



# County of Santa Cruz

## HEALTH SERVICES AGENCY

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EMERGENCY MEDICAL  
SERVICES PROGRAM

Protocol No. C3-P  
April 1, 2012

### Emergency Medical Services Program

Approved

Medical Director

Subject: VENTRICULAR FIBRILLATION / PULSELESS VENTRICULAR TACHYCARDIA

#### I. BLS Treatment Protocol:

- A. Treat life threats (See Policy 4000)
- B. Prepare for transport/ transfer of care.
- C. A precordial thump may be employed to treat confirmed witnessed ventricular fibrillation/pulseless ventricular tachycardia only when a defibrillator is not immediately available.

#### II. ALS Treatment Protocol:

- A. Treat life threats (See Policy 4000)
- B. Cardiac monitor- defibrillate at 2J/kg.
- C. Epinephrine 0.01mg/kg 1:10,000 IV/IO (0.1 ml/kg) 1mg IVP/IO.
- D. Defibrillate at 4J/kg.
- E. Lidocaine 1mg/kg IV/IO. Continue Lidocaine dose maximum 3mg/kg total infused.
- F. Continue to defibrillate at 4J/kg every two minutes.
- G. If the patient remains unresponsive to treatment despite the thorough implementation of this protocol, paramedics may consider making a field determination of death as outlined in Policy 1140.
- H. When transporting, contact receiving hospital as soon as possible.
- I. If a return of spontaneous circulation (ROSC) is achieved, paramedics should follow the following guidelines for post-arrest management:
  - **Maintain O2 saturations (SpO2) at 95% or better using the lowest concentration of O2 possible.** If the patient has high O2 saturations, titrate O2 concentration to the lowest concentration necessary to achieve this saturation level. Ventilation on room air is optimal if saturations can be maintained.
  - **Ventilate the patient 10-12 breaths per minute to achieve an end tidal CO2 of 35 – 45 mmHg. Avoid hyperventilation!**

- **Maintain a minimum systolic BP of 90 mmHg.** Use IV fluids and dopamine starting at 5 – 10 mcg/kg/minute to a total of 20 mcg/kg/minute to achieve this. If the patient's BP is 100 systolic or higher, there is no need for any further circulatory support.
- **Manage post-arrest arrhythmias as needed.**
- **Obtain a 12 lead ECG and transmit as indicated.** Crews in South County should contact Dominican Hospital before transporting a post-arrest STEMI patient north as transport to Watsonville Community Hospital may be more appropriate.

Notes:

- Certain patients in ventricular fibrillation are more likely candidates for transport – for example, patients who are hypothermic, drug overdoses, or who have been electrocuted.
- Cardiac arrest in known dialysis patients: paramedics may administer sodium bicarbonate 1 mEq/kg IV/IO along with calcium chloride 20 mg/kg IV/IO to those patients currently receiving dialysis in order to treat possible hyperkalemia.