

**SPRING ISD
INFORMATION MANUAL
FOR
AUTOMATIC EXTERNAL DEFIBRILLATORS**

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BACKGROUND INFORMATION

The heart's pumping is coordinated by its own electrical system. This electrical system can malfunction and cause an arrhythmia. Arrhythmias are common and are defined as heart rates that are too slow, too fast, or irregular.

One rhythm that is very dangerous is ventricular fibrillation. When the heart is in ventricular fibrillation it will stop pumping blood to the body. If this condition is not treated immediately, death will result within several minutes. A treatable heart rhythm is present in approximately 80% of cases at the moment of collapse. There is basically a 5 to 6 minute window in which the shock is likely to be effective in restoring the heart's rhythm.

The only effective treatment for Sudden Cardiac Arrest (SCA) caused by ventricular fibrillation is the delivery of an electrical shock by a defibrillator. Statistically this occurs in 1 in 200,000 adolescents and 1 in 250,000 adults. In teens congenital conditions are responsible for the majority of SCA. The victim is rarely aware of the condition.

The automated external defibrillator (AED) analyzes the heart's rhythm and tells the user to deliver a shock if it is needed. It is designed to prevent a shock from being delivered if it is not necessary.

AEDs are designed to be used safely by people who are not medically trained. In Texas, anyone who has taken a CPR/AED instruction course in a medically supervised program can use an AED.

POLICY

- ◆ Spring ISD has now placed an AED in each facility and provided an additional one in all secondary schools for certified athletic trainers.
- ◆ A minimum of 4 persons per facility in which an AED is placed must be certified in CPR/First Aid/AED.
- ◆ The district will provide training for the use of AEDs to its employees at no cost.
- ◆ Each athletic trainer will carry an AED to the athletic event to which she/he is scheduled.
- ◆ At least one AED will be available on each campus/facility for use by the general population.
- ◆ Each campus/facility will have a designated emergency response team.
- ◆ Financial responsibility for maintenance of AED will be assumed by each campus/facility.
- ◆ AED and first aid emergency kit will be brought to all major medical emergencies
- ◆ The AED **will be used only after** the following is determined:
 - Victim is unconscious
 - Victim is not breathing
 - Victim has no pulse and/or shows no signs of circulation such as normal breathing, coughing or movement.
- ◆ Each AED will have one set of defibrillation electrodes connected to the device and one additional set of electrodes with the AED.
- ◆ A service kit for each AED will be provided and maintained by the facility:
 - 1 pair of latex free gloves, 1 razor
 - 1 pair of trauma scissors
 - 1 barrier device
 - Disposable towels

Applicable Documents

AED Information Manual
Infection Control Procedures – Blood borne Pathogens Exposure Plan
State immunity from liability exclusion

DEFINITIONS

CPR/First Aid/AED Certification - Successful participation in approved American Heart Association or American Red Cross course for CPR/First Aid/AED. Documentation will be a card from the organization providing the course.

Internal Response Documentation - District Incident Report (Student, Staff, & Visitor)

External Post Event Documentation - Information recorded by the AED and downloaded after the event. This information is attached to the District Incident Report, and Post AED Form. This information is copied for the campus/facility administrator and faxed to the safety director at 3938.

Equipment Maintenance - Follow maintenance procedures outlined in the operating instructions.

Annual System Assessment - A readiness review of training records, equipment operation and maintenance records and emergency procedures.

Monthly System Check - Documentation of emergency kit supplies, battery life, AED operation and status.

Post Event Review - Review of actions, opportunities for improvement, and stress debriefing conducted and documented within 72 hours of the event.

RESPONSIBILITIES

Sample

SAFETY DIRECTOR

- Coordination of training for emergency responders
- Coordination of equipment and accessory maintenance
- Revision of guidelines as required
- Monitoring the effectiveness of the system
- Communication with medical director on issues related to medical emergency response program including post event reviews.

EMERGENCY RESPONSE MEMBER

- Activate the internal emergency response system and provide prompt basic life support including AED/First aid/CPR according to training and experience.
- Understand and comply with the requirements of policy and procedure.

MEDICAL ADVISOR

- Provide medical direction for the use of AEDs.
- Write the prescriptions for AEDs
- Review and approve guidelines for emergency procedures related to the use of the AEDs and CPR
- Evaluate post-event review forms and digital file downloads from the AED.

VOLUNTEER RESPONDER

- Anyone can, at his or her discretion, provide voluntary assistance to victims of medical emergencies. The extent to which these individuals respond shall be appropriate to their training and experience. These responders are encouraged to contribute to emergency response only to the extent that they are comfortable. The emergency response of these individuals may include CPR, First Aid or AED use.

SCENE MANAGER

- Assess the emergency and determine the appropriate level of response.
- Initiate the call to request the external community 911 response team (EMS) by personal command or radio.
- Manage the scene and assign duties of the team members.
- Assign team members to meet the responding EMS aid vehicle to direct EMS personnel to the site of the medical emergency.

EMERGENCY RESPONSE TEAM

- Respond to CPR/First Aid emergencies.
- Ensure that employees in that facility are familiar with emergency procedures.
- Understand and comply with procedures.
- Determine locations of the AED device.
- Ensure that the proper number of employees are certified to use the device.
- Provide medical response information to appropriate entities.
- Conduct a post event review and report to district Administrator.
- Clean, decontaminate and replace all equipment following an event.
- Provide the post event, monthly and yearly maintenance of the equipment.

PROCEDURE TO OBTAIN AED

Sample

TO OBTAIN AED EQUIPMENT

1. Request an AED for campus/facility through the Safety Department
2. Obtain an AED Information Manual
3. Determine Emergency Response Team (ERT) members
4. Arrange CPR/First Aid/AED Certification for ERT Members
5. Determine placement of AEDs
6. Develop Response Procedure
7. Provide awareness of response procedure to staff
8. Post procedure by AED cabinet.
9. Develop equipment maintenance procedure

ELEMENTS OF RESPONSE PROCEDURE (to be developed at each facility)

1. Method of notification
2. Written Emergency Procedure
3. Mock practice of emergency procedure (At least one per semester)
4. Determination of responsibility of internal and external documentation
5. Time and method of debriefing
6. Method of reporting to district administrator for each event.

PROCEDURE TO MAINTAIN AED

Sample

- I. Monthly checks must be performed on the equipment.
- II. At the beginning of each school year, the following things need to be done:
 - a. Complete and forward the Annual System Maintenance to the Safety Director.
 - b. Forward the training records for the previous year to the Safety Director.
 - c. Forward the maintenance record for the previous year to the Safety Director.

PROCEDURE FOLLOWING USE OF AED

- I. Download information from AEDs (see instruction booklet)
- II. Complete *Post Event Form* to send to Private Medical Doctor, Emergency Medical Technician and Safety Department.
- III. Complete district *School Incident Report* form and forward to the departments as indicated on the bottom of the *District Incident Report* form.

FORMS

Request for Facility/Campus AED and supplies.

Response Procedure

Fire Department notification of AED on premises

Monthly System Check

Annual System Assessment

Post Event Form

School Incident Report

AED Memory Joggers

Sample

REQUEST FOR FACILITY/CAMPUS AED

Campus _____ Date requested _____

Name _____ Title _____

Emergency Response Team Members

- 1.
- 2.
- 3.
- 4.

Sample

Certificates noted through:

- 1.
- 2.
- 3.
- 4.

Response Procedure: Please attach for your campus

Kit Supplies Assembled- Campus will provide and maintain the following equipment that will be stored with the AED:

- 1 pair of latex free gloves
- 1 razor
- 1 trauma shears
- 1 face mash barrier
- 1 ziplock bag

Maintenance Procedure

- Who will be responsible for maintenance?
- How will it be done?

Sample

Campus _____

Date _____

RESPONSE PLAN

AED is located _____

Emergency Response Team

I. PRE EMERGENCY PROCEDURE

A. Method of notifying emergency response team to meet at incident: _____

B. Mock Practice of emergency procedure (one per semester)

	DATE	TIME
1.	_____	_____
2.	_____	_____

C. Time and Method of Debriefing

D. Method of reporting event to safety department. _____

Administrator's signature: _____

II. EMERGENCY PROCEDURE

ERT will be notified by _____

_____ will act as scene manager and go immediately to the scene for assessment

_____ will bring the AED and First Aid emergency kit

_____ will call 7473

_____ will notify appropriate family/personnel

_____ is traffic control and/or pointer person. 2 or more may be needed.

_____ Ambulance designee (to wait on ambulance and direct them to location of the emergency.

III . POST EMERGENCY PROCEDURE

_____ is responsible for post event documentation.

_____ is responsible for replacement of materials used during an event.

_____ is responsible for monthly check of equipment

_____ is responsible for post event review

MONTHLY SYSTEM CHECK

ITEM	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July
Kit Supplies -Latex free gloves -Razor -Trauma scissors -Mouth barrier -Disposable towels												
Check for green check												
Verify electrodes are within their expiration date												
Verify batteries are within their expiration date												
Verify electrodes pre connected												
Audio prompt (“Change Batteries”)												
Audible alarm - beep (batteries)												
Comments												

Replace all 10 batteries if any of the following occur:

1. Unit emits audible alarm or “beep” once every minute, if the unit is off.
2. Unit issues the CHANGE BATTERIES audio prompt, if the unit is on.
3. Unit displays a red “X” in the status indicator window, indicating that the batteries have less than 50% of full capacity remaining or that the unit has failed other self tests. If red “X” remains, call safety department immediately at 3975..

Only the following battery is to be used with the AED unit (check the expiration date periodically):

Duracell 123A photo flash lithium manganese dioxide (first digit indicates year of manufacture)

DO NOT USE PANASONIC OR RAYOVAC BATTERIES

Sample

Campus _____

Date _____

ANNUAL AED PROGRAM REPORT

During the first week of each school year, the Annual System Maintenance (ASM) will be updated and sent to safety department. The following items are required:

I. Emergency Response Team	Certification Expiration Date
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

II. Emergency Response Plan (may be attached)

III. Location of AED

IV. Training Records

- a. CPR/AED Certification Class – Attach class record
- b. Emergency drill date(s) _____

- c. Monthly checks – Attach copy

Administrator’s Signature

Sample

POST AED EVENT FORM

(To be forwarded to the medical doctor and responding EMT)

Name _____

Location of incident _____

Address _____ Phone _____

Responsible party (if minor) _____

Physician _____

Date: _____ Time: _____

Summary of event (number of shocks, length of CPR performed, conditions upon EMT arrival) _____

Forward and/or fax copy to Safety Department.

AED MEMORY JOGGERS
(to be placed in AED)

When a person appears unresponsive

Verify unresponsiveness

Call 911

Get AED (If someone else is nearby, have them call 911 and retrieve the AED)

Procedure:

- A. Open Airway
- B. Check for breathing – If not breathing, give 2 breaths
- C. Check for circulation
If no pulse, use AED
Perform CPR until AED arrives
- D. If pulse and no breathing, - DO RESCUE BREATHING

GUIDELINES - Contraindications

Check for:

Is victim younger than 8 years of age?

Is victim in contact with water?

Is victim on conductive surface (ie. metal bleacher)?

Is victim using transdermal patches?

Does victim use a pacemaker (internal or external)?

Is victim wearing eyeglasses?

Are flammable materials (gasoline or oxygen) present?

Use of cellular or radio devices within 6 feet

Excessive body hair on chest

Moisture on contact surface

Contact with victim while AED is analyzing or shocking

Automated External Defibrillators in the School Setting Frequently Asked Questions

Does my district need to work with a physician for the purchase of an AED?

Yes, a physician is required to write a prescription for the purchase of the AED and to ensure the compliance of the training program.

Does my district need to train our staff on using an AED?

Yes, all users must be trained in CPR and AED in accordance with the American Heart Association, American Red Cross or other nationally recognized standards

Will the AED require regular maintenance and testing?

Yes, the AED will need to be maintained and test per manufacturer's instructions.

Does my district need to notify the local EMS that we have an AED(s)?

Yes, you must notify the EMS of the receipt of an AED, location and manufacturer of the AED.

What should I look for when purchasing an AED?

1. How long has the company been producing AED's?
2. What type of warranty does the manufacturer provide?
3. What are the maintenance requirements?
4. What is the turn-around time for replacement of a defective AED?
5. How easy is it to install upgrades?
6. Compare 3 AED's for:
 - Ease of use – voice prompts easy to understand
 - Battery length
 - Overall size and weight
 - What are the replacement costs for:
 - Batteries
 - Pads

Automated External Defibrillators in the School Setting AED resources

Cardiac Science	www.cardiacscience.com
Heartsine Samaritan	www.heartsine.com
Lifesavers Inc	www.lifesaversinc.com
Medtronic	www.medtronic.com
Defibtech	www.defibtech.com
Medtronic Physio-Control	www.medtronicphysiocontrol.com
Phillips Medical systems/Heartstream	www.medical.phillips.com
Welch Allyn	www.welchallyn.com/medical
Zoll Medical Corporation	www.zoll.com

Automated External Defibrillators in the School Setting Resources

AED Comparisons	http://automated-external-defibrillators.com
American Heart Association	www.americanheart.org
American Red Cross	www.redcross.org/services/hss/courses/aed.html
AED Grant's	www.aedgrant.com
OSHA	www.osha.gov/SLTC/aed/index.html