



Automated External Defibrillator (AED) GUIDELINES FOR SCHOOLS



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Automated External Defibrillators (AED's) are portable devices used to induce electrical stimulation to the heart muscle in the event of a cardiac arrest. Early access defibrillation is recognised as a significant factor in a persons survival following sudden cardiac arrest.

Sudden cardiac arrest can occur when your heart beat is so fast it quivers instead of pumping blood to the body and brain. Untreated, it can lead to death in minutes. The most effective way to treat this form of sudden cardiac arrest is CPR and defibrillation. Defibrillation gets your heart back into its normal rhythm.



For the period 1 July 2014 to 30 June 2016 this is the Automated External Defibrillator on the ELB's procurement schedule (Ref: 60929).

This guidance document is not an operating manual for the HeartSine samaritan 350P.



INTRODUCTION

This guidance document has been compiled on behalf of the Northern Ireland Education and Library Boards (ELB) and the Council for Catholic Maintained Schools (CCMS). The information is intended to provide guidance and support for schools who have, or are considering to purchasing an AED, and to dispel any myths and misconceptions on their use. It will also advise schools on their procurement, placement, care and required training.

At present there is no statutory legal requirement for schools to have a defibrillator; however The Health and Safety (First Aid) Regulations NI (1982) do not prevent an employer from providing defibrillators which could be of benefit to both their employees and visitors to the school. It states 'Where an employer decides to provide a defibrillator in the workplace, it is important that those who may use it are appropriately trained'

If the decision is taken by a school to purchase an AED, training and use of the AED must be considered in the context of the school's first aid risk assessment. Having an AED is an optional addition to First Aid provision in any school. The purchase of an AED and subsequent training of staff in the use of the school AED will not replace the employers legal responsibility under The Health and Safety (First Aid) Regulations NI (1982) to provide the appropriate number of suitably qualified First Aiders within the school.

It is important to note that it is more likely for an adult such as a member of staff, a parent or a visitor to the school to require the use of an AED than a child. If a child within the school has an existing heart condition then the school should in the first instance, seek advice from the parents. It may also be beneficial to seek additional advice from GP's, Community Paediatric Medical team and Regional Congenital Cardiac Service to ensure an appropriate care plan is in place for that child.

BACKGROUND

According to Northern Ireland Ambulance statistics in 2011/12 approximately 1400 cardiac arrests occurred outside of the hospital environment. A very small number of these were children. The number of under 18's who have experienced a cardiac arrest in Northern Ireland each year is estimated at less than fifteen per year. Most of these arrests occur not on the sports field but as a result of other medical emergencies such as a drug overdose, choking incident or seizure. It is important to recognise that due to the random nature of cardiac arrest it is not possible with a high degree of accuracy to determine where or when an arrest will happen. However cardiorespiratory arrest is much less common in children than in adults.

The use of an AED and Cardio Pulmonary Resuscitation (CPR) go hand-in-hand. There are many initiatives whose aim is to instruct members of the public in CPR, including children.

There are a number of initiatives whose key aim is to teach members of the public, including children, cardio pulmonary resuscitation (CPR) The evidence shows that the greater number of people trained in CPR, the increased likelihood of providing this lifesaving skill in the event of a medical emergency.

IMMEDIATE HELP is vital to a person's chance of survival and recovery. The Chain of Survival is a concept which is well recognised internationally and which shows a series of actions that improve a person's chance of surviving a cardiac arrest. The Chain of Survival is only as strong as its weakest link.



THE FOUR LINKS IN THE CHAIN ARE:

-  **early recognition, to prevent cardiac arrest;**
-  **early CPR, to buy time;**
-  **early defibrillation, to restart the heart; and**
-  **post-resuscitation care, to restore quality of life.**

It is important to note that defibrillation is the third link in the chain and to maximise its effectiveness link one and two must have been achieved. It is important that CPR continues during the time it takes to locate a defibrillator.

WHEN A CARDIAC ARREST IS RECOGNISED IT IS THE PRIORITY TO:

- 1) Call 999
- 2) Start CPR
- 3) Ask a colleague or member of the public to enquire if there is a defibrillator and bring it to the casualty
- 4) Attach the defibrillator as directed and continue CPR and defibrillation until emergency services arrive

THE AED

There has been increased availability of Automated External Defibrillators (AEDs) to try and increase the survival from an out-of-hospital cardiac arrest. AED's are a portable device designed to be used by members of the public, and are very effective at guiding the operator through the process of administering a shock if required. They have become widely available, are safe and easy to use and will not allow a shock to be given to a victim who does not require one.

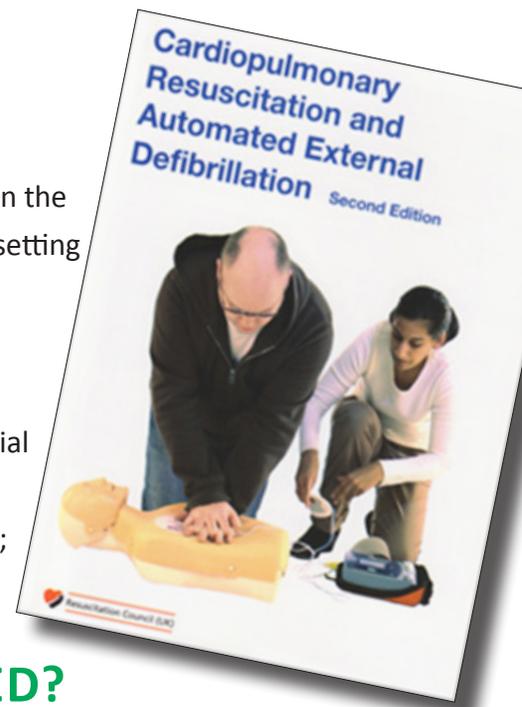
There are a number of different providers and shapes and sizes of AED but essentially they all do the same thing:

- * Analyse the victim's heart rhythm
- * Determine if a shock is required
- * Provide voice and/or visual prompts to assist the rescuer.

The Resuscitation Council UK (RCUK) have developed extensive guidelines on the use and training in AEDs which are recognised as the appropriate standard setting organisation for Northern Ireland.

http://www.resus.org.uk/pages/pub_AED.htm

Standard AED pads are suitable for use in children older than 8 years. Special paediatric pads, that reduce the current delivered during defibrillation, should be used in children aged between 1 and 8 years if they are available; if not, standard adult-sized pads should be used (as per RCUK).



SHOULD YOUR SCHOOL PURCHASE AN AED?

Prior to the purchase of a defibrillator, School Governors, Principal and senior staff may wish to carry out a needs analysis. This discussion may help clarify and identify the level of risk the school may have and thus inform the decision making process. To help evaluate the potential level of risk, you may wish to consider the following questions, Please note that this is not a definitive list.

Have you considered;

- * Which type of school - Primary/Post-Primary/Special?
- * The emergency response time of your nearest emergency services?
- * How many pupils do you have in your school?
- * How many staff do you have?
- * Have any of your students or staff been diagnosed with a heart condition, or pre-existing medical condition
- * Do you facilitate community use of your school?
 - * How often?

What types of activities take place?

- * School shows
- * Parents meetings
- * Sports events/open days

If a school decides not to purchase an AED it may wish to consider promoting a CPR training programme for staff and pupils. Recent evidence suggests that good CPR alone can save lives. If the school decides to proceed with the purchase of an AED, they should contact their ELB Procurement section. The ELB's procurement section through the tendering process has identified an AED supplier.

STORAGE AND ACCESSIBILITY

Correct location of AED

The AED should be situated centrally where it can be easily accessed. Where you keep your AED is critical to its performance, the AED should be publicly located in an open display rack and **must be accessible at all times**. Ideally it should be located in a central entrance hall. To enable the AED to function correctly it is essential that the location of the AED complies with the manufacturers recommendations for temperature and humidity. If a school locates the AED in an out-building eg. close to the playing fields, the manufacturers recommended parameters must be met. The AED should be stored in a carry case which will carry the AED and the additional equipment. The additional equipment includes the following; disposable face shield, Tuff Cut scissors, disposable razor, disposable latex-free gloves and disposable towel/absorbent cloth.

The Resuscitation Council UK (RCUK) suggest that ideally, the device should be accessible within two minutes brisk walk from anywhere in the building. Appropriate signage should be displayed throughout the school site indicating the AED location/s. AED signage can be purchased through the ELB's procurement section. Signs can also be ordered free of charge from The British Heart Foundation .

To order the AED Signs call 0870 600 65 66 or emailing orderline@bhf.org.uk quoting;

- * code M118B for the self-adhesive signs
- * code M118A for the projecting sign
- * code M118C for the accompanying screws.



MANAGEMENT OF THE AED.

Prior to the purchase of an AED, schools/ educational premises should give consideration to how the AED will be managed on a day to day basis. It is envisaged that schools/educational premises may allocate this role to at least two school based personnel, the latter effectively being an AED Co-ordinator and assistant.

It is recommended that the appointees noted above should hold an approved current up to-date first aid qualification. ELB/CCMS will require all AED operatives to have undertaken the ELB approved training course. **Please note that "An AED information and awareness demonstration which may be provided by the AED supplier is NOT appropriate training as recommended by the Resuscitation Council UK".**

Further information and guidance is available from each board's Health and Safety Section.

Annual refresher training is advised, an accurate record of trained AED operators should be maintained by each school / educational establishment.

ROLE OF AED CO-ORDINATOR INCLUDES THE FOLLOWING.

- * Daily visual AED system check
- * Weekly recorded check of the AED unit
- * Maintenance of school AED training record
- * Liaison with ELB/supplier in the event of problems

DAILY VISUAL AED SYSTEM CHECK

- * Ensure that the AED system status indicator is operational.

RECORDED WEEKLY CHECKS

(SEE APPENDIX 2 FOR A SAMPLE CHECKLIST)

On a weekly basis the following should be checked:

- * The AED – that it is in its correct location and has not been tampered with
- * Battery status indicator - to ensure the battery is working correctly
- * Pads are unopened
- * Additional items are present and correct - disposable face mask/shield, tuff cut scissors, disposable razor, disposable latex free gloves and disposable towel/absorbent cloth.

SIX MONTHLY CHECKS

(SEE APPENDIX 4 FOR A SAMPLE CHECKLIST)

- * Battery expiry date
- * Pad expiry Date
- * Order new battery or defibrillator pads at least one month before expiry date.
- * Review of training records

CHECKS FOLLOWING INCIDENT AND USE OF AED

- * Check battery- seek advice from supplier.
- * Replace Pads used during incident
- * Replace used items from additional equipment –disposable face mask/shield, tuff cut scissors, disposable razor, disposable latex free gloves and disposable towel/ absorbent cloth.
- * Returning the AED to service

POST INCIDENT PROCEDURE AND EVENT REVIEW

Procedures must be established outlining the actions to take after the use of an AED. Use of the AED must be reported to the boards Health & Safety Manager/Officer and a comprehensive review actioned to include:

- * Downloading and transferring data from the AED - If requested by ambulance service.
- * Recording details of the incident on the employing authorities Accident Report Form

Any review should include:

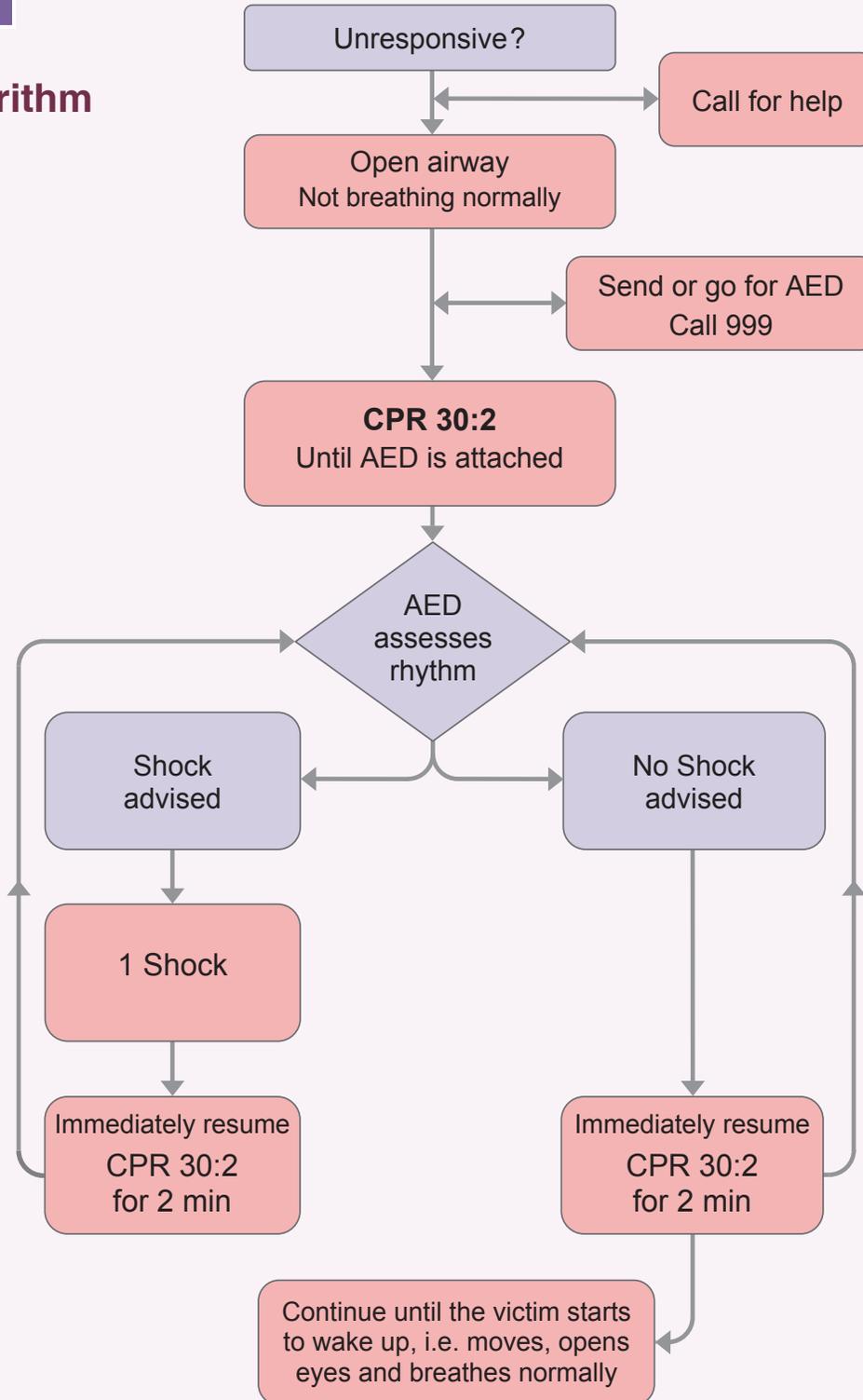
- * ELB or employing authority
- * School governors
- * SMT if applicable
- * Staff, pupils and members of the public who witnessed the incident.

APPENDIX 1

2010 Resuscitation Guidelines

Resuscitation Council (UK)

AED algorithm



5th Floor, Tavistock House North, Tavistock Square, London WC1H 9HR
 Telephone (020) 7388-4678 • Fax (020) 7383-0773 • Email enquiries@resus.org.uk
 www.resus.org.uk • Registered Charity No. 286360

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APPENDIX 2 WEEKLY AND POST-USE AED CHECK

School Name											
AED location											
Device serial number											
Date	AED intact	Battery status OK	Pads intact	1 face mask	2 pair latex free gloves	1 pair TUFF CUT scissors	1 prep razor	Absorbent cloth	Name and Signature		
	<input checked="" type="checkbox"/>	<i>Authorised Person</i>									

In the event of a fault please refer to device manual.

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DEFIBRILLATOR WORKING GROUP MEMBERS

Brendan O'Reilly, Health and Safety Manager BELB/SEELB, [e] Brendan.O'Reilly@belb.co.uk (Chairperson)

Clare Caldwell, Assistant Health and Safety Officer, SEELB, [e] clare.caldell@belb.co.uk (Project co-ordinator)

Sharon Campbell, Assistant Health and Safety Officer, WELB, [e] Sharon.Campbell@welbni.org

JJ Cavanagh, Principal Procurement Officer, WELB

John Donnelly, AAO PE and School Sport, BELB

Orla Martin, Health and Safety Manager NEELB, [e] Orla.Martin@neelb.org.uk

Gillian Sterritt, Assistant Health and Safety Officer SELB, [e] Gillian.Sterritt@selb.org

Art Kernan, Co-ordinator DEFIBS4KIDS, Teacher, St Colman's PS Lambeg

Stephanie Leckey, Area Development Manager BHFNI

Dr Nigel Ruddell, Assistant Medical Director, NIAS, Health and Social Care Trust

Adam Hanna, Resuscitation Officer NHSC Trust

REFERENCES

Resuscitation Council (UK) Guidelines 2010

A guide to Automated External Defibrillators (AED's) 2013

<http://www.resus.org.uk>

British Heart Foundation Northern Ireland Guidelines

Advice and best-practice guidance for the use of Automated External Defibrillators (AED) in schools (2011)

<http://www.bhf.org.uk>

Belfast City Council AED Guidelines

Guidance note on the Deployment and use of AED's (2009)

<http://www.belfastcity.gov.uk>

If you have any queries in relation to the content of this document

please contact the working group member in your board.

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