

Fairfield Harbour Yacht Club (FHYC) Medical Emergency Response Plan (MERP):**Basic Life Support and Automated External Defibrillator (AED)****New Bern, North Carolina November 19, 2014**

1. Purpose: The FHYC Medical Support committee provides information and education about health and safety issues related to boating. These include but are not limited to first aid and supplies, Basic Life Support with use of an AED, and safe boating issues such as survival in a “man overboard” situation. This MERP outlines the FHYC AED program.
2. General Provisions: This MERP follows the guidelines published on the American Heart Association (AHA) website at <http://www.americanheart.org> in the “AED Public Access to Defibrillation (PAD Program),” found under the “CPR & ECC” section, which is further subdivided into “Workplace Training.” The goal is to provide access to defibrillation to gatherings of people with medical conditions or risk factors that predispose them to sudden cardiac arrest (SCA) emergencies, which might occur at a FHYC function. This is part of a “Chain of Survival” that has four links: Early Access (phoning Emergency Medical Services [EMS], usually via 911 access); Early CPR (starting cardiopulmonary resuscitation immediately after cardiac arrest occurs); Early Defibrillation (defibrillating within 3-5 minutes after SCA); and Early Advanced Care (care by trained healthcare providers). The components of the FHYC AED program include medical oversight and quality improvement, notification of local EMS, maintenance of the AED, and training of on-site responders in CPR and use of the AED. AED programs are included under national Good Samaritan laws and the federal Cardiac Arrest Survival Act (CASA).
3. Medical and Program Oversight: Medical oversight is provided by a physician who will write the site prescription for the AED, and offer leadership and medical expertise as the program is implemented; the physician may continue ongoing guidance and support as needed. Program oversight may be provided by other medical professionals; this program oversight includes implementation of the program and program procedures, review of local and state regulations, advocacy for the program, and medical support and supervision. The medical professionals will develop a quality review and improvement plan.
4. Notification of Local EMS: To enhance public safety, the FHYC AED program is registered with the North Carolina Office of Emergency Medical Services in the Department of Health and Human Services by the seller of the AED as per statute, and the FHYC AED program will be coordinated with local EMS. Issues to be discussed with local EMS include location and use of the device including assignment by event priority, plans for transfer of patient care including transfer from an on-water area, and sharing of event data.
5. Maintenance of the AED: The FHYC AED will be stored in an unsecured location in the guardhouse at the northern gated entrance to Fairfield Harbour on Cassowary Drive. The

- AED will be checked periodically, usually every 30 days, for pad expiration and general well-being of the unit including observation of the status of the self-checking feature for internal operation and battery status. The AED will be transported to FHYC events by the event coordinator. In the case of events that conflict, priority of AED assignment will be by the pre-determined FHYC AED priority list (see Appendix E). First-responders trained in use of the AED should be present at the event, in reasonable proximity of the device to afford defibrillation within 4 minutes of a victim's collapse. Should the AED be used at an event, EMS will be activated via the 911 (or other, depending on location) system, and at a suitable time, an officer of the Bridge will be notified to facilitate post-event review and quality control and to assure that post-event cleaning, checking, and restocking of the device occurs. The officer of the Bridge will ascertain that either a FHYC member familiar with AEDs and with access to Appendices A and D ("Maintenance of the AED" and "Post-Event Review," item #1) will perform post-use maintenance, or will contact a member of the FHYC Medical Support committee to arrange for this on-site post-event maintenance.
6. Training Plan for On-site Responders for CPR-AED: The AHA recommends that as many trained first-responders as possible have access to defibrillators; all FHYC members willing to respond to cardiac emergencies may undertake training to become part of the FHYC AED program. Initial training such as by the AHA's *Heartsaver AED* or by the American Red Cross in *Adult CPR* and *AED-Adult* will include: recognition of warning signs of heart attack or SCA; how to respond in an emergency; activation of the local EMS; performance of 1-rescuer CPR; how to determine if the AED should be used and how to use the AED; safety procedures for the AED user and bystanders; and unusual situations such as a victim lying in water or with an implantable defibrillator. Re-training will be as per the recommendations of the AHA or Red Cross, which is usually every 2 years for the AHA and every 1 year for the Red Cross courses. Skills may be reviewed at more frequent intervals as desired. The Medical Support committee will seek suitable training opportunities at the lowest cost for FHYC participants.
 7. Documentation of Procedures: The chair of the FHYC Medical Support committee will maintain a list of members with current and past training in CPR and AED use, and records of periodic on-site maintenance checks of the device and scheduled off-site servicing per the manufacturer's recommendation.
 8. See Appendices A to E for procedures for (A) maintenance of the AED, (B) notifying EMS, (C) transferring care to EMS, (D) post-event review if the AED is used and (E) FHYC AED event priority list.

Appendix A: Maintenance of the AED:

1. The current AED purchased by FHYC is a HeartStart “Home Defibrillator” manufactured by Philips Medical Systems, Product Line HS1, Model M5068A, serial number A05C-02381, acquired April 4, 2005. In March 2010 the AED was updated to conform to AHA revisions in CPR and AED protocols; the update changed defibrillation energies and timing, and revised the verbal CPR instructions for rescuers using the AED. Text on the AED device casing specifies “55+ pounds/25+ kg;” special Infant/Child pads are necessary for use with children <8 years of age or <55 pounds in weight. Customer Support is available Monday through Friday, 8am-5pm EST at 1-866-333-4246 (1-866-DEFIBHOME) or via www.HeartStartHome.com. The manufacturer should be contacted with any malfunction or low battery warning (both problems signaled by a “chirp” emitted by the AED and also noted by absence of the blinking green “Ready” light that is usually visible in the glass window in the upper right front corner of the red-orange case or on the AED itself). The AED should be stored between 50-109 degrees Fahrenheit.
2. Monthly checks include confirming that the AED is present in its usual red-orange case, clean, and without evidence of damage to its case or the device casing. Then open the case and check for presence of:
 - a. the blinking of the small horizontal green “Ready” light, visible through a clear window in the AED’s red-orange case or on the AED itself in the upper right corner; this indicates that the defibrillator has passed its latest self-tests (which occur daily if the battery is in place) and that the AED is ready for use; if this blinking light is not present or the device is “chirping,” the manufacturer should be contacted;
 - b. the defibrillator pads in their “SMART Pads cartridge” (visible in the clear section of the AED’s front casing), including their *expiration date* (pads generally last 2 years if unopened);
 - c. in the case pocket, in the front flap: scissors to remove clothing if necessary and two instruction manuals, a “Quick Reference Guide” with diagrams and instructions about how to use the AED on a victim and an “Owner’s Manual” about the device;
 - d. underneath the AED, in a plastic bag: disposable gloves (for personal protection of a rescuer) and disposable razor (to facilitate good contact of defibrillator pads);
 - e. possibly other items, which may be available on-site in the community: a pocket mask or face shield, and a towel or absorbent wipes for drying the chest before placement of defibrillator pads; and finally, importantly,
 - f. on the back of the device: note that the 9 Volt lithium battery is in place, including its *expiration date* (generally lasts 4 years if in “Standby” mode, or if used: 3 hours or

can give up to 90 shocks); the battery is not rechargeable and self-tests daily; when the battery power is low, the AED will “chirp.”

3. To gain familiarity with the device, the indicator lights and buttons on the HeartStart “Home Defibrillator” may be reviewed by the AED user while checking the device, using either the “Owner’s Manual” or the abbreviated guide below. Lights and buttons are described from top to bottom; see also pages 19-22 of the “Owner’s Manual.”
 - a. Flashing green “Ready” light: This small horizontal green light flashes when AED is on “Standby,” and is on continuously when the AED is in use; this light can be viewed in the top right corner of the AED hard casing or through the clear window of the red-orange case.
 - b. Green “On-Off” button: Hold this button down for 1 second to turn the AED on or off; the AED will also turn on if the handle around the defibrillator “SMART Pads cartridge” is pulled to gain access to the defibrillator pads.
 - c. Blue “Information” button: Pressing this button will trigger verbal instructions by the “Heart Smart Home Defibrillator.”
 - i. If the handle for access to the defibrillator pads is pulled, the AED will spontaneously state actions to be taken (no button pushing necessary).
 - ii. If you are advised to start CPR, this blue button will flash; pushing this flashing button will give you verbal instructions in CPR.
 - iii. After EMS arrives, if the blue button is held down ~2 seconds until beeps are heard, the AED can report numbers of and when shocks were given (more detailed reports of device use may be obtained with computer programs).
 - iv. If the device is “chirping,” the blue button will flash, indicating possible device malfunction; pressing this blue button will give instructions about what to do next.
 - d. Triangular yellow “Caution” light: This yellow light flashes when the AED is analyzing the victim’s heart rhythm; no one should touch or move the victim because movement interferes with the AED’s analysis of the heart rhythm, which is what determines the need for a shock; vehicles must stop during rhythm analysis.
 - e. Orange “Shock” button: This orange button flashes when a shock is needed; when a shock is advised, make sure that no one is touching the patient, and then press this orange button for defibrillation; after administering the shock, the AED will re-analyze the heart rhythm to see if another shock is needed; the AED will then issue verbal instructions about further treatment.

August 19, 2008 Written by Kathie King MD and reviewed by the FHYC Medical Support committee (Bill Davidson; Donna Getkin BSN, RN; Olwen Jarvis; Bob Petritsch EMT; Charlie Rist, Chair, Medical Support committee)

Appendix B: Notification of EMS:

Notify EMS via the 911 system if the AED is used, if someone is unresponsive, or if someone needs medical assistance or transport for emergency care; this may be done by anyone, immediately.

June 14, 2008 Written by Kathie King MD and reviewed by the FHYC Medical Support committee (Bill Davidson; Donna Getkin BSN, RN; Olwen Jarvis; Bob Petritsch EMT; Charlie Rist, Chair, Medical Support committee)

Appendix C: Transfer of Care from FHYC AED program to EMS*:

As soon as any EMS provider arrives at the scene, they will assume responsibility for basic and other care, to the level of their training. When EMS arrives, FHYC members or others on the scene should report observations about the victim, assistance provided to the victim, and the victim's response to this assistance; FHYC members or others on the scene are encouraged to communicate their level of training in CPR, AED, or other medical or professional education, and to assist EMS as directed by EMS providers.

**Note that HeartStart defibrillator pads should be removed before another defibrillator is used; the HeartStart pads plug into the AED when the "SMART Pads cartridge" is snapped into place, but EMS will need pads that connect to their defibrillator via a different plug system; do not detach the HeartStart pads until directed by EMS and when their defibrillator is present.*

June 14, 2008 Written by Kathie King MD and reviewed by the FHYC Medical Support committee (Bill Davidson; Donna Getkin BSN, RN; Olwen Jarvis; Bob Petritsch EMT; Charlie Rist, Chair, Medical Support committee)

Appendix D: Post-Event Review (if the AED is used):

After use of the AED, the following should occur:

1. Putting the AED back in service: This includes checking and replenishing supplies, cleaning and disinfecting the AED, checking the AED for signs of damage, and returning the AED to its usual place of storage (or use, if at a FHYC event). The AED should be cleaned with a soft cloth dampened with soapy water, a chlorine bleach solution (2 Tbsp per quart of water), or an ammonia-based cleaner; do not use alcohol, rough materials or cleaners, or strong solvents.
2. Evaluate MERP: Discuss events with the responders to the emergency. This includes evaluation of response time (times to activation of 911, defibrillation, and arrival of EMS), and information about actions performed according to the MERP and actions that can be improved. At this time, improvements in the MERP may be identified and incorporated, publicized, and practiced.

3. Debrief responders: Allow responders to discuss events and voice fears in a non-threatening environment; provide emotional support as necessary.
4. Monitor outcome: Discuss events with EMS and incorporate information to responders about outcome as allowed by HIPAA (privacy) policies.

June 14, 2008 Written by Kathie King MD and reviewed by the FHYC Medical Support committee (Bill Davidson; Donna Getkin BSN, RN; Olwen Jarvis; Bob Petritsch EMT; Charlie Rist, Chair, Medical Support committee)

Appendix E: FHYC AED Event Priority List: The FHYC AED is one of four essential components in the “Chain of Survival” (Early Access, Early CPR, Early Defibrillation, and Early Advanced Care); access to all steps maximizes the probability of successful resuscitation from SCA. The AED is not a “stand-alone” treatment. This event priority list is designed to provide access to the AED to the largest gatherings of people participating in FHYC events who are in the closest proximity to the EMS system and further treatment; hopefully, this will provide “the most good for the most people.” Priority of events is listed in declining order.

1. Land-based FHYC functions such as meetings, parties, etc.
2. Local sailing and dinghy races, raft-ups, and day and overnight cruises; for races, AED will be carried on the chase boat and a person with training in CPR-AED who can be picked-up by chase boat if needed will be identified; for all other water-based events, the AED will be placed on a boat with a person with CPR-AED training.
3. Cruises outside of New Bern, primarily at marinas.
4. Cruises with out-of-the-way marinas and anchorages.

June 14, 2008 Written by Kathie King MD and reviewed by the FHYC Medical Support committee (Bill Davidson; Donna Getkin BSN, RN; Olwen Jarvis; Bob Petritsch EMT; Charlie Rist, Chair, Medical Support committee)

November 19, 2014 MERP including all appendices revised by Kathie King MD, and reviewed by the FHYC Medical Support committee (Patty Ohrum MD; Linda Azersky RN; Steve Dark, Chair, Medical Support committee)