



SERVICE STANDARD 7.1.5

AUTOMATED EXTERNAL DEFIBRILLATORS

ITEM	DESCRIPTION
Version Number	2.0
SOPs	> SOP 7.1.5 - 1 Use and Maintenance of AEDs
Policy Owner	Executive Director, Infrastructure Services
Policy Contact	Director, Assets and Infrastructure
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1 Purpose

- 1.1 This Service Standard has been developed to ensure the distribution and use of Automated External Defibrillators (AEDs) within the Service is appropriate.
- 1.2 The importance of timely defibrillation in conjunction with effective CPR is well documented as a key factor influencing the survival of patients suffering sudden cardiac arrest (SCA).
- 1.3 In its key role as a widely distributed emergency service the NSW Rural Fire Service (NSW RFS) is uniquely placed to afford the community added support.

2 Definitions

- 2.1 For the purpose of this policy document, the following definition applies:
 - a. **Automated External Defibrillator (AED):** used to deliver an electrical shock to the heart (defibrillation).

3 Policy

- 3.1 All NSW RFS brigades and offices are to have one or more AEDs, as appropriate.
- 3.2 Members should familiarise themselves with the location and operation of AEDs. Familiarisation and training in the operation of an AED is available in a range of formats including the DVD issued with each AED, MyRFS and within the current First Aid course literature.
- 3.3 The NSW RFS has embedded the operation of AEDs in all First Aid training as an important component within the chain of survival and the basic life support action plan, although no formal training is required to use the AED.
- 3.4 All AEDs must be used and maintained in accordance with the NSW RFS Guidelines for the Use and Maintenance of AEDs which form part of this Service Standard.

- 3.5 Any operation of an AED must be reported to State Operations as a 'notifiable incident' in accordance with Incident Management Procedure 4.03.01.
- 3.6 Should the unit be used to defibrillate a casualty, the District Office must return the AED to NSW RFS Headquarters for servicing in accordance with the NSW RFS Guidelines for the Use and Maintenance of AEDs.
- 3.7 The NSW RFS district office should replace the AED returned as per 3.6 with another unit in the interim.
- 3.8 The operational procedures contained within SOP 7.1.5-1 that accompany this Service Standard reflect the Australian Resuscitation Council's [Guideline 7: Automated External Defibrillation \(AED\) in Basic Life Support \(BLS\)](#) and [Guideline 8: Cardiopulmonary Resuscitation](#).

4 Related documents

- > [Australian Resuscitation Council \(2010\) Guideline 7 - Automated External Defibrillation \(AED\) in Basic Life Support \(BLS\)](#) accessed on 16 Feb 2010 at <http://www.resus.org.au>
- > Australian Resuscitation Council (2010) [Guideline 8 - Cardiopulmonary Resuscitation](#) accessed on 16 Feb 2010 at <http://www.resus.org.au>
- > SOP 7.1.5-1 The Use and Maintenance of Automated External Defibrillators (AEDs)

5 Amendments

AMENDMENT DATE	VERSION NO	DESCRIPTION
4 March 2011	1.0	Initial release
6 November 2012	1.1	<ul style="list-style-type: none"> > Repealed v1.0 > Amendment to Guideline clause 4.7 > Updated to reflect organisational realignment
2 December 2016	2.0	<ul style="list-style-type: none"> > Repeals v1.1 > Updated to reflect current practices > Transfers previous Guideline into SOP 7.1.5-1

SOP 7.1.5-1

Use and Maintenance of Automated External Defibrillators (AEDs)

1 Purpose

- 1.1 This document has been formulated to provide guidance for using and maintaining Automated External Defibrillators (AEDs).
- 1.2 The importance of timely defibrillation in conjunction with effective CPR is well documented as a key factor influencing the survival of patients suffering sudden cardiac arrest (SCA). An AED is used to deliver an electrical shock to the heart. This is called defibrillation.
- 1.3 The use of an AED can be performed by the majority of NSW RFS members and need not be restricted to first aid trained personnel. Voice and visual prompts will assist all users through the process of providing effective CPR and defibrillation (if required). It should be noted that defibrillators cannot defibrillate a person that does not need it.
- 1.4 The NSW RFS has embedded the operation of AEDs in all First Aid training as it is an important component within the chain of survival and the basic life support action plan.
- 1.5 Members should familiarise themselves with the location of AEDs. Familiarisation and training in the operation of an AED is available in a range of formats, such as the DVD issued with each AED, on MyRFS, and within any current First Aid course literature.

2 Procedure

- 2.1 The Zoll AED Plus is the defibrillator operated by the NSW RFS as appropriate for the needs of its members. The unit is provided, complete with one piece CPR Pads (electrodes) and a "Ready Kit" containing a razor, alcohol wipe, paper towel, gloves and face shield, in a protective Pelican case or quick-release bracket for indoor use
- 2.2 Districts and brigades are not to label or mark the AED or its case. A reserve stock of AED's is maintained to facilitate timely change over where necessary. Each AED will be replaced one-for-one to facilitate servicing or replacement following operational usage.
- 2.3 All members should familiarise themselves with the operation of the AED including turning on the AED, following the voice or visual prompts, preparing the casualty, electrode placement, and activation (if required). A training version of the Zoll AED Plus and training DVDs are available from the District Office for members to familiarise themselves with operation of the AED.
- 2.4 The Zoll AED Plus must be operated by members of the NSW RFS in line with manufacturer's guidelines.
- 2.5 Prompt and effective CPR must still be undertaken whilst the AED is being retrieved to ensure the best possible chances of survival following a suspected cardiac arrest.

Warnings

- 2.6 The Zoll AED Plus should only be used on casualties over 8 years old. Casualties under 8 years old or less than 25kg require specific paediatric electrodes (which are not supplied).
- 2.7 AEDs can cause sparks. Do not use the AED near flammable liquid.
- 2.8 Do not operate AEDs near or in water, or on wet ground.
- 2.9 Dry the casualty's chest, if wet, using the paper towel in the ready kit before attaching CPR Pads.
- 2.10 Casualties with a hairy chest will require shaving using the razor in the ready kit, to ensure good contact with the CPR Pads.
- 2.11 Do not place CPR Pads directly over a casualties implanted pacemaker. Pacemakers are usually placed just under the skin of the chest, below the collarbone. Position the AED chest pad at least 10 centimetres away from the pacemaker.

Operation

- 2.12 An AED will operate for all adult body sizes. The body mass level of a patient does not affect the AED's operation, provided the person weighs more than 25 kg.
- 2.13 Ensure CPR, with effective compressions, is underway whilst the AED is being retrieved, and whilst the patient is being prepared for attaching the CPR Pads.
- 2.14 Turn the AED on and follow the voice and/or visual prompts.
- 2.15 The AED voice prompts will say:
- *"Stay Calm"*
 - *"Check Responsiveness"*
 - *"Call for help"*
 - *"Open Airway"*
 - *"Attach defib pads to patient's bare chest"*
- 2.16 Bare the casualty's chest. This may require cutting through under garments to expose skin.
- 2.17 Open the CPR Pads and prepare the casualty (dry the chest and/or shave chest hair if required).
- 2.18 Apply the one piece CPR Pads ensuring the CPR sensor (cross) is in the middle of the breastbone. If the CPR Pads is not making good contact with the patient's skin the AED will prompt "Check Electrode Pads".
- If the casualty is of a larger build or there is a need to place the electrode under the casualty's breast, the lower pad can be torn at the perforated line to extend the position of the lower pad. Place the lower pad slightly to the left of the centre of the chest and below the casualty's breast.
- 2.19 The voice prompt will then state: *"Don't touch patient, analysing"*. Stop CPR whilst the AED analyses the casualty.
- 2.20 If a shock is advised the voice prompt will state: *"Shock advised. Don't touch patient. Press flashing shock button"*.
- 2.21 The AED operator will call loudly *"Stand clear"*, and check to ensure no one is touching the casualty before pressing the shock button.
- 2.22 A shock will be delivered, indicated by strong muscular reaction.
- 2.23 The voice prompt will then state *"Start CPR"* and CPR should be performed for another two minutes.
- 2.24 Alternately the voice prompt will state: *"No shock advised"*, *"Start CPR"* and CPR should be performed for another two minutes.
- 2.25 After two minutes the AED will prompt *"Stop CPR"*, *"Don't touch patient"*, *"Analysing"*.
- 2.26 The AED will prompt the person performing compressions, *"Push Harder"* or *"Good Compressions"*. Visual prompts will also assist the quality (depth) of compressions.
- 2.27 Continue to follow the voice and visual prompts and apply CPR until help arrives.

Notification of Use

- 2.28 Any operation of an AED must be reported to State Operations as a 'notifiable incident' in accordance with Incident Management Procedure 4.03.01.
- 2.29 Following the operation of an AED, NSW RFS policy requires the unit to be serviced. The District Office will ensure the unit is replaced as soon as possible and facilitate shipping of the used AED to NSW RFS Headquarters.
- 2.30 An "Accident Injury Form" must be completed for any incident involving the use of an AED.
- 2.31 Deployed AEDs when sent in to NSW RFS Headquarters must have a copy of the "Accident Injury Form" and a copy of the "Incident Report" including ICON number included within the packaging of the unit.
- 2.32 NSW RFS Headquarters will download the "Patient Clinical Data" and forward this information for inclusion with the report to the NSW RFS HSW section. Deployed units may be quarantined.

- 2.33 NSW RFS Headquarters will exchange deployed or faulty units returned to NSW RFS Headquarters. The replacement AED will be shipped to the District Office at no cost to the District.
- 2.34 Districts are to ensure that any information on any asset management database (ie SAP EAM) is updated to reflect any movements of the AED or replacement AED.

Storage and Maintenance

- 2.35 AEDs must be stored in an appropriate manner that ensures protection from the harsh environment in which brigades operate.
- 2.36 An AED carried on vehicles must be stored in the protective case (Pelican case) provided. These cases must be stored in a vehicle locker, placed behind a cargo barrier or secured within the vehicle's cab or on the vehicle to ensure that the equipment provides no risk of injury in the event of a vehicle accident.
- 2.37 Each AED must be maintained and kept clean. Clean the unit using soft, damp cloth. Regularly check, ideally once a month, the green tick (✓) showing the AED batteries are OK and the unit is ready for use as part of the routine maintenance regime. Check the CPR Pads have not expired and the 'Ready Pack' is present within the unit.
- 2.38 Districts are to ensure that the AED has a tested label attached to the side of the unit.

Servicing

- 2.39 The CPR Pads are single use only and replacement Pads. AED that have been used must be returned to RFS Headquarters. Spare CPR Pads will not be provided to Districts.
- 2.40 The Zoll AED Plus requires servicing every five years irrespective of usage.
- 2.41 The NSW RFS will coordinate AED maintenance utilising NSW RFS resources.

3 Related forms

- None