Operations Subcommittee
of the Emergency Medical Care Committee

Meeting Agenda:
9 A.M.,Thursday October 5th, 2023
Location: SLOEMSA Conference Room
2995 McMillan Ave, STE #178, San Luis Obispo

Members
Jay Wells, *Sheriff's Department, CHAIR*
Tim Benes, *Ambulance Providers*
Scotty Jalbert, *Office of Emergency Services*
Aften Porras, *Med-Com*
Adam Forrest, M.D., *Hospitals*
Chief Steve Lieberman, *Fire Service*
Kris Strommen, *Ambulance Providers*
Rob Jenkins*, Fire Service*
Lisa Epps, *Air Ambulance Providers*
Aaron Hartney, *Air Ambulance Providers*
Gerry Perez, *CHP*
Deputy Chief Sammy Fox, *Fire Service*
Vacant, *Law Enforcement*
Chief Casey Bryson, *Fire Service*
Chief Dan McCrain, *Fire Service*
Roger Colombo, *Field Provider-Paramedic*

Staff
STAFF LIAISON, Ryan Rosander*, EMS Coordinator*
Vince Pierucci, *EMS Division Director*
Bill Mulkerin, M.D., *Medical Director*
Rachel Oakley, *EMS Coordinator*
Davis Goss, *EMS Coordinator*
Sara Schwall, *Administrative Assistant*

AGENDA	ITEM	LEAD
Call to Order	Introductions Public Comment	Jay Wells
Summary Notes	Review of Summary Notes August 3rd, 2023	
Discussion	Policy #343: Field Training Officer (FTO) Revision Amendments	Ryan Rosander
Discussion	Amiodarone Adoption	David Goss

Adjourn	Declaration of Future Agenda Items Next Meeting Date: December 7th, 2023, 9:00 A.M. Location: SLOEMSA Conference Room 2995 McMillan Ave, STE #178, San Luis Obispo	Jay Wells

DRAFT

Operations Subcommittee
of the Emergency Medical Care Committee

Meeting Minutes
Thursday, August 3, 2023
SLO EMSA Conference Room – 2995 McMillan Ave, Suite 178, San Luis Obispo

Members		Staff	
☐	CHAIR Jay Wells, Sheriff's Department	☒	Vince Pierucci., EMS Division Director
☒	Tim Benes, Ambulance Providers	☒	Bill Mulkerin, MD, Medical Director
☐	Scotty Jalbert, OES	☒	Rachel Oakley, EMS Coordinator
☒	Rob Jenkins, Fire Service	☒	David Goss, EMS Coordinator
☒	Adam Forrest, MD, Hospitals	☒	Ryan Rosander, EMS Coordinator
☐	Chief Steve Lieberman, Fire Service	☒	Sara Schwall, EMS Administrative Assistant
☒	Kris Strommen, Ambulance Providers		
☐	Lisa Epps, Air Ambulance Providers		
☒	Chief Casey Bryson, Fire Service		
☐	Gerry Perez, CHP		
☒	Chief Sammy Fox, Fire Service	Guests: Mike Smiley, Cuesta Paramedic Program Director	
☐	Roger Colombo, Field Provider, Paramedics		
☐	Aften Porras, Med-Com		
☐	Aaron Hartney, Air Ambulance Providers		
☒	Chief Casey Bryson, Fire Service		
☐	Vacant, Law Enforcement		

AGENDA ITEM / DISCUSSION	ACTION / FOLLOW-UP
CALL TO ORDER—9:01 am	
Introductions	
Public Comment – None	
APPROVAL OF MINUTES – Approved	
DISCUSSION ITEMS	

Policy 343: Field Training Officer (FTO)
- The FTO policy 343 has not been revised since 2017. These revisions will help reflect the current EMS system.
- Requirement Changes
  o Two years full-time field experience
  o Letter from provider stating full-time field status
- FTO I
  o Work with accreditation candidates
- FTO II / Preceptor
  o Work with internship candidates as well as accreditations
- FTO Liaison
  o Shall have FTO II status and represent their agency at EMSA meetings. Responsible for training FTO I applicants
- Initial Application
  o FTO I shall attend orientation class by FTO Liaison
  o FTO II shall attend preceptor orientation class by local paramedic program
- Renewal Process
  o Correlates with two-year accreditation cycle
Discussion
C. Bryson says for smaller agencies, it would be difficult to meet internship/ accreditation requirements. Recommends clarifying language regarding exceptions.
D. McCrain and C. Bryson suggest swapping interns between ambulance and fire providers.
K. Strommen suggests a level below FTO I to allow some personnel to sign off on skills sheets.
 	
Items Moving Forward
Return to committee with policy revisions
	Ryan Rosander

ADJOURN – 9:30 am	
Next Meeting: October 5, 2023, 09:00 A.M. Location: SLO EMSA - 2995 McMillan Ave, Suite 178, San Luis Obispo	

AGENDA ITEM / DISCUSSION	ACTION / FOLLOW-UP

COUNTY OF SAN LUIS OBISPO HEALTH AGENCY
PUBLIC HEALTH DEPARTMENT
Nicholas Drews *Health Agency Director*
Penny Borenstein, MD, MPH *Health Officer/Public Health Director*

MEETING DATE	October 5th, 2023
STAFF CONTACT	Ryan Rosander, EMS Coordinator 805.788.2513 rrosander@co.slo.ca.us
SUBJECT	Revisions to Policy #343: Field Training Officer (FTO) Program and Policy #343 Attachment A.
SUMMARY	Revision of Policy #343 and recommendations discussed in Operations on August 3rd: • FTO I and FTO II duties and requirements • FTO Liaison duties and requirements • Process and requirements for application/reapplication for all FTOs • Continuing requirements for FTO I & II
REVIEWED BY	Vince Pierucci, Dr. Bill Mulkerin, Cuesta College Paramedic Program Director, SLOEMSA Staff, Operations Subcommittee
RECOMMENDED ACTION(S)	Recommend Policy #343 & Attachment A for Operations adoption and move to EMCC agenda.
ATTACHMENT(S)	Operations PowerPoint Presentation, Policy #343 & Attachment A Draft

COUNTY OF SAN LUIS OBISPO HEALTH AGENCY
PUBLIC HEALTH DEPARTMENT
Nicholas Drews *Health Agency Director*
Penny Borenstein, MD, MPH *Health Officer/Public Health Director*

MEETING DATE	October 5th, 2023
STAFF CONTACT	David Goss, EMS Coordinator 805.788.2514 dgoss@co.slo.ca.us
SUBJECT	Addition of Amiodarone
SUMMARY	While reviewing potential improvements to the EMS system, Amiodarone was found to be a potential improvement to out of hospital cardiac arrest patients and patients experiencing Ventricular Tachycardia with Pulse. In an effort to follow ACLS and numerous LEMSAs throughout the State of California, Amiodarone was brought to the Clinical Advisory Subcommittee and has given their recommendation to be brought to the Operations Subcommittee for review. Following recommendation and adoption by Operations, Amiodarone would be sent to EMCC for review. Potential Implementation date would be July 1st, 2024 with training occurring during the 2024 SLOEMSA Update Class.
REVIEWED BY	Vince Pierucci, Dr. William Mulkerin, SLOEMSA Staff
RECOMMENDED ACTION(S)	Recommend Amiodarone for adoption by Operations and move to EMCC Agenda
ATTACHMENT(S)	Operations PowerPoint Presentation, Amiodarone Formulary, Lidocaine Formulary, Protocol #641, Protocol #641 Attachment A, Protocol #641 Attachment B, Protocol #643, Policy #205 Attachment A.

POLICY # 343: FIELD TRAINING OFFICER (FTO) PROGRAM

I. PURPOSE

A. To establish and implement criteria, ongoing requirements, and the designation of authorized Field Training Officers (FTO I) / Preceptors (FTO II) for the training of standardized Advanced Life Support (ALS), and overall field quality improvement (QI) phases of the EMS System in the County of San Luis Obispo (SLO).

II. SCOPE

A. This applies to all ALS Providers in the County of San Luis Obispo, who are interested in, or are designated as an FTO I / FTO II for their agency.

III. DEFINITIONS

- Field Training Officer I (FTO I): A SLO County accredited paramedic designated to conduct pre-accreditation field evaluations and QI activities as assigned by their ALS employer with oversight by San Luis Obispo County Emergency Medical Services Agency (SLOEMSA). An FTO I shall be a paramedic actively working full-time in the field.
- A Field Training Officer II (FTO II): A SLO County accredited paramedic designated to conduct pre-accreditation field evaluations, paramedic student internships, and QI activities as assigned by their ALS employer with oversight by SLOEMSA. An FTO II shall be a paramedic actively working full-time in the field.
- Preceptor: Another term used to define an FTO II. FTO II and Preceptor can be used interchangeably, referencing the same job title and responsibilities.
- Full-time field employment: A routinely scheduled paramedic working in a 911 EMS system equal to or greater than 40 hours a week. Per diem and or part-time status working 40+ hours, does not meet this requirement. Full-time field employment shall also be defined as working on an ALS fire apparatus or transport-capable ALS ambulance. An exception can be made upon approval of SLOEMSA.
- Yearly EMS Update Class: An update class hosted by the SLOEMSA that is made mandatory for all paramedics accredited in SLO County to continue their accreditation status.
- FTO Liaison: An FTO II or an agency administrator, taking on a leadership/training officer role representing their agency at FTO meetings and acting as a point of contact to SLOEMSA for FTO-related matters, unless otherwise designated by SLOEMSA.
- Paramedic skill evaluator: a SLOEMSA approved paramedic evaluator who may sign off paramedic skill annual verification tracking sheets. This evaluator does not need to be an FTO. Reference SLOEMSA Policy #342: Emergency Medical Technician Paramedic Reaccreditation.

IV. POLICY

A. Paramedic skill evaluator is a SLOEMSA approved paramedic who may sign off paramedic skill annual verification tracking sheets. This evaluator does not need to be an FTO. Shall an agency have the need for additional paramedic skill evaluators, the agency shall forward the names of the selected evaluators to SLOEMSA for approval. Reference SLOEMSA Policy #342: Emergency Medical Technician Paramedic Reaccreditation.

B. Any FTOs in SLO County are under direct supervision from the SLOEMSA's Medical Director for maintenance and implementation of all current field policies/procedures. All policies/procedures or Continuous Quality Improvement (CQI) criteria that are under maintenance or being evaluated are to the kept confidential unless specified otherwise by SLOEMSA's Medical Director.

C. Any prospective FTO shall have:

1. A current and valid California Paramedic License.
2. A minimum of two years full-time 911 EMS system field experience.
3. A minimum of one year full-time in SLO County.
4. A current and valid SLO County Accreditation.
5. Letter from their primary ALS provider stating full-time field employment status.
6. Letter of support from their primary ALS employer to apply for the position of FTO.
7. Letter of Recommendation from a Mobile Intensive Care Nurse (MICN) from any SLO County Base Hospital, a local Emergency Department Physician not directly affiliated with that applicant's agency, SLOEMSA Medical Director, or an agency EMS Coordinator.

D. An FTO I is responsible for the following duties and requirements:

1. Assisting accreditation candidates in the testing and completion of County requirements. The FTO I is to assure that all candidates are educated and maintain current policies/procedures for ALS field operations in the county of San Luis Obispo. Any instances of non-compliance with County policies and procedures shall be documented on an OFI form (Policy 100 Attachment C) and forwarded to SLOEMSA for review.
2. The FTO I shall also be responsible for assisting accredited paramedics with remediation set by either SLOEMSA or their agency. Time requirements for this remediation shall be set up and followed upon approval of SLOEMSA.
3. The FTO I shall attend a yearly FTO Update Class. This class shall be hosted during the first two classes of the yearly EMS update class. This class will satisfy their requirements for attending their yearly EMS update class along with their FTO update requirement. If an FTO I is unable to attend their yearly FTO class, they shall notify SLOEMSA in advance to arrange an alternative.

4. To maintain FTO I status, a SLO County FTO I shall have overseen and attended to a minimum of two accreditees in the field during a two-year period. This two-year period shall be correlated with the FTO I's accreditation cycle. An exception can be made upon approval of SLOEMSA.

E. An FTO II is responsible for the following duties and requirements:

1. Assisting both interns and accreditation candidates in the testing and completion of County/State requirements. The FTO II assures that all candidates are educated and maintain current policies/procedures for ALS field operations. Any instances of non-compliance with County policies and procedures shall be documented on an OFI form (Policy 100 Attachment C) and forwarded to SLOEMSA for review.
2. SLO County FTO II shall also be responsible for assisting accredited paramedics with remediation set by either SLOEMSA or their agency. Time requirements for this remediation shall be set up and followed upon approval of SLOEMSA.
3. All FTO IIs shall attend a yearly FTO Update Class. This class shall be hosted during the first two classes of the yearly EMS update class. This class will satisfy their requirements for attending their yearly EMS update class along with their FTO update requirement. If an FTO II is unable to attend their yearly FTO class, they shall notify SLOEMSA in advance to arrange an alternative.
5. To maintain SLO County FTO II status, an FTO II shall have overseen and attended to a minimum of two accreditees or paramedic interns in the field during a two-year period. This two-year period shall be correlated with the FTO II's accreditation cycle. An exception can be made upon approval of SLOEMSA.

F. Correlating with their two-year accreditation cycle, all San Luis Obispo County FTOs shall re-apply for their FTO status and show proof of which accreditees or interns they have overseen (Policy 343 Attachment A). If an FTO has been unable to satisfy the required number of accreditees/interns due to a lack of available interns/accreditees or any other unforeseen circumstances, an explanation shall be submitted to SLOEMSA for review. Acceptable substitutions for unmet accreditations or internships will include, but not be limited to, any EMS training-related activities the FTO has been involved with within their agency during the FTO's two-year accreditation cycle.

G. Each agency shall assign one FTO Liaison to act as their lead FTO/training officer, unless otherwise stated by SLOEMSA. All FTO Liaisons shall have current FTO II status or fulfill an administrator role within their agency. Their responsibilities are:

1. Attending required FTO meetings set forth by the SLOEMSA. Only the agency's FTO Liaison shall be allowed into these meetings. FTO Liaisons are to then relay the details of the meeting to their respective agencies and distribute said information to the other FTOs.

2. Submit or oversee the submission of any application for internship or accreditation when starting said internship/accreditation from their ALS provider. Provide recommendation & policies 341 & 342 upon completion.
3. Maintain a log of all interns and accreditations for their ALS provider that, upon request, can be made available to SLOEMSA.
4. Attesting FTO applicants took the SLO County Accreditation written test in their presence and passed with a score of 80% or better.
5. The FTO Liaison shall mentor, guide, and otherwise be responsible for training FTO I applicants upon completing the required steps in obtaining FTO I status.
6. Communicating with SLOEMSA regarding FTO-related matters.
7. Coordinating any ride-along SLOEMSA would like to conduct to monitor the performance of the FTO program.

H. If an FTO Liaison is to vacate their position at their agency, correspondence shall be submitted to SLOEMSA stating that person's removal from the position along with providing their replacement. This is to be submitted to SLOEMSA within 7 days of the FTO Liaison's resignation. The start date for the replacement Liaison shall be considered immediate unless otherwise designated by SLOEMSA.

I. Any exception to this policy is subject to Medical Director approval.

V. PROCEDURE

A. SLOEMSA will open the FTO application process when the need exists for additional FTOs and announce the dates for the application/testing process. Individuals wishing to apply shall present the following documentation to SLOEMSA:

1. A Letter of Intent to apply for the position of SLO County FTO I / II outlining the commitment to perform all FTO duties and keep current on all County requirements outlined within this policy. Within the letter of intent, two questions shall be answered:
   - Why should you be considered for selection as a Field Training Officer?
   - What prior experience do you possess that would be beneficial as a Field Training Officer?
2. A completed SLO County FTO Application. (Policy 343 Attachment A)
3. A Letter of Recommendation from a Mobile Intensive Care Nurse (MICN) from any SLO County Base Hospital, a local Emergency Department Physician not directly affiliated with that applicant's agency, SLOEMSA Medical Director, or an agency EMS Coordinator.
4. A Letter of Support and full-time field employment verification from their primary ALS employer.

B. Following the submission of their application, applicants shall take the SLO County Accreditation written test with supervision of the agency's FTO Liaison. Applicants must pass with a score of 80% or better. Upon passing said exam, applicants shall

be placed on a list of eligible candidates and invited to an oral interview at SLOEMSA. The list shall be valid for one year following testing. Unsuccessful candidates shall wait a minimum of one year before reapplying.

C. For FTO I, if selected, each candidate shall attend an orientation class put on by the agency's FTO Liaison. This will be the final step in the FTO I selection process. This class shall instruct the FTO I on how to manage, guide, and complete paramedic accreditations for San Luis Obispo County. Upon completion of this class, the FTO Liaison shall contact SLOEMSA to relay said information. This shall be done prior to FTO I receiving paramedics to accredit.

D. For FTO II, if selected, each candidate shall attend a required Preceptor orientation class as a final step in the FTO II selection process. This class shall instruct them on how to manage, guide, and complete paramedic internship and pre-accreditation field evaluations. This class shall be hosted and taught by the local paramedic training program, either online or in person. Upon completion of this course, a copy of the certificate shall be submitted to SLOEMSA by the FTO Liaison. This shall be done prior to an FTO II receiving paramedic interns.

E. For those who initially obtained FTO I status and wish to later become an FTO II, they shall notify both SLOEMSA and their agency of their wishes. With approval from their agency and SLOEMSA, the FTO I shall then attend the Preceptor orientation class at the local paramedic training program. Upon completion of this course, the certificate shall be submitted to SLOEMSA by the FTO Liaison affiliated with the agency. This shall be done prior to an FTO I becoming an FTO II and receiving paramedic interns.

F. All FTOs shall re-apply for FTO status after a two-year period. This two-year period shall correlate with the FTO's accreditation cycle. For FTO reapplication, the FTO shall only need to submit a completed SLO County FTO Application (Policy 343 Attachment A), and proof of two accreditations or interns during their two-year accreditation cycle. This shall be submitted along with the FTO's paramedic application for county reaccreditation (Policy 341 & 342 Attachment A).

G. Any FTO may take up to a 6-month leave of absence from FTO status, upon receiving written permission from their employer and SLOEMSA approval. Requests for a leave of absence and date of return shall be submitted in writing to the SLOEMSA. Any absence greater than 6 months shall require reapplication unless otherwise stated by SLOEMSA's Medical Director. During a leave of absence from FTO status, the FTO is still responsible for completing any training set forth by SLOEMSA.

H. Failure to maintain FTO requirements, county policies, or state regulations may result in disciplinary action. This may include revocation of FTO status or action against their accreditation and licensure, depending on the severity of their actions. The authority for disciplinary action is vested in the SLOEMSA Medical Director.

VI. ATTACHMENTS

A. SLOEMSA Field Training Officer (FTO) Application

VII. AUTHORITY

A. Health and Safety Code 1797.94

B. Health and Safety Code 1797.202
C. Health and Safety Code 1797.220
D. Health and Safety Code 1797.172
E. Health and Safety Code 1797.173
F. Health and Safety Code 1797.208

VIII. ATTACHMENTS

A. Field Training Officer (FTO) Application

Approvals:

EMS Agency, Administrator	
EMS Agency, Medical Director	

FIELD TRAINING OFFICER (FTO) APPLICATION

Check One: □ **Initial Application** □ **Renewal** **Check One:** □ **FTO I** □ **FTO II**

APPLICANT INFORMATION	
Last Name:	First Name and Middle Initial:
Primary Employer:	County Accreditation Number:
State License Number:	Personal Email:
Home Phone Number:	Work Email:
# of years as an ALS Provider:	# of years as SLO Co Accredited ALS Provider:

SUBMIT THE FOLLOWING WITH THIS APPLICATION
☐ Letter of intent, expressing interest in becoming an FTO (initial applicants only).
☐ Letter of recommendation from an MICN or ED Physician (initial applicants only).
☐ Letter of support and verification of FT field employment status from primary ALS employer (Initial applicants only).
☐ Copy of Driver's License or government issued photo ID (initial applicants only).
☐ Renewals need proof of completing two internships or acceditations during prior two year cycle

ATTESTATION OF PARAMEDIC FTO APPLICANT	
I hereby certify that I have reviewed and understand the County of San Luis Obispo EMS Policy #343, Field Training Officer (FTO) Program.	
Signature of Paramedic FTO Applicant:	Date:

*****EMS AGENCY USE ONLY BELOW THIS LINE*****	
☐ SLO Co Accreditation Test with 80% or better.	☐ Interview Completed
☐ Additional Training Completed	☐ Note status in Access and update FTO SS
Approved By:	Approval Date:

AMIODARONE (Cordarone®)

Classification: Class III Antiarrhythmic

Action: Prolongs cardiac repolarization. Also has sodium channel blockade, beta adrenergic blockade, and calcium channel blockade effects.

Indications:

1. Cardiac Arrest with Ventricular Fibrillation or Ventricular Tachycardia without Pulses
2. Ventricular Tachycardia with Pulses

Contraindications:

1. **Second Degree Type II Heart Block**
2. **Third Degree Heart Block**
3. **Junctional Bradycardia**
4. **Ventricular ectopy associated with bradycardia.**
5. **Idioventricular rhythm**
6. **Known allergy or sensitivity to Amiodarone.**

Adverse Effects: **CNS: Hypotension, Rhythm Disturbances, Bradycardia, CHF, Cardiac Arrest, Shock, Heart Block, SIADH**
Respiratory: Respiratory Depression, Pulmonary Toxicity
GI: Vomiting, Hepatotoxicity
Skin: Rash
Integumentary: Anaphylaxis
Musculoskeletal: Rhabdomyolysis
Renal: Acute Renal Failure

Administration:

ADULT DOSE

Ventricular Fibrillation/ Ventricular Tachycardia without Pulses:

- **300mg (50 mg/ml) IV/IO push; if rhythm persists after 5 min, 150mg IV/IO push refractory dose.**

Ventricular Tachycardia with Pulses:

- **150mg IV/IO drip over 10 min; repeat in 5 min to a total of 300mg.**

****Add amiodarone to a 100cc bag of Normal Saline with macro drip tubing and mix well.**

PEDIATRIC DOSE

Ventricular Fibrillation/ Ventricular Tachycardia without Pulses:

- **5mg/kg IV/IO push; repeat every 5 min to a max of 15mg/kg**

Ventricular Tachycardia with Pulses:

- **5mg/kg IV/IO over 30 min (using 100cc bag Normal Saline)**

****Add Amiodarone to a 100cc bag of Normal Saline with macro drip tubing and mix well.**

Onset: Immediate

Duration: 10-20 Minutes

LIDOCAINE (Xylocaine®)

Classification: Antidysrhythmic agent

Action: Suppresses ventricular ectopy by stabilizing the myocardial cell membrane.

Indications:

1. Cardiac arrest with ventricular fibrillation or pulseless ventricular tachycardia
2. Post conversion or defibrillation of ventricular rhythms with base contact.
3. Ventricular tachycardia with pulse present
4. Symptomatic/malignant ventricular ectopy

Contraindications:

1. **2° degree type II heart block**
2. **3° degree heart block**
3. **Junctional bradycardia**
4. **Ventricular ectopy associated with bradycardia**
5. **Idioventricular rhythm**
6. **Known allergy to Lidocaine or sensitivity to other anesthetics (report to base).**

Adverse Effects:

Cardiovascular
Bradycardia
Hypotension
Arrest
Blurred vision

Respiratory
Dyspnea
Depression
Apnea

Gastrointestinal
Nausea/vomiting

Neurological
Dizziness
Drowsiness
Paresthesia
Restlessness
Slurred speech
Disorientation
Seizures
Lightheadedness
Tinnitus
Muscle twitching

Administration:

ADULT DOSE

1. **V-Fib/pulseless V-Tach (with SLOEMSA Authorization):** 1.5 mg/kg IVP/IO, repeat every 3-5 minutes, not to exceed 3 mg/kg.
2. **V-Tach with a pulse (with SLOEMSA Authorization):** 1.5 mg/kg IVP, may repeat with 0.75 mg/kg IVP every 5-10 minutes, not to exceed 3 mg/kg.
3. **Pain Management following IO Placement:** 0.5mg/kg (total max dose of 40mg) slow IO push over 60 seconds.

PEDIATRIC DOSE

1. **V-Fib/pulseless V-Tach (with SLOEMSA Authorization):** 1 mg/kg IVP/IO. May repeat every 5 minutes, not to exceed 3 mg/kg.
2. **V-Tach with a pulse (with SLOEMSA Authorization):** 1 mg/kg IVP/IO, may repeat with 0.5 mg/kg IVP/IO every 5-10 minutes, not to exceed 3 mg/kg.
3. **Pain Management following IO Placement:** 0.5mg/kg (total max dose of 40mg) slow IO push over 60 seconds.

Onset: 30 - 90 seconds

Duration: 10 - 20 minutes

Notes:

- Lidocaine may be used as backup to Amiodarone with SLOEMSA authorization (using Policy #205 Attachment C) in cases where Amiodarone stock is unavailable.
- In cases of premature ventricular contractions, assess need and treat underlying cause. Needs include: chest pain, syncope, R on T situations, multifocal and paired PVCs, bigeminy and trigeminy, and PVCs at 6-12 per minute. See appropriate protocols as needed.
- Lidocaine is to be administered no faster than 50mg/min, except in patients in cardiac arrest.

CARDIAC ARREST (ATRAUMATIC)

ADULT	PEDIATRIC (≤34 KG)
BLS Procedures	

• Universal Algorithm #601
• High Performance CPR (HPCPR) (10:1) per Procedure #712
  • Continuous compressions with 1 short breath every 10 compressions
• AED application (if shock advised, administer 30 compressions prior to shocking)
• Pulse Oximetry
  • O_2 administration per Airway Management Protocol #602
	• Same as Adult (except for neonate)
	• Neonate (<1 month) follow AHA guidelines
	• CPR compression to ventilation ratio
	  • Newborn – CPR 3:1
	  • 1 day to 1 month – CPR 15:2
	  • >1 month – HPCPR 10:1
	• AED – pediatric patient >1 year
	• Use Broselow tape or equivalent if available

ALS Procedures	

Rhythm analysis and shocks
• At 200 compressions begin charging the defibrillator while continuing CPR
• Once fully charged, stop CPR for rhythm analysis
• **Defibrillate V-Fib/Pulseless V-tach –** Shock at 120J and immediately resume CPR
  • Subsequent shock, after 2 mins of CPR: 150J, then 200J
  • Recurrent V-fib/Pulseless V-tach use last successful shock level
• **No shock indicated** – dump the charge and immediately resume CPR
V-Fib/Pulseless V-Tach and Non-shockable Rhythms
• **Epinephrine 1:10,000** 1mg IV/IO repeat every 3-5 min
  • Do not give epinephrine during first cycle of CPR
V-Fib/Pulseless V-Tach
• **Amiodarone** 300mg IV/IO push; if rhythm persists after 5 min, administer 150mg IV/IO push refractory dose.
	• **<u>Emphasize resuscitation and HPCPR rather than immediate transport</u>**
	Rhythm analysis and shocks
	• Coordinate compressions and charging same as adult
	• **Defibrillate V-Fib/Pulseless V-Tac**h – shock at 2 J/kg and immediately resume CPR
	  • Subsequent shock, after 2 mins of CPR: 4J/kg
	  • Recurrent V-Fib/Pulseless V-tach use last successful shock level
	• **No shock indicated –** dump the charge and immediately resume CPR
	V-Fib/Pulseless V-Tach and Non-shockable Rhythms
	• **Epinephrine 1:10,000** 0.01 mg/kg (0.1 ml/kg) IV/IO not to exceed 0.3mg, repeat every 3-5 min
	  • Do not give epinephrine during first cycle of CPR
	V-Fib/Pulseless V-Tach
	• **Amiodarone** 5mg/kg IV/IO push; repeat every 5 min to a max of 15mg/kg.

Base Hospital Orders Only	
ROSC with Persistent Hypotension • **Push-Dose Epinephrine 10 mcg/ml** 1ml IV/IO every 1-3 min	Contact closest Base Hospital for additional orders **ROSC with Persistent Hypotension for Age**

- Repeat as needed titrated to SBP >90mmHg
- See notes for mixing instructions

OR

- **Epinephrine Drip** start at 10 mcg/min IV/IO infusion
  - Consider for extended transport
  - See formulary for mixing instructions

Contact STEMI Receiving Center (French Hospital)

- Refractory V-Fib or V-Tach not responsive to treatment
- Request for a change in destination if patient rearrests en route
- Termination orders when unresponsive to resuscitative measures
- As needed

Contact appropriate Base Station per Base Station Report Policy #121 – Atraumatic cardiac arrests due to non-cardiac origin (OD), drowning, etc.)

- **Push-Dose Epinephrine 10 mcg/ml** 1 ml IV/IO (0.1 ml/kg if <10kg) every 1-3 min
  - Repeat as needed titrated to age appropriate SBP
  - See notes for mixing instructions

OR

- **Epinephrine Drip** start at 1 mcg/min, up to max of 10 mcg/min IV/IO infusion
  - Consider for extended transport
  - See formulary for mixing instructions

- As needed

Notes

- **Mixing Push-Dose Epinephrine 10 mcg/ml (1:100,000):** Mix 9 ml of Normal Saline with 1 ml of **Epinephrine 1:10,000**, mix well.
- Use manufacturer recommended energy settings if different from listed.
- Assess for reversible causes:
  - Tension PTX, hypoxia, hypovolemia, hypothermia, hyperkalemia, hypoglycemia, overdose
- Vascular access – IV preferred over IO – continue vascular access attempts even if IO access established)
- Oral Intubation and Supraglottic Airways (Adults) – Utilize if airway is not patent or with maintained ROSC.
- Adult ROSC that is maintained:
  - Obtain 12-lead ECG and vital signs.
  - Transport to the nearest STEMI Receiving Center ***regardless of 12-lead ECG reading.***
  - Maintain O2 Sat greater than or equal to 94%
  - Monitor ETCO2
  - Protect airway with oral intubation or Supraglottic Airway
  - With BP < 100 mmHg, contact SRC (French Hospital) for fluid, or pressors.
- Termination for patients > 34 kg – Contact SRC (French Hospital) for termination orders
  - If the patient remains pulseless and apneic following 20 minutes of resuscitative measures
  - Persistent ETCO2 values < 10 mmHg, consider termination of resuscitation.
  - Documentation shall include the patient's failure to respond to treatment and of a non-viable cardiac rhythm (copy of rhythm strip)

- Pediatric patients less than or equal to 34 kg
  - Stay on scene to establish vascular access, provide for airway management, and administer the first dose of epinephrine followed by 2 min of HPCPR.
  - Evaluate and treat for respiratory causes.
  - Use Broselow tape if available.
  - Contact and transport to the nearest Base Hospital
  - Receiving Hospital shall provide medical direction/termination for pediatric patients.
- Lidocaine may be substituted for Amiodarone with SLOEMSA authorization (via Policy #205 Attachment C) when Amiodarone stock is unavailable. Refer to Lidocaine Formulary for dosages.

ADULT PULSELESS ARREST – (ATRAUMATIC)

Universal Protocol
HPCPR 10:1
Consider Reversible Causes
Monitor $ETCO_2$

- At 200 compressions begin charging the monitor – continue CPR while monitor is charging
- Once fully charged, stop CPR for rhythm analysis

Shockable Rhythm?
V-FIB OR V-TACH

YES

Shocks
- Initial shock at 120J
- Subsequent shocks at 150J then 200J
- Recurrent V-fib/V-tach use last successful shock level

Medications
- **Epinephrine 1:10,000** 1 mg IV/IO repeat every 3-5 min
- **Amiodarone** 300mg IV/IO push; if rhythm persists after 5 min, administer 150mg IV/IO push refractory dose.

NO

- Dump charge
- Continue HPCPR

Medications
- **Epinephrine 1:10,000** 1 mg IV/IO repeat every 3-5 min

Base Orders – **STEMI Receiving Center (French Hospital)**
- **Dopamine** 5-20 mcg/kg/min with SBP<100 mmHg
- Termination of resuscitation if no response after 20 min

Arrests due to non-cardiac origin i.e. OD, drowning – contact appropriate Base per Policy # 121

Notes
- Perform 2 minutes of CPR between treatment modalities
- Pulse checks – perform during rhythm analysis with an organized rhythm >40 bpm
- Organized rhythm <40 BPM continue HPCPR for 2 min, then reassess for ROSC
- ROSC – transport to nearest STEMI Center regardless of 12-lead ECG reading
- Perform 2 minutes of uninterrupted CPR between rhythm analysis
- Immediately resume CPR after defibrillations
- Utilize BVM unless airway compromised or patient has ROSC without adequate respiratory effort
- Use manufacturer recommended energy settings if different from listed

PEDIATRIC PULSELESS ARREST

Universal Protocol
> 1 month – HPCPR 10:1
1 day to 1 month – CPR 15:2
Newborn – CPR 3:1
Consider Reversible Causes
Monitor $ETCO_2$

- At 200 compressions begin charging the monitor – continue CPR while monitor is charging
- Once fully charged, stop CPR for rhythm analysis

Shockable Rhythm?
V-FIB OR V-TACH

YES

Shocks
- Initial shock at 2 J/kg
- Subsequent shocks at 4J/kg
- Recurrent V-fib/V-tach use last successful shock level

Medications
- **Epinephrine 1:10,000** 0.01 mg/kg (0.1 ml/kg) IV/IO, not to exceed 0.3mg, repeat every 3-5 min
- **Amiodarone** 5mg/kg IV/IO Push; repeat every 5 min to max of 15mg/kg

NO

- Dump charge
- Continue HPCPR

Medications
- **Epinephrine 1:10,000** 0.01 mg/kg (0.1 ml/kg) IV/IO, not to exceed 0.3mg, repeat every 3-5 min

Base Hospital Orders
- Contact and transport to the nearest Base Hospital
- Termination of CPR

Notes
- Provide 2 minutes of CPR between treatment modalities
- Pulse checks – perform during rhythm analysis with an organized rhythm >60 BPM
- Organized rhythm ≤60 continue HPCPR for 2 mins, then assess for ROSC
- Immediately resume CPR after defibrillations
- Do not hyperventilate – keep ventilations to 1 sec
- Use Broselow tape or equivalent, if available
- Prior to transport:
  - IV access
  - Management of the airway
  - First round of Epinephrine followed by 2 min CPR

VENTRICULAR TACHYCARDIA WITH PULSES

ADULT	PEDIATRIC (≤34 KG)
BLS	
• Universal Protocol #601 • Pulse Oximetry • O2 administration per Airway Management Protocol #602	Same as Adult
ALS	
Stable • **Amiodarone** 150mg IV/IO drip over 10 min; if rhythm persists after 5 min administer refractory dose to a total of 300mg. • Using a 100cc bag of Normal Saline and macro drip tubing (10gtts/ml): add Amiodarone and mix well. Run at 1.5gtts/second. **Unstable** • Consider **Midazolam** up to 2mg slow IV or 5 mg IN (split into two doses 2.5 mg each nostril) to pre-medicate • Synchronized/Unsynchronized cardioversion sequences (see notes) • Unresponsive to previous therapy: • **Amiodarone** 150mg IV/IO drip over 10 min; if rhythm persists after 5 min administer refractory dose to a total of 300mg.	**Stable** • **Amiodarone** 5mg/kg IV/IO drip over 30 minutes. • Using a 100cc bag of Normal Saline and macro drip tubing (10gtts/ml): add Amiodarone and mix well. Run at 1gtt every 2 seconds. **Unstable** • Synchronized/Unsynchronized cardioversion sequences (see notes) • **Midazolam** 0.1 mg/kg IV/IN not to exceed 2 mg to pre-medicate prior to cardioversion. • Unresponsive to previous therapy: • **Amiodarone** 5mg/kg IV/IO drip over 30 minutes.
Base Hospital Orders Only	
• **Amiodarone** post conversion • As needed	• **Amiodarone** post conversion • As needed

Notes

- Obtain a 12-lead ECG before and after conversion, if possible.
- Vascular access may be omitted prior to cardioversion if in extremis.
- QRS ≥ 0.12 seconds typical for VT in adults
- QRS ≥ 0.09 seconds typical for VT in pediatrics
- Malignant PVCs – that may pose heightened risk of precipitating sustained dysrhythmias: short coupling interval <0.3 seconds, multifocal, couplets, and frequent occurrence.
- Irregular Wide-complex tachycardia (Torsade's de Pointes) requires unsynchronized cardioversion.
- Synchronized/Unsynchronized Sequences (if synchronized mode is unable to capture use unsynchronized cardioversion)
- Lidocaine may be substituted for Amiodarone with SLOEMSA authorization (via Policy #205 Attachment C) when Amiodarone stock is unavailable. Refer to Lidocaine Formulary for dosages.

- Use manufacturer recommended energy setting if different from below.

Adult	Pediatric
100 J	1 J/kg
120 J	2 J/kg
150 J	2 J/kg
200 J	

(*start at 120J unsynchronized in adult patients with Torsade's de Pointes)

EMS Equipment and Supply List *DRAFT*

Description	Strength/Size	ALS Transport Minimum	ALS First Responder Minimum	ALS Special Use Medic Minimum	ALS Wildland Unit Minimum	BLS First Responder Minimum † *Elective skills as required*
MEDICATIONS						
Activated charcoal	50 gm bottle (aqueous solution)	1	1	0	0	0
Adenosine	6 mg/2 mL	5	3	3	3	0
Albuterol unit dose	2.5 mg/3 mL solution	4	2	2	2	0
Amiodarone	150mg in 3ml (50mg/ml concentration)	6	4	3	3	0
Aspirin	81 mg nonenteric coated chewable	1 bottle	1 bottle	4 tablets	4 tablets	1 bottle
Atropine	1 mg/10 mL	2	2	2	2	0
Atropine	8 mg multi-dose vial	1	1	0	0	0
Calcium Chloride 10%	1 gm/10 mL	1	1	0	0	0
Dextrose 10%	25 gm/250 mL bag	2	2	1	1	0
*Dextrose 50%	25 gm/50 mL	2	2	1	0	0
Diphenhydramine	50 mg/1 mL	2	2	2	2	0
Epinephrine	1:1,000 1 mg/1 mL	4	2	2	2	0
†Epinephrine Auto-Injector	Pediatric and Adult	0	0	0	0	†1 each
Epinephrine	1:10,000 1 mg/10 mL (10 mL preload)	8	6	3	6	0
Fentanyl	100 mcg/2 mL	2	2	2	2	0
Glucagon	1 mg/1 mL	1	1	0	0	0
Glucose gel	15 gm	2 tubes	2 tubes	2 tubes	2 tubes	2 tubes
Lidocaine 2%	100 mg/ 5 mL	2	1	1	1	0
Midazolam	5 mg/1 mL	2	1	1	1	0
Naloxone	2 mg (vial or pre-load)	2	2	2	2	0
†Naloxone IN Kit	§2 mg pre-load and Atomizer	0	0	0	0	†2
Nitroglycerine	SL tablets or spray	2	1	1	1	0
Nitro Paste 2%	1 gm single dose packet	3	3	0	0	0
Ondansetron	4 mg /2 mL injectable	3	3	0	0	0
	4 mg dissolvable tablets	3	3	1	1	0
Sodium Bicarbonate	50 mEq/50 mL	2	2	0	0	0
Tranexamic Acid (TXA)	100 mg/1 mL 10 mL vial	2	1	0	1	0
Because variations in medication supply occur, equivalent total dosage quantities may be substituted						
Variations in the concentration of medications being stocked, due to medication supply shortages, must be approved by Medical Director						
***Dextrose D50 is being phased out in favor of Dextrose D10**						
†Elective skills equipment required for participating agencies						
Alternate Medications to be Stocked ONLY with Medical Director Approval						
§Other pre-packaged single dose intranasal naloxone delivery devices that may be used with Medical Director Approval		0	0	0	0	†2
Diazepam (alternate to be stocked by order of Med Dir **ONLY**)	10 mg	2	1	1	1	0
Morphine (alternate to be stocked by order of Med Dir **ONLY**)	10 mg	3	2	2	2	0

EMS Equipment and Supply List *DRAFT*

Description	Strength/Size	ALS Transport Minimum	ALS First Responder Minimum	ALS Special Use Medic Minimum	ALS Wildland Unit Minimum	BLS First Responder Minimum † *Elective skills as required*
IV SOLUTIONS/EQUIPMENT						
0.9% Normal Saline	1,000 mL bag (or equivalent total volume)	6	4	2	4	0
100 mL Saline Delivery Equipment	0.9% NS 100 mL bag	4	2	1	1	0
0.9% Normal Saline	10 mL Vials/Flush	5	5	2	2	0
IV Tubing	60gtt/mL	4	2	0	0	0
IV Tubing	10-20gtt/mL	6	3	2	2	0
IV Catheters	Sizes 14, 16, 18, 20, 22, 24 gauge	2 each	2 each	2 each	2 each	0
Syringes	Assorted - 1mL, 3mL, 6mL-20mL	2 each	2 each	1 each	1 each	0
Needles Assorted	- ½", 1", 1 ½" - 18-30 gauge	2 each	2 each	2 each	2 each	0
Intraosseous (IO) single needle device	(FDA approved) adult and pediatric	1 each	1 each	1 each	1 each	0
Tourniquets (for IV start)		2	2	2	2	0
Saline locks		4	2	2	2	0
Luer-Lock adaptors	(Not required but recommended for use with STEMI patients)	2	2	0	0	0
Alcohol and betadine swabs		10 each	10 each	10 each	10 each	†10 each
TRAUMA						
Bandages and bandaging supplies:						
Bandaids	Assorted	10	10	5	5	10
Sterile bandage compresses or equivalent	4"x4"	12	10	10	10	10
Trauma dressing	10"x30" or larger universal dressing	2	2	2	2	2
Roller gauze	3" or 4"	12 rolls	8 rolls	2 rolls	2 rolls	8 rolls
Cloth adhesive tape	1, 2, or 3"	1 roll	1 roll	1 roll	1 roll	1 roll
Triangular bandages with safety pins		4	2	1	1	2
Tourniquet	See approved list for commercial devices	2	2	1	1	2
Vaseline gauze	3"x8", or 5"x9"	2	2	1	1	2
Tongue blade or bite stick		2	2	2	2	2
Burn Sheets (sterile or clean) –	may be disposable or linen (with date of sterilization indicated)	2	2	0	2	2
Cervical collars	Stiff: Sizes to fit all patients over one year old	1each	1 each	1 each	1 each	1 each
Cold packs		2	2	2	2	2
Irrigation equipment and supplies:						
Saline, sterile	250mL	4	2	1	2	2
Long spine board and light weight head immobilizer blocks	(or equivalent immobilization device)	2	1	0	0	1
Straps to secure patient to boards		2 sets	1 set	0	0	1 set

EMS Equipment and Supply List *DRAFT*

Description	Strength/Size	ALS Transport Minimum	ALS First Responder Minimum	ALS Special Use Medic Minimum	ALS Wildland Unit Minimum	BLS First Responder Minimum † *Elective skills as required*
TRAUMA CONT.						
Splints, traction	Adult and pediatric (or a single device suitable for both)	1 each	1 each	0	0	1 each
Splints, cardboard or equivalent	arm and leg splint	2 each	2 each	1 each	2 each	2 each
K.E.D. or equivalent		1	1	0	0	0
Pediatric spinal immobilization board	(or equivalent immobilization device)	1	1	0	0	0
Sheet or commercial pelvic binder		1	1	0	0	1
Infection Control						
Meet the minimum requirement per crew member as stated in the California Code of Regulations Title 8 (All Providers)						
Transportation Equipment						
Collapsible gurney cot with adjustable contour feature		1	0	0	0	0
Stair chair or equivalent device		1	0	0	0	0
Sheets, pillow, pillow case, towels, blankets (cloth or disposable)		2	0	0	0	0
Scoop stretcher with straps		1	0	0	0	0
Flat vinyl/canvas stretchers with		1	0	0	0	0
MISCELLANEOUS						
Blood pressure cuffs (portable):	Adult	1	1	1	1	1
	Large adult or thigh	1	1	0	0	1
	Pediatric	1	1	0	1	1
Obstetrical kit - sterile, prepackaged		1	1	0	0	1
Restraints - non-constricting wrist and ankle		1 set each	1 set each	0	0	1 set each
Stethoscope		1	1	1	1	1
Trash bags/receptacles		2	2	1	1	2
Blanket	Disposable	1 each	1 each	1 each	1 each	1 each
Bandage scissors (heavy duty)		1	1	1	1	1
Emesis basins or emesis bags with containers		2	2	1	1	2
Water, potable		1 liter	1 liter	0	1 liter	1 liter
Maps, entire county		1	1	0	0	1
Penlight		1	1	1	1	1
Triage tags		20	20	20	20	20
Bed pan		1	0	0	0	0
Urinal		1	0	0	0	0
†Glucometer	with ≥10 test strips, lancets, and other appropriate supplies	1	1	1	1	†1
Puncture proof sharps container	small	2	2	1	1	†1

EMS Equipment and Supply List *DRAFT*

Description	Strength/Size	ALS Transport Minimum	ALS First Responder Minimum	ALS Special Use Medic Minimum	ALS Wildland Unit Minimum	BLS First Responder Minimum † *Elective skills as required*
MISCELLANEOUS CONT.						
Thermometer		1	1	0	0	0
Automatic External Defibrillator	With AED pads	* For EMT-D Provider Agencies (1)				
AIRWAY						
Endotracheal tubes:	sizes-3.0, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0	1 each	1 each	1 each	1 each	0
Laryngoscope handles, with extra batteries		2	2	1	1	0
Laryngoscope blades:	Miller # 0, 1, 2, 3, 4 Macintosh # 1, 2, 3, 4	1 each	1 each	1 each	1 each	0
i-Gel Supraglottic Airways	Size 3 and Size 5	1 each	1 each	1 each	1 each	0
i-Gel Supraglottic Airways	Size 4	2 each	2 each	1 each	1 each	0
Magill forceps (pediatric and adult)		1 each	1 each	1 each	1 each	0
Adult stylets		2 each	1 each	1 each	1 each	0
10-20 mL syringe, sterile lubricant		2 each	1 each	1 each	1 each	0
Needle Cricothyrotomy kit with:	10 or 12 ga needle, 10-20 mL syringe, alcohol and betadine wipes and oxygen supply adapter	1	1	1	1	0
	Or other FDA approved percutaneous cricothyrotomy kit	1	1	1	1	0
Capnography Device	Qualitative or Quantitative	1	1	1	1	0
Hand held nebulizer for inhalation therapy		2	2	1	1	0
Medrafter or equivalent		1	1	0	0	0
Portable, battery powered, cardiac monitor-defibrillator with 12-lead ECG capability with the ability to perform computerized ECG readings and provide hard copy ECG tracings, with:		1	1	1	AED w.manal defib and w/EKG	0
	Patient ECG cable	1	1	1	0	0
	ECG recording chart paper	1	1	1	0	0
	Adult ECG electrodes	4 sets	4 sets	2 sets	2 sets	0
	Defibrillation pads or equivalent - Adult and Pediatric	1 set each	1 set each	1 set each	1 set each	0
	Conductive defibrillation pads,	4	4	2	2	0
	or tubes of conductive gel	2	2	1	1	0
IV catheter for pleural decompression	10 gauge/3 inch	2	2	1	1	0
Asherman chest seal or equivalent open wound dressing		1	1	1	1	1
Pulse oximeter		1	1	1	1	1
†Continuous Positive Airway Pressure (CPAP) Ventilator	portable/adjustable pressure settings, FDA Approved with an oxygen supply	1	1	0	0	†1
Nasopharyngeal airways (soft rubber)	Medium and Large adult sizes	2 each	2 each	1 each	1 each	2 each

EMS Equipment and Supply List *DRAFT*

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AIRWAY CONT.						
Lubricant, water-soluble jelly (K-Y)		2	2	2	2	2
Oropharyngeal airways	(sizes 5.5 – 12 or equivalent)	2 each	1 each	1 each	1 each	1 each
Adult non-rebreather masks		2	2	1	1	2
Pediatric/infant non-rebreather mask		2	2	1	1	2
Adult nasal cannula		4	2	1	1	2
Oxygen Cylinders	D or E size cylinder with regulator capable of delivering 2-15 LPM	1	1	1	1	1
	M, H, or K cylinder with wall outlet(s) and constant flow regulator(s)	1	0	0	0	0
Oxygen reserve:						
	D or E cylinders	1	1	0	0	1
Face masks for resuscitation (clear)		2	1	1	1	1
Bag-valve mask with O2 reservoir and supply tubing						
	Adult	1	1	1	1	1
	Pediatric	1	1	1	1	1
	Infant	1	1	1	0	1
Suction equipment and supplies:						
Rigid pharyngeal tonsil tip		2	2	0	0	2
Spare suction tubing		1	1	0	0	1
Suction apparatus (portable)		1	1	1	1	1
Suction catheters	at least 2 sizes suitable for adult and	2 each	1 each	1 each	1 each	1 each
	pediatric endotracheal suctioning					