Automated External Defibrillator Program

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Acronyms

AED Automated External Defibrillator

AHA American Heart Association

CPR Cardio-pulmonary Resuscitation

EHS Environmental Health and Safety Office

EMS Emergency Medical Services

FDA Food and Drug Administration

PPE Personal Protective Equipment

SCA Sudden Cardiac Arrest

SMD Service Medical Director

Foreword

The Automated External Defibrillator (AED) Program exists to manage the AED's that are located throughout the George Mason University campus.

Document History

Version	Date	Comments
1	January, 2011	Initial *Public Access Defibrillator Program*
2	August, 2011	Updated to reflect new American Heart Association standards and program name change.
3	March, 2013	Annual review
4	April, 2015	Routine review – Remove AED Coordinator Role
5	February, 2017	Routine review

This Automated External Defibrillator Program is reviewed annually and amended as necessary and whenever:

- Applicable codes and regulations are revised; or
- Automatic external defibrillator usage guidelines or technologies change; or
- Deficiencies in the design or implementation of this program are identified.

All revisions to this program will be shared with the parties identified in this document.

1.0 Introduction

Sudden cardiac arrest (SCA) is a major cause of death in the United States causing an estimated 220,000 deaths each year. Abnormal heart rhythm is the cause of most sudden cardiac arrests. When the heart rhythm becomes chaotic, often without warning, the heart will stop abruptly. Death usually follows unless a normal heart rhythm is restored within five to seven minutes. The American Heart Association (AHA) states that survival from SCA depends directly on the speed in administering a defibrillation shock in an attempt to restore normal heart function. Every minute in delay reduces the chance of recovery by seven to ten percent.

1.1 Purpose

The AED Program is an integral part of George Mason University's commitment to the safety and health of employees, students, and visitors. The purpose of this program is to provide public access to university maintained AED for use in the event of a cardiac emergency. This document establishes protocols for training, use, and maintenance of AED located on George Mason University property.

2.0 Roles and Responsibilities

The following individuals and units are responsible for maintaining AED and overseeing the *AED Program*.

2.1 Service Medical Director

Regulations mandate that a licensed physician oversee the university's *AED Program*. The Service Medical Director (SMD) must be licensed in the Commonwealth of Virginia to practice medicine without restriction and possess current knowledge of first responder training in the use of AED. The SMD must also be familiar with operations of the Northern Virginia Emergency Medical System. The current SMD for George Mason University is the Executive Director, Student Health Services. Specific responsibilities of the SMD are:

- Provide medical direction for the operation of and management of AED at George Mason University.
- Review *AED Incident Report Forms* and electronic rescue data of each incident where an AED was used on an arrest victim.
- Immediately notify the Environmental Health & Safety Office (EHS) of any changes in the status or appointment of the SMD.

2.2 Automated External Defibrillator Manager

EHS must employ an *AED Manager* who is certified as a Basic Life Support instructor who is responsible for overseeing the *AED Program*. The Assistant Director of Fire Safety serves as the university's *AED Manager*. Specific responsibilities of the *AED Manager* are:

- Implement and administer the *AED Program*.

- Maintain AED cabinet keys for all AED cabinets.
- Provide CPR and AED training for eligible individuals.
- Provide written operational policies and procedures regarding the operation and maintenance of AED.
- Maintain AED software necessary to download electronic rescue data.
- Ensure that the electronic rescue data is downloaded (following manufacture protocols) within 24-hours of AED use and forward data to the SMD.
- Complete documentation and maintenance for equipment used on a victim within 48-hours of the incident.
- Initiate required servicing of equipment by the manufacturer as needed and/or required by the manufacturer and return AED and/or components to assigned sites upon completion of servicing.
- Serve as the university's point of contact when dealing with external organizations.
- Perform semi-annual inspections of all AED's and maintain inspection records for a minimum of five years.
- Maintain an adequate inventory of AED batteries, pads, and replacement supplies to support the *AED Program*.
- If an AED malfunctions or does not operate correctly during use (as indicated on *AED Incident Report*) complete and submit an Food and Drug Administration (FDA) Form 3500A to the FDA.

3.0 Care of Equipment

The AED Manager is responsible for safeguarding and maintaining AED and all associated equipment in accordance with this program and university and Commonwealth of Virginia regulations pertaining to state property. All AED are contained within a protective case specifically designed to hold AED and marked conspicuously. Each AED case contains one AED and an "Emergency Kit" that contain various supplies and tools to assist in CPR and the use of AED. The AED Manager is responsible for strategic placement of university-owned AED. Any issues with AED should be reported to EHS at (703) 993-8448 or safety@gmu.edu

3.1 Procurement and Placement

AED are managed and maintained by EHS, however not all AED are purchased by EHS. In some cases, units purchase additional AED to augment the university's inventory. Units that elect to purchase AED are responsible for ensuring that the models purchased are supported by EHS and that the AED is registered on the master inventory of AED maintained by EHS. Currently, EHS has approved the Philips Heartstart HS1 model for use at George Mason University. All locations of AED must be approved by EHS before they are purchased.

3.2 Inspections

AED will be inspected quarterly by the AED Manager or his/her designee.

All inspections examine the following:

1. ***AED Cabinet Alarm:*** Open the cabinet door to ensure the alarm sounds then deactivate the alarm using the AED cabinet key.

2. ***Storage case intact:*** Check to see if the storage case (either soft flexible or hard sided) is present, serviceable, and undamaged.
3. ***Battery charged:*** Check to see if the status indicator, above the green power button, is flashing "green". If the indicator is "red", the unit is NOT ready for a rescue and must be immediately pulled from service and the batteries replaced.
4. ***Pads Unexpired:*** Check to see if the expiration date of the pads (electrodes) has been exceeded. Pads are to be replaced within 30 days of expiration.
5. ***Warning Label:*** All AED should be labeled with the following: "NOTICE: WHEN USED OR MALFUNTIONING NOTIFY EHS (703) 993-8448"
6. ***Supplemental Supplies:*** All equipment accounted for in the Emergency Kit:

    - 1 CPR facemask
    - 2 Pair of disposable gloves
    - Safety razor
    - 1 Absorbent towel or trauma pad
    - 1 Pair of scissors

3.3 Repairs

Upon discovery of missing parts, expired AED pads, or dead batteries, the AED Manager will coordinate a replacement or repair of the AED. EHS maintains an inventory of AED parts and supplies and provides replacement supplies to maintain AED. After an AED is used, it must be returned to EHS for repairs and inspection.

4.0 Record Keeping

The *AED Manager* will maintain all documentation for equipment maintenance, repairs, inspections, usage, *AED Incident Forms*, and qualified users for a minimum of five years. All forms can be found on the EHS website at ehs.gmu.edu. Documentation includes:

- Maintenance and safety inspection records for each AED.
- Original copy of each *AED Incident Report* completed after an AED is used by the user of the AED.
- All information of AED usage, including University Police reports and/or emergency response treatment. This documentation will be stored in accordance with local, regional and federal standards for storing confidential medical information.
- Training records of those employees and students trained in CPR and/or AED to include documentation of training, qualifications, and evidence of certification.

5.0 Training

EHS provides CPR and AED training for who have positions that require the performance of CPR as documented by their employee work profile or position description. EHS maintains training records for all persons that participate in EHS training and CPR and AED recurrent training is required every two years. Individuals who are interested in receiving CPR and AED training should contact EHS at (703) 993-8448 or safety@gmu.edu.

6.0 Using an Automated External Defibrillator (AED)

A victim who does not respond, or appears to be in distress may have an abnormal heart rhythm that stops the heart from pumping blood. In such a case, an AED may be used to provide aid to the victim. Observe the following steps:

1. Check to see if the scene is free of hazards such as:
   - Electrical (e.g., downed power lines, electrical cords, etc.),
   - Chemical hazards (e.g., gases, liquids, solids or fumes),
   - Suspicious individuals or anyone that could potentially harm a person,
   - Traffic both vehicular and pedestrian that may harm the victim, and
   - Fire or flammable gases such as medical oxygen or cooking gas.
2. Determine that the victim is:
   - Unresponsive,
   - Not breathing, or
   - Without a pulse.
3. Immediately begin chest compressions and CPR, if trained and feel comfortable doing so.
4. Notify University Police by calling (703) 993-2810 or 911.
5. Retrieve or ask someone to retrieve the nearest AED.
6. When the AED arrives:
   - Turn the AED on by pulling the handle labeled "PULL" or press the green power button. Follow voice prompts provided by the AED.
   - Remain clear of victim while AED analyzes the heart rhythm. Remember that the AED will not advise a sock in all cases.
   - If advised by the AED the rescuer should continue CPR for two minutes or five cycles until AED voice prompt says:
     - "Do not touch victim. Analyzing rhythm." The AED will guide the rescuer through a defibrillation sequence, followed by two minutes of CPR.
     - Continue this sequence until a rhythm is detected or Emergency Medical Services (EMS) personnel arrive.
7. Advise University Police to contact EHS of AED use so that appropriate action and paperwork is initiated.
8. Maintain custody of the AED until it can be turned over to EHS for repair and maintenance.
9. Complete the AED *Incident Report* form and return it to EHS with the AED.

6.1 Important Information on AED Use

1. If a patient is under eight years of age or 55 lbs., an infant/child pads cartridge should be used. If an infant/child cartridge is not available, an adult cartridge can be used. Place the pads on the front of the chest between the nipples, and on the center of the back.
2. Remove any medicine patches and residual adhesives before applying AED pads using proper personal protection equipment, such as gloves.
3. Pacemakers may interfere with rhythm analysis; do not place electrodes directly over pacemaker, they should be place one hand width away.

4. If the victim converts to a heart rhythm that does not require defibrillation, follow instructions from AED voice prompt.
5. Do not remove pads unless directed to do so by emergency personnel.
6. Individuals who elect to use AED, perform CPR, or are requested by a recognized emergency response personnel to assist a victim are protected from civil liability by the Code of Virginia section 8.01-225.
7. All equipment contained within the emergency kit associated with each AED is disposable. Upon use, EHS must be notified the next business day to ensure that equipment and personal protective equipment (PPE) used to aid a victim is disposed of properly. Under most circumstances, unless blood or bodily fluids are present, PPE and equipment may be disposed of in a solid waste bin.
8. AED used on any patient must be returned to EHS as soon as possible to retrieve the electronic rescue data stored on the device so that it can be provided to medical service professionals to assist in the treatment of the victim.