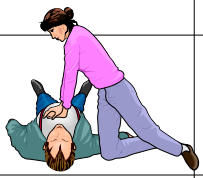
H & A TRAINING

CPR

CPR is the technique of the manual inflation of the lungs with oxygen, and compression of the heart, therefore pumping oxygenated blood around the body, and keeping the vital organs supplied with oxygen. It is used in an attempt to revive a victim who has had a Cardiac Arrest.

CPR when correctly performed has the chance to either restart the heart pumping normally or to continue artificial circulation, therefore preserving brain functions until medical help arrives, and cardiac defibrillation can be performed.

The casualty stands a better chance of survival if CPR is commenced as soon as possible after diagnosis is made and help is called.

Basic Life Support Flow Chart		
D	Check for danger 	Hazards / Risks / Safety
R	Check Response	If no response
S	Send for Help	000 / 112
A	Check Airway 	Open and clear airway Check for sign of life If signs of life are present and casualty is unresponsive roll them onto their side.
B	Check for Breathing	If not breathing or not breathing normally
C	Start CPR 	Perform 30 compressions then If willing give 2 breaths and repeat until help arrives or continue compressions
D	Use a Defibrillator	Attach an AED as soon as possible Defibrillator increases casualty's chance of survival

If an Ambulance is required - call immediately - do not delay

CPR - Compressions

Compressions

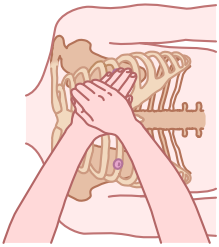
Compressions are performed on a casualty to pump blood around the body.

Infant from (0-1year)

On an infant we use two fingers in the middle of the sternum between the nipples and compress to 1/3 chest depth (about 1-2cm).

Children

On children we use one or two hands in the middle of the chest and compress to 1/3 chest depth.



Adults

On adults we use two hands in the middle of the chest and compress to 1/3 chest depth (about 5cm).

Rescue Breaths – CPR Guide

	Adult (over 14yrs)	Older Child (9 – 14yrs)	Child (1 – 8yrs)	Infant (birth - 1yr)
Head Tilt	Maximum	Maximum	Minimum	Nil
Pressure	Two Hands	Two hands	One hands	Two fingers
Depth	1/3 chest depth about 5cm	1/3 chest	1/3 chest	1/3 chest
Breaths	Full Breaths	Normal	Small	Puffs
Breaths	2	2	2	2
Compression rate	30	30	30	30
Compressions per minute	100	100	100	100

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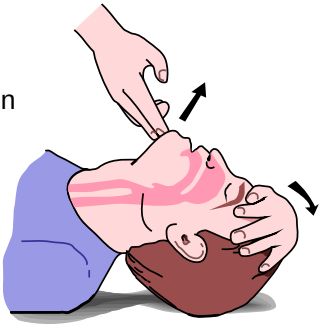
CPR - Breaths

Rescue Breathing

Rescue breathing is the method of artificial breathing for a casualty who is in Respiratory Arrest. Brain tissue will begin to expire after three to four minutes of being denied oxygen. Early resuscitation is essential to maintaining life and keeping the vital organs in the body oxygenated and alive.

There are five methods of performing Rescue Breathing

Mouth - to - mouth rescue breathing



Respirations are given via the mouth. Pinch the casualty's nose or seal the nose with your cheek. On an adult casualty, tilt the head back. On an infant, keep the head in the neutral position. Place your mouth over the casualty's mouth ensuring a tight seal, and blow. This is the most commonly performed method. Turn your head towards the casualty's chest when you inhale to see whether the chest is rising and falling.

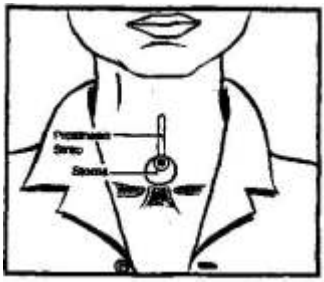
Mouth - to - nose rescue breathing

This method is used when the casualty's mouth cannot be utilised due to injury. It is also an easier method of rescue breathing when the casualty is in water. Respirations are given via the nose. Tilt the head back on an adult. On an infant, keep the head in the neutral position. Seal the casualty's mouth and place your mouth over their nose and blow. Do not compress the soft part of the nose with your mouth or you will block the airway. Remove your mouth after each breath, to allow for exhalation and look at the chest to check for the rising and falling of the chest.

Mouth - to - mouth-and nose rescue breathing

This method is used for babies and small children. The amount of air required to inflate the lungs of an infant or child is less than that for an adult. Rescue breaths are given via the mouth and nose. Keep the head level, place your mouth over the baby's mouth and nose, and puff.

Mouth - to - neck stoma method



Rescue breaths are given via a stoma in the throat. A stoma is an artificial opening located in the casualty's neck. The mouth and nose of the casualty must be sealed tightly. Place your mouth over the stoma and breathe into the stoma. The air will be exhaled via the stoma

CPR - Breaths

Mouth - to - mask rescue breathing

Rescue breaths are given via a resuscitation mask.

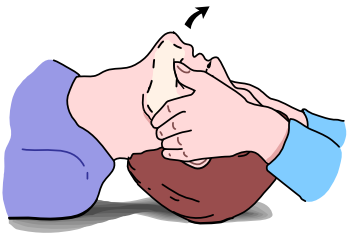
There are two types of resuscitation masks.

Mask 1: Disposable mask. Place the one-way valve into the casualty's mouth with the plastic sheeting over the nose. On an adult, tilt the head back, and place your mouth over the one-way valve and blow. (On an infant, keep the head in the neutral position). Remove your mouth after each breath to allow for exhalation and check for the rising and falling of the chest.

Mask 2. Full Facemask: The mask is fitted over the casualty's mouth and nose, ensuring a tight seal. The tube on the top of the mask is fitted with a one-way valve and thus decreases the risk of cross-infection. On an adult, tilt the head back. (On an infant, keep the head in the neutral position) Place your mouth over the one-way valve and blow. Remove your mouth after each breath to allow for exhalation and check for the rising and falling of the chest.

MOUTH TO MASK RESCUE BREATHING IS THE RECOMMENDED METHOD

- ✓ After each breath, turn your head towards the casualty's chest and check for the rising and falling of the chest. On an adult if the chest does not rise and fall, check that the head is tilted back and the airway is clear.
- ✓ Obstructions of the airway: If the airway is obstructed, clear it. If the casualty vomits, roll them onto their side and clear the airway. Return them onto their back and re-commence rescue breaths.
- ✓ Sometimes a casualty will cough; that is a sign that the casualty is breathing on their own.



CPR - Defibrillation

A defibrillator delivers a carefully measured charge of electricity to the chest. The defibrillator has a flat pad. By pressing a button when prompted, a shock goes to the heart, which can correct disorganised electrical conditions within the heart muscle and bring it back to a normal beating pattern.

Modern defibrillators (or AED – Automatic External Defibrillator) are semi-automated, and can possibly be found in companies and shopping centres.

If an AED is available this machine can be used by a trained first aider and is fully prompted.

Procedure:

- ✓ Turn AED on.
- ✓ Follow the prompts.
- ✓ Attach pads to chest.
- ✓ If a shockable rhythm is found the AED will prompt you to push the shock button.
- ✓ If no rhythm is found you will be prompted to commence CPR.
- ✓ Once shocks are delivered you will be prompted to re-commence CPR.

Cardiac Arrest

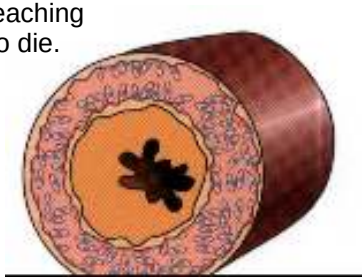
What is a Cardiac Arrest?

A Cardiac Arrest is when the **heart stops beating**, or the heart's rhythm is uncoordinated causing the heart to stop pumping blood, the casualty stops breathing and they are unconscious.

Common causes of a Cardiac Arrest

- Blockage of the arteries.

  This is caused by a build up in the arteries of cholesterol or fatty substances, blocking part or eventually all of the arteries and therefore blood cannot pass through to the heart muscle. Due to the blockage of the arteries, oxygenated blood is not reaching the cardiac muscle, causing the muscle to die.



- Electrocution
- Envenomation
- Drowning
- Shock

Signs leading up to a Cardiac Arrest

- Pain or a dull ache in the centre of the chest.
- Pain radiating down the arm, neck or jaw.
- The chest feels like it is being squeezed in a vice.
- Confusion
- Anxiety
- Sweating
- Skin is pale, cold, and clammy.
- Casualty looks grey and ill.
- Casualty has an irregular pulse.
- Casualty can collapse into unconsciousness.

Diagnosis of a Cardiac Arrest
UNCONSCIOUS
NO SIGNS OF LIFE

Treatment of a Cardiac Arrest

If an Ambulance is required - call immediately - do not delay