**Practice Guideline:**
*Emergency Response: Use of Automated External Defibrillator (AED) for Sudden Cardiac Arrest*

**Guideline Number:**
PCPG11

**Approved By:**
Primary Care Program Management
Community Health Services Leadership Team

**Approval Date:**
PCPMT January 4, 2011
CHSLT September 28, 2011

**Supercedes:**
original

---

1. **PRActICE OUTCOME**
   
   1.1. To provide consistent, optimal, evidence informed response by primary care staff to patients in cardiac arrest.

   **Guiding Principles:**
   - The time between collapse and initiation of both CPR and defibrillation is critical to the patient's survival.
   - Defibrillation is the only way to re-establish the normal beating action of the heart that is in ventricular fibrillation.
   - Reducing the time to CPR and to defibrillation increases the chances of survival.
   - Combined with CPR, the use of an automated external defibrillator (AED) may increase the likelihood of saving a person's life by 75% or more over CPR alone.

2. **DEFINITIONS**

   2.1. Automated External Defibrillator (AED): a portable electronic device that is connected to an individual with electrode pads to automatically analyze a patient's heartbeat and guide the user to correctly deliver an electric shock, and provide instruction on how to proceed following defibrillation.

   2.2. Basic Life Support (BLS): also known as cardiopulmonary resuscitation (CPR); consists of a number of potentially life-saving techniques focused on the CABs (Chest Compressions, Airway, Breathing) of emergency care.

   2.3. Cardiopulmonary Resuscitation (CPR): an emergency procedure involving chest compressions and artificial respiration.

   2.4. Code Blue Training: online WRHA training modules designed to teach WRHA staff Basic Life Support (BLS) tasks including the use of Automated External Defibrillators (AED), CPR< and team management. The online training modules are role-based, self paced/self study courses. These modules can be found on WRHA Insite: http://hscxlxwb0001.hsc.mb.ca/wrha_intranet/cpr See PCOG #13 Code Blue Training for Primary Care Staff for further details.

   2.5. Sudden Cardiac Arrest: occurs when the heart unexpectedly stops beating effectively which means that the heart no longer pumps blood to the brain. Without the oxygen and nutrients supplied by the blood, brain cells begin to die within minutes, and death soon follows. For a few minutes before the heart stops completely, it usually goes into a rhythm called ventricular fibrillation, where it is often possible to shock the heart back into a normal rhythm with a device called an Automated External Defibrillator. Classic signs of pre-cardiac arrest include severe shortness of breath, chest pain, and excessive sweating.
3. GUIDELINES

3.1. Automatic external defibrillators (AEDs) shall be available for use where necessary in WRHA direct operations primary care clinics to allow patient defibrillation within three minutes of identified arrest, or if a patient is discovered following an un-witnessed arrest.

3.2. AEDs are designed to be used by anyone who has access to them.
   - All staff shall familiarize themselves with basic life support and AED use by completing the online Code Blue modules, as outlined in the PCOG# TBA Code Blue training
   - The WRHA regional policy 20.20.210 Cardiopulmonary Resuscitation Training provides details on CPR training.

3.3 AEDs provide automated step-by-step instructions that guide users to safely perform defibrillation on a collapsed, unresponsive patient. The use of an AED is reserved for patients who have all of the following:
   - No response,
   - No breathing,
   - No pulse.

3.5 Operation of an AED
3.5.1 When someone collapses, first assess the safety of the location
3.5.2 Assess the patient’s responsiveness by tapping on the collarbone or shouting.
3.5.3 If unresponsive, call 911 and retrieve the AED and emergency cart.
3.5.4 Assess the patient's breathing
3.5.5 If the patient is unresponsive, not breathing, and no pulse is detected, begin CPR.
3.5.6 Turn on the AED
3.5.7 Place electrode pads correctly on the patient's chest
3.5.8 Ensure that no one is touching the patient and allow the AED to analyze the heart rhythm.
3.5.9 Stay clear of the patient. If required, the AED will advise you to deliver a shock.
3.6.0 The AED will then advise you to continue CPR, and when to clear the patient for analysis a second time.
3.6.1 Follow the AED prompts to deliver another shock or to continue with CPR as appropriate.
3.6.2 Use emergency documentation to note emergency treatment and progress, as detailed in Generalized Emergency Protocol in Primary Care Setting-
   http://home.wrha.mb.ca/prog/primarycare/files/PC_PCOG6_1_000.pdf
4. **EQUIPMENT/ SUPPLIES REQUIRED**

Automated External Defibrillator

- Purchased through logistics; Current contract is for Lifepak CR Plus Defibrillator (catalogue 80403-000177)
- Stocked as part of the emergency cart
- AED must be checked according to manufacturer’s instructions to ensure that it is functional and ready for use. This check must be documented as part of the emergency cart checklist.
- AED must be cleaned and maintained according to manufacturer’s recommendations, consistent with the WRHA Infection Prevention and Control Manual equipment cleaning policies and routine practices, policy No. 09.00.060.
- As part of Emergency Response Training (PCOG6), AED practice should be included as a yearly mock emergency. Complete guideline can be accessed at [http://home.wrha.mb.ca/prog/primarycare/files/PC_PCOG6_000.pdf](http://home.wrha.mb.ca/prog/primarycare/files/PC_PCOG6_000.pdf).

5. **RESOURCES/ QUICK REFERENCE SHEET**

User guide provided with the Lifepak CR Plus Defibrillator

6. **SOURCE/ REFERENCES**

Heart and Stroke Foundation of Canada, Automated External Defibrillations: whose life will you need to save? [www.heartandstroke.ca](http://www.heartandstroke.ca)


WRHA Regional Program Policy 110.050.010 Code Blue Team Resuscitation in Acute Care, June 2008.


WRHA Code Blue Learning Modules

Preparedness for CPR in Primary Care, Scandinavian Journal of Primary Care 22:2, 87-90

7. **PRIMARY AUTHOR**

7.1. Rebecca Neto, Specialist, Primary Care Program

7.2. Dr. Sheldon Permack, Medical Director, Family Medicine-Primary Care Program

8. **ALTERNATE CONTACT**

8.1. Sandra Mann, Primary Care Program Specialist