Everyday in the United States, 600 adults will become victims of sudden cardiac arrest.

Sudden Cardiac Arrest claims more than 350,000 lives every year. It is difficult to predict and many victims have no prior symptoms.

Without early intervention less than one in 20 survives!

The automated external defibrillator is designed for use by anyone and is the answer to saving more victims of sudden cardiac arrest. With chances of survival decreasing by 10 percent each minute, having defibrillators in the hands of individuals who are often first on the scene can be the difference between life and death.

Oregon Revised Statute 30.802 provides protection from an action for damages that results from acts or omissions of another rendering emergency medical assistance with an automated external defibrillator if:

- The person using the defibrillator has received instruction in its use and in CPR.
- The defibrillator has been maintained and tested.
- The organization that acquires and maintains the defibrillator has sought medical direction from a licensed physician in the use of the defibrillator and in cardiopulmonary resuscitation.

The Washington County Emergency Medical Services Office can assist community organizations and businesses in the implementation of a CPR-Automatic External Defibrillator Program by:

- Providing a site assessment and explaining the program’s objectives, benefits and requirements.
- Assist in the selection of a defibrillator appropriate to the needs of your organization.
- Coordinating and providing CPR training to American Heart Association Standards.
- Coordinate and provide defibrillator training.
- Provide medical supervision through the County’s Medical Director.
- Provide the continuing education necessary to keep defibrillator-trained personnel comfortable in the machines use.
- Provide quality improvement and assurance follow-up if the defibrillator is used.
- Provide regular training opportunities for new employees.
Public Access Defibrillation

It's important to understand the rationale for a PAD program before trying to develop and implement one. The American Heart Association estimates that over 220,000 people die each year from sudden cardiac arrest. That's more than 600 deaths a day. About 75-80 percent of these events occur outside a hospital. Unfortunately, available statistics show an average 5 percent survival to hospital rate.

The most common initial rhythm of a sudden cardiac arrest is ventricular fibrillation (VF). VF is a rapid and chaotic heart rhythm resulting in a loss of synchronization between heartbeat and pulse. The only definitive therapy for VF is defibrillation. This is why early defibrillation is a critical link in the chain of survival.

Chain of Survival
More people can survive sudden cardiac arrest when a certain sequence of events happens as quickly as possible.

This series of steps is called the chain of survival.

**First Link:** Early Access is recognizing that a cardiovascular emergency exists and immediately notifying the EMS. In most communities, calling 9-1-1 accesses the EMS system. Early access to emergency care only happens if you know who to call and when to call.

**Second Link:** Early CPR means starting cardiopulmonary resuscitation promptly. When CPR is performed, ventilation and chest compression circulate oxygen-rich blood to vital organs. This buys time for the victim until defibrillation can be given.

**Third Link:** Early Defibrillation is often called the most critical link because defibrillation is the only definitive therapy for VF. Giving trained lay rescuers early defibrillation capabilities can shorten the time from a victim’s collapse to defibrillation. Reducing this interval positively impacts the survival of cardiac arrest patients. EMS and healthcare providers have traditionally performed defibrillation, but quick EMS response isn’t always possible. Factors such as heavy traffic, secured buildings, gated communities, large building complexes and high-rises can delay even the best EMS systems. In some communities EMS personnel with defibrillation capabilities can't reach the cardiac arrest victim within the 3–5-minute window. For these situations, the American Heart Association advocates establishing PAD programs.

**Fourth Link:** Early Advanced Care means having trained providers arriving quickly to administer advanced lifesaving interventions. These trained professionals can stabilize patients and provide more advanced care during resuscitation. They can also treat heart rhythms other than VF and use advanced airway therapies and intravenous drugs. This link is stronger when appropriate healthcare providers are trained in advanced care such as Advanced Cardiovascular Life Support (ACLS) and Pediatric Advanced Life Support (PALS).

Placing Automated External Defibrillators
Evidence supports establishing PAD programs in these cases:

a. The frequency of cardiac arrest events is such that there’s a reasonable probability of one AED use in five years (estimated event rate of one sudden cardiac arrest per 1000 person-years).

b. An EMS call-to-shock time interval of less than five minutes can't be reliably achieved with conventional EMS services. In many communities, this EMS call-to-shock time interval can be achieved by training and equipping laypersons to
   - Function as first responders in the community
   - Recognize cardiac arrest
   - Activate the EMS system (phoning 9-1-1 or another appropriate emergency response number) at appropriate times
   - Provide CPR
   - Attach/operate an AED safely
Nontraditional Responders
Nontraditional responders are persons other than healthcare personnel, such as police, firefighters, security personnel, sports marshals, ski patrol members, ferryboat crews, and flight attendants, whose job duties require them to respond to an emergency. Traditionally, however, they have not been asked or expected to take any action other than perform basic CPR.

Targeted Responders
Targeted or work site, responders, who may also be called "citizen responders," often participate in PAD programs. These responders are employees of companies, corporations or public facilities with established PAD programs. Their location at the worksite (e.g., central reception area staff) makes them a natural choice to be the primary responder with the AED. PAD programs can shorten the time to defibrillation and improve the chance of survival from sudden cardiac death in the workplace or community.

Responders to Persons at High Risk
Family members and friends living with or visiting persons at high risk for cardiac emergencies are another potential category of responders. They often participate in early defibrillation programs and are taught CPR and how to use an AED when a friend or loved one is at high risk for sudden cardiac death. The American Heart Association recommends that as many trained rescuers as possible be given access to defibrillation. When identifying your targeted responders, consider people who are typically on the premises and respond to emergency situations as part of their job. Security guards and members of safety response teams are excellent candidates for becoming trained rescuers. Another possibility is people who are typically on the premises and willing to respond to a cardiac emergency in the context of the PAD program. These may be office personnel or residents depending on the PAD program site.

Determine Training for Responders
First, review the state and local requirements for training for a PAD program. Acceptable curriculum for responder training, organizations offering such training and training renewal intervals are often outlined in these requirements. From there, you can plot your training program and schedule. Scheduling initial and renewal training may be a responsibility assigned to the PAD program coordinator.

Initial Training
AEDs can analyze the electrical activity of the victim's heart and determine if a shock is needed. However, more skills are needed to make sure the device is used most effectively and to ensure the safety of the user and bystanders. Training can do this. The American Heart Association recommends that the initial training should teach the user:

- How to recognize the warning signs of a heart attack.
- Why and how to activate the emergency medical services system (EMS).
- How to buy time for the victim by performing one-rescuer adult CPR until the AED arrives.
- How to assess the patient and determine if using an AED is warranted.
- How to attach the AED pads if needed and ensure the device is used properly.
- How to follow safety protocols to protect the user and bystanders.
- How to deal with unusual situations (such as a victim with an implanted defibrillator or using an AED on a victim lying in water).
- One such training is the American Heart Association Heartsaver AED is specifically designed for targeted traditional and non-traditional responders and lay rescuers in a PAD program. This 3 1/2 – 4-hour course prepares the targeted responder to perform CPR and to use an AED. The Heartsaver AED course is scenario-based. This lets participants learn by doing so rescue skills become reflexive. This is essential when PAD program responders aren't used to routinely responding to medical emergencies.

Skills Review (refresher, update, etc.)
Skill review between the initial training and retraining course is highly recommended. This can be accomplished by conducting mock drills, running scenarios, or the rescuer demonstrating CPR skills and AED use. A skills review can be scheduled every 3 to 6 months. Again, the PAD program site and the trained rescuers within the program will drive this decision. Conducting skill reviews may be a designated responsibility of the PAD program coordinator.
Retraining
Nationally recognized training courses, such as Heartsaver AED, have a standard renewal course and recommended renewal time frame. The American Heart Association recommends that formal retraining be done every two years. Community and 2) activation of internal trained rescuers. Both must be activated as quickly as possible. The PAD program site environment will determine the steps in activation.

Data Collection and Management
As with any medical information, data regarding the event and patient are confidential. Apply rules and procedures already in place for protecting this confidentially to the events and activities of the PAD program. All AEDs capture heart rhythm and device data; however, depending on the data collection system, additional data points can be captured by voice recorder or an event summary form. The additional data and information should be accurately captured and shared between the PAD program and the local EMS agency. Two factors that will drive the decision to capture more data points are state regulations and existing practices of local EMS agency. Some states require that a standard “incident report” or “AED use sheet be completed and submitted to the state EMS office or local EMS agency. This information is most often provided in the state AED registration material. Some local EMS agencies may collect a defined set of data points and will need more information from the PAD site. The following are possible data points that can be captured by either a voice recorder or an event summary form.

<table>
<thead>
<tr>
<th>Was the event witnessed?</th>
<th>Yes or No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was bystander CPR initiated?</td>
<td>Yes or No</td>
</tr>
<tr>
<td>Location of event</td>
<td></td>
</tr>
<tr>
<td>Was internal response plan activated?</td>
<td>Yes or No</td>
</tr>
<tr>
<td>If yes, time of activation?</td>
<td></td>
</tr>
<tr>
<td>Time arrived at patient’s side with AED?</td>
<td></td>
</tr>
<tr>
<td>Name of the AED rescuer</td>
<td></td>
</tr>
<tr>
<td>Name of the 9-1-1 caller</td>
<td></td>
</tr>
<tr>
<td>Name of the CPR rescuer</td>
<td></td>
</tr>
<tr>
<td>Names of bystanders</td>
<td></td>
</tr>
<tr>
<td>Condition of victim at time of transport</td>
<td></td>
</tr>
</tbody>
</table>

Post-Event Considerations
Ensuring that appropriate follow-up occurs after a cardiac arrest event is also a key responsibility of the PAD oversight physician. Post-event considerations include putting the AED back into service, conducting an event review, providing a process of emotional support for trained rescuers and monitoring patient outcome.

Integrating AED back into service
Someone such as the PAD program coordinator should be given this responsibility. This written procedure should incorporate these elements:
- Check supplies and replenish as appropriate (this includes electrode pads, towel, razor, barrier device and disposable gloves).
- Clean and disinfect the device.
- Check the battery and replace it, if needed.
- Check the device and housing for cracks.
- Return the AED to the designated place.

Event Review
Use the information gathered from the incident review process to improve the PAD program. Include a way to provide feedback to the rescuers and to evaluate the effectiveness of the internal response procedures.
## Automated External Defibrillator Maintenance Checklist

**Date** ___________________________  **Location** ___________________________

**Inspection Performed by** ___________________________________________________________

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Status</th>
<th>Corrective Action / Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AED</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Placement visible, unobstructed and near phone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verify battery installation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check the status/service indicator light</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Note absence of visual/audible service alarm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspect exterior components and sockets for cracks</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Supplies</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two sets of AED pads in sealed package</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check expiration date on pad packages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pocket mask with one-way valve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Examination gloves</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Razors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absorbent gauze or hand towels</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Please refer to manufacturer’s User’s Manual for more information and proper annual maintenance procedures.*

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AUTOMATIC EXTERNAL DEFIBRILLATOR (AED) PROGRAM

DATE:_______________ TIME:_______________ FACILITY:__________________________

PATIENT’S NAME:________________________ AGE:________ SEX:  M  or  F

What was the patient doing at the time of the arrest:____________________________________

_____________________________________________________________________________

_____________________________________________________________________________

Was the event witnessed?    Yes or No

Was bystander CPR initiated?   Yes  or  No

Time CPR was started:   ______________

Time arrived at patient’s side with AED:   ______________

Number of defibrillation administered: ______________

Condition of victim at time of transport: ______________

Name of rescuer using AED:   _____________________________

Name of rescuer(s) doing CPR:  _____________________________

_____________________________________________________________________________

Comments:____________________________________________________________________

_____________________________________________________________________________

_____________________________________________________________________________

_____________________________________________________________________________

Person completing this report:______________________________________

If possible complete this report and give a copy to the ambulance crew transporting the patient. Fax a copy of the report ASAP to the Washington County EMS Office at (503) 693-8996.
Oregon Revised Statute 30.802
Liability for use of automated external defibrillator.

(1) As used in this section:
(a) "Automated external defibrillator" means an automated external defibrillator approved for sale by the federal Food and Drug Administration.
(b) "Public setting" means a location that is:
(A) Accessible to members of the general public, employees, visitors and guests, but that is not a private residence;
(B) A public school facility as defined in ORS 327.365; or
(C) A health club as defined in ORS 431.680.
(2) A person may not bring a cause of action against another person for damages for injury, death or loss that result from acts or omissions involving the use, attempted use or nonuse of an automated external defibrillator when the other person:
(a) Used or attempted to use an automated external defibrillator;
(b) Was present when an automated external defibrillator was used or should have been used;
(c) Provided training in the use of an automated external defibrillator;
(d) Is a physician and provided services related to the placement or use of an automated external defibrillator; or
(e) Possesses or controls one or more automated external defibrillators placed in a public setting and reasonably complied with the following requirements:
(A) Maintained, inspected and serviced the automated external defibrillator, the battery for the automated external defibrillator and the electrodes for the automated external defibrillator in accordance with guidelines set forth by the manufacturer.
(B) Ensured that a sufficient number of employees received training in the use of an automated external defibrillator so that at least one trained employee may be reasonably expected to be present at the public setting during regular business hours.
(C) Stored the automated external defibrillator in a location from which the automated external defibrillator can be quickly retrieved during regular business hours.
(D) Clearly indicated the presence and location of each automated external defibrillator.
(E) Established a policy to call 9-1-1 to activate the emergency medical services system as soon as practicable after the potential need for the automated external defibrillator is recognized.
(3) The immunity provided by this section does not apply if:
(a) The person against whom the action is brought acted with gross negligence or with reckless, wanton or intentional misconduct;
(b) The use, attempted use or nonuse of an automated external defibrillator occurred at a location where emergency medical care is regularly available; or
(c) The person against whom the action is brought possesses or controls one or more automated external defibrillators in a public setting and the person's failure to reasonably comply with the requirements described in subsection (2)(e) of this section caused the alleged injury, death or loss.
(4) Nothing in this section affects the liability of a manufacturer, designer, developer, distributor or supplier of an automated external defibrillator, or an accessory for an automated external defibrillator, under the provisions of ORS 30.900 to 30.920 or any other applicable state or federal law. [2005 c.551 §1]

Note: Section 2, chapter 551, Oregon Laws 2005, provides:
Sec. 2. Section 1 of this 2005 Act [30.802] applies to causes of action arising on or after the effective date of this 2005 Act [July 20, 2005]. [2005 c.551 §2]