

## **City of Miami's Public Access Defibrillation Program**



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**“Team For Life”**

## **PAD - Public Access Defibrillator Program**

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## **Public Access Defibrillator (PAD) - “Team For Life” Program**

### **Program Overview**

Over 400,000 people die each year in the US from sudden cardiac arrest. Cardiac arrest usually results from some underlying form of heart disease. Most cardiac arrests are due to abnormal heart rhythms called arrhythmias. Ventricular Fibrillation (VF) is the most common arrhythmia that causes cardiac arrest. Death follows within minutes without defibrillation.

Defibrillation is the only known therapy for VF. A life saving pulse of electricity (defibrillation) must be delivered quickly to restore the heart’s normal rhythm and pump blood throughout the body. This technique of giving electrical shock can restore the heart’s normal rhythm if it is done within minutes of the arrest. For every minute that passes without defibrillation, a victim’s chance of survival decreases by 7- 10 %. After as little as 10 minutes, very few resuscitation attempts are successful. Studies and real life events have shown that when victims of sudden cardiac arrest receive the lifesaving AED shock within 3 minutes of collapsing, their chance of survival can increase to 74%.

**Traditionally, the ability to defibrillate was solely in the hands of Emergency Medical Personnel. Survival depended on the Emergency Medical Services (EMS) system being contacted and arriving quickly. Unfortunately, quick EMS response isn’t always possible. Even the very best systems can experience delays from heavy traffic, secured buildings, gated communities, large building complexes and high-rises. Today new generations of defibrillators, called automatic external defibrillators (AEDs), make it possible for trained lay rescuers to deliver defibrillation. The new AEDs are safe, effective, lightweight, low maintenance, easy to use, and relatively inexpensive. Having CPR trained lay rescuers equipped with AEDs will save precious minutes and improves survival rates for cardiac arrest victims. The City of Miami Fire-Rescue Department has taken the initiative of establishing an AED PAD Program in order to improve survival rates of those who suffer a sudden cardiac arrest.**

### **Mission Statement**

Team for Life will network with government organizations, private organizations and citizens to increase survivability from Sudden Cardiac Arrest, by providing: funding, awareness, training, equipment and quality management including program management in Public Access Defibrillation.

### **Vision Statement**

To have an exemplary expanding PAD program that is interesting, exciting, supported and successful. To have equipment that is user friendly, plentiful and of high quality which can be credited with lowering the area’s death rate due to Sudden Cardiac Arrest.

## **Team Leader**

A Team Leader will be identified as the point person, between the PAD Liaison and the personnel that have been trained and equipped with an AED. Their duties will be as follows:

### **Roles and Responsibility**

1. Responsible to perform quarterly inspection (the 1<sup>st</sup> week of Jan/Apr/Jul/Oct.) of their assigned AED unit, and complete the appropriate Quarterly Inspection Report.
2. Coordinates and implements mock drills for their AED location.
3. Reports any Team member vacancies to PAD Liaison as they arise.
4. When an AED has been used, insure that after the event the following occurs ASAP:
  - a. Connect spare (in date) electrodes to AED so that unit can be placed back into cabinet as found.
  - b. Complete an Event Summary.
  - c. Notify PAD Liaison.

## **Training / Certification / Re-Certification**

Participants in the “Team For Life” program will receive an AHA (American Heart Association) 4 hour course. The course is designed to train everyday people to recognize, treat and save victims of Sudden Cardiac Arrest. Participants will get an AHA rescuer card valid for a 2-year period. At the completion of 2 years participants are required to attend a refresher course that will re-certify them for another 2-year period.

## **Program Procedures**

### **Description**

Automated External Defibrillators (AED) have proven to be beneficial in the treatment of patients that have sustained a cardiac arrest. Early defibrillation is considered the third element of the Chain of Survival. AED’s are used to effectively identify and shock life threatening cardiac arrhythmias that the patient has sustained in the pre-hospital environment.

### **Indications**

Use on any person 1 year of age and older who is considered to be all of the following:

1. A non-responsive person.
2. A person not breathing.
3. A person with no signs of circulation.

## **Contraindications**

Do not use on:

1. Patients with a palpable pulse.
2. Cardiac arrest due to hypovolemia (excessive blood loss).
3. Soaking wet patient or patient in contact with anything metallic.

## **Complications**

1. If a patient is wearing a medication patch at or close to the area of AED pad placement, the medication patch must be removed and the area wiped clean prior to pad application.
2. AED pads should not be placed over the site of pacemakers.

## **AED Procedure**

1. AED Primary Assessment
  - a. Assess safety of scene.
  - b. Establish and maintains BSI (Body Substance Isolation).
  - c. Assure 911 has been called.
  - d. If CPR is in progress, instruct rescuer to stop.
  - e. Asses patient's level of consciousness (Tap and shout).
  - f. Assess Airway by head –tilt, chin-lift method.
  - g. Assess breathing 3-5 seconds.
  - h. If not breathing give 2 breaths immediately.
  - i. Check for signs of circulation for 5-10 seconds.
  - j. If no signs of circulation, have rescuer continue CPR.
  - k. Recognize the need for defibrillation on a pulseless patient.
  - l. Verify corresponding CPR pulse and adequate ventilations by assessing adequate chest rise and fall with each ventilation.
  - m. Retrieve AED.
  - n. Turn on AED by opening the lid.
  - o. Attach pads to patient bare chest correctly.
  - p. Stop CPR and advise all rescuers to stand clear.



- q. Proceed to analyze patient's rhythm.
  - r. Acknowledge need for defibrillation.
  - s. Reconfirm that all rescuers are clear.
  - t. Start shock procedure by pushing shock control.
2. Spontaneous Pulse Return
    - a. Check for spontaneous pulse.
    - b. If spontaneous pulse is present, check for spontaneous breathing. If breathing, support patient with supplemental oxygen. If not breathing, continue rescue breathing every 5 seconds.
    - c. Complete patient assessment and prepare for transport.
  3. No Spontaneous Pulse Return
    - a. If no spontaneous pulse, initiate CPR for two minutes.
    - b. Check for pulse. If no pulse, proceed to analyze patient's rhythm.
    - c. Defibrillate at preset Joules.
    - d. Check for spontaneous pulse.
    - e. If spontaneous pulse returns follow procedure 2 above, if no pulse follow procedure 3 as outlined above.

## **AED – Inspections**

### Inspection Description

In order to provide optimal care when using the AED, maintenance should be performed to ensure proper function. Uncharged or insufficiently charged batteries are the most common cause of AED malfunction.

### Quarterly Inspection Procedures

The team leader will perform quarterly inspections the 1<sup>st</sup> week of Jan/Apr/Jul/Oct in the following manner:

1. Inspect the AED as per the inspection form.
2. Complete the Quarterly Inspection Report as per the above dates.

### Annual Inspections

PAD Liaison will make annual site visits to inspect AEDs, and perform a mock drill for evaluation.

## Mock Drills

These drills are designed to measure the performance of the “Team” as a whole. The idea is that these performance evaluations are used to create a benchmark. So that future responses can be evaluated and continually improved upon. The coordinated response of all aspects of the response team could be gauged, including but not limited to the “Team” members, operators, dispatchers, and all other pertinent components that would like to participate in these drills. These drills can be very dynamic to include a complete rescue event or they can be confined to a very specific aspect of a rescue. Some aspects of these evaluations that can be measured are:

1. Time of recognition to Activation of the response “Team”.
2. Time to contact 911.
3. Time to properly assess airway, breathing and circulation of the patient.
4. Time to recognize cardiac arrest.
5. Time for “Team” and AED to arrive.
6. Time to deliver first shock.

## Quality Management of AED after an Event / Usage

In the event that an AED is used, the following needs to occur ASAP:

1. Connect spare (in date) electrodes to AED so that unit can be placed back into cabinet as found.
2. Complete an Event Summary.
3. Notify PAD Liaison.
4. PAD Liaison will respond to the scene at which time he /she will attempt to meet and interview the rescuers that were involved with the event and answer any questions that the rescuer might have.
5. PAD Liaison will coordinate efforts to have AED information downloaded, reviewed, and discuss the data with rescuer.
6. PAD Liaison will coordinate efforts to service AED (new ready kit, pads, etc.) and place AED back into operation as soon as possible and relay information to Medical Director.

The purpose of the meeting between the PAD Liaison and the Rescuers is supportive in nature. The event debrief should be viewed as a positive experience, with the focus on improving the system. The PAD Liaison will attempt to address emotional or psychological concerns that should arise from the personnel involved in the actual emergency. These events can be very traumatic to rescuers and their well-being is of the utmost importance.

## **Event Summary**

The Event Summary is in place to systematically record the usage of an AED. The PAD Liaison, rescuers and the Medical Director (when appropriate) will review information recorded on this form. The form is to be completed with input from all rescuers by the Team Leader or his/her representative and submitted to the PAD Liaison ASAP (see attached AED Event Summary sheet for reference).

## **FREQUENTLY ASKED QUESTIONS**

### **What does AED stand for and what is it?**

**Automated External Defibrillator.** It is a device used to administer an electric shock through the chest wall to the heart. A built-in computer assesses the patient's heart rhythm, judges whether defibrillation is needed and then administers the shock. Audible and/or visual prompts guide the user through the process.

### **How does an AED work?**

A microprocessor inside the defibrillator interprets the victim's heart through adhesive electrodes. The computer analyzes the heart rhythm for Ventricular Fibrillation (VF) and advises the operator whether a shock is needed. If VF is detected an electric current is delivered through the victim's chest wall via the adhesive electrodes.

### **Why are AEDs Important?**

**To date nothing can restart a stopped heart in VF except an electric shock.** They can restore a normal rhythm in sudden cardiac arrest victims. These portable models allow more non-medical people to respond to a medical emergency where defibrillation is required.

### **Who can use an AED?**

Most AEDs are designed to be used by non-medical personnel such as police, flight attendants, security guards and other identified rescuers who've been properly trained. Having more people in the community who can respond to a medical emergency will greatly improve sudden cardiac arrest survival rates.

### **Is an AED safe to use?**

An AED is safe to use by anyone who's been trained to properly use it.

### **What are the legal liabilities?**

Anyone trained in AED usage, and that uses an AED in good faith is protected under the Good Samaritan Law. See FL. Statute 768.132. The assumption is that a person in cardiac arrest is already dead, and a good faith effort is their best hope.





## **AED GENERAL DEPLOYMENT PROCEDURES**

In the event of an emergency your quick action may help someone in need. The following procedures should be followed in the event of a Medical Emergency:

- If alone, you should seek help quickly by calling out for Help! If you are unable to reach anyone, a call to 911 should be made before starting any life saving procedures. After contacting someone and the person appears unconscious, you should then retrieve the closest AED and First Aid Kit if available.
- If someone is with you, have them contact 911 and retrieve the AED. A person trained in CPR/AED should be the one to remain with the patient when possible. If enough bystanders are available, one should call 911 and the other should retrieve the AED and First Aid kit when available.
- Security should be contacted as soon as it is possible. The location of the emergency should be reported at this time. Security is to coordinate the arrival of EMS to assure a quick arrival to the patient's side.
- If security is not available a bystander or someone close to the emergency and familiar with the building should be sent to wait for the arrival of EMS.
- In the case of a Cardiac Arrest, personnel trained in CPR and the use of an AED should be contacted and should assist in the event. If this is not possible an untrained person can start life saving procedures with the AED. Simply follow the voice commands of the AED unit. There is information attached to the unit's handle and also stored in the wall case.
- The PAD Coordinator should be contacted as soon as possible after the event. He will assist in retrieving information from the AED and taking the information of the personnel involved. The information provided will remain confidential. Only the PAD Coordinator and the Oversight Physician will review the report.

Your cooperation and assistance will play a vital role. It will ensure a quick and coordinated response in case of a Cardiac Emergency.

**CITY OF MIAMI'S TEAM FOR LIFE ♥ PUBLIC ACCESS DEFIBRILLATION PROGRAMS**

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## City of Miami

### **Public Access Defibrillation Site Location Responsibilities**

- Site locations must have a PAD Program liaison to maintain and perform duties of PAD Program on site. PAD Program Coordinator of staff member must be informed of the name and phone numbers of this person(s).
- Location of an Automatic External Defibrillator (AED) must be centrally located and easily accessible. All personnel must be aware of AED location.
- AED unit must be visually inspected on a daily basis. The PAD program liaison will be responsible to perform a quarterly inspection and report this information by either fax, postal service, inter-office mail, or e-mail.
- Standard Operating Procedure (SOP) manual must be available to all personnel. So that they may have an understanding of the PAD Program at their site.
- All site location rescuers are responsible for maintaining their certification and need to maintain communication with the PAD program liaison in this regard.
- Rosters are to be updated on a yearly basis to ensure enough trained members are available at the Program site.
- Maintain communications with PAD program staff regarding all pertinent information in regard to their site program.
- Notify PAD Coordinator in the event of an AED deployment so that they can respond to the scene.

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