

POLICY #222: MECHANICAL CPR DEVICES

I. PURPOSE

- II. To establish standard procedures and clinical criteria for the deployment, operation, training, and documentation of all mechanical cardiopulmonary resuscitation (CPR) devices (e.g., LUCAS, AutoPulse) by EMS personnel in San Luis Obispo County.

III. POLICY

Manual chest compressions are the standard of care for patients in cardiopulmonary arrest. Studies have shown no mortality benefit to support the use of mechanical CPR devices over high-quality manual chest compressions. However, there are situations where manual CPR is challenging or dangerous for the prehospital provider, and mechanical chest compressions are preferred.

- A. Mechanical CPR devices may be used in adult, non-traumatic cardiac arrest patients when continuous, high-quality manual chest compressions are not feasible, or when fatigue is a concern.
- B. Mechanical CPR devices are not mandatory and should be used at the provider's discretion.
- C. Agencies must inform SLOEMSA in writing prior to deploying mechanical CPR devices in the field.

IV. PROCEDURE

A. Training & Competency

- 1. All personnel operating mechanical CPR devices must complete manufacturer-approved initial training and participate in annual refreshers. Training must include indications (listed herein), contraindications (listed herein), device application, troubleshooting, safety, and patient assessment during use.

B. Clinical Indications

- 1. Prolonged cardiac arrest with ongoing CPR
- 2. Unsafe environments for manual CPR
- 3. Limited staffing or when fatigue is a concern
- 4. If not already placed, prophylactic application prior to transport in patients with ROSC in case of rearrest. The device should only be activated in the event of rearrest
- 5. Provider discretion

C. Contraindications

1. Pediatric patients
2. Traumatic cardiac arrest
3. Presence of ventricular assist device (VAD)
4. Incompatible patient body size or anatomy
5. Patients who meet SLOEMSA Policy #125: Prehospital Determination of Death / Do Not Resuscitate (DNR) / End of Life Care
6. Fresh sternotomy incision (sternotomy within the last 8 weeks)

D. Device Application

1. Manual CPR should be performed immediately on patient arrival. Do not delay the initiation of chest compressions to place the mechanical CPR device.
2. Apply the device using deployment to minimize interruptions. Please note that the principles of High-Performance CPR (HPCPR) remain the top priority. Limit interruptions of compressions to < 10 sec. Confirm proper positioning and secure attachment. Monitor for movement, malfunctions, and signs of ROSC.
3. The EMS crew shall use an objective timing method (e.g., monitor/defibrillator event marker and/or a CPR quality data monitoring program) to verify that all pauses in chest compressions are less than 10 seconds. The expectation is that an EMS provider agency using a mechanical CPR device would be able to provide documented verification of pause length during its application (and ongoing use during management of a patient in cardiac arrest).
4. Follow device-specific manufacturer instructions for application and operation.

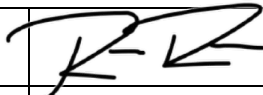
E. Documentation

1. Time of device application and removal.
2. Type of device used.
3. Any complications or malfunctions.
4. Electronic record for CQI that verifies that the longest pause was < 10 seconds, unless there was a clinical reason to explain a longer pause, such as but not limited to a hazardous scene requiring emergent patient movement, or other unexpected event that would justify a longer pause in compressions.

V. AUTHORITY

- California Health and Safety Code, Division 2.5
- Title 22, California Code of Regulations, Division 9

Approvals:

EMS Agency, Administrator	
EMS Agency, Medical Director	