



# TFS AED Program

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**Enclosures:**

**Attachment A – List of TFS AEDs (on file in the EHS Office)**

**Attachment B – Medical Emergency Response Plan (MERP)**

**Attachment C – AED Operation and Service Manuals (on file in the EHS Office)**

**Attachment D – Monthly Equipment Maintenance Form**

**Attachment E – Annual Equipment Maintenance Form**

**Attachment F – Related Federal and State Liability Laws**

**Attachment G – AED Event Summary Form**



## Automated External Defibrillator (AED) Program

### I. Purpose

Texas A&M Forest Service (TFS) Environmental Health and Safety (EHS) has developed this automated external defibrillator (AED) program to allow for access and use of potentially life-saving early defibrillation to persons in the first critical moments after suffering a sudden cardiac arrest. The EHS AED program establishes emergency procedures for AED usage, training requirements, placement and maintenance.

#### What is an AED?

AEDs such as the Cardiac Science Powerheart AED are self-testing, battery operated automated external defibrillators (AEDs) that use voice prompts as well as visual alerts and displays to guide the rescuer through a resuscitation sequence that may include defibrillation and/or cardiopulmonary resuscitation (CPR). Each AED automatically analyzes the patient's electrocardiogram (ECG) through defibrillation pads applied to the patient's bare chest. If the AED detects a shockable rhythm, the AED automatically charges and advises the operator to "Press the button to deliver a shock" or to "Stand clear" while the shock is automatically delivered. After the shock has been delivered, the AED prompts the rescuer to perform CPR for 2 minutes before automatically initiating a follow-up ECG analysis.

### II. AED Placement

AEDs should be placed in an easily accessible area. Signs indicating to the public that an AED is on-site and available for use should be displayed above or around the AED station and must be visible from any direction. A list of current AED locations and serial numbers can be found in **Attachment A – List of TFS AEDs**, which is kept by the TFS Safety Officer. In order to maintain the AEDs' ability to function properly, the AEDs should be mounted in an area with a temperature between 32°F and 122°F. Exposure to temperature extremes or condensing humidity will cause the unit's *RescueReady* daily self-test to alert "SERVICE REQUIRED" until the AED has been moved to an environment with acceptable operating parameters.

### III. Training Requirements

An AED is most effective when used by a responder that has successfully completed training in cardiopulmonary resuscitation (CPR) and AED operation in accordance with guidelines approved by the American Heart Association (AHA), the American Red Cross, another nationally recognized association, or the medical director of the local emergency medical services (EMS) provider. At a minimum, two TFS employees at each AED location shall complete and maintain current training in CPR and AED operation.



These employees are referred to as the Primary and Secondary AED Contacts. EHS will provide the designated AED Contacts with initial and refresher AED/CPR training courses for the duration of the unit's location in their building.

#### **IV. Assigned Responsibility**

##### AED Program Manager

The TFS EHS Officer serves as the AED Program Manager and is responsible for development and implementation of the AED program and ensuring compliance to AED protocols. This includes both management and review of the AED Program. The AED Program Manager is responsible for obtaining approval and purchasing new and/or replacement equipment, and is the primary liaison to the AED Program Oversight Physician. The AED Program Manager ensures compliance with AED protocols, organizing training programs and maintaining training records for designated medical emergency responders, relaying incident data to the appropriate persons (i.e. AED Program Oversight Physician), maintaining all equipment and inspection records, and reviewing and updating the AED Program guidelines as necessary.

Contact Info: Kelly Bunch  
Environmental Health & Safety Officer  
[kbunch@tfs.tamu.edu](mailto:kbunch@tfs.tamu.edu)  
(979) 458-6697

##### Primary and Secondary AED Contacts

Primary and Secondary AED Contacts are individuals that are trained in CPR and AED operation in the event of a medical emergency involving sudden cardiac arrest. These individuals will relay incident data to the AED Program Manager. To the extent possible, one trained responder should be available during normal business hours.

##### Physician Oversight

Physician oversight shall include but is not limited to the establishment and review of the AED Program's guidelines for care, compliance with protocols, and quality assurance including the assessment of the AED Program's performance after use and a review of the AED data and electrocardiogram (ECG) tracing of the patient.



Physician Oversight is provided by:

Garry L. Gore, MD, FACEP  
Medical Director  
A.P. Beutel Health Center  
ggore@shs.tamu.edu  
1264 TAMU  
College Station, Texas 77843  
(979) 458-8310

#### V. **Medical Emergency Response Plan (MERP)**

Once notified of an emergency, a responder shall follow the procedures outlined in **Attachment B – MERP**. A copy of the MERP should accompany the AED at all times.

#### VI. **AED Maintenance**

All equipment and accessories necessary for support of emergency medical response shall be maintained in a state of readiness.

##### Scheduled AED Maintenance

###### Daily Maintenance

- The AED Primary Contact should check the status indicator light on the AED device to ensure that it is green. If the Status Indicator light is red, refer to the troubleshooting table in the appropriate AED Operation and Service Manual. The AED Operation and Service Manuals are provided in **Attachment C – AED Operation and Service Manuals (kept by the TFS Safety Officer)**.

###### Monthly Maintenance

- The AED Primary Contacts should perform and document a monthly maintenance check in order to ensure proper functioning of the AED device in their building. The Monthly Maintenance Checklist and instructions are provided in **Attachment D – Monthly Equipment Maintenance Forms**. Copies of completed forms should be kept on file and will be reviewed by the AED Program Manager during site visits. Completed monthly maintenance checklists will be retained in accordance with TFS records retention requirements.



#### Annual Maintenance

- The AED Program Manager shall perform a comprehensive annual inspection to ensure that diagnostics are properly functioning and to verify the integrity of the AED equipment. The Annual Maintenance Checklist and instructions are provided in **Attachment E – Annual Equipment Maintenance Forms**. Completed annual maintenance checklists shall be retained in accordance with TFS records retention policies.

#### Other Maintenance – Electrode Pads and Batteries

- Electrode Pads – The TFS office with possession of an AED will purchase replacement electrode pads prior to their expiration date.
- Batteries – The TFS office with possession of an AED will purchase replacement AED batteries as necessary.
- Contact the TFS EHS Officer for ordering information.

#### **VII. Liability Laws**

Applicable federal and state liability laws can be found in **Attachment F – Related Federal and State Liability Laws**.



## **Attachment B: Medical Emergency Response Plan (MERP)**

### **Internal Medical Emergency Response Plan (MERP) Automatic External Defibrillator (AED) Procedures**

#### **Type of Medical Emergency**

Sudden Cardiac Arrest – Follow “Indications for AED Use” guidelines.

Other Medical Emergencies – Responders should provide only the patient care that is consistent with his or her training.

#### **Indications for AED Use**

The AED is intended to be used by personnel who have been trained in its operation; however, an AED is designed for easy use by untrained lay persons as well. **The AED device is designated for emergency treatment of victims exhibiting the symptoms of sudden cardiac arrest who are unresponsive and not breathing.** Post-resuscitation, if the victim is breathing, the AED should be left attached to allow for acquisition and detection of EKG rhythm. If a shockable ventricular tachyarrhythmia recurs, the device will charge automatically and advise the operator to deliver therapy.

#### **Pediatric Patients**

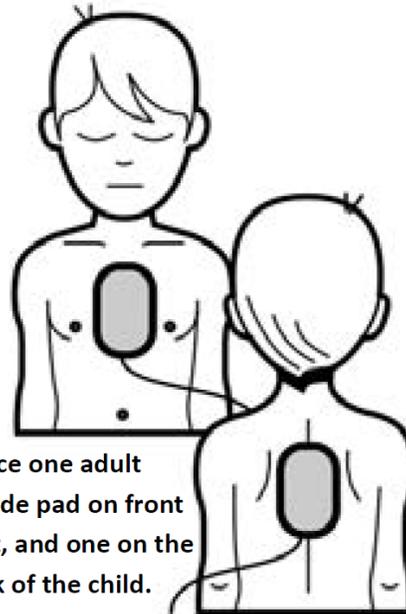
The program’s AEDs do not include pediatric pads. The rescuer should only use adult AED pads when the child remains in cardiac arrest after at least one minute of CPR, when adequate airway measures have been employed, and when pediatric pads are not available. Pediatric defibrillation using one of the program’s AEDs can be performed using the supplied adult electrodes as a last resort. Modification to AED electrode placement: Research has found that the best pediatric pad placement is achieved utilizing an anterior/posterior placement (one pad on the chest and the other on the back) for infants and children with tiny torsos. This method of placement prevents pad overlap which could lead to arching. However, it is still acceptable to use conventional pad placement (anterior/anterior) when needed. A diagram of the correct pad placement for children can be found on the next page.

**ALERT TO RESCUERS:**

Children (1-8 yo) who are unresponsive and not breathing:

1. Perform CPR for 2 minutes.
2. Check airway.
3. Activate EMS.

**NOTE:** This AED is not equipped with pediatric electrodes, and it will not deliver an attenuated shock to a child. The adult pads included with this AED should *only* be used as last resort on a child.



Place one adult electrode pad on front of chest, and one on the back of the child.

## AED Procedures

1. Assess the scene for safety before approaching the victim.
2. Assess the victim for responsiveness.
3. Yell for help. Tell someone to **“Call 911”** and **“Get an AED.”**
4. Check for breathing or only gasping.
5. If the victim is not breathing, deliver **30 sets of chest compressions followed by 2 breaths.**
6. Continue CPR until the AED arrives.
7. Stop CPR, and open the lid to turn on the AED.
8. Follow the AED’s voice prompts and text displays until EMS arrives.
  - A. **Peel and place pads**
  - B. Analyze Rhythm: AED will prompt: “Do not touch patient. Analyzing rhythm.” **Make sure that no one is touching the patient.**
  - C. Charges: If a shock is advised, **AED will prompt:** “Shock advised, charging...”
- D. **Stand clear** of the patient and follow AED instructions on how to deliver defibrillation pulse.
 

\*\*Remember that the AED will not advise to defibrillate all patients without a pulse. Some cardiac rhythms do not respond to defibrillation.
- E. Analyze/Charge/Pulse: After the first shock, the AED will go through CPR prompts.
- F. **Rescuer gives CPR for 2 minutes** or delivers 5 cycles of 30 compressions and 2 breaths.
- G. Repeat/Analyze/Charge/Defibrillation Pulse: After 2 minutes of CPR, the **AED will prompt** “Do not touch patient. Analyzing rhythm.”
 

If the cardiac rhythm is shockable, the AED will guide through another defibrillation pulse sequence, followed by 2 minutes of CPR. This sequence should continue until:

  - No shockable rhythm is detected, or
  - The pads are disconnected, or
  - Emergency services personnel arrive on the scene.
- H. If at some point during the rescue the patient converts to a heart rhythm that does not require defibrillation:
 

**AED will prompt:** “Start CPR. Give 30 compressions then give two breaths. Rescuer will continue to perform CPR for 2 minutes, until EMS arrives, or until prompted by the AED to stop CPR.”

**If patient regains consciousness,** leave AED pads in place and make the patient as comfortable as possible until emergency services personnel arrive on scene.
9. After EMS arrives, fill out an Event Summary Form and follow instructions for submittal.



## Post Incident Procedure

After the use of an AED, follow manufacturer's guidelines on post-use maintenance and data management. An AED Operation and Service Manual for the Cardiac Science Powerheart AEDs at TFS offices can be found with the TFS EHS Officer.

At a minimum, the following steps should be taken to prepare the AED for the next rescue:

- Notify the AED Program Manager and/or Coordinator (refer to section on AED use reporting).
- Retrieve rescue data (if applicable). The AED Program Manager or Coordinator will retrieve the rescue data from the AED memory and provide it to the Oversight Physician who will ensure its delivery to the appropriate medical professional overseeing the patient.
- Cleaning the AED:
  - Use a cloth dampened with an approved cleaning solution to wipe the case. Dry the case with a clean cloth. Do not spray or pour the cleaning solution on the case or submerge the AED.
  - Use one of these solutions to clean the case of the AED:
    - Soapy water
    - Ethanol
    - 91% isopropyl
    - 3% bleach solution
  - When disinfecting the case, use a non-oxidizing disinfectant such as ammonium salts or a glutaraldehyde based cleaning solution to avoid damage to the metal connectors.
- Check expiration date on replacement pads and connect new pair of pads.
- Replace pocket mask and any other disposable supplies used.
- Close lid of AED and verify that the Status Indicator light on the handle is green.

## AED Use Reporting

After the use of an AED, the primary responder must complete an AED Event Summary Form. The AED Event Summary form will document patient information including patient name, age, gender, and contact information and incident information including location and approximate time of incident and patient care provided. The AED Event Summary Form is provided in **Attachment G– AED Event Summary Form**. The event summary form shall be submitted to the AED Program Manager within 48 hours after the incident has occurred. AED Event Summary records shall be retained according to TFS records retention policies.



**Attachment D: Monthly Maintenance Checklist for Cardiac Science Automated External Defibrillators**

Unit Serial #:	TFS Office:	POC:
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*Initial boxes as items are checked off. Keep completed form on file.*

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
<b><u>Step 1</u></b> Open Lid												
<b><u>Step 2</u></b> Status indicator should turn red												
<b><u>Step 3</u></b> Status indicator should turn back to green within 5 seconds												
<b><u>Step 4</u></b> Check expiration dates on pads												
<b><u>Step 5</u></b> Listen for voice prompts												
<b><u>Step 6</u></b> Close lid and confirm green status indicator												
Date												
Initials												

Daily Maintenance: Verify that the Status indicator is green.



**Attachment E: Annual Equipment Maintenance Form**

**Annual Maintenance Checklist for Cardiac Science PowerHeart G3, G3 Auto, and G3 Plus Automated External Defibrillators**

Follow instructions as listed below.

Sign at bottom when all checks are complete and return to office AED contact.

AED Serial Number: \_\_\_\_\_

TFS Office: \_\_\_\_\_

**Check the Integrity of the Pads and Circuitry:**

- Open the AED lid.
- Remove the pads.
- Close the lid.
- Confirm that the STATUS INDICATOR turns RED.
- Open the lid, and confirm that the PAD INDICATOR is lit.
- Reconnect the pads, and close the lid.
- Make sure the expiration date is visible through the clear window of the lid.
- Check to make sure that the STATUS INDICATOR is GREEN.
- Open the lid, and confirm that no diagnostic indicators are lit.
- Check the integrity of the pads, and record their expiration date. If expired, replace them.  
Pad expiration date: \_\_\_\_\_
- Close the lid.

**Check the Integrity of the Service Indicator (LED) and Circuitry:**

- Immediately after opening the AED lid, press and hold the Shock/Data/Automatic button and confirm that the Service LED is lit.
- Release the Shock/Continue button.
- Close the lid.
- Verify that the STATUS INDICATOR remains RED.
- Open the lid, and confirm that no diagnostic indicators are lit.
- Close the lid.
- Verify that the STATUS INDICATOR turns GREEN.



**Check the Integrity of the Case and AED Postings:**

- Examine the molded case of the AED for any visible signs of stress.
- Check the integrity of the spare pads, and record their expiration date. If expired, replace them. Spare pad expiration date: \_\_\_\_\_
- Ensure that the posted contact card is current.
- Ensure "ALERT TO RESCUERS" sign is posted inside the AED box, behind the AED.
- Ensure an updated MERP is available inside the AED case.

**Update and Save AED Data on computer (optional):**

- Open RescueLink Software on laptop or tablet PC.
- Open AED lid and connect to laptop/tablet PC with appropriate communications cable.
- In RescueLink software, Open the "Establish Communications Speed" under the "Communications" menu.
- Set "AED Date and Time" under the "Communications" menu.
- Save "AED Self-test History" in the "Tools" menu to the computer. Title the saved AED information with the AED Serial Number and date.
- Disconnect AED from Communications Port and close lid.
- Hang or Place the AED inside the AED housing.
- Ensure that the AED Housing Alarm is reactivated.

**Notes:**

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**Annual Check Performed by:**

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**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_



**Attachment F: Related Federal and State Liability Laws**

The **Federal Cardiac Arrest Survival Act of 2000** (HR 2498) Congressional Bill, Section 248 states:

“SEC. 248. (a) GOOD SAMARITAN PROTECTIONS REGARDING AEDS:

- Except as provided subsection (b), any person who uses or attempts to use an automated external defibrillator device on a victim of a perceived medical emergency is immune from civil liability for any harm resulting from the use or attempted use of such device; and in addition, any person who acquired the device is immune from such liability, if the harm was not due to the failure of such acquirer of the device –
  - (1) to notify local emergency response personnel of other appropriate entities of the most recent placement of the device within a reasonable period of time after the device was placed;
  - (2) to properly maintain and test the device; or
  - (3) to provide appropriate training in the use of the device to an employee or agent of the acquirer when the employee or agent was the person who used the device on the victim.

(b) INAPPLICABILITY OF IMMUNITY

- Immunity under subsection (a) does not apply, if –
  - (1) the harm involved was caused by willful or criminal misconduct, gross negligence, reckless misconduct, or a conscious, flagrant indifference to the rights or safety of the victim who was harmed;”

The **Texas Good Samaritan Act**, Chapter 74 of the Civil Practices and Remedies Code, Section 74.151 states:

“Sec.74.151 LIABILITY FOR EMERGENCY CARE.

- A person who in good faith administers emergency care is not liable in civil damages for an act performed during the emergency unless the act is willfully and wantonly negligent, including a person who:
  - (1) administers emergency care using an automated external defibrillator; or
  - (2) administers emergency care as a volunteer who is a first responder as the term is defined under Section 421.095, Government Code.



**Attachment G: AED Event Summary Form**

Date: \_\_\_\_\_ AED # \_\_\_\_\_

**Patient Information:**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Age: \_\_\_\_\_ Gender: \_\_\_\_\_ Male \_\_\_\_\_ Female

**Incident Information:**

Building: \_\_\_\_\_

Room/Floor/Area: \_\_\_\_\_

Approximate Time: \_\_\_\_\_

Witnessed cardiac arrest: \_\_\_\_\_ Yes \_\_\_\_\_ No

Breathing upon arrival of designated responders: \_\_\_\_\_ Yes \_\_\_\_\_ No

Pulse upon arrival of designated responders: \_\_\_\_\_ Yes \_\_\_\_\_ No

Bystander CPR: \_\_\_\_\_ Yes \_\_\_\_\_ No

Cardiac arrest after arrival: \_\_\_\_\_ Yes \_\_\_\_\_ No

Number of defibrillation shocks: \_\_\_\_\_ Yes \_\_\_\_\_ No

Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Rescuer's Name: \_\_\_\_\_

Rescuer's Signature: \_\_\_\_\_

Fax or mail this form to the EHS AED Manager at 979-458-6699 or MS 2136.