

# Cardiopulmonary Resuscitation (CPR)



A 3-4 minute delay from time of collapse to starting CPR can cause irreversible brain damage.

CPR must therefore be started ASAP and be performed as effectively as possible.

Cardiac arrest is diagnosed where there is no normal breathing and no obvious signs of life.

Assessing the collapsed casualty using DRs ABC

**Danger** - Ensure it is safe for you to approach the collapsed casualty

**Response** - Assess response by gently shaking them and talking loudly

**shout** - Shout for help (do this at any time)



**Airway** - Open airway with 2 hands using head tilt, chin lift manoeuvre – as picture shows and keep open whilst you assess for:

**Breathing** - Look for signs of normal breathing or normal movement for up to 10 seconds. Odd gasps or seizure type movements in an unresponsive casualty is not normal

IF BREATHING IS ABNORMAL OR ABSENT:

Ensure 999 is phoned and defibrillator obtained if available. If you have any doubt whether breathing is normal, act as if it is not normal.

## **CPR – Start 30:2 COMPRESSIONS:**

Place the heel of your hand in the centre of the chest.

Press down on the sternum at a depth of 5-6cm at a rate of 100-120 per min.

Once 30 compressions have been given:

Give 2 RESCUE BREATHS:

If it's safe to do so open airway using a head tilt, chin lift action. Pinch nose and place your mouth wide over casualty's own and give two breaths whilst keeping airway open.

The two breaths should take fewer than 10 seconds before restarting compressions again. Do not delay commencing compressions due to difficulty in giving breaths. Although less effective, constant compressions alone can be given if rescuer is unable or unwilling to provide breaths.

If an AED (Automated External Defibrillator) arrives, turn on and attach defib pads whilst continuing CPR. Follow AED voice instructions and meanwhile:

CONTINUE CPR 30:2 UNTIL:

Danger or AED advising **OR** help takes over **OR** you are exhausted **OR** casualty shows obvious signs of life and normal breathing.

## **Automated External Defibrillator (AED)**

### **EQUIPMENT TO BE KEPT WITH THE AED**

Defibrillation pads    ·    Towel    ·    Tough cut scissors    ·    Razors    ·    Gloves

### **APPLY THE AED**

Whilst CPR continues, expose the chest as quickly as possible by cutting through clothing. Remove anything that may cause the AED pads not to stick to the skin such as clothing and medication patches. Do not place pads on top of jewellery, place jewellery to one side. Shave/remove any excess thick chest hair under the right collar bone. Wipe away any sweat and moisture where the pads are to be placed.

Switch on the AED and apply the pads directly to the casualty's chest in the positions shown pictured on the pads.

If possible avoid placing the pads directly over surgically implanted devices such as pacemakers. The electrodes must be in contact with dry, clean and bare skin.

### **ANALYSIS**

When the pads are in place, the AED will advise you that the heart rhythm is being analysed and not to touch the casualty. Contact with the casualty during this process can disrupt the analysis resulting in an inappropriate decision to shock.

During the analysis process, advise any bystanders to stand clear avoiding any contact with or movement of the casualty.

### **SHOCK ADVISED**

If a shockable rhythm is seen by the AED, it will issue a "shock advised" voice prompt and will begin charging. During the charging period, check again by looking head to toe to ensure that there is no contact between the casualty, yourself or any bystanders. Issue a loud warning that a shock is about to be given and ensure bystanders stand clear. When the shock button starts to flash, repeat the warning then press the button. Immediately resume CPR (30:2) for 2 minutes. The AED will re-analyse and if the heart remains in a shockable rhythm the AED will advise a shock and charge again. It will not shock a casualty who is alive. It will only shock if needed.

Listen to the voice prompts and stand clear during analysis and shock delivery.

### **NO SHOCK ADVISED**

If the heart has no electrical activity (such as a flat line), the AED will not charge and will advise you to immediately resume CPR (30:2) for 2 minutes before it will again tell you to stop CPR and re-analyses. Continue listening and following the voice prompts until:

- Help arrives
- You are exhausted
- There is danger
- The victim starts to wake up, i.e. moves, coughs, talks or opens eyes AND is BREATHING NORMALLY.

### **SAFE DEFIBRILLATION**

The following safety precautions should be followed when using an AED:

- Attach the AED only to a casualty who is unresponsive and not breathing normally.

- Make sure no one (including yourself) is in contact with the casualty during analysis and shock delivery.
- Ensure the pads are firmly stuck to the casualty's bare chest.
- Avoid contact with any standing water or metallic surfaces during analysis and shock delivery.
- Ideally child pads should be used up to the age of 8. Some AEDs have a child setting / a switch that allows it to be used on a child. If these options are unavailable, use the AED as it is.

## Infant and Child CPR

Many children do not receive resuscitation because potential rescuers fear causing harm. This fear is unfounded; it is far better to use the adult CPR sequence for resuscitation of children than to do nothing.

***Use the adult sequence for children who are not responsive and not breathing normally, with the single modification that the chest should be compressed by at least a 1/3 of its depth.***

However, the following minor modifications to the adult sequence will make it even more suitable for use in children:

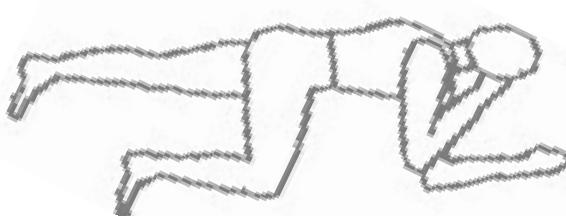
Having established that the child appears to be in cardiac arrest:

- Give 5 initial rescue breaths before starting the first set of 30 chest compressions
- After giving 30 compressions give 2 breaths and continue 30:2
- If you are on your own, continue CPR 30:2 for 1 min before dialling 999, then continue CPR until help takes over.

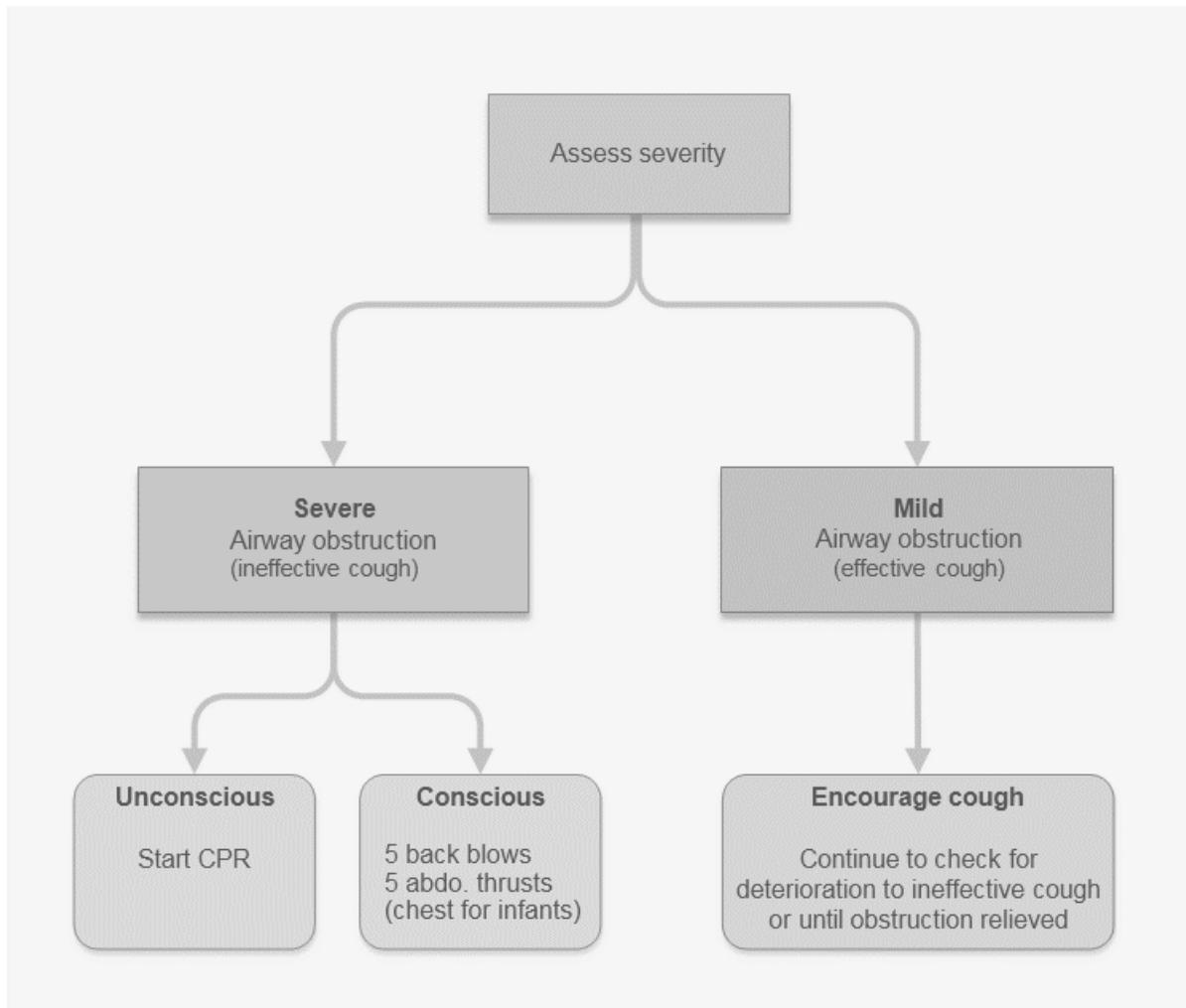
When performing CPR, the chest should be depressed by at least one third of the chest, or by 4 cm for the infant and 5 cm for the child - don't be afraid to push hard. Use two fingers for an infant under 1 year; use one or two hands for a child over 1 year to achieve an adequate depth of compression.

## Recovery Position for the Unconscious and Breathing Casualty

Please Sir, Slap my Face and Roll me over



## Choking treatment for all ages – Rule of 5s



*Algorithm Poster kind permission of www.resus.org.uk*

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