DEPARTMENT OF THE ARMY
HUNTSVILLE CENTER, CORPS OF ENGINEERS
P.O. BOX 1600
HUNTSVILLE, ALABAMA 35807-4301

REPLY TO
ATTENTION OF

13 January 2004

MEMORANDUM OF UNDERSTANDING
BETWEEN
HUNTSVILLE ENGINEERING AND SUPPORT CENTER
AND
FOX ARMY HEALTH CENTER, REDSTONE

Subject: Automated External Defibrillator Program

1. PURPOSE – To provide policy and guidance in the use of Automated External Defibrillators (AED's) within the U.S. Army Engineering and Support Center, Huntsville (USAESCH).

2. APPLICABILITY – This program applies to all USAESCH personnel and contractors within the building at 4820 University Square, Huntsville and U.S. Army Corps of Engineers personnel supported in the Bevill Center.

3. REFERENCES –

a. EC 385-1-221, Automated External Defibrillator Use Policy, 21 June 2000.

b. EM 385-1-1, Safety and Health Requirements Manual, 3 November 2003.

c. Department for Health & Human Services - Guidelines for Public Access Defibrillation Programs in Federal Facilities, 18 January 2001.

d. LIFEPAK® 500 Automated External Defibrillator Operating Instructions, April 2001.

4. BACKGROUND – Ventricular fibrillation is a life-threatening condition in which the heart's electrical signals become erratic and the heart ceases to pump blood effectively. By applying an electrical shock, the heart's natural rhythm can be restored. An AED is a device that can analyze the heart's rhythm and, if necessary, alerts the user to deliver a shock to the victim of sudden cardiac arrest. This shock may help the heart to reestablish an effective rhythm of its own. An AED is a small, portable device, fairly easy to use by trained individuals. In cases of sudden cardiac arrest, response time is critical. Having AED's available in workplaces, allows critical care to begin before the arrival of off-site emergency medical services (EMS).

5. PROGRAM MANAGEMENT AND OVERSIGHT – The USAESCH Chief, Safety & Occupational Health Office is designated as the AED Site Coordinator and is responsible for the management of the AED program, as stated in this policy. The site coordinator will assure that equipment is available and maintained, users are identified, trained and certified, that the local Emergency Management Service (EMS) is notified of an in-place AED program, and that the program receives periodic reviews by all participants to insure protocol is up to date.

Subject: Automated External Defibrillator Program

The USAESCH Safety & Occupational Health Office will provide oversight of the use of AED's, in consultation with the Chief, Occupational Medicine from the Fox Army Health Center, the Center's designated medical authority for occupational health. This oversight consists of the first time placement of AED's, training and certification plan of AED operators, equipment maintenance, and review of actions taken after use on a patient. After an AED has been used on a patient, the USAESCH Safety & Occupational Health Office will be notified within 24 hours of the use with a report of circumstances written by the user. The AED Report of Circumstances can be found in Appendix A. A review board composed of the Site Coordinator, USAESCH Safety & Occupational Health Office safety personnel, the medical authority, and other individuals designated by the medical authority or Site Coordinator will review this report to decide if any changes in procedures, training, or equipment needs to be made.

6. PLACEMENT – AED's are located on each of the three floors of the Center's main building, mounted on the wall between the restrooms in the center corridor. The fourth unit is mounted on the first floor of the Bevill Center, in the PDSC office area. The AED's are secured in an alarmed cabinet to identify unauthorized use, tampering, or theft, as well as alert others that assistance may be needed. Only certified users, those directed by certified users to bring the AED to the patient area, and those authorized to perform maintenance are allowed to remove the device from its station. Certified users will be listed by name and work area near the AED station. Associated responder supplies will also be placed near the AED.

7. OPERATORS AND ASSOCIATED TRAINING – All users of the AED will be certified in the device's operation and maintenance through initial and recurrent training programs. The user's certification will also be based on current cardiopulmonary resuscitation (CPR) and first aid attendant training/ certification. Training program and resultant certification will be managed through the USAESCH Safety & Occupational Health Office. Certified users will be designated first aid attendants and other volunteers who successfully complete the required training. See Appendix B to this document.

8. USE/PROCEDURES – The AED's currently in use are the LIFEPAK 500 AED. It is a semi-automatic defibrillator that uses a software algorithm, which analyzes the patient's electrocardiographic (ECG) rhythm and indicates whether it detects a shockable rhythm or not. This AED requires operator interaction in order to defibrillate the patient. The AED is only to be used by personnel who have had training in first aid, CPR, and AED use, specifically, the LIFEPAK 500. The AED is to be used only on patients in cardiopulmonary arrest. The patient must be unconscious, pulseless, and not breathing spontaneously before the device is used to analyze the ECG rhythm. This device is not intended for use on children under eight years of age.

The LIFEPAK 500 AED uses disposable QUIK-COMBO™ pacing/defibrillation/ECG electrodes and FAST-PATCH® disposable defibrillation/ECG electrodes which allows rapid transfer to other devices that also use the same type of electrodes. Huntsville Emergency Medical Services, Incorporated (HEMSI) also uses the LIFEPAK 500 and in the event of a 911

call, will be the emergency medical service dispatched to render assistance. Because of our compatibility with HEMSI, it will allow for the quick transfer of patient care to their emergency medical technicians and equipment.

The LIFEPAK 500 AED will digitally record patient data as a record. This recorded data may be transferred by direct connection to a printer, computer, or modem to remote computer. This data will be recorded and analyzed after every use to assess patient care, quality assessment and system performance. This option will digitally record sounds nearby and AED voice prompts during use.

The defibrillator delivers up to 360 joules of electrical energy. Improperly used, this electrical energy may cause serious injury or death. This device will not be used in the presence of flammable gases or anesthetics. Certain equipment operating in the immediate vicinity of this device may emit strong electromagnetic or radio frequency interference (RFI) such as from cellular telephones, which could affect the performance of the device. The responder must alert those employees in the immediate vicinity to turn off their cellular telephones and when HEMSI arrives, be attentive to their radio traffic paying special attention to the frequent or rapid keying of the EMS radios on and off. If rapid keying is being performed, please advise the HEMSI technician that rapid keying may interfere with the proper operation of the AED. Use only accessories specified in the LIFEPAK 500 AED operating manual with the device.

When the need to use the AED arises, established emergency notification protocol will be used to alert first aid attendants, HEMSI, the USAESCH Safety & Occupational Health Office and the security guard(s) of the particular situation.

9. EQUIPMENT MAINTENANCE – Maintenance, to include routine inspection, service after use, and parts repair/replacement will be IAW manufacturer's guidelines, as directed by the USAESCH Safety & Occupational Health Office or the Center's supporting medical authority. Inspection, use, and maintenance will be documented and kept on file in the USAESCH Safety & Occupational Health Office. The LIFEPAK 500 stores a Test Log of the 30 most recent auto and manual tests. This log will be downloaded, as required USAESCH Safety & Occupational Health Office will coordinate with HEMSI in downloading the log.

The AED performs an automated self-test every 24 hours and every time the AED is turned on. The Readiness Display on the device's handle will indicate an *OK* if the self-test has completed successfully. If service is required or the device detects that the battery needs replacing, the *OK* indicator disappears and a service and/or battery indicator appears. USAESCH Safety & Occupational Heath Office personnel, or others so designated will check this indicator daily. The Appendix C Other individuals noticing the absence of the *OK* indicator will notify the USAESCH Safety & Occupational Health Office immediately. Complete inspections will be performed monthly IAW the Operators Manual/Appendix D.

10. This program will be reviewed as required.

JAY P. BROWN
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Deputy Commander

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Chief, Occupational Medicine
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Appendix A

U.S. Army Engineering & Support Center

AED Report of Circumstances

To be completed immediately after a cardiac arrest occurs and the AED is put on a patient. Form should be filled out by the main caregiver at the scene and returned to the Safety & Occupational Health Office within 24 hours.

1. Incident location: _____

_____

2. Date of Incident: _____ / _____ / _____ 3. Estimated Time of Incident: _____ a.m./p.m.

4. Patient Gender: Male [ ] Female [ ] 5. Estimated Age of Patient: _____

6. Did the patient collapse (become unresponsive)? Yes [ ] No [ ]

6a. If YES, what were the events immediately prior to collapse (check all that apply):

Difficulty Breathing [ ] Chest Pain [ ] No Sign or Symptoms [ ]
Electrical Shock [ ] Injury [ ] Unknown [ ]

6b. Was someone present to see the person collapse? Yes [ ] No [ ]

If YES, was that person an AED responder? Yes [ ] No [ ]

6c. After the collapse, at the time of patient assessment and just prior to the AED pads being applied,

Was the patient breathing? Yes [ ] No [ ]

Did the person have a pulse? Yes [ ] No [ ]

7. Was CPR given prior to 911 EMS arrival? Yes [ ] Go to 7.a. No [ ] Go to 8.

7.a. Estimated time CPR started: _____a.m./p.m.

Was CPR started prior to the arrival of a trained AED responder? Yes [ ] No [ ]

Who started CPR? Bystander [ ] Trained AED responder [ ]

8. Was an HNC AED brought to the patient's side prior to 911 EMS arrival? Yes [ ] No [ ]

If NO, briefly describe why and skip to question 15.: _____

If YES, estimated time AED at patient's side: _____ a.m./p.m.

9. Were the AED pads put on the patient? Yes [ ] No [ ]

If YES, was the person who applied the pads a: Trained AED Responder [ ] Bystander [ ]

10. Was the AED turned on? Yes [ ] No [ ]

If YES, estimated time AED was turned on: _____ a.m./p.m.

11. Did the AED ever shock the patient? Yes [ ] No [ ]

If YES, estimated time of 1st shock by AED: _____ a.m./p.m.

If shocks were given, how many were delivered prior to EMS arrival? #_____

12. Name of person operating the AED: _____

Is this person a trained AED responder: Yes [ ] No [ ]

Highest level of medical training of person administering the AED:

Public AED trained: [ ] First Responder AED trained [ ]
EMT-B [ ] CRT/EMT-P [ ] Nurse/Physician [ ]
Other Health Care Provider [ ] No Known Training [ ]

13. Was there any mechanical difficulty or failure associated with the use of the AED: Yes [ ] No [ ]

If YES, briefly explain. _____

_____

14. Were there any unexpected events or injuries that occurred during the use of the AED? Yes [ ] No [ ]

If YES, briefly explain: _____

_____

15. Indicate the patient's status at the time of 911 EMS arrival:

Pulse restored: Yes [ ] No [ ] Don't know [ ] Time restored: _____ a.m./p.m.

Breathing restored Yes [ ] No [ ] Don't know [ ] Time restored: _____ a.m./p.m.

Responsiveness Yes [ ] No [ ] Don't know [ ] Time responsive _____ a.m./p.m.

16. Was the patient transported to the hospital: Yes [ ] No [ ]

If YES, how? EMS Ambulance [ ] Private Vehicle [ ] Other: _____

Report completed by: _____

_____ Date: _____
Signature

Office phone: _____ Serial Number of AED: _____

RETURN TO THE SAFETY OFFICE WITHIN 24 HOURS FOLLOWING THE INCIDENT. PLEASE DIRECT QUESTIONS TO THE SAFETY OFFICE AT (256) 895-1596 or 1225.

Appendix B

USAESCH AED TRAINING & CERTIFICATION PLAN

The courses shown below are the required training for individuals who will be certified to use the Center's Automated External Defibrillators (AEDs). Initial and recurrent training will be scheduled and records maintained by the USAESCH Safety & Occupational Health (S&OH) Office. The USAESCH S&OH Office will periodically review contract training programs to ensure they met Federal guidelines and site-specific requirements.

Standard First Aid (Work Place) – A five to six-hour course that follows the guidelines of OSHA Directive CPL 2-2.53 (Guidelines for First Aid Training Programs). Course is tailored for individuals who are designated first aid attendants in a workplace environment. Specifically, an office environment as is found at USAESCH. Individuals who successfully complete this training will be recognized as certified in Basic First Aid for three years from completion date of training. At USAESCH, the local American Red Cross will be the source of training for this course.

Cardiopulmonary Resuscitation (CPR) – A four-hour course taught by certified trainers using American Heart Association guidelines. This training involves the hands-on training for adult CPR and prepares individuals to respond to breathing and cardiac emergencies. This training may also include a one to two-hour segment in general AED training. Successful completion of this course will certify the individual for one year from date of training. The American Red Cross will be the source of training for this course. This course will be required for those not previously certified in CPR or those requiring a more in-depth curriculum. Certification is typically on an annual basis.

Heartsaver AED Course – A three and a half to four-hour course in basic CPR and the use of the AED during sudden cardiac arrest. This course is for those who have been previously trained in CPR. For first aid attendant certification purposes, this course replaces the standard CPR course mentioned above for recurrent training. This course will be tailored to the LifePak 500 AED. Because of similar equipment, HEMSI will be the source of training for this course. This course carries a biennial certification, but may be supplemented with annual in-house refresher training.

AED Specific Training – A one to two hour course of instruction that teaches an individual, who has been trained in CPR, how to safely use the LifePak 500 AED in a ventricular defibrillation situation. Primarily, this course is the familiarization training for the LifePak 500 AED. This course may be incorporated into the Heartsaver AED course above.

Appendix C

AED INSPECTION LOG

AED INSPECTION LOG

Month/Year:

	1st Floor 13778509	2nd Floor 13778503	3rd Floor 13778497	Comments: (Serial Numbers)
1				
2				
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31				

Initial in box after AED status has been verified as OK (daily).

Appendix D

USAESCH AED MONTHLY MAINTENANCE/OPERATOR'S CHECKLIST

Instruction	Recommended Corrective Action	Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		Initials												
1. Examine the LIFEPAK 500 case, connector, and battery well for:														
		Insert an X in the box after completing each step												
Foreign substances	Clean the LIFEPAK 500													
Damage or cracks	Call 1-800-442-1142 for service													
2. Remove the battery and examine the pins for bending or discoloration.	Discard and replace battery													
3. Check expiration date on battery and electrodes.	Replace if expired													
4. Examine the accessory cables for cracked, damaged, broken, or bent connectors.	Replace damage or broken parts.													
5. With the battery installed, press ON/OFF to turn on the LIFEPAK 500 and look for:														
Self-test messages	If absent call service at 1-800-443-1142													
Momentary illumination of each LED and all LED segments	If absent call service at 1-800-443-1142													
BATTERY LOW or REPLACE BATTERY SELF –TEST xx.xx message	Replace the battery immediately													
Service indicator or CALL SERVICE message	Call service at 1-800-443-1142													
6. Supplies														
Exam gloves present and serviceable	Replace if necessary													
Pocket mask w/one-way valve present and serviceable	Replace if necessary													
Razor present and serviceable	Replace if necessary													