KCC Health and Safety Standard
Automated External Defibrillator (AED)

Introduction

The purpose of this document is to provide information regarding the use and arrangement for ongoing maintenance of Kent County Council's (KCC) Automated External Defibrillators (AEDs).

This standard outlines the use of automated external defibrillators at KCC sites including schools, should staff, service users or public suffer a cardiac arrest. For the purpose of this standard, they may just be referred to by their common name as 'defibrillator'.

The decision on whether to provide a defibrillator should be taken on the basis of the First Aid Needs Risk Assessment. The risk of an arrest occurring varies according to several factors, each of which should be considered when assigning risk. This should take in to account the number of people who routinely work in or use the work area, the age profile of those people, and any physical activity (including, for example, activities like use of stairs) which take place and the location of where these activities take place and the likelihood of cardiac arrest occurring. The increase in any one or more of these factors would increase the requirement for a defibrillator to be provided.

This standard applies to both current defibrillators and to any future plans to locate defibrillators.

Purpose and Use of the defibrillator

The aim of installing AEDs in the workplace is to protect employees and also protect members of the public. It has been well demonstrated that use of Automatic External Defibrillators (AEDs) in conjunction with Cardiopulmonary resuscitation (CPR) increases survival rates after sudden cardiac arrest

Sudden Cardiac Arrest (SCA) is a condition that occurs when the electrical impulses of the human heart malfunction, causing a disturbance in the heart's electrical rhythm called ventricular fibrillation (VF). This is an erratic and ineffective electrical heart rhythm which causes complete cessation of the heart's normal function of pumping blood, and if untreated will result in sudden death.

The most effective treatment SCA is the administration of an electrical current to the heart by an automated external defibrillator, delivered within a short space of time of the onset of the ventricular fibrillation.

AEDs are portable battery powered pieces of equipment which are designed to restore the normal electrical heart rhythm in an emergency situation when a person has suffered a sudden cardiac arrest. When used in conjunction with the delivery of CPR from a trained person, they substantially increase the chance of survival following such an event. The quicker life saving first aid and a defibrillator are used on a casualty, the better the outlook for survival and recovery. Survival rates when effective

CPR is given are between 2 and 5%. If a defibrillator is used within ten minutes this figure increases to around 45%.

If connected to an individual who is having a SCA, a fully automatic AED delivers an electrical shock – called a defibrillation – without human intervention to help the heart re-establish an effective rhythm. This is the most reliable method of achieving a successful intervention in a sudden cardiac arrest.

The defibrillator will analyse the heart rhythm and advise the operator if a shockable rhythm is detected. If a shockable rhythm is detected, the defibrillator will charge to the appropriate energy level and advise the operator when to deliver a shock.

The most essential thing to remember when a person goes into sudden cardiac arrest is to also **start CPR immediately**. Ask someone else to ring 999 and ask for the location of the nearest AED. The 999 operators will direct you to the nearest AED and give you the code for the keypad on the cabinet housing the AED. **Do not delay in starting CPR and do not stop** until a member of the emergency services (or other person with CPR knowledge) takes over

Maintenance

Defibrillators need little in the way of routine maintenance, and all currently available defibrillators perform regular self-checks, and indicate if a problem has been detected. The system for checking equipment, and changing electrode pads and batteries should be managed by the building to which the AED belongs

It will be the duty of the Responsible Person or Building Manager within the building in which the defibrillator is located to ensure that maintenance and safety checks have been allocated and that these monthly checks on the equipment are carried out using the HS103 AED Monthly Maintenance Checklist to ensure that it can be used when called upon.

Testing and maintenance records are to be kept, these actions to be carried out as per the manufacturer's recommendations.

The Defibrillator should self-test on a daily, weekly or monthly basis – so the device would signal with a flashing light or audible alert if there was a problem, for example, pads not correctly connected, or low battery. It must be physically checked on a monthly basis.

Defibrillators will also run through a self-test when activated, prior to use.

Maintaining Readiness

The defibrillator will be checked for readiness after each use and at least once every 28 days if it has not been used in the preceding 28 days.

Checks will include as a minimum the following:

- Assure that the OK is visible in the readiness display.
- Check the expiration date on the electrode packet visible through the clear window. If the date has passed, replace.
- Tuff Cut Shears – to cut clothing.
- Razor – to shave chest to apply pads if needed.
- Absorbent towel – to dry chest if necessary
- PPE where necessary
- Resuscitation face shield
- Face wipes
- Check the cabinet alarm is in working order, if not replace battery.

The typical shelf life of pads and batteries is 2 to 5 years, depending on the defibrillator model – please check user manual, consult the product detail for dates. Pad and battery expiry dates are typically displayed next to an hourglass or egg timer symbol.

Post Activation of defibrillator

Following any activation of the defibrillator the person activating it must complete the **HS157 Accident and Incident form**.

In the event that the defibrillator is activated, the consumable parts should be replaced by the Responsible Person as quickly as possible. All used items are to be disposed of as per recommended waste procedures. New items can be purchased via first aid supplier.

Training

The Health and Safety (First Aid) Regulations 1981 state “Where an employer decides to provide a defibrillator in the workplace, those who may need to use it should be trained”.

The level of training required may also depend on the type of defibrillator you choose to install. Semi-automatic defibrillators are designed for use by trained individuals or healthcare professionals this requires a full and comprehensive training to necessary staff.

Fully automatic defibrillators can be used with no prior training. However, staff may feel more confident when using the device and may deploy it quicker if training has been given. The AEDs give clear, spoken instructions and will not deliver a shock unless it is needed, untrained personnel can use a defibrillator provided the suppliers instructions are followed.

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The minimum awareness and training given to defibrillator users will cover:

- The precautions to be adopted by users when using the equipment.
- Categories of persons that the equipment can be used on.
- Precautions to be taken when casualties are wet, receiving CPR, receiving oxygen etc.

The responsible person should ensure that there is a mechanism to assure continued competency of the authorised individuals trained to use the defibrillator.

A refresher in-house site training should be provided on at least an annual basis for all defibrillator users. All first aiders are expected to cover this training within their first aid course and refresher training. All training must be recorded and dated.

Moving and handling awareness and advice is also a key part of the training in the event that casualties have to be moved, due to imminent danger.

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Appendix 1 - Defibrillator AED Monthly Checklist

Office/Service/School			
Defibrillator Location		Date checked	
Defibrillator Make		Checked by name	
Defibrillator Serial No.		Checked by signature	

Defibrillator checks/tests to be undertaken	Guidance/instruction on what you are inspecting and how to test a defibrillator	For each item, please mark as appropriate in each box and sign/date at the bottom of the form.
Defibrillator condition	• cleanliness (e.g. no dirt) • no damage • no contamination • AED is secure	
Is defibrillator in working order?	• check defibrillator is on standby mode - green flashing light indicates ready for use • red light indicates there is an issue which requires action	

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Defibrillator functionality testing	• open defibrillator • turn on defibrillator • wait for defibrillator to indicate status • observe the status indicator change from green to red during power-up self-test. • wait approximately 5 seconds • status indicator should return to green • close/turn off defibrillator • verify that the status indicator changes from green to red during power down self-test. (approximately 5 seconds) • verify that the status returns to green	
Visual and audio alarm checks	• Listen for voice prompts and check that the display text corresponds to the audio	
Check battery indicator	• Is the battery installation date within date? check user manual which will outline the recommended change date, usually between 2-5 years depending on model).	
Sealed electrode pads (adults/ children (where applicable)	• are there two sets of electrode pads? (1 pack is a spare) • are they sealed? • are they in date?	
Defibrillator peripheral content check	• absorbent towel • face wipe • razor • tuff cut shears • disposable gloves • facemask	
Are there any remarks/problems/corrective actions required?	• Please tick box and fill in details on form below	

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Problems / corrective actions from monthly checks

Date	
Location / Number of Defibrillator	
Problems / Corrective Actions	
Signed	
Name	
Date action completed	

Any problems or missing items must be reported to Kenthelpdesk@skanska.co.uk

If the defibrillator shows a fault, remove from service and report immediately to Skanska