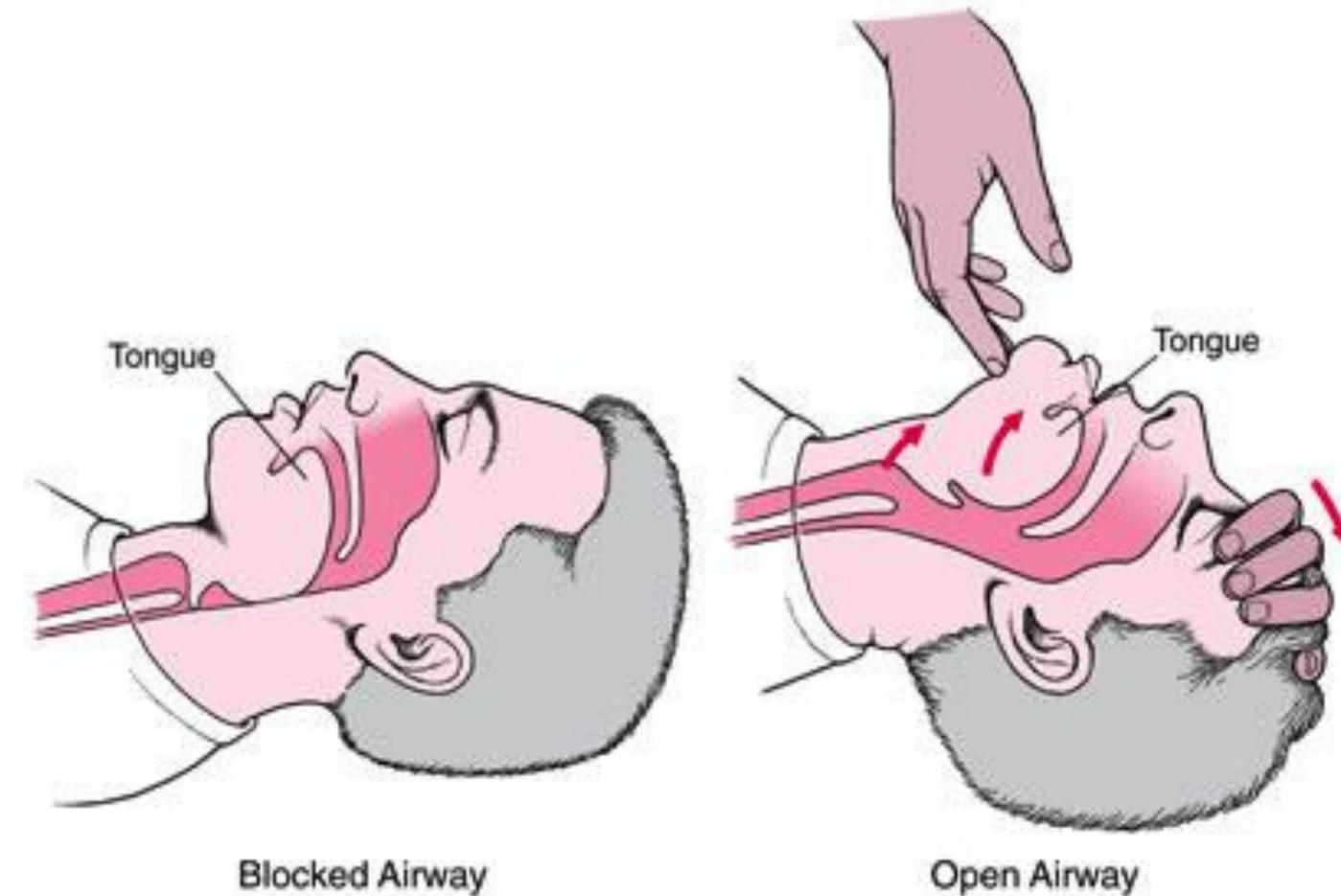
Shake their shoulder, shout loudly in both ears 'Can you hear me?'

If you do not get a response, the patient is **unconscious**. This is an emergency and you need help. Shout for assistance but do not leave the patient.



The airway is the tube which takes air from the mouth/nose to the lungs. When a patient is unconscious, their tongue can fall backwards and block their airway. This can cause an obstruction and the victim will quickly **suffocate**.

To open the airway of a person who is unconscious, place one hand on their forehead and tilt their head **backwards**. Place 2 fingers on the chin and lift it. This is known as the “head tilt, chin lift” manoeuvre.



What if the casualty is unresponsive but they are breathing normally ?

If, after checking breathing for no more than 10 seconds, you are confident that the casualty is breathing normally, you should place them in the recovery position. This protects the airway, preventing the relaxed tongue touching the back of the throat and allows any fluid such as vomit to flow out of the mouth.

The basic principle of the recovery position is to place the casualty on their side, with the mouth positioned so that vomit can flow out.



Breathing



Place your cheek above their mouth and look at the person's chest.

Look, listen and feel for normal, regular breathing for up to 10 seconds.



ten seconds

Irregular shallow gasps is not normal breathing. This type of breathing is known as 'agonal breathing'. Patients who have just suffered a cardiac arrest may display agonal breathing. If they are not breathing normally or gasping you need to start CPR and call for emergency help immediately – dial 999/112 if someone has not already done so. If using a mobile put the call on speaker phone



Is a Community Defibrillator Available



An Automated External Defibrillator (AED) is a machine that can send electric shocks through the chest to the heart to attempt to restore a heart to its normal rhythm.

They can be found in many public places such as shopping malls and train stations.

You do not need to be trained to use an AED, as the machine will give you clear voice instructions telling you exactly what to do – step by step.



If the victim is not breathing normally, immediately call for emergency medical help if this has not already been done.

Make sure the call operator is informed the victim is **not breathing**. This is a critical link in the **'chain' of survival** for improving cardiac arrest care.





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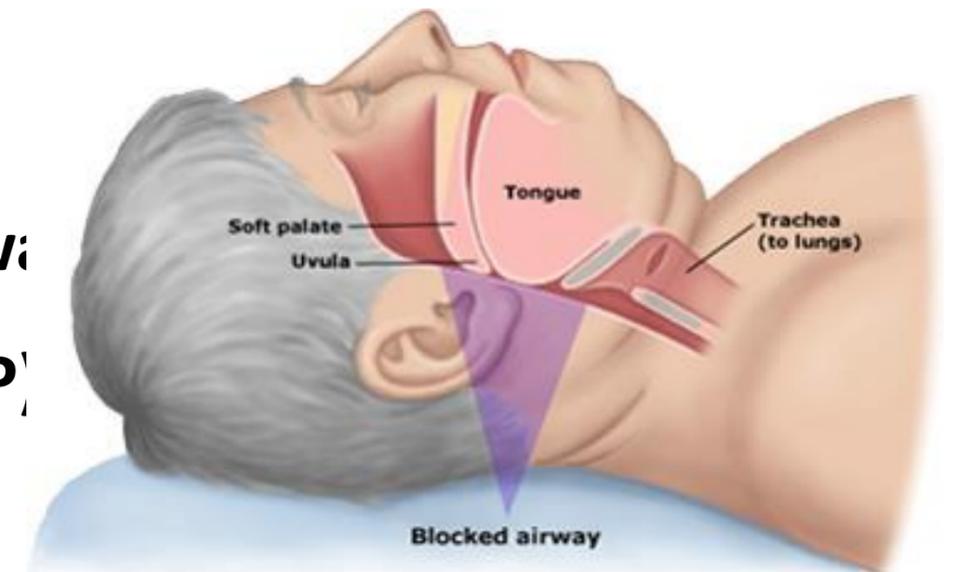
The Recovery Position

What is the Recovery Position?

The recovery position is a safe position for patients who are **unconscious**. The recovery position helps to protect the victim's **airway**. The recovery position is also known as the **Safe Airway Position (SAP)**. It protects the airway by preventing the relaxed tongue touching the back of the throat and allowing any fluids such as vomit to flow out of the mouth.

The recovery position should be used when the patient is unconscious, but breathing normally.

If the patient is not breathing normally then CPR should be commenced immediately.

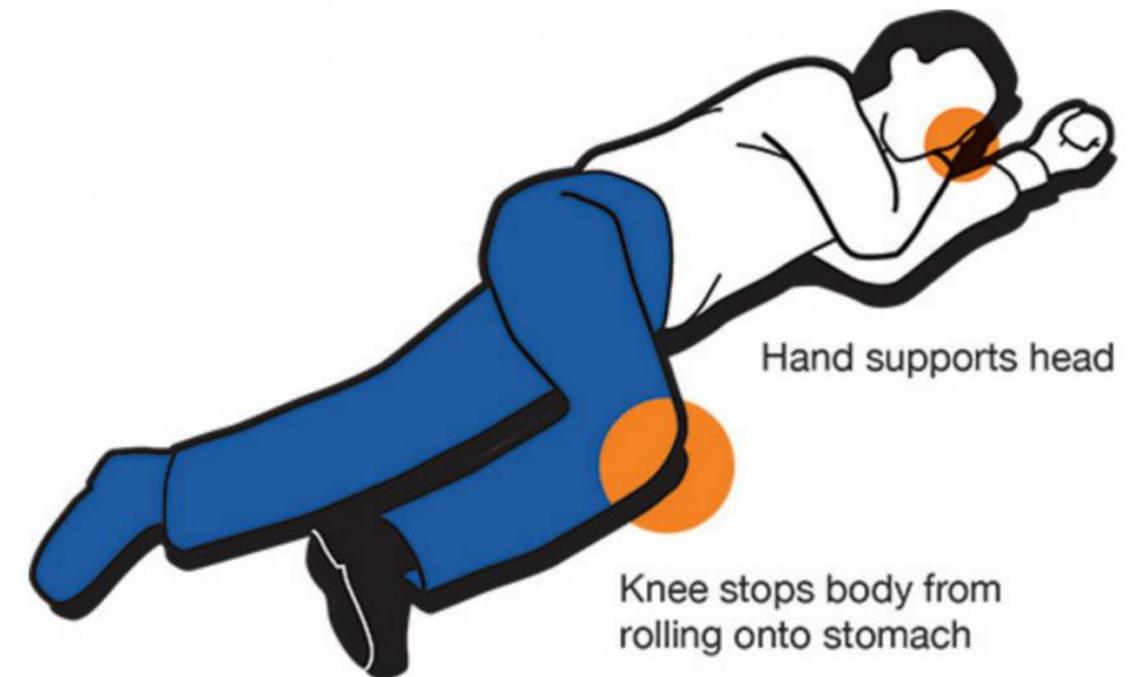


The Recovery Position



1. Kneel by the victim's waist
2. Place the hand nearest you at right angles
3. Grasp the hand furthest to you, place the back of their hand against their cheek closest to you
4. Lift the leg furthest away from you at the knee and place their foot on the floor
5. Using their knee as a lever, pull the person onto their side
6. Ensure their head is still tilted back and they are on their side
7. Once in position, call emergency services if not already done. Keep patient warm & dry.
8. Re-check breathing regularly, if they stop, start CPR immediately

Keep the Airway Clear



Stay with person. If you must leave them alone at any point, or if they are unconscious, put them in this position to keep airway clear and prevent choking.



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Heart Attack

What is a Heart Attack?

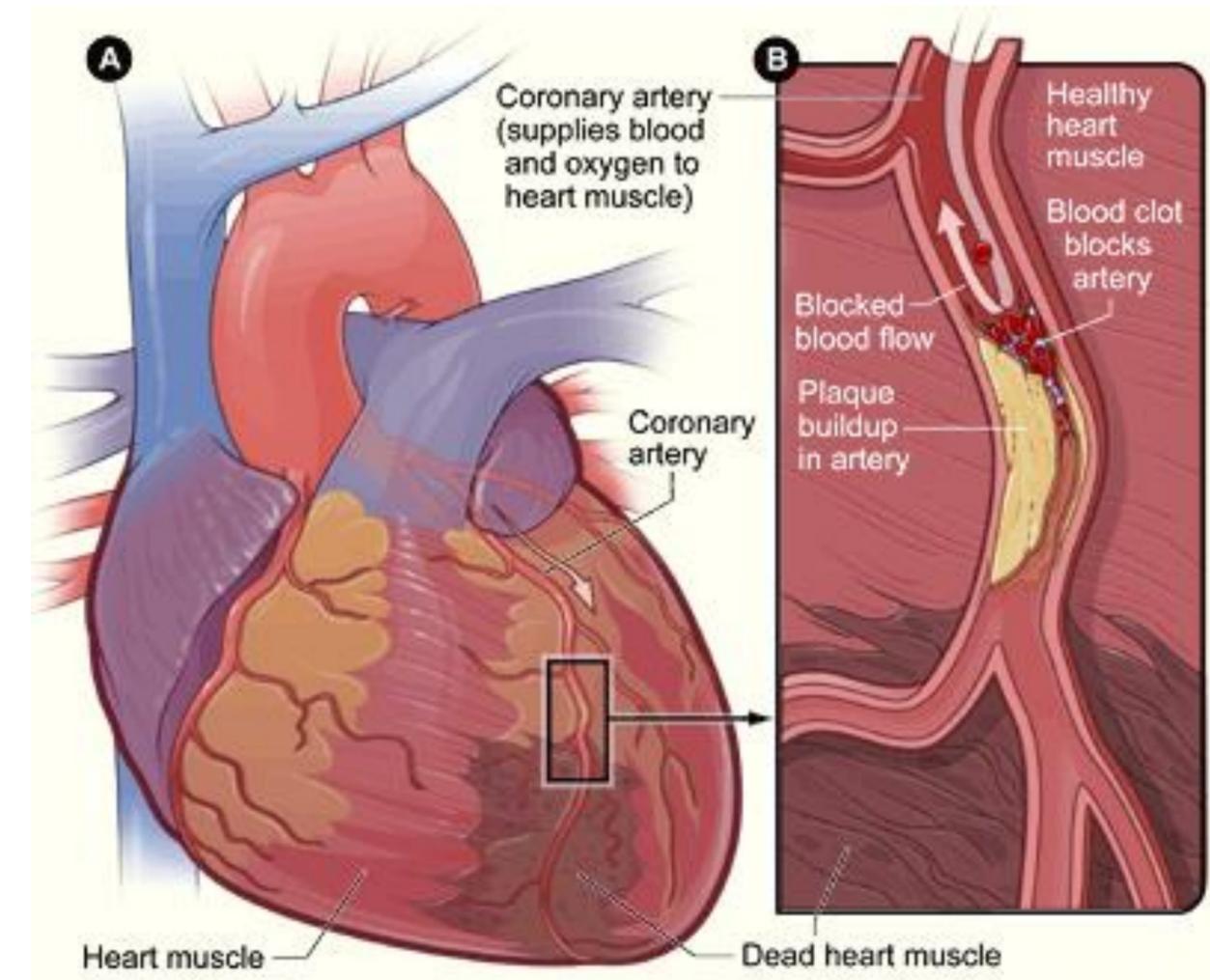


The heart is a pump made of **muscle**. It pumps blood around our body as part of the circulatory system. The heart requires a constant supply of blood itself in order to pump effectively. The heart is supplied with blood by a network of **coronary arteries**.

These arteries can become blocked with clots or fatty tissue. This is a process known as atherosclerosis and causes ischemic heart disease (IHD).

When the coronary arteries become blocked, the heart muscle does not receive enough oxygen/nutrients and **dies**.

This is known as a heart attack.



The medical term for a heart attack is **Myocardial Infarction (MI)**

Signs and Symptoms



- **Chest pain** (which does not get better)
 - May spread to jaw / shoulders / arm / back
- Shortness of breath
- Victim becomes pale / sweaty
- Fear and anxiety (“sense of impending doom”)
- Irregular pulse
- Feeling sick (nausea) and vomiting



Heart Attack First Aid



- Call for emergency medical help
- Encourage the patient to **chew** a large (300mg) Aspirin unless they are allergic.
- Aspirin helps by **breaking down clots** which cause heart attacks. It is not given for pain relief in this emergency situation.
- You should encourage the casualty to **chew** a 300mg (large) aspirin so that it is absorbed through the mouth and gums. They **should not** swallow the Aspirin as this will not be as effective.
- Place the victim in a position of rest, ideally on the floor
- Monitor and give reassurance whilst waiting for ambulance
- Be prepared to give Cardiopulmonary Resuscitation





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Stroke

What is a Stroke?



A stroke is a serious life-threatening medical condition that happens when the blood supply to part of the brain is cut off.

Strokes are a medical emergency and urgent treatment is essential.

The sooner a person receives treatment for a stroke, the less damage is likely to happen.

If you suspect that you or someone else is having a stroke, phone 999/112 immediately and ask for an ambulance.



Symptoms of a Stroke?



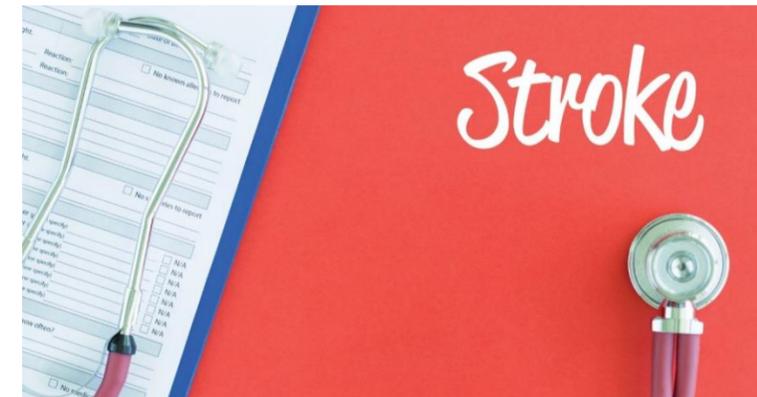
The main symptoms of stroke can be remembered with the word **FAST**:

Face – the face may have dropped on 1 side, the person may not be able to smile, or their mouth or eye may have dropped.

Arms – the person with suspected stroke may not be able to lift both arms and keep them there because of weakness or numbness in 1 arm.

Speech – their speech may be slurred or garbled, or the person may not be able to talk at all despite appearing to be awake; they may also have problems understanding what you're saying to them.

Time – it's time to dial 999 immediately if you see any of these signs or symptoms.



Causes of a Stroke?



Like all organs, the brain needs the oxygen and nutrients provided by blood to function properly.

If the supply of blood is restricted or stopped, brain cells begin to die. This can lead to brain injury, disability and possibly death.

There are 2 main causes of strokes:

- ischaemic – where the blood supply is stopped because of a blood clot, accounting for 85% of all cases
- haemorrhagic – where a weakened blood vessel supplying the brain bursts

There's also a related condition called a Transient Ischaemic Attack (TIA) where the blood supply to the brain is temporarily interrupted.

This causes what's known as a mini-stroke. It can last a few minutes or persist up to 24 hours.

TIAs should be treated urgently, as they're often a warning sign you're at risk of having a full stroke in the near future.

Seek medical advice as soon as possible, even if your symptoms get better.

Certain conditions increase the risk of having a stroke, including:

- High Blood Pressure (Hypertension)
- High Cholesterol
- Irregular Heartbeat
- Diabetes

First Aid of a Stroke Patient



1. Try to keep the patient awake, someone having a stroke may feel very sleepy
2. Time is imperative – call 999
3. Ensure the patient is in a safe position
4. Reassure the patient whilst you wait for emergency assistance
5. If they stop breathing commence CPR





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Cardiopulmonary Resuscitation (CPR)

What is CPR?



Cardiopulmonary Resuscitation (CPR) is a first aid technique to assist someone who has had a “cardiac arrest”, when their heart stops beating.

It involves giving **chest compressions** and **rescue breaths** to help keep the patient alive until a **defibrillator** and ambulance arrives.

A defibrillator is an electrical device which can be used to help restart someone’s heart.

CPR on its own is unlikely to restart someone’s heart, however it will increase the chance of a defibrillator being successful. If you are uncomfortable doing rescue breaths, continue with CPR.

Once the ambulance has been called, it is vital you should start CPR immediately. Place your hands in the centre of the person's chest, over the breastbone (sternum). Ideally the casualty should be placed on a hard firm surface such as the floor.

Interlock your fingers, lock your elbows with your shoulders positioned above the chest and give 30 compressions.

Push down a depth of 5-6 cm. at a rate of **100 - 120** compressions / minute ensuring you do not lean on the chest.



CPR: Rescue Breaths



If you have been trained in CPR and are willing to continue, give **2** rescue breaths after every **30** chest compressions. Tilt the patient's head backwards, lift their chin and then pinch their nose

Make a seal over their mouth and breath in for approximately **1** second you should see the chest rise if you are doing the procedure correctly.



Continue the cycle of **30 chest compressions** to **2 rescue breaths** until help arrives.

If there is more than one first aider, swap over doing chest compressions every two minutes to ensure to do not tire.

If a defibrillator arrives it should be used immediately.

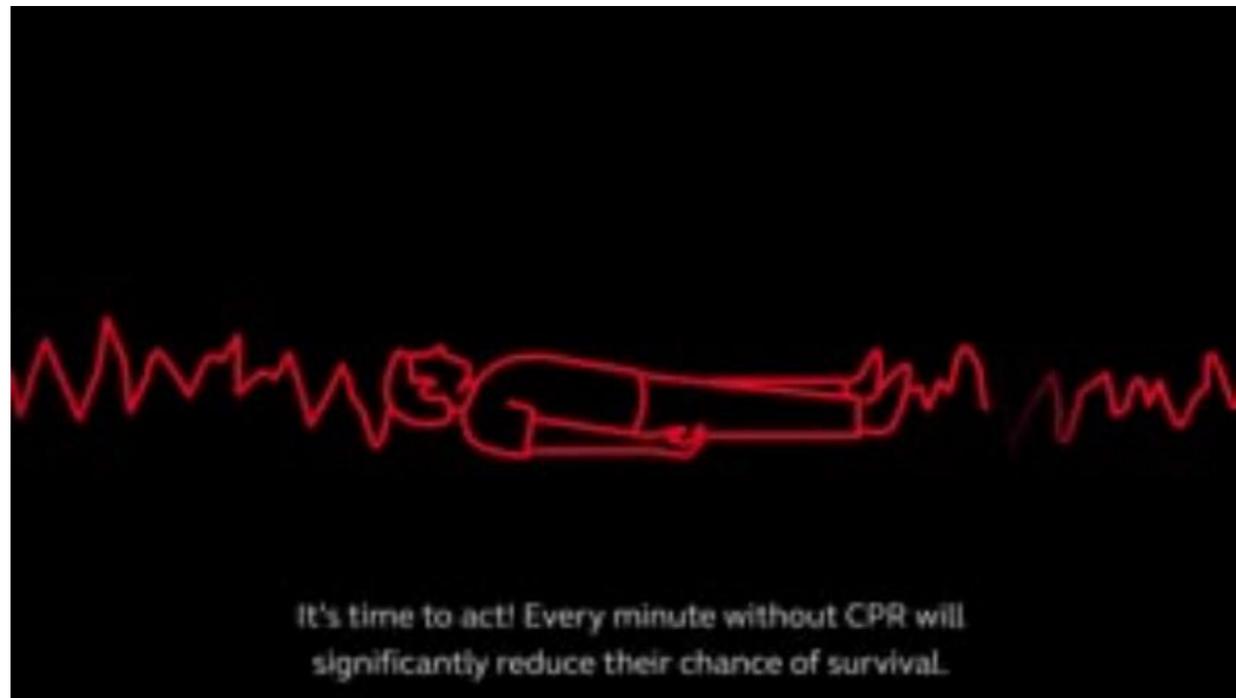




CPR in Action



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Burns

Burn injuries can be classified by their type and their depth. The main types of burn are:

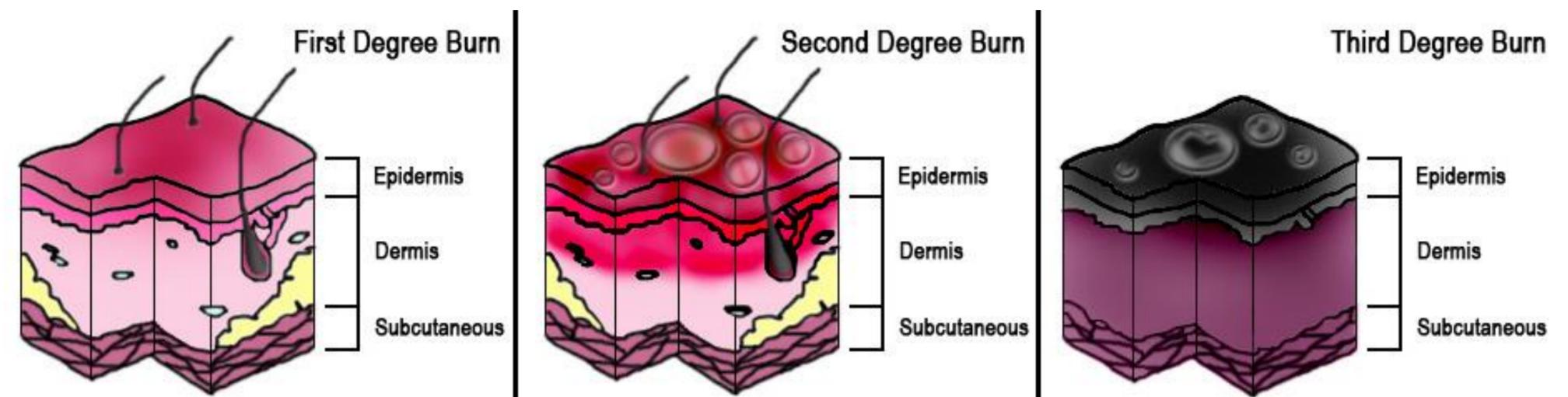
- **Scald** – caused by a hot liquid or steam
- **Friction** – caused by rough surfaces, e.g: carpet
- **Radiation/sunburn**
- **Electrical** – may have an entry burn and an exit burn
- **Chemical**
- **Dry** – touching hot objects, e.g: a cooker.



Depths of Burns

- **1st degree / superficial:** Minor damage to the top layer of skin. Normally appears as just redness. Sunburn is the most common example of a superficial burn
- **2nd degree / partial:** Damage to several layers of skin. Causes blistering of the skin.
- **3rd degree / full:** Damage to skin and underlying tissue. May be charring of the skin.

Large burns may have several depths. For example, there may be a 3rd degree burn surrounded by areas of 2nd and 1st degree burns.



- Ensure the scene is safe for you to approach. Call for emergency medical help.
- Cool the burn for a minimum of **20 minutes** with running water
 - If no running water is available, improvise with any cool non-toxic liquid available
- Keep the patient warm and **prevent hypothermia.**
 - “Cool the burn, warm the victim”
- **Cover the burn** injury with a sterile non-fluffy dressing or clingfilm. Do not wrap the dressing tight around the burn injury

- Do not apply butter or toothpaste to the burn
- Do not burst any blisters
- Do not remove any clothing stuck to the burn
- Do not apply ice to cool the burn

Treatment of Burns



**Cool the burn
(10 - 20 minutes)**

**Cover with a loose
sterile dressing**

Seek medical advice

**Monitor for shock &
hypothermia**



**Use butter or toothpaste
to cool the burn**

Use ice to cool the burn

**Remove clothing stuck
to the burn**

Burst blisters

The Complete First Aid Pocket Guide



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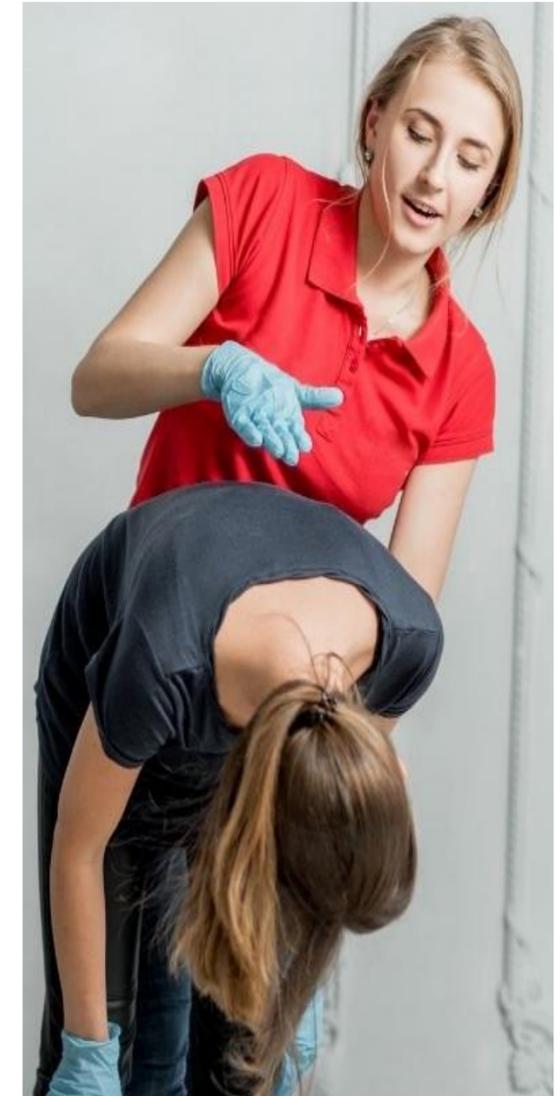


Choking

If someone starts choking, it can create panic. It is important to remain calm to enable you to assist the casualty.

You should adapt how to treat the casualty if they are :

- **A baby**
- **Obese or pregnant**
- A child over the age of 1 should be treated in the same manner as an adult, just consider their age and size when administering back blows.
- If the casualty is pregnant or obese it may not be possible to give abdominal thrusts< you can give chest thrusts as an alternative. Stand behind the casualty and reach around their chest. Make a clenched fist with one hand and place on breastbone. Clasp fist, rapidly squeeze chest, pulling upwards, forcing air from the lungs. Repeat 5 times followed by 5 back blows
- If the casualty becomes unresponsive/unconscious, lay on a firm flat surface and treat them as a casualty who is not breathing. Begin CPR and ensure someone has called the emergency services.



How to Treat Choking



- Someone could be choking if they are grasping their hands at their throat, have a blueish tint to the skin, are gasping or wheezing and unable to cough.
 - FIRST ACTION is to ask the casualty 'are you choking' as they may be unable to tell you
 - If they cannot cough the object up you should administer 5 sharp back blows with the heel of your hand. This will try to force the object up.
 - To carry out a back blow on an adult or child over 1 year old: Stand behind them and slightly to one side. Support their chest with 1 hand. Lean them forward so the object blocking their airway will come out of their mouth, rather than moving further down. Give up to 5 sharp blows between their shoulder blades with the heel of your hand. The heel is between the palm of your hand and your wrist. Check if the blockage has cleared.
- If not, you will need to give up to 5 abdominal thrusts.



How to Treat Choking

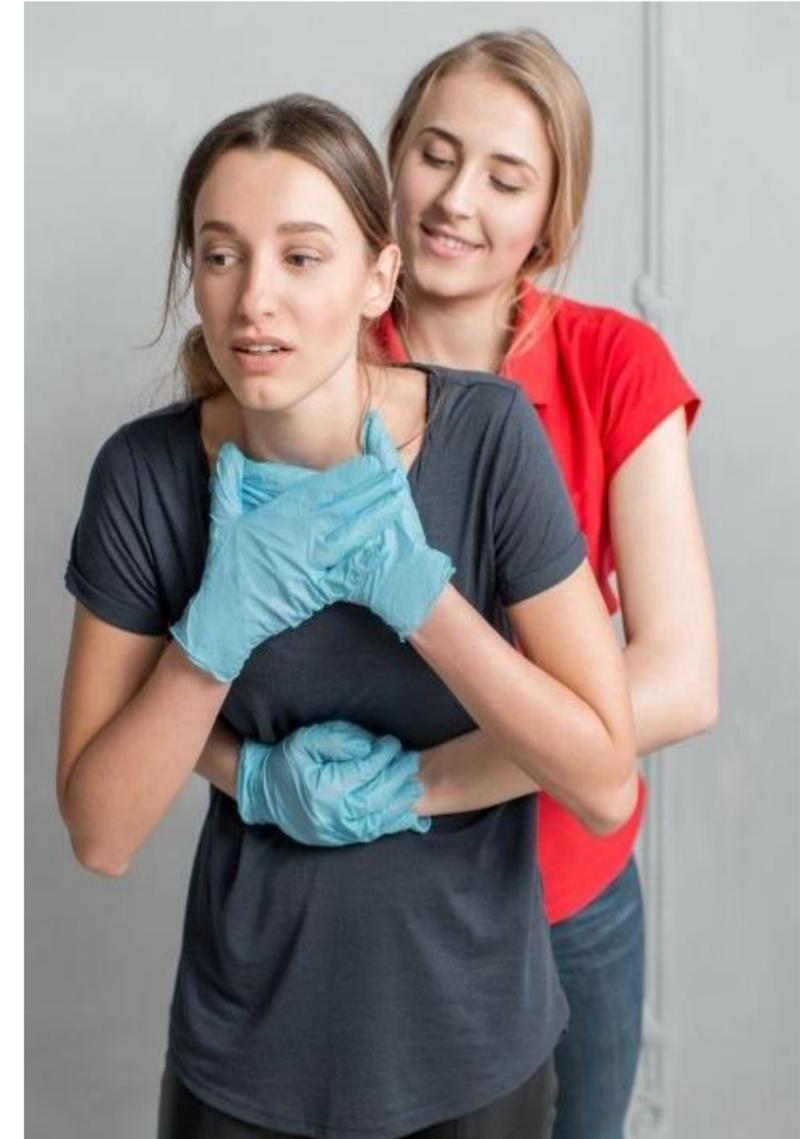


Abdominal thrusts

Don't give abdominal thrusts to babies under 1 year old or pregnant women.

To carry out an abdominal thrust:

- Stand behind the person who's choking.
- Place your arms around their waist and bend them forward.
- Clench 1 fist and place it right above their belly button.
- Put the other hand on top of your fist and pull sharply inwards and upwards.
- Repeat this movement up to 5 times.
- If the person's airway is still blocked after trying back blows and abdominal thrusts, get help immediately:





If a Baby is Choking



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TRAFFIR

- Sit or kneel with the baby face down across your thigh, with the head at the lowest position , remembering to support the baby's head.
- Give up to 5 sharp blows between the shoulder blades with the heel of your hand, the aim to dislodge the object, not to give all 5 blows
- If the obstruction is not cleared turn the baby chest upwards with the head lowest and supported
- Use 2 fingers to give up to 5 chest thrusts, the aim to dislodge the item rather than deliver all 5
- If the object still does not clear repeat the steps above and ensure 999 has been called
- If the baby becomes unconscious start CPR
- **DO NOT GIVE ABDOMINAL THRUSTS TO A CHILD UNDER THE AGE OF 1**





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Fractures

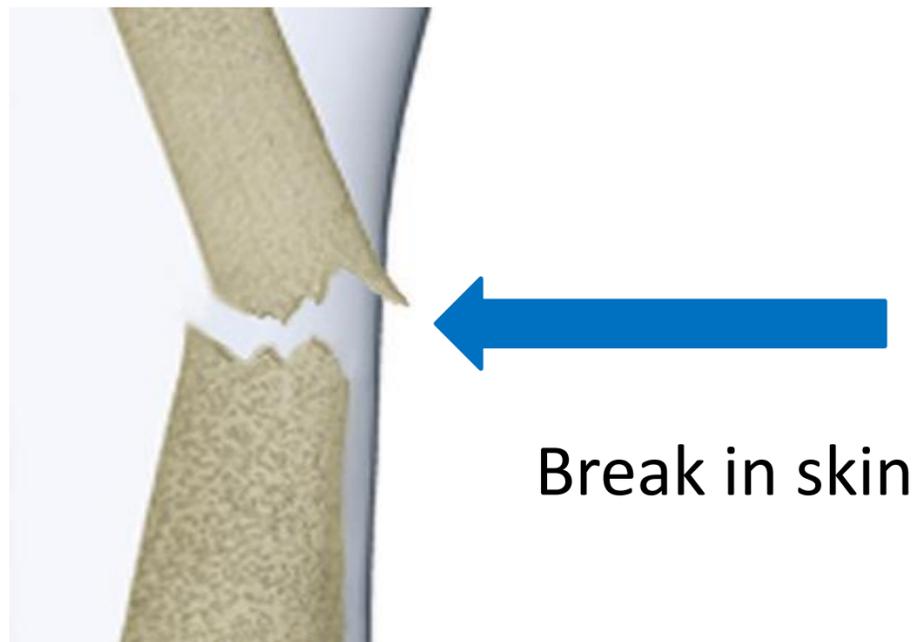
Fractures / Broken Bones



A fracture is any break (or combination of breaks) in the continuity of a bone. Fractures can be **open** (with a break in the skin), or **closed** (no break in the skin).

There are many different types of fractures. Knowledge of these types is not required in first aid. Complications of fractures include bleeding & shock, permanent nerve damage, loss of function of a limb and severe pain. Multiple fractures, especially of long bones, can be life-threatening.

Open



Closed



Signs and symptoms of a fracture include:

- Deformity
- Swelling
- Bruising
- Pain and tenderness
- Limited movement
- Shock
- A protruding bone or open wound
- Noise (crepitus)
- Inability to weight bear or move limb

Minor fractures may have minimal symptoms. These fractures are easily mistaken for a sprain or a strain.

Open fractures are at high risk of infection. Germs can infect the exposed bone.

Fracture Management



- Carefully **expose and examine** the site of injury
 - Look for evidence of an open fracture or open wound
- Remove any constricting clothing or jewellery
- Treat any wounds and stop any bleeding
- Avoid pressing directly over a fracture site
- Immobilize as appropriate to the injury and consider when the next stage of care will be available
- Check for movement, sensation and circulation beyond the fracture site, both before and after treatment
- Monitor vital signs (if trained) and watch for the development of shock

The exact method of immobilization will depend on the location of the fracture

First Aid for a Lower Limb Fracture

The bones of the leg can be broken by impact, twisting or direct blows. Knees are commonly injured in sporting accidents and falls. The **femur** or thighbone is the strongest bone in the body and it takes considerable force to fracture it. This most often occurs after a fall from a height or a severe impact such as a car accident. There are two bones in the lower leg, the **tibia** and the **fibula**. The tibia is most often broken by a heavy blow, sometimes producing an open wound. The fibula is thinner and can be broken by the kind of twisting that may cause a sprained ankle.

Immobilise the legs, using the uninjured leg to splint the broken one.

- Bring the uninjured leg to the side of the injured one.
- Slide bandages under both legs at the ankles and knees, and above and below the suspected fracture site.
- Place padding between the lower legs for comfort, roll bandage in a figure of eight around the feet and ankles.
- Tie the bandages with the knots on the uninjured side, but stop if this causes pain.

If there is a possible fracture near the ankle then wrap one bandage around the feet and a separate one around the legs just above the ankle instead of using a figure of eight.

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