BCIT Safety Manual

AUTOMATIC EXTERNAL DEFIBRILLATORS
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1. Purpose
The purpose of the Automatic External Defibrillator program at BCIT is to ensure the safety of the BCIT community and to save the lives of individuals experiencing sudden cardiac arrest; to provide Automatic External Defibrillators, trained personnel and appropriate response for circumstances where members of the BCIT community experience sudden cardiac arrest.

2. Definitions
2.1 Automatic External Defibrillator (AED)
AED stands for "Automatic External Defibrillator." An AED is used to administer an electric shock to a person who is having a cardiac arrest. AEDs are designed to allow non-medical personnel to save lives.

2.2 Sudden Cardiac Arrest (SCA)
Sudden cardiac arrest is when the heart's normal heart rhythm suddenly becomes chaotic. The heart can no longer pump the blood effectively and the victim collapses, stops breathing, becomes unresponsive, and has no detectable pulse. When used on a victim of SCA, the AED can administer a life-saving electric shock that restores the heart's rhythm to normal.

3. Reference Materials
WorkSafeBC Worker’s Compensation Act Part 3 Division 3 – Occupational First Aid
The Canadian Heart and Stroke Foundation

The Heart & Stroke Foundation strongly supports having AEDs in homes, workplaces, as well as public areas like airports, casinos, and airplanes. The foundation is also urging anyone in close contact with those at high-risk of cardiac arrest family members, police, firefighters, flight attendants, and security guards to become trained in the use of AEDs.

4. Roles & Responsibilities
4.1 Trained Personnel/Responders
BCIT staff and contract security working in areas at BCIT where the AEDs are located will be asked to participate in annual AED training. In addition to participating in the training, these personnel shall perform daily checks on the AED to ensure that the green status indicator light is flashing, indicating that the unit is ready for a rescue.

Any use of an AED device shall be reported to the BCIT OHS Manager without delay.

4.2 BCIT Safety and Security
BCIT Safety and Security shall ensure that the AED devices are maintained and that annual training is provided for those individuals at BCIT who may be required to use the devices to provide emergency care to a patient of sudden cardiac arrest.
4.3 **BCIT**
The Automatic External Defibrillators procedure shall be reviewed annually.

4.4 **Mediquest Technologies**
Medical Direction for the BCIT Automatic External Defibrillators Program will be provided by MediQuest Technologies. Medical direction includes:
- Development and review of the standards of patient care and utilization of the AED.
- Review of response documentation and rescue data for all uses of the AED.
- Oversight of the initial and continuing AED training.

Mediquest Technologies is also responsible for performing annual inspection and maintenance on BCITs AEDs.

5. **Education & Training**
BCIT will ensure that those who are expected to provide emergency care to a patient of Sudden Cardiac Arrest will be trained in CPR and AED use. This training will conform to the requirements of the BCIT AED Medical Director and the Heart and Stroke Foundation of Canada standards.

6. **Locations**
BCIT has AEDs at the following locations:

<table>
<thead>
<tr>
<th>Campus</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burnaby</td>
<td>NE16 – First Aid</td>
</tr>
<tr>
<td></td>
<td>SW01 – Security Operations Centre</td>
</tr>
<tr>
<td></td>
<td>SE16 – Recreation Services Office</td>
</tr>
<tr>
<td></td>
<td>SW11 – Student Housing</td>
</tr>
<tr>
<td>Downtown Campus</td>
<td>1st Floor – Security Operations Centre</td>
</tr>
<tr>
<td>Marine Campus</td>
<td>1st Floor – First Aid</td>
</tr>
<tr>
<td>Aerospace Technology Campus</td>
<td>1st Floor – First Aid</td>
</tr>
<tr>
<td>Annacis Island Campus</td>
<td>1st Floor – First Aid</td>
</tr>
<tr>
<td>CARI Campus</td>
<td>1st Floor – Security Operations Centre</td>
</tr>
</tbody>
</table>

7. **Indications for Use**
The lifeline AED should be used only on a patient who is unresponsive, not breathing, and greater than one year old.

*Note:* Apply the AED with caution if the victim has:
- Nitroglycerin patch on chest: Remove nitroglycerin patch carefully, then apply AED
- Implantable pacemaker: Do not place electrodes directly over the pacemaker as pacemaker will interfere with rhythm analysis.

8. Procedures

8.1 Assess Scene
The responder shall first assess for hazards. At no point should a responder put themselves at risk.

Some examples of hazards to assess for:
- Electrical dangers
- Chemicals
- Traffic
- Fire or flammables

8.2 Assess Patient
Determine if patient is:
- Unresponsive
- Not Breathing

8.3 Turn AED ‘on’
Press the green ‘on’ button.

8.4 Follow Voice Prompts

Place Electrodes
“Call for help. Remove pads from back of unit. Apply pads to patient’s bare chest as shown.”
- The responder shall ask for help from those around them by directing a specific individual to call 911 to request an ambulance and to advise BCIT Security.
- The responder shall then adjust the patient’s clothing in order to apply the AED pads to the patient’s bare chest, as shown on the diagram (on device).

Analyze Rhythm
“Analyzing heart rhythm. Do not touch the patient.”

Shock Advised, Device Charges
“Shock advised. Charging. Stand clear.”

Delivers Defibrillation Pulse
“Press flashing shock button.”
The responder will state ‘clear’ and make a visual head-to-toe check of the patient making sure that he/she and any other responders are clear of contact with the patient. Once this is accomplished, the responder will press the ‘SHOCK’ button to deliver a defibrillation pulse.

Analyze/Charge/Pulse/CPR Cycle
If the AED delivers a shock, the responder will be required to perform a mandatory two minute CPR
period. No patient ECG rhythm monitoring will be done during this period. Once the two-minute period is complete, the AED will continue in Analyzing mode.

“Analyzing heart rhythm. Do not touch the patient.”

If a shockable rhythm is detected, the AED will charge and prompt the responder to deliver another defibrillation pulse.

This cycle will be continued as required.

This cycle should continue until:

i) no shockable rhythm is detected; or
ii) the electrodes are disconnected; or
iii) ambulance personnel arrive on the scene.

Note: If at any time during this cycle the AED detects a heart rhythm that does not require defibrillation, the voice prompt will say:

“No shock advised. It is safe to touch the patient. Check airway. If needed begin CPR.”

The AED will not advise to defibrillate all pulseless patients. Some cardiac rhythms do not respond to defibrillation.

Patient Converts to a Non-Shockable Rhythm

If at some point during the rescue the patient converts to a heart rhythm that does not require defibrillation, the voice prompt will say:

“No shock advised. It is safe to touch the patient. Check airway. If needed begin CPR.”

If circulation is found on the patient and the patient is not breathing, continue rescue breathing, leave electrodes in place and follow voice prompts.

If the patient regains consciousness, make them as comfortable as possible until ambulance personnel arrive on scene.

CALL 9-1-1 IF IT HAS NOT ALREADY BEEN DONE or call one of the following numbers to get BCIT Security for emergency assistance:

<table>
<thead>
<tr>
<th>Campus</th>
<th>Business Hours</th>
<th>Emergency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burnaby</td>
<td>604.451.6856</td>
<td>2248 (internal)</td>
</tr>
<tr>
<td>Down Town Campus</td>
<td>604.412.7600</td>
<td>604.412.7602</td>
</tr>
<tr>
<td>Marine Campus</td>
<td>Day: 778.928.2330</td>
<td>Day: 778.928.2330</td>
</tr>
<tr>
<td></td>
<td>Night: 778.928.2329</td>
<td>Night: 778.928.2329</td>
</tr>
<tr>
<td>Aerospace Technology Campus</td>
<td>604.419.3704</td>
<td>604.419.3705</td>
</tr>
</tbody>
</table>
9. Maintenance

9.1 Daily
Trained personnel shall check the AEDs status indicator to ensure that it is flashing green. When the indicator is green, the unit is ready for a rescue. If the indicator is flashing red, the BCIT OHS Manager shall be contacted immediately.

9.2 Monthly
The OHS group shall test each BCIT AED monthly to ensure functionality.

9.3 Annually
The designated AED service provider will perform a complete inspection a minimum of once per year. This inspection ensures that all components, including the batteries, pads and other hardware and software, of the AEDs are being maintained appropriately and that the devices are fully functional.

10. Documentation
Records of training, maintenance (monthly and annual) and use are kept in the BCIT Safety Data Management and Tracking System.

The BCIT OHS Manager shall report any use of the AED to MediQuest using the AED Call Report Form (appendix A).

11. Program Review
The Automatic External Defibrillator procedures shall be reviewed annually for the following:

- The effectiveness of investigation tracking and closure mechanisms
- The documentation for training and evaluation

The annual review will be done in consultation with the Joint Health and Safety Committee.
Appendix A-
AED Call Report Form
## AED Defibrillation Medical Assistance Report

**ATTENDANT NAME(S)**

<table>
<thead>
<tr>
<th>Occurrence #</th>
<th>Date d/m/y</th>
<th>AED Operator</th>
<th>Call Location</th>
</tr>
</thead>
</table>

**PATIENT NAME**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Age</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>DOB d/m/y</th>
</tr>
</thead>
</table>

**AMBULANCE SERVICE**

<table>
<thead>
<tr>
<th>Arrival Time at Patient</th>
<th>Occurrence #</th>
</tr>
</thead>
</table>

**EVENT HISTORY**

(what happened? treatment prior to arrival? position found?)

**ALLERGIES**

- Yes
- No

**MEDICATIONS**

- Yes
- No

**PAST MEDICAL HISTORY**

- Heart Attack
- Angina
- Asthma
- Bronchitis
- Emphysema
- Diabetes
- Seizures
- Stroke
- High Blood Pressure

**AIRWAY/BREATHING**

<table>
<thead>
<tr>
<th>Airway Opened</th>
<th>Suction Used</th>
<th>Airway Inserted</th>
<th>Oxygen Given</th>
<th>Ventilations Assisted</th>
</tr>
</thead>
</table>

**CPR**

<table>
<thead>
<tr>
<th>Arrest Witnessed</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>CPR Started</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Ambulance</th>
<th>RN</th>
<th>Lifeguard</th>
</tr>
</thead>
</table>

**DEFIBRILLATION**

<table>
<thead>
<tr>
<th>AED Used On Patient</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Summary Module/Tape</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th># Shocks Indicated/Delivered</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th># No Shock Indicated/Check Pulse</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Signature of AED Operator</th>
</tr>
</thead>
</table>

**OTHER PATIENT CARE**

- Blanket
- Dressing
- Splint
- Cervical Support
- Spinal Board

**Other**

Comments

Fax completed form to: MediQuest Technologies Inc. (604) 987-6119