

**HACKETTSTOWN REGIONAL MEDICAL CENTER
NURSING POLICIES
DEFIBRILLATION (EXTERNAL)**

Effective Date: March 5, 2002
Cross Referenced:
Reviewed Date: 4/04, 12/10
Revised Date: 10/2015

Policy No: 8620.205
Origin: Department of Nursing
Authority: Chief Nursing Officer
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SCOPE

All nurses

PURPOSE

To define the nursing role in external defibrillation and to outline management of patient's own external defibrillator.

DEFINITIONS

- I. Defibrillation –is a process in which an electronic device sends an electric shock to the heart to stun the heart and terminates electrical activity. The heart's normal pacemaker may eventually resume electrical activity, the return of spontaneous rhythms that results in a perfusing rhythm. The earlier the defibrillation the higher the survival rate.
- II. Automatic External Defibrillator (AED)- is a portable electronic device that automatically diagnoses the life threatening cardiac rhythm. It is able to prompt the user to treat the rhythm through defibrillation or prompts the user to continue CPR.
- III. QuikCombo pad- a prepackaged pad/conductive medium that is compatibility to use with hospital defibrillators
- IV. Conductive medium- enhances electric conduction through subcutaneous tissues, decreases transthoracic resistance and assists in minimizing burns from electric current.
- V. Life Vest- external automatic defibrillator wearable vest wore outside the body by the adult patient.

POLICY

It is HRMC policy to have emergency equipment for defibrillation available for both adult and pediatric patients and to provide safe guidelines for usage.

PROCEDURE

I. General Guidelines

- I. Defibrillator paddles such as quik combo pads or pregelled conductive pads must be used with hard paddles; no direct skin contact with defibrillator pad and patient's skin.
 - A. Use adult paddles (8-13 cm) for patients >10kg with pregelled conductive pads, or adult quik combo pads
 - B. Use pediatric paddles (4.5cm) for patients < 10kg with pregelled conductive pads, or pediatric quik combo pads
- II. Emergency equipment will be available during the procedure, such as cardiac board, suction and airway equipment.
- III. The policy goal for defibrillation is to restore coordinated electric and mechanical pumping action, resulting in restored cardiac output, tissue perfusion and oxygenation.

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- IV. Avoid placing paddles over nitroglycerin patches, over the generators of permanent pacemakers, and over the generator of automatic internal cardioverter defibrillators (AICD).
- V. Call "all clear" to maximize safety to self and caregivers because electric current can be conducted from the patient to another person if contact occurs.

II. ADULT DEFIBRILLATION

1. Assess patient to be unconscious, breathless and pulseless.
2. Call Code Blue, according to protocol.
3. Initiate ABC'S until defibrillator arrives.
4. Once defibrillator arrives, prepare the patient or paddles, or both with proper conductive agent (either pregelled conductive pads, quick combo pads).
5. Ensure that the defibrillator cables are positioned to allow for adequate access to the patient.
6. If the Code Team is not present at time of defibrillator arrives, use the AED mode and follow prompts until Code Team arrives.
7. Turn on defibrillator. Turn on ECG recorder for continuous printout.
8. If not done already, place one-paddle OR quik-combo pads at the heart's apex just to the left of the nipple in the midline axillary line. Place the other paddle just below the right clavicle to the right of the sternum. Alternative placement locations include the following anterior-left precordium/posterior behind the heart in the right infrascapular region, or anterior-left apex/posterior behind the heart in the right infrascapular region.
9. Charge defibrillator pads as prescribed or in accordance with ACLS
Recommendations of the American Heart Association follow AED prompts.
10. Any one with a current BLS card can operate the AED mode of the defibrillator and follow prompts. Any RN with current ACLS certification can be able to defibrillate using manual operation of the defibrillator.
11. Apply 25-lb/in pressure to each paddle against chest wall heart, if not using hands free set.
12. State all clear or similar wording three times and visually verify that all personnel are clear of contact with patient, bed and equipment. This includes the O2 source.

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13. Verify that the patient is still in ventricular fibrillation or pulseless ventricular tachycardia.
14. Depress both buttons on the paddles simultaneously and hold until defibrillator fires, or press shock” button if using hands-free defibrillation in the defibrillation mode, there will be an immediate release of the electric charge.
15. If unsuccessful, follow with CPR and AHA guidelines for ACLS.
16. If successful, obtain vital signs and continue to monitor patient.
17. Turn off defibrillator then clean defibrillator and remove any gel. If hands-off defibrillation electrodes were used; evaluate the placement and integrity of electrodes.
18. Discard used supplies and wash hands.

III. PEDIATRIC DEFIBRILLATION: 1-8 years

Note: The same procedure is used with the following exceptions: Call a Code White

- 1 Energy Level:
 - a. Initial dose, 2 joules/kilogram
 - b. If unsuccessful, 4 joules kilogram there after
2. Paddles/Pads use largest paddles or self –adhering electrode pads that will fix on the chest wall without touching.
 - a. >10kg (approximately > 1 year old age-large “adult” paddles (8-13 cm)
 - b. <10kg (under 1 year old-small infant paddles (4.5cm)
 - c. Quik combo pads pediatric if < 25kg
3. Placement
 - a. Place the paddles/electrodes pads so that the heart is between them
 - b. Place one paddle on the upper right side of the chest below the clavicle and the other to the left of the left nipple in the anterior axillary line directly over the heart.
 - d. Make sure the paddles/electrodes pads do not touch. Allow at least 3 cm between paddles

III. DOCUMENTATION:

1. Document all rhythms and energy used, patient rhythm and circulatory response to defibrillation on the cardiac arrest flowsheet.

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IV. LIFE VEST

1. Patients may be fitted for Life Vest prior to discharge. The vest will be placed on the patient immediately prior to discharge, and the hospital monitor unit will be removed.
2. Patients that arrive at the hospital for treatment will have the Life Vest removed and sent home with designated family member.
3. While the patient is receiving care in the hospital, the hospital monitoring equipment will be used and if needed hospital defibrillator will be used to treat life threatening arrhythmias.

Reference:

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3. American Heart Association. "Pediatric Defibrillation". Pediatric Advanced Life Support Provider Manual. 2006. p.168- 170
4. Zoll Medical Corporation 2015. downloaded 9/23/15 <http://www.lifevest.zoll.com>