Olive View-UCLA MEDICAL CENTER

COUNTY OF LOS ANGELES
DEPARTMENT OF HEALTH SERVICES

Policy Title:	**DEFIBRILLATION, EXTERNAL (ADULT AND PEDIATRIC)**		
Category:	1 - Provision of Care	**Policy No.:**	137
Originally Issued:	1/1/1990	**Update (U)/Revised (R):**	12/7/2018
Distribution:	**Hospital-Wide** ☒	**If not Hospital-Wide, Other:**	

PURPOSE:

To provide a guideline for performing defibrillation.

DEFINITION(S):

Defibrillation is emergency therapy in which a non-synchronized, direct current is delivered to the myocardium. The expected outcome is depolarization of a critical mass of myocardial muscle fibers and establishment of a single source of impulse generation. Defibrillation is indicated for treatment of ventricular fibrillation (VF), pulseless ventricular tachycardia (VT) and unstable polymorphic ventricular tachycardia (irregular) with or without pulse.

POLICY:

External defibrillation may be performed by a physician trained in the procedure or a Registered Nurse certified in ACLS. A pediatric patient may only be defibrillated by a physician. A Code Blue is initiated by calling extension 114 and stating the location of the patient and if the code is pediatric.

EQUIPMENT LIST:

Defibrillator Monitor Recorder
Conductive medium (follow manufactures' recommendations for use as indicated)

- Conduction gel to paddles
- Conduction pads to appropriate anterior thorax locations
- Quik-Combo electrodes for LifePak 9, 9P, 10, 12*
- STAT PADZ for the Zoll M Series *
    - Emergency Cart
    - Airway resuscitation equipment
    - Suction equipment

Note: Quik-Combo electrodes and STAT PADZ may be used for anterior and anterior posterior placements.

PROCEDURE:

I. PREPARE FOR DEFIBRILLATION

Note: Competence in defibrillation requires unit-based training on the specific device utilizing manufacturer's recommendations for use and ACLS/PALS guidelines and Certification. The 2010 American Heart Association (AHA) Guidelines and recommendations take precedence over other sources of information.

1. Verify VF, pulseless VT or polymorphic VT on the monitor.

2. Determine pulselessness if VF or VT

3. Turn on the monitor recorder
   - If defibrillator is not immediately available, initiate CPR using CAB 2010 guidelines until defibrillator is available.

4. Apply either conductive gel to paddles, conductive gel pads to patient's chest wall or "adhesive pads" (Quik-Combo Pads (LifePak) or STAT PADZ (Zoll). Adhesive pads are preferred.
   - Conductive medium decreases transthoracic resistance and decreases the chance of skin burns. Caution: Excess gel may cause electrical arching and burns, especially if between the two anterior locations.

     Never use alcohol-soaked pads, which are combustible or saline soaked gauze which are too liquid and often electrically arch and burn patient

5. Set initial energy level to:

   Adult: 360 joules if monophasic. If biphasic, manufacturers' recommendations (120-200 joules). If unknown, use maximum available. Subsequent doses should be equivalent, and higher doses may be considered.

   Pediatrics: Initial dose 2 joules/kg (2-4 joules/kg acceptable); subsequent doses 4 joules/kg or higher (not to exceed 10 joules/kg or standard adult dose). Use largest adhesive pads or paddles that can fit on the patient's chest that do not touch each other.

   "Synch" button must be turned **off**.

6. When using paddles place firmly on the chest wall.
   - Requires 15-25 lbs/sq.inch pressure for each paddle.
   - **Standard placement:** (Anterior-apex) Sternum paddle is placed on the right anterior chest wall. Apex paddle is placed in the left axillary position.

- **Alternate placements:** Anterior/posterior; anterior/left infrascapular; anterior/right infrascapular.
- **Permanent pacemaker or implanted defibrillator/cardioverter:** Do not place paddles/adhesive pads directly over these devices

II. DEFIBRILLATION

1. Charge the paddles by depressing the “charge” button.
   - The “charge” buttons are located on the defibrillator if using adhesive pads. Paddles may have a charge button on the paddle itself.
   - Confirm persistent VF or VT on the monitor.

2. Announce, “charging defibrillator”; when fully charged state in a firm chant, such as “I am going to shock on three” then count and say “all clear”. Compressions should be performed up to this chant and resumed immediately after the shock is given
   - Make sure bag/valve/mask or disconnected ventilator tubing is not causing oxygen to flow across the chest.
   - Electrical current may be transferred to bystanders through the patient, bed, equipment, or on linen when patient incontinent.

3. Immediately begin 5 cycles of 30:2 (about 2 minutes). Then assess monitor for an organized rhythm and if there is a pulse.

III. DOCUMENTATION

1. Code Blue Record (OV-2115)
   - ECG rhythm strips including initial rhythm, significant changes in rhythm throughout procedure, and termination rhythm.

2. Progress Notes
   - Event/procedure notation to include reason for defibrillation.
   - Patient’s response/outcome and disposition.
   - Family notification.

ATTACHMENTS/FORMS:

None

REFERENCE(S)/AUTHORITY:

Lynn-McHale Wiegand, D. & Carlson, K. (2005). AACN Procedure Manual for Critical Care (5th Ed.). St. Louis, Missouri: Elsevier, Inc.

2010 American Heart Association Guidelines for CPR and ECC. Supplement to *Circulation*.

Nov. 2010, Vol. 122, Issue 18, Supplement 3, Part 6: Electrical Therapies.

2010 Handbook of Emergency Cardiovascular Care for Health Care Providers. American Heart Association. Dallas, Texas.

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