**Cardio-Pulmonary Resuscitation (CPR) article**

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Hi everyone, hope you are all well. The next patient meeting is all about CPR. CPR is very important as it gives more time for an emergency ambulance crew and/or a defibrillator to arrive if the collapsed person is in a dangerous heart rhythm such as ventricular fibrillation (VF) or ventricular tachycardia (VT).

CPR is performed when someone is in cardiac arrest. This is different to having a heart attack, or myocardial infarction. Cardiac arrest is when the electrical impulses which make the heart beat have changed to either VF, VT, asystole (when there is no electrical activity at all), or pulseless electrical activity or PEA (when there is electrical activity but this does not make the heart muscle contract).

Heart attack is when the blood supply to part of the heart becomes blocked and the heart muscle starts to die.

Those of you who have a device (an ICD or CRT-D) will receive “therapy” from your device within about 10 seconds of you collapsing if you have VF or VT.

But what about everyone else? Your family, friends or a stranger? Would you know what to do if they collapsed and lost consciousness?

This article will explain how to do CPR, and where to find further information on the internet. At the patient meeting, you will receive a talk on CPR and maybe practice performing CPR on a resuscitation dummy. You can practice CPR safely, with full support from us and ask questions throughout.

Here we go!

1. Someone has just collapsed. Check it is safe to approach them, then see if they are responsive. Place one hand on the forehead, and the other hand on the shoulder. Tap the shoulder and clearly say “are you okay?”. If there is no response or breathing is abnormal, call for help.
2. If you are alone, call 999 on your mobile with the speaker on. Tell the 999-call handler someone has collapsed, is unresponsive and is not breathing (normally). If someone is nearby, ask them to do this.
3. Ask someone to bring an Automated External Defibrillator (AED) if one is nearby and available.
4. Begin CPR immediately.
5. Kneel beside the person and place your hand over the centre of the chest over the breastbone (sternum). See the photo above. Place your other hand on top and interlink your fingers. Lift your fingers upwards so they are not touching the sternum.
6. Make sure your shoulders are directly above the persons chest. Keeping your arms straight, press down 5-6 cm. Aim to do 100 to 120 compressions per minute.
7. Make sure the chest fully rises before performing the next compression. Do compressions 30 times.
8. Rescue breaths should now be performed if you are happy to do these, and you are trained and able to do so. If you cannot/do not want to give rescue breaths, continue chest compressions.
9. Make sure the airway is open by tilting the head up and placing 2 fingers under the chin. Lift the chin up.
10. With one hand pinch the soft part of the nose and place the thumb of your other hand on the chin to open the mouth.
11. Take a deep breath and seal your mouth around theirs.
12. Blow steadily into the mouth for about 1 second.
13. The chest should rise when you blow air into their mouth and fall when you remove your mouth. If the chest does not rise, try again from step 9.
14. Continue performing 30 compressions and 2 rescue breaths until help arrives, the person shows signs of a response or if alone, you are exhausted.
15. Keep any interruptions in performing CPR to a minimum, for example when switching from compressions to rescue breaths.
16. If an AED is available, open the AED and turn it on. Attach the defibrillator pads. Follow the instructions.
17. The AED will first need to determine what heart rhythm the person has. In order to do this, defibrillator pads need to be placed over the chest. The AED will talk you through this. Only stop CPR when the AED tells you to stop.
18. Depending on the rhythm, the AED will either advise you to give a shock using the defibrillator pads or advise that CPR continues.
19. If a shock is advised, make sure no one, including yourself, is touching the person.

**When to stop CPR**

Stopping CPR happens when one or more of the following occurs

* You are physically exhausted and there is no one else available to take over
* The emergency ambulance crew has arrived and are taking over
* The person shows signs of recovery
* CPR has been ongoing for a long time and further attempts at performing CPR will likely be unsuccessful.

You would not normally be in a position where you must make this decision, except if you are alone and exhausted.

If the person shows signs of a response, you may see one or more of the following: -

1. Speaking
2. Moving
3. Rolling over or trying to sit up
4. Breathing
5. Opening their eyes
6. Groaning/crying/shouting/gasping
7. They may be disorientated or confused
8. Raising a limb

With a calm voice, tell them they are on the floor, they had collapsed, and that help is on the way. Keep them on the floor and warm. If they feel well enough to sit up, ask them if they hurt anywhere first.

Their chest may hurt because you have performed chest compressions. Some ribs may be broken but these will heal. Look for any injuries. Ask them their name and date of birth. Ask if they are on any medicines. If anyone is with them, ask someone to look after them as they may be upset and afraid.

Once the ambulance crew has arrived, if CPR is still ongoing, let them take over. When they are ready, the ambulance crew will likely ask you what happened and what you did. Give them as much detail as you can.

The person will be taken to the nearest hospital for further assessment and treatment. You have just saved someone’s life!

Performing CPR is frightening. Adrenaline pumps through your body, making your heart beat fast and your breathing quicken. Releasing adrenaline is a normal response to fear, shock or defence against danger. This is known as the “fright, fight, flight” response.

You may not be aware of this until after the event. Concentrate on breathing slowly and steadily and try to stay calm. The effects of an adrenaline surge wear off quickly and do not harm you.

**The recovery position**

If someone is showing signs of recovery it is important that you continue to monitor their condition so that deterioration can be spotted quickly. You do not need to be medically trained to do this.

Think ABCR

Airway

Breathing

Circulation

Recovery position

Airway – are they able to speak? Talk to the person at regular intervals, ask them a question like how are you feeling? Are you ok? Generally, if they can speak, their airway is open.

Breathing - is their breathing normal? Are they wheezy or chesty? Are they breathing normally, too fast or too slow? Are they coughing?

Circulation – what colour is their skin? What colour are their fingers, nails, lips? Do they appear blue? This is called cyanosis and is a sign of poor circulation and lack of oxygen. If you know how to check the pulse, how many beats per minute are there? Is it regular or irregular? Is it fast or slow? Is the pulse strong or weak?

Recovery position – this is what the recovery position looks like



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This position helps keep the airway open, allows air to enter the lungs and the lungs to inflate. It enables you to assess the persons condition regularly and to spot any changes in their situation. The recovery position is advisable providing there are no severe injuries, especially to the head, neck, spine or lower limb bone fractures.