



*Environmental Health
Safety*

Guardian

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Department

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AEDs, Guidelines for Use at FSU

Automated External Defibrillators or AEDs are becoming increasingly familiar in many public areas. These devices can be found in a variety of places such as airports, shopping centers, gyms, and major sport arenas. An AED is a portable electronic device that administers an electrical shock, called defibrillation, to a victim of sudden cardiac arrest. Some victims of sudden cardiac arrest experience ventricular fibrillation (VF or V-fib) shortly after they have collapsed. Victims in V-fib have an abnormal heart rhythm that prevents the heart from pumping blood effectively. This abnormal heart rhythm can be restored through defibrillation by using an AED⁽¹⁾. According to the American Red Cross, research indicates that each minute that defibrillation is delayed the victim's chance of recovery is reduced by approximately 10 percent⁽²⁾.

The State of Florida has instituted several statutes and regulations regarding the use and operation AEDs in public and private settings⁽³⁾. Based on these statutes, EH&S recommends the following guidelines for areas interested in obtaining an AED at Florida State University.

Designate a departmental AED program coordinator who will be responsible for general maintenance, upkeep of the device, and ensuring individuals required to use the AED have received appropriate training.

Develop an AED protocol outlining the responsibilities and duties associated with possessing and utilizing the AED.

Have all personnel responsible for utilizing the AED trained on its proper use and

operation as required by state statutes. These individuals must possess a certification in cardiopulmonary resuscitation (CPR) through a nationally recognized and accredited organization, such as the American Red Cross, American Heart Association, or the National Safety Council.

EH&S recommends that there be at least one trained individual available at all times whenever the AED is accessible.

If the AED must be located in a publicly accessible area, then it should be placed in a secured cabinet for safe storage and security.

AEDs have been proven to be effective in improving a person's recovery from a sudden cardiac arrest when used properly. However, inability to readily access an AED should not delay or prevent an individual from responding to and assisting with a cardiac emergency. Individuals responding to this type of emergency should notify the local

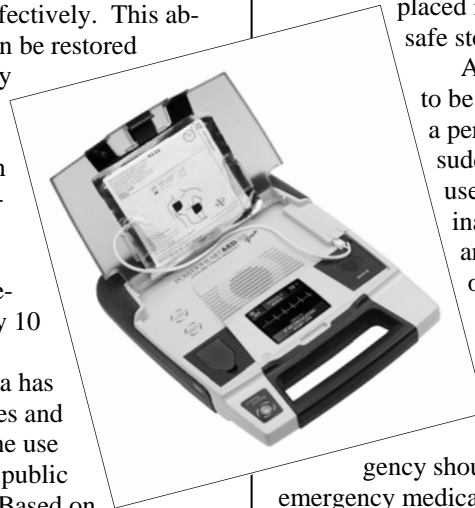
emergency medical services (EMS) by calling 911.

EH&S can offer your department guidance in obtaining an AED and adhering to local and state guidelines. For additional information call 850-644-9117 or 850-644-5374.

(1) Aufderheide, T., Hazinski, M., Nichol, G., Steffens, S., Buroker, A., McCune, R., et al. (2006). *Circulation*, 113(9), 1260-1270.

(2) American Red Cross. (2006). *First Aid/CPR/AED for the workplace, participant workbook*

(3) See FS 401.2915(1), FS 768.1325 and Chapter 64E-2.039 FAC



Noise Induced Hearing Loss

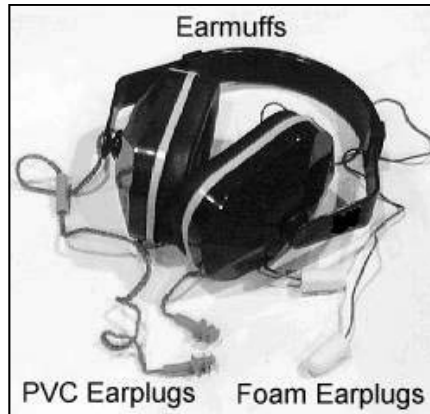
Every year, approximately 30 million people in the United States are occupationally exposed to hazardous noise according to the Occupational Safety and Health Administration. Noise-induced hearing loss is one of the most common occupational injuries and the second most self-reported occupational injury. Outside of work, many people pursue recreational activities that can produce harmful noise. Firearms, chain saws and other power tools, amplified music, and recreational vehicles such as motorcycles are all sources of non-occupational noise. Other sources that may play a role in hearing loss include solvents, metals, asphyxiants (e.g., carbon monoxide), and heat. Exposure to noise combined with other sources can result in hearing losses greater than those from exposures from noise or other sources alone. Fortunately, the incidence of noise-induced hearing loss can be reduced or eliminated with the application of engineering controls and hearing conservation programs. However, once acquired, hearing loss is likely to be permanent and irreversible.

Noise-induced hearing loss is cumulative across the life span. Often, by the time a person realizes that there is hearing loss it is too late. However, there are certain early warning signs to suggest that there may be a problem. If you experience any of the following early warning signs, you should have your hearing tested.

- A ringing or buzzing (tinnitus) in the

ears immediately after exposure to noise.

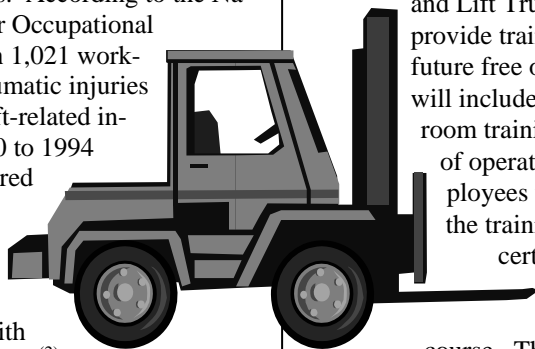
- A slight muffling of sounds after exposure making it difficult to understand people when you leave a noisy area.
- Difficulty understanding speech; that is, you can hear all the words, but you can't understand all of them.



Problems created by occupational hearing loss may include: (1) reduced quality of life because of social isolation and possible unrelenting ringing in the ears, (2) impaired communication with family members, the public, and coworkers, (3) diminished ability to monitor the work environment (warning signals, equipment sounds, etc.), (4) lost productivity and increased accidents resulting from impaired communication and isolation, and (5) development of anxiety, depression, and stress. There are also numerous physiological responses to noise such as

trial truck. Certified operators must receive refresher training and be recertified at least every three years⁽³⁾.

Do you or anyone in your department use powered Industrial Trucks (Forklifts, Pallet Trucks, Rider Trucks, Fork Trucks, and Lift Trucks)? EH&S will provide training in the near future free of charge. Training will include four hours of classroom training and four hours of operator evaluation. Employees who participate in the training will receive a certification card indicating they have completed the course. The date, time, and location of the training will be announced when the vehicle types and number of operators have been determined. If your



Forklift Training Coming Soon

In the United States there are thousands of injuries that occur in workplaces that are related to powered industrial trucks, or forklifts. According to the National Institute for Occupational Safety and Health 1,021 workers died from traumatic injuries suffered in forklift-related incidents from 1980 to 1994

⁽¹⁾. In 2006 powered industrial forks ranked 6th in OSHA's top 10 most frequently cited standards with 3,080 total violations⁽²⁾.

The Occupational Safety and Health Administration requires operators to be certified prior to operating any powered indus-

stress, muscle tension, ulcers, and increased blood pressure.

As previously stated, noise induced hearing loss is preventable. The first step is to determine which noises may cause damage (those above 85 decibels where you must speak loudly to be heard). If the activity or work function you are conducting produces noises above 85 decibels you should utilize engineering controls (e.g. installing a muffler or building an acoustic barrier), develop administrative procedures that will mitigate the condition (remove the hazardous noise or change the process), or wear properly rated hearing protective devices.

If you feel that you are being exposed to excessive noise at work you will need to participate in a hearing conservation program that includes, audiometric monitoring of your hearing, appropriate use of hearing protection, and training. EH&S can provide noise surveys, and recommend guidance on engineering controls and selection of appropriate hearing protective devices. If you have any questions about the information presented in this article or need assistance with noise related hazards please call 850-644-8177.

Corrections

In the previous issue of the Guardian, the website for FSU Collection and Recycling program was provided. The new URL for this website for this program is listed below.

www.fsu.edu/~service/sl/recycling.htm

department has a forklift please call 850-644-8177 to find out more details.

(1) DHHS (NIOSH) Publication Number 2001.109, June 2001

(2) Safety+Health, December 2006

(3) OSHA 29 CFR 1910.178 Including Appendix A

Electrical Safety Awareness Training Goes Online

An Online Electrical Safety Awareness training course is now being offered to all FSU employees and students. This training course does not certify individuals in electrical safety; rather the intent is to meet the OSHA and National Fire Protection Association technical training standards on the hazards associated with working around and with electricity. Access to the training is through the EH&S website at www.safety.fsu.edu. Click on "training".

Stormwater Pollution and Prevention: “Only Rain in the Drain”

What is “stormwater” and where does it go? Stormwater is precipitation that is generated from a storm that seeps into the ground and/or discharges into stormwater drains. FSU has numerous stormwater drains located throughout campus that are part of an elaborate stormwater drainage system classified as a Municipal Separate Storm Sewer System (MS4). It is important to understand that a “sewer system” and an MS4 are not the same. These two systems are completely different. Water discharged down a sink or toilet flows to a wastewater treatment plant where it is treated and filtered. Water/rain that flows off parking lots, gutters, athletic fields, construction sites, and streets is discharged to storm drains that flow to a stream or lake. Stormwater generated at FSU flows into the Lake Munson drainage system which discharges to Ames sink in Southern Leon County. Stormwater water picks up pollutants along the way that have the potential to cause environmental damage. The pollutants can be divided into the following categories.

- Natural – organic material such as leaves, grass clippings, and soil sediment
- Chemical – detergents, fertilizers, oil and grease, antifreeze, gasoline, solvents, paints, restaurant residues, and laboratory wastes
- Litter – plastic bags, drink containers, wrappers, cigarette butts, bottle caps
- Biomedical – viruses and bacteria
- Heavy metals – lead and mercury

As an operator of an MS4 FSU is required to eliminate “illicit discharges” to the system. Federal regulations define an illicit discharge as “...any discharge to an MS4 that is not composed entirely of stormwater...” with some exceptions (National Pollutant Discharge Elimination System-permitted industrial sources and discharges from fire-fighting activities). Illicit discharges may be derived from a number of activities on campus. Some examples include landscape and lawn care, small engine and auto maintenance, floor waxing, restaurant residues, laboratory waste, athletic fields maintenance (including decorative painting), art activi-

ties, and many others.

To ensure illicit discharges are not occurring, EH&S has developed a stormwater inlet monitoring program. As part of this program EH&S has been conducting annual inspections of all storm drains and inlets, provides training and guidance to departments on best management practices for disposal of biomedical and chemical wastes, and monitors construction sites for stormwater erosion and sediment control measures. The inspection program involves a visit to each stormwater inlet throughout campus to look for clogged drains, signs of illicit discharges, and recommending corrective action should a problem be identified.

As members of the campus community we encourage all employees and students to report any problems observed with stormwater drains or evidence of illicit discharges to EH&S at 850-644-6895. With your help we can ensure that activities conducted on University properties are not adversely impacting the environment we live in.

FSU Hosts Tallahassee Fire Department’s Hazardous Materials Response Team

A variety of research activities at FSU utilize hazardous materials that in the event of an accident would require rapid response support from the Tallahassee Fire Department’s (TFD) Hazardous Materials Response Team (HAZMAT) and the FSU Police Department (FSUPD). The HAZMAT team is trained to respond to fire, biological, chemical, and radioactive materials incidents.

To prepare for hazardous materials related emergencies EH&S has been working with the TFD HAZMAT team and FSUPD to improve emergency response on campus and to ensure a safer response for all parties involved. As part of this effort both groups were invited to tour FSU research facilities and waste disposal storage areas that may require their services in the event of an emergency. The tour came about because of the liaison program jointly developed by Lt. Judy Davison from the TFD and Gerred Pogge of EH&S. This program is designed to acclimate TFD’s HAZMAT team with Florida State University for hazardous materials emergency response on campus.

The tour included visits to Dittmer Chemistry Labs, Biology Unit 1, Hoff-

man Teaching Laboratories, and the College of Medicine. Dr. Geoffrey Strouse from the Chemistry Department invited the TFD HAZMAT teams to walk through his laboratories in the Dittmer Chemistry Building to gain an understanding of the challenges that would be involved in the event of an emergency response. The tour also included a visit to the new Chemistry Building that is under construction to get an idea of the number of new laboratories that will become operational in the near future. The team met with Bill Madden in the Hoffman Teaching Laboratory Building to discuss and visit the student chemistry laboratories. In addition to facility tours, a survey of the research corridor sidewalk located in front of the Dirac Library was conducted. This corridor provides access for fire engines and is where hydrants are located that would be utilized in the event of an emergency. The walking tours allowed responders to gain a better understanding of general building layouts. This will likely facilitate lower response times during emergencies. In the Biology Department the teams met with Rob Lumsden. Mr. Lumsden is responsible for many of the research facilities in the Department

and has been working with EH&S to develop an emergency response plan. The tour finished in the new College of Medicine Building so the teams could view the new open research suite design layout. This new design allows multiple researchers to share laboratory space and equipment.

Following the tour a workshop was led by Mr. Pogge and Chris Rodman (FSU Chemistry). Topics discussed during the workshop included scenarios related to accidents involving biological, chemical, and radioactive materials; new laboratory safety postings that provide emergency responders with contact information and facility hazard assessments; and a question and answer session. Richard Le and Amy Hicks from EH&S talked to the teams about the biosafety laboratories and answered questions about the facilities.

In the future EH&S will continue to work with local emergency responders and FSUPD to improve campus safety. We are grateful to the Tallahassee Fire Department and FSUPD for taking the time to tour our campus and researchers for inviting us into their research facilities as well as others who participated.

LADDER SAFETY

The first step in doing any job correctly and safely is pre-planning. In the context of ladder safety, this involves selecting the ladder that's appropriate for the job. The information in this article provides guidance on selecting the appropriate ladder for the planned task and safety tips for ladder use.

Ladders must be of the right:

- Length (it's important to understand that the ladder length and the maximum working length or highest standing level are not the same);
- Strength (for example, some light-weight ladders are only designed to hold a maximum of 200 pounds);
- Type (it's important to understand the differences between, say, step and extension ladders); and
- Materials (for example, metal ladders should never be used near electrical power sources).

The Importance of Inspecting Ladders

Ladders should always be inspected prior to use regardless of which ladder is chosen for the job. Always check:

- **The shoes - all of them!** First, check your own shoes. Do not wear leather soles because they're often slippery and unsafe, and ensure they are free of mud, grease, oil, and debris. When working with electrical equipment make sure there are no nails or screws lodged in the soles of your shoes. Also check the ladder shoes. Ladders should have non-skid safety feet and be in satisfactory condition. Do not use a ladder whose safety feet are loose or worn.
- **Inspect the entire ladder**, including the side rails for flaws and cracks, and the rungs for looseness. A twisted or distorted aluminum ladder (especially a long one) is extremely hazardous and should never be used.
- **Check for sharp edges** on side rails or rungs. These can usually be filed down. But if extensive repairs are required, they should always be done by a qualified service person.
- **Check pulleys and extension locks on extension ladders** to ensure that they're functional and in proper working order. Ropes should be replaced if they show signs of aging or wear.
- **Watch for dents, rust or corrosion.** Some chemical compounds such as

potassium hydroxide, hydrochloric acid, sulfuric acid, and ammonia are known to corrode and weaken aluminum over time.

- **Look for loose rivets and fastenings** and other signs that the ladder needs replacing.

10 Tips for Safe Ladder Use

Once you have chosen and inspected a ladder, be sure to use it safely. Here are 10 tips on ladder use:

- 1) **Don't overreach.** A common unsafe practice committed by ladder users is overreaching. This is likely to occur when painting or working on a project that progressively gets farther away from the ladder. A good rule to remember is to keep your belt buckle between the rails and move the ladder as the work requires.
- 2) **Place the ladder correctly.** Correct placement is a very important factor in ladder safety. When setting up a portable ladder, place it on a solid, level surface. A straight ladder should be placed so that the distance from the base of the ladder to the wall is equal to one fourth of the distance from the base to the point of support. That is one foot out for each four feet of height (1:4 ratio). The ladder should be long enough to allow three feet above the point of support.
- 3) **Secure the ladder.** Anchor the top and either tie the bottom down or have someone hold it. Do not attempt to move a ladder while someone is on it!
- 4) **Don't climb to the top.** You should understand that on a straight ladder, the top three rungs are for holding onto, not for standing on. When working on a step ladder, the spreaders should always be securely locked into place. You should never climb past the third rung from the top.

5) **Keep contact.** Safe climbing demands use of both hands and both feet! When ascending or descending a ladder, always face the ladder and take only one step at a time.

6) **Don't carry objects in your hands.**

You should also wear a safety belt. Carry your tools on a belt or a pouch and not in your hands. Another solution to this problem is a tool basket. Consider using a hand line to pull tools up or down. Don't drop anything on anyone below!

7) **One at a time.** One person should be on a ladder at a time. If you must speak to someone, climb down the ladder and have your discussion on the ground.

8) **Don't paint ladders.** Painted ladders can conceal defects or cracks.

9) **Get rid of defective ladders immediately.** Defective ladders should be removed from service immediately and tagged to prevent even temporary use.

10) **Protect yourself.** If you must work on a ladder near a doorway, make sure to lock the door, barricade it or hang warning tape across it with a sign telling others you are behind the door. Rope off the area, allowing plenty of room to work in. Consider using a watchman to guard the area and, if necessary, hold the ladder while in use.

In conclusion Don't let the unsafe use of ladders be your downfall! Choose the right ladder for the job and inspect it for defects. Report and replace defective ladders. In addition remember to follow the safety tips discussed in this article when stepping up to clear out the gutters at home this fall.

Article adapted from *LADDER SAFETY What Your Workers Need to Know to Stay Safe*, Barbara Manning Grimm, Bongarde Media



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