PEEL REGIONAL
PARAMEDIC SERVICES

COMMUNITY SAFETY
PROGRAMS

SITE ASSESSMENT & RESPONSE PLANNING GUIDE

This guide is designed to assist individuals and organizations on effective Automated External Defibrillator (AED), and first aid kit placement. The guide also contains information that should be included as part of your emergency response plan

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RESPONSE PLANNING AND SITE ASSESSMENTS

Conducting a site assessment and building a response plan can provide insight on the optimal number of AEDs that may be required in a facility, or help determine the appropriate placement of AEDs within a facility.

Site assessments and response plans are also recommended for first aid and other safety equipment placement. For example, a first aid kit should be accessible to people without barriers. Are eye wash stations located in the proper location, can an employee reach the eye wash station barrier-free without vision? Placing AEDs and safety equipment requires pre-planning. Simply having required safety equipment available does not ensure legislative compliance.

When conducting site assessments, it is observed that most organizations tend to approach responding to emergencies in one of two different methods.

Method 1 – More equipment, in more locations, that is more accessible and visually signed and identified for easy recognition. This method focuses on making materials readily available to individuals in need, and being more self-reliant and independent 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 balance of both trained personnel and equipment. Opportunity exists for organizations to conduct site assessments and response plans with annual reviews. Changes in personnel, training, job function and other factors can have impact, and create opportunities with an emergency response plan.

The focus of this section is targeted on AED placement and AED response, which can be used as a model for other injury/accident response plans your organization may wish to create.

RESPONSE PLANS

Building a response plan is one of the most important aspects to ensure that an AED is applied to a person suffering a Sudden Cardiac Arrest (SCA) within three minutes. The objective is to target a response of three minutes or less from collapsing to shocking with an AED. This is referred to as the “Drop-to-shock” interval. Building a response plan will also allow you to identify opportunities for training and the number of people to be trained.

When you build your response plan it should contain the following aspects:

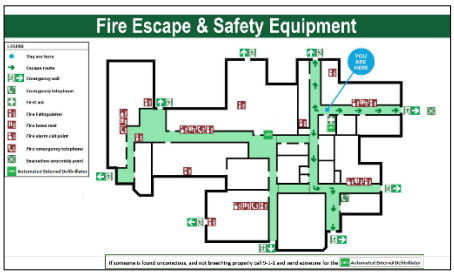
a) Recognizing a cardiac emergency
b) Notification of Paramedic Services (9-1-1)
c) Activating internal responders
d) Access and retrieving equipment/AED
e) Assessment of injured person
f) Application of AED and CPR
g) After an emergency

a) Recognizing a cardiac emergency

Develop an internal communication strategy that focuses on how to inform and educate the workforce formally and informally. It is important that everyone in the organization knows how to recognize an emergency. There is also value as part of the communication strategy to identify who the trained responders are.

People do not always remember the signs and symptoms to look for when someone is in distress, but they can often remember where to find information when it's needed. The best practice seen in the community was where first aid emergency information was placed with existing fire safety plans and fire exit maps throughout the organization.

Hosting workshops or Lunch-and-Learns within the workplace are also good methods to inform and educate the workforce and bring awareness around AEDs and how to use an AED.



b) Notification of Paramedic Services

Internal telecommunication systems can impact accessing paramedic services during an emergency. Some telecommunication systems do not have a direct line out even when dialing 9-1-1. It is important to ensure that you are aware how your telecommunication system will operate in an emergency. If 9-1-1 does not connect directly, make sure you indicate on each phone how to access an outside line during an emergency event.

If reception is the point of contact for communicating with paramedic services, please make sure they have been trained to handle emergency calls.

Paramedic dispatchers will require at the bare minimum:

1. Address and location of incident and where to enter building
2. Return phone number
3. Information concerning whether the person injured is:
    - Breathing
    - Bleeding
    - Conscious
4. Age and gender, if possible
5. First aid being provided (such as AED/CPR)

A best practise seen in the community involved a company with a closed phone system. All phones indicated that EXT: 4-9-1-1 must be dialed for emergencies; the receptionist receiving the call had training to ask for the appropriate information from the caller within the organization. The receptionist would then call 9-1-1 on an outside line, and activate internal responders.

c) Activating internal responders

Having trained individuals located strategically throughout your organization will allow the best possible response. We recommend that when you build your response plan, internal responders provide care in teams where possible.

It is also recommended when possible and where staffing allows, that both primary and secondary responders are selected.

Primary responders – These individuals always respond directly to the location and person injured. The primary responders should be equipped with gloves and a face shield as a bare minimum. A small first aid kit is advised.
Primary responders can begin the assessment and immediately begin chest compressions, if required.

Secondary responders – These individuals will proceed to get the AED and the required first aid equipment before responding to the injured person. When the AEDs and trained individuals are strategically located within an organization, the response time to having an AED at the injured person's side is dramatically reduced.

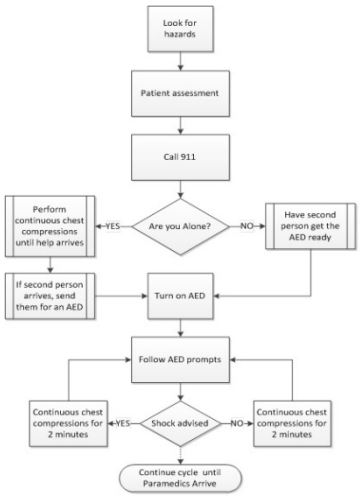
If an organization does not have the ability for multiple responders, it's best that the primary responder obtain an AED on his way to the injured person (if convenient, or if the responder is working alone).

d) Access and retrieving equipment/AED

When selecting responders, make sure they have the ability to respond throughout the building or assigned area barrier-free. Secured areas can present unique problems that will delay the initiation of CPR and application of an AED. It can also present challenges for responding paramedics. Please make sure that paramedics have access, or an escort, to provide the required access. Ensure that responders have the required security FOBs and cards. If the organization cannot provide access to responders for security reasons, make sure the required personnel are included in the emergency plan.

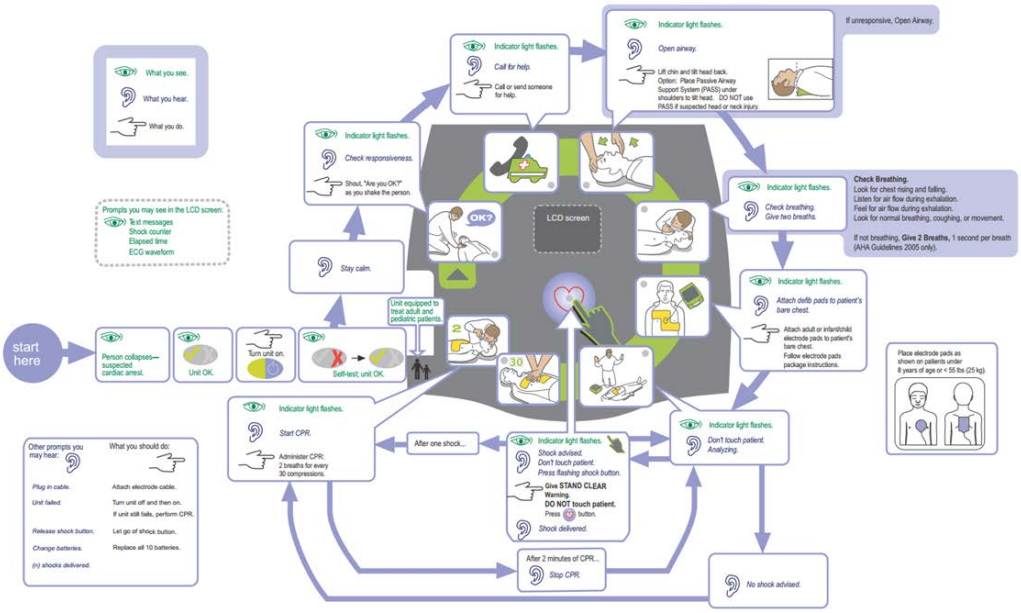
e) Assessment of injured person

Even though a responder may be trained, it is important to include directions on how to provide first aid care and CPR. Protocol flow charts are some of the most effective ways to communicate directions and processes.



f) Application of AED

It is recommended that you include a protocol flow chart on the specific AED model or device in use for your organization. If your organization owns more than one specific model or type of AED, it's best to have a copy of the protocol flow chart in the AED itself for reference. Most manufacturer user manuals will include a chart, or detailed listing of all the prompts for the device similar to the graphic below.



It takes on average one minute from turning on the power to delivery of the first shock.

g) After an emergency

As part of your response plan, make sure you include what to do after an emergency. If the injury or incident occurred within the workplace you will have to notify the Ministry of Labour. Internal Health and Safety policies may dictate specific procedures to follow.

The Region of Peel's "Community PAD Program and AED Guide" provides direction and instruction for organizations and individuals to follow after an AED has been used in the Region of Peel. Peel Regional Paramedic Services provides support for individuals after they have performed CPR, or used an AED. We will also work with your organization to get your equipment back to a state of readiness.

The Peel Regional Paramedic Services may request to download rescue data information off of your AED after an emergency has taken place.

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

Email: PADProgram@peelregion.ca

SITE ASSESSMENTS

There is no simple single formula that works for every organization; however the exercise for determining placement and number of AEDs required remains consistent.

Before conducting a site assessment take note of pre-determined factors that can impact placement.

It is not uncommon for an organization to purchase an AED after an incident has occurred based on recommendations from the investigation. Purchasing an AED with no formal planning into quantity or location can lead to an AED not being used. Paramedics have witnessed AEDs not being used in facilities that had them installed because they were not accessible or identifiable due to a lack of planning and training.

The objective of site assessments is to gain an understanding and formalize a process to identify key installation points based on various factors that could impact response time.

Site assessments can be broken down into two ways;

1. Placement Assessment – The Number of AEDs have already been purchased or approved for purchase. This assessment is tailored to finding optimal placement for the AEDs.

2. Discovery Assessment – AEDs 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. The discovery assessment will provide insight for budget planning to provide optimal coverage within the organization.

Conducting Assessments

The standard exercise for determining AED placement and quantity is mapping out the facility and navigating all access points, while timing the distances using a stopwatch. Use existing floor plans or create a map.

Determine your starting point for timing distances. Some examples of starting points are:

a) The planned/assumed installation point - This is a good method if you only have a set number of AEDs allocated, and are looking to validate coverage and confirm placement.
b) Entrance Doors – These are good starting points in buildings that are:
   - Primarily a single ground level building that is very large in nature such as a massive warehouse.
   - Tall facilities such as office towers and buildings that require the use of elevators.

Note: The reason for knowing timing from entrances is important – When paramedics arrive onsite; it is good to know how long it will take for them to reach the furthest point of the building. This may factor into your decision of placement.

c) Main washrooms – Almost every individual in a workplace is familiar with washroom locations, and in most buildings washrooms tend to be more centralized in key areas where work is routinely being performed. For example, warehouse staff might use a different washroom than administration staff, and very rarely do they use each other's washrooms.

Note: Using the washrooms as a starting point may also provide insight on traffic patterns within a building and work area.

d) Lunch rooms/cafeteria – This is typically a common area that everyone is familiar with and seldom do you need to provide clarity on the location when telling someone to retrieve an AED.

Note: Not all lunch rooms are centralized, and often in cafeterias, you don't tend to notice an installed AED.

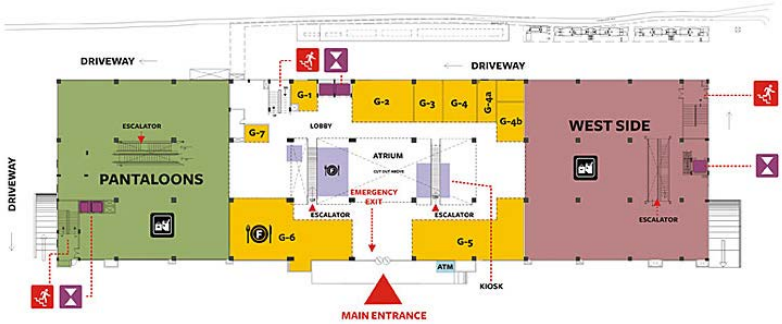
e) Elevators – Similar to washrooms, elevators tend to be a common area that most people are familiar with. Although, like washrooms, directing someone to retrieve an AED can be confusing if multiple elevators or washrooms are present and not all of them have an AED installed at, or near them.

Walk the facility briskly while carrying a stopwatch and a map or floor plan. Time how long it takes to get to various places such as exits, first aid stations, office areas, shop areas, lunch room, etc. As you walk, mark off when you hit 90 seconds (1.5 minutes), and 120 seconds (3 minutes) and total length of time. Always leave the timer running when you use an elevator, or have to go through security.
It is estimated that the average walking distance is 250m in 3 minutes.

Injury Potentials

After you have completed timing the various routes and distances within a building, the next step is to identify injury potentials and types. Understanding the types of possible injuries associated with each area can help identify which type of first aid kit is necessary. This will help determine the appropriate placement of the first aid kits and AEDs.

On the map or floor plan you created, highlight the different work areas within the building such as offices, shop, lunch room etc.



With the highlighted work areas, identify the potential injuries that can occur and injury types associated to the area.

An example of identifying injury potential is using a chart similar to this:

In each of the highlighted areas go through this chart to identify potential injuries, and the likelihood of that type of injury occurring.

Each column is represented by a numerical value. After completing the chart, add up the total values and you will have a numerical value associated to injury potential for that area.

The greater the number, the higher the potential is for an injury. So when determining first aid kit placement and AED placement this could have an impact on location.

Injury Type	Unlikekly 0 Points	Possible 1 Point	Likely 2 Points	Certain 3 Points
Falls (Less than 6ft)				
Falls (Greater than 6ft)				
Laceration (Cuts)				
Abrasion (Scrape)				
Contusion (Bruise)				
Amputation				
Crush Injuries				
Burns (Thermal or Chemical)				
Electric Shock				
Exposure (Chemical, etc)				
Heat Stress				
Hypothermia (Cold)				
Poisoning				
Respiratory Impairment				
Loss of Consciousness				
Choking Risk				
Fracture				
Sprain/Strain				
Repetitive Strain Injury				
Dislocation				
Probability				

You will want to make sure emergency equipment is accessible to those who become injured in the areas that have the highest probability value. This may also help identify if you need additional first aid kits/stations above the required regulations.

Use the same chart to help determine the type of first aid kit, and kit contents you require for the area being assessed. If the columns “Likely” and “Certain” are checked during your assessment, it is highly recommended that your first aid kit contains materials to treat those specific injury types. For assistance on determining first aid materials specific for injury types you can contact Peel Regional Paramedic Services by email at PadProgram@peelregion.ca or by contacting a first aid kit supplier.

Putting it all together

Take all the factors of timing and risk into consideration and start to plan the number of AED devices needed and physical locations for installation. The target time from “drop to shock” is three minutes.

If you will be purchasing multiple AEDs, it is recommended that you start placement selection nearest to the highest risk areas, and work outwards ensuring that the next AED is placed three minutes or less apart where possible.

If you are limited to the number of AED devices available for installation and want to ensure maximum coverage. It is recommended that installation of the AED is not more than 90 seconds from the highest risk areas and especially those high risk areas that have the most probability for use.

All AEDs should be strategically placed, highly visible, in common areas, and near trained responders.

The availability of trained and informed staff greatly impacts the effectiveness of an AED program.

Site Assessment Forms

The next section of this document is the site assessment form that is used by Peel Regional Paramedic Services when assisting organizations with AED and first aid kit contents and placement. It is broken down into six main sections:

Section 1. Business Information
Address and contact information for the actual building(s) being assessed.
Section 2. General Organization
Generic broad spectrum information about the company and buildings globally.
Section 3. Work/Zone Specific Assessment
Information pertaining to an area within the building, or site where specific work is carried out and affects that zone or work area.
Section 4. Medical Preparedness
Information about training and certification for the organization as a whole.
Section 5. Response Equipment
Information about first aid kits and contents for the organization.
Section 6. Floor Plan/AED Mapping
The section to draw and map the building/work area for timing and labelling high risk areas.

Having an AED available on service equipment is always recommended, especially when working in remote areas where paramedics could be delayed.

Section 1. Business Information

Business Name		
Address (unit, number, street)		City/Town
Postal Code	Contact Name	Contact Phone Number
Contact Email		

Section 2. General Organization

Number of buildings on site ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6+ ☐ N/A	Connected/Freestanding ☐ Yes ☐ No ☐ Both ☐ N/A	Multiple tenants ☐ Yes ☐ No ☐ N/A
Average number of workers on site ☐ 1-5 ☐ 6-15 ☐ 15-200 ☐ 200+	Regular business hours _____ am/pm --- _____ am/pm	Workers present 24 hrs per day ☐ Yes ☐ No ☐ N/A
Security cards or FOBs required ☐ Yes ☐ No ☐ N/A	Site security ☐ Internal ☐ Third Party ☐ N/A | ☐ Daytime ☐ Nighttime ☐ Weekends	

Building type(s) (ACR - Code)

(A) Airport/Heliport
(B) Apartment/Condo. Building
(C) Construction Site
(D) Medical Office/Clinic
(E) Nursing Outpost
(F) Factory/Industrial/Site/Railway/Dockyard
(G) Hotel
(H) Hospital (acute and non-acute)
(I) Indoor Shopping Mall
(J) Single Store/Strip Mall
(L) School/College/University
(M) Mining Site/Quarry
(N) Nursing Home
(O) Office Building
(P) Recreation Facility
(Q) Farm
(R) House/Townhouse
(S) Street/Highway/Road
(T) Sports Field/Fairground/Park
(U) Stadium
(V) Golf Course
(W) Water/Boat
(X) Restaurant/Bar
(Y) Casino

Building Type(s) Located on Property: ____, ____ ☐ N/A

Fitness facility on site ☐ Yes ☐ No ☐ N/A	Are elevators used on site ☐ Yes ☐ No ☐ N/A	
Evacuation plan posted ☐ Yes ☐ No ☐ N/A	Are muster areas marked ☐ Yes ☐ No ☐ N/A	Nearest hospital:
Who activates 9-1-1/Paramedics ☐ Reception ☐ Responder ☐ Security ☐ Other:		Process for critical and non-critical injuries (MOL)* ☐ Yes ☐ No ☐ N/A *MOL: Ministry of Labour

Sequence of emergency notification: ☐ N/A

General Notes

Section 3. Work/Zone Specific Assessment			
Work Area/Building Name		Number of employees in area	
Type of work being performed:			
Number of floors	Barriers to first aid		
Elevator ☐ Yes ☐ No ☐ N/A	Stairs ☐ Yes ☐ No ☐ N/A	Ladders ☐ Yes ☐ No ☐ N/A	Elevator Stretcher Compatible (100cm X 215cm) ☐ Yes ☐ No ☐ N/A
Chemicals stored on site ☐ Yes ☐ No ☐ N/A	Chemicals/materials used in area		
Confined Spaces on site ☐ Yes ☐ No ☐ N/A	Confined space rescue plan Rescue kit ☐ Yes ☐ No ☐ N/A | Trained rescue personnel ☐ Yes ☐ No ☐ N/A		
Working from Heights ☐ Yes ☐ No ☐ N/A	Working from heights rescue plan Rescue kit ☐ Yes ☐ No ☐ N/A | Trained rescue personnel ☐ Yes ☐ No ☐ N/A		

Section 4. Medical Preparedness		
Do you host first aid drills ☐ Yes ☐ No ☐ N/A	Designated Paramedic/Ambulance Meeting Area	
Do you have a Patient Care Record (PCR)? (PCR's are different from WSIB's form 7) ☐ Yes ☐ No ☐ N/A		
First aid training ☐ Yes ☐ No ☐ N/A	Highest level of training/certification ☐ Emergency ☐ Standard ☐ Advanced ☐ EFR/MFR ☐ EMR ☐ A/EMCA ☐ RN/RPN ☐ MD	
Trained personnel available: ☐ Daytime ☐ Nighttime ☐ Weekends ☐ N/A		Are there designated first aiders/response team ☐ Yes ☐ No ☐ N/A

Section 5. Response Equipment		
Medical Equipment Available in Work Area/Zone ☐ First aid kit ☐ BLS kit ☐ ALS kit ☐ Oxygen kit ☐ AED ☐ Back Board ☐ OTC Meds ☐ Burn Kit ☐ Infection Control		
Designated first aider working in immediate area ☐ Yes ☐ No ☐ N/A		
Required safety supplies for chemicals as per MSDS ☐ Yes ☐ No ☐ N/A	Eye wash station present ☐ Yes ☐ No ☐ N/A	
First aid kits available ☐ Yes ☐ No ☐ N/A	First aid kit Inspection/Replenish ☐ Internal ☐External ☐ N/A	
Use first aid supply company ☐Supplies ☐Inspection ☐ N/A	First aid supply company ☐ Zee Medical ☐ Kit-Care ☐ Other:	
Number of AEDs installed at site ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6+ ☐ N/A	AED signage ☐ Yes ☐ No ☐ N/A ☐ Other signs:	
AED Inspection frequency ☐ Daily ☐ Weekly ☐ Monthly ☐ Quarterly	Date of last inspection	Department/person that inspects AED

Section 6. Floor Plan/AED Mapping

The goal with placing AEDs and determining the quantity needed is to have the AED applied to a person within the first 2-3 minutes of a Sudden Cardiac Arrest. This exercise will assist you in proposing the number of AEDs you may require, or identify the ideal AED placement location.

Considerations:
AEDs should be placed in common areas, making them easy to access, available at all times, and with trained personnel nearby.

Directions:

1. Use the grid below to draw a simple floor plan.
2. Determine potential placement areas that take into account the considerations noted above.

Option A (Only one AED) - Using the floor plan time yourself walking briskly for 90 seconds in various directions to form a radius of coverage for proposed locations for an AED. (Ensure that coverage captures the greatest density of employees)
~or~
Option B (Multiple AEDs) – Using your floor plan, time yourself walking briskly between potential AED locations. The ideal distance between each AED should be three minutes or less to ensure optimal coverage. If the coverage area needed is greater than the number of AEDs being purchased or made available, use Option A as your method of placement. Ensure each AED covers the greatest density of employees per location.

Floor Plan/Map

Additional Space