Circulation

You should only check for a pulse if you have been trained to do so. Other signs that the heart is not pumping are that the casualty is not moving or breathing and their skin has become grey or blue.

A casualty who is not breathing and has no circulation, needs cardiopulmonary resuscitation known as CPR. This involves giving two rescue breaths, then chest compressions. With the casualty lying on a firm surface, push the breastbone down towards the back. In an adult the chest should be depressed about four to five centimetres.

Continue CPR by giving 15 chest compressions, at a rate of about 100 per minute, followed by two rescue breaths. Repeat the cycle in the ratio of 15:2. Training in CPR includes how to adapt CPR for children and babies, and for when there are two rescuers.

Recovery position

If the person is breathing but unconscious, it is usually best not to move them, particularly following an incident (such as a road accident) where there is a likelihood of broken limbs, a back or neck injury. Otherwise, place the casualty in the recovery position to keep the airway clear and allow fluid to drain from the mouth:

- roll the casualty onto one side, keeping the legs straight
- place the hand of the casualty's upper arm under the chin to support the head
- flex the leg to prevent rolling onto the back

If the person is bleeding, cover the wound with a gauze pad or a thick, clean piece of cloth and press on the wound hard enough to stop the bleeding. If you are sure that there are no broken bones, you should elevate the wound above heart level

Training in emergency life support

Heartstart UK
☎ 020 7935 0185
www.bhf.org.uk/hearthealth (see els)
St John Ambulance
☎ 08700 10 49 50
www.sja.org.uk/training

British Red Cross.
Check phone book for local branch
www.redcross.org.uk

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Emergency life support

Giving emergency life support to a person who has stopped breathing or whose heart has stopped can enable them to survive until professional help arrives. It can make the difference between life and death.

Most people can learn basic lifesaving skills, including cardiopulmonary rescucitation (CPR), at a local training centre. Lifesaving skills can be learned for free in just two hours.

What happens

A person's heart or breathing can stop as a result of a heart attack (cardiac arrest), drowning, electric shock or other injury. As a result, the organs do not receive a supply of oxygen-rich blood and begin to die. The brain is particularly vulnerable and can be damaged by just a few minutes without an adequate supply of blood.

Cardiopulmonary rescusitation (CPR) consists of giving rescue breaths (mouth-to-mouth breathing) and chest compressions. In some cases this can restart the heart and breathing. More commonly, such as after a heart attack, CPR circulates sufficient blood to lengthen the time before organ damage occurs. These precious minutes can be sufficient to allow for paramedics or doctors to arrive. The drugs and specialist equipment that they are trained to use will then have a much better chance of helping the casualty to survive.

Defibrillators

One of the most common causes of sudden death is a heart attack. During a heart attack, the electrical activity of the heart becomes chaotic rather than rhythmic. The main chambers of the heart, instead of pumping, contract in a useless, quivering action. This is known as ventricular fibrillation.

Defibrillators treat ventricular fibrillation by delivering an electric shock to the chest, and so indirectly to the heart. This can stop the stop the abnormal

electrical activity and restart the normal rythymic heartbeat.

Traditionally, defibrillators have been used by doctors, paramedics and other people trained in advanced life support.

Automated external defibrillators (AEDs)

These are defibrillator machines designed to be operated by members of the public. They are now sometimes available in public places such as shopping centres and railway stations, and on aeroplanes. The machines are easy to operate by people without advanced training and give spoken instructions.

It is crucial that the defibrillator is used promptly after a heart attack. Training in first aid and life support now often includes when and how to use an AED.

Training

The skills of emergency life support are not complicated and anyone who is interested in becoming a potential life-saver should consider attending a class, where the practical aspects can be demonstrated and practised.

The Heartstart initiative, co-ordinated by the British Heart Foundation, suggests that children as young as 10 years old, can learn CPR skills. Children as young as 5 can learn to dial 999 in an emergency.

For more about training providers, see *Further information*, overleaf.

The following information is an overview that matches the current advice from the Resucitation Council (see diagram, right). It may be a useful refresher for recently-trained first-aiders. However, others should not rely on it to replace proper training.

What to do in an emergency

Stay calm and remember, you can only do your best. First, use all your senses to assess the situation and make sure the area is free of hazards, particularly something that may have been responsible for the casualty you are about to care for.

If you have had first aid training, let others know and ask if anyone else has had training too - working together, you have a better chance of offering the best help to a casualty.

Once you have assessed the situation, you should quickly check the casualty's responses by talking to them and then by shaking their shoulders gently. If the casualty is conscious, put them in the recovery position - see over.

ABC of first aid

If the casualty is not conscious it is important to shout for help. Instruct a bystander to phone 999 and ask for an ambulance. You then need to perform the ABC of first aid. This stands for:

Airway
Breathing
Circulation

Airway

A casualty can breathe only if their airway is clear. An airway can be blocked when a person is unconscious and, for instance, their tongue falls to the back of their throat. To open a casualty's airway:

- place two fingers under the point of the chin
- put your other hand on the forehead
- lift their jaw and tilt the head back slightly
- remove any obvious debris that might block the airway

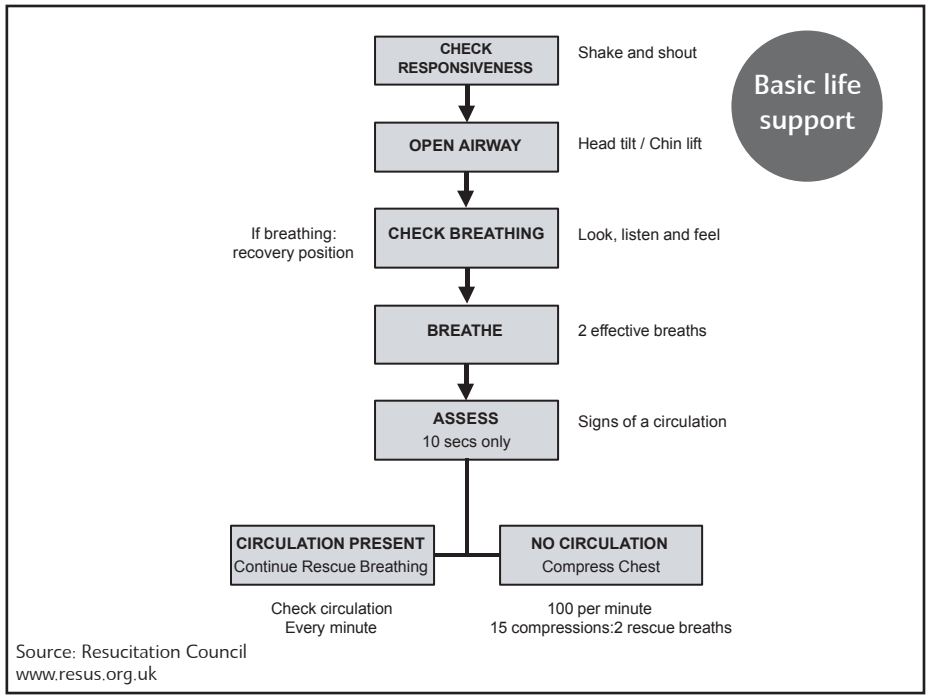
Breathing

Next, check if the casualty is breathing by:

- looking to see if their chest is moving up and down
- listening for their breathing by placing your ear next to their mouth
- feeling for the casualty's breath against your cheek

You need to perform this check for up to 10 seconds before deciding if the casualty is breathing.

If the person is not breathing, give two rescue breaths. This is mouth-to-mouth breathing. With the head tilted and chin up, pinch the nose and give sufficient air to make the chest rise. This takes about two seconds. Allow the air to come out of the casualty's mouth, then repeat. Next check for signs of circulation.



Source: Resucitation Council
www.resus.org.uk