

**MEHLVILLE FIRE PROTECTION DISTRICT  
EMERGENCY MEDICAL SERVICES  
GUIDELINES FOR PREHOSPITAL EMERGENCY CARE**

**SUBJECT: 700.11  
CARDIAC EMERGENCIES:  
PACING (TRANSCUTANEOUS/  
EXTERNAL)**

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**Overview:** The use of the transcutaneous pacemaker is a non-invasive, easy and rapid method for treating certain cardiac rhythm disturbances. With transcutaneous pacing, an impulse is delivered across the chest wall to electrically stimulate the myocardium.

**Contraindications (Relative):**

1. Severe hypothermia.
2. Bradysystolic cardiac arrest of > 20 minutes in duration).
3. Rarely required in pediatric cardiac arrests since airway management with appropriate ventilation support may treat these situations.

**Procedure:**

- Universal cardiac care.
- Follow manufacturers guidelines for electrode placement.
- For bradycardia, set rate at 80, demand mode, and increase milliamperes from minimum setting until consistent capture is achieved (characterized by a widening QRS and a broad T wave after each pacer spike). Then add 2mA for safety margin.
- For bradysystolic cardiac arrest, set rate at 80, asynchronous mode, and begin at full output (mA). If capture occurs, slowly decrease output until capture is lost (threshold). Then add 2mA for safety margin.
- Carefully monitor EKG for achievement of capture (i.e.: pacemaker spike followed by QRS complex) patient status and patient tolerance to procedure.
- Consider sedation if authorized by Medical Control.
- Document initial EKG rhythm, vital signs before and after pacing, EKG rhythm after pacing, and pacer settings (rate and current).

**Complications:**

- Pain from electrical and muscle stimulation. (Degree varies with device used and amount of current need for capture).
- Tissue damage (i.e.: burns)
- Induction of dysrhythmias.

**Note:** There is not risk of electrical injury to the health care provider during transcutaneous pacing. CPR and other treatment modalities may be performed during transcutaneous pacing. Direct contact with the active pacing surface of the electrode may result in a mild to moderate shock, while contact over the insulated surface of the pacing electrode will not cause a shock.

**STANDARD PRECAUTIONS MUST BE OBSERVED.**