

GEORGIA INSTITUTE OF TECHNOLOGY

ENVIRONMENTAL HEALTH AND SAFETY

AUTOMATED EXTERNAL DEFIBRILLATOR PROGRAM

PURPOSE

The purpose of this program is to enhance the safety of employees, students and visitors at Georgia Tech by providing equipment and training to save the lives of persons experiencing heart attacks, cardiac arrest, stroke any other medical emergency that relates to the heart. The program has been developed to ensure the availability, maintenance and proper use of the Automated External Defibrillators (AEDs) which are located throughout the Georgia Tech campus.

Sudden Cardiac Arrest is unpredictable, but is potentially a fatal event. A person's chance of survival can be increased by establishing a "chain of survival" system that includes early recognition, early access by trained emergency medical services (EMS), early cardiopulmonary resuscitation (CPR) and early defibrillation.

SCOPE

This program applies to individuals trained on the proper use of AEDs; departments with AED units currently in place; and departments that are considering, or in the process of purchasing units.

DEFINITIONS

An Automated External Defibrillator (AED) is a portable automatic medical device used to restore normal heart rhythm to patients in cardiac arrest.

An AED is applied to the victim's bare chest. It automatically analyzes the patient's heart rhythm and if the patient's heart rhythm is not normal, the unit advises the rescuer whether or not an electrical shock of the heart is needed.

Cardiopulmonary Resuscitation (CPR) is an emergency medical procedure for a victim of cardiac arrest or, in some circumstances, respiratory arrest. CPR consists of the combination of artificial blood circulation with artificial respiration (known as mouth-to-mouth), chest compressions and lung ventilation. However, in March 2008 the American Heart Association endorsed the effectiveness of "Hands Only Chest Compressions", without artificial respiration for adult victims who collapse suddenly in cardiac arrest.

CPR is unlikely to restart the heart, but rather its purpose is to maintain a flow of oxygenated blood to the brain and the heart, thereby delaying tissue death and extending the brief window of opportunity for a successful resuscitation without brain damage. Defibrillation and CPR combined are usually needed to restart the heart.

Cardiac Chain of Survival is optimizing a patient's chance for survival of sudden cardiac arrest. There are four links in the chain: early recognition, early CPR, early defibrillation, and early access to advanced cardiac life support.

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Emergency Medical Services (EMS) refers to an ambulance service with trained/certified personnel to provide acute medical care and to transport patients to a medical facility for more advanced treatment.

RESPONSIBILITY

Environmental Health and Safety (EHS) – AED Program Coordinator is responsible for the development, oversight, and maintenance of Georgia Tech's AED program.

- Provide recommendations for AED placement in buildings or other locations around campus.
- Coordinate and present CPR and AED and First Aid training sessions with pre-registration available on the Georgia Tech Office Human Resource Training website (www.trains.gatech.edu).
- Maintain documentation of all AED units, locations and Site Coordinators.
- Perform periodic inspections of the AED units.
- Provide vendor information for purchasing the AED units and supplies.
- Provide AED unit locations to the local EMS and Georgia Tech Police.
- Oversee and coordinate contract to maintain Medical Directorship of Georgia Tech AED Program. Current Medical Director is GT Stamps Health Services.
- Following an incident in which an AED is used, ensure the AED vendor has been notified to assist in the download of the data/information and to replenish supplies.
- Provide GT Stamps Health Services with the AED downloaded report.
- Oversee and coordinate contract with vendor to ensure all AEDs are properly inspected, tested and maintained.
- Ensure immediate restoration of AED unit with a new set of replacement pads and batteries (if necessary).
- Notify the vendor and Medical Director if any unit was used or has been lost, stolen or malfunctioning.
- Maintain written documentation of the AED inspections, maintenance, incident form and post incident review forms.
- Assure the AED units are maintained according to the manufacturer's recommendations.

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Site Coordinators are responsible for implementing the AED Program within their area and serving as the primary contact for the EHS AED Program Coordinator. The position of the person serving in this role will vary depending on the department. General responsibilities will include:

- Daily visual inspection check of the AED units to is required to ensure the unit functioning. (See Inspections)
- Removing units and alarmed cases off the wall if the indicator light is “RED” (e.g. failed inspection); and immediately contacting the EHS AED Program Coordinator.
- Maintain authorization (prescription) to purchase AED units.
- Encourage and help coordinate employee participation to attend CPR/AED training.
- Coordinate general AED awareness training for staff.
- Following an incident in which and AED is used, ensure the EHS AED Program Coordinator is notified.

GT Stamps Health Services is the contract Medical Director for Georgia Tech’s AED Program and is responsible for providing oversight for the medical components of this program, including:

- Provide Georgia Tech with a prescription for the purchase of AED units.
- The medical review for each use (post event) of an AED.
- An annual review of the AED Program.
 - a. Review monthly AED inspection reports
 - b. Retrieve updated listing of new/added AEDs.
 - c. Retrieve or view updated training database identifying those certified to use the AED units.
- Oversee and review the medical care provided and review responses to medical emergencies involving an AED. Participate in a post-incident review after any medical emergency in which an AED was utilized.
- Review all Post-Incident Report Forms (Appendix I).

PROCEDURES

The U.S. Food and Drug Administration (FDA) provides approval for the sale of medical devices, including AED units. As such, a prescription is required by a physician to

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purchase an AED. Note: A prescription can be obtained from the AED vendor/Medical Directorship that Georgia Tech has approved.

PHASE 1

Prior to purchasing or obtaining an AED unit for there area, a department must:

- Obtain permission and funding from departmental administrators.
- Designate an AED Site Coordinator to assist in maintaining the units.
- Request assistance from the EHS AED Program Coordinator to select an AED unit(s); advise of appropriate location; provide training and inspections.

PHASE 2

AED LOCATION GUIDELINES

- Placement of unit for optimal response time should be 3 minutes or less.
- Location should be visible and easily accessible to the public, with consideration for the potential for tampering and theft.
- Units should be located near large gathering areas (i.e. conference rooms, theaters, etc.).
- Near a campus phone, in order to dial Georgia Tech Police (911 or 404-894-2500).
- Located in an area where the building name, address and room location are well marked.
- Signage: AED units in buildings should be identified with signage. The signs should be placed above the units in a visible location.

AED EQUIPMENT/EMERGENCY SUPPLY

NOTE: All of these items should be stored and available with each AED unit.

- Spare AED battery and electrode pads
- Nitrile gloves
- CPR barrier masks
- Scissors to assist in exposing chest

- Disposable razor for dry shaving victim chest (if necessary)

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INSPECTIONS

1. Daily Inspection checks

• **Cardiac Science**

- i. Green “indicator light” represents active
- ii. Red “indicator light” represents inactive

• **Medtronic**

- i. Black “OK” symbol on handle represents active
- ii. Red “wrench” symbol on handle represents inactive

• **Phillips**

- i. Black “hour-glass” symbol represents active
- ii. Red “X” symbol represents inactive

• **Zoll**

- i. Green “check” represents active
- ii. Red “X” symbol represents inactive

□ Note: If the AED indicates that the unit is inactive, immediately contact the EHS AED Program Coordinator at (404) 385-0263.

2. Monthly Inspection checks

- Visual checks of the unit and the alarm cabinet.
- Verify battery and pads are within the expiration date.
- Inspect emergency supplies (nitrile gloves, razor, scissors, electrode pads, CPR barrier masks).

MAINTENANCE

The AED Site Coordinator and the EHS AED Program Coordinator are responsible for the routine inspection and maintenance of the AEDs according to the manufacturer's recommendations.

- The battery pack and electrode pads must be replaced prior to their expiration dates.
- Check units for exterior damage or cracks.
- Examine the accessory cables for damaged, cracked, broken or bent

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connectors.

- Conduct a check to confirm any problems that may have been detected by the AED Unit's Self-Diagnostic Test.

POST INCIDENT PROCEDURES

The following steps must be followed after the use of an AED unit on a victim:

- Thoroughly decontaminate the unit.
- Put new electrodes in the unit and attach the electrode cable.
- Discard used electrodes as medical waste if contaminated with bodily fluids.
- Check the battery status and replace batteries if necessary.
- Replace additional emergency supplies (gloves, CPR masks, razor, etc.).
- Provide a copy of the Post-Incident report and a copy of the AED data report for review by the Medical Director.
- A Post Incident Report (Appendix I) must be filled out, signed and submitted to the EHS AED Program Coordinator.

TRAINING

CPR/AED training is provided at no cost for the Institute staff and students through the Georgia Tech EHS Department. For more information on registration for CPR/AED Training, go on www.trains.gatech.edu and review the Master Training Calendar.

Persons designated as AED Responders must complete and maintain a certificate in CPR/AED Training that meets or exceeds the standards of one of the following: American Heart Association (AHA) or the American Red Cross (ARC), or National Safety Council. Note: CPR and AED training is voluntary unless it is part of a written job description.

RECORDS

- Training Records are maintained in OOD's transcript/tracking system.
- Inspection reports and Post-Incident Forms (Appendix I) are maintained in both the EHS AED Program Coordinator's office and the AED Site Coordinator's office.
- The list of locations of AED units on Georgia Tech's campus is maintained in the EHS AED Program Coordinator's office.

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REFERENCE

1. The Food and Drug Administration (FDA) regulates AED units as medical devices. A prescription is required to be written by a physician for purchase of an AED. Devices with FDA approval can be accessed at this website:

<http://www.fda.gov/hearthealth/treatments/medicaldevices/aed.html>

2. Federal Public Health Improvement Act, Public Law 106-505 (November 13, 2000). Subtitle A of Title IV of the Act, the Cardiac Arrest Survival Act (CASA) signed into law in 2000; extended limited liability coverage to trained persons providing care within an AED.

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APPENDIX I
AED POST - INCIDENT REPORT FORM

Date: _____ Time: _____ am / pm

Location of Incident: _____

Responder(s): _____

AED Operator: _____ Phone# _____

AED ID#: _____

PATIENT DETAILS

Patient Name: _____

Male: ___ Female: ___ Race: _____ Approximate Age: _____

Address: _____

Contact Number: _____

MEDICAL RESPONDERS DETAILS

Ambulance #: _____ EMS Run Report #: _____

Ambulance Company: _____

EMS Responders:

Names: _____

Arrival Time: _____ am/pm Departure Time: _____ am / pm

Hospital/Emergency Care Facility: _____

Witness: _____ Contact #: _____ Witness:

_____ Contact #: _____

ADDITIONAL COMMENTS:

Fax To: EHS General Safety Office (404) 894-5042