

## **City of Clemson AED Program**

Defibrillation is a recognized means of terminating certain potentially fatal arrhythmias during a cardiac arrest. A direct current defibrillator applies a brief, high-energy pulse of electricity to the heart muscle. Automated external defibrillators, or AEDs, were introduced in 1979. AEDs accurately analyze cardiac rhythms and, if appropriate, advise/deliver an electric counter shock. AEDs are currently widely used by trained emergency personnel and have become an essential link in the “chain of survival” as defined by the American Heart Association:

- Early access
- Early CPR by first responders or bystanders
- Early defibrillation
- Early advanced life support

It is recognized that successful resuscitation is related to the length of time between the onset of a heart rhythm that does not circulate blood (ventricular fibrillation VF, pulseless ventricular tachycardia VT) and defibrillation. The AHA states with every minute it takes to respond, the chance for successful defibrillation decreases 7-10%. The provision of timely emergency attention saves lives. Athletic events (both practice and competition) present a high risk for cardiopulmonary emergencies. By training certified staff located throughout the city, the first responders in these settings, in the use of AEDs and providing rapid access to AEDs, the emergency response time is shortened.

### **Explanation of the Use of AED:**

Automated external defibrillator, or AED, means a defibrillator which:

- Is capable of cardiac rhythm analysis
- Will charge and deliver a counter shock after electrically detecting the presence of cardiac dysrhythmias (Irregular Heartbeat)
- Is capable of continuous recording of the cardiac dysrhythmia at the scene
- Defibrillation is only one aspect of the medical care required to resuscitate patient with a shockable ECG rhythm. Dependent on the situation, other supportive measures may include:
  - Cardiopulmonary resuscitation (CPR)
  - Administration of supplemental oxygen
  - Drug therapy

### **Written Medical Protocol Regarding Use of AED:**

AED is to be used only on patients in cardiopulmonary arrest. Before the device is utilized to analyze the patient’s ECG rhythm, the patient must be:

- Unconscious
- Pulseless, and

- Not breathing spontaneously

**Once the patient has been identified in Cardiac Arrest, first responders on scene should begin first aid treatment. While treatment is ongoing, the City of Clemson staff should secure the AED where available and attach pads as indicated on the instructions and allow the defibrillator to analyze the patient's condition. The machine will advise to administer a shock if needed and may advise to repeat shocks or to begin CPR. Care should be given to the patient as advised by the machine and continued until advanced life support team arrives on scene and assumes control. To prepare for ECG analysis and defibrillation:**

- Verify that the patient is in cardiac arrest (unconscious, no respiration, no pulse)
- Press ON/OFF to turn on the AED (the green light will light). The connect electrodes message and voice prompt will occur until the patient is connected to the AED
- Prepare the patient for electrode placement.
- Follow the screen messages and voices prompts provided by the AED

**I. Provisions to Coordinate with Local EMS:**

In the event of a cardiopulmonary emergency, the 911 emergency system should be activated as quickly as possible. The first responders should provide initial care as appropriate to the situation and coordinate with other emergency medical service providers upon their arrival in the provision of CPR, defibrillation, basic life support, and advanced life support.

**Operator Considerations:**

The City of Clemson program utilizes AEDs. The AED is a semi-automatic defibrillator that uses a patented Shock Advisory System. This software algorithm analyzes the patient's electrocardiographic (ECG) rhythm and indicates whether or not it detects a shockable rhythm. The AED requires operator interaction in order to defibrillate the patient. The AED is intended for use by personnel who are authorized by the Medical Liaison (Use state law definition of Medical Liaison) and have, at a minimum, the following skills and training:

- CPR training (As defined by South Carolina Code of Laws, Title 44, Chapter 74)
- AED training equivalent to that recommended by the American Heart Association, American Red Cross or the American Safety and Health Institute
- Training in the use of the AED

**Nothing in the policy will preclude the use of the AED device by a well intended good Samaritan. The machines are designed to be fool proof and can be used by the lay person without any additional training.**

**Procedures for Training and Testing in Use of AED:**

Key personnel in each building housing the AED must complete a training session every other year, to include instruction in:

- The proper use, maintenance, and periodic inspection of the AED
- Defibrillator safety precautions to enable the user to administer a shock without jeopardizing the safety of the patient, the user, or other persons
- Assessment of an unconscious person to determine if cardiac arrest has occurred and the appropriateness of applying an AED
- Recognizing that an electrical shock has been delivered to the patient and that the defibrillator is no longer charged
- Rapid, accurate assessment of the patient's post shock status to determine if further activation of the AED is necessary
- The operations of the local emergency medical services system, including methods of access to the emergency response system, and interaction with emergency medical services personnel
- The role of the user and coordination with other emergency medical service providers in the provision of CPR, defibrillation, basic life support, and advanced life support
- The responsibility of the user to continue care until the arrival of medically qualified personnel

**A. Procedures to Ensure the Continued Competency Required for AED Use: Personnel using the AED must complete a review session every other year using the AED training device and/or the AED Challenge computer simulation software for the AED to ensure continued competency in the use of the device. A record will be maintained documenting Clemson staff competency training on the AED.**

**B. Medical Control Reporting and Incident Review: The AED digitally records patient data, including ECG rhythm and delivered shocks. A digital audio recording of scene activity may be available depending on the type of AED unit purchased. Recorded data may be transferred by direct connection to a printer or computer or by modem to a remote computer.**

Following an incident of application, the data will be downloaded from the AED and reviewed by both the medical director and if available, the attending physician(s) at the emergency facility where emergency care was provided. In addition, a report detailing the emergency scene and treatment will be documented in writing.

**Location of and Maintenance Required for AEDs:**

The City of Clemson program will have several portable AED units located throughout the city. The Clemson Police Department will also have a portable unit that will be assigned to shift personnel that will be in a patrol vehicle in the city. The AED's are housed as follows:



## South Carolina Code of Laws

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### Title 44 - Health

#### CHAPTER 76.

#### AUTOMATED EXTERNAL DEFIBRILLATORS

##### **SECTION 44-76-10.** Short title.

This act may be cited as the "South Carolina Automated External Defibrillator Act".

HISTORY: 1999 Act No. 34, Section 1.

##### **SECTION 44-76-20.** Definitions.

For purposes of this chapter:

- (1) "Automated external defibrillator" or "AED" means an automated external defibrillator which is a medical device heart monitor and defibrillator that:
  - (a) has received approval of its pre-market notification filed pursuant to the United States Code, Title 21, Section 360(k), from the United States Food and Drug Administration;
  - (b) is capable of recognizing the presence or absence of ventricular fibrillation or rapid ventricular tachycardia and is capable of determining, without intervention by an operator, whether defibrillation should be performed; and
  - (c) upon determining that defibrillation should be performed, automatically charges and requests delivery of an electrical impulse to an individual's heart.

(2) "Health care professional" means a licensed physician, surgeon, physician's assistant, nurse practitioner, or nurse.

(3) "Designated AED user" means a person identified by the person or entity acquiring an AED who has received training in the use of an AED pursuant to this chapter.

HISTORY: 1999 Act No. 34, Section 1.

**SECTION 44-76-30.** Training, maintenance, testing, use and reporting requirements for automated external defibrillators.

A person or entity that acquires an AED shall:

(1) require its designated AED users to have current training in CPR and AED use by the American Heart Association, American Red Cross, American Safety and Health Institute, or National Safety Council, or training from a program that meets or exceeds the training standards of these organizations;

(2) maintain and test the AED according to the manufacturer's operational guidelines and keep written records of maintenance and testing;

(3) employ or obtain a health care professional to serve as its AED liaison;

(4) have in place an AED program approved by its AED liaison which includes CPR and AED training, AED protocol or guidelines, AED deployment strategies, and an AED equipment maintenance plan;

(5) include in its AED protocol or guidelines that a person who renders emergency care or treatment to a person in cardiac arrest caused by ventricular fibrillation/tachycardia by using an AED must activate the emergency medical services system or 911 as soon as possible; and

(6) report any clinical use of the AED to the AED liaison.

HISTORY: 1999 Act No. 34, Section 1; 2008 Act No. 206, Section 3, eff May 14, 2008.

**SECTION 44-76-40.** Immunity from civil liability for use of automated external defibrillator.

(1) Any person or entity acting in good faith and gratuitously shall be immune from civil liability for the application of an AED unless the person was grossly negligent in the application.

(2) Any designated AED users meeting the requirements of Section 44-76-30(1) and acting according to the required training shall be immune from civil liability for the application of an AED unless the application was grossly negligent.

(3) A person or entity acquiring an AED and meeting the requirements of Section 44-76-30 or an AED liaison meeting the requirements of Section 44-76-30 shall be immune from civil liability for the application of an AED by any person or entity described in items (1) or (2) of this section.

(4) A prescribing physician shall be immune from civil liability for authorizing the purchase of an AED, unless the authorization was grossly negligent.

(5) Any person or entity, acting in good faith and gratuitously, that teaches or provides a training program for cardiopulmonary resuscitation that includes training in the use of an automated external defibrillator is immune

from civil liability for providing this training for use if the:

(a) person or entity has provided the training in accordance with the guidelines and policies of a national training organization, as defined in Section 44-76-30(1);

(b) person providing the training is authorized to deliver that course or curriculum; and

(c) training delivery was not grossly negligent.

HISTORY: 1999 Act No. 34, Section 1; 2008 Act No. 206, Section 1, eff May 14, 2008.

**SECTION 44-76-50.** Applicability of chapter.

The provisions of this chapter do not apply to emergency medical services, a physician's office, or a health care facility as defined in Section 44-7-130(10).

HISTORY: 1999 Act No. 34, Section 1.

### **Title 59- Education**

**SECTION 59-17-155.** Automated external defibrillator program; immunity from civil liability; state contract for purchase of defibrillators.

(A) Subject to appropriations by the General Assembly, each school district shall develop and implement an automated external defibrillator program meeting the requirements of Chapter 76 of Title 44 of the 1976 Code for each high school in the district. The program must include provisions that:

(1) require an operational automatic external defibrillator on the grounds of the high school;

(2) require all persons who are reasonably expected to use the device to obtain appropriate training, including completion of a course in cardiopulmonary resuscitation or a basic first aid course that includes cardiopulmonary resuscitation training and demonstrated proficiency in the use of an automated external defibrillator. The school district superintendent, or the superintendent's designee, shall determine who is reasonably expected to use the device;

(3) establish guidelines for periodic inspections and maintenance of the defibrillators; and

(4) define the purpose of the program and the manner in which the program will operate.

(B)(1) Any person or entity acting in good faith and gratuitously shall be immune from civil liability for the use of an automated external defibrillator unless the person was grossly negligent in the use.

(2) Any designated automated external defibrillator user meeting the requirements of Section 44-76-30(1) and acting according to the required training shall be immune from civil liability for the application of an automated external defibrillator unless the application was grossly negligent.

(3) A person or entity acquiring an automated external defibrillator and meeting the requirements of Section 44-76-30 or an automated external defibrillator liaison meeting the requirements of Section 44-76-30 shall be

immune from civil liability for the use of an automated external defibrillator by any person or entity described in items (1) or (2) of this subsection.

(4) A prescribing physician shall be immune from civil liability for authorizing the purchase of an automated external defibrillator, unless the authorization was grossly negligent.

(C) Any person or entity, acting in good faith and gratuitously, that teaches or provides a training program for cardiopulmonary resuscitation that includes training in the use of automated external defibrillator is immune from civil liability for providing this training for use if the:

(1) person or entity has provided the training in accordance with the guidelines and policies of a national training organization, as defined in Section 44-76-30(1);

(2) person providing the training is authorized to deliver that course or curriculum; and

(3) training delivery was not grossly negligent.

(D) The State Budget and Control Board may establish a state contract for the purchase of automated external defibrillators.

HISTORY: 2008 Act No. 278, Section 1, eff June 5, 2008, first applies for the 2008-2009 school year.