

Automatic External Defibrillator (AED) - Automated External Defibrillator (AED) Public Access Defibrillator, AED.

These days, you do not have to be a doctor to save a life. New automated external defibrillators (AEDs) make it possible for even non-medical personnel to restore heart rhythm and life.

So, what is an AED and how does it work?
An Automated External Defibrillator (AED) is a small, portable device that administers an electric shock to the heart. A built-in computer assesses the victim's heart rhythm, judges the need for defibrillation, and then administers an appropriate level of shock. Audible and visual prompts guide the user through the process. An AED unit will stun the heart, disrupting the electrical chaos, and allow the normal electrical sequencing of the heart and pumping action to resume. An AED is designed for use by a layperson or a "first responder" (a person with AED training). No "medical" training is required to use an AED.



[Figure 1: Automatic External Defibrillator]

When a heart goes into an uncoordinated electrical activity called fibrillation, the heart twitches ineffectively, cannot pump blood and appears to have stopped beating. This condition is known as sudden cardiac arrest (SCA) and is often accompanied by severe heart attacks. Hundreds of people die from sudden cardiac arrest in Canada each day. In any medical emergency "seconds count". The campaign to install AEDs in Ontario's public buildings, including recreation facilities; along with training has saved lives.



[Figure 2: Mike Jessop, York Region EMS at the ORFA Facility Operations Forum, Dec. 2007]

What do Ontario's First Aid regulations require with respect to AEDs? There is no legal requirement to install an AED in a public building. However, the ever-increasing role and proven benefit of this piece of safety equipment places a priority on the part of facility management to gain access to this capital item either through the annual budget process or via other funding sources/initiatives. Budgetary provisions for purchase, training (initial and ongoing), training equipment, and life cycle planning should all be a part of the request for support.

WSIB Regulation 1101 governs the provision of First Aid/Response in Ontario's workplaces. These regulations set our requirements for equipment and training in each workplace based on the number of workers and conditions for conducting the work. It is important to remember that these requirements apply to ALL workers including full, part-time, seasonal, and casual positions.

Providing First Aid/Response to the public is a moral decision for facility staff not a legal requirement. We make this distinction to reassure recreation facility staff that the role of internal Emergency Medical Service (EMS) is not a requirement of their daily work obligation. Facility staff should be encouraged to play a role in any medical emergency. The original intent of placing AEDs in facilities was to provide access to the "public" to this equipment. Often public facilities have highly skilled/trained medical professionals on site; so ideally given their ongoing training would have them act as the initial first responders.

Are there any restrictions when using an AED? AEDs are safe for use on infants and children as well as adults, as long as the appropriate pads are used. Typically, children over 55 lbs or 8 years of age are defibrillated as adults.

Can an AED be used safely in a wet environment? Since AEDs are self-grounded, they are safe for use in a wet environment and on metal surfaces.

Partners in saving lives - Some members have taken the step to invite sporting team facility users to send representatives to their in-house training sessions at no cost. A local old-timers' team that has persons on the ice adequately trained to respond is a positive addition to a facilities training plan.

Requirements for internal and external incident reporting - Will an AED always resuscitate someone in cardiac arrest? No. The AED treats only a heart in ventricular fibrillation. In cardiac arrest without ventricular fibrillation, the heart does not respond to electric currents, but needs medication instead. The victim also needs breathing support. AEDs are less successful when the victim has been in cardiac arrest for more than a few minutes, especially when CPR was not provide.

As required under the Occupational Health and Safety Act, prepare an "incident report" anytime an AED is used in the facility. If a worker uses the AED an additional WSIB report should be prepared and submitted as setout by WSIB. When resuscitation attempts are unsuccessful workers may require medical support to ensure they can cope with these events?

Anytime a death occurs, including the public, it a requirement to report these incidents to the Ministry of Labour.

Installation/maintenance and signage - Install AED Equipment in a location that is free from obstructions and one that is accessible to the public. Locking the equipment in a manager's office provides no benefit for public access. Currently, there are no specific guidelines for signage. Consider installing signage in high

traffic areas; use pictorial signage avoiding the use of written words.



[Figure 3: AED wall decal and signage]

How many AEDs are required for each facility? - Due to the unique design and layout of most recreation complexes, one layout plan will not work for all buildings. "Seconds count" in any medical emergency, so the current rule is that an **AED should be available within a 2-minute round trip from the farthest corner of the building.**

Install storage boxes approximately 4ft or 120cm above the floor. Some facilities have installed staged alarms to help assist with any inappropriate use of the equipment by facility patrons. On occasion, AED equipment has gone missing from a public facility. Replace missing equipment ASAP; signage should be removed or covered until the equipment is once again available.

Train staff to regularly inspect and maintain the equipment to ensure it is ready for use. Batteries will have a set life span and will require regular replacing. Add battery replacement to the facility's operational schedule of activities.

The AED owner's manual will provide the necessary details for inspections. Consider adding AED equipment inspection to the current facility fire/emergency equipment monthly inspection log.

Some equipment requires replacing the electrode pads after use. Add spare pads to the storage box. Some facilities also have barrier-free disposable devices (pocket masks) as part of the "working" equipment.

Which AED is best for your facility? The ORFA does not recommend or endorse specific products of any single manufacturer or distributor of Automatic External Defibrillators. Contact the Canadian Heart and Stroke Association for a current list of companies approved by Health Canada. (**Refer to the table**

on page 5). There are a variety of AEDs available in today's marketplace. As in any purchase, a facility manager must be an educated consumer. Here are some tips to consider when purchasing AEDs.



[Figure 4: Examples of available AED units]

Batteries - Some AED units come with expensive, proprietary batteries while others come with consumer-type lithium batteries. Whenever possible, look for an AED that with economical batteries that are easily replaced.

Ease of Use - The scene of a medical event is often loud and chaotic. Quality AED units provide clear prompts for use. These include simple colour coding on the unit, loud and clear voice prompting, and clear visual prompts on the display.



[Figure 5: ORFA Vice President, Rob Lilbourne demonstrates the use of a user friendly AED.]

Usable Adhesive Pads - Some electrode pads on AEDs have extremely sticky pads that can easily stick to the users bare skin or clothing accidentally. Precious seconds can be lost while removing and placing such pads correctly. Make sure the electrode pads are not overly sticky. Better units also have a **one-piece electrode pad** instead of two to save time and ensure proper placement on the victim.

Firm Electrode Connections - Check the electrode connections to the main AED unit and make sure the connectors cannot be easily pulled out. Given the commotion when using an AED, you do not want a unit where the electrode cable(s) can be easily unplugged.

Water Resistant Seal - The best selection includes a unit with a water-resistant seal(s). A wet recreational environment such as poolside or on the ice is a likely use for the AED. Ensure there is a water-rated seal especially around the battery compartment.

CPR Feedback - When resuscitating a victim with an AED, the use of CPR is often also required. Good AED units provide the user with prompts or auditory feedback to assist in effective CPR compression technique.

Upgradeable Operating System - Advanced quality AED units can have their internal operating system easily updated via download, while some models require that you send the unit back to the manufacturer for upgrades.

Funding - The Heart and Stroke Foundation of Canada recently entered its second phase of funding support to place AEDs in public facilities in 2008.

Conclusion - ORFA members are the frontline conduit between community safety and professional operational conduct. Taking on such challenges helps to establish parks and recreation operations as an essential community service.



SUPPLEMENTAL INFORMATION

Canadian Heart and Stroke Foundation
<http://ww2.heartandstroke.ca>

Other funding sources may include:

Canadian Red Cross <http://www.redcross.ca>

Mikey Network is committed to placing "MIKEYS" (public access defibrillators) in as many high-risk locations as possible. <http://www.mikeynetwork.com>

Canadian Red Cross <http://www.redcross.ca>

BILL 71 - The *Heart Defibrillator Use Civil Liability Act*, introduced by Essex MPP Bruce Crozier, has passed second reading in the Ontario Legislature. This bill promotes the use of external heart defibrillators by ensuring that users of the devices and owners and operators of premises on which they are installed are protected from civil liability.

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Automated External Defibrillator (AED) Companies

The following companies have Health Canada approval for an AED (or multiple AEDs). The Heart and Stroke Foundation of Canada does not recommend or endorse specific products of any single manufacturer or distributor. The HSFC encourages you to contact each company to describe your needs, obtain product information, and find out how they can help you establish your AED program. Licensing information about specific AEDs may be checked through Health Canada's Medical Devices License Listing www.mdall.ca

<p>Cardiac Science Corporation Manufacturers of Powerheart AEDs 3303 Monte Villa Parkway Bothell, WA 98021 1-800-991-5465 www.powerheart.com</p>	<p>Philips Manufacturers of HeartStart 281 Hillmount Road Markham, Ontario L6C 2S3 1-800-291-6743 www.medical.philips.com/heartstart</p>
<p>Defibtech Manufacturers of Lifeline™/Revive™ SOS Emergency Response Technology 160 Tycos Drive Toronto, Ontario M6B 1W6 416-789-7689 www.defibtech.com</p>	<p>Physio-Control/Medtronic of Canada Ltd. Manufacturers of LIFEPAK AEDs 6733 Kitimat Road Mississauga, Ontario L5N 1W3 1-800-268-5346 www.physio-control.com</p>
<p>HeartSine Technologies Manufacturers of Samaritan PAD (SAM PAD) AED Rescue 7 Inc. 245 Riviera Drive Markham, Ontario L3R 5J9 905-474-0770 www.rescue7.net</p>	<p>Welch Allyn Manufacturers of AED-10 & AED-20 160 Matheson Blvd. E. Unit 2 Mississauga, Ontario L4Z 1V4 1-800-561-8797 www.welchallyn.com/medical</p>
<p>Laerdal Medical Manufacturers of HeartStart/Forerunner 151 Nashdene Road Unit 45 Toronto, Ontario M1V 4C3 1-888-LAERDAL (523-7325) Quebec: 1-800-567-9987 www.laerdal.ca</p>	<p>Zoll Medical Corporation Manufacturers of AEDs 1750 Sismeth Road Unit 1 Mississauga, Ontario L4W 1R6 1-866-442-1011 www.zoll.com</p>

[SOURCE: Heart and Stroke Foundation of Canada www.heartandstroke.com]

Chase McEachern Act (Heart Defibrillator Civil Liability), 2007

S.O. 2007, CHAPTER 10 Schedule N

Consolidation Period: From July 3, 2007 to the e-Laws currency date.

No Amendments.

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).

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.