



**PEEL REGIONAL
PARAMEDIC SERVICES**



**COMMUNITY SAFETY
PROGRAMS**

COMMUNITY AED & PAD GUIDE

PUBLIC ACCESS DEFIBRILATION

AUTOMATED EXTERNAL DEFIBRILLATORS

**A detailed guide for individuals and organizations purchasing
AEDs, starting, evaluating, or expanding a PAD Program
within the Region of Peel**



Community PAD Program & AED Guide
Public Access Defibrillation & Automated External Defibrillators

INTRODUCTION 4

WHAT IS AN AED 4

WHAT IS PAD 5

 Private Use.....5

 PAD laws5

WHAT IS CARDIAC ARREST 6

 Time Factor 6

AED IMPORTANCE 6

CHAIN OF SURVIVAL 7

 Early Access.....7

 Early CPR.....7

 Early AED.....7

 Early Advanced Care.....7

WHY PAD/AED PROGRAMS ARE VITAL IN THE COMMUNITY 8

STARTING A PAD PROGRAM 9

 Administration Oversight..... 9

 Medical Oversight 9

 Support Programs10

AED PLACEMENT 10

 Timing.....10

 Visibility 11

 Accessibility..... 11

SIGNAGE 12

RESPONSE PLANS AND SITE ASSESSMENTS 13



Community PAD Program & AED Guide
Public Access Defibrillation & Automated External Defibrillators

PURCHASING AN AED 14

 Determine the Need 14

 Price 14

 Demographic 14

 Batteries 15

 Environment 15

 CPR Assistance 16

 Paramedic and Fire Service Compatibility 16

 Warranty 16

 Summary 16

REGISTERING AN AED 17

 AED/PAD Internal Awareness 17

TRAINING CPR/AED 18

BASIC CPR/AED STEPS 18

 Assess 18

 Call 18

 Compress 18

 AED 18

 AED Prompts 19

MAINTENANCE PROGRAM 20

 Third Party Maintenance 20

 Quality Assurance 20

AFTER USING AN AED 21

APPLICABLE LAWS 22

 Good Samaritan Act 23

 Chase McEachern Act (Heart Defibrillator Civil Liability), 24

 Occupational Health and Safety Act 26



Community PAD Program & AED Guide

Public Access Defibrillation & Automated External Defibrillators

INTRODUCTION

This guide was created to assist individuals or organizations that are interested in purchasing an Automated External Defibrillator (AED), starting, expanding, or evaluating a defibrillation program. Our goal is to provide sufficient information to answer questions and remove any barriers that could prevent the purchase or implementation of an AED or starting a Public Access Defibrillation (PAD) program.

The ultimate objective within the community is to reduce the amount of time between Sudden Cardiac Arrest (SCA) and the initiation of Cardio Pulmonary Resuscitation (CPR) and the application of an Automated External Defibrillator (AED).

WHAT IS AN AED

Automated External Defibrillators are electronic medical devices that are used to detect specific heart rhythms that occur when someone has gone into cardiac arrest. When the AED detects an abnormal “shockable” rhythm, it will produce an electrical charge through the heart in an attempt to reset the heart back into a normal rhythm. The device uses a series of voice prompts to guide the user through the process. When the user follows the prompts from an AED there is very little risk to the rescuer and patient. Different variations of defibrillators have been used in clinical settings for almost 50 years and the first automated defibrillator debuted in 1979. The modern AED has proven to dramatically increase the chance of survival when placed on someone within minutes of the individual experiencing cardiac arrest. This has led to an increase in both awareness and placement of these lifesaving devices in many public places.

There are various types of AEDs and manufacturers. Regardless of the manufacturer or appearance, they function the same way once the unit is powered on. This guide will outline the different features and aspects of AEDs commonly found and used within Peel Region.

AED's available within Peel Region:



Heart Sine



Defibtech



Cardiac Science



Physio Control



Philips



Zoll



Community PAD Program & AED Guide

Public Access Defibrillation & Automated External Defibrillators

WHAT IS PAD

PAD stands for Public Access Defibrillator. PAD refers to programs that are implemented by workplaces or facilities that make AEDs available. The idea of having publically accessible defibrillators gained traction when the American Heart Association challenged the medical device industry to create AEDs that would make early defibrillation accessible to the public. The concept for having public access to AEDs was based on the concern that in many areas, paramedics and firefighters cannot respond fast enough to maximize the survival rate using their defibrillators. Having CPR and AED performed within the first few minutes is the most critical component to survivability. So AEDs were made available to the public as “Public Access Defibrillation.” With the launch of PAD sites, companies and facilities had to create programs to ensure the devices were always ready and that individuals were trained on the AED and CPR.

PRIVATE USE Not all PAD programs are available to the population at large. Many companies and corporations purchase AEDs for use within their own office or work environment. These are referred to as private access because barriers such as security access can prevent the general public from accessing the AED. A company is not required to make AEDs available to the general public. A company can opt to use their AED internally for use of associates only. These units still need to be registered with Peel Regional Paramedic Services and noted that it is not for public access on the registration form.



The Greater Toronto Airport Authority (GTAA) has over 200 AEDs in Pearson's terminals available for emergency cardiac arrests situations for travelers and/or employees.

PAD LAWS To date, Manitoba has been the first and only province in Canada making AEDs mandatory in all public places. Ontario has tried to introduce a Bill that would require all public places to have an AED but it is not law at this time. Across Canada, a number of regions, municipalities and cities have introduced by-laws supporting the use of AED/PAD programs.



Community PAD Program & AED Guide

Public Access Defibrillation & Automated External Defibrillators

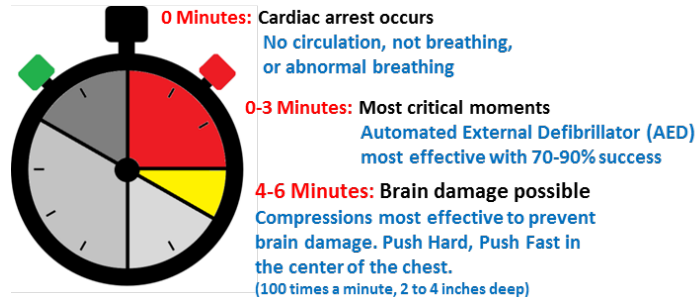
WHAT IS CARDIAC ARREST

Cardiac arrest or SCA (Sudden Cardiac Arrest) occurs when the heart abruptly loses normal function in someone that may have pre-existing heart conditions or no medical conditions at all. It can occur instantly or shortly after symptoms appear. Heart attacks are not the same as a cardiac arrest. A heart attack happens when blood flow is compromised to the heart's tissue. A heart attack can lead to cardiac arrest in an individual if not treated promptly.



When cardiac arrest occurs the heart has abnormal activity or rhythms that compromise the individual's ability to circulate blood properly. This is from irregular electrical impulses. The majority of the time when cardiac arrest occurs the heart goes into either Ventricular Fibrillation (VF) or Ventricular Tachycardia (VT). When the heart is in one of these rhythms there is no real circulatory function. An AED is programmed to recognize these rhythms and to deliver a shock.

TIME FACTOR **Once cardiac arrest happens, time is critical because without circulation in:**



6-10 minutes - Brain damage is likely without Intervention.

Over 10 minutes - Irreversible brain damage certain.

Irreversible damage from cardiac arrest can be reversed if it is treated within the first few minutes by performing CPR and using an AED.

AED IMPORTANCE

Multiple studies show the chances of survival for an individual who is left untreated due to cardiac arrest decreases by 7%-10% per minute. Survival rates as high as 90% have been reported when a defibrillator has been applied within the first minute. Not every AED can be applied within one minute of a person suffering cardiac arrest, which is why Cardio Pulmonary Resuscitation (CPR) is also important. Performing CPR will be discussed later in this guide.

CPR that is performed prior to a defibrillator can "buy time" until an AED arrives. CPR will help preserve brain and heart function because compressions will circulate blood.

Survival rates for SCA are highest if the defibrillator's shock has been given within the first three minutes of collapsing.

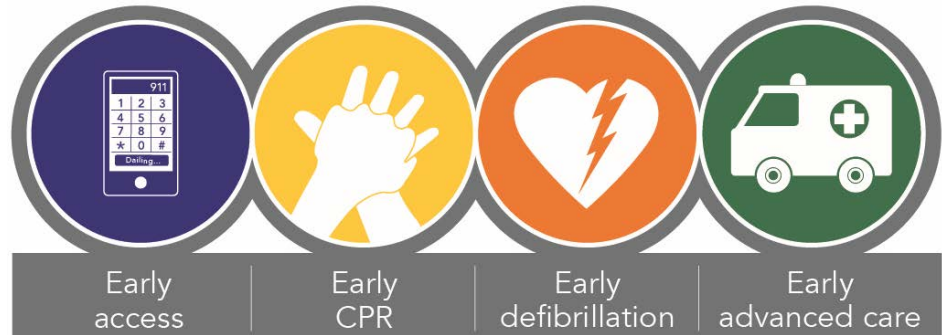
When the application of an AED is delayed beyond 10 minutes, the chances of irreversible brain damage increases significantly, and the survivability decreases to less than 2%.



Community PAD Program & AED Guide
Public Access Defibrillation & Automated External Defibrillators

CHAIN OF SURVIVAL

The Chain of Survival is the process to follow in order to provide the best possible outcome for someone suffering a cardiac arrest. Each link represents vital steps required. When you follow these steps you decrease the amount of time between sudden cardiac arrest and advanced care.



EARLY ACCESS



First Link: Calling 9-1-1 as soon as possible will reduce the amount of time from collapsing to receiving Advanced Care (Link four).

EARLY CPR



Second Link: Providing CPR as soon as possible will “buy” much needed time, until an AED arrives.

EARLY AED



Third Link: Using an AED as soon as possible will increase the chances of converting disorganized heart rhythms into organized rhythms.

EARLY ADVANCED CARE



Fourth Link: Paramedics can begin the Advanced Care process before the individual reaches the hospital.



Community PAD Program & AED Guide

Public Access Defibrillation & Automated External Defibrillators

WHY PAD/AED PROGRAMS ARE VITAL IN THE COMMUNITY

On average Peel Paramedics respond to 3+ cardiac arrests each day, with 21% of our calls originating from a public place totaling over 1,100 cardiac arrests each year within Brampton, Caledon and Mississauga,. In Canada, 40,000 deaths occur from Sudden Cardiac Arrest each year which translates into one every 12 minutes. 90% of our population in Canada has at least one cardiac risk factor today. The need for PAD programs is becoming more apparent each year with the aging and growing population.

Cardiac arrest occurs when the heart's electrical system malfunctions and the heart has abnormal activity or rhythms, eventually not beating at all. It's unpredictable. It can happen to anyone (including children and teenagers), anywhere and at anytime. Although pre-existing heart disease is a common cause of cardiac arrest, many individuals have never had heart problems prior to a suffering a cardiac arrest.



Cardiac arrest is fatal unless treated quickly. Without immediate treatment, only 5%-10% of people survive a cardiac arrest. Survival rates increase by 30% and rates above 50% have been achieved in places that have successfully implemented PAD/AED programs to protect their employees, members, and general public.

The only way to ensure we maximize someone's ability to survive a cardiac arrest is to have more PAD Programs in more places and available to more people. PAD Programs are slowly becoming mandatory by law across Canada for business and organizations that operate in high traffic public areas.



Community PAD Program & AED Guide

Public Access Defibrillation & Automated External Defibrillators

STARTING A PAD PROGRAM

Peel Regional Paramedic Services is available to provide support, guidance, and site assessments. If you or your organization are considering a PAD program, looking to review your current PAD program, or require additional information prior to making a business decision about purchasing AEDs email PADProgram@peelregion.ca.

The following sections will guide you through selecting locations, AED types, and important information regarding a PAD program.

ADMINISTRATION OVERSIGHT

Peel Regional Paramedic Services recommends that the administration and coordination of workplace AED/PAD programs be implemented by health care professionals or health and safety professionals responsible for workplace emergency response programs.

Day-to-day management of the AED/PAD program can be administered by a dedicated person that has been trained in AED use and has been assigned as the AED/PAD coordinator. The day-to-day management of the AEDs is for the maintenance of the units. This individual can also be in charge of the monthly inspections, if the inspection process is not included as part of your Health and Safety inspections. The dedicated coordinator should also maintain a list of those trained in AED use and ensure continuous training is maintained.

MEDICAL OVERSIGHT

It is recommended and encouraged that all workplace AED/PAD programs include medical oversight as part of the overall program. However, you are not required to have medical oversight or direction in Ontario.

Most first aid and medical supply companies that sell and place AEDs within workplaces have been designated with medical oversight by a physician for placement and support.

Peel Regional Paramedic Services will provide medical oversight to your organizations PAD Program free of charge under the direction of the Peel Regional Paramedic Services Medical Director.



Medical oversight provided by a physician or individual representing the physician can include:

- Assisting to develop and/or approve any medical aspects of the program (if applicable)
- Ensuring provisions are made for appropriate initial and continued AED training
- Performing a review each time an AED is used at the site to ensure optimal care
- Assisting to help find mental health support after an event for the responders

For more information about medical oversight in the Region of Peel Email: PADProgram@peelregion.ca



Community PAD Program & AED Guide

Public Access Defibrillation & Automated External Defibrillators

SUPPORT PROGRAMS Third party medical and first aid supply companies can provide help with program implementation and ongoing support. They may be able assist with placement, medical oversight, registration, training and recommended supplies. Review your organization’s capabilities to determine if a service like this would be beneficial when implementing your program.

Peel Regional Paramedic Services is willing to assist with advice and guidance for the implementation and planning processes and is available to answer questions you or your organization may have.

Peel Regional Paramedic Services does not sell AEDs or AED equipment. We work with our local vendors and first aid supply companies to offer recommendations and support.

AED PLACEMENT

The placement of your AED could be the determining factor in whether or not an AED is used during an emergency. Planning and thought needs to go into properly placing AEDs. The process of placing an AED should be part of an overall first aid safety plan and site assessment.

Timing, visibility and accessibility are the three main factors when it comes to placement to ensure the best possible outcome for a person receiving an AED during a Sudden Cardiac Arrest.



TIMING Research indicates that AEDs are most beneficial if used within three minutes of a sudden cardiac arrest occurring. Typically known as the “3 minute drop-to-shock interval.” The ideal placement for an AED is within 90 seconds walking distance one way. 90 seconds translates into approximately 150-200m. If it takes longer than 90 seconds to reach the AED, consider adding additional units.

If your organization is only able to obtain one AED, ensure that your placement will cover the highest number of people within the 90 second walking radius. It is known that a three minute rule of access may not always be possible.

Where AEDs are required by law, exemptions are made for the “3 minute drop to shock rule of access” such as: golf courses, water parks, provincial parks and conservation areas, large warehouses and large indoor buildings not ordinarily accessed by the public.



Community PAD Program & AED Guide

Public Access Defibrillation & Automated External Defibrillators

VISIBILITY AEDs should ideally be installed at or near eye level for the average person that uses the facility/location.



AEDs should be installed in a high traffic area for two main reasons:

1. It will provide visibility and familiarity to the AED installed.
2. It will reduce the chances of tampering, abuse or misuse of the AED or cabinet.

Note: Not all front entrances or front lobbies are considered high traffic zones. For example, if employees park in the back of a building and do not use the front entrance, visibility and awareness may be compromised.

ACCESSIBILITY Installation of an AED should occur in an area that is free of any barriers or limitations for responders of all abilities. The ideal installation height from the ground for accessibility and visibility is:

- Center of AED/Cabinet 4 ft. or 120 cm.
- A public access AED should not be kept in drawers, desks, or behind locked/secured areas.

Some situations may warrant installing the AED with those that would respond to an emergency situation. Such responders might be security, ski patrol, lifeguard, and workplace Emergency Response Teams (ERT).



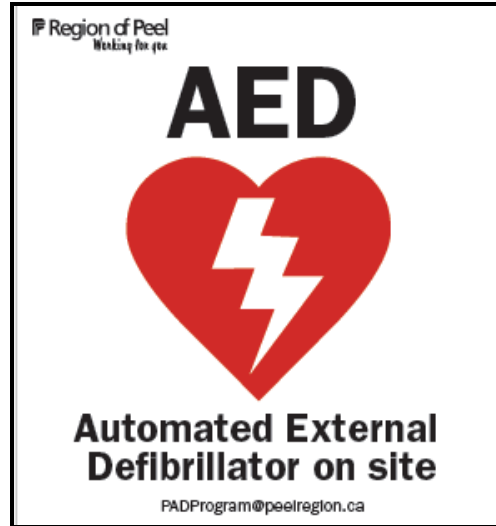


Community PAD Program & AED Guide
Public Access Defibrillation & Automated External Defibrillators

SIGNAGE

AED's should be clearly marked similar to fire extinguishers.

Signs should be placed at the entrance of a facility indicating that an AED is available for use.



Once your AED has been registered with Peel Regional Paramedic Services you will receive stickers with your registration package indicating that your facility is equipped with an AED.

← **Picture**

You will also receive a registration label to place on your AED device(s).

↓ **Picture**



Picture→

A primary sign needs to be posted above the AED itself. With secondary directional signs indicating the location of the AED if the AED is obscured or not visible.

The signs need to be on contrasting colours, contain a heart with a lightning bolt through it, and contain the text "AED" or "Automated External Defibrillator."

Samples of signs:



Almost all first aid supply companies sell plastic signs that are specifically designed for AEDs.



Community PAD Program & AED Guide

Public Access Defibrillation & Automated External Defibrillators

RESPONSE PLANS AND SITE ASSESSMENTS

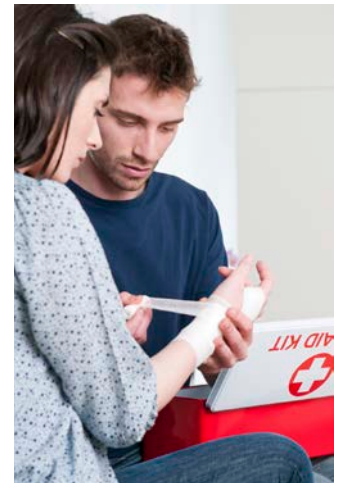
Conducting a site assessment and building a response plan can provide insight into the optimal number of AED's that are required and determine the appropriate placement of AEDs within a facility.

Site assessments and making a response plan are also recommended not only for AED placement, but for general first aid emergencies. For example; Is a first aid kit accessible and able to be deployed to an incident without barriers? Are eye wash stations located in the proper location, so employee's can reach the eye wash station barrier-free without vision?

When building an emergency response plan for AEDs or for general first aid emergencies, there are typically two different models of response identified that need to be considered as part of the planning process.

Method 1 – More equipment, more locations, more accessibility and visually signed and identified for easy recognition. This method focuses on making materials available to individuals in need, and being more self-reliant for non-critical injuries. Trained personnel are available if needed for more critical injuries.

Method 2 – More trained personnel, in more locations, and more communication identifying who and where trained personnel are. This method focuses less on the abundance of equipment and materials and relies on trained individuals to provide care for both critical and non-critical injuries.



Ideally you want to have a balanced blend of both trained personal and equipment. There is no simple single formula that works for every organization; however the exercise for determining placement and the number of AEDs needed remains consistent.

Site assessments can be broken down into two ways.

1. Placement Assessment – The number of AED's have already been purchased, or approved for purchase. This assessment is tailored to finding optimal placement for the AEDs.
2. Discovery Assessment – AED's have not been purchased, and this assessment is tailored to determine optimal number and locations of AED's.

It is recommended that organizations perform Discovery Assessments even if AEDs have already been purchased or approved. A supplemental guide has been created that can take you or your organization through the site assessment and response planning process.

The Site Assessment and Response Plan Guide can be downloaded at www.peelregion.ca/paramedics/aed



Community PAD Program & AED Guide

Public Access Defibrillation & Automated External Defibrillators

PURCHASING AN AED

The Region of Peel does not recommend a specific AED manufacturer. Purchasing an AED should be based on your location, needs and budget. This section is designed to help your organization navigate through the selection and decision making process to purchase an AED. In general, all AEDs need to be approved by Health Canada, and all transactions should be completed with approved AED vendors.

DETERMINE THE NEED

The differences can include: price, water resistance, CPR help, overall operation, features, display options, size, warranty, the way it is upgraded, ownership costs and included accessories.

PRICE

AEDs have become more affordable and attainable during the last several years with the average retail selling price between \$1200-\$2000. When making your purchasing decision, other additional cost factors need to be considered and included with the purchase process.

- AED Base Unit Cost
- AED Carrying Case
- Spare Pads or Pediatric Pads
- Wall Mounted Cabinet (if applicable)
- Alarm Unit for Case (if applicable)
- Response Kit (i.e. razors, CPR mask, towel)



Take into consideration what is included and the features associated with AED units when determining the best option for you. Several companies provide package pricing that includes the additional items needed. (Package pricing typically ranges from \$1,500 to \$3,000)

Maintenance costs occur approximately every two years to replace batteries and rescue pads. AED pads are comprised of tin and an adhesive gel that allows the pads to stick on the individual's chest. Over time the tin will eat away at the gel and the gel will lose its adhesive properties and turn brown. Follow the manufactures expiration dates to assure your AED equipment is ready when you need it.

DEMOGRAPHIC

If the area where you are installing an AED has a greater potential of being used on children, or the area you are installing the AED is regularly used by small children, consider an AED that has seamless pediatric (child) options.

Note: Ages one to puberty are considered children for AED and CPR purposes.

For example: The Philips AEDs have a unique child/infant key, which when inserted into the AED, allows you to use the adult pads on pediatrics. (Confirm with the vendor if the unit includes the key or if it is sold separately). The advantage is you only need to buy and use adult pads.



Community PAD Program & AED Guide

Public Access Defibrillation & Automated External Defibrillators

BATTERIES Almost every AED manufacturer has a different style of battery and may be something you need to consider as you make your purchasing decision.

- Cardiac Science AEDs feature Intellisense lithium batteries. The batteries have an internal chip which performs a daily self-test. Expected life of battery is four years from installation.
- Defibtech AEDs have a 5-year expected battery life. These batteries are easy to install. The Defibtech battery is supplied with a 9-volt lithium battery that powers the self-test and should be replaced annually.
- Heartsine AEDs battery is incorporated with the pads and features a three year life (from the date of manufacture), only one date to track for service.
- Philips AEDs have a lithium battery with an expected life of four years from the date of the user installation. Philips AED's have the option of an aviation battery for use on aircraft.
- Physio-Control AEDs come with a charge pack battery that has a two year life from the user install date.
- ZOLL AEDs use 10 CR123 3V batteries. The advantage is that you can pick these batteries up at most retail outlets.

ENVIRONMENT If your AED is going to be stored or potentially used in an outdoor environment, you may want to consider the devices (International Protection Marking) IP rating as part of your purchasing decision.

The IP rating consists of two digits:

- The **First Digit** indicates protection against dirt, dust and particles in the air. This would be important for machine shops, woodworking shops, and other high dust producing environments. The higher the number the better, (five) or greater indicates adequate protection from dust.
- The **Second Digit** indicates liquid protection (water). This would be important for parks, recreational centers, pools and other places that an AED may come into contact with snow or water. The higher the number, the better. (Two) is adequate for operation in rain, and (five) would be adequate protection from water being poured on the unit.

Heartsine Samaritan	IP 56
Philips Heart Start FRx	IP 55
ZOLL AED's	IP 55
Defibtech Lifeline	IP 54
Cardiac Science G3	IP 24
Philips Heartstart Onsite	IP 21
Physio-Control Lifepack CR Plus	IP X4
(X=not tested/no data available)	





Community PAD Program & AED Guide

Public Access Defibrillation & Automated External Defibrillators

CPR ASSISTANCE All AEDs will prompt users through the rescue process. The level of detail communicated for CPR assistance varies between the different manufacturers. Consider the potential users of the AED when you are making your purchasing decision. AEDs that are kept with first responders may not require detailed video guidance for CPR. However, other locations may require the video for CPR Assistance.

- ZOLL AEDs feature a built in CPR sensor in the CPR-D pads; This feature provides feedback on the quality of CPR being delivered. A built in metronome for compression rate is also included.
- Philips AEDs have a blue “I” button that can be pushed for detailed instruction on use. A built in metronome for compression rate is also included.
- Defibtech Lifeline View provides real time video display instructions guiding you through CPR.
- Cardiac Science Powerheart G3 Plus has a built in metronome for compression rates.

PARAMEDIC AND FIRE SERVICE COMPATIBILITY The Region of Peel currently uses the Zoll AED Plus for our internal PAD program, the Zoll AED Pro is used by the fire and police services, and the Zoll X-Series for our paramedic service. However, this does not mean you or your organization should purchase a Zoll AED. You should purchase the best device to service your needs as an organization. This guide was prepared to assist you in making an educated decision.

WARRANTY Every AED comes with a standard warranty protecting the device. Most AED’s have 3+ year warranties and for an extra fee it can be extended longer in some cases. Consult with the vendor on which warranty option is best suited for your organization’s needs.

If CPR/AED protocols change the devices may need to be reprogrammed. The Region of Peel can help facilitate the update process. PAD programs supported by first aid Supply companies should provide updates as part of their service agreement.

All manufacturers are required to inform all owners affected by a recall and the steps being taken to rectify the problem. Every five years, the Heart and Stroke Foundation releases the most current and up-to-date resuscitation and AED guidelines. If there are changes or updates that need to be made to the software of an AED (to ensure it is compliant with recent guidelines), you will be notified by the manufacturer.

SUMMARY This tool was designed to assist in selecting the appropriate AED for your organization. If you or your organization still requires clarity or consultation regarding purchase of an AED, Peel Regional Paramedic Services can assist you. PADProgram@peelregion.ca

For Canadian approved product information, go to:

- Zoll <http://www.zoll.com/>
- Medtronic <http://www.physio-control.com>
- Philips <http://www.medical.philips.com>
- Defibtech <http://www.defibtech.com>
- Cardiac Science <http://www.cardiacscience.com>



Community PAD Program & AED Guide
Public Access Defibrillation & Automated External Defibrillators

REGISTERING AN AED

The Region of Peel asks that all AEDs be registered with Peel Regional Paramedic Services. The paramedic service maintains a database of all the AEDs located within Brampton, Caledon and Mississauga. This enables our paramedic service to know the location and availability of AEDs regardless if they are publicly accessible or for internal use. For each of the AEDs registered they will receive a unique registration number to correspond with the device.

Once we have received and processed the registration of your AEDs, a registration confirmation will be mailed to the business address, care of the contact name listed on the registration form.

The registration confirmation will include:

- A confirmation letter indicating that your AED(s) has been registered
- Information on what to do after the AED has been used and after paramedics have left the scene
- A registration label to be placed on or with your AED unit(s)
- A window sticker/sign to indicate an AED is on site

A downloadable registration form is available online www.peelregion.ca/paramedics/aed

AED/PAD INTERNAL AWARENESS

Once the AED/PAD program has been developed and is being implemented it is important to provide information to all associates about the program.

Information should include:

- Method for notifying internal trained responders
- Location of each AED
- When to send for/get an AED
- Brief description on how to activate/turn on the unit
- Explanation of what the AED will do when activated
- What to do after an AED has been used
- Who to contact internally if the AED has been used
- Other information relevant to your organization

With each of the AEDs it is recommended that you include:

- EMS/911 Registration documents
- Quick Steps guide/instruction sheet
- Procedures after the AED has been used

Please ensure that these documents are current and up-to-date as associates or work practices evolve.



Community PAD Program & AED Guide
Public Access Defibrillation & Automated External Defibrillators

TRAINING CPR/AED

Training is not required to own or install an AED. AED certification is strongly recommended, along with Cardio Pulmonary Resuscitation (CPR) certification. AEDs are designed so that voice prompts can walk a lay rescuer through the use of an AED device as well as CPR.

Even though these devices are very easy to use, trained rescuers will be better equipped to recognize the signs of cardiac arrest, activate 9-1-1 effectively, and be familiar with how the AED operates, potential hazards, and special considerations.

Having the training can greatly impact the chain of Survival.



BASIC CPR/AED STEPS

This section provides basic instructions on hands only CPR and AED Prompts. When someone collapses the first few minutes are most critical.

ASSESS

- Ask, are you okay?
- Tap the shoulder
- Look for breathing (abnormal breathing may require CPR)



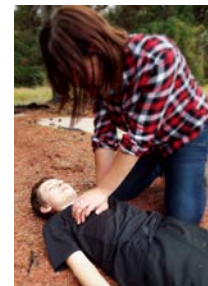
CALL



- Send someone to call 9-1-1
- Send someone for an AED

COMPRESS

- Place both hands on the center of the chest
- Lean over patient with elbows straight,
- Push down the center of person's chest
- Push hard and push fast
- Keep going until an AED or Paramedics arrive



AED



- Expose the person's chest
- Turn on device
- Follow the AED prompts (The AED will prompt you to give 2 rescue breaths every 30 compressions, during CPR)



Community PAD Program & AED Guide
Public Access Defibrillation & Automated External Defibrillators

MAINTENANCE PROGRAM

AEDs need to be inspected on a monthly basis as part of a preventative maintenance program that aligns with the manufacturer guidelines to ensure optimal working order. The owners of the designated area/building where an AED is installed are responsible for the inspection and servicing of the AED when indicated by the AED unit itself, or when accessories have expired.

Items that may require servicing and inspection:

- AED batteries
- Defibrillation pads
- Rescue supplies
- Cleanliness
- Case alarm (auto-dialer)



The owners need to ensure that inspection records are kept and maintained for a period of one year.

When an AED is installed in a workplace environment, it is important to note that maintenance of an AED falls under the *Occupational Health and Safety Act Section 25.1(b)*
“The equipment, materials and protective devices provided by the employer are maintained in good condition.”

THIRD PARTY MAINTENANCE

The owners of AEDs can make their own arrangements as to who inspects and provides maintenance for the device. It can be the owners themselves or an authorized employee or company. Most organizations use a health and safety committee or a representative for internal inspections. Third party organizations such as medical/first aid supply companies can also provide these services on your organization’s behalf.

The intention behind maintenance programs are to ensure that AEDs are in working order so that they work properly when needed.

www.peelregion.ca/paramedics/aed

QUALITY ASSURANCE

A maintenance and regular inspection process is how quality assurance can be obtained for the physical AED devices. It is recommended that you establish administrative procedures to ensure that documentation and program evaluation can be assessed. As part of the quality assurance include the following components:

- Records of all AED-related training including names of instructors, the workplace personnel trained, courses completed, and dates of initial, review, renewal, or skill practice classes
- Records of all AED locations, inspections, service, maintenance and updates
- Records of medical reviews of AED implementation and copies of the documentation provided by the paramedic services.

Note: AED/PAD programs should be reviewed annually and modified as appropriate.



Community PAD Program & AED Guide

Public Access Defibrillation & Automated External Defibrillators

AFTER USING AN AED

When an AED has been used, it is important to contact Peel Regional Paramedic Services as soon as possible. All AEDs record rescue data and important information such as the individual's heart rhythm. This information is added to the patients' health records within the paramedic service and accessible to the base hospital physician as well as other physicians providing care, if required.

The data on the AED is considered personal and private medical information and is protected by the *Personal Health Information Protection Act, 2004*.

For workplaces under the *Occupational Health and Safety Act. Section 25. 2(b)* "In a medical emergency for the purpose of diagnosis or treatment, provide, upon request, information in the possession of the employer, including confidential business information, to a legally qualified medical practitioner and to such other persons as may be prescribed:"

If an AED has been used, please contact Peel Regional Paramedic Services as soon as possible to facilitate data collection for the patient.

Email: PADProgram@peelregion.ca

Our goal is also to support those that assisted in providing care during an emergency. As a paramedic service we would like to follow-up with individuals that were involved in performing and providing CPR and/or AED assistance. These situations can have a lasting impact on an individual. We want to ensure that those who provided care know how to access resources available to them. As a paramedic service, we will facilitate a conversation for the responders involved.

After an AED has been used the device will need to be refreshed so that it can be placed back into service. Third party inspection or maintenance companies that service your AEDs will be able to refresh and restock supplies needed.

If your organization does not use a third party support for your AED, the Region of Peel can assist you in refreshing your AED.





Community PAD Program & AED Guide

Public Access Defibrillation & Automated External Defibrillators

APPLICABLE LAWS

This guide was developed with the anticipation that legislation regarding PAD programs and AEDs could be introduced in the near future for Ontario, or as a by-law.

AED legislation typically involves parameters around placement and registration of AED units. In Ontario, legislation currently exists regarding the use of AED devices and protection from liability when using an AED device.



The *Chase McEachern Act* protects individuals from liability for damages that may occur from their use of an AED made available in good faith to save someone's life at the immediate scene of an emergency.

The *Good Samaritan Act* protects individuals from liability when acting in good faith, upon consent of the ill or injured person at the immediate scene of the emergency that has caused the illness, injury or unconsciousness. Consent would be considered implied during a Sudden Cardiac Arrest (SCA).

The *Occupational Health and Safety Act (OHSA)* Section 25 assigns a mixture of general and specific duties to employers and provides for other duties to be prescribed (required) by regulation.

Some of the general duties require an employer to:

- take all reasonable precautions to protect the health and safety of workers;
- ensure that equipment, materials and protective equipment are maintained in good condition;
- provide information, instruction and supervision to protect worker health and safety; and
- co-operate with the JHSC (Joint Health and Safety Committee)

Regulation 1101 also applies to AED ownership, as AEDs are considered to be first aid equipment.



Community PAD Program & AED Guide

Public Access Defibrillation & Automated External Defibrillators

GOOD SAMARITAN ACT, (2001) An Act to protect persons from liability in respect of voluntary emergency medical or first aid services

Assented to April 27, 2001

Definition

1. In this Act,

“health care professional” means a member of a College of a health profession set out in Schedule 1 to the *Regulated Health Professions Act, 1991*. 2001, c. 2, s. 1.

Protection from liability

2. (1) Despite the rules of common law, a person described in subsection (2) who voluntarily and without reasonable expectation of compensation or reward provides the services described in that subsection is not liable for damages that result from the person’s negligence in acting or failing to act while providing the services, unless it is established that the damages were caused by the gross negligence of the person. 2001, c. 2, s. 2 (1).

Persons covered

(2) Subsection (1) applies to,

- (a) a health care professional who provides emergency health care services or first aid assistance to a person who is ill, injured or unconscious as a result of an accident or other emergency, if the health care professional does not provide the services or assistance at a hospital or other place having appropriate health care facilities and equipment for that purpose; and
- (b) an individual, other than a health care professional described in clause (a), who provides emergency first aid assistance to a person who is ill, injured or unconscious as a result of an accident or other emergency, if the individual provides the assistance at the immediate scene of the accident or emergency. 2001, c. 2, s. 2 (2).

Reimbursement of expenses

(3) Reasonable reimbursement that a person receives for expenses that the person reasonably incurs in providing the services described in subsection (2) shall be deemed not to be compensation or reward for the purpose of subsection (1). 2001, c. 2, s. 2 (3).

3. Omitted (provides for coming into force of provisions of this Act). 2001, c. 2, s. 3.

4. Omitted (enacts short title of this Act). 2001, c. 2, s. 4.



Community PAD Program & AED Guide

Public Access Defibrillation & Automated External Defibrillators

CHASE MCEACHERN ACT,
(HEART DEFIBRILLATOR
CIVIL LIABILITY), 2007

Definitions

1. In this Act,

“defibrillator” means an automated external medical heart monitor and defibrillator that is capable of,

- (a) recognizing the presence or absence of ventricular fibrillation or rapid ventricular tachycardia,
- (b) determining, without intervention by an operator, whether defibrillation should be performed,
- (c) automatically charging and requesting delivery of an electrical impulse to an individual’s heart as medically required, and
- (d) satisfying any other criteria that may be prescribed by regulation; (“défibrillateur”)

“emergency” means a situation during which the behaviour of an individual reasonably leads another individual to believe that the first individual is experiencing a life-threatening event that requires the provision of immediate care to assist the heart or other cardiopulmonary functioning of that person; (“situation d’urgence”)

“health care professional” means,

(a) a member of a College of a health profession set out in Schedule 1 to the *Regulated Health Professions Act, 1991*,

(b) such other persons or classes of persons as may be prescribed. (“professionnel de la santé”) 2007, c. 10, Sched. N, s. 1.

Protection from civil liability, user of defibrillator

2. (1) Despite the rules of common law, a person described in subsection (2) who, in good faith, voluntarily and without reasonable expectation of compensation or reward uses a defibrillator on a person experiencing an emergency is not liable for damages that result from the person’s negligence in acting or failing to act while using the defibrillator, unless it is established that the damages were caused by the gross negligence of the person. 2007, c. 10, Sched. N, s. 2 (1).

Persons covered

(2) Subsection (1) applies to,

- (a) a health care professional, if the health care professional does not use the defibrillator at a hospital or other place having appropriate health care facilities and equipment for the purpose of defibrillation; and
- (b) an individual, other than a health care professional described in clause (a), who uses a defibrillator at the immediate scene of an emergency. 2007, c. 10, Sched. N, s. 2 (2).

Reimbursement of expenses

(3) Reasonable reimbursement that a person receives for expenses that the person reasonably incurs in using a defibrillator shall be deemed not to be compensation or reward for the purpose of subsection (1). 2007, c. 10, Sched. N, s. 2 (3).

Protection from civil liability, owner or operator of premises

3. (1) Despite the *Occupiers’ Liability Act* and the rules of common law, any person who owns or occupies premises where a defibrillator is made available for use and who acts in good faith with respect to the availability or use of the defibrillator is exempt from civil liability for any harm or damage that may occur from the use of the defibrillator. 2007, c. 10, Sched. N, s. 3 (1).



Community PAD Program & AED Guide

Public Access Defibrillation & Automated External Defibrillators

Exception

(2) Subsection (1) does not exempt the person who owns or occupies the premises where a defibrillator is made available for use from civil liability if,

- (a) that person acts with gross negligence with respect to making the defibrillator available;
- (b) that person fails to properly maintain the defibrillator; or
- (c) the premises where the defibrillator is made available for use is a hospital or other premises used primarily for the purpose of providing health care to individuals. 2007, c. 10, Sched. N, s. 3 (2).

Regulations

4. The Lieutenant Governor in Council may make regulations,

- (a) prescribing criteria for the purpose of the definition of “defibrillator” in section 1;
- (b) prescribing persons or classes of persons for the purposes of the definition of “health care professional” in section 1;
- (c) governing standards for the proper maintenance of defibrillators;
- (d) respecting any matter necessary or advisable to carry out effectively the purposes of this Act. 2007, c. 10, Sched. N, s. 4.

Applies to the Crown

5. This Act applies to the Crown and any agency of the Crown. 2007, c. 10, Sched. N, s. 5.

6. Omitted (provides for coming into force of provisions of this Act). 2007, c. 10, Sched. N, s. 6.

7. Omitted (enacts short title of this Act). 2007, c. 10, Sched. N, s. 7.



Community PAD Program & AED Guide

Public Access Defibrillation & Automated External Defibrillators

OCCUPATIONAL HEALTH AND SAFETY ACT

Currently Ontario's *Occupational Health and Safety Act* and Regulations do not contain wording specific to Automated External Defibrillators, however at the Ministry of Labour's discretion AEDs provided for use in a workplace, can constitute pieces of first aid equipment to which the *Occupational Health and Safety Act* and Regulations may apply. (Section 2 of the Act and Regulation 1101)

To assist organizations regarding legalities of AED's in the workplace this next section is adopted from British Columbia, and can be used as a reference:

a. An AED is not required by the OHS; however, AED training is included in all first aid courses. No separate certificate is issued for the CPR/AED training received in a first aid course - the training is simply part of the course. Employees who possess a valid first aid certificate were able to demonstrate competency deploying an AED as part of their training or examination and were duly certified by their first aid instructor or evaluator. The AED training an employee receives in a first aid course may not be as comprehensive as what an employee might receive in a course specifically designed for AED training.

b. An AED that is in the workplace is considered to be part of the workplace first aid equipment. Regulation 1101 can apply. Employees are trained in the use of an AED when taking a first aid course but only the emergency application protocol. There is very little information about the care, maintenance and inspections recommended by the manufacturer included in a first aid course (that information would be found in the workplace AED user manual and spec sheet).

c. The brand of AED training simulator used in a first aid course may be different from the brand of AED found in the organization. Just as for any piece of equipment, the employee must be trained in the use of the equipment and authorized to use it. Inspection and maintenance records may be required for the AED as per the manufacturer's instructions

d. Although medical oversight is not required by OHS, it is recommended. Physicians, with an expertise in pre-hospital defibrillation, can offer expert advice on training issues, special situation protocols, AED policies and procedures, post arrest data management and the handling of confidential patient clinical information. This will assist the organization in gaining compliance with the applicable sections of the OHS and other generally accepted medical practices in Canada.

e. Written procedures (response plan) need to include who is to, and how to access the AED and must include the location of the AED. First aiders in an organization should be able to answer questions specific to the AED unit that is available at the organization. The AED user manual and community PAD program and AED guide will allow for the development of a checklist that the designated individuals should use to conduct inspections of the workplace unit(s). During the Ministry of Labour inspections of a jobsite, officers may question the individuals/safety committee to establish knowledge of the on site AED and any routine inspections and/or pre-use checks that should be performed.



Community PAD Program & AED Guide

Public Access Defibrillation & Automated External Defibrillators

In summary, if the brand of AED training unit (AED simulator) used to instruct a first aid course is different from the brand of AED unit found in the organization, the first aid trained individuals will require further orientation and training specific to the AED brand found in the organization. A separate certificate is not required for an AED but records of the training are required. If the organization determines that medical oversight is appropriate (possibly following a first aid assessment), the medical director may establish additional training and orientation including the frequency of any CPR/AED retraining. Currently all first aid certificates are valid for 3 years.

Created by:

Paul Snobelen | Specialist, Community Safety Programs

Peel Regional Paramedic Services (Serving the cities of Brampton, Mississauga, and the Town of Caledon)

Collaboration, and review by

Sean Large | Paramedic

Chris Bennett | Paramedic

Leah Sobon | Paramedic

Special thanks to Erin Smith for some of the photography and Zoll Medical Corporation for the use of photos, and images contained in this guide.