



EMSIA OF SANTA CRUZ COUNTY
EMERGENCY MEDICAL SERVICES INTEGRATION AUTHORITY



**Santa Cruz County
Emergency Medical Services Program**

**Core Principles
For
Managing Cardiac Arrest
2012**

Rule #1

The initial emphasis in managing cardiac arrest patients is in establishing circulation via high quality, uninterrupted chest compressions.

- During the resuscitation attempt no pauses of greater than 5 seconds should ever occur, if possible.
- 100 compressions/minute with full recoil
- Switch compressors every 2 minutes when possible

Rule #2

Defibrillation should be attempted as soon as possible during the resuscitation.

- Patients who develop ventricular defibrillation while being monitored may be immediately defibrillated. "Off the chest" time should only occur during the actual defibrillation of the patient.

Rule #3

Continuous compressions and defibrillation are more important than ventilation, vascular access, and medications.

Rule #4

Modest, interpolated ventilation should be administered on every 10th compression upstroke.

- Choice of adjuncts for ventilation should be based on the specific needs of the patient. Endotracheal intubation is still the optimal airway, especially if a ROSC is achieved.

Rule #5

Vascular access may be established via either IV or IO routes.

- IV routes provide more versatility and ease of use once established.

Rule #6

Medication administration should proceed per protocol.

- Epinephrine mildly enhances CPR
- Antiarrhythmics are effective once ROSC is achieved.

Rule #7

Ventilating patients, placing advanced airways, and establishing vascular access should not interfere with continuous chest compressions or defibrillation.

Rule #8

End-tidal capnography should be used for evaluating the effectiveness of resuscitation, the return of pulses, and as an endpoint for the resuscitation attempt.

Rule #9

A team leader should clearly be identified at the beginning of the resuscitation attempt. All cardiac arrest management should be handled in a sequential and orderly fashion, with all job tasks clearly defined and delegated to resuscitation team members.

- Overall scene management should be coordinated and supervised using the precepts of the Incident Command System.

Rule #10

Post-arrest management should focus on stabilizing the patient's life threats and transport. This management should include the following:

- **Maintain O2 saturations (SpO2) above 94% using the lowest concentration of O2 possible.** 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. **No hyperventilation!**
- **Maintain a minimum systolic BP of 90 mmHg.** Use IV fluids and dopamine 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.** Transmit/transport to Dominican Hospital if a STEMI is identified. If the call occurs in South County, make base station contact with Dominican Hospital prior to transport.

Rule #11

Resuscitation should not be attempted, or continued, in circumstances that are patently futile.

<p style="text-align: center;">“Pit Crew” Cardiac Arrest Sequence of Care</p>
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1. Scene safety and universal precautions
2. Determine unresponsiveness (no more than 5 seconds)



3. Begin chest compressions @ 100 compressions/minute
4. Attach EKG quick patches, turn on EKG monitor, evaluate rhythm and defibrillate as indicated.



5. Begin ventilations via BVM/ETI/LTD at one ventilation every 6 seconds, ventilating during every 10th compression upstroke. Do not stop compressions for more than 2 – 4 seconds to deploy an airway adjunct.



6. Establish vascular access. If venous access is not easily established, establish IO access.
Administer drug therapy in accordance with the appropriate protocol.



7. Switch compressors every 2 minutes. Do not interrupt compressions for more than 2 – 4 seconds to accomplish this. During this pause, check the ECG to determine if defibrillation is indicated. If so, defibrillate.



8. ROSC? Stop CPR and continue to ventilate 10-12/min (adult) or 20/min (peds).
Follow post-arrest instructions above