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| COUNTY OF VENTURA HEALTH CARE AGENCY | | EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES | |
| Policy Title: Transcutaneous Cardiac Pacing | | Policy Number: 727 | |
| APPROVED: Administration: |  Steven L. Carroll, EMT-P | Date: December 1, 2017 | |
| APPROVED: Medical Director |  Daniel Shepherd, MD | Date: December 1, 2017 | |
| Origination Date: | December 1, 2008 | Effective Date: December 1, 2017 | |
| Date Revised: | October 12, 2017 | | |
| Date Last Reviewed: | October 12, 2017 | | |
| Next Review Date: | October 31, 2019 | | |

- I. PURPOSE: To define the indications, procedure and documentation for the use of transcutaneous cardiac pacing by paramedics
 - II. AUTHORITY: Health and Safety Code, Sections 1797.220 and 1798. California Code of Regulations, Title 22, Sections 100145 and 100169.
 - III. POLICY: Paramedics may utilize transcutaneous cardiac pacing (TCP) on adult patients (age > 12) in accordance with Ventura County Policy 705 – Symptomatic Bradycardia, Adult.
 - IV. PROCEDURE:
 - A. Training: Prior to using TCP the paramedic must successfully complete a training program approved by the VC EMS Medical Director, which includes operation of the device to be used.
 - B. Indications: Symptomatic bradycardia (heart rate <45 with one or more of the following signs or symptoms):
 1. Altered level of consciousness
 2. Chest pain
 3. Abnormal skin signs
 4. Profound weakness
 5. Shortness of breath
 6. Hypotensive (Systolic BP < 90mm Hg)
 - C. Contraindications:
 1. Absolute
 - a. Asystole
 2. Relative:
 - a. Hypothermia – patient warming measures have precedence. (Base Hospital contact required).
 - D. Patient Treatment
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1. Patient assessment and treatment per 705: Bradycardia treatment protocol. If IV/IO access not promptly available, proceed to pacing.
2. Explain procedure to the patient.
3. Place pacing electrodes and attach pacing cable to pacing device per manufacturer's recommendations.
4. Set pacing mode to demand mode, pacing rate to 70 BPM, and current at 40 milliamps (mA), or manufacturer recommendation.
5. If required, provide patient pain relief. Patients with profound shock and markedly altered level of consciousness may not require pain relief
6. Activate pacing device and increase the current in 10 mA increments until capture is achieved (i.e., pacemaker produces pulse with each paced QRS complex).
7. Assess patient for mechanical capture and clinical improvement (BP, pulses, skin signs, LOC).
8. Continue monitoring. Contact base for further orders if patient symptoms are not resolving (consideration for dopamine, further alteration of pacer settings) or if further pain control needed, orders are required.

NOTE: Patients with high grade AV block (second degree type II or third degree block) who do not have symptoms do not require pacing. However, equipment should be immediately available if symptoms arise. Patients with symptoms who respond initially to atropine should have pacing equipment immediately available.

E. Documentation

1. The use of TCP must be documented.
 2. Vital signs must be documented every 5 minutes.
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