St Paul's CE Primary School

Automated External Defibrillator (AED) Policy

Agreed by Governing Body on:	19.5.21
Policy Review Date:	May 2024

Introduction

An AED is a machine used to give an electric shock when a person is in cardiac arrest, i.e. when the heart stops beating normally. Cardiac arrest can affect people of any age and without warning. If this happens, swift action in the form of early cardiopulmonary resuscitation (CPR) and prompt defibrillation can help save a person's life.

In 2013, emergency medical services attempted to resuscitate approximately 28,000 cases of out-of-hospital cardiac arrest in England. Overall survival rates vary across the country, but range between 2% and 12%. However, survival rates as high as 75% have been reported where CPR and defibrillation are delivered promptly. This is why the statutory guidance on supporting pupils at school with medical conditions advises schools to consider purchasing an AED as part of their first-aid equipment. St Pauls AED was donated by the Connor Saunders Foundation, kindly supported by members of OS&B Society.

Cardiac arrest and heart attacks

It is important to understand the distinction between a heart attack and cardiac arrest as they are not the same, and require different interventions.

CPR and/or the use of an AED is not appropriate for an individual experiencing a heart attack and who is conscious, as the heart will still be beating, and the device will not administer a shock in these circumstances.

However, a heart attack is still a life-threatening situation, and the emergency services should be alerted immediately. A heart attack can also very quickly lead to cardiac arrest, in which case administration of CPR and use of an AED may help to save the person's life.

Cardiac arrest

Cardiac arrest is when the heart stops pumping blood around the body. It can be triggered by a failure of the normal electrical pathway in the heart, causing it to go into an abnormal rhythm or to stop beating entirely. Oxygen will not be able to reach the brain and other vital organs. When a cardiac arrest occurs, the individual will lose consciousness and their breathing will become abnormal or stop. If basic life support is not provided immediately, the chances of survival are greatly reduced. Cardiac arrest can happen at any age and at any time. Possible causes include:

- heart and circulatory disease (such as a heart attack or cardiomyopathy)
- loss of blood • trauma (such as a blow to the area directly over the heart)
- electrocution
- sudden arrhythmic death syndrome (SADS; often caused by a genetic defect)

When a cardiac arrest occurs, CPR can help to circulate oxygen to the body's vital organs. This will help prevent further deterioration so that defibrillation can be administered.

Heart attack

A heart attack (sometimes referred to as a myocardial infarction), is caused by a clot forming in one of the arteries that supply blood to the heart muscle. This prevents oxygen from getting to a particular region of the heart. As a result, cells in this region start to die. The longer this continues, the more damage is caused to the 11/19 muscle. This damage is permanent. However, as the heart is still beating, CPR and defibrillation are not appropriate.

Not all people experiencing a heart attack will experience pain or discomfort. They will often remain conscious throughout. However, a heart attack is a serious, life-threatening emergency that requires immediate treatment and can trigger a cardiac arrest.

If a person experiences a heart attack, the correct course of action is to call 999 immediately. The person should be made comfortable, ideally seated on the floor supported by a wall or a person knelt behind them, and reassured until the ambulance arrives.

Heart attacks are very rare among children, but the number of incidents in the adult population means that coronary heart disease (the most common cause of heart attacks) is the leading cause of death in the UK.

5 Common symptoms of a heart attack include:

• chest pain or tightness, like a belt or band around the chest, and which is not relieved by rest
• pain which may spread to neck, jaw, back and arms
• feeling sick, sweaty, short of breath, lightheaded, dizzy or generally unwell along with discomfoin the chest

The chain of survival In the event of a cardiac arrest, defibrillation can help save lives, but to be effective, it should be delivered as part of the chain of survival. The Chain of survival

Figure 1: The chain of survival

There are four stages to the chain of survival, and these should happen in order. When carried out quickly, they can drastically increase the likelihood of a person surviving a cardiac arrest. They are:

1. Early recognition and call for help. Dial 999 to alert the emergency services. The emergency services operator can stay on the line and advise on giving CPR and using an AED.
2. Early CPR – to create an artificial circulation. Chest compressions push blood around the heart and to vital organs like the brain. If a person is unwilling or unable to perform mouth-to-mouth resuscitation, he or she may still perform compression-only CPR.
3. Early defibrillation – to attempt to restore a normal heart rhythm and hence blood and oxygen circulation around the body. Some people experiencing a cardiac arrest will have a ‘non-shockable rhythm’. In this case, continuing CPR until the emergency services arrive is paramount.

4. Early post-resuscitation care – to stabilise the patient.

Anyone is capable of delivering stages 1 to 3 at the scene of the incident. However, it is important to emphasise that life-saving interventions such as CPR and defibrillation (stages 2 and 3) are only intended to help buy time until the emergency services arrive, which is why dialling 999 is the first step in the chain of survival. Unless the emergency services have been notified promptly, the person will not receive the post-resuscitation care that they need to stabilise their condition and restore their quality of life (stage 4).

The chain as a whole is only as strong as its weakest link. Defibrillation is a vital link in the chain and, the sooner it can be administered, the greater the chance of survival.

Defibrillation and cardiopulmonary resuscitation (CPR)

When a person suffers a cardiac arrest, it is essential for effective CPR to be initiated as soon as possible; only dialling 999 should take precedence. The person performing CPR should not stop except where this is necessary in order to attach the pads or when instructed to do so by the AED, usually before it delivers a shock. If possible, somebody else should attach the pads to the patient while CPR continues.

An AED will only administer a shock if the patient's heart is in a shockable rhythm. The application of CPR can maximise the opportunities for defibrillation to be administered effectively. The AED will continue to analyse the patient's heart rhythm after each shock and will provide ongoing instructions about continuing CPR.

Some cardiac arrest patients will not present with a shockable rhythm (i.e. one which is suitable for defibrillation), and the AED will not administer a shock. In such cases, it is essential that CPR is maintained until the emergency services arrive.

Location and access

In view of the importance of responding swiftly to a cardiac arrest, AEDs should be located strategically to ensure that they can be accessed quickly in an emergency. Our defibrillator is located in our Reception area. It is held within a carry case and is mounted on the right hand wall outside the headteacher's. (see standard sign below)

Schools should always ensure that the local ambulance service is informed of the make, model and location of the AED, and any access arrangements, in order to assist 999 operators and ambulance crews.

Training

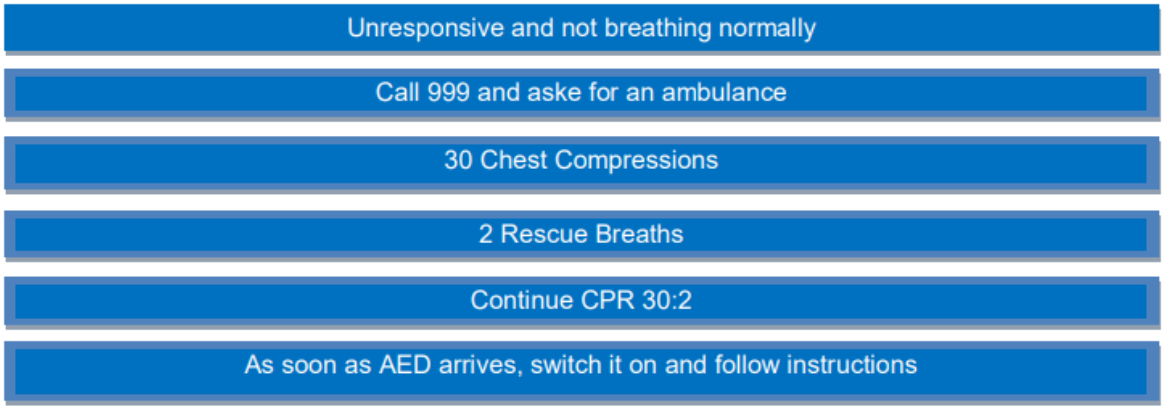
AEDs, as work equipment, are covered by the Provision and Use of Work Equipment Regulations 1998 (PUWER), and as such this places duties on employers in respect of employee training and the provision of information and instructions in the use of such equipment. However, AEDs are designed to be used by someone without any specific training and by following step-by-step instructions on the AED at the time of use. It should therefore be sufficient for schools to circulate the manufacturer's instructions to all staff and to provide a short general awareness briefing session in order to meet their statutory obligations. Schools may want to use this opportunity to raise awareness of the AED in school and to promote its use should the need arise.

Michelle Lord (Headteacher), Amanda Easton (Deputy Head), Sharron Bish (Office Manager) and Julia Cripps (Administration Assistant) have been trained on the use of AEDs as part of their First Aid training. All other staff who are first aid trained received training as part of the first aid refresher course.

Action Plan

A resuscitation plan sets out best practice, including how and by whom tasks should be carried out.

If one person is on the scene, they should immediately call the emergency services - 999 (step 1 of the chain of survival) and start CPR immediately afterwards (step 2). If two people are on the scene, one should call the emergency services while the other starts CPR. The person administering CPR should not leave the casualty unless absolutely essential. Where possible, it is suggested that arrangements are implemented to enable the AED to be brought to the scene by someone already close to its usual location, as this is likely to be quicker than sending somebody to fetch it. Our plan of action sets out the procedure for collecting the AED from the school foyer.



After an incident

Most AEDs will store data, which can subsequently be used to assist with ongoing patient care. Schools should therefore contact the local ambulance service after an AED has been used and make arrangements for the data to be downloaded. In the meantime, the AED may still be used if required, but care should be taken not to turn it on and off unnecessarily as this could potentially erase the data.

Schools should ensure that the AED is ready for use again by replacing pads and other consumables as required, and ensure that it is not displaying any warning lights or messages. Schools should also be aware that where a cardiac arrest occurs as a result of an accident or act of physical violence arising out of or in connection with work, this may constitute a reportable incident under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR). Reporting requirements will differ according to whether the individual suffering the cardiac arrest is an employee (e.g. a teacher or member of support staff) or a non-employee (e.g. a pupil, parent or visitor). Further information can be found in the Health and Safety Executive guidance on incident reporting in schools.

Safety considerations

AEDs are safe to use for all those involved, and will give a verbal warning instructing the rescuer to stand back when analysing heart rhythm and prior to delivering a controlled electric shock. A rescuer may accidentally be subjected to a defibrillation shock if he or she does not heed this warning, but this is unlikely to cause significant harm. Standard AEDs are suitable for use on people of all ages, except small children aged under 12 months. For children aged 1–8, it is recommended that AEDs be used in paediatric mode or with paediatric pads. However, adult pads may be used if paediatric pads are not available. Rescuers should not hesitate to use an AED on a pregnant woman in cardiac arrest, as resuscitation of the pregnant mother is the only way to keep her unborn child alive. Early defibrillation can therefore help provide the best chances of survival for both the unborn child and the mother. When calling 999, it is advisable to notify the operator that the casualty is pregnant as this may determine which response crew/vehicle is required.

Accessories and consumables

Every AED should be kept with a number of accessories/consumables to ensure that it is always ready for use.

Schools are advised to keep minimum supplies of spare electrode pads, protective gloves, safety razors, pocket masks/face shields and dry wipes (if applicable) on-site so that the AED is not left unusable whilst awaiting replacements.

Even when an incident has not taken place, batteries and pads have finite service lives, and should be replaced after the period of time specified by the manufacturer.

Maintaining the AED

Modern AEDs undertake regular self-tests and, if a problem is detected, will indicate this by means of a warning sign or light on the machine. Schools should ensure that they have a procedure in place for AEDs to be checked for such a warning on a regular basis. This will be the responsibility of St Paul's and will form part of the AED policy.

Software updates

Every five years, new UK and European resuscitation guidelines are issued. This may mean that it is necessary to update the AED software accordingly. The manufacturer of the AED should be able to arrange to do this, possibly in partnership with the local ambulance service. All suppliers providing AEDs as part of the arrangements put in place by the Department for Education must agree to provide such updates to schools free of charge.

Appendix 1

AED OPERATOR TRAINING RECORDS

Name of AED operator	Date of initial training	Date of refresher training	Date of refresher training	Date of refresher training	Date of refresher training	Comments

Signed ……. Chair of Governors. Date:……..

Signed ……. Headteacher. Date:…….