

Cardio Pulmonary Resuscitation (CPR)/Automated External Defibrillator (AED) Recommendations

Purpose: To support school districts and charter schools as they develop written, school-level protocols for Cardio Pulmonary Resuscitation (CPR) and Automated External Defibrillators (AEDs). All written protocols should include the following components:

The process to obtain an AED and/or replace existing AED model(s);

- 1) The training of staff to perform CPR and to use the AED;
 - 2) The maintenance of the AED and related equipment;
 - 3) The monitoring of the AED and related equipment; and
 - 4) The development of *Cardiac Emergency Response Communication Plan*.
-
- 1) The process to obtain an AED and/or replace existing AED model(s).
 - a) Each public school or charter school shall have defibrillator equipment that meets the defibrillation equipment standards in Title 16 Health and Safety Delaware Administrative Code 4303 Automatic External Defibrillation.
 - b) Each public school district or charter school should obtain and/or replace existing AED(s) based on the manufacturer's warranty description on how long the manufacturer expects the AED to operate successfully.
 - c) The budget for AEDs, related equipment and training will be determined by the district or charter school.
 - d) The AED vendor will be determined by the district or charter school.
 - e) The district or charter school can access the American Heart Association for additional information regarding *AED Implementation* at https://cpr.heart.org/idc/groups/heart-public/@wcm/@ecc/documents/downloadable/ucm_480036.pdf
 - f) See AED Proposal examples from Christina School District (See Appendix A) and Red Clay Consolidated School District (See Appendix B).
 - 2) The training of staff to perform CPR and to use the AED will be determined by the district or charter school.
 - a) Training to consider include: Who will be responsible for staff training? For example, designated CPR/AED Coordinator, School Nurse, other school employee, outside CPR/AED instructor, or AED Vendor.
 - b) Will there be a designated CPR/AED Instructor(s) for the district or charter school?
 - c) Who will be trained?
 - i. Mandated Staff: Athletic Trainer, Certified Coaches, Emergency Coaches, Physical Therapists and School Nurse.
 - ii. Optional Staff: School Crisis Team members, other educators or school staff, "Trained Person" and/or volunteers.
 - d) How often will the school staff be trained in CPR/AED use? For example, it is recommended by the American Heart Association for training to be every two years.

- e) How often will CPR/AED drills be performed, how coordinated and how this will be documented? For example, in the fall and spring in coordination with local EMS and documented on forms provided by EMS or developed by the district.
 - f) Where to obtain training equipment such as manikins, face shields and AED and training materials.
- 3) The maintenance for the AED and related equipment will be the responsibility of the district or charter school.
- a) Replacement parts to consider include:
 - i. How to replace AED equipment such as the AED pads, batteries, alarm cabinet? For example, obtain replacement parts through AED service provider.
 - ii. How to replace First Responder Kit items such as latex free gloves, razor, scissors and pocket face mask?
 - b) Technical support for maintenance to consider include:
 - i. Does the vendor for AED model provide technical support?
 - ii. Can the district designated CPR/AED Coordinator provide technical support?
 - iii. Are there other providers such as Emergency Medical Services or other CPR/AED Instructors that can provide technical support?
- 4) The monitoring of the AED and related equipment will be the responsibility of the district or charter school.
- a) Monitoring items to consider include:
 - i. Who will be responsible for monitoring the AED equipment? For example, designated CPR/AED Coordinator, School Nurse, other school employee or through a contracted company.
 - ii. Monitoring documentation:
 - a. Who will document the AED Equipment Checklist or other checklist utilized by the district or charter school?
 - b. How often will the AED and related equipment be checked? For example, per the AED Manufacturer's guidelines or Monthly/Quarterly.
 - c. Does the AED vendor or company provide software upgrades? If so, what are the costs?
 - iii. The location & accessibility of the AED equipment will be determined by the district or charter school. Things to consider include the building size, the number of levels and staircases, location of athletic fields, other educational facilities on the school campus and the number of students and staff.
- 5) It is recommended that each public school district or charter school develop a *Cardiac Emergency Response Communication Plan*. See Appendix C.

Appendix A

Christina School District AED Proposal October 2016

- AED Lifespan is 10-12 years
- CSD AED's are 10-12 years old
- CSD AED's are from multiple manufacturers, many parts not available
- CSD nurses are spending approximately 2 hours/months maintaining AED's
- Lead Nurse is spending 20-30 hours/month collecting data on aging AED's & ordering and replacing parts
- Information presented to Robert Silber, Chief Financial Officer
- Decision made to replace ALL AED's in the CSD district

Solution

- Multiple AED's reviewed and tested, process simplified by School Health, bringing all different AED's onsite to CSD, AED's reviewed by CSD nurses
- Research on All AED's
- Decision : Cardiac Science G5
- Rationale: G5 met DE state regulation of a semiautomatic AED (you must push a button to initiate the shock), simple to operate, voice commands in Spanish and English, onsite service program and CSD had previous excellent experience with the Cardiac Science G3

Addition

- Purchase the Mastertrak AED Monitoring Program
- Assist with customizing the program for Christina School District
- Description of Mastertrak:
 - AED's are checked daily, weekly and monthly (wireless)
 - Nurses open and close the AED once a month between the 1st and the 10th
 - Nurses receive an email to check the AED, and verify by checking the email
 - On the 15th, the Lead nurse receives an email from Mastertrak with the name
 - Of the nurse and the school delinquent in checking their AED
 - Yearly onsite checks of the AED's by Cardiac Science
 - Warranty 8 years

Purchase

2016	39 Cardiac Science G5 AED's	(1495)	Total (58,305)
	Mastertrak Monitoring Program	(10,916/yr)	

2017	6 Cardiac Science G5 AED's	(1475)	Total (8847)
	Mastertrak Monitoring Program	(1095/yr)	

Conclusion:

Christina School District has a total of 52 AED's, 43 Cardiac Science G5's and 2 Cardiac Science G3's. These AED's have exceeded all expectations. In our district, 2 lives have been saved. The Mastertrak Monitoring system guarantees that all AED's are in working order, all of the time. Finally, the 20-30 hours a months I was spending on updating parts, ordering etc, has been decreased to less than 30 minutes a month.

Appendix B

AED Proposal

Mandy Pennington
 District Lead Nurse
 Red Clay Consolidated School District
 1502 Spruce Ave.
 Wilmington, DE 19805

Summary

Early effective CPR including early use of an Automated External Defibrillator (AED) is proven to more than double a person who is suffering from a sudden cardiac arrest chances of survival. More than 350,000 cardiac arrests happen outside of the hospital setting each year. Answers by Heart (2017) Retrieved from https://www.heart.org/-/media/data-import/downloadables/pe-abh-what-is-an-automated-external-defibrillator-ucm_300340.pdf

Concept

Our district obtained Automated External Defibrillators from the 2002 Tobacco Settlement monies. The estimated shelf life of an AED is approximately 10 years per manufacturer recommendations. A sustainable plan is needed to maintain current AED's and plan for future replacements.

Location

Elementary Schools: 1 AED, Middle Schools: 2 AEDs (including one for Athletic Trainer) High Schools 2-3 AEDs (including one for Athletic Trainer).

Market Research

Physio control has a long history of consistent durable, stable equipment both in and out of the hospital. Physio Life Pack Express is consistent with EMS systems throughout the county and state. Acquiring similar products allows for safe patient transfers and ease of use.

Initial Costs

AED	\$1040.00
AED Trade In Program	\$-200.00
Pediatric Pads	\$0
Total Cost	\$840.00

Project Replacement Costs

Adult Pads 2 sets & battery (q2-2.5yr)	\$85.32
Pediatric Pads (q2-2.5yr)	\$88.44
Total Cost 9q2-2.5yr	173.76

Supplier

Jim Springer, Jr.
 Senior Sales Representative
 Stryker
 C 410 984 8234
jim.springer@stryker.com
physio-control.com

Appendix C

Cardiac Emergency Response Communication Plan

The _____ (District/Charter) *Cardiac Emergency Response Communication Plan* aligns with the Cardio Pulmonary Resuscitation (CPR)/Automated External Defibrillator (AED) Recommendations suggested by the Delaware Department of Education and the District/Charter is the owner of the devices listed herein.

- 1) District/Charter Responsibilities:
 - a) The District/Charter should identify the following:
 - i. A *CPR/AED Coordinator* who will coordinate the CPR/AED program.
 - ii. The mandated *CPR/AED Responders* who will be trained in CPR/AED according to current CPR/AED training guidelines.
 - b) Ensure that training and recertification of all *CPR/AED Responders* will be completed initially, then every two (2) years.
- 2) Designated *CPR/AED Coordinator* Responsibilities:
 - a) Annual review and update of the *Cardiac Emergency Response Communication Plan* with District/Charter guidance.
 - b) Maintenance of a list of the designated *CPR/AED Responders* who are currently trained at the school building level. See Appendix D.
 - c) Facilitate the training of the *CPR/AED Responders*.
 - d) Determine who will need to respond to the situation and identify specific roles.
 - i. Who announces the alert/situation?
 - ii. Who calls 911?
 - iii. Who responds to all alerts?
 - e) Maintenance of AED Information:
 - i. Each building will maintain AED documents including: AED location(s), manufacturer(s), model number(s), signage type(s) and signage location(s). See Appendix E.
 - f) Maintenance of AED related record keeping documents that are recommended to be kept on-site at each building as follows:
 - i. Procedures and guidelines for AED use.
 - ii. AED manufacturer's "Instructions for Use" booklet(s).
 - iii. Periodic maintenance, repair, and self-inspection records/log of AED(s). See Appendix F.
 - iv. CPR/AED training and documents.
 - v. Other records as defined by equipment manufacturer.
 - vi. Completion of CPR/AED Post-Incident Report(s). See Appendix G.
 - vii. Copy of building *Cardiac Emergency Response Communication Plan*.
 - g) Operational Checks and Maintenance of equipment:
 - i. AED(s) will be maintained, inspected, and tested by the *CPR/AED Coordinator* in compliance with the manufacturer's instructions and best practices.

- h) Submission of CPR/AED Post-Incidence Reporting form in the process identified by the District/charter.
- i) AED Equipment Return to Service check once used:
 - i. Check and replenish supplies as appropriate, including purchase of spare pads.
 - ii. Clean and disinfection of the device.
 - iii. Check batteries and replace as needed.
 - iv. Check device and casing for cracks or other damage.
 - v. Return the device to its designated location.
 - vi. Debrief with *CPR/AED Responders* and others as needed.
- 3) Other things to consider include:
 - 1. Notification of building occupants of the presence and location(s) of AEDs such as signage, staff training and/or written notification.
 - 2. Notification of the *CPR/AED Responder* about the emergency and building specific notification processes.
 - 3. Notification of building administrator and district office about the situation.
 - 4. Notification of the *CPR/AED Coordinator* about the emergency.
 - 5. Follow up with district office about the situation and outcome.

Appendix D

(School/Building)

CPR/AED Responders

AED Responder's Name	Position	Training Provider	Training Method (e.g., American Heart Association (AHA) Heartsaver, AHA Basic Life Support, etc.)

Printed Name _____ Signature _____ Initials _____ Title _____

Appendix E

(School/Building)

AED Information

AED Manufacturer	AED Model Number	AED Signage Type	AED/Signage Location

(Signature)

(Title)

(Date)

Appendix F

AED and Emergency Equipment Inspection Log

AED Type/Unit Serial Number _____ Location _____

Check Monthly. In each column enter your Initials to indicate that item has been checked.

Month	Date	Check Readiness Display for "OK" indicator	Check Expiration date on Electrodes Package		Check supply kit: razor, gloves, dry cloth, scissors, pocket mask	Check Defibrillator for: damage, cracks, missing parts, foreign substances, cabinet secure	Comments
			Adult	Child			
August							
September							
October							
November							
December							
January							
February							
March							
April							
May							
June							
July							

Check Quarterly: In each column enter your Initials to indicate that item has been checked.

Month	Date	Oxygen Tank *location	Disaster Bag location	Emergency Binder with Health Alerts *location	AED Battery Expiration Date
August					
December					
April					

Printed Name _____ Signature _____ Initials _____ Title _____

Printed Name _____ Signature _____ Initials _____ Title _____

Appendix G

CPR/AED Post-Incident Report

This form is to be completed by the individual who initiates CPR/AED and one copy is submitted to the *CPR/AED Coordinator*.

Responder's Name: _____ School Building _____

AED Location: _____ AED Director: _____

AED Model#: _____ AED Serial #: _____ Date of Use _____ Time of Use: _____ AM PM

How were you notified of the emergency? _____ Time Notified: _____ AM PM

Client Name: _____ Staff Student Grade _____ Visitor Birthdate: _____

Describe the incident:

Client Condition Upon Your Arrival

- Breathing Not Breathing
- Conscious Unconscious
- Pulse No Pulse

Patient Condition Upon EMS Arrival

- Breathing Not Breathing
- Conscious Unconscious
- Pulse No Pulse

AED Responder Action(s) Taken

- CPR Attached AED
- AED Shock – Total number Shocks (if known): _____
- Time of Initial Shock: _____ AM PM

Patient Outcome

- Survival Unknown Death

EMS/Unit Name Responding: _____ Facility to Transferred to: _____

CPR/AED Responder Printed Name: _____ Signature: _____ Date _____

CPR/AED Responder Printed Name: _____ Signature: _____ Date _____

CPR/AED Responder Printed Name: _____ Signature: _____ Date _____