



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 BCIT's 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:

<i>Campus</i>	<i>Location</i>
Burnaby	NE16 – First Aid
	SW01 – Security Operations Centre
	SE16 – Recreation Services Office
	SW11 – Student Housing
Down Town Campus	1 st Floor – Security Operations Centre
Marine Campus	1 st Floor – First Aid
Aerospace Technology Campus	1 st Floor – First Aid
Annacis Island Campus	1 st Floor – First Aid
CARI Campus	1 st Floor – Security Operations Centre

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
- Traffic
- Chemicals
- 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:

Campus	Business Hours	Emergency
Burnaby	604.451.6856	2248 (internal)
Down Town Campus	604.412.7600	604.412.7602
Marine Campus	Day: 778.928.2330 Night: 778.928.2329	Day: 778.928.2330 Night: 778.928.2329
Aerospace Technology Campus	604.419.3704	604.419.3705



Annacis Island Campus	604.456.1115	604.456.1115
CARI Campus	604.456.1255	604.456.1256

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



**MEDIQUEST
TECHNOLOGIES
INC.**

AED DEFIBRILLATION MEDICAL ASSISTANCE REPORT

Confidential when completed

ATTENDANT NAME(S)		Call Received	PATIENT NAME
		Arrived Scene -AED if used	
Occurrence #	Date d/m/y	Arrived Patient	Gender <input type="checkbox"/> Male <input type="checkbox"/> Female
AED Operator			Age
Call Location			DOB d/m/y
AMBULANCE SERVICE		Arrival Time at Patient	Occurrence #
EVENT HISTORY (what happened? treatment prior to arrival? position found?)			
ALLERGIES <input type="checkbox"/> Yes <input type="checkbox"/> No List _____	MEDICATIONS Medications <input type="checkbox"/> Yes <input type="checkbox"/> No With Patient <input type="checkbox"/> Yes <input type="checkbox"/> No	PAST MEDICAL HISTORY <input type="checkbox"/> Heart Attack <input type="checkbox"/> Angina <input type="checkbox"/> Asthma <input type="checkbox"/> Bronchitis <input type="checkbox"/> Emphysema <input type="checkbox"/> Diabetes <input type="checkbox"/> Seizures <input type="checkbox"/> Stroke <input type="checkbox"/> High Blood Pressure	
AIRWAY/BREATHING Airway Opened <input type="checkbox"/> Yes <input type="checkbox"/> No Suction Used <input type="checkbox"/> Yes <input type="checkbox"/> No Airway Inserted <input type="checkbox"/> Yes <input type="checkbox"/> No Oxygen Given <input type="checkbox"/> Yes <input type="checkbox"/> No Ventilations Assisted <input type="checkbox"/> Yes <input type="checkbox"/> No	CPR Arrest Witnessed <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Fire <input type="checkbox"/> Citizen <input type="checkbox"/> Police CPR Started <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Fire <input type="checkbox"/> Citizen <input type="checkbox"/> Police <input type="checkbox"/> Ambulance <input type="checkbox"/> RN <input type="checkbox"/> Lifeguard Time Started _____	DEFIBRILLATION AED Used On Patient <input type="checkbox"/> Yes <input type="checkbox"/> No Summary Module/Tape <input type="checkbox"/> Yes <input type="checkbox"/> No # Shocks Indicated/Delivered _____ # No Shock Indicated/Check Pulse _____ Signature of AED Operator _____	
OTHER PATIENT CARE: <input type="checkbox"/> Blanket <input type="checkbox"/> Dressing <input type="checkbox"/> Splint <input type="checkbox"/> Cervical Support <input type="checkbox"/> Spinal Board <input type="checkbox"/> Other _____			
Comments _____ _____ _____			

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