

Automated External Defibrillators (AED)'s by Lisa Mattei Daisy First Aid Dorchester, Purbeck and Weymouth

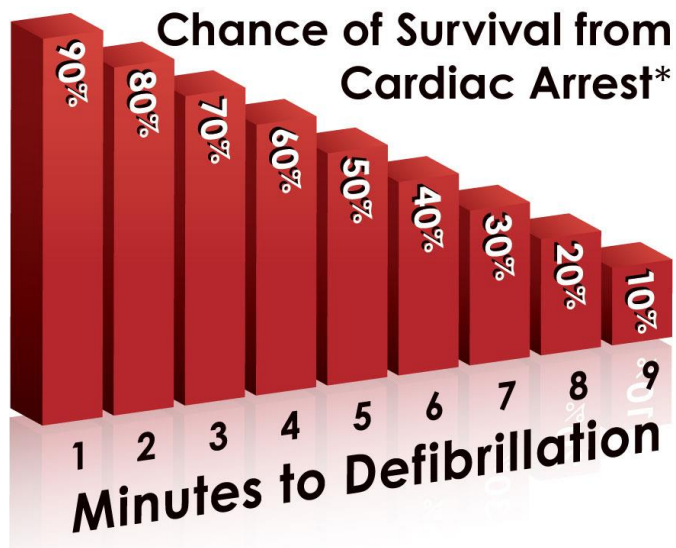
You might have heard of or seen boxes with signs saying AED (Automated External Defibrillator) or Public Access Defibrillator, in various locations around towns, cities and villages.

Automated External Defibrillators are devices which can be accessed by the public, should somebody collapse in cardiac arrest. A cardiac arrest is when the heart stops pumping. The person who has collapsed will be lifeless and not breathing. However, the heart itself might still be sparking electricity, although not effectively enough to help the heart to pump. This chaotic electrical sparking will only usually last for up to ten minutes until the heart stops completely. This sparking can be 'jump started' by a defibrillator, hopefully causing the heart to go back into the proper electrical rhythm to pump effectively again. Unfortunately, not everyone in Cardiac Arrest has this electrical activity, sometimes the heart has just stopped, thereby the defibrillator won't work.

One of the conditions which could lead to an AED being needed is a heart attack, also called a 'Myocardial infarction'. A heart attack is when a clot is blocking one of the blood vessels around the heart. The person will often get chest, jaw, back, arm pain with this and feel very unwell, the treatment is to get to hospital as soon as possible dialling 999 immediately. Some patients with heart attacks, go on to have cardiac arrests, as the heart can become irritable, due to lack of oxygen caused by the clot. This is one of the main group of people who might require an Automated External Defibrillator.

If you find an adult collapsed and not breathing call 999, if there are two of you, then one should start CPR which stands for Cardiopulmonary Resuscitation. Chest compressions on their own can be done if the person collapsed is and adult, whilst waiting for more help, although ideally you would do 30 compressions to 2 breaths. Training Courses are great ways to learn these skills, so that you can practice and become confident that you know what to do in an emergency. Hands





should be placed in the centre of the chest, and push down 5-6cm in adults, 4-5cm in children (at least one third of the depth of the chest), with straight arms, right over the patient. You then compress at a rate of 100-120. In the meantime, the other person should have called 999, stating there was an adult not breathing.

The ambulance call centre will tell you where the nearest Automated External Defibrillator is. That person should get the device. They bring it to the patient and

press the 'on' button. The other person continues CPR. The AED will talk to you; it will ask you to attach defibrillator pads. These are sticky pads which go on the chest, it shows you where to put them. Most devices have scissors with them so that you can cut through clothing if needed. The machine will then ask everyone to stand clear. You should repeat this, and stand back while the machine analyses whether the patient is in a 'shockable' rhythm or not. If so, it will ask you to shock, and you stand back and press the 'Shock' button, which is usually orange. The most important thing is that no one including yourself is touching the patient when the shock is delivered. After the shock the machine will ask you to carry on CPR. It will time 2 minutes then analyse again. During this time CPR must continue until help arrives, or the patient shows signs of life or you are exhausted. These are Resuscitation Council (UK) Guidelines.

Frequently Asked Questions

1. Can you hurt someone if you get it wrong?

The Automated External Defibrillator won't work if the person is not in Cardiac Arrest, and in a shockable rhythm. It will say 'no shock advised'. So no, the most likely way you could accidentally hurt someone is if you press 'shock' when someone else is touching the patient.

2. Can you use the defibrillator on children?

Most new AED's have a paediatric button, so that you can change the energy to paediatric level for young children or they have paediatric adaptors. Children are less likely to be shocked, as the more likely cause of their collapse is lack of oxygen, rather than an irritable heart. However, it could happen for especially if they have a heart condition. If the AED doesn't have a button to lower the energy, call 999, and if there is no other defib or help available, it is still advised to attach the machine, as this is their best chance of survival if they are in a shockable rhythm. In children 5 breaths are delivered as soon as we know the patients isn't breathing, then CPR at a ratio of 30:2. One hand is used for small children, and 2 fingers for babies when delivering chest compressions.

3. Can you use the defibrillator in the wet?

You need to dry the chest before you attach the sticky pads, then make sure you are not standing in a pool of water or touching the patient when you deliver the shock. Be as safe as you can in this situation.

4. Can anyone use the AED's?

AED's are intended for public use, so yes, however to increase confidence, reinforce safety and practice CPR, attending a workshop, training or familiarisation session is advised.

5. Do you need to shave the chest to put the pads on?

Only if the patient is extremely hairy! The pads stick really well, so in most cases you won't need to. There should be a razor in with the AED.