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Fifth Edition

ACSM's Health/Fitness Facility Standards and Guidelines

American College of Sports Medicine



Senior Editor

Mary E. Sanders, PhD, FACSM, CDE[®], ACSM-CEP, ACSM-RCEP

Reno School of Medicine and Community Health Sciences, School of Public Health

University of Nevada

Reno, Nevada



HUMAN KINETICS

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Senior Editor and Contributing Editors

Senior Editor

Mary E. Sanders, PhD, FACSM, CDE, ACSM-CEP, ACSM-RCEP

Clinical Exercise Physiologist and Adjunct Professor
School of Medicine and Community Health Sciences, University of Nevada at Reno
Reno, Nevada
President
WaterFit International
Pagosa Springs, Colorado

Contributing Editors

Daniel P. Connaughton, EdD, ACSM-EP, CSCS
Professor and Associate Dean for Faculty and Staff Affairs
College of Health and Human Performance,
University of Florida
Gainesville, Florida

Jason Conviser, PhD, FACSM
President
JMC & Associates
Glencoe, Illinois

Brian P. Heermance, Esq.
Partner
Morrison Mahoney, LLP
New York, New York

Bill McBride

Founder, President, and CEO
Bill McBride Consulting, Coaching, & Club Management
Chandler, Arizona
Cofounder, President, and CEO
Active Wellness, LLC
San Francisco, California

Robert McDonald

Senior Principal and LEED Architect
Ohlson Lavoie Collaborative (OLC)
Denver, Colorado

Robyn M. Stuhr, MA, ACSM-RCEP

Vice President for Exercise Is Medicine
American College of Sports Medicine
Indianapolis, Indiana

Editor Emeritus

James A. Peterson, PhD, FACSM
Publisher
Coaches Choice and Healthy Learning
Monterey, California

B-3. Specific questions regarding OSHA standards or training requirements should be directed to local or state OSHA offices. Additional information may be obtained at OSHA's Web site at www.osha.gov.

Emergency planning and policies standard 4. In addition to complying with all applicable federal, state, and local requirements relating to automated external defibrillators (AEDs), all facilities (staffed or unstaffed) shall have as part of their written emergency response policies and procedures a public access defibrillation (PAD) program in accordance with generally accepted practice.

A PAD program uses AEDs, which are sophisticated, computerized machines that are relatively easy to operate and enable a layperson with minimal training to administer this potentially lifesaving intervention to those individuals who are in sudden cardiac arrest. AEDs can detect certain life-threatening cardiac arrhythmias and then administer an electrical shock (i.e., defibrillation) that can restore the normal sinus rhythm. Rapid defibrillation (e.g., use of AEDs) is the third step in the AHA renowned Chain of Survival concept, after (a) prompt recognition and alerting EMS, and (b) immediate administration of CPR. Helpful suggestions concerning the important features of PAD programs and resources to assist facilities with integrating the PAD program in their emergency response protocols may be found at the AHA Web site, www.americanheart.org.

Research reviewed by the AHA shows that the delivery speed of defibrillation, as offered by an AED, is the major determinant of success in resuscitative attempts for ventricular fibrillation (VF) cardiac arrest (the most common type of cardiac arrest). Survival rates after VF decrease 7% to 10% with every minute of delay in initiating defibrillation. A survival rate as high as 90% has been reported when defibrillation is administered within the first minute of cardiac arrest, but in contrast, survival decreases to 50% at 5 minutes, 30% at 7 minutes, 10% at 9 to 11 minutes, and 2% to 5% after 12 minutes. To increase chance of survival, within moments of suffering SCA, rescuers must (a) activate the EMS system, (b) provide high-quality CPR, and (c) administer defibrillation with an AED.

Communities that have incorporated AED use in their emergency practices have shown significant improvements in survival rates for individuals who have experienced SCA. For example, in the state of Washington, the survival rate increased from 7% to 26%; in Iowa, the survival rate increased from 3% to 19%. Some public programs have reported survival rates as high as 49% when an AED is used promptly. The AHA is a strong proponent of having AEDs as accessible to the public as possible.

Among the key elements of an effective PAD program are the following:

- Every site with an AED should strive to get the response time from collapse caused by cardiac arrest to defibrillation to three (optimal) to five (acceptable) minutes or less. A three-minute response time can be used as a guideline to determine the number of AEDs needed and where to place them.
- A PAD program must comply with all relevant local, state, and federal regulations.

- The Food and Drug Administration (FDA) may require that a physician prescribe an AED before it can be purchased. The AHA strongly recommends that a physician, licensed to practice medicine in the community in which the health/fitness facility is located, provide oversight of the facility's emergency response system and AED program. In most cases, the company from which an AED is purchased will assist the facility with identifying a physician to provide these services. Physician oversight may include the following:
 - Prescribing and selecting the AED
 - Ensuring compliance with all relevant statutes and regulations
 - Reviewing and signing off on the emergency and AED plan
 - Making recommendations concerning the training or retraining plans and procedures
 - Witnessing at least one rehearsal of the emergency plan and indicating so in writing
 - Providing standing orders for use of the AED
 - Reviewing documentation and making recommendations after any instance in which the AED is used
- A club's emergency plan and AED plan should be coordinated with the local EMS provider, a prerequisite that some states require. (Note: Most AED product providers offer this assistance.) Coordinating with the local EMS provider refers to the following:
 - Informing the local EMS provider that the club has an AED or AEDs
 - Informing the local EMS provider of the location of each AED at the facility
 - Working with the local EMS provider to provide ongoing training of the facility's staff in the use of the AED
 - Working with the local EMS provider to provide monitoring and review of AED events
- All incidences involving the administration of an AED must be recorded and then reported to the physician who is providing AED oversight, as soon as possible, but no longer than one day. (Note: The Health Insurance Protection and Portability Act of 1996 [HIPPA] does not allow medically sensitive information to be released to anyone other than the medical director.)
- Each club should have an AED program coordinator who is responsible for all aspects of the emergency plan and the use of the AED, as detailed and explained in this book.
- All staff likely to be put in a situation in which they may have to administer an AED should be appropriately trained and certified by a course that incorporates the administration of the AED from an accredited training organization. The AHA and the American Red Cross (ARC) provide AED basic life support training and certification that involve a minimum of four hours of direct-contact training. AHA certification typically lasts two years, while the corresponding ARC program certification lasts for one year. However, given the decline in CPR and AED skills after training, along with the observed improvement in skills and confidence among those who train more frequently, retraining (skills review, practice sessions, and a practice drill with the AED) shall be conducted a minimum of every six months. Records of training and retraining should be maintained in staff personnel records or as part of the documentation of the

facility's emergency response system. Clubs should continually raise awareness of their AED programs. Newsletters, fliers, Web sites, posters, signage, and other means can be used to promote the AED program and identify where AEDs are located. Regularly raising awareness of the AED program reinforces to staff and facility members the club's commitment to, and the importance of, the AED program.

An effective PAD system actually depends on bystanders participating in rapid recognition of potential sudden cardiac arrest and the deployment of an AED for possible use. For this reason, health/fitness facilities are encouraged to work with their medical directors and EMS support systems to carefully define prudent and appropriate ways to include all staff, members, and users in the facility's emergency response system. This process may include consideration of how members and users might be involved, directly or indirectly, in accessing and deploying an AED and at what point during the emergency protocol that step may be required (e.g., sudden collapse of an individual, and no staff member is immediately present). Written instructions might be provided to every member or user concerning the approved PAD program in the facility, what the bystander or user response should be in an emergency, and where the AED is located.

Likewise, orientation of new facility members might include a simple printed information card indicating the location of pertinent emergency response postings in the facility, the locations of the emergency telephone and AED, which staff members may need to be employed to handle an emergency, and where their offices are located should EMS activation be needed. The orientation for new users could also include visits to locations in the facility to point out areas that are listed on the emergency response information card they have been given. To increase the number of people trained in CPR and AED, health/fitness facilities may also consider offering such training to facility members (i.e., lay rescuers). While it is recognized that developing an appropriate way to involve all users in a PAD program will need careful and thoughtful consideration, this process may help to reduce the time between cardiac arrest and defibrillation, when the cause of collapse is ventricular fibrillation, especially in medium to large facilities during those times when member, user, and staff presence is minimal.

The AED should be inspected (e.g., battery, electrode pads), maintained, updated (i.e., software), and repaired according to the manufacturer's specifications on a daily, weekly, monthly, or as-needed basis. Furthermore, all information in that regard should be carefully documented and maintained as part of the facility's emergency response system records.

The AHA and ACSM released a joint position statement in 2002 that recommended the implementation of AEDs in health/fitness facilities. (See the position stand at https://journals.lww.com/acsm-msse/Fulltext/2002/03000/Joint_Position_Statement_automated_external.27.aspx.) As of October 2017, only the District of Columbia and 14 states (Arkansas, California, Illinois, Indiana, Iowa, Louisiana, Maryland, Massachusetts, Michigan, New Jersey, New York, Oregon, Pennsylvania, and Rhode Island) have passed legislation that requires health/fitness facilities to have AEDs. Table 3.1 provides a summary of the various states with AED legislation and lists some of the general aspects of that legislation. It should be noted that in six states, legislation allows unstaffed facilities (e.g., 24-hour key-card access facilities) to use AEDs without having trained employees present. It should be expected that, in the future, additional states will pass legislation requiring health/fitness facilities to provide access to AEDs. In reality, most of the premier health/fitness facility operators in the United States have made AEDs an integral part of their emergency response systems.

Emergency planning and policies standard 5. AEDs in a facility shall be located to allow a time from collapse, caused by cardiac arrest, to defibrillation of three to five minutes or less. A three-minute response time can be used to help determine how many AEDs are needed and where to place them.

The AHA, in its *Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiac Care (2015)*, indicates that while a facility should be able to get a response time from collapse caused by cardiac arrest to defibrillation in three to five minutes or less, the best means of achieving this objective is to provide AEDs in locations that staff or the public can reach within a 1.5-minute walk. If an individual were to walk at a rate of 3 mph (4.8 km/h), this effort would involve a distance of slightly over 500 ft (150 m). As a result, a facility operator should consider the time needed to reach various sites within its facilities from various locations and then identify those locations that would allow its staff, members, or the public to access an AED within a 1.5-minute span. If a facility occupies multiple floors, it might be wise to consider locating an AED on each floor to ensure that the device can be reached within the appropriate time limit.

Emergency planning and policies standard 6. A skills review, practice sessions, and a practice drill with the AED shall be conducted a minimum of every six months, covering a variety of potential emergency situations (e.g., water, presence of a pacemaker, children).

A skills review and practice sessions with the AED should be conducted a minimum of every six months, as recommended by the AHA's Emergency Cardiac Care Committee, as well as a number of international experts. The key takeaway of this standard for health/fitness facility operators is that conducting a physical rehearsal (e.g., practice drills) at least every six months will help ensure that the staff of the facility are prepared to respond to cardiac events that take place on the premises of the facility.

Emergency planning and policies standard 7. A staffed facility shall assign at least one staff member to be on duty, during all facility operating hours, who is currently trained and certified in the delivery of cardiopulmonary resuscitation (CPR) and in the administration of an AED.
