



Bystander Automated External Defibrillator (AED) Program

The Campus Fire & Life Safety Team, under the direction of the Associate Vice Chancellor for Facilities Management, has responsibility for coordination of the campus bystander AED program. This program meets all of the requirements of the Colorado State AED Statutes and the Colorado Department of Public Health and Environment regulations. The regulatory mandates and Good Samaritan civil protection statutes are printed at the bottom of this document.

We encourage university staff to read this document in its entirety in order to fully understand the program, locations of AEDs, regulatory oversight, and Colorado immunity from liability provisions.

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1. Overview

Sudden cardiac arrest (SCA) is a medical event in which the heart's rhythm becomes erratic, and the heart can't pump oxygenated blood to the brain or other vital organs. Unless a normal heart rhythm is restored within a short time, death is virtually inevitable. An Automated External Defibrillator (AED) is a compact and portable, battery-operated device used to automatically deliver measured electrical shocks in order to reestablish the heart's normal rhythm. The simple operation of AEDs makes them suitable for public places, to be used by those who have basic Cardio-Pulmonary Resuscitation (CPR) and AED training.

The AED circuitry is designed to analyze cardiac rhythm and inform the operator whether a shock is indicated. Electrode pads on the victim transmit information to the device for both monitoring and shock therapy. Once activated, AEDs have voice and text which will guide the user through a few simple steps. The AED will NOT electrically shock the victim unless the unit's pre-programmed computer indicates that a shock is necessary—at which time, a "voice prompt" will warn bystanders to not touch the patient during the shock phase.

2. Keys to Survival Success

When Sudden Cardiac Arrest occurs, several key contributors to survival must be initiated in rapid order. Those key factors are known as the "Chain of Survival:"

1. Early Recognition
2. Early CPR
3. Early Defibrillation
4. Early Access to EMS (Emergency Medical Services)

Early bystander cardiopulmonary resuscitation (CPR) and rapid defibrillation are two major contributors to survival of adult victims of sudden cardiac arrest, however these must be combined with other elements such as recognition that a person is having a medical emergency and early access to local Emergency Medical Services, hopefully with Paramedic services. According to the AHA, "Use of AEDs by first responders and laypersons has reduced time to defibrillation and improved survival from sudden cardiac arrest in several communities."

The cities of both Denver and Aurora have fully equipped Paramedic response, however the systems differ slightly. In most cases, response time is within 5 minutes.

3. History of Implementation at the University of Colorado Denver & Anschutz Medical Campus

In late 2010, the university chose to implement an AED program, with individual AED units placed in the lobbies of all campus occupied buildings. Several clinical areas on the campus already had AEDs, however the new program took control of addressing the lack of bystander AED units.

This program ONLY addresses public area, bystander available, AEDs.

It should be also understood that AED placement does not include buildings that are not owned and operated by the University of Colorado Denver / Anschutz.

(Please note that University of Colorado Hospital is a separately governed, non-profit entity, and the entire Auraria downtown campus is managed and maintained by the Auraria Higher Education Center (AHEC). We have no information regarding AED placement in the aforementioned locations or for any leased property.)

4. Colorado State AED overview

The State of Colorado legislators have encouraged the acquisition of AEDs for a number of years. As was stated in the 1990s:

“The general assembly hereby declares that it is the intent of the general assembly to encourage the use of automated external defibrillators for the purpose of saving the lives of people in cardiac arrest.”

Colorado State Statute has specific requirements for entities who acquire AEDs, and Good Samaritan Laws for both bystander assistance and AED use is attached (toward the end of this document).

5. Expected / Authorized Users

Technically, anyone—including untrained bystanders—are protected from civil litigation when using an AED in good faith (under Colorado Good Samaritan Laws); however, we encourage personnel to have prior training.

AEDs for use by the public or university bystanders will be expected to be available at any time by anyone.

General staff should be aware that they are not required to use an AED, nor are they specifically compensated for assisting a victim of sudden cardiac arrest. Except for campus police, and medical professionals in a clinical setting, all university employees are considered “volunteers” when rendering assistance to any individual suffering a medical emergency.

Most of the University Police officers are trained to use AEDs, as are many professional clinicians. AEDs mounted in clinical areas may be for use by professional medical personnel only, and should be marked as such.

6. Medical Oversight

Colorado State Statutes require that we have a physician review and approve the AED program plan. Since physician advisors do occasionally change, the name of our current individual will be made available by contacting the Campus Fire Marshal. Maintenance records and reports of publicly located AED use are forwarded to the physician, and advice is sought when applicable or as required by state law.

AEDs in clinical areas are not covered by State Immunity or AED Statutes. Such units are expected to be used only by professionals, as is the case with other medical equipment in clinical settings.

7. AED Installation / Placement / Brand-model

The Campus Fire & Life Safety Team will coordinate with facilities personnel on the installation and placement of all bystander AEDs on all UC Denver / Anschutz campus locations. In addition, the Fire & Life Safety Team and CU Building Department will perform plan reviews of new construction and renovation projects to determine AED necessity and location (in cooperation with the appropriate project manager).

Currently, each occupied building at both the Anschutz Medical Campus (AMC) and the Downtown Denver Campus buildings (not including Auraria campus) have one AED placed prominently in the main lobby area. Since each building layout is different, please take the time to confirm the location. Per the U.S. Department of Justice ruling on the Americans with Disabilities Act, AEDs are to be installed with the center of the cabinet handle 48" above the finished floor. UC Denver AEDs are mounted to this height.

Please note that most University Police vehicles have AEDs, with trained responders. These units are not part of the bystander AED program, since they are not available to everyone. We ask that you notify University Police of any emergency on the campus, by dialing 9-1-1 from a campus phone. If you use a cell phone to dial 9-1-1, you will be connected to the local emergency dispatch center, so please make a second call to University Police at 303 724-4444 to inform them of any emergency on the campus.

Our AED units are: HeartSine® Samaritan® PAD (Public Access Defibrillator) –See pictures below. In addition to the actual AED, each cabinet holds a small pack containing: gloves, mouth-shield, scissors, razor, gauze pad, and a red biohazard disposal bag. The pack is clipped to the AED case for ease of transport.

Each AED has a computer “event” program, which automatically saves the information regarding actual use during a cardiac arrest. After the incident, we will download the event information, and forward to our physician advisor for review.

A list of AED locations is found on the University Police / Emergency Management main page. [AED Locations \(cuanschutz.edu\)](https://cuanschutz.edu)

At this time, public AEDs found in the university buildings are:

HeartSine® Samaritan® PAD (Public Access Defibrillator)

Please visit their website at: <http://www.heartsine.com/>

HeartSine Samaritan AED



HeartSine AED in protective case



**** Alarmed Cabinets ****

All AED units are placed in alarmed cabinets. When the door is opened, a local alarm will sound and a light will flash at the AED cabinet. In addition, an alarm is automatically transmitted to University Police. The police will, in turn, immediately send officers and, if necessary, call for paramedics from the local city responders.

8. Inspection and Maintenance

AED units will be inspected on a monthly basis, and a report of the inspection will be kept with facilities and the Fire & Life Safety Team. Inspections will ensure that the AED is fully charged and operational, and that associated equipment (such as defibrillation pads, wiring, etc.) are undamaged and ready for use. All AEDs in operational service will be maintained and tested according to manufacturer's guidelines. Any national medical standards software updates will be the responsibility of the Fire & Life Safety Team.

Monthly AED status reports will be forwarded to the UC Denver /CU Anschutz Fire Marshal for review and quality assurance purposes.

9. General Issues Pertaining to UC Denver / CU Anschutz AEDs

- Automated External Defibrillators are intended to be used to assist a person in cardiac arrest. The units are life saving devices and need to be treated as such.
- AEDs are purchased with a prescription similar to medications; therefore, use of an AED in other than an emergency situation may constitute a criminal act.
- AEDs have an internal program that recognizes specific cardiac rhythms, which cannot be overridden. The device will NOT give a shock to a person with a normal heart rhythm.
- Tampering with or disabling an AED (theft of the unit, causing it to not operate, removing the defibrillation pads, battery or other related equipment) may result in criminal and / or civil charges.
- Theft or destruction of an AED is a criminal offense.
- The AED cabinets are alarmed to alert for a possible medical emergency. When the cabinet is opened, an alarm will sound at the cabinet—and a signal is sent to University Police in order that the dispatcher can contact emergency responders. Police and EMS personnel will respond to all “open cabinet” alarms.
**** Only authorized personnel are allowed to test these alarms. ****
- Report all emergencies to (9-1-1) and give as much information as possible.
- Report all damage / misuse to the Facilities Management Service Center (303-724-1777).

10. Indications for Field AED Use / Warning Notices

AEDs are useful ONLY in cardiac arrest events (no pulse, no respirations). AEDs are NOT useful in cases of other medical or traumatic incidents. In addition, university AEDs are to be used only when the victim is a minimum of 8 years of age.

(NOTE: Although pediatric pads are available for AEDs, the university mainly has an adult workforce and visitor population. University AEDs are not to be used on persons under the age of 8. The exceptions are the two AEDs located in the Barbara Davis Building, ground floor, where children come for medical evaluations. Those two units have pediatric pad/battery sets.)

AED WARNING NOTICES

Warning: Defibrillation current can cause injury

Do not touch the patient during defibrillation.

Do not touch equipment connected to or metal objects in contact with the patient during defibrillation.

Disconnect other electrical equipment from the patient before defibrillating.

AEDs are typically NOT designed for wet environments.

Use caution if the unit is moved to areas of rain, snow, high humidity, or other wet conditions.

DO NOT use in flammable atmospheres or near high oxygen concentrations.

Contraindications

An AED should NOT be used if the patient exhibits the following signs:

- Patient is conscious
- Patient is breathing and responsive

Refer to the manufacturer's manual and warning notices, specific to each unit.

11. Emergency Procedures

1. Establish victim unresponsiveness and / or need for emergency medical aid.
2. Direct someone to get the AED and to call 9-1-1 from a campus phone. If using a cell phone, make a second call to University Police (303 724-4444) in order that officers can quickly respond and coordinate EMS response.
3. Determine if the victim meets AED criteria (no pulse, no breathing, over the age of 8).
4. Begin CPR immediately if indicated. (Note that bystander CPR standards have been modified over the years.)
5. Place the AED next to the victim, then "Power-On" the AED.
6. Attach electrode pads in the proper position (as pictured on each of the AED electrodes, sternum and apex, with proper contact and no overlap of pads).
7. The AED will then advise if a shock is necessary. If shock is advised, everyone must stop touching the victim while the SHOCK button is pressed. In cases where a shock is not recommended, the unit will not deliver a shock even if the SHOCK button is pressed.
8. Check signs of circulation to confirm whether pulse has been restored. Check breathing and confirm consciousness status.
9. Continue CPR if necessary. AED will continue to prompt personnel as to actions.
10. AED will re-analyze cardiac status every few minutes. Do NOT turn AED off until relieved by EMS personnel.
11. After the event, please remain available so that university personnel (most likely campus police) can document the incident.

12. Training Options

Although some training is available on the campus, we encourage attendance at CPR / AED programs offered by the American Heart Association, American Red Cross, National Safety Council, or any other organization /person that is approved by the Colorado Department of Health and Environment (CDPHE), as required by state law.

13. Web Links:

American Heart Association

<http://www.heart.org/HEARTORG/>

American Red Cross

<http://www.redcross.org/>

14. CONTACTS:

Overall coordination of AED program, as well as inspections:

- 1st contact:** **Campus Fire Marshal at 303.724.0293**
- 2nd contact: Fire & Life Safety Supervisor at 720.660.4431
- 3rd contact: Facilities Management Service Desk 303.724.1777

COLORADO GOOD SAMARITAN LAWS & AED REQUIREMENTS

13-21-108. Persons rendering emergency assistance exempt from civil liability.

- (1) Any person licensed as a physician and surgeon under the laws of the state of Colorado, or any other person, who in good faith renders emergency care or emergency assistance to a person not presently his patient without compensation at the place of an emergency or accident, including a health care institution as defined in section [13-64-202](#) (3), shall not be liable for any civil damages for acts or omissions made in good faith as a result of the rendering of such emergency care or emergency assistance during the emergency, unless the acts or omissions were grossly negligent or willful and wanton. This section shall not apply to any person who renders such emergency care or emergency assistance to a patient he is otherwise obligated to cover.
- (2) Any person while acting as a volunteer member of a rescue unit, as defined in section [25-3.5-103](#) (11), C.R.S., notwithstanding the fact that such organization may recover actual costs incurred in the rendering of emergency care or assistance to a person, who in good faith renders emergency care or assistance without compensation at the place of an emergency or accident shall not be liable for any civil damages for acts or omissions in good faith.
- (3) Any person, including a licensed physician, surgeon, or other medical personnel, while acting as a volunteer member of a ski patrol or ski area rescue unit, notwithstanding the fact that such person may receive free skiing privileges or other benefits as a result of his volunteer status, who in good faith renders emergency care or assistance without other compensation at the place of an emergency or accident shall not be liable for any civil damages for acts or omissions in good faith.
- (4) (a) Notwithstanding the fact that the person may be reimbursed for the person's costs or that the nonprofit organization may receive a grant or other funding, any person who, while acting as a volunteer for any nonprofit organization operating a telephone hotline, answers questions of or provides counseling to members of the public in crisis situations shall not be liable for any civil damages for acts or omissions made in good faith as a result of discussions or counseling provided on the hotline.

(b) As used in this subsection (4), unless the context otherwise requires, "hotline" means a telephone line staffed by individuals who provide immediate assistance to callers in emergency or crisis situations.
- (5) An employer shall not be liable for any civil damages for acts or omissions made by an employee while rendering emergency care or emergency assistance if the employee:
 - (a) Renders the emergency care or emergency assistance in the course of his or her employment for the employer; and
 - (b) Is personally exempt from liability for civil damages for the acts or omissions under subsection

(1) Of this section.

13-21-108.1. Persons rendering emergency assistance through the use of automated external defibrillators - limited immunity.

(1) The general assembly hereby declares that it is the intent of the general assembly to encourage the use of automated external defibrillators for the purpose of saving the lives of people in cardiac arrest.

(2) As used in this section, unless the context otherwise requires:

(a) "AED" or "defibrillator" means an automated external defibrillator that:

(I) Has received approval of its premarket notification filed pursuant to 21 U.S.C. sec. 360 (k), from the federal food and drug administration;

(II) 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

(III) Upon determining that defibrillation should be performed, automatically charges and requests delivery of an electrical impulse to an individual's heart.

(b) "Licensed physician" means a physician licensed to practice medicine in this state.

(3) (a) In order to ensure public health and safety, a person or entity who acquires an AED shall ensure that:

(I) Expected AED users receive training in cardiopulmonary resuscitation (CPR) and AED use through a course that meets nationally recognized standards and is approved by the department of public health and environment;

(II) The defibrillator is maintained and tested according to the manufacturer's operational guidelines and that written records are maintained of this maintenance and testing;

(III) (Deleted by amendment, L. 2009, ([SB 09-010](#)), ch. 52, p. 186, § 1, effective March 25, 2009.)

(IV) Written plans are in place concerning the placement of AEDs, training of personnel, pre-planned coordination with the emergency medical services system, medical oversight, AED maintenance, identification of personnel authorized to use AEDs, and reporting of AED utilization, which written plans

have been reviewed and approved by a licensed physician.

(V) Any person who renders emergency care or treatment to a person in cardiac arrest by using an AED activates the emergency medical services system as soon as possible.

(b) Any person or entity that acquires an AED shall notify an agent of the applicable emergency communications or vehicle dispatch center of the existence, location, and type of AED.

(4) (a) Any person or entity whose primary duties do not include the provision of health care and who, in good faith and without compensation, renders emergency care or treatment by the use of an AED shall not be liable for any civil damages for acts or omissions made in good faith as a result of such care or treatment or as a result of any act or failure to act in providing or arranging further medical treatment, unless the acts or omissions were grossly negligent or willful and wanton.

(b) The limited immunity provided in paragraph (a) of this subsection (4) extends to:

(I) The licensed physician who reviewed and approved the written plans described in subparagraph (IV) of paragraph (a) of subsection (3) of this section;

(II) The person or entity who provides the CPR and AED site placement;

(III) Any person or entity that provides teaching or training programs for CPR to the site at which the AED is placed, which programs include training in the use of an AED; and

(IV) The person or entity responsible for the site where the AED is located.

(c) The limited immunity provided in this subsection (4) applies regardless of whether the requirements of subsection (3) of this section are met; except that the person or entity responsible for the site where the AED is located shall receive the limited immunity only if the requirements of subparagraph (II) of paragraph (a) of subsection (3) of this section are met.

(5) The requirements of subsection (3) of this section shall not apply to any individual using an AED during a medical emergency if that individual is acting as a good samaritan under section [13-21-108](#)

Colorado Department of Public Health and Environment

Approved AED Training

According to the Colorado Department of Public Health and Environment (CDPHE), "Colorado statute does exist that provides limited immunity from liability for use of the AED, and certain conditions must be met to qualify for immunity. Please read the statute carefully to make sure that you are meeting the intent of the standards as defined in the statute."

"The Federal Food and Drug Administration has declared Automated External Defibrillators (AEDs) a prescription device, which means that they require a prescription from a licensed physician in order to be purchased and placed into use (FDA 21CFR801.109). This is a federal requirement and applies to all sales of AEDs in the USA."

<http://www.cdphe.state.co.us/em/operations/aed/>

The Colorado State Emergency Medical and Trauma Services Advisory Council unanimously approved the following on April 4, 2002.

REFERENCE: §13-21-108.1 Colorado Revised Statute (C.R.S.)

"(I) Expected AED users receive training in cardiopulmonary resuscitation (CPR) and AED use through a course approved by the department of public health and environment"

APPROVED AED TRAINING DESCRIPTION: Approved training in the use of an automated external defibrillator (AED) and cardiopulmonary resuscitation (CPR) for the expected AED user, as defined in §13-21-108.1 C.R.S, shall include the completion of training containing the following documented elements:

- 1.Cognitive and psychomotor learning objectives in CPR · Practice time in CPR.
- 2.Formal evaluation of student performance of CPR · Cognitive and psychomotor learning objectives for device specific operations
- 3.Cognitive and psychomotor learning objectives for use and integration (protocol) of the specific device with CPR · Practice time on the specific device use with CPR integration.
- 4.Formal evaluation of student performance of the use and integration (protocol) of an AED with CPR.

Approved training shall be previously reviewed and endorsed by the physician involved in the Public Access Defibrillation program.

DISCUSSION: Effective May 1, 2002:

- This policy shall replace all previous descriptions of automated external defibrillator training approved by the Colorado Department of Public Health and Environment.

- All requirements for application and recognition as an AED Training Group shall become invalid.

- Organizations previously recognized as an approved AED Training Group will no longer be regulated by the Colorado Department of Public Health and Environment and will not be required to renew previously issued recognition on this level.

Organizations and expected AED users wishing to qualify for Good Samaritan status, as defined in §13-21-108.1 C.R.S, may utilize training provided by any source to include any of the following:

- National, regional, or local certifying organizations that provide AED and/or CPR training that meets the above approved description.

- AED and/or CPR training provided by a manufacturer or sales representative that meets the above approved description.

- Training that meets the above approved description that is created and presented by the organization wishing to qualify for Good Samaritan status, as defined in §13-21-108.0 and §13-21-108.1 C.R.S. AED training includes instruction on the specific AED device being utilized by the organization.

It is recommended that the organization keep adequate records of all training that demonstrates compliance with the above-approved description rather than rely upon the provider to maintain such records.

Note: The text of this statute is placed here for the convenience of the reader and does not represent an official copy of this statute. §13-21-108.1. of the Colorado Revised Statute can be accessed through the [LexisNexis site](#).