In-person **2240 E. Gonzales Road #200** **Oxnard, CA**	Pre-hospital Services Committee Agenda	October 9, 2025 9:30 a.m.

I.	**Introductions**	
II.	**Approve Agenda**	
III.	**Minutes**	
IV.	**Medical Director Report – Dr. Shepherd**	
	A. Buprenorphine B. Safety Event Reports C. Whole Blood D. Cardiac Arrest Survival	
V.	**New Business or Policies for Review *with Proposed Changes***	
	A. 733: Cardiac Arrest Management (CAM) and Post Arrest (ROSC) Resuscitation	Dr. Shepherd
	B. 705.07: Cardiac Arrest - Asystole/Pulseless Electrical Activity (PEA)	Dr. Shepherd
	C. 705.08: Cardiac Arrest – VF/VT	Dr. Shepherd
	D. 705.16: Neonatal Resuscitation	Dr. Shepherd
	E. 631: Mechanical CPR	Dr. Shepherd
VI.	**Old Business**	
	A. None	
VII.	**Informational/Discussion Topics or Policies Approved at Specialty Care Committees**	
	A. Premier Ambulance Application	Steve Carroll
	B. 451: Stroke Triage and Destination	Adriane Gil-Stefansen
	C. 705.26: Suspected Stroke	Adriane Gil-Stefansen
VIII.	**Policies Due for Review (*No proposed changes*)**	
	A. 803: Emergency Medical Technician (EMT) Automatic External Defibrillation (AED) Service Provider Program Standards	Randy Perez
	B. 1301: Automated External Defibrillation (AED) Service Provider Standards	Randy Perez
	C. 504: BLS And ALS Unit Equipment And Supplies (last look to make sure nothing was missed)	Adriane Gil-Stefansen
IX.	**Agency Reports**	
	A. Fire Departments	
	B. Ambulance Providers	
	C. Base Hospitals	
	D. Receiving Hospitals	
	E. Law Enforcement	
	F. ALS Education Program-Ventura College	
	G. ALS Education Program-Moorpark College	
	H. EMS Agency	
	I. Other	
X.	Closing	

In Person 2240 E. Gonzales Road #200 Oxnard	Pre-hospital Services Committee Minutes	September 11, 2025 9:30 a.m.

Topic	Discussion	Action	Approval
I. Introductions	LRH- Dr. Rodriguez, new residents doing EMS rotation Roberto Orie- Representing Premier Ambulance Heather VCFD- Firefighter/paramedic Tyler Morrison, 90 day light duty.		
II. Approve Agenda			Motion: Dr. Todd Larson Seconded: Dr. Ira Tilles Passed: Unanimous
III. Minutes			Motion: Dr. Todd Larson Seconded: Dr. Ira Tilles Passed: Unanimous
IV. 9/11 Remembrance	Heather Ellis (VFD)		
V. **Medical Director Report**	Dr. Daniel Shepherd (VCEMSA)		
A. Buprenorphine	Dr. Daniel Shepherd- We've had one administration, multiple referrals. Will be having a meeting to look at the QI and encouraging follow up for all referrals. Looking at the policy is not very specific. Andrew Casey- The intent of that policy was that if they can refer for anybody that makes sense. There are a lot of referrals but none of them are the same patients that were viewed, but we are looking into that.		
B. Safety Event Reports	Nothing to report.		
C. Whole Blood	Dr. Daniel Shepherd- We've had 18 administrations. We've sent our first QI form to the state and will meet Tuesday to review that CALDROP collaborative continues. Sounds like Ontario is almost over the finish line, Sacramento hopefully in the fall at some point. We will hear more next week at EMSAC commission meetings. Overall, no one has reached out to state there's an issue. We have not discussed or defined the introductory period. As time goes, it's a slow-moving ship and within time it will be more mature.		
D. Cardiac Arrest Survival	Andrew Casey- See Report handout attached.		
VI. New Business	Policies for Review		
A. 705.00 General Patient Guidelines	Andrew Casey (VCEMSA) – Draft of what Tom O'Connor has worked on. Entire structure has changed, about how we treat our protocols, but not as	Approved with changes.	Motion: Dr. Todd Larson Seconded: Dr. Ira Tilles Passed: Unanimous

	much on the actual framework that gets us to the information that allows us to use them effectively and also testing different models for approaching the patient assessment in the classroom and in large part because I think Tom had kind of observed that they teach something in the classroom, and they go out in the field, and it ends up looking pretty different. But by and large, the intent of this is really not to say they're doing anything new. It's to just better layout what they're already doing now and organize that information.		
B. 705.23 – Supraventricular Tachycardia	Dr. Daniel Shepherd (VCEMSA) – Made more intuitive, no major changes, encouraging no delays. should not delay the cardioversion. Cardioversion should be the priority for unstable patients to try to clean up the fentanyl language. Based on some feedback we got from some providers. Dr. Ira Tilles- In the synchronized carriers section. Does that have those lists of options, or is that should be done in sequential fashion? What is that meant to say? Dr. Shepard- Yes, it's sequential roles. They use a manufacturer recommended settings and we just put the manufacturer recommended settings there and then for like cardiac arrest we just went to max joules. Dr. Neil Cambi- The terminology of sedation Dr. Todd Larsen (OFD) – Propose to change from sedation to analgesia.	Approved with changes.	Motion: Dr. Todd Larson Seconded: Dr. John Gillett Passed: Unanimous
C. 705.25 – Ventricular Tachycardia Sustained – Not in Arrest	Dr. Daniel Shepherd – Use analgesia for sedation. Reformatted, no subsequent changes.	Approved with changes.	Motion: Dr. Todd Larsen Seconded: Dr. Ross Levin Passed: Unanimous
D. 705.24- Symptomatic Bradycardia	Dr. Daniel Shepherd – Cleaned some stuff up, we also added qualifiers.	Approved with changes.	Motion: Dr. Todd Larsen Seconded: Dr. Heidi Hutchinson Passed: Unanimous
E. 727 – Transcutaneous Cardiac Pacing	Dr. Daniel Shepherd – Main intend to clean up and address transfer of care. Heather – questions or comments Mark Martinez (VCFD) – On pacing, they want to talk about the pacing rate. The policy doesn't say anywhere not to change the rate. Dr. Todd Larsen – Tell them not to touch the rate. That is an education issue. Dr. John Gillett (VCMC) – It is an education issue.	Approved with changes.	Motion: Brett McClure Seconded: Jeff Winter Passed: Unanimous

	Eric Eckles (All Town) – The medics are getting the rate questions from the training video from the manufacture. Refer to the policy. Chris Rosa (VCEMSA) – Add to update. Dr. Heidi Hutchinson – Andrew Casey - Part of this is a training piece. I agree that a protocol change to start higher but what do we use as the basis? Put in language when in doubt move up.		
F. 315 – Paramedic Accreditation to Practice	Chris Rosa – Primary changes related to formatting. Clarified terminology and process. This is a state defined process; the LEMSA is allowed very little leeway on changes. This is matching the state for regulations. Dr. Todd Larsen - B1A P4 – clarified language with Rosa.	Approved with changes.	Motion: Dr. Chris Sikes Seconded: Jeffrey Winter Passed: Unanimous
G. 334 – Pre-hospital Personnel Mandatory Training Requirements	Chris Rosa – Clarifying the language. Getting paramedic skills back on track. Agencies will ensure that paramedics in their low frequency / high risk skills. Language was added to page 2. CE log was cut from the back of 318 is now on 334. The paramedics are required still required to do the 48 hours of CE.	Approved with changes.	Motion: Dr. Chris Sikes Seconded: Passed: Unanimous
H. 1102 – EMR Training Program Approval	Chris Rosa – Added language on page 7 of 8 for EMR training program. Program changes need to be submitted. Lot of gaps in the program reporting, trying to capture all that information. Putting in policy to formalize.		Motion: Dr. Ira Tilles Seconded: Tom Gallegos Passed: Unanimous
I. 1135 – Paramedic Training Program Approval	Chris Rosa – Last page before application checklist. Same language was added. Within 30 days notify EMS of program changes. Changes were made to training approval Eric Eckles – With the two school closures recently, impeding closure should be notified.		Motion: Seconded: Passed: Unanimous
VII. Old Business			
A. 318 – Independent Practice Paramedic	Dr. Danny Shepherd – Need to change formatting, added policies. Dr. Todd Larsen – How do I attest? Chris Rosa – Only one set of signatures are needed now.	Approved with changes.	Motion: Dr Todd Larsen Seconded: Eric Eckles Passed: Unanimous
VIII. Informational			
A. MCI/Special Event/Surge Policy Reorganization	Chris Rosa – Propose to break out the polies into the 2000's, separated from the administrative polices. Trying to reorganize. In time for next EMS update get the numbers updated.		

B. Project Update - Hospital Surge Support / Hospital Area Command	Chris Rosa – Were at the area hospital command training. Originally was thinking it would be summer/late 2025. CAM is a top priority, MCI is going to be changing, these are higher priority. December 2026 Hospital Area Command will go into effect. Laguna incident was a good example of this going into effect. Wanted to update the group where we were at. It's out there, fire agencies, IC's are encouraged. Will work on a guide to push out. Kyle Blum – It was an awesome resource.		
IX. Policies for review			
A. None			
X. Agency Reports			
A. Fire departments	**VCFD** – Nothing to report. **VFD** – Hand tevy next month. **OFD –** Alejandro Villasenor – will be implementing a hybrid of EMS update in December. Just finishes PHTLS, have AMLS next. EMS Corps, in cohort 2 week 9. **VFF** – Not present. **FFD** – Not present.		
B. Transport Providers	**AMR/GCA**- Nothing to report. **All Town** – Eric Eckles - Hiring **Medtrans** – Not present.		
C. Base Hospitals	**AHSV** – Dr. Ira Tilles – cops and cruisers event on 9/28 **LRH –**. Michelle Barry – MICN class coming up in October. Trauma event on 9/27. **VCMC** – Nothing to report. **Canby** – anticipating expecting a 10-15 increase in ER visits due to health care changes starting around December. Will probably effect our APOT time.		
D. Receiving Hospitals	**SJHC** – Nothing to report. **SPH** – Nothing to report. **CMH** / **OVCH** – Nothing to report.		
E. Law Enforcement	**AIR RESCUE** – Not present. **VCSO –** Not present. **CSUCI PD** – Not present. **Parks –** Not present.		
F. ALS Education Programs	**Ventura College** – Not present. **Moorpark College** – Not present.		
G. EMS Agency	Chris Rosa – working on a new preceptor training for the two paramedic programs. Partnering with Prodigy EMS and Jaime/Melissa with OFD. Four hours online / four hours in person that reinforces adult learning methodology. Taking pieces of the BLANK course, it's a great course.		

	Dr. Daniel Shepherd – QI plan for ??? Steve Carroll - RFP is still at the state, no timeline. We have an improved EMS plan for another year. Premier Ambulance is present today, bringing application for October meeting.	
H. Other		
XI. Closing	**Meeting adjourned at 10:58pm** Meeting audio recording and transcript available upon request.	Motion: Todd Seconded: Ira Passed: Unanimous

COUNTY OF VENTURA HEALTH CARE AGENCY	EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES
Policy Title: Cardiac Arrest Management (CAM) and Post Arrest (ROSC) Resuscitation	Policy Number 733
APPROVED: Administration: Steven L. Carroll, Paramedic	Date: June 1, 2019
APPROVED: Medical Director: Daniel Shepherd, MD	Date: June 1, 2019
Origination Date: April 30, 2016 Date Revised: March 14, 2019 Date Last Reviewed: March 14, 2019 Next Review Date: March 31, 2020	Effective Date: June 1, 2019

I. PURPOSE: To establish a standardized procedure for the treatment of patients in cardiac arrest, and for those who have a return of spontaneous circulation (ROSC) following treatment for cardiac arrest

II. AUTHORITY: California Health and Safety Code, Section 1797.220, and 1798. California Code of Regulations, Title 22, Section 100170.

III. POLICY:

A. For all patients in ~~NON-TRAUMATIC~~non-traumatic cardiac arrest and are greater than 28 days old~~48 hours old~~, CAM protocol will be followed. Patients less than 2~~4~~8 days~~hours~~ old will be managed per~~follow~~ VC EMS Neonatal Resuscitation Policy # 705.16. For patients who are 18-years-old and older, who achieve ROSC following a cardiac arrest ~~that is **NON-TRAUMATIC IN NATURE**~~, post arrest (ROSC) protocol outlined in Section V of this policy will be followed.

B. The priorities when treating a cardiac arrest patient are high quality CPR, immediate defibrillation if indicated, and expeditious administration of epinephrine.

~~A.~~C. Refer to Policy 613: Mechanical CPR for guidance on the indications and appropriate use of a mechanical CPR device.

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Commented [SD3R1]: but post-ROSC is fine for both

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IV. PROCEDURE - Cardiac Arrest Resuscitation

A. Arrest

Ventura County EMS

Cardiac Arrest Management (CAM) Protocol

For patients who are in cardiac arrest and greater than 28 days48 hours old ;

*******PRIORITIES DURING CARDIAC ARREST RESUSCITATION*******

1. **High qQuality cContinuous cChest cCompressions with minimal interruptions**
2. **Low-volume interposed ventilations**
3. **Early defibrillation**
4. **Switch Compressors every 2 Minutes**

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Rescuer 1

- Verify Cardiac Arrest (<10 seconds)
  - Shake and Shout
  - Open airway with "Shark Hook" maneuver (If trauma, modified jaw thrust)
  - Assess for apnea or agonal respirations
- For patients who are not responsive and not breathing, or agonal breathing -
  - Pulse check helpful for heroin OD or cervical spine injury
  - If suspected FBAO: BLS: Inspect Airway; ALS: Laryngoscopy
- If not breathing:
  - Move patient to place that will allow optimal CPR
  - Immediately Start High Quality Continuous Compressions Over Shirtk

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Rescuer 2

- Turn on metronome (112/minute)
- Remove clothing over chest.
- Apply AED or Cardiac Monitor/Defibrillator pads!

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Basic Life Support (AED)	Advanced Life Support (Manual Defib)
• Turn on AED • Apply Pads • Clear patient then press Analyze	• Turn on Cardiac Monitor • Apply Pads • Pre-charge monitorm

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"Shock Advised"	"No Shock Advised"	VF/VT	Non-Shockable rhythm
If AED allows , resumeRescuer 2 perform chest compressions during charge. Rescuer 1	Rescuer 2 perform chest compressions.	Clear patient and deliver immediate shock. Rescuer 2 perform chest compressions.	Disarm defibrillator. Rescuer 2 perform chest compressions. charge

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cClear patient and press "Shock".			

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RESUME CHEST COMPRESSIONS IMMEDIATELY!

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Rescuer 3

- Insert OPA/NPA
- Assist ventilation withPrepare BVM along with 15L/min high flow O2
- Utilize "2 Thumbs Up" technique to ensure airway positioning andEnsure proper seal with of BVM mask are conducive to adequate ventilation to the patient with "2 Thumbs Up" technique
- Attach continuous waveform capnography sensor sensor, if equipped

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Rescuer 2

- Use one hand to dDeliver 1 brief1 brief low-volume ventilation on the recoil phase of every 10th compression

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Rescuer 4 (ALS)

- Attach waveform capnography sensor to cardiac monitor - Ensure waveform is visible on screen for continuous monitoring throughout resuscitation to BVM if not already completed by BLS
- Establish IV/IO Access
- PRESTO Blood Draw – Will be performed at any point during resuscitation.
- Advanced Airway PRN
- Follow VC EMS PolicyUtilize applicable cardiac arrest treatment protocols 705.07 (Asystole/PEA) or 705.08 (VF/VT)
- Pre-Charge monitorm
- Perform rhythm check every 2 min - Target length of interruption is ≤ 3 seconds
- Perform pulse check only when EtCO2 > 20 mmHg AND organized rhythm with rate >40

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VF/VT	**Non-Shockable rhythm**
Clear patient and deliver immediate shock	Disarm defibrillator charge

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Rescuer 5 (ALS)

- Assist Rescuer 4 with IV/IO, PRESTO draw, medications
  - Prepare or provide procedures and medications as directed and within scope
  - Gather patient information/medications, c
  - CCommunicate with family members

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• Pre-Charge monitorm • Perform rhythm check every 2 min (< 3 seconds) • Perform pulse check if EtCO2 > 20 AND organized rhythm >40

VF/VT	Non-Shockable rhythm
Clear patient and deliver immediate shock	Disarm defibrillator charge

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RESUME CHEST COMPRESSIONS IMMEDIATELY!

Additional Information:

jj Patients less than 48 hours old will follow VC EMS Neonatal resuscitation Policy 705.16

k Chest Compressions:

- Rate: 112/min
- Depth: 2-2.4 inches for an adult,
- 1/3 the anterior-posterior chest dimension for a child or infant
- Full chest recoil after each compression

l LIFEPAK 12/15 must be in paddles mode to capture compression data

mm Energy level per manufacturer or provider medical director
(If 1 or more AED shocks were delivered, ALS defibrillation at next sequential Joules setting)

A mechanical compression device MAY be applied the following conditions have been met: the triangle of life has been established, defibrillation has been performed (if indicated), the initial dose of epinephrine has been administered, no immediate airway interventions are indicated, and at least two cycles of CPR have been completed. See policy 631: Mechanical CPR for additional.

n A staged application of the device will be -performed whenever feasible.

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Triangle of Life
Cardiac Arrest

Rescuer 3

- Assemble BVM/ETCO2
- 2 hands thumbs up mask seal
- Coach compression quality
- Directs lifting of patient for LUCAS application
- Monitors device for migration or other technical failure

Rescuer 1

- Shake and Shout
- Move to floor
- Shark hook airway
- Begin compressions
- Ensures proper placement of LUCAS
- Marks suction cup with marker
- Performs initial compressions and rotates with Rescuer 2 each rhythm check.

Rescuer 2

- Activate metronome
- Cut shirt
- Apply defib pads
- Deliver Ventilations
- Switch with rescuer 1 each rhythm check
- Assists rescuer 4 in preparing LUCAS device for application

Rescuer 4
Team Lead

- Rhythm Checks/Defib
- EtCO2 Monitoring
- IV/IO, Presto
- ALS Medications
- Advanced Airway PRN
- Directs and coordinates LUCAS application

*May delegate or perform tasks as appropriate

Rescuer 5

- Assist Rescuer 4
- Gather Information/Meds
- Communicate with Family
- Rotate into position of rescuer 1, 2, or 3 as needed.

~~*May be delegated variety of tasks based on scope~~

*****PRIORITIES IN POST ARREST RESUSCITATION*****
1. **Immediate recognition and treatment of re-arrest** 2. **Preventing re-arrest through effective and continuous management of C – A – B** 3. **Thorough assessment and - Iidentification and ion / treatment of correctable underlying causes** 4. **Movement and transport decisions that prioritize ongoing continuous high quality patient care** 4.5. The LUCAS device, if available, shall be applied after ROSC, prior to patient movement.

Rescuer 1
• Palpate femoral pulse continuously for first 10 minutes prior to patient movement • Immediately begin chest compressions if femoral pulse is lost or, in question, or other signs of impending cardiac arrest are present.

Rescuer 2
• Continue rescue breathing • Deliver Use 1 hand to deliver 1 ventilation every 6 seconds., Nno more than 10 breaths per minute • Deliver ventilations with ONE HAND on bag to avoid hyperventilation

A. Procedure – Post Arrest Resuscitation (ROSC)

Rescuer 3
• Ensure effective mask seal with continuous "2 thumbs up" techniqueContinue "2 Thumbs Up" technique to ensure airway positioning and seal of BVM mask are conducive to adequate ventilation • Coach rescuer 2 as needed to assure delivery of ventilations and avoid hyperventilation • For spontaneously breathing patients who do not require positive pressure ventilation, apply nasal $EtCO_2$ device, if available

B. Procedure – Post Arrest Resuscitation (ROSC)

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Rescuer 4 TEAM LEAD

• Communicate treatment priorities to team – ensure roles are clear and effective
• Setup cardiac monitor to recognize change in patient status – monitor must remain attached to patient and observed through all phases of incident
 	
• Confirm monitor settings
  ○ VF alarm activated
  ○ ~~Pads / paddles mode~~ “Paddles” mode with ECG waveform from pads visible on screen.
  ○ SpO_2 waveform visible on screen
  ○ $EtCO_2$ waveform visible on screen
 	
• Attach adhesive SpO_2 sensor to maintain a consistent and reliable waveform, if available
• Perform a thorough assessment: history, medications, circumstances, physical exam
 	
May delegate interventions as appropriate

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Rescuer 4
TEAM LEAD

ASSESSMENT

CIRCULATION

- Evaluate for palpable femoral pulse
- Evaluate MANUAL blood pressure
  - repeat every 5 minutes
  - manual for patient changes or SBP < 90 mmHg
- Monitor for falling $EtCO_2$ as sign of re-arrest
- Obtain and evaluate 12 lead only after assessment and interventions

AIRWAY-VENTILATION-OXYGENATION

- Confirm $EtCO_2$ waveform present with every
- ventilation; normal 35 – 45 mmHg
- Confirm presence of bilateral lung sounds
- Evaluate SpO_2; goal is 94% – 99%
- Consider likelihood of respiratory cause; E.g. choking

SUPPORT

CIRCULATION

- Obtain peripheral IV – preferred 18g, minimum 20g
- Initiate 1 L fluid bolus, use pressure bag for IO or rapid infusion via peripheral IV
- Epinephrine 10mcg/mL
  - 1mL (10mcg) every 2 minutes, slow IV/IO push
  - Titrate to SBP of greater than or equal to 90mm/Hg
- Circulation treatment goals
  - Peripheral pulses present
  - Systolic BP > 90 mmHg
  - Ongoing fluid therapy**
- Consider etiology to direct treatment where possible
  - Hypovolemia, sepsis, GI bleeding
  - MI, heart failure, idiopathic electrical anomaly
  - Hyperkalemia

AIRWAY-VENTILATION-OXYGENATION

- Place advanced airway as needed to
  - Improve ventilation or oxygenation
  - Protect against aspiration
  - Effectively ventilate while moving
- SpO_2 goal 94%-99% - titrate supplemental oxygen down if SpO_2 is 100%
- Ventilation treatment goals
  - $EtCO_2$ waveform present with each breath
  - Bilateral breath sounds
- Consider etiology to direct treatment where possible
  - Tension pneumothorax
  - Bronchoconstriction
  - Pulmonary embolus
  - Upper airway obstruction
  - Opiate overdose

~~Refer to VCEMS Policy 735 for additional information on preparing push dose solution~~
**Fluid therapy indicated unless outward indication of fluid overload or left sided heart failure

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Rescuer 5
• Assist in overseeing triangle of life roles • Assist rescuer 4 by preparing medications and equipment • Obtain manual blood pressure • Obtain 12 lead EKG once directed; assure monitor is returned to pads / paddles mode • May be delegated a variety of tasks based on scopeAssist Rescuer 4 as directed, tasks likely to include ○ Obtain manual blood pressure ○ Prepare 12 lead ECG and return monitor to paddles mode ○ Assist, in application of mechanical CPR device ○ Prepare or provide other procedures and medications as directed and within scope ○ Gather patient information/medications, communicate with family members

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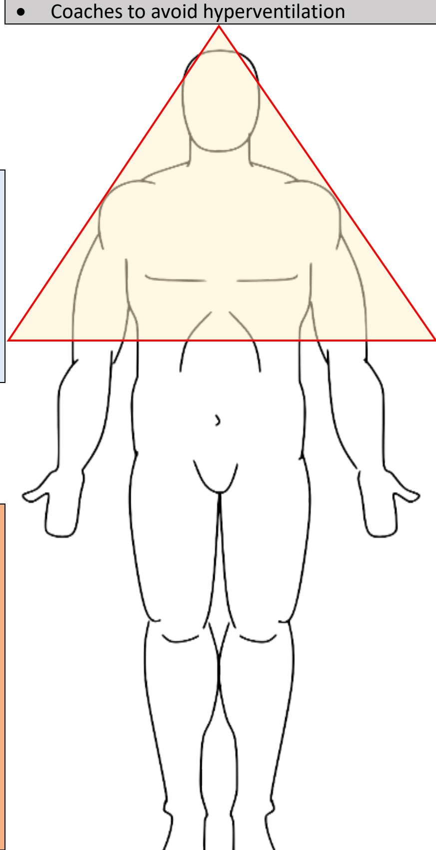
Triangle of Life
Post Arrest Resuscitation

Rescuer 3
- Two hands, thumbs up, mask seal
- Coaches to ensure adequate Ventilation
- Coaches to avoid hyperventilation



Rescuer 1
- Palpates femoral pulse continuously for 10 minutes
- Immediately starts compressions if femoral pulse lost or in question
- PRIORITY position; does not take on additional tasks

Rescuer 2
- Provides 1 hand BVM ventilations
- 1 breath every 6 seconds
- Avoids hyperventilation
- PRIORITY position; does not take on additional tasks

Rescuer 4
Team Lead
- Visually monitors EtCO2, SpO2, & Paddles EKG
- Obtains/delegated peripheral IV
- Initiates NS bolus
- Provides ALS circulatory assessment and support
- Provides airway assessment and support
- Determines all ALS care-performs/delegates

Rescuer 5
- Directly assists team lead
- Takes manual blood pressure
- Assists in obtaining 12-lead
- Most mobile position

*May be delegated variety of tasks based on scope

POST ARREST RESUSCITATION CHECKLIST	
☑	**Initial Actions**
☐	Initiate 10 minute continuous femoral pulse check
☐	Continue rescue breathing as needed
☐	Paddles attached and EKG waveform visible
☐	VF alarm set, SpO_2 and $EtCO_2$ waveforms visible
Circulation	
☐	Obtain peripheral IV access (18 g preferred, 20 g minimum)
☐	Initiate NS fluid bolus
☐	Assess for peripheral pulses
☐	Obtain manual blood pressure
☐	Push dose epinephrine ~~IN ADDITION TO fluids~~ for systolic BP < 90 mmHg
Airway / Ventilation	
☐	Assess for responsiveness and spontaneous ventilations
☐	Assess $EtCO_2$, lung sounds, SpO_2
☐	Maintain BLS airway or place advanced airway as indicated
☐	Place advanced airway if needed to adequately ventilate while moving patient
☐	Oxygenate to SpO_2 94% to 99%
☐	Oxygen flow rate titrated to prevent SpO_2 100%
12 Lead EKG	
☐	Obtain 12-lead EKG only after managing C-A-B and prior to movement
Confirm Prior to Moving Patient~~, Confirm~~	
☐	Patient has sustained ROSC approximately ≥ 10 minutes
☐	C-A-B have been stabilized effectively or stabilization in the field is not possible~~C-A-B have been effectively stabilized or appropriate efforts made~~
☐	Team has planned how to effectively ventilate during move
☐	Team is prepared to recognize re-arrest during patient movement:~~:~~ • STOP MOVING • RESUME CAM ON SCENE

Post Arrest Resuscitation Transport
• Transport is indicated after a patient has sustained ROSC for approximately 10 minutes and effective efforts have been made to stabilize airway, breathing, and circulation • Continuous patient assessment and treatment must remain the priority during transport. • Recognizing hypotension, inadequate ventilation, or re-arrest, will have a large impact on patient outcome.

Re-Arrest Guidelines (Loss of ROSC)	

• Re-arrests require the same high-quality CAM and ALS care as the initial arrest:
  ○ Remain on scene
  ○ Ensure adequate workspace
  ○ Begin CAM Procedure
  ○ Defibrillate VF / VT ASAP
• Provide an additional 20 minutes of high-quality CAM prior to any further movement or initiating transport.
• If ROSC is obtained again, reassess, stabilize C – A – B as indicated, then continue with previous transport plan.
• If no ROSC, or multiple re-arrests, through 20 minutes from initial re-arrest consider underlying cause, circumstances, and presentation, then contact base for consultation.	

Prioritizing Care in Re-Arrest	
Re-Arrest On Scene	**Re-Arrest During Transport**
• If re-arrest occurs during movement to gurney or ambulance, resume CAM on scene outside of ambulance • • • If re-arrest occurs after loading but prior to leaving scene, unload patient from ambulance, resume CAM, and move to workable space	• Prioritize immediate and continuous chest compressions - Mechanical CPR device will be applied during ROSC when available and not already in place. This ensures quality compressions can be performed in the event of a re-arrest during transport. • Prioritize immediate and q 2 min defib for VF/VT • Reassess patient considering correctable causes and previous interventions • Confirm advanced airway effective and in place if air-Q or ETT was used
NOTE: Most re-arrests occur in the first 10 minutes after ROSC is achieved. Most delayed identification of re-arrest occurs during movement of the patient and during transport.	

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NO ROSC - NO ROSC AFTER RE-ARREST - FREQUENT RE-ARREST		
Base Consultation		
• Base consultation is indicated when considering DOD vs continuing resuscitation. • Assessment findings, observations, and clinical circumstances should be clearly communicated during base hospital consultation. • Direct consultation with base hospital physician is recommended in cases where the clinical scenario may warrant prolonged resuscitation or “early” termination of resuscitation.		
Patient Factors	**Base Consult Takes Place**	**DOD**
• Asystole / PEA • Never defibrillated, no shockable rhythm observed	After 20 minutes of resuscitation efforts	Consider after 20 minutes; base consult
• VF / VT • Defibrillated at least once during arrest	After 40 minutes of resuscitation efforts without ROSC	Consider after 40 minutes; base consult
• Bystander witnessed collapse • EMS witnessed collapse or loss of pulse	After 40 minutes of resuscitation efforts without ROSC	Consider after 40 minutes; base consult
• Signs of survivability ○ EtCO2 > 30 ○ Spontaneous breathing attempts ○ Spontaneous movement ○ Frequent / persistent VF / VT	After 40 minutes of resuscitation efforts without ROSC	Consider DOD after 40 minutes; base consult Physician consult preferred
• Re-arrest without ROSC • Frequent re-arrest	After 20 minutes of re-arrest, or 20 minutes of intermittent ROSC	Consider after base consult Consider rhythm and signs of survivability

Cardiac Arrest – Asystole/Pulseless Electrical Activity (PEA)

ADULT	PEDIATRIC

BLS Procedures

Initiate Cardiac Arrest Management (CAM) Protocol
Airway management per VCEMS policy

ALS Standing Orders

ADULT

Assess for and treat underlying cause

IV or IO access & PRESTO Blood draw

- Humeral Head is preferred IO site for patients ≥ 18 Y.O.

Epinephrine* 0.1 mg/mL
Administer ASAP goal ≤6 minutes

- IV/IO 1 mg (10 mL) q 6 min
- Repeat x 2, max of 3 doses during initial arrest.
- If ROSC then re-arrest an additional 3 doses may be administered.

Normal Saline

- IV/IO bolus- 1 Liter

ALS Airway Management

- If unable to ventilate by BLS measures, initiate appropriate advanced airway procedures in accordance with policy 710.

When one of the following is a suspected cause of arrest:

History of Renal Failure/Dialysis

- **Calcium Chloride**
  - IV/IO – 1 g
  - Repeat x 1 in 10 min
- **Sodium Bicarbonate**
  - IV/IO – 1 mEq/kg
  - Repeat x 2 0.5 mEq/kg q 5 min

Tricyclic Antidepressant Overdose

- **Sodium Bicarbonate**
  - IV/IO – 1 mEq/kg
  - Repeat x 2 0.5 mEq/kg q 5 min

Beta Blocker Overdose

- **Glucagon**
  - IV/IO – 2 mg up to 10 mg when available

Calcium Channel Blocker Overdose

- **Calcium Chloride**
  - IV/IO – 1 g
  - Repeat x 1 in 10 min
- **Glucagon**
  - IV/IO – 2 mg up to 10 mg when available

PEDIATRIC

Assess for and treat underlying cause

IV or IO access & PRESTO Blood draw

Epinephrine* 0.1mg/mL
Administer ASAP goal ≤6 minutes

- IV/IO 0.01mg/kg (0.1 mL/kg) q 6 min
- Repeat x 2, max of 3 dose during initial arrest.
- If ROSC then re-arrest an additional 3 doses may be administered.

Normal Saline

- IV/IO bolus- 20 mL/kg

ALS Airway Management

- If unable to ventilate by BLS measures, initiate appropriate advanced airway procedures in accordance with policy 710.

When one of the following is a suspected cause of arrest:

History of Renal Failure/Dialysis

- **Calcium Chloride**
  - IV/IO – 20 mg/kg
  - Repeat x 1 in 10 min
- **Sodium Bicarbonate**
  - IV/IO – 1 mEq/kg
  - Repeat x 2 0.5 mEq/kg q 5 min

Tricyclic Antidepressant Overdose

- **Sodium Bicarbonate**
  - IV/IO – 1 mEq/kg
  - Repeat x 2 0.5 mEq/kg q 5 min

Beta Blocker Overdose

- **Glucagon**
  - IV/IO – 0.1 mg/kg up to 10 mg when available

Calcium Channel Blocker Overdose

- **Calcium Chloride**
  - IV/IO – 20 mg/kg
  - Repeat x 1 in 10 min
- **Glucagon**
  - IV/IO – 0.1 mg/kg up to 10 mg when available

Base Hospital Orders Only

***Consult with ED Physician for further treatment measures**

Additional Information:

- If sustained ROSC (> 30 seconds), activate VF/VT alarm and initiate post arrest resuscitation as outlined in Policy 733: Cardiac Arrest management and Post Arrest Resuscitation.
- For termination of resuscitation, transport decisions, and use of base hospital consult reference Policy 733: Cardiac Arrest Management and Post Arrest Resuscitation.
- If patient is **hypothermic** – only ONE round of medication administration prior to Base Hospital contact. Field determination of death is discouraged in these patients and they should be transported to the most accessible receiving facility.

Cardiac Arrest – VF/VT

BLS Procedures

Initiate Cardiac Arrest Management (CAM) Protocol
Airway management per VCEMS policy

ALS Standing Orders

ADULT

Standard Defibrillation
- VF or VT - Defibrillate q 2 minutes as indicated
  - Lifepak 360 Joules, Zoll 200 Joules
- VF refractory to 3 defibrillations –
  - When 1 defibrillator available place new pads on opposing vector (AP or AL) and continue defibrillation using new vector.

Dual Sequential Defibrillation
- VF refractory to 3 defibrillations
  - place new pads on opposing vector (AP or AL) and attach to second defibrillator.
  - Defibrillate via both defibrillators sequentially.

IV or IO access & PRESTO Blood draw
- Humeral Head is preferred IO site for patients ≥ 18 Y.O.

Epinephrine* 0.1 mg/mL
Administer ASAP goal ≤6 minutes
- IV/IO –1 mg (10 mL) q 6min
- Repeat x 2 for max of 3 doses during initial arrest.
- If ROSC then re-arrest an additional 3 doses may be administered.

Amiodarone
- IV/IO – 300 mg – after second defibrillation
- If VT/VF persists, 150 mg IV/IO in 3-5 minutes

Normal Saline
- IV/IO bolus 1 Liter

ALS Airway Management
- If unable to ventilate by BLS measures, initiate appropriate advanced airway procedures in accordance with policy 710.

When Torsades de Pointes is identified:
- **Magnesium Sulfate**
  - IV/IO – 2 g over 2 min
  - Repeat x 1 in 5 min

Treat underlying causes when identified:
Renal Failure / History of Dialysis:
- **Calcium Chloride**
- IV/IO – 1g
- Repeat x 1 in 10 min
- **Sodium Bicarbonate**
  - IV/IO – 1 mEq/kg
  - Repeat 0.5 mEq/kg x 2 q 5 min

Tricyclic Antidepressant Overdose:
- **Sodium Bicarbonate**
  - IV/IO – 1 mEq/kg

PEDIATRIC

Standard Defibrillation
- VF or VT - Defibrillate q 2 minutes as indicated
  - Escalating energy: 2, 4, 6, 8 joules/kg
- VF refractory to 3 defibrillations –
  - When 1 defibrillator available place new pads on opposing vector (AP or AL) and continue defibrillation using new vector.

Dual Sequential Defibrillation
- VF refractory to 3 defibrillations
  - place new pads on opposing vector (AP or AL) and attach to second defibrillator.
  - Defibrillate via both defibrillators sequentially.

IV or IO access & PRESTO Blood Draw

Epinephrine* 0.1mg/mL
Administer ASAP goal ≤ 6 minutes
- IV/IO – 0.01mg/kg (0.1 mL/kg) q 6 min
- Repeat x 2 for max of 3 dose during initial arrest.
- If ROSC then re-arrest and additional 3 doses may be administered.

Amiodarone
- IV/IO – 5 mg/kg – after second defibrillation
- If VT/VF-persists, repeat 5 mg/kg x 2 q 3-5 minutes

Normal Saline
- IV/IO 20 mL/kg bolus

ALS Airway Management
- If unable to ventilate by BLS measures, initiate appropriate advanced airway procedures in accordance with policy 710.

When Torsades de Pointes is identified:
- **Magnesium Sulfate**
  - IV/IO – 50 mg/kg over 2 min
  - Repeat x 1 in 5 min

Treat underlying causes when identified:
Renal failure / History of Dialysis:
- **Calcium Chloride**
- IV/IO – 20 mg/kg
- Repeat x 1 in 10 min
- **Sodium Bicarbonate**
  - IV/IO – 1 mEq/kg
  - Repeat 0.5 mEq/kg x 2 q 5 min

Tricyclic Antidepressant Overdose:
- **Sodium Bicarbonate**
  - IV/IO – 1 mEq/kg
  - Repeat 0.5 mEq/kg x 2 q 5 min

◦ Repeat 0.5 mEq/kg x 2 q 5 min	

Base Hospital Orders Only

Consult with ED Physician for further treatment measures*

Additional Information:

- If sustained ROSC (>30 seconds), activate VF/VT alarm and initiate post arrest resuscitation as outlined in Policy 733: Cardiac Arrest management and Post Arrest Resuscitation.
- For termination of resuscitation, transport decisions, and use of base hospital consult reference Policy 733: Cardiac Arrest Management and Post Arrest Resuscitation
- If patient is hypothermic–only ONE round of medication administration and limit *defibrillation to 6 times* prior to Base Hospital contact. Field determination of death is discouraged in these patients and they should be transported to the most accessible receiving facility
- Ventricular tachycardia (VT) is a rate > 150 bpm

VCEMS Medical Director

Neonatal Resuscitation

BLS Procedures

Newborn or Infant up to 28 days old

Provide Warmth

Assess Responsiveness
- Flick soles of feet for infant or
- Assess newborn while drying

Ensure Adequate Ventilation
- Suction if secretions cause airway obstruction.
- If Apneic or gasping
  - Positive pressure ventilations (PPV) with BVM and ROOM AIR at 40-60 breaths per minute

Ensure Adequate Circulation
- If HR between 60 and 100 bpm
  - PPV with BVM and ROOM AIR at 40-60 breaths per minute
    - Continue PPV until infant maintains HR >100 bpm

- If HR < 60 bpm
  - CPR at 3:1 ratio
    - Continue CPR until HR > 60 bpm

Correct Hypoxia
- If no improvement after 90 seconds of ROOM AIR CPR, add supplemental O_2 until HR > 100

ALS Standing Orders

Utilize Handtevy Application

Ensure Adequate Ventilation and Oxygenation
- Monitor waveform capnography
- Consider placement of supraglottic airway device

Obtain IV/IO Access

For asystole/PEA or persistent bradycardia < 60 bpm

- **Epinephrine 0.1mg/mL**
  - IV/IO – 0.01mg/kg (0.1mL/kg) q 3-5 min

- **Normal Saline**
  - IV/IO bolus – 10mL/kg

Base Hospital Orders only

Consult with ED Physician for further treatment measures

Additional Information:
- Resuscitation efforts may be withheld for extremely preterm infants (< 21 weeks or < 9 inches long). Sensitivity to the desires of the parent(s) may be considered. If uncertain as to gestational age, begin resuscitation.
- A rising heart rate is the best indicator of adequate PPV.

COUNTY OF VENTURA HEALTH CARE AGENCY	EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES
Policy Title: Mechanical CPR	Policy Number 631
APPROVED: Administration: Steve L. Carroll, Paramedic	Date: July 1, 2023
APPROVED: Medical Director: Daniel Shepherd, M.D.	Date: July 1, 2023
Origination Date: January 12, 2023 Date Revised: October 9, 2025 Date Last Reviewed: October 9, 2025 Review Date: ~~January 30, 2024~~October 31, 2027	Effective Date: ~~July 1, 2023~~January 1, 2026

I. PURPOSE: To define the indications, procedure, and documentation for use of a mechanical CPR device by Ventura County prehospital personnel.

II. AUTHORITY: California Health and Safety Code, Section 1797.220, and 1798. California Code of Regulations, Title 22, Section 100170.

III. DEFINITIONS:

A. LUCAS: Lund University Cardiopulmonary Assist System. A device that provides mechanical chest compressions.

B. Staged application: A two-~~-~~stage method where application of the LUCAS device is done during rhythm checks to minimize pauses in chest compressions. ~~Stage 1-the backplate is positioned under the patient and manual compressions are resumed. Stage 2- the LUCAS device is applied over the patient, secured to the backplate, and mechanical compressions initiated.~~

C. Pause: Interruption in chest compressions greater than or equal to 3 seconds. A 3 second interruption results in approximately 5-6 missed chest compressions.~~.~~

D. ROSC: Return of spontaneous circulation.

IV. POLICY:

A. The priorities when treating a cardiac arrest patient are high quality CPR, immediate defibrillation if indicated, and expeditious administration of epinephrine.
B. Mechanical CPR devices have the potential to improve the quality of CPR, but do not increase the rate of survival, or the percentage of patients who survive with a good neurologic outcome.
C. Successful application of a mechanical CPR device requires a methodical, coordinated approach.
D. The LUCAS device (Stryker) is the only mechanical CPR device approved for use by prehospital personnel in Ventura County.
E. The LUCAS device, if available, MAY be applied to patients after ten minutes of attempted resuscitation **IF**if; the "triangle of life" has been established, defibrillation has been performed (if indicated), the initial dose of epinephrine has been administered, no immediate airway interventions are indicated, and at least two cycles of CPR have been completed. See policy 733: Cardiac Arrest Management for further guidance.
    1. The LUCAS device may not be applied to pediatric patients. If utilizing the adult cardiac arrest protocol, LUCAS is authorized. LUCAS is NOT authorized if using a pediatric protocol.
F. The LUCAS device, if immediately available, MAY be applied earlier than outlined above in the following circumstances:
    1. **ROSC:** The device, if available, shall be applied after ROSC, prior to patient movement.
    2. **TRAUMATIC ARREST:** The patient must be ≥ 18 years of age and meet criteria for initiating resuscitation. Consider needle-T insertion prior to device application. The application/operation of LUCAS shall not delay transport or interfere with necessary treatment.
    3. **LOCATION**: the patient is in a location that prohibits quality CPR **AND** immediate movement to a workable space is not possible. Routine movements (e.g. bed to floor, hallway to room) do not apply.
G. Agencies utilizing LUCAS shall evaluate performance prospectively and shall report to VCEMSA the following information, per cardiac arrest. Quality and completeness of the data provided will be evaluated per agency on a quarterly basis., on a quarterly basis:

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1. Whether mechanical compressions were provided. and documented correctly.
2. Whether compressions type was documented correctly in the Patient Care Report
3.2. Date and Time of first manual chest compression identified in cardiac monitor post event review data.
3. Date and Time of first mechanical chest compression.
4. Total duration of pulselessness
5. Total number of pauses in chest compressions.
6. Longest pause in chest compressions.
4.7. Duration of CPR pause immediately prior to LUCAS application.
5.8. Binary (yes/no) for tasks completed prior to LUCAS application: vascular access, defibrillation, and epinephrine administration.
6. Total number of pauses in chest compressions.
7. Longest pause in chest compressions.
8. Total compression fraction.
9. Whether chest compressions were provided during transport.
10. Whether any device malfunction or migration of device positioning occurred.

9.H. Failure to report thecomplete CQI metricsdata as defined above may result in revocation of authorization to use the device.

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V. PROCEDURE:

A. The “team leader” or “primary patient caregiver” on scene remains responsible for determining when, and coordinating how, the device should be applied.

B. A staged application process willshould be performedused whenever feasible.
1. Stage 0 – High quality manual chest compressions are being performed.
2. Stage 1-the backplate is positioned under the patient and manual compressions are resumed.
3. Stage 2- the LUCAS device is applied over the patient, secured to the backplate, and mechanical compressions initiated.
4. See policy 73322 for additional information

B.C.

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~~C.~~D. All LUCAS devices utilized in Ventura County must be programmed to power on in “continuous mode,” not 30:2 or 50:2 modes.

~~D.~~E. Cardiac monitor data (.zol and .PCO files) must be transmitted and attached to the patient care report. LUCAS data files and compatible cardiac monitor data files (.PCO files) will also be transmitted to the VCEMS CODE-STAT database.

~~E.~~F. In the event of a device failure or other malfunction, the device will be removed immediately, and manual CPR resumed.

~~F.~~G. Agencies must notify VCEMS, within 24 hours, of any device failures or other malfunctions using the procedure outlined in VCEMSA Policy 121 Safety Event Review.

~~G.~~H. All providers must receive initial and ongoing training on the device, its application, troubleshooting, reporting, and documentation prior to use on patients.

~~H.~~I. Patients who are transported after application of a mechanical CPR device must be accompanied by at least one provider from the agency who applied the device.

COUNTY OF VENTURA HEALTH CARE AGENCY	EMERGENCY MEDICAL SERVICES POLICIES AND PROCEDURES
Policy Title: Stroke System Triage and Destination	Policy Number 451
APPROVED: Administration: Steven L. Carroll, Paramedic	Date: December 1, 2023
APPROVED: Medical Director: Daniel Shepherd, M.D.	Date: December 1, 2023
Origination Date: October 11, 2012 Date Revised: September 27, 2023 Date Last Reviewed: September 27, 2023 Review Date: September 30, 2025	Effective Date: December 1, 2023

I. PURPOSE: To outline the process of pre-hospital triage and transport of suspected acute stroke patients to facilities designated as an Acute Stroke Center (ASC) or a Thrombectomy Capable Acute Stroke Center (TCASC).

II. AUTHORITY: California Health and Safety Code Sections 1797.220 and 1798, California Code of Regulations, Title 22, Division 9, Sections 100147, and 100169.

III. DEFINITIONS:

Acute Stroke Center (ASC): Hospital designated as an Acute Stroke Center, as defined in VCEMS Policy 450.

Comprehensive Stroke Center (CSC): Hospital certified by either The Joint Commission, Det Norske Veritas, or the Healthcare Facilities Accreditation Program as a Comprehensive Stroke Center.

Large Vessel Occlusion (LVO): An acute ischemic stroke caused by a large vessel occlusion.

LVO Alert: A pre-arrival notification by pre-hospital personnel to the base hospital that a patient is suffering a possible LVO ischemic stroke.

Stroke Alert: A pre-arrival notification by prehospital personnel that a patient is suffering a possible acute stroke.

Thrombectomy Capable Acute Stroke Center: (TCASC) Acute Stroke Center (ASC) that has the capability to perform neuroendovascular procedures for acute stroke including thrombectomy and intra-arterial thrombolysis.

Time Last Known Well (TLKW): The date/time at which the patient was last known to be without the current signs and symptoms or at his or her baseline state of health.

Ventura LVO Score (VES): A tool designed for paramedics to screen for an LVO in the prehospital setting.

IV. POLICY:

A. Stroke System Triage: Patients meeting criteria listed below shall be triaged into the VCEMS stroke system.

1. Patient's TLKW is within 24 hours.
2. Blood Glucose is greater than sixty (60) OR patient continues to exhibit signs and symptoms of an acute stroke after pre-hospital treatment of abnormal blood glucose levels.
3. Identification of *ANY* abnormal finding of the Cincinnati Prehospital Stroke Scale (CPSS):

   FACIAL DROOP
   - Normal: Both sides of face move equally
   - Abnormal: One side of face does not move normally

   ARM DRIFT
   - Normal: Both arms move equally or not at all
   - Abnormal: One arm does not move, or one arm drifts down compared with the other side

   SPEECH
   - Normal: Patient uses correct words with no slurring
   - Abnormal: Slurred or inappropriate words or mute
4. Perform the Ventura LVO Score (VES) on all patients who have abnormal CSS findings.

   Forced Eye Deviation (1 point):
   - Force full deviation of BOTH eyes to one side or the other
   - Eyes will not pass midline

Aphasia (1 point): Patient is awake with *ANY* of the following present

- *Repetition:* Unable to repeat a sentence ("Near the chair in the dining room.")
- *Naming:* Unable to name an object (show a watch and a pen, ask patient to name the objects)
- *Mute:* Ask the patient 2 Questions (What is your name? How old are you?)
- *Talking gibberish and/or not following commands*

Neglect (1 point):

- Touch the Patient's right arm and ask if they can feel it.
- Touch the Patient's left arm and ask if they feel it.
- Now touch both of the Patient's arms simultaneously and ask the patient which side you touched.
- If patient can feel both sides individually, but only feels one side on simultaneous stimulation, this is neglect.
- If Aphasic: Neglect can be evaluated by noticing that patient is not paying attention to you if you stand on one side, but pays attention to you if you stand on the other side.

Obtundation: (1 point)

- Not staying awake in between conversation

B. ***Stroke Alert*** = TLKW is within 24 hours, BG is greater than 60, & Abnormal CPSS
   1. For a *Stroke Alert*, Base Hospital Contact (BHC) will be established with the regular catchment Base Hospital (BH) and a *Stroke Alert* will be activated.
   2. The BH will notify the appropriate ASC of the *Stroke Alert.*

C. ***LVO Alert*** = TLKW is within 24 hours, BG is greater than 60, & CSS is +3 with VES ≥1
   1. For an *LVO Alert*, BHC will be established with the appropriate TCASC.
      a. East of Lewis Rd in Camarillo is LRRMC.
      b. West of Lewis Rd in Camarillo is SJRMC.
   2. The appropriate specialist on-call will be notified by the MICN.

D. Destination Decision
   1. The BH will determine the nearest ASC or TCASC using the following criteria:
      a. Patient condition

    b. TCASC or ASC availability on ReddiNet
    c. Transport time
    d. Patient request
2. Patients meeting stroke system criteria shall be transported to the nearest ASC/TCASC, except in the following cases:
    a. Stroke patients in cardiac arrest shall be transported to the nearest receiving hospital. Patients who have greater than thirty seconds of return of spontaneous circulation (ROSC) shall be transported to the nearest STEMI Receiving Center (SRC).
    b. The nearest ASC is incapable of accepting a stroke alert patient due to CT or Internal Disaster diversion, then transport to the next closest ASC.
    c. The patient requests transport to an alternate facility, not extending transport by more than twenty (20) minutes, and approved by the BH.
    d. Patients meeting *LVO Alert* criteria will be transported to the nearest TCASC if ***total*** transport time does not exceed 45 minutes. If nearest TCASC is on TCASC Diversion, then transport to the next closest TCASC.

E. Upon Arrival to ASC/TCASC: You may be asked to take your patient directly to the CT scanner.
1. Give report to the nurse, transfer the patient from your gurney onto the CT scanner platform, and then return to service.
2. If there is any delay, such as CT scanner not readily available, or a nurse not immediately available, you will not be expected to wait. You will take the patient to a monitored bed in the ED and give report as usual.

F. Documentation
1. Care and findings related to an acute stroke patient shall be documented in the Ventura County electronic patient care reporting (VCePCR) system in accordance with VCEMS policy 1000.

I. PURPOSE: To establish criteria and procedure for approval and oversight of EMT AED Service Provider programs.

II. AUTHORITY: Health and Safety Code 1797.107, 1797.170, 1798 and California Code of Regulations, Title 22, 100063.1.

III. DEFINITION: An EMT AED service provider is an agency or organization that employs individuals as defined in Title 22, Division 9, Section 100060, and who obtain AEDs for the purpose of providing AED services to the general public.

IV. POLICY:

A. An AED Service Provider shall be approved by Ventura County Emergency Medical Services (VC EMS) prior to beginning service. In order to receive and maintain EMT AED Service Provider approval, an EMT AED Services Provider shall comply with the requirements of this policy.

B. An EMT AED Service Provider shall:

1. Provide orientation of AED authorized personnel to the AED
2. Ensure maintenance of AED equipment.
3. Ensure initial training and continued competency of AED authorized personnel
   a. Demonstration of skills competence at least every six months to the EMT Program Director or his/her designee as identified to the EMS office.
   b. Skills competency records shall be maintained for at least four years.
4. Ensure that EMT personnel complete first responder BLS Prehospital Care Record (PCR) or electronic PCR (ePCR) for all patient contacts.
5. Authorize personnel and maintain a current list of all EMT AED Service Provider authorized personnel and provide a list upon request by the VC EMS Agency. Authorized personnel means EMT personnel trained to operate an AED and authorized by an approved EMT AED Service Provider.
6. Train all EMTs who have not already been trained in use of AED. Training shall include the following:
   a. Perform emergency cardiac care in accordance with protocols developed

and/or approved by the EMS Agency Medical Director.

b. Recognize that a patient is in cardiac arrest and that CPR and immediate application of the automated external defibrillator is required.

c. Set up the automated defibrillator correctly.

d. Correctly apply the defibrillator pads.

e. Ensure that rescuers or bystanders are not in contact with the patient while the AED is analyzing or delivering a shock.

f. Deliver shocks for ventricular fibrillation in the shortest time possible following their arrival at the patient side, ideally within 90 seconds.

g. Recognize that a shock was delivered to the patient.

h. Provide supportive care to a patient who has been successfully defibrillated.

i. Immediately recognize and respond to patients when an arrest recurs either at the scene or during transport, in accordance with protocols.

j. Record the pertinent events of the emergency response on a PCR.

k. Maintain the AED and voice/ECG recorder or other documentation device in accordance with manufacturer's recommendations.

7. Develop and maintain a quality improvement program, approved by the VC EMS Medical Director that contains the following:

a. Assure timely and competent review of EMT managed cardiac arrest cases, accurate logging of required data, and timely, accurate and informative statistical summaries of system performance over time, as well as recommendations, as indicated, for modifications of system design, performance protocols, or training standards designed to improve patient outcome.

b. Collect, store and analyze, at a minimum, the following data related to EMT management of cardiac arrest patients:

(1) Patient Data:

a) Age,

b) Sex,

c) Whether arrest was witnessed or unwitnessed,

d) Distance of collapse from EMT responding unit, and

e) Initial cardiac rhythm.

(2) EMS System Data:

a) Estimated time from collapse to call for help,

b) Estimated time from collapse to initiation of CPR,

c) EMT responding unit response time, and

d) Scene to hospital transport time.

(3) EMT Performance:

a) Time from arrival to actual defibrillation,

b) Time between defibrillation attempts,

c) General adherence to established protocol.

(4) Patient Outcome:

a) Rhythm after each shock.

b) Return of pulse and/or spontaneous respirations in the field.

8. EMT AED documentation submission

a. If EMT AED Service Provider has Ventura County Electronic Patient Care Record (ePCR) capabilities, documentation shall be consistent with VCEMS Policy 1000.

b. If EMT AED Service Provider does not have ePCR capabilities, documentation submission shall be as follows:

(1) EMT documentation (incident printout and prehospital care record (PCR) shall be submitted to the receiving hospital as soon as possible (not more than two hours after patient arrival).

(2) EMT documentation for all arrests (incident printout and PCR including times) shall be submitted by the provider to the involved base hospital within 30 days of the end of the calendar month of the occurrence.

(3) EMT documentation (incident printout, PCR including times, and audio tape) shall be submitted to the EMT medical director or designee within 10 working days of the occurrence.

9. The EMT AED Service Provider shall
submit an annual written report to the EMS Agency to include as a minimum the following information.

a. The total number of cases in which the AED was activated. The number of those cases where return of spontaneous circulation (ROSC) was achieved.

b. The number of cases that presented in Ventricular Fibrillation (VF). The number of those cases where ROSC was achieved.

c. The number of cases that presented in witnessed VF. The number of those cases where ROSC was achieved.

d. The 90% fractile times from first notification to on-scene, to with patient and to first analysis, in case of secondary PSAP, time received.

e. The number of cases of cardiac arrest responded to where the AED was not activated and the 90% fractile time from first notification to on-scene for those cases, in case of secondary PSAP, time received.

IV. PROCEDURE:

A. Program Approval

1. Eligible programs shall submit a written request for EMT AED Service Provider approval to the EMS Agency and agree to comply with the provisions of this policy.

2. Application Receipt Process
Upon receipt of a complete application packet, the Agency will notify the applicant within fourteen business days that;

a. The request for approval has been received.

b. The request does or does not contain all required information.

c. What information, if any, is missing

5. Program Approval Time Frames

a. Program approval or disapproval shall be made in writing by the Agency to the requesting program, within sixty calendar days, after receipt of all required documentation.

b. The Agency shall establish an effective date for program approval in writing upon the satisfactory documentation of compliance with all program requirements.

c. Program approval shall be for four years following the effective date of the program and may be reviewed every four years subject to the procedure for program approval specified by the Agency.

6. Withdrawal of Program Approval

a. Noncompliance with any criterion required for program approval, use of any unqualified personnel, or noncompliance with any other applicable provision of Title 22 may result in suspension or revocation of program approval by the Agency.

b. An approved program shall have no more than sixty days to comply with corrections mandated by this policy.

B. Program Review and Reporting

1. All program materials are subject to periodic review by the Agency.

2. All programs are subject to periodic on-site evaluation by the Agency.

3. The Agency shall be advised of any change in Program staff.

4. Records shall be maintained by the EMT AED SERVICE PROVIDER for four years and shall contain the following:

   a. Roster of Authorized Personnel

   b. Documentation of skills competency

C. Application for Renewal

. The EMT AED SERVICE PROVIDER shall submit an application for renewal at least sixty calendar days before the expiration date of their Program approval in order to maintain continuous approval.

Ventura County Emergency Medical Services Agency

Emergency Medical Technician AED Service Provider

APPROVAL REQUEST

General Information

Program/Agency Name: ____

Address: ______________________________ City: __________Zip: __________

Phone: _______________ Fax: ______________ Email: _____________________

Date Submitted: ___________________

Requirements
(All items below refer to Ventura County EMS Policy 803 and Title 22 Regulations)

1. Program Eligibility

Eligible Programs • Programs eligible for approval shall be limited to public or private organizations that meet the requirements identified in this policy. All private entities must possess a valid business license and proof of organizational registry (partnership, sole proprietorship, corporation, etc.)	**Name of Program**
Written request for EMT AED Service Provider Approval	□ Attached

2. Records and Quality Improvement

Agree to maintain all records for a minimum of four years.	Signature:______________________
Agree to participate in the VCEMS Quality Improvement Program and in research data accumulation.	Signature:______________________

VCEMS Office Use Only

All Requirements Submitted:		Date:
EMT AED SERVICE PROVIDER Application Approved:		Date:
Approval Letter Sent:		Date:
Re-Approval Due:		Date:
Signature of person approving EMT AED SERVICE PROVIDER		Date
Typed or printed name:		

Ventura County Emergency Medical Services Agency

Emergency Medical Technician AED Service Provider

ANNUAL REPORT

The Annual Report shall be submitted to EMSAgency@ventura.org, by January 31st. It shall be compiled from data obtained the prior calendar year, January 1st through December 31st.

Program/Agency Name: ____

Report submitted by (Name): ____

Phone: __________________ Email: __________________________________

Date Submitted: ___________________

Program Data

(All items below refer to Ventura County EMS Policy 803 and Title 22 Regulations)

The number of patients with sudden cardiac arrest receiving CPR prior to arrival of emergency medical care.	
The total number of patients on whom defibrillatory shocks were administered, witnessed (seen or heard) and not witnessed;	Witnessed: __________ Unwitnessed: __________
The number of these persons who suffered a witnessed cardiac arrest whose initial monitored rhythm was ventricular tachycardia or ventricular fibrillation	
The total number of cases in which the AED was activated.	
The number of those cases where return of spontaneous circulation (ROSC) was achieved	
The number of cases that presented in Ventricular Fibrillation (VF).	
The number of those cases where ROSC was achieved.	
The number of cases that presented in witnessed VF.	
The number of those cases where ROSC was achieved.	
The 90% fractile times from first notification to on-scene, to with patient and to first analysis, in case of secondary PSAP, time received.	
The number of cases of cardiac arrest responded to where the AED was not activated and the 90% fractile time from first notification to on-scene for those cases, in case of secondary PSAP, time received.	

I. PURPOSE

A. To provide for system wide lay rescuer automated external defibrillation standards, review and oversight by Ventura County Emergency Medical Services.

B. To provide structure to programs implementing automated external defibrillators for use by lay persons treating victims of cardiac arrest.

C. To provide for integration of public access defibrillation (PAD) programs in the established emergency medical services system.

D. To provide a mechanism for AED quality improvement throughout the Ventura County EMS System.

II. AUTHORITY

A. California Health and Safety Code Sections 1797.5, 1797.107, 1797.190, 1797.196 and 104113.

III. SERVICES PROVIDED AND APPLICABILITY

AED programs shall be operated consistent with VCEMS policy and California state statutes and regulations.

IV. DEFINITIONS

A. “AED Service Provider” means any agency, business, organization or individual who purchases an AED for use in a medical emergency involving an unconscious person who is not breathing normally. This definition does not apply to individuals who have been prescribed an AED by a physician for use on a specifically identified individual.

B. “Automated External Defibrillator” or “AED” means an external defibrillator that, after user activation, is capable of cardiac rhythm analysis and will charge and deliver a shock, either automatically or by user interaction, after electronically detecting and assessing ventricular fibrillation or rapid ventricular tachycardia.

C. “Lay Rescuer” means any person, not otherwise licensed or certified to use the automated external defibrillator, who has met the training standards of this policy.

D. “Cardiopulmonary resuscitation” or “CPR” means a basic emergency procedure for life support, consisting of artificial respiration, manual external cardiac massage, and maneuvers for relief of foreign body airway obstruction.

E. “Internal Emergency Response Plan” means a written Internal Emergency Response Plan of action which utilizes responders within a facility to activate the “9-1-1” emergency system, and which provides for the access, coordination, and management of immediate medical care to seriously ill or injured individuals.

F. “Health studio” means a facility permitting the use of its facilities and equipment or access to its facilities and equipment, to individuals or groups for physical exercise, body building, reducing, figure development, fitness training, or any other similar purpose, on a membership basis. “Health studio” does not include a hotel or similar business that offers fitness facilities to its registered guests for a fee or as part of the hotel charges.

V. AED VENDOR REQUIREMENTS:

Any AED vendor who sells an AED to an AED Service Provider shall:

A. Notify the AED Service Provider, at the time of purchase, in writing of the AED Service Provider’s responsibility to comply with this policy.

B. Provide to the acquirer of the AED all information governing the use, installation, operation, training, and maintenance of the AED.

VI. GENERAL TRAINING PROVISIONS: APPLICATION AND SCOPE

A. In an emergency situation, always call 9-1-1 first. A 9-1-1 operator can provide directions on how you can help someone experiencing sudden cardiac arrest. AEDs are not difficult to use, but **training in the use of AEDs is highly recommended**. This training, in connection with CPR training, is offered by major health organizations such as the American Heart Association and Red Cross as well as a number of private companies.

B. The training standards prescribed by this policy shall apply to employees of the AED service provider and not to licensed, certified or other prehospital emergency medical care personnel as defined by Section 1797.189 of the California Health and Safety Code.

VII. AED TRAINING PROGRAM REQUIREMENTS:

CPR and AED training shall comply with the American Heart Association or American Red Cross CPR and AED Guidelines. The training shall include the following topics and skills:

A. Basic CPR skills;

B. Proper use, maintenance and periodic inspection of the AED;

C. The importance of;

1. Early activation of an Internal Emergency Response Plan,
2. Early CPR,
3. Early defibrillation, and
4. Early advanced life support

D. Overview of the local EMS system, including 9-1-1 access, and interaction with EMS personnel.

E. Assessment of an unconscious patient, to include evaluation of airway and breathing, to determine appropriateness of applying and activating an AED.

F. Information relating to defibrillator safety precautions to enable the individual to administer a shock without jeopardizing the safety of the patient or the Lay Rescuer or other nearby persons to include, but not limited to;

1. Age and weight restrictions for use of the AED,
2. Presence of water of liquid on or around the victim,
3. Presence of transdermal medications, and
4. Implantable pacemakers or automatic implantable cardioverter-defibrillators;

G. Recognition that an electrical shock has been delivered to the patient and that the defibrillator is no longer charged.

H. Rapid, accurate assessment of the patient's post-shock status to determine if further activation of the AED is necessary; and,

I. The responsibility for continuation of care, such as continued CPR and repeated shocks, as indicated, until the arrival of more medically qualified personnel.

The training standards prescribed by this section shall not apply to licensed, certified or other prehospital emergency medical care personnel as defined by Section 1797.189 of the California Health and Safety Code.

VIII. AED SERVICE PROVIDER OPERATIONAL REQUIREMENTS

A. An AED Service Provider shall do all of the following:

1. Comply with all regulations governing the placement of an AED.
2. Notify an agent of the local EMS agency of the existence, location, and type of AED acquired. (See attachment A)
3. Ensure that the AED is maintained and tested according to the operation and maintenance guidelines set forth by the manufacturer.

4. Ensure that the AED is tested at least biannually and after each use.
5. Ensure that an inspection is made of all AEDs on the premises at least every 90 - days for potential issues related to operability of the device, including a blinking light or other obvious defect that may suggest tampering or that another problem has arisen with the functionality of the AED.
6. Ensure that records of the maintenance and testing required pursuant to this paragraph are maintained.
7. Notify an agent of the local EMS agency of any application and activation of the AED. (see Attachment B)

B. When an AED is placed in a building, the building owner shall do all of the following:
1. At least once a year, notify the tenants as to the location of the AED units and provide information to tenants about who they can contact if they want to voluntarily take AED or CPR training.
2. At least once a year, offer a demonstration to at least one person associated with the building so that the person can be walked through how to use an AED properly in an emergency. The building owner may arrange for the demonstration or partner with a nonprofit organization to do so.
3. Next to the AED, post instructions, in no less than 14-point type, on how to use the AED.

C. A medical director or other physician and surgeon is not required to be involved in the acquisition or placement of an AED.

D. When an AED is placed in a public or private K–12 school, the principal shall ensure that the school administrators and staff annually receive information that describes sudden cardiac arrest, the school's emergency response plan, and the proper use of an AED. The principal shall also ensure that instructions, in no less than 14-point type, on how to use the AED are posted next to every AED. The principal shall, at least annually, notify school employees as to the location of all AED units on the campus.

VIIII. HEALTH STUDIO AED SERVICE PROVIDER OPERATIONAL REQUIREMENTS

A. A Health Studio AED Service Provider shall do all of the following:
1. Every health studio, as defined, shall acquire, maintain, and train personnel in the use of, an automatic external defibrillator pursuant to this section.
2. Comply with all regulations governing the placement of an automatic external defibrillator.

3. Ensure all of the following:
   a. The automatic external defibrillator is maintained and regularly tested according to the operation and maintenance guidelines set forth by the manufacturer, the American Heart Association, or the American Red Cross, and according to any applicable rules and regulations set forth by the governmental authority under the federal Food and Drug Administration and any other applicable state and federal authority.
   b. The automatic external defibrillator is checked for readiness after each use and at least once every 30 days if the automatic external defibrillator has not been used in the preceding 30 days. The health studio shall maintain records of these checks.
   c. A person who renders emergency care or treatment to a person in cardiac arrest by using an automatic external defibrillator activates the emergency medical services system as soon as possible and reports the use of the automatic external defibrillator to the licensed physician and to the local EMS agency.
   d. For every automatic external defibrillator unit acquired, up to five units, no less than one employee per automatic external defibrillator unit shall complete a training course in cardiopulmonary resuscitation and automatic external defibrillator use that complies with the regulations adopted by the Emergency Medical Services Authority and the standards of the American Heart Association or the American Red Cross. After the first five automatic external defibrillator units are acquired, for each additional five automatic external defibrillator units acquired, a minimum of one employee shall be trained beginning with the first additional automatic external defibrillator unit acquired. Acquirers of automatic external defibrillator units shall have trained employees who should be available to respond to an emergency that may involve the use of an automatic external defibrillator unit during staffed operating hours. Acquirers of automatic external defibrillator units may need to train additional employees to ensure that a trained employee is available at all times.
   e. There is a written plan that exists that describes the procedures to be followed in the event of an emergency that may involve the use of an automatic external defibrillator, to ensure compliance with the requirements of this section. The written plan shall include, but not be limited to, immediate notification of 911. and trained office personnel at the start of automatic external defibrillator procedures.

Ventura County EMS Agency

Notice of New Public Access Defibrillation Program

Location of AED	
Name of Building / Business	
Address of Building City, State, Zip	
Floor and/or AED Location Description	
Is AED in public view (yes/no)	
Can public access the AED (yes/no)	
Make/Model of AED	
AED Serial Number	

On-Site Contact Information	
Name of On-Site Contact	
Email Address of On Site Contact	
Phone Number of On-Site Contact	
Mailing Address of On-Site Contact (if different from Business)	

☐ Please check if you wish to be excluded from our Pulse Point Database.
For more information on the Pulse Point Program, please visit:
http://www.pulsepoint.org/

Please complete a separate form for each AED Site. Additional locations on the same site can be listed on page 2

Return this completed form to:
AED Program, Ventura County EMS Agency,
2220 E. Gonzales Road, Suite 200
Oxnard, CA 93036-0619.
Fax: 805-981-5300
email to: EMSAgency@ventura.org

Please call 805-981-5301 with any questions.

For Internal Use Only	Received	Date:	By:
PSAP Notified		Date	By

Requirements for acquiring and placing a public access AED are located in Sections 1797.196 and 104113 of the California Health and Safety Code and 1714.21 of the Civil Code.

Additional Locations on the Same Site

Location of AED	
Building, Floor and/or Room AED Location Description	
Is AED in public view (yes/no)	
Can public access the AED (yes/no)	
Make/Model of AED	
AED Serial Number	

Location of AED	
Building, Floor and/or Room AED Location Description	
Is AED in public view (yes/no)	
Can public access the AED (yes/no)	
Make/Model of AED	
AED Serial Number	

Location of AED	
Building, Floor and/or Room AED Location Description	
Is AED in public view (yes/no)	
Can public access the AED (yes/no)	
Make/Model of AED	
AED Serial Number	

Location of AED	
Building, Floor and/or Room AED Location Description	
Is AED in public view (yes/no)	
Can public access the AED (yes/no)	
Make/Model of AED	
AED Serial Number	

Ventura County EMS Agency
REPORT OF CPR OR AED USE

AED Program (location name)	
AED Provider (defibrillator user)	
Place of Occurrence (address and specific site)	
Date Incident Occurred	
Time of Incident	
Patient's Name (if able to determine)	
Patient's Age (Estimate if unable to determine)	
Patient's Sex (Male or Female)	
Time (Indicate best known or approximated time lapse between events):	
• Witnessed arrest to CPR	min(s)
• Witnessed arrest to 9-1-1 Called	min(s)
• Witnessed arrest to first shock	min(s)
• Patient contact to first shock	min(s)
• 9-1-1 to arrival on scene	min(s)
• 9-1-1 to first shock	min(s)
Total number of defibrillation shocks	

Was the cause of the arrest determined?	Yes	No
Was the cause of the arrest cardiac?	Yes	No
Was the arrest witnessed?	Yes	No
Was bystander CPR implemented?	Yes	No
Was there any return of spontaneous circulation?	Yes	No

Please attach any additional information that you think would be helpful.

This form must be completed and sent to Ventura County EMS within 96 hours of a cardiac arrest incident at an AED site. Send this completed form to:

Ventura County EMS - AED Program
2220 E. Gonzales Road, Suite 200
Oxnard, CA 93036-0619

Phone: 805-981-5301 **FAX: 805-981-5300** **email:** EMSAgency@ventura.org

Office Use Only

• Date Received by EMS Agency	
• Patient prehospital outcome	
• Patient discharged from hospital?	

<table>
<tr><td colspan="2">COUNTY OF VENTURA
HEALTH CARE AGENCY</td><td colspan="2">EMERGENCY MEDICAL SERVICES
POLICIES AND PROCEDURES</td></tr>
<tr><td colspan="3">Policy Title:
BLS And ALS Unit Equipment And Supplies</td><td>Policy Number:
504</td></tr>
<tr><td>APPROVED:
Administration:</td><td colspan="2">Steven L. Carroll, Paramedic</td><td>Date: June 1, 2024</td></tr>
<tr><td>APPROVED:
Medical Director</td><td colspan="2">Daniel Shepherd, MD</td><td>Date: June 1, 2024</td></tr>
<tr><td>Origination Date:
Date Revised:
Last Reviewed:
Review Date:</td><td>May 24, 1987
January 12, 2023
February 8, 2024
February 28, 2025</td><td colspan="2">Effective Date: June 1, 2024</td></tr>
</table>

I. PURPOSE: To provide a standardized list of equipment and supplies for response and/or transport units in Ventura County.

II. POLICY: Each response and/or transport unit in Ventura County shall be equipped and supplied according to the requirements of this policy.

III. AUTHORITY: California Health and Safety Code Section 1797.178, 1797.204, 1797.218, 1797.221 and California Code of Regulations Sections 100148, 100306, 100404

IV. DEFINITIONS:

BLS – Basic Life Support Unit

ALS – Advanced Life Support Unit

PSV – Paramedic Support Vehicle or Paramedic Supervisor Vehicle

CCT – Critical Care Transport Unit

BLS Command – Basic Life Support Staffed Command Vehicle

FR/ALS – First Responder Advanced Life Support Unit

Search and Rescue – Sheriff's SAR Helicopter Unit

V. PROCEDURE:

The following equipment and supplies shall be maintained on each response and/or transport unit in Ventura County.

Deviation from the standards outlined in this policy shall only be authorized with written approval (see attached Equipment/Medication Waiver Request form) from the VCEMS

Medical Director. Mitigation attempts should be documented in the comment section on the waiver request form, such as what vendors were contacted, etc.

	BLS Unit Minimum Amount	BLS Command Minimum Amount	ALS Unit Minimum Amount	PSV/CCT Minimum Amount	FR/ALS Minimum Amount	Search and Rescue Minimum Amounts
A. ALL BLS AND ALS RESPONSE AND/OR TRANSPORT UNITS						
Bag valve units with appropriate masks Adult (1,000 mL) Child (500 mL) Infant (240 mL)	1 each	1 each	1 each	1 each	1 each	1 adult
Nasal cannula Adult	3	3	3	3	3	3
Nasopharyngeal airway 14 French 18 French 20 French 22 French 24 French 26 French 28 French 32 French 34 French 36 French	1 each	1 each	1 each	1 each	1 each	1 each
Continuous positive airway pressure / Bi-level Positive Airway Pressure (CPAP/BiPap) device	1 Child 1 Small Adult 1 Adult	Optional	1 Child 1 Small Adult 1 Adult	1 Child 1 Small Adult 1 Adult	1 Child 1 Small Adult 1 Adult	1 Child 1 Small Adult 1 Adult
Nerve Agent Antidote DuoDote Auto-Injector	Optional	Optional	3	3	3	Optional
Blood glucose determination devices	1	Optional	2	1	1	1
Occlusive Dressing or Chest Seal	5	5	5	5	5	5
Oral glucose 15gm unit dose	1	1	1	1	1	1
Oropharyngeal Airways 40 mm (Size 00) 50 mm (Size 0) 60mm (Size 1) 70 mm (Size 2) 80 mm (Size 3) 90 mm (Size 4) 100 mm (Size 5) 110 mm (Size 6)	1 each size	1 each size	1 each size	1 each size	1 each size	1 each size
Oxygen with appropriate adjuncts (portability required)	15 L/min for 20 minutes (40 minutes for transport units)	15 L/min for 20 minutes	15 L/min for 20 minutes (40 minutes for transport units)	15 L/min for 20 mins.	15 L/min for 20 mins.	15 L/min for 20 mins.
Portable suction equipment	1	1	1	1	1	1
Nonrebreather oxygen masks Adult Child Infant	 3 3 2	 2 2 2	 3 3 2	 2 2 2	 2 2 2	 2 2 2
Bandage scissors	1	1	1	1	1	1

	BLS Unit Minimum Amount	BLS Command Minimum Amount	ALS Unit Minimum Amount	PSV/CCT Minimum Amount	FR/ALS Minimum Amount	Search and Rescue Minimum Amounts
Bandages						
• 4"x4" sterile compresses or equivalent	12	12	12	12	12	5
• 2",3",4" or 6" roller bandages	6	2	6	2	6	4
• 10"x 30" or larger dressing	2	0	2	0	2	2
Blood pressure cuffs						
Thigh	1	1	1	1	1	1
Adult	1	1	1	1	1	1
Child	1	1	1	1	1	1
Infant	1	1	1	1	1	1
Emesis basin/bag	1	1	1	1	1	1
Flashlight	1	1	1	1	1	1
Traction splint or equivalent device	1	N/A	1	1	1	1
Pneumatic or rigid splints (capable of splinting all extremities)	4	N/A	4	4	4	4
Potable water or saline solution	4 liters	N/A	4 liters	4 liters	4 liters	4 liters
Cervical collar	2	N/A	2	2	2	2
Spinal immobilization backboard 60" minimum with at least 3 sets of straps	1	N/A	1	N/A	1	1
Sterile obstetrical kit	1	1	1	1	1	1
Tongue depressor	4	Optional	4	Optional	Optional	Optional
Cold packs	4	2	4	4	4	4
Eye Shield	2	N/A	2	2	2	2
Tourniquet	2	2	2	2	2	2
1 mL,5 mL, and 10 mL syringes with IM needles	N/A	N/A	4	4	4	4
Automated External Defibrillator	1	1	N/A	N/A	N/A	N/A
Manual Defibrillator	N/A	N/A	1	1	1	1
Defibrillator pads	2 adult 2 peds	2 adult 2 peds	2 adult 2 peds	2 adult 2 peds	2 adult 2 peds	2 adult 2 peds.
Stethoscope	1	1	1	1	1	1
Cellular telephone	1	1	1	1	1	1
CO_2 monitor Infant (<0.5 mL sidestream or <1 mL mainstream adaptor) Pediatric / Adult (6.6 mL sidestream or < 5 mL mainstream adaptor)	Optional	Optional	2 of each	2 of each	2 of each	2 of each
CO_2 Monitor Adult size EtCO2 sampling nasal cannula Pediatric size EtCO2 sampling nasal cannula	Optional	Optional	1 of each	1 of each	1 of each	1 of each
Pediatric length and weight tape	1	1	1	1	1	1
Intranasal mucosal atomization device	Optional	Optional	2	2	2	2
SpO_2 Monitor (If not attached to cardiac monitor)	1	1	1	1	1	1
SpO2 Adhesive Sensor (Adult, Pediatric, Infant)	Optional	Optional	1 of each	1 of each	1 of each	1 of each
Thermometer	1	Optional	1	1	1	Optional
Personal Protective Equipment per State Guideline #216						
Rescue helmet	2	N/A	2	1	N/A	N/A
EMS jacket	2	N/A	2	1	N/A	N/A
Work goggles	2	N/A	2	1	N/A	N/A

	BLS Unit Minimum Amount	BLS Command Minimum Amount	ALS Unit Minimum Amount	PSV/CCT Minimum Amount	FR/ALS Minimum Amount	Search and Rescue Minimum Amounts
Tyvek suit	2 L / 2 XXL	N/A	2 L / 2 XXL	1 L / 1 XXL	N/A	N/A
Tychem hooded suit	2 L / 2 XXL	N/A	2 L / 2 XXL	1 L / 1 XXL	N/A	N/A
Nitrile gloves	1 Med / 1 XL	N/A	1 Med / 1 XL	1 Med / 1 XL	N/A	N/A
Disposable footwear covers	1 Box	N/A	1 Box	1 Box	N/A	N/A
Leather work gloves	3 L Sets	N/A	3 L Sets	1 L Set	N/A	N/A
Field operations guide	1	N/A	1	1	N/A	N/A
OPTIONAL EQUIPMENT (No minimums apply)						
Hemostatic gauze per EMSA guidelines						

	BLS Unit Minimum Amount	BLS Command Minimum Amount	ALS Unit Minimum Amount	PSV/CCT Minimum Amount	FR/ALS Minimum Amount	Search and Rescue Minimum Amounts
B. TRANSPORT UNIT REQUIREMENTS						
Ambulance gurney	1	N/A	1	N/A	N/A	N/A
Collapsible stretcher or flat	1	N/A	1	N/A	N/A	2
KED or equivalent (One required for transport units)	1	N/A	1	N/A	N/A	N/A
Straps to secure the patient to the stretcher or ambulance cot and means of securing the stretcher or ambulance cot in the vehicle.	1 set	N/A	1 Set	N/A	N/A	1 Set
Powered portable suction unit	1	N/A	1	N/A	N/A	N/A
Soft ankle and wrist restraints.	1 set of each	N/A	1 set of each	N/A	N/A	0
Sheets, pillowcases, blankets and towels for each stretcher or ambulance cot, and two pillows for each ambulance	1	N/A	1	N/A	N/A	0
Bedpan	1	N/A	1	N/A	N/A	N/A
Urinal	1	N/A	1	N/A	N/A	N/A

	BLS Unit Minimum Amount	BLS Command Minimum Amount	ALS Unit Minimum Amount	PSV/CCT Minimum Amount	FR/ALS Minimum Amount	Search and Rescue Minimum Amounts
C. ALS UNIT REQUIREMENTS						
Supraglottic Airway Devices: I-Gel with passive oxygenation port Sizes 1, 1.5, 2, 2.5, 3, 4, 5	N/A	N/A	2 of each	1 of each	1 of each	1 of each
I-Gel Airway Support Straps	N/A	N/A	2	2	2	2
Arm Boards 9” 18”	N/A	N/A	 3 3	 0 0	 1 1	 0 0
Colorimetric CO2 Detector Device	N/A	N/A	1	1	1	1
EKG Electrodes	N/A	N/A	10 sets	3 sets	3 sets	6 sets
Endotracheal tubes, sizes 6.0, 6.5, 7.0, 7.5, 8.0 with stylets	N/A	N/A	1 of each size	1 of each size	1 of each size	1 of each size
EZ-IO intraosseous infusion system	N/A	N/A	1 Each Size	1 Each Size	1 Each Size	1 Each Size
IV admin set - macrodrip	N/A	N/A	8	4	4	4
IV catheter, Sizes 14, 16, 18, 20, 22, 24	N/A	N/A	6 each 14, 16, 18, 20 3 each 22 3 each 24	2 each	2 each	2 each
Laryngoscope, replacement bulbs and batteries Curved blade #2, 3, 4 Straight blade #1, 2, 3	N/A	N/A	1 set 1 each 1 each	1 set 1 each 1 each	1 set 1 each 1 each	1 set 1 each 1 each
Magill forceps Adult Pediatric	N/A	N/A	 1 1	 1 1	 1 1	 1 1
Nebulizer	N/A	N/A	2	2	2	2
Nebulizer with in-line adapter	N/A	N/A	1	1	1	1
Needle Thoracostomy kit	N/A	N/A	2	2	2	2
Flexible intubation stylet	N/A	N/A	1	1	1	1
OPTIONAL ALS EQUIPMENT (No minimums apply)						
Cyanide Antidote Kit						
Needle Thoracostomy Anatomical Landmark Guide						

	BLS Unit Minimum Amount	BLS Command Minimum Amount	ALS Unit Minimum Amount	PSV/CCT Minimum Amount	FR/ALS Minimum Amount	Search and Rescue Minimum Amounts
D. ALS MEDICATION, MINIMUM AMOUNT						
Adenosine, 6 mg	N/A	N/A	5	5	5	5
Albuterol 2.5mg/3ml	N/A	N/A	6	2	2	2
Aspirin, 81mg	N/A	N/A	4 ea 81 mg	4 ea 81 mg	4 ea 81 mg	4 ea 81 mg
Amiodarone, 50mg/ml 3ml	N/A	N/A	6	3	6	3
Atropine sulfate, 1 mg/10 ml	N/A	N/A	3	2	2	2
Diphenhydramine (Benadryl), 50 mg/ml	N/A	N/A	2	1	1	2
Calcium chloride, 1000 mg/10 ml	N/A	N/A	2	1	1	1
Dextrose						
• 5% 50ml, AND	N/A	N/A	2	1	2	1
• 10% 250 ml	N/A	N/A	2	2	2	2
Epinephrine						
• Epinephrine , 1mg/ml						
• 1 mL ampule / vial, OR	N/A	N/A	5	5	5	5
• Adult auto-injector (0.3 mg),	N/A	N/A	Optional	Optional	Optional	Optional
Peds auto-injector (0.15 mg)	N/A	N/A	Optional	Optional	Optional	Optional
• Epinephrine 0.1mg/ml (1 mg/10ml preparation)	N/A	N/A	6	3	6	4
Fentanyl, 50 mcg/mL	N/A	N/A	200 mcg	200 mcg	200 mcg	200 mcg
Glucagon, 1 mg/ml	N/A	N/A	2	1	2	1
Intravenous Fluids (in flexible containers) • Normal saline solution, 100 ml • Normal saline solution, 500 ml • Normal saline solution, 1000 ml	N/A	N/A	2 2 6	1 1 2	1 1 4	1 1 3
Lidocaine, 100 mg/5ml	N/A	N/A	2	2	2	2
Magnesium sulfate, 1 gm per 2 ml	N/A	N/A	4	4	4	4
Midazolam Hydrochloride (Versed)	N/A	N/A	5 mg/ml 2 vials	5 mg/ml 2 vials	5 mg/ml 2 vials	5 mg/ml 2 vials
Morphine sulfate, 10 mg/ml (Only required during a Fentanyl shortage)	N/A	N/A	2	2	2	2
Naloxone Hydrochloride (Narcan)						
• IN concentration - 4 mg in 0.1 mL (with atomizer)	N/A	N/A	Optional	Optional	Optional	Optional
• IM / IV concentration – 2 mg in 2 mL preload	N/A	N/A	5	5	5	5
Nitroglycerine preparations, 0.4 mg	N/A	N/A	1 bottle	1 bottle	1 bottle	1 bottle
Normal saline flush, 5 or 10 ml	N/A	N/A	5	5	5	5
Ondansetron (Zofran) • 4 mg IV single use vial • 4 mg oral	N/A N/A	N/A N/A	4 4	4 4	4 4	4 4
Sodium Bicarbonate 8.4%, 1 mEq/mL (50 mL)	N/A	N/A	4	2	2	2
Tranexamic Acid (TXA) 1 gm/10 mL	N/A	N/A	2	1	1	1

	BLS Unit Minimum Amount	BLS Command Minimum Amount	ALS Unit Minimum Amount	PSV/CCT Minimum Amount	FR/ALS Minimum Amount	Search and Rescue Minimum Amounts
E. BLS MEDICATION, MINIMUM AMOUNT						
Epinephrine • Epinephrine , 1mg/ml						
• 1 mL ampule / vial (with syringe and needle), OR	2	2	N/A	N/A	N/A	N/A
• Adult auto-injector (0.3 mg), AND	2	2	N/A	N/A	N/A	N/A
Peds auto-injector (0.15 mg)	2	2	N/A	N/A	N/A	N/A
Naloxone Hydrochloride (Narcan)						
• IN concentration - 4 mg in 0.1 mL (with atomizer) OR	2	2	N/A	N/A	N/A	N/A
• IM / IV concentration – 2 mg in 2 mL preload	2	2	N/A	N/A	N/A	N/A