



A Division of the Ventura County Health Care Agency

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Director

EMERGENCY MEDICAL SERVICES

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May 14, 2002

Honorable Bruce A. Clark
Presiding Judge of the Superior Court
Ventura County Hall of Justice
800 S. Victoria Avenue
Ventura, CA 93009

Subject: Response to February 21, 2002 Grand Jury Report Titled
"The Need for Automatic Electronic Defibrillators in Ventura County"

The EMS Agency is grateful to the Grand Jury for their support and recognition of the importance of the County's Automated External Defibrillator (AED) Program. The following is our response to the Findings and Recommendations of their report.

Findings

F-1 According to American Heart Association statistics, cardiovascular disease is the number one cause of death in United States. There are over 480,000 deaths each year from heart attacks and the complications from those heart attacks. Over half, or 250,000, of those are from Sudden Cardiac Death. There are more victims of Sudden Cardiac Death than there are of lung cancer, breast cancer and AIDS combined.

Concur.

F-2 Sudden Cardiac Death typically occurs within the first one to two hours following a heart attack, before the victim arrives at a hospital. Sudden Cardiac Death, in most adult victims, is from ventricular fibrillation. Ventricular fibrillation is a chaotic quivering of the heart muscle, which renders the pumping action of the heart useless.

Concur.

F-8 The AED uses computer technology to analyze the cardiac rhythm and tell the trained operator when to use the machine appropriately. Therefore, the layperson does not have to be knowledgeable of cardiac rhythm to defibrillate a victim of Sudden Cardiac Death.

Concur.

F-9 The City of Thousand Oaks has 12 AEDs in place throughout their community and has trained over 120 employee-volunteers to operate the equipment. Their forward thinking program was initiated in 1999. To date one life has been saved. Their commitment is serious and thorough. Maintenance of the defibrillator equipment and continuing education of the operators is ongoing. Locations of the Thousand Oaks' AEDs include the library, the senior citizens' center, the city hall, the civic auditorium and Los Robles Golf Course.

Concur.

F-10 Leisure Village in Camarillo was one of the first in the County to utilize AEDs. There are three defibrillator units at Leisure Village. Two are kept in the security vehicles that patrol the community; one is in the recreation center. Both security and recreation center staff are trained to use the equipment. It is the Grand Jury's understanding that the AEDs at Leisure Village have been utilized many times since their introduction in 1998.

Concur.

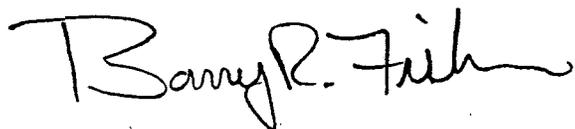
F-11 There are an unknown number of AED units throughout the County at various business locations.

Concur.

F-12 In January 2002, the Ventura County Emergency Medical System received funding from the Tobacco Settlement Program to purchase 50 AED units and train personnel in the use of those units throughout Ventura County. The Emergency Medical System is also attempting to identify all of the AED units located at private businesses in the County to insure proper training of operators and systematic maintenance of equipment.

Concur.

Sincerely,



Barry Fisher
Administrator

Enclosures:

Recommended Locations for Initial Placement of 50 AEDs
Public Access Defibrillation packet
Letter of Support from the Superior Court

C: Board of Supervisors
John F. Johnston, County Executive Officer
Pierre Durand, HCA Director
Paul E. Lorenz, Public Health Services Director
Dr. Salvucci, EMS Medical Director
Dr. David Chase, AED Program Medical Director

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Ventura County
Public Health

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EMERGENCY MEDICAL SERVICES

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Public Access Defibrillation

Thank you for your interest in Public Access Defibrillation (PAD). You have taken the first step to improve the survivability of cardiac arrest in Ventura County.

This packet contains documents and forms to help you easily develop and implement a PAD program. Please contact the Ventura County EMS Agency with any questions regarding PAD programs at (805) 677-5270.

This packet contains the following documents and forms:

- Application to become a PAD Provider in the County of Ventura
- Report of CPR or AED Use to EMS Agency
- Notice of New Automatic External Defibrillator Site
- EMS Agency PAD Program Standards (Policy 1301)
- Statutes and Regulations pertaining to the use of PAD
- AED Training Organization List
- AED Vendor List
- Sample AED Standard Operating Procedures
- Frequently asked questions about AED's

Thank you for your interest in this life-saving program.

Sincerely,

Barry Fisher
EMS Administrator

Angelo Salvucci, M.D.
Medical Director

Part Three: PAD Provider Prescribing Physician

Name: _____

Office Address: _____

Office Phone: _____

Office FAX: _____

Email address: _____

Medical License #: _____

- Please attach a photocopy of the Physician and Surgeon License of the Prescribing Physician to this application.

Part Four: Training Organization

- Tell us about the training organization, if any, with whom you will work?

Primary Training Organization: _____

Contact Name: _____

Contact Phone Number: _____

Part Five: Medical Control, Program Oversight and Quality Assurance

The Prescribing Physician is responsible for medical control, oversight and quality assurance of the AED program.

- Medical Protocols and Standing Orders**
Attach the plan for utilizing the AED, including written medical protocols, which may include, but are not limited to, authorization of personnel, standing orders and case by case reviews.
- Personnel Training Standards**
Attach the plan for training and testing authorized individuals in the use of the AED.
- Competency Evaluation and Testing**
Attach your plan to assure the competency of authorized individuals. This plan must include quarterly training and demonstration of skill proficiency. The prescribing physician, or an individual that s/he authorizes, may train and test authorized individuals.
- Medical Control**
Attach the plan to assure medical control, including case review of each AED use or non-use. This plan should include a recording by magnetic tape or other means.

Part Eight: Prescribing Physician Statement

Please read and sign the statement below:

In consideration for being accepted as a Public Access Defibrillator Prescribing Physician in Ventura County, I certify that I have read, understand, and will comply with the requirements of the California Health and Safety Code, Sections 1797.107, 1797.190, and 1797.196, California Code of Regulations, Title 22, Sections 100031 through 100041 and Ventura County EMS Policy 1301 relating to Public Access Defibrillation.

Name: _____

Signature: _____

Date: _____

Ventura County EMS thanks you for your interest in this life-saving program. Please contact us at 677-5273 with any questions regarding PAD programs.

Office Use Only:

Date Received	
Date Approved/Disapproved	
Approved/Disapproved by	
Signature/Date	
Follow-up 1	
Follow-up 2	

Ventura County EMS Agency

REPORT OF CPR OR AED USE

Name of AED Program	
Name of AED Provider	
Place of Occurrence (address and specific site)	
Date Incident Occurred	
Time of Incident	
Patient's Name (if able to determine)	
Patient's Age (Estimate if unable to determine)	
Patient's Sex (Male or Female)	
Time (Indicate best known or approximated time):	
• Witnessed arrest to CPR	
• Witnessed arrest to 9-1-1 Called	
• 9-1-1 to arrival on scene	
• Patient contact to first shock/ Witnessed arrest to first shock	
• 9-1-1 to first shock	
• Total number of defibrillation shocks	
• Patient prehospital outcome	
• Patient discharged from hospital?	

Was the cause of the arrest determined?	Yes	No
Was the cause of the arrest cardiac?	Yes	No
Was the arrest witnessed?	Yes	No
Was bystander CPR implemented?	Yes	No
Was there any return of spontaneous circulation?	Yes	No

Please attach any additional information that you think would be helpful.

AED Vendor List

- | | |
|--|---------------------------------------|
| Laerdal - | Keith Wellen (949) 829-8545 |
| Medtronic Physio-Control - | Jim Emerson (805) 692-8821 |
| Cardiac Science/Survivalink - | Jim Mathers (800) 966-1440 x3233 |
| Zoll Medical Corporation - | Bryan Pank (800) 242-9150
Ext. 218 |
| Medical Research Laboratories - | (800) 462-0777 |

The Ventura County EMS Agency does not endorse a particular vendor, nor do we claim that this is a complete listing of AED Vendors.

If you know of an AED vendor that you would like to be added to this list, please contact the AED Program Administrator at (805) 677-5273.

VI. RESPONSIBILITIES OF THE PRESCRIBING PHYSICIAN

- A. The prescribing physician shall maintain a list of authorized individuals that s/he has trained.
- B. The prescribing physician (or his/her designee) shall maintain a record of authorized individuals that are currently participating in the AED program under that physician's control. The record shall include the authorized individuals:
 - 1. Name
 - 2. Address
 - 3. Telephone Number
 - 4. Copy of CPR certificate
 - 5. Date of initial training
 - 6. Dates of quarterly retraining
- C. VCEMS may audit or review this information upon request.
- D. The prescribing physician shall issue to the authorized individual a written validation or other documented proof of the authorized individual's ability to use an AED.

VII. REQUIRED TRAINING HOURS AND TOPICS

Course Content: Training for authorized individuals shall consist of not less than four hours, presented in two sessions, preferably over a period of at least two days, and shall include the following topics and skills:

- A. Proper use, maintenance and periodic inspection of the AED; the importance of: CPR, fibrillation advanced life support, internal emergency response system; overview of the local EMS system, including 9-1-1 access, and interaction with EMS personnel.
- B. Assessment of an unconscious patient to determine if cardiac arrest has occurred and the appropriateness of applying and activating an AED.
- C. Information relating to defibrillator safety precautions to enable the individual to administer shock without jeopardizing the safety of the patient or the authorized individual or other nearby persons.
- D. Recognition that an electrical shock has been delivered to the patient and that the defibrillator is no longer charged.
- E. Rapid, accurate assessment of the patient's post-shock status to determine if further activation of the AEG is necessary.
- F. Authorized individual's responsibility of continuation of care, such as the repeated shocks if necessary, and/or accompaniment to the hospital, if indicated, or until the arrival of more medically qualified personnel.

California Civil Code, Section 1714.2

1714.2. (a) In order to encourage citizens to participate in emergency medical services training programs and to render emergency medical services to fellow citizens, no person who has completed a basic cardiopulmonary resuscitation course which complies with the standards adopted by the American Heart Association or the American Red Cross for cardiopulmonary resuscitation and emergency cardiac care, and who, in good faith, renders emergency cardiopulmonary resuscitation at the scene of an emergency shall be liable for any **civil** damages as a result of any acts or omissions by such person rendering the emergency care. (b) This section shall not be construed to grant immunity from **civil** damages to any person whose conduct in rendering such emergency care constitutes gross negligence. (c) In order to encourage local agencies and other organizations to train citizens in cardiopulmonary resuscitation techniques, no local agency, entity of state or local government, or other public or private organization which sponsors, authorizes, supports, finances, or supervises the training of citizens in cardiopulmonary resuscitation shall be liable for any **civil** damages alleged to result from such training programs. (d) In order to encourage qualified individuals to instruct citizens in cardiopulmonary resuscitation, no person who is certified to instruct in cardiopulmonary resuscitation by either the American Heart Association or the American Red Cross shall be liable for any **civil** damages alleged to result from the acts or omissions of an individual who received instruction on cardiopulmonary resuscitation by that certified instructor. (e) This section shall not be construed to grant immunity from **civil** damages to any person who renders such emergency care to an individual with the expectation of receiving compensation from the individual for providing the emergency care.

California Civil Code, Section 1714.21

1714.21. (a) For purposes of this section, the following definitions shall apply: (1) "AED" or "defibrillator" means an automated or automatic external defibrillator. (2) "CPR" means cardiopulmonary resuscitation. (b) A person who has completed a basic CPR and AED use course that complies with regulations adopted by the Emergency Medical Services (EMS) Authority and the standards of the American Heart Association or the American Red Cross for CPR and AED use, and who, in good faith and not for compensation, renders emergency care or treatment by the use of an AED at the scene of an emergency shall not be liable for any **civil** damages resulting from any acts or omissions in rendering the emergency care. (c) A person or entity who provides CPR and AED training to a person who renders emergency care pursuant to subdivision (b) shall not be liable for any **civil** damages resulting from any acts or omissions of the person rendering the emergency care. (d) A physician who is involved with the placement of an AED and any person or entity responsible for the site where an AED is located shall not be liable for any **civil** damages resulting from any acts or omissions of a person who renders emergency care pursuant to subdivision (b) if that physician, person, or entity has complied with all requirements of Section 1797.196 of the Health and Safety Code that apply to that physician, person, or entity. (e) The protections

California Health and Safety Code, Section 1797.196

1797.196. (a) For purposes of this section, "AED" or "defibrillator" means an automated or

automatic external defibrillator.

(b) In order to ensure public safety, any person who acquires an AED shall do all of the following:

(1) Comply with all regulations governing the training, use, and placement of an AED.

(2) Notify an agent of the local EMS agency of the existence, location, and type of AED acquired.

(3) Ensure all of the following:

(A) That expected AED users complete a training course in cardiopulmonary resuscitation and AED use that complies with regulations adopted by the Emergency Medical Services (EMS) Authority and the standards of the American Heart Association or the American Red Cross.

(B) That the defibrillator is maintained and regularly tested according to the operation and maintenance guidelines set forth by the manufacturer, the American Heart Association, and the American Red Cross, and according to any applicable rules and regulations set forth by the governmental authority under the federal Food and Drug Administration and any other applicable state and federal authority.

(C) That the AED is checked for readiness after each use and at least once every 30 days if the AED has not been used in the preceding 30 days. Records of these periodic checks shall be maintained.

(D) That any person who renders emergency care or treatment on a person in cardiac arrest by using an AED activates the emergency medical services system as soon as possible, and reports any use of the AED to the licensed physician and to the local EMS agency.

(E) That there is involvement of a licensed physician in developing a program to ensure compliance with regulations and requirements for training, notification, and maintenance.

(c) A violation of this provision shall not be subject to penalties pursuant to Section 1798.206.

[Added by SB 911 (CH 163) 1999.]

individual(s), and who develops, implements, and maintains the medical control provisions specified in this chapter.

Note: Authority cited: Sections 1797.107 and 1797.190, Health and Safety Code.

Reference: Sections 1797.5 and 1797.190, Health and Safety Code.

Article 2. General Training Provisions

§ 100036. Application and Scope.

(a) Any physician and surgeon licensed in California may authorize an individual to apply and operate an AED on an unconscious, pulseless, patient who is apneic or has agonal respirations, only if that authorized individual has been successfully trained according to the standards prescribed by this chapter.

(b) The training standards prescribed by this chapter shall not apply to licensed, certified or other prehospital emergency medical care personnel as defined by Section 1797.189 of the Health and Safety Code.

Note: Authority cited: Sections 1797.107 and 1797.190, Health and Safety Code.

Reference: Sections 1797.5 and 1797.190, Health and Safety Code.

§ 100037. Eligibility for Training.

An individual shall be eligible for the training prescribed in this chapter if the person has been trained in CPR, and has demonstrated proficiency in CPR practices to the satisfaction of the prescribing physician.

Note: Authority cited: Sections 1797.107 and 1797.190, Health and Safety Code.

Reference: Sections 1797.5 and 1797.190, Health and Safety Code.

Article 3. Training Standards

§ 100038. Required Hours and Topics.

(a) The training shall consist of not less than four (4) hours, presented in two (2) sessions, preferably over a period of at least two days, and shall include the following topics and skills:

(1) proper use, maintenance and periodic inspection of the AED;

(2) the importance of:

(A) CPR,

(B) defibrillation,

(C) advanced life support,

(D) internal emergency response system;

(3) overview of the local EMS system, including 9-1-1 access, and interaction with EMS personnel;

(4) Assessment of an unconscious patient to determine if cardiac arrest has occurred and the appropriateness of applying and activating an AED;

(5) information relating to defibrillator safety precautions to enable the individual to administer shock without jeopardizing the safety of the patient or the authorized individual or other nearby persons;

(6) recognition that an electrical shock has been delivered to the patient and that the defibrillator is no longer charged;

Frequently Asked Questions About AEDs

What does AED stand for?

AED stands for automated external defibrillator.

What's an AED?

An AED is a device used to administer an electric shock through the chest wall to the heart. Built-in computers assess the patient's heart rhythm, judge whether defibrillation is needed, and then administer the shock. Audible and/or visual prompts guide the user through the process.

How does an AED work?

A microprocessor inside the defibrillator interprets (analyzes) the victim's heart rhythm through adhesive electrodes (some AED models require you to press an ANALYZE button). The computer analyzes the heart rhythm and advises the operator whether a shock is needed. AEDs advise a shock only to ventricular fibrillation and fast ventricular tachycardia. The electric current is delivered through the victim's chest wall through adhesive electrode pads.

Why are AEDs important?

AEDs are important because they strengthen the Chain of Survival. They can restore a normal heart rhythm in victims of sudden cardiac arrest. New, portable AEDs enable more people to respond to a medical emergency that requires defibrillation. When a person suffers a sudden cardiac arrest, their chance of survival decreases by 7% to 10% for each minute that passes without defibrillation. AEDs save lives.

Who can use an AED?

Most AEDs are designed for use by non-medical personnel such as police, flight attendants, security guards, and other lay rescuers who have been properly trained. Having more people in the community who can respond to a medical emergency by providing defibrillation will greatly increase sudden cardiac arrest survival rates.

What is a cardiac arrest?

A cardiac arrest means that the heart stops pumping blood through the body. Without a constant blood supply, the brain stops working almost immediately and the person goes unconscious.

Is cardiac arrest the same thing as a heart attack?

No. A heart attack is caused by a sudden blockage of a small artery that supplies blood to the heart muscle. When the blood supply is cut off, that portion of the heart muscle dies and this is what causes the pain. Some people who have heart attacks may experience a cardiac arrest.

Does a cardiac arrest only happen after a heart attack?

No. Anyone can have a cardiac arrest at any time. Heart attacks are only one potential cause of cardiac arrest.

Why should people who are responsible for operating an AED receive CPR training?

Early CPR is an integral part of providing lifesaving aid to people suffering sudden cardiac arrest. The ventilation and compression skills learned in a CPR class help to circulate oxygen-rich blood to the brain. After delivering a series of three electric shocks, the typical AED will prompt the operator to continue CPR while the device continues to analyze the patient.

If AEDs are so easy to use, why do people need formal training in how to use them?

An AED operator must know how to recognize the signs of a sudden cardiac arrest, when to activate the EMS system, and how to do CPR. It's also important for operators to receive formal training on the AED model they will use so that they become familiar with the device and are able to successfully operate it in an emergency. Training also teaches the operator how to avoid potentially hazardous situations.

Can anyone buy an AED?

AEDs are manufactured and sold under guidelines approved by the Food and Drug Administration. Current FDA rules require someone who purchases an AED to present a physician's prescription for the device. The AED manufacturer usually arranges this.

My health club has identified a member physician willing to purchase an AED for the club. What's the first step in the process?

Contact the local EMS Agency for a Ventura County AED Packet. The information enclosed will assist you in developing your AED Program.

How much does an AED cost?

The price of an AED varies by make and model. Most AEDs cost around \$3000-\$4000.

What steps should an organization take to buy an AED for its premises?

Any person or entity wanting to buy an AED must first get a prescription from a physician. The AED should be placed in use within a defibrillation program that includes these elements:

- Training of all users in CPR and operation of an AED.
- Physician oversight to ensure appropriate maintenance and use of the AED.
- Notification of local EMS of type and location of AED.

Which AED model does the AHA recommend?

AHA does not recommend a specific device. All AED models have similar features, but the slight differences allow them to meet a variety of needs. The AHA encourages potential buyers to consider all models and make a selection based on the buyer's particular needs. The Ventura County EMS system can help you with this decision.

Why do you stop CPR as the electrode pads are placed and analysis occurs?

For the AED to analyze accurately, the victim must be motionless. Sometimes there will be an agonal respiration (a gasping breath that can occur when the heart is stopped) that causes some movement. AEDs can recognize this extra motion and indicate, "motion detected" to the operator. This warns the operator to assess carefully for extra movements from the victim or other people at the scene.

Why should a lay rescuer continue CPR after the arrival of emergency medical services (EMS) professionals?

It's helpful to EMS professionals to be able to set up their equipment, including the defibrillator, while lay rescuers continue CPR. The EMTs will take over CPR and reconfirm that the victim is in cardiac arrest.

Why does it seem that the victim goes without CPR for so long during defibrillation, and why does an AED shock so many times?

After prescribed periods of CPR, the machine analyzes the victim's rhythm. The victim must remain motionless while the AED decides to shock and delivers the shock. Sometimes the victim doesn't change from VF to non-VF at once. These victims require multiple shocks. If repeated shocks are needed, the shocks are "stacked" in sets of three to increase their effectiveness.

Besides using an AED, how else might a lay rescuer help at the scene of a sudden cardiac arrest?

Lay rescuers are most often asked to call 911 and get the AED. The lay rescuer can assemble the pocket face mask and begin providing mouth-to-mask ventilations. Responders might provide CPR or continue defibrillation if a workplace defibrillator is used. Support and direction to bystanders, friends, and family are appropriate. When EMS personnel arrive, the lay rescuer can provide directions and help get information about the patient.

What actions should a CPR responder take after using an AED on a person in cardiac arrest?

There should be some type of debriefing for EMS personnel or lay rescuers involved in a resuscitation attempt. Also, the voice-rhythm-shock record should be collected from the AED's event documentation system. The AHA strongly recommends that AEDs used in a public access or home-responder setting have both rhythm and voice event documentation. AEDs can record and store (as a minimum) the following information:

- Patient rhythm throughout the resuscitation.
- Response of the AED (shock versus no shock; shockable rhythm versus non-shockable rhythm).
- Event and interval timing.
- Audio recording of the voices and actions recorded at the scene of a cardiac arrest.