**CPR**

**DELIVERED WITHIN THE DENTAL PRACTICE**

**Resuscitation Council (UK) 2015 guidelines**

**Introduction**

The General Dental Council (GDC) expects dental care professionals to be able to deal with medical emergencies that may arise in their practice and that all healthcare professionals have a duty of care to be competent in CPR.

**Resuscitation as a dental team**

A team approach to medical emergencies is essential, and a key focus of the 2015 guidelines is that CPR should become a team effort, with members performing several actions simultaneously. For example, one calling for the emergency services while a second starts immediate chest compressions and a third and possibly fourth retrieve the AED and oxygen respectively. The aim is to reduce the time between cardiac arrest, high quality chest compressions and defibrillation, prior to transfer for definitive post-resuscitation care.

**This is known as the chain of survival.**



The 2015 guidelines contain a number of educational recommendations and emphasise continual education and training for those with a “duty of care”. The dental team have a duty of care. CPR knowledge and skills deteriorate in as little as three to six months and the use of refresher training will help to maintain their knowledge and skills. Training should focus on building a team as each rescuer arrives and should include the use of an AED (Automated External Defibrillator), as well as oxygen delivery methods using various masks and airways.

**Basic Life Support**

This is a summary of the most important evidence-based recommendations from the 2015 guidelines for out-of-hospital, adult basic life support (BLS) and the use of the automated external defibrillator (AED).

* Guidelines 2015 highlights the critical importance of the interactions between the emergency medical dispatcher, the lay-person who provides cardiopulmonary resuscitation (CPR) and the timely deployment of an AED. The effective, co-ordinated response that draws these elements together is the key to improving survival from out-of-hospital cardiac arrest.
* The emergency medical dispatcher plays an important role in the early diagnosis of cardiac arrest, the provision of dispatcher-assisted CPR (also known as telephone CPR) and the location and dispatch of an AED. The sooner the emergency services are called, the earlier appropriate treatment can be initiated and supported.
* The knowledge, skills and confidence of the dental team will vary according to the circumstances, of the arrest, level of training and prior experience. The lay-person who is trained and able should assess the collapsed victim rapidly to determine if the victim is unresponsive and not breathing normally and then the emergency services should be alerted immediately. This should be done without leaving the victim alone if possible.
* The victim who is unresponsive and not breathing normally is in cardiac arrest and requires CPR. Immediately following cardiac arrest blood flow to the brain is reduced to virtually zero, which may cause seizure-like episodes that may be confused with epilepsy. Lay-persons and emergency medical dispatchers should be suspicious of cardiac arrest in any patient with seizures and carefully assess whether the victim is breathing normally.

There is also more emphasis on the use of AED as part of the sequence of CPR.

The signs of recovery have also changed slightly, you should now continue CPR unless “the casualty is definitely waking up, moving, opening eyes and breathing normally.”

**The Resuscitation Council have also given a list of key messages from the 2015 Guidelines**

* Ensure it is safe to approach the victim.
* Promptly assess the unresponsive victim to determine if they are breathing normally.
* Be suspicious of cardiac arrest in any patient presenting with seizures and carefully assess whether the victim is breathing normally.

**For the victim who is unresponsive and not breathing normally:**

* Dial 999 (or 112) and ask for an ambulance. If possible stay with the victim and get someone else to make the emergency call.
* Start CPR and send for an AED as soon as possible.
* If trained and able, combine chest compressions and rescue breaths.
* If an AED arrives, switch it on and follow the instructions.
* Minimise interruptions to CPR when attaching the AED pads to the victim.
* Do not stop CPR unless you are certain the victim has recovered and is breathing normally, or a health professional tells you to stop.
* Treat the victim who is choking by encouraging them to cough. If the victim deteriorates give up to 5 back slaps followed by up to 5 abdominal thrusts. If the victim becomes unconscious – start CPR.
* The same steps can be followed for resuscitation of children by those who are not specifically trained in resuscitation for children – it is far better to use the adult CPR sequence for resuscitation of a child than do nothing.

**The Adult CPR Sequence**

**1.** Check for danger to yourself, and bystanders. Shout for help.

**2**. Check for a response. (“Are you all right?”/Shake shoulders).

**3. If victim responds:**

 Place into recovery position if possible. Deliver oxygen via the non re-breathing face mask. Send for the emergency services if necessary.

**4. If victim does not respond:**

Open the airway using the head tilt chin lift procedure.

**5.** Keeping the airway open, assess for **normal** breathing. (In the first few minutes after cardiac arrest, a victim may be barely breathing, or taking infrequent, noisy gasps. These are termed “Agonal Gasps” and must not be confused with normal breathing.)

**6. If breathing is normal:**

 Place into recovery position. Send for the emergency services. Deliver high flow oxygen via the non re-breathing face mask and monitor the breathing constantly.

**7. If not breathing normally:**

Ask someone to phone for the emergency services and bring an AED if no-one else is available to do so. Otherwise delegate jobs in order of importance: send for the emergency services, fetch the AED, fetch the oxygen and breathing apparatus.

**If you are alone, you must call the emergency services and apply the AED before starting CPR.**

**8.** Start chest compressions:

Aim for a depth of at least 5cm at a rate of 100-120min.

Compression and release should take an equal amount of time

**9.** After 30 compressions 2 inflations should be given using high flow oxygen and bag-valve-mask. Each should take no more than one second and take no more than 5 seconds overall. 30 compressions should then be recommenced without delay.

**Initially, more than 30 chest compressions may have to be performed, as it is important not to stop until the oxygen is switched on and the second rescuer has the mask in position ready to deliver inflations.**

Continue at a rate of 30:2

If possible, a third member of the team should position themselves opposite the person delivering the compressions so that they can take over when the first rescuer starts to tire. They can then work together to ensure that effective compressions are delivered at all times.

**Do not interrupt resuscitation to recheck the victim unless they start to show signs of regaining consciousness (moving, opening eyes, breathing normally).**

**REMEMBER**

Do not stop CPR unless:

* There are obvious signs that the casualty is recovering (see above)
* The paramedics ask you to stop
* The AED tells you to stop CPR and stay clear of the casualty. (This is important in order for an analysis of the heart rhythm to be obtained, and if a shock needs to be delivered.)
* You are too exhausted to continue.

**Improving survival from out-of-hospital cardiac arrest**

The Resuscitation Council (UK) recommends that improve survival from cardiac arrest:

* All school children are taught CPR and how to use an AED.
* Everyone who is able to should learn CPR
* Defibrillators are available in places where there are large numbers of people (e.g. airports, railway and bus stations .shopping centres, sports stadiums etc.), increased risk of cardiac arrest (e.g. gyms, sports facilities), health centres, G.P. and dental practices, or where access to emergency services can be delayed,(e.g. rural communities).
* Owners of defibrillators should register the location and availability of devices with their local ambulance services.
* Systems are implemented to enable ambulance services to identify and deploy the nearest available AED to the scene of a suspected cardiac arrest.
* All out-of-hospital cardiac arrest resuscitation attempts are reported to the National Out-Of-Hospital Cardiac Arrest Audit. [www.warwick.ac.uk/ohcao](http://www.warwick.ac.uk/ohcao).

**STANDARD SIGN FOR AED**

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