

Safety Newsletter

November, 2013

This Month's Topic: First Aid, CPR & AEDs

Providing first aid and CPR training is just one step in developing a first aid program for your workplace. Training should be maintained on a regular basis; OSHA suggests updating training for life-threatening emergencies (CPR) every year and updating training for non-life-threatening incidents (first aid) periodically.

Alisto Engineering Group keeps up-to-date with current first-aid techniques and knowledge, and has a first aid program that complies with OSHA standards and regulations.

First Aid Kits

First aid supplies are required to be easily accessible. An example of the minimal contents of a generic first aid kit is described in American National Standard (ANSI) "Minimum Requirements for Industrial Unit-Type First-aid Kits" (right). The contents of the kit listed in the ANSI standard should be adequate for small work sites. When larger operations or multiple operations are being conducted at the same location, employers should determine the need for additional first aid kits at the worksite (see Appendix).

In a similar fashion, employers who have unique or changing first-aid needs in their workplace may need to enhance their first-aid kits. Consultation from the local fire/rescue department, appropriate medical professional/s, or local emergency room may be helpful to employers in these circumstances. By assessing the specific needs of their workplace, employers can ensure that reasonably anticipated supplies are available. Employers should assess the specific needs of their worksite periodically and augment the first aid kit appropriately.

Cardiopulmonary Resuscitation (CPR)

Sudden cardiac arrest is a potential risk at all worksites, regardless of the type of work. Approximately 890 deaths from coronary heart disease occur outside of the hospital or emergency room every day. Most of these deaths are due to the sudden loss of heart function or sudden cardiac death.

Cardiac pulmonary resuscitation (CPR) is the term used to describe the combination of chest compressions and rescue breathes used when someone has a cardiac arrest. Studies show that CPR can and does save lives but sadly there are insufficient numbers of people becoming CPR certified.

CPR is of value because it supports the circulation and ventilation of the victim until an electric shock delivered by an AED can restore the fibrillating heart to normal. Chances of survival from sudden cardiac death diminish by 7 – 10 percent for each minute without immediate CPR or defibrillation. After 10 minutes, resuscitation rarely succeeds.

In 2001 and 2002, there were 6628 workplace fatalities reported to OSHA; 1216 from heart attack, 354 from electric shock, and 267 from asphyxia. A number of these victims, up to 60 percent, might have been saved if automated external defibrillators (AEDs) were immediately available.

The following list sets forth the minimally acceptable number and type of first-aid supplies for first-aid kits. The contents of the first-aid kit listed should be adequate for small work sites, consisting of approximately two to three employees. When larger operations or multiple operations are being conducted at the same location, additional first-aid kits should be provided at the work site or additional quantities of supplies should be included in the first-aid kits:

1. Gauze pads (at least 4 x 4 inches).
2. Two large gauze pads (at least 8 x 10 inches).
3. Box adhesive bandages (band-aids).
4. One package gauze roller bandage at least 2 inches wide.
5. Two triangular bandages.
6. Wound cleaning agent such as sealed moistened towelettes.
7. Scissors.
8. At least one blanket.
9. Tweezers.
10. Adhesive tape.
11. Latex gloves.
12. Resuscitation equipment such as resuscitation bag, airway, or pocket mask.
13. Two elastic wraps.
14. Splint.
15. Directions for requesting emergency assistance.

“Avoid learning safety by accident. Increasing your knowledge of first aid and CPR techniques are simple yet effective insurance policies.”

Deborah Agustin
Project Controls Analyst,
Alisto Engineering Group, Inc.



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Automated External Defibrillators (AEDs)

An AED is an electronic device designed to deliver an electric shock to a victim of sudden cardiac arrest. Ventricular fibrillation may be restored to normal rhythm up to 60 percent of the time if treated promptly with an AED, a procedure called defibrillation. With recent advances in technology, automated external defibrillators

(AEDs) are now widely available, safe, effective, portable, and easy to use. They provide the critical and necessary treatment for sudden cardiac arrest (SCA) caused by ventricular fibrillation, the uncoordinated beating of the heart leading to collapse and death. Using AEDs as soon as possible after sudden cardiac arrest, within 3-4 minutes, can lead to a 60% survival rate.

About 400 workplace deaths from cardiac arrest are reported annually. Assuming an average time to defibrillation of 5 minutes would produce a 40 percent survival rate, 160 lives per year could be saved.

The sooner defibrillation is started, the more likely the victim will survive. The optimum time for defibrillation is 3 to 5 minutes after the onset of the cardiac arrest. The AED is a safe, effective, easily learned method of treating victims of cardiac arrest.

Defibrillation is just one part of the treatment which also includes calling for emergency medical service assistance, cardiopulmonary resuscitation, and for the administration of medications and other life support measures. Early defibrillation, however, is the most critical of all the steps because it is definitive therapy for ventricular fibrillation. Employers should consider use of AEDs at their worksites to reduce the time to defibrillation with the goal of improving survival.

Reasons for AEDs in the workplace

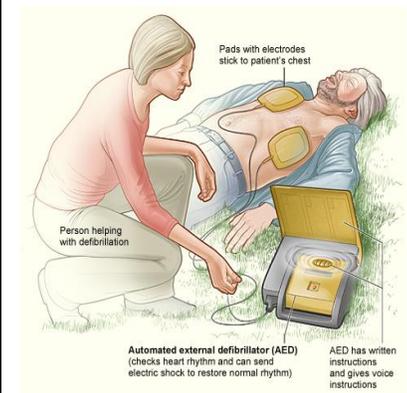
- Workers may suffer sudden cardiac arrest while on the job.
- Onsite AEDs save precious treatment time, and can improve survival odds because they can be used before emergency medical service (EMS) personnel arrive.
- A heart rhythm in ventricular fibrillation may only be restored to normal by an electric shock.
- The AED is compact, lightweight, portable, battery operated, safe, and easy to use.

Placement of AEDs

- AEDs should be conveniently installed to ensure response within 3-5 minutes.
- Areas where many people work closely together, such as assembly lines and office buildings.
- Close to a confined space.
- Areas where electric-powered devices are used.
- Outdoor worksites where lightning may occur.
- Health units where workers may seek treatment for heart attack symptoms.
- Company fitness units and cafeterias.
- Remote sites, such as off-shore drilling rigs, construction projects, marine vessels, power transmission lines, and energy pipe lines.

The details of a workplace medical and first aid program are dependent on the circumstances of each workplace and employer. Employers are responsible for providing a safe and healthful workplace for their employees. Alisto Engineering Group is committed to raising others' awareness and in demonstrating their own commitment to workplace safety and health.

Although OSHA recommendations do not include an automated external defibrillator (AED), current emergency cardiac care guidelines from the American Heart Association recommend AEDs in most public places.



References:

1. <https://www.osha.gov/Publications/3185.html>
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3. <https://www.osha.gov/SLTC/aed/in dex.html>
4. <https://www.osha.gov/SLTC/medic alfirstaid/>
5. https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9864
6. https://www.osha.gov/dts/tib/tib_da ta/tib20011217.html
7. <http://www.nhlbi.nih.gov/health/he alth-topics/topics/aed/howtouse.html>
8. <https://www.osha.gov/Publications/OSHA3317first-aid.pdf>
9. www.Heartrescuenow.com

Photo credit:

- i. <http://www.californiacountynews.org>
- ii. <http://www.nhlbi.nih.gov/health/health-topics/topics/aed/howtouse.html>



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APPENDIX

At a minimum, first-aid and CPR training shall consist of the following:

1. The definition of first aid.
2. Legal issues of applying first aid (Good Samaritan Laws).
3. Basic anatomy.
4. Patient assessment and first aid for the following:
 - a. Respiratory arrest.
 - b. Cardiac arrest.
 - c. Hemorrhage.
 - d. Lacerations/abrasions.
 - e. Amputations.
 - f. Musculoskeletal injuries.
 - g. Shock.
 - h. Eye injuries.
 - i. Burns.
 - j. Loss of consciousness.
 - k. Extreme temperature exposure (hypothermia/hyperthermia)
 - l. Paralysis
 - m. Poisoning.
 - n. Loss of mental functioning (psychosis/hallucinations, etc.).
 - o. Drug overdose.
5. CPR.
6. Application of dressings and slings.
7. Treatment of strains, sprains, and fractures.
8. Immobilization of injured persons.
9. Handling and transporting injured persons.
10. Treatment of bites, stings, or contact with poisonous plants or animals.

Although it is not an OSHA requirement that employers provide Cardiopulmonary Resuscitation (CPR) training, OSHA's "Guidelines for First Aid Training Programs" recommends that CPR training be a general program element of a first aid program. It is recommended that employees receive refresher training to retain their knowledge of first aid procedures. Employees should be certified annually to perform CPR, and first aid training should take place at least once every three years.

FOR MORE INFORMATION AND HELPFUL HINTS

Learn how to save the life of a sudden cardiac arrest victim, visit www.Heartrescuenow.com for save-a-life simulator.

You can also download the free First Aid by American Red Cross app for your smart phone. It's a well-designed teaching and emergency coaching tool.

