

**VALLEYCARE**  
**OLIVE VIEW-UCLA MEDICAL CENTER/HEALTH CENTERS**  
**POLICY & PROCEDURE**

**NUMBER: 1030**  
**VERSION: 1**

**SUBJECT/TITLE:    TEMPORARY TRANSCUTANEOUS (EXTERNAL) PACING (TCP)**

<b>POLICY:</b>	Temporary Transcutaneous Pacing (TCP) will be available to implement emergency cardiac pacing and maintain cardiac output until definitive treatment can be implemented.
<b>PURPOSE:</b>	<p>Transcutaneous Pacing is most commonly used to stimulate the myocardium to depolarize and contract when the intrinsic rate is too slow. The goal is an adequate cardiac output and blood pressure to ensure tissue perfusion to vital organs. Indications for Transcutaneous Pacing include:</p> <ul style="list-style-type: none"> <li>• Symptomatic bradycardia.</li> <li>• Temporary bridge in the presence of long-term pacemaker failure, revision, or replacement before placement of temporary transvenous pacemaker.</li> <li>• Temporary bridge in the presence of Type II second-degree atrioventricular (AV) block or third degree AV block before placement of temporary transvenous pacemaker.</li> <li>• Cardioactive drug toxicity.</li> <li>• Anesthesia induced bradycardia.</li> </ul>
<b>DEPARTMENTS:</b>	<b>Nursing, Medicine</b>
<b>DEFINITIONS:</b>	Transcutaneous pacing (TCP) is a method of stimulating myocardial depolarization through the chest wall via (2) large pacing electrodes. The electrodes are attached by a cable to an external pulse generator that houses the pacemaker controls.
<b>EQUIPMENT LIST:</b>	<ul style="list-style-type: none"> <li>• External Pacing Generator and Monitor Unit: LifePak “9-P”, “10”, “12-P Biphasic” and Zoll M Series.</li> <li>• Set of (2) Quik-Pace electrodes if using the LifePak “10.”</li> <li>• Set of (2) Quik-Combo electrodes if using LifePak “9P” or “12”</li> <li>• Pacing cable.</li> <li>• Set of (2) “STAT PADZ” if using the Zoll M Series</li> </ul>

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**PROCEDURE:**

**Note: Competence in TCP requires Unit based training on the specific device utilizing manufacturers' recommendations for use and ACLS/PALS training and Certification. 2010 American Heart Association (AHA) Guidelines and recommendations take precedence over other sources of information. When indicated seek expert consultation in the care of a patient with a symptomatic bradycardia.**

**STEPS/KEY POINTS:**

1. Wash hands.
2. Turn on pulse generator and monitor.
3. Prepare the skin by washing with soap and water and trimming body hair with scissors, if necessary and as time allows. Dry the skin thoroughly.
4. Apply electrodes based on package recommendations.
5. Connect pacing electrodes to cable and connect to the TCP.
6. If patient is conscious, consider administering sedation/analgesic before initiating pacing
7. Set pacemaker settings as prescribed by the physician or ACLS/PALS nurse, including rate, level of energy (output, mA), and mode (demand/synchronous, non-demand/asynchronous).
8. Initiate pacing by slowly increasing the energy level (mA) delivered until consistent capture occurs at the prescribed rate. This is the threshold.
9. Palpate patient's femoral pulse and if pulse detected obtain blood pressure.
10. Evaluate patient for response to treatment and comfort. Obtain EKG recording and vital signs.
11. Evaluate patient comfort and response to treatment including: ECG recording, vital signs, level of consciousness and level of pain. Assess skin integrity after the electrodes are removed.

**EDUCATION:**

Discuss basic facts about the external pacemaker with patient/family including:

- Reason for pacemaker.
- Let family know that the patient is safe to touch
- What to expect during and after the procedure.
- Describe the potential sensations the patient may experience such as pain and involuntary muscular contractions.
- Discuss possible interventions to alleviate the pain.

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	<p><b>DOCUMENTATION:</b></p> <ul style="list-style-type: none"><li>• Document use of External Pacemaker, settings utilized and the patient’s response to treatment/intervention</li><li>• Document patient/family teaching on Multidisciplinary Education Form.</li></ul>
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<p>References:</p> <p>Lynn-McHale Wiegand, D. &amp; Carlson, K. (2005). <u>AACN Procedure Manual for Critical Care</u> (5<sup>th</sup> Ed.). St. Louis, Missouri; Elsevier, Inc.</p> <p><u>2010 American Heart Association Guidelines for CPR and ECC</u>. Supplement to <i>Circulation</i>. Nov. 2010, Vol. 122, Issue 18, Supplement 3 Part 6: Electrical Therapies.</p> <p><u>2010 Handbook of Emergency Cardiovascular Care for Health Care Providers</u>. American Heart Association. Dallas, Texas.</p>	
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