Police Defibrillation Toolkit





POLICE DEFIBRILLATION PROGRAM TOOL KIT

This tool kit is free to EMS agencies interested in implementing a Police Defibrillation Program. The materials have been developed to provide stepby-step instructions for implementing a program and useful materials to assist you in that process. This and other toolkits may also be found at <u>http://resuscitationacademy.org/</u>.



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The Resuscitation Academy expresses its thanks to Dr. Roger White of the Mayo Clinic in Rochester, Minnesota, who pioneered Police Defibrillation. This program, started in 1990, is a coordinated effort involving the Rochester Police Department, Rochester Fire Department, Gold Cross Ambulance and the Mayo Clinic. We are deeply grateful for their innovation and leadership.

Overview

Despite improvements in resuscitation, out-of-hospital sudden cardiac arrest remains a substantial public health challenge accounting for approximately 10% of total mortality in North America. Efforts to improve resuscitation focus on the links in the chain of survival. In particular, innovative methods to achieve early defibrillation can improve survival from out-of-hospital cardiac arrest. These efforts aimed at early defibrillation have involved equipping EMS and nontraditional responders (specifically the lay public) with automated external defibrillators (AEDs).

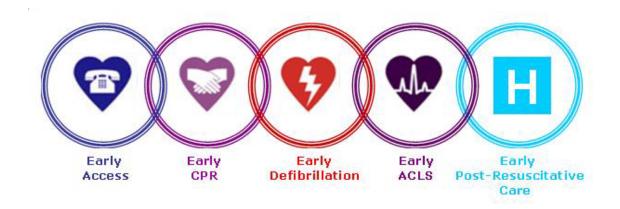
Law enforcement also has a commitment to public safety but their role in resuscitation and early defibrillation has been modest and inconsistent. Providing law enforcement officers with basic cardiopulmonary resuscitation (CPR) skills



and training in the use of an AED can potentially increase survival rates from cardiac arrest.

Experience from a handful of communities – most notably Rochester MN – have provided strong impetus for a beneficial role of police defibrillation. In many areas, police have the ability to reach a victim of sudden cardiac arrest more quickly than EMS personnel. And as we know-every minute counts-the chances of survival decrease by about 5% for every passing minute.

This toolkit is designed to provide support for launching a Police Defibrillation Program. Forms, protocols, and information regarding implementing a police AED program can be found within this toolkit.





Achieving buy-in

Before embarking on a Police Defibrillation Program, it is essential to establish support from both Police and Fire leadership. One of the primary predictors of a successful Police Defibrillation Program is the endorsement and prioritization by the Police leadership.

General talking points:

- Set the stage. Talk about your community's cardiac arrest survival rate and what you're trying to achieve.
- Stress the importance of saving time. Each minute delay represents a 10% drop in chances of survival.
- Make a "sales pitch." Police have the unique opportunity to beat EMS to the scene and get a shock delivered quickly. A couple of minutes quicker can mean the difference between life and death. Police defibrillation can save a life.

Emphasize these important points with the Police Chief:

Increase Police Workload

Research what the average call volume for his or her agency. (e.g. – The City of Bellevue has 100 cardiac arrests per year. That's two per week.)

Liability Issues

The liability is with the EMS Medical Program Director, not the Police Department. (See page 15 for legal code.)

Training

Most police officers are trained in basic first aid and CPR. Offer to provide the training in person either at the next training opportunity or at shift briefings. Be flexible on the amount of time they give you to work with.

Responsibility

Make it very clear that this police activity will in no way replace the work of EMS. When EMS arrives on scene after police, they will assume care and full responsibility.

Cost

Using a government agency rate, AEDs are available for about \$1,200. Pads last 2 years and cost ~\$50. Batteries last 5 years and cost ~\$140.

Selling Point for Officers

NO MOUTH TO MOUTH – officers do chest compression CPR only. The AED provides easy to follow, clear voice instructions. (Give a demo – easy to show how straightforward the rescue actions are)



Leadership

In addition to the endorsement and support of Police and Fire leadership, other persons and organizations are essential for a successful Police Defibrillation Program. These stakeholders include medical directors, project coordinators, and site coordinators.

Medical Director Buy-in

The goal of implementing a Police Defibrillation Program is to increase the rate of survival from sudden cardiac arrest within your community. All AEDs must have physician oversight in order to comply with state law. The Medical Director will:

- Sign off and take responsibility for approval of AED implementation.
- Ensure proper training for police officers.
- Aid in building a working relationship and line of communication between Police and local EMS agencies.
- Aid in establishing review and improvement procedures for Police use.

Project Coordinator Leadership

The role of project coordinator is not only responsible for data collection, but is also a resource for information and stakeholder buy-in.

- Achieve endorsement from Police and EMS key stakeholders.
- Maintain AED registry.
- Send reminders to Police facilities/operations regarding pad and battery re-ordering.
- Debrief AED users after an event and help restore AED to proper working condition.
- Serve as a point person for information dissemination regarding program.

Site Coordinator Initiative

The site coordinator can be any precinct employee and is responsible for the upkeep of AEDs and data sharing with other agencies.

- Maintenance checks.
- Supply inventory.
- Pad/battery reordering.
- Incident response coordination with Project Coordinator.



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The Important Role of Emergency Dispatch

Dispatch

A Police Defibrillation Program requires direct dispatching to be successful. Engage dispatch early. Make sure what you're asking them to do is technically possible and brainstorm best strategies to send Police and EMS (Fire) simultaneously to possible cardiac arrests. These details can have a real effect on whether your Police Defibrillation Program will save lives. Ideally, Fire and Police present a united voice on what is being asked of them. If possible, have a few trial runs to make sure the system works for all involved.

After the program is operational, review cardiac arrest calls that did *not* have police involvement to determine if and how emergency dispatch might involve police response at the earliest opportunity.





Tools of the program

Once a community has decided to launch a Police AED Program, the next step is to make sure that proper oversight and protocols are in place. The following information is designed to serve as a template to be molded to individual community needs.



Sample Medical Director Oversight letter:

January 1, 2010

_____ Police Department 123 11th Ave. NE P.O. Box 12345 _____, WA 98000

Chief ___

Please find attached the protocol for Automated External Defibrillator use by Bellevue Police for cardiac arrest. In my capacity as medical director of _____ County Emergency Medical Services and as authorized by the State of Washington, these protocols legally protect your police officers and your department.

I appreciate the cooperation of you and your staff in undertaking this life saving program.

If you have any questions or concerns, please contact me.

Sincerely,

_, MD

Medical Director _____ County Emergency Medical Services Department of Public Health



Defibrillation Protocol:

STANDING ORDERS FOR DEFIBRILLATION POLICE DEPARTMENT (Specific to Philips FRX AED)

1. ASSESS

Upon arrival:

- A. Notify dispatch of arrival.
- B. Confirm cardiac arrest (Is the patient conscious? Breathing normally?)

2. TURN ON AED

- A. Bare the patient chest.
- B. Attach pads to patient.
- C. Stand clear. Don't touch patient while AED analyzes rhythm.

2a. SHOCK ADVISED

If indicated by AED, press flashing orange button to deliver shock.

Shock will be followed by a voice prompt that will say, "Shock delivered. It is safe to touch the patient. Begin CPR". Press the flashing blue button for CPR coaching. Follow the voice prompts.

2b. NO SHOCK ADVISED

If no shock is indicated, the AED will say, "No shock advised. Begin CPR." Press the flashing blue button for CPR coaching. Follow the voice prompts.

3. CPR

Unless the patient awakens begin chest compression-only CPR and continue without interruption for two full minutes. A timer on the AED will count down remaining seconds to the next analysis.

4. ANALYZE

After two minutes, stop CPR when directed by the AED voice. The voice prompt will say, "Analyzing heart rhythm". If shock is advised, deliver the shock, and resume CPR as soon as directed. Repeat this cycle until EMS arrives.

5. FOLLOW-UP

Continue patient care until instructed by EMS personnel. Remain on-scene to give report to the EMS officer.

6. POST EVENT

Take unit out of service and deliver to duty officer (or other designated person).



Training



Each police agency will have a unique list of factors that will motivate participation and success. The following are a list of "selling points" that can be used to tailor a program that is right for your agency.

"Police work"

Officers need to be convinced that aiding a victim in cardiac arrest is a worthwhile use of their time. After all, most officers consider their primary daily mission to be law enforcement, not provide first aid. Emphasize that this program will *save more lives* in your community. Early defibrillation makes a profound life-anddeath difference. It aligns with the police mission to *protect and serve*.

Police and fire unions debate over whose job it is to respond to cardiac arrest. This program asks police to be first responders *only* until EMS arrives. At that point, EMS will work quickly to transition patient care and relieve the officer.

"What about mouth to mouth?"

Officers will only do chest compressions, alleviating the common anxiety over performing ventilations.

Ease of use

Today's AEDs are easy to use and give clear, simple voice commands that guide the user.

It is technically impossible to harm someone with this device.

Liability

Officers are NOT liable if someone dies. They are protected under the license of the EMS Medical Program Director, State legislation, and the Good Samaritan Law.



Training on cardiac arrest response and AED use:

- Deploy the AED whenever a person is unconscious OR not breathing normally.
- Demonstrate agonal breathing as a sign of cardiac arrest.
- Explain the machine only shocks VF and that not everyone will get a shock.
- Demonstrate hands-only chest compression CPR.
- Allow plenty of time for practice on a training device.



Tools to launch the program

Sample press release

March 1, 2010

Contact: Bellevue Police Department – Officer Carla Iafrate 425-452-4129 Kent Police Department – Lt. Lisa Price 253-856-5871 Public Health - James Apa 206-205-5442

Local police participating in initiative to improve cardiac arrest survival Bellevue, Kent Police vehicles will carry defibrillators, respond to calls

Note to editors: Representatives from the Bellevue and Kent Police Departments and Public Health – Seattle & King County will be available at 1 p.m. today to show the automated external defibrillators (AEDs) in patrol vehicles and discuss the initiative. Location will be Bellevue City Hall, 450 110th Avenue NE; meet on the front steps near the Bellevue Police Department entrance. Media may park their vans on the back drive of City Hall, off of NE 6th and 112 Ave NE.

KING COUNTY, WA – To help improve cardiac arrest survival in King County, the Bellevue and Kent Police Departments will be participating in a two-year initiative that will equip patrol vehicles with automated external defibrillators (AEDs) and dispatch them to cardiac arrest calls along with emergency medical responders.

Led by Public Health – Seattle & King County's Emergency Medical Service Division, the initiative is designed to see if having an additional responder that may get to and start resuscitation on people quicker will improve community cardiac arrest survival rates.

"King County has among the world's best cardiac arrest survival rates, but we're continuing to look for ways to save more lives," said Dr. Mickey Eisenberg, Medical Director for King County Emergency Medical Services Division of Public Health – Seattle & King County. "Shortening the time to receiving the first defibrillation is critical to improving chances for survival, so including nearby police in the emergency response chain is a promising approach."

"I'm really pleased that the Bellevue Police Department was chosen as a partner to implement this pilot program. Since heart disease is the #1 cause of death in the U.S., the possibility of saving more lives in Bellevue by having portable AEDs in the hands of our officers is very exciting," said Bellevue Police Chief Linda Pillo.

"Our officers are looking forward to being able to provide this vital service to our residents, and we cannot wait to use our AEDs to make our first save," said Kent Police Chief Steve Strahan.

Equipped Bellevue and Kent Police who arrive first to the scene of a cardiac arrest will start resuscitation and deliver the first defibrillatory shocks. Once emergency medical responders arrive on scene, they will take over resuscitation duties.

Bellevue Police activated their program in 44 equipped patrol vehicles on February 16, while Kent Police will be activating their program in 55 patrol vehicles in early April. Participating officers receive training in how to use the equipment.

For more information: Bellevue Police Department <u>www.ci.bellevue.wa.us/Police_Home.htm</u> Kent Police Department <u>www.ci.kent.wa.us/Police</u>



Police AED Quality Assurance

1/ incident date mm/dd/yyyy 2.		PD
Incident times hh:mm:ss		
3: PD dispatcher received call: 911 c	all received	
4: PD dispatch time: FD di	spatch time	
5: PD arrival time: FD ar	rival time	
6 Was PD initially dispatched? 1=yes, medical reason 2=yes, other	3=no 9=ur	nknown
6a.If not dispatched, why not?		_
7. If dispatched, did they arrive first? 1=yes 2=no 3=simultaneously	9=unknowr	n
7a.If they did not, why not?		_
8.Did PD perform CPR? 1=yes 2=no 9=unknown		_
 9. Was the police AED applied? 1=yes 2=no 9=unknown 		
9a.If not applied, why not?		
10.Did arrest occur before or after PD arrival? 1=before 2=after 8=n	o arrest 9=1	unk
11.Patient status on EMS arrival 1=alive after shock 2=alive after no arrest 9=unknown	shock 3 =s	till in
12.Assessment of patient on EMS arrival: 1= cardiac arrest 2=resp 3=alive, did not need CPR 4=DOA, did not need CPR 9=unknow	•	st
13.Is there a download? 1=yes 2=no		
Rhythm and shock information		
14:: power on time (hh:mm:ss)		
15:: analysis time (hh:mm:ss)		
16 elapsed time to analysis (seconds)		
17 first collapsing rhythm 1=shockable 2=non-shockable 9=	unknown	



Form Variables

The following definitions were created to align with the Police AED Quality Assurance form on the preceding page in order to streamline the data collection process. An electronic template of the form and dictionary are included in this toolkit. (Police QA Form)(Police QA Data Dictionary)

Data Dictionary for Police AED

A case for entry into this registry is defined as any potential use of an AED by the police in the study area, whether or not the patient received further resuscitation efforts by EMS. Every cardiac arrest is included unless arrest occurred after EMS arrival. Data will be derived from the EMS reports, Police CAD, police report, ECG download, and the personnel interview.

- 1. Inc date mm/dd/yyyy Incident date
- 2.**PD** Police Department number
- 3. **PDreceivescall** hh:mm:ss Time police receive call-from the police CAD
- 4. **PDdispatchtime** hh:mm:ss Time police are dispatched to event-from the police report or police CAD
- 5.**PDarrivaltime** hh:mm:ss Time police arrive on scene-from the police report or police CAD

From the EMS report, these times	911 calltime	hh:mm:ss
will be noted here but not entered:	EMS dispatch time	hh:mm:ss
	EMS arrival time	hh:mm:ss

- 6.**PDdispatched** 1) yes, or were already on the scene 2)no 9) unknown. Was the PD dispatched initially? From the police report or police CAD; yes if dispatched within four minutes of 911 call received.
- 6a.**PDwhynotdispatch** Text field: If the police were not dispatched, why not? For example, reported as DOA or type other than CPR, delay in call receiver's recognition of cardiac arrest. If no apparent reason, write "no reason found".
- 7. **PDfirst** 1)yes 2)no 9)unknown. If dispatched, did they arrive first?
- 7a. PDwhynotfirst Text field If dispatched, why was PD not first?
- 8. **PDCPR** 1)yes 2)no 9)unknown. Did PD perform CPR?
- 9. PDAEDapplied 1) yes 2) no 9) unknown. Was the AED applied?



9a.PDNoAED	Text field: If no AED applied, why not? For example, no time due to
	simultaneous arrival or after arrival of EMS, no AED carried on car, or
	police unsure if arrest.

- 10.**PDaba** 1)yes 2)no 9)unknown. Was arrest before police arrival? Derived from the police report.
- 11.**PDstatus** 1) alive after shock 2) alive after no shock 3) still in arrest 9) unknown. Patient status on EMS arrival.
- 12.**PDEMS** 1) cardiac arrest 2)respiratory arrest 3)alive, did not need CPR 4)DOA, did not need CPR 9)unknown. Patient assessment on EMS arrival.
- 13. **PDdownload** 1)yes 2)no 9)unknown. Did we obtain a download?
- 14. **PDpoweron** hh:mm:ss Derived from the machine download
- 15. **PDanalysis** hh:mm:ss Time of first analysis
- 16.**PDelapsedanalysis** mm:ss Elapsed time from power on to analysis
- 17.**PDfirstrhy** 1) shockable 2) non-shockable 9) unknown. What was the rhythm upon PD (or first responder) arrival?

Additional information that may be used for QA

Different communities may wish to collect additional information that may enhance police AED surveillance. The following are examples of additional variables that may be incorporated into the data collection process.

PDrhythm	00) asystole 01)PEA 03)VF 05) VT. Rhythm from download
PDDelay	Text field. Derived from the police report or interview. If there was a delay in applying the AED or in shocking patient, what was the reason?
PDpostevent	1) still in cardiac arrest 2) with pulse after PD shock 3) with pulse after no PD shock 4) expired. Patient status on EMS arrival
PDshockonfirst	1) yes 2) no 9) unknown. Was a shock delivered on first analysis? Derived from the machine download
PDShocklater	1) yes 2) no 9) unknown. Was a shock delivered on a later analysis? Derived from the machine download
PDTimeshock	hh:mm:ss Time of first police shock. Derived from the machine download.
PDelapsedshock	mm:ss Elapsed time from power on to shock
PDTotshocks	00 if none. Total shocks by police. Derived from machine download.



Implementation Steps

Step 1: Medical Director approval

Make sure appropriate paperwork is in place regarding Medical Director oversight of the program. Additionally, ensure that all parties (EMS, Fire, Police) are on board with the protocols.

Step 2: Purchase of AEDs

There are numerous producers of AEDs. It is up to your agency to work with the Medical Director and officers to determine which system is the best fit for your group.

Step 3: Training in the use of AEDs

Training is the most important step in this process. If police respond to an incident but cannot properly operate the AED, then the entire system has not functioned effectively. One of the best selling points of this program is that AEDs are easy to use and training consumes little time. Make sure that training involves hands-on training, so officers will have the opportunity to use the AED before being called to a cardiac arrest incident.



Step 4: Dispatch coordination and agreement

Communicate and coordinate with the local dispatch center to ensure that EMS personnel AND police are dispatched to an out-of-hospital sudden cardiac arrest event. Work with the Medical Director and dispatch to determine at what level police should respond to such an event. SUCH DISPATCH COORDINATION IS ESSENTIAL FOR A SUCCESSFUL PROGRAM.

Step 5: Put the training to work and save lives!

Once police are trained in the use of an AED and cars have been equipped with a machine, it is time for dispatch to begin sending a dual response for both EMS and police to cardiac arrest incidents.



Feedback

Consider sending officers involved in cardiac arrest events a follow-up letter to inform them of patient outcome as well as commending them on their work.

Example Follow-Up letter:

Dear Officer -----,

Thank you for serving the citizens of ______ by your use of the automated external defibrillator on ___/___. Though this person did not survive the event, you did everything possible, and we are grateful for your efforts.

In appreciation,

John Smith, MD, PhD Medical Director County Emergency Medical Services

cc: Jane Johnson, Chief Police Department Personalizing letters to officers who have responded to a cardiac case is a great way to achieve officer participation. Knowing that they made a difference in an emergency situation is invaluable.

<u>Or:</u>

Dear Officer -----,

Congratulations for serving the citizens of ______ by your use of the automated external defibrillator on ___/___. Through your efforts, this person's life was saved. We commend your effort and we owe you a debt of gratitude.

In appreciation,

John Smith, MD, PhD Medical Director County Emergency Medical Services

cc: Jane Johnson, Chief Police Department



Ongoing monitoring

Follow-up

Set up a system so that officers get timely feedback on the patient outcome. Commit to asking for feedback on the system logistics. Did you get good information from dispatch? Did the AED work properly? Do you have questions about the patient's presentation? Did you know what to do with the AED after use? Etc., etc. Use this information to make improvements along the way.



Resources

The following are websites with information and facts relative to Sudden Cardiac Death and Public Access Defibrillation:

American Heart Association http://www.heart.org/HEARTORG/

Survive Cardiac Arrest http://depts.washington.edu/survive/

Sudden Cardiac Arrest Foundation http://www.sca-aware.org/

The following are about Police AED programs:

Miami Dade County, Florida http://home.earthlink.net/~douglaspage/id58.html

Willowby, Ohio Police http://www.news-herald.com/articles/2010/01/09/news/nh1921500.txt

Gaston County, North Carolina Police AEDs http://www.co.gaston.nc.us/gemshp/PublicEducation/gcpd.htm

Rochester, Minnesota

http://www.rochestermn.gov/departments/police/defibrillation/aed_locations.asp



State of Washington AED Legislation

http://apps.leg.wa.gov/RCW/default.aspx?cite=70.54.310

RCW 70.54.310

Semiautomatic external defibrillator — Duty of acquirer — Immunity from civil liability.

(1) As used in this section, "defibrillator" means a semiautomatic external defibrillator as prescribed by a physician licensed under chapter $\frac{18.71}{18.57}$ RCW or an osteopath licensed under chapter $\frac{18.57}{18.57}$ RCW.

(2) A person or entity who acquires a defibrillator shall ensure that:

(a) Expected defibrillator users receive reasonable instruction in defibrillator use and cardiopulmonary resuscitation by a course approved by the Department of Health;

(b) The defibrillator is maintained and tested by the acquirer according to the manufacturer's operational guidelines;

(c) Upon acquiring a defibrillator, medical direction is enlisted by the acquirer from a licensed physician in the use of the defibrillator and cardiopulmonary resuscitation;

(d) The person or entity who acquires a defibrillator shall notify the local emergency medical services organization about the existence and the location of the defibrillator; and

(e) The defibrillator user shall call 911 or its local equivalent as soon as possible after the emergency use of the defibrillator and shall assure that appropriate follow-up data is made available as requested by emergency medical service or other health care providers.

(3) A person who uses a defibrillator at the scene of an emergency and all other persons and entities providing services under this section are immune from civil liability for any personal injury that results from any act or omission in the use of the defibrillator in an emergency setting.

(4) The immunity from civil liability does not apply if the acts or omissions amount to gross negligence or willful or wanton misconduct.

(5) The requirements of subsection (2) of this section shall not apply to any individual using a defibrillator in an emergency setting if that individual is acting as a good samaritan under RCW 4.24.300.



Articles

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White RD, Vukov LF, Bugliosi TF. Early defibrillation by police: initial experience with measurement of critical time intervals and patient outcome. *Ann Emerg Med* 1994;23:1009–13.

Survival to Hospital Discharge by Type of Location

	AED Applied Before EMS	Survival (%)	Bystander CPR, No AED Applied Before EMS	Survival (%)	Adjusted OR* (95% CI)†
Public	171	35	888	20	1.86 (1.26-2.75)
Street/highway	14	36	210	13	
Public building	48	38	169	21	
Place of recreation	41	49	135	24	
Industrial place	18	22	54	15	
Other public place	50	24	320	23	

Weistfeldt et. All, 2010



Toolkit Checklist

You now have the following forms and information necessary to start a Police AED Program in your area:

Letter of recognition Letter of support template Public announcement example Police AED presentation DVD Implementation steps List of sudden cardiac arrest organizations Medical Direction support letter template Police Registry Data Dictionary for registry State Legislation Laws/codes





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