Clinical Advisory Subcommittee of the Emergency Medical Care Committee

Meeting Agenda
10:15 A.M. Thursday, August 21, 2025
Location: SLOEMSA Conference Room
2995 McMillan Ave, Ste 178
San Luis Obispo, CA 93401

Members
CHAIR: Dr. Stefan Teitge, *County Medical Society*
Dr. Heidi Hutchinson, *ED Physician, Adventist*
Dr. Kyle Kelson, *ED Physician, Adventist*
Dr. Lucas Karaelias, *ED Physician Dignity*
Katie Wong, *MICNs*
Rob Jenkins, *Fire Service Paramedics*
Nate Otter, *Ambulance Paramedics*
Paul Quinlan, *Fire Service EMTs*
Lisa Epps, *Air Ambulance*
Jeffrey Hagins, *Air Ambulance*
Arneil Rodriguez, *Ambulance EMTs*
Casey Hidle, *Lead Field Training Officer*
VACANT, *Medical Director Appointee*

Staff
STAFF LIAISON: Ryan Rosander, *EMS Division Director*
Kaitlyn Blanton, *EMS Coordinator*
Dr. William Mulkerin, *Medical Director*
Rachel Oakley, *EMS Coordinator*
Eric Boyd, *EMS Coordinator*
Alyssa Vardas, *EMS Admin Assistant III*

AGENDA	ITEM	LEAD
Call to Order	Introductions	Dr. Teitge
	Public Comment	
Summary Notes	Review of Summary Notes June 19th, 2025	
Discussion	**Protocol Development:** • Protocol #601 Universal • Protocol #618 Respiratory Distress- Opioid Overdose • Protocol #619 Shock – Hypotension/Sepsis • Protocol #622 Opioid Withdrawal • Protocol #641 Cardiac Arrest (Atraumatic) • Protocol #642 Supraventricular Tachycardia • Protocol #645 Atrial Fibrillation • Protocol #661 Traumatic Cardiac Arrest • Protocol #663 Drowning	Ryan Rosander
Discussion	**Policy Development:** • Policy #220 Emergency Medical Responder Training • Policy #221 Leave Behind Naloxone • Policy #222 Mechanical CPR Devices	Ryan Rosander
Adjourn	**Declaration of Future Agenda Items** • SGAs for EMTs, Pediatric SGAs for Paramedics, OB Protocol	Dr. Teitge
	Next meeting date – October 16th, 2025	

	1015 hrs. – **EMSA Conference Room** 2995 McMillan Ave. Suite 178 San Luis Obispo, CA 93401	

Clinical Advisory Subcommittee
of the Emergency Medical Care Committee

DRAFT Meeting Minutes
10:15 AM June 19, 2025
2995 McMillan Way, Suite 178
San Luis Obispo, CA 93401

MINUTES

MEMBERS' PRESENT:
Chair Dr. Stefan Teitge, *County Medical Society*
Casey Hidle, *Lead Field Training Officer*
Dr. Heidi Hutchison, *ED Physician, Tenet*
Katie Wong, *MICNs*
Nate Otter, *Ambulance Paramedics*
Lisa Epps**,** *Air Ambulance*
Tim Nurge, *Medical Director Appointee*

MEMBERS ABSENT:
Rob Jenkins, *Fire Service Paramedics*
Dr. Kyle Kelson*, ED Physician, Tenet*
Tim Nurge, *Medical Director Appointee*
Dr. Lucas Karaelias*, ED Physician Dignity*
Paul Quinlan, *Fire Service EMTs*
Jeffrey Hagins*, Air Ambulance*
Arneil Rodriguez*, Ambulance EMTs*

EMS AGENCY STAFF PRESENT:
Alyssa Vardas, EMS Administrative Assistant
Ryan Rosander, EMSA
Rachel Oakley, EMSA
Bill Mulkerin, EMS Medical Director

EMS AGENCY STAFF ABSENT:
Eric Boyd, EMSA
Kaitlyn Blanton, EMSA

1. CALL TO ORDER

Ryan Rosander called the meeting to order at 10:21 a.m. He led the review of the meeting protocols and meeting agenda.

2. REVIEW AND APPROVAL OF April 17, 2025, Summary Notes

Action: Heidi Hutchison moved approval of April 17, 2025, Clinical Advisory Committee Meeting Summary Notes. Casey Hidle seconded. Motion carried unanimously with no abstentions.

Policy 203 Patient Refusal:
This revision was initially requested for a change in definition and language regarding patient "competency" to "mental capacity". Since then, "mental capacity" was further specified to "medical decision-making capacity," a tool or simple process was included to assist EMS personnel in determining a patient's medical decision-making capacity.

There was a request to remove "against medical advice" or "AMA" from policy at our Operations Committee Meeting. After much discussion, AMA language is considered overused and doesn't accurately fit most situations it's being used for. The AMA definition has been removed from policy as requested, and all patient refusals will be documented as a refusal. Procedures remain the same for when ALS services are indicated; however, a patient is refusing those services.

Discussion

- N. Otter says we should let the ER and MICNs know about this and bring them into the loop.
- H. Hutchison mentions that it is important to document that you have tried to contact the hospital and law enforcement.
- S. Teitge says he thinks that the crews should know the doctors are not trained on this.

Paramedic Policy Revisions:
Paramedic policies 341 and 342 for initial accreditation and reaccreditation were last revised on March 1, 2023. Since that time, there have been many conversations regarding clarifying information currently in policy and also making a few changes. On December 5th of 2024, EMS personnel policy revisions were discussed with the Operations Subcommittee.

Discussion

- N. Otter asks if someone has an LOA, why do we have to submit a return to work if someone is on vacation? He suggests establishing a time frame for how long someone is gone.
- R. Oakley says that we take the employer's plan.
- N. Otter says he is fine with 60 days.

Procedure 704 Opioid Withdrawal: On May 15, 2025, EMCC approved SLOEMSA's Opioid Withdraw protocol. However, it was recommended that the policy should return to CAC to discuss changing the medication outlined in the protocol from Suboxone to Buprenorphine. The reason behind this change was that Buprenorphine is cheaper and more readily available to stock. More importantly, Buprenorphine is more widely studied in an EMS setting than Suboxone.

Discussion

- S. Teitge says that this looks good.
- N. Otter asks if there will be support from the county.
- H. Hutchison asks if there is a coalition for this.
- B. Mulkerin says that we eventually want to triage to alternate destinations.

3. ITEMS FOR NEXT AGENDA

SGAs for EMTs, Pediatric SGAs for Paramedics, Mechanical CPR devices, and OB protocols.

4. PUBLIC COMMENT

None

5. ADJOURNMENT

Action: Heidi Hutchison moved to move the protocols and policies forward to EMCC. Stefan Teitge seconded. Motion carried unanimously.

Stefan Teitge adjourned the meeting at 11:12 am

MEETING DATE	August 21st, 2025
STAFF CONTACT	Ryan Rosander, EMS Director 805.788.2512 rrosander@co.slo.ca.us
SUBJECT	Mechanical CPR devices, leave behind Naloxone, EMR, A-FIB, drowning, and fluid admin in the normotensive patient.
SUMMARY	During the 2024 EMS Update class, SLOEMSA frequently received questions about fluid challenges in normotensive patients. Currently, paramedics are authorized to administer a 500 mL bolus; however, if the patient is normotensive and requires an additional 500 mL, they must call the base for approval. With the recent changes to Protocol #601: Universal and Protocol #619: Shock/Hypotension, paramedics can now use their discretion to administer up to 1 liter of fluid. During the 2024 EMS Update class, in addition to the request for expanded fluid administration protocols, SLOEMSA received multiple inquiries regarding the development of a standalone atrial fibrillation (A-FIB) protocol. These requests stemmed from the recognition that cardioversion of A-FIB with rapid ventricular response (RVR) has historically required a base hospital order. In time-critical situations where a patient is in A-FIB RVR and is in extremis, delays can be life-threatening. In response, SLOEMSA has created a dedicated A-FIB protocol, granting paramedics the ability to perform synchronized cardioversion for A-FIB RVR as a standing order for patients in extremis. One month ago, SLOEMSA was approached by a paramedic who also serves as a certified lifeguard. This individual conducted comprehensive research and engaged in consultations with leading drowning experts from various regions across the nation. Upon review, it was identified that SLOEMSA did not have a dedicated, standalone protocol addressing drowning incidents. In response, SLOEMSA collaborated with these experts to develop a new drowning-specific protocol that integrates current best practices and evidence-based guidelines, optimizing patient outcomes in drowning emergencies. SLOEMSA has received a recommendation for approval from EMCC for the implementation of a prehospital Buprenorphine administration protocol for patients experiencing opioid withdrawal. While the protocol has been approved, SLOEMSA has concurrently been developing a companion Leave-Behind Naloxone policy. This policy is being developed in collaboration with the County of San Luis Obispo's Opioid Safety Coalition and is intended to provide a standardized approach for Naloxone distribution by

	paramedics. The goal is to ensure that all patients at risk of opioid overdose have access to this life-saving intervention. Over the past two years, several agencies have approached SLOEMSA requesting a policy and approval for mechanical CPR devices. While there is no data to prove that mechanical CPR devices yield greater neurological outcomes than manual CPR, Dr. Mulkerin agrees that these devices offer important benefits for crews on scene. Mechanical CPR devices provide consistent, high-quality chest compressions without fatigue, which can be difficult to maintain manually during prolonged resuscitation. They also free up personnel to focus on other critical tasks such as airway management and medication administration. Additionally, these devices improve safety by allowing continuous compressions during patient movement or transport, reducing interruptions common with manual CPR. While this policy is not mandatory, agencies that wish to utilize mechanical CPR devices will have the ability to do so. Recently, the San Luis Obispo County Sheriff's Search and Rescue Team approached SLOEMSA to request the development of a policy for Emergency Medical Responder (EMR) training programs. This training program is necessary to maintain their accreditation through the National Association for Search and Rescue (NASAR) and the California Rescue Dog Association (CARDA). Currently, SLOEMSA lacks a formal policy or approval process for EMR training programs. This proposed policy will address that gap and establish a clear framework for approving such programs. Additionally, Cuesta College has expressed interest in offering an EMR training program and has also requested a policy from SLOEMSA.
REVIEWED BY	Dr. William Mulkerin, SLOEMSA Staff
RECOMMENDED ACTION(S)	Recommended the following for approval by Clinical and moved to the EMCC agenda: Protocol #601: Universal Protocol #619: Shock (Medical) – Hypotension/Sepsis Protocol #641: Cardiac Arrest (Atraumatic) Protocol #642: Supraventricular Tachycardia Protocol #645: Atrial Fibrillation Protocol #661: Traumatic Cardiac Arrest Protocol #663: Drowning Protocol #618: Respiratory Distress – Opioid Overdose Protocol #622: Opioid Withdrawal Policy #220: Emergency Medical Responder (EMR) Training Program Approval and Attachment A (Application) Policy #221: Leave Behind Naloxone Policy #222: Mechanical CPR Devices

ATTACHMENT(S)	Protocol # 601, 619, 641, 642, 645, 661, 663, 618, 622 Policy # 221, 222, 220/Attachment A

UNIVERSAL

MEDICAL	TRAUMA
BLS	

• Evaluate Scene Safety/Personal Protective Equipment
• Assess, establish and maintain airway
  - Suction as needed
• Pulse Oximetry
  - O_2 administration per Airway Management Protocol #602
• Evaluate breathing and circulation
• Assess chief complaint
• Focused physical exam and vital signs:
  - Pulse
  - Blood pressure
  - Respiratory rate
  - Lung sounds
  - Skin signs
• BLS treatment protocols
	• Evaluate Scene Safety/Personal Protective Equipment
	• Assess, establish and maintain airway
	  - Suction as needed
	• Pulse Oximetry
	  - O_2 administration per Airway Management Protocol #602
	• Evaluate breathing and circulation
	• Control life-threatening bleeding
	• Remove patient's clothing to expose and identify injuries
	• Ensure patient warmth – cover patient after clothing removal to maintain core body temperature
	• Spinal motion restriction (SMR) if indicated per Spinal Motion Restriction Procedure # 702
	• BLS treatment protocols

BLS Elective Skills	
Obtain Blood Glucose Level if indicated by: • Policy #612 ALOC • Policy #620 Seizures • Policy #621 CVA/TIA • As directed by ALS provider	
ALS	

• Vascular access – Procedure #710
• Consider 12-lead ECG early
• Capnography (if available/applicable)
• Blood Glucose Measurement
• Transport Determination
• ALS Treatment Protocols
Adult
• Consider Normal Saline up to 500mL IV/IO
  - May repeat x1 for persistent hypotension.
  - May repeat x1 based on ALS provider discretion for normotensive patients.
Pediatric
• Consider Normal Saline up to 10mL/kg IV/IO, not to exceed 500 mL
  - May repeat x1 for persistent hypotension.
	• Trauma Triage and Destination
	• ALS Treatment Protocols

- May repeat x 1 based on ALS provider discretion for normotensive patients.	
Base Hospital Orders Only	
• Determined on patient needs • If applicable, see Policy #219: Assisting Patients with Their Emergency Medications	• Determined on patient needs
Notes	
• Use Pediatric Policies for patients ≤34 kg and consider use of Broselow tape or equivalent • Rapid transport for Specialty Care patients (Trauma, STEMI, CVA-TIA). Target scene departure ≤ 10 minutes for transport personnel. • Consider Policy #220: Leave Behind Naloxone	

RESPIRATORY DISTRESS – OPIOID OVERDOSE

ADULT	PEDIATRIC (≤34 KG)
BLS	
• **Universal Protocol #601** • Pulse Oximetry - O_2 administration per Airway Management Protocol #602 • May assist with administration of patient's prescribed medication	Same as Adult
BLS Elective Skills	
Suspected Opiate Overdose with inadequate respirations (O_2 Sat < 94%, rate ≤ 8 bpm) • **Narcan** 4 mg IN in one nare – assess for adequate respirations - may repeat in alternate nare if no improvement after 2 min, max total of 2 doses	
ALS	
Suspected Opiate Overdose with inadequate respirations (O_2 Sat < 94% or $ETCO_2$ > 45 mmHg) • **Narcan** up to 1 mg IV/IM - Repeat as needed • Up to 2 mg IN (split between nares) – assess for adequate respirations - Repeat as needed	**Suspected Opiate Overdose with inadequate respirations** (O_2 Sat < 94% or $ETCO_2$ > 45 mmHg) • **Narcan** 0.1 mg/kg IV/IM/IN (split between nares) up to 1 mg – assess for adequate respirations - Repeat as needed
Base Hospital Orders Only	
• As needed	• As needed
Notes	
• IV is preferred route for Narcan administration • Inadequate airway, and respirations should be supported with BLS adjuncts and ventilations prior to Narcan administration • Poly-mixed drugs may require additional doses of Narcan titrated to maintain respirations • Alternate Narcan dosing for BLS Elective Skills may be added with approval of the EMS Agency Medical Director • Consider Policy #220: Leave Behind Naloxone	

SHOCK (MEDICAL) - HYPOTENSION/SEPSIS

ADULT	PEDIATRIC (≤34 KG)
BLS	
• **Universal Protocol #601** • Pulse Oximetry - O2 administration per Airway Management Protocol #602 • Place in supine position if tolerated	Same As Adult
ALS	

SBP < 100 mmHg or other signs of hypotension
• Normal Saline 500 mL IV/IO
  - Repeat x1 if hypotension persists
• Consider establishing secondary IV access
• Consider 12-lead ECG
• If shock is due to trauma refer to General Trauma Protocol #660
Persistent Hypotension
• Push-Dose Epinephrine 10mcg/mL 1 mL IV/IO every 1-3 minutes
  - Repeat as needed, titrated to SBP >90mmHg
  - See notes for mixing instructions
OR
• Epinephrine Drip starting at 10mcg/min IV/IO infusion
  - Consider for extended transport
  - See formulary for mixing instructions
SBP > 100 mmHg
• Consider Normal Saline 500 mL IV/IO
  - May repeat x1 based on ALS provider discretion.
	Signs of hypotension specific to age - see Universal Protocol #601 Attachment A
	• Normal Saline 20 mL/kg IV/IO not to exceed 500 mL
	  - Repeat x1 if hypotension persists
	• Consider establishing secondary IV access
	• If shock is due to trauma refer to General Trauma Protocol #660
	Normotensive specific to age - see Universal Protocol #601 Attachment A
	• Consider Normal Saline 20 mL/kg IV/IO, not to exceed 500 mL
	  - May repeat x1 based on ALS provider discretion

Base Hospital Orders Only	
• As needed	• As needed
Notes	
• **Mixing Push-Dose Epinephrine 10 mcg/mL (1:100,000): Mix 9mL of Normal Saline with 1mL of Epinephrine 1:10,000, mix well** • Fluids should always be given prior to initiating Push-Dose Epinephrine • Consider the underlying causes of shock	

- Use caution with fluid challenges if signs of CHF of liver, or renal failure
- Keep the patient warm
- Treatable/Reversible considerations:
    - Hypoxemia
    - Tachycardia/Bradycardia
    - Hyper/Hypothermia
    - Hypovolemia
    - Altered Mental Status
    - Fractures/Bleeding/Tension Pneumothorax
    - Anaphylaxis
    - Chest pain
    - Overdose

OPIOID WITHDRAWAL

ADULT	PEDIATRIC (≤34 KG)
BLS Procedures	
• **Universal Algorithm #601** • Pulse Oximetry - O_2 Administration per Airway Management Protocol #602	• Universal Algorithm
ALS Procedures	
• If suspected opioid withdrawals, use "COWS" score to determine if patient meets criteria to receive Buprenorphine - "COWS" ≥ 8 to qualify - Patient must be agreeable to treatment with goal of seeking resources and counseling • If believed that patient will benefit from Buprenorphine with no contraindications – contact nearest Base Hospital for orders	• Buprenorphine is not permitted in pediatric patients under 16 • For patients 16 and above, same as adult
Base Hospital Orders Only	
• **Buprenorphine** 16mg SL film/tablets (two strips/tablets) – reassess after 10 minutes - Call for secondary 8mg SL dose for persistent or worsening symptoms after 10 minutes - Give water to moisten mucus membranes prior to SL administration	• As needed

Notes

- **SEE PAGE 2 FOR COWS SCORE ASSESSMENT TOOL**
- If Buprenorphine is administered repeat "COWS" score assessment 10 minutes after initial dose and secondary dose if applicable
- Patients should have history of any one of the following:
  - Recent opioid use
  - Chronic opioid use
  - Evidence of illicit drug use (paraphernalia, needles etc)
  - Prescription narcotics in household or on patient
- Consider Policy #221: Leave Behind Naloxone

Clinical Opioid Withdrawal Scale (COWS)

ANXIETY OR IRRATIBILITY *Visually observed during assessment* **0** None **1** Reports increasing irritability or anxiousness **2** Visually irritable or anxious **4** Too irritable to participate or affecting participation	RESTING HEART RATE *Measured after sitting for one (1) minute* **0** ≤80 bpm **1** 81 to 100 bpm **2** 101 to 120 bpm **4** >120 bpm
BONE OR JOINT ACHES *Only new pain attributed to withdrawal is scored* **0** Not present **1** Mild, diffuse discomfort **2** Reports severe, diffuse aching of joints/muscles **4** Patient rubbing joints/muscles and unable to be still	RESTLESSNESS *Visually observed during assessment* **0** Able to be still **1** Report difficulty being still, but able to do so **3** Frequent shifting or extraneous movement of legs/arms **5** Unable to be still for more than a few seconds
SKIN SIGNS *Visually or physically observed during assessment* **0** Skin is smooth **3** Piloerection of skin – can be felt or visible arm hairs standing up **5** Prominent piloerection – "Gooseflesh Skin"	TREMOR *Observation of outstretched hands* **0** No tremors **1** Tremor can be felt but not observed **2** Slight tremor observed **4** Gross tremor or muscle twitching
GATROINTESTINAL UPSET *Within past 30 minutes* **0** No GI symptoms **1** Stomach cramps **2** Nausea or loose stool **3** Vomiting or diarrhea **5** Multiple episodes of diarrhea or vomiting	SWEATING *Over past 30 min – **not** from environment or activity* **0** No reports of chills or flushing **1** Subjective report of chills or flushing **2** Flushed or observable moistness to face **3** Beads of sweat on brow or face **4** Sweat streaming off of face
PUPIL SIZE *Visually observed during assessment* **0** Pupil pinned or normal size for ambient light **1** Pupils possibly larger than normal for ambient light **2** Pupils moderately dilated **5** Pupils very dilated	YAWNING *Visually observed during assessment* **0** No Yawning **1** Yawning once or twice during assessment **2** Yawning three or more times during assessment **4** Yawning several times per minute
RUNNY NOSE OR TEARING *Not accounted for by cold symptoms or allergies* **0** Not present **1** Nasal stuffiness or unusually moist eyes **2** Runny nose or tearing **4** Nose constantly running or tears streaming down face	**TOTAL COWS SCORING** **5 - 12** Mild Withdrawal **13 - 24** Moderate Withdrawal **25 - 36** Moderately Severe Withdrawal **>36** Severe Withdrawal

CARDIAC ARREST (ATRAUMATIC)

ADULT	PEDIATRIC (≤34 KG)
BLS	

• **Universal Protocol #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
• Consider Policy #221: Mechanical CPR Devices
	• Same as Adult
	• CPR compression to ventilation ratio
	  - Newborn - CPR 3:1
	  - Neonate - 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	

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 the maximum manufacturer setting and immediately resume CPR. Subsequent shocks will also be at the maximum manufacturer setting.
• After 3rd shock, pt remains in refractory V-Fib or V-Tach, consider vector change defibrillation. (See notes)
• **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.
 	
ROSC with Persistent Hypotension
	• **<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.

• Push-Dose Epinephrine 10 mcg/ml 1ml IV/IO every 1-3 min - 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	
Base Hospital Orders Only	
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 the appropriate Base Station per Base Station Report Policy #121**- Atraumatic cardiac arrest due to non-cardiac origin (OD, drowning, etc.)	Contact closest Base Hospital for additional orders **ROSC with Persistent Hypotension for Age** • **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). • Consider Oral Intubation or Supraglottic Airways (Adults), provider discretion. • If the provider cannot accomplish an ALS airway, they should document in the PCR why an ALS airway wasn't accomplished. • Once an SGA has been placed, it should not be removed for an ETI. • Stay on scene to establish vascular access, provide for airway management, and administer the first dose of epinephrine followed by 2 min of HPCPR.	

- 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
- 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, with 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).
- 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.
- 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.
- While treating Cardiac Arrest, only one antiarrhythmic may be given to one patient. ALS providers shall not switch between Amiodarone and Lidocaine for the treatment of Cardiac Arrest.
- **Vector change defibrillation**: The two pad placements are anterior-lateral and anterior-posterior. Vector change is the change in pad position placement from one to the other.

SUPRAVENTRICULAR TACHYCARDIA

ADULT	PEDIATRIC (≤ 34Kg)
BLS	
• **Universal Protocol #601** • Pulse Oximetry - O_2 administration per Airway Management Protocol #602	Same as Adult
ALS	
Stable • Attempt vagal maneuvers • **Adenosine** 6 mg IV followed by 20 mL NS bolus • **Adenosine** 12 mg followed by 20 mL NS bolus o May repeat once **Unstable** • Synchronized cardioversion (see notes) • **Midazolam** up to 2 mg slow IV or 5 mg IN (split into two doses 2.5 mg each nostril) to pre-medicate prior to cardioversion	**Stable** • Attempt vagal maneuvers • **Adenosine** 0.1 mg/kg IV followed by 20 mL NS bolus • **Adenosine** 0.2 mg/kg IV followed by 20 mL NS bolus **Unstable** • Synchronized cardioversion (see notes) • **Midazolam** 0.1 mg/kg slow IV/IN, not to exceed 2 mg to pre-medicate prior to cardioversion
Base Hospital Orders Only	
• ~~Cardioversion of unstable Atrial Fibrillation with RVR~~ • As needed	• ~~As needed~~

Notes

- Obtain 12-lead ECG before and after conversion if possible
- Preferred IV site for Adenosine administration is in a proximal vein with a large bore catheter
- Vascular access may be omitted prior to cardioversion if in extremis
- Typical SVT in adults is a QRS < 0.12 seconds
- Typical SVT in pediatric patients is a QRS < 0.09 seconds with rates >180 for children and >220 in infants
- Avoid Adenosine in atrial fibrillation and atrial flutter
- ~~Consider and treat underlying causes in unstable patients with atrial fibrillation and atrial flutter, i.e. sepsis, dehydration/hypovolemia, medication errors, etc.~~
- Synchronized/Unsynchronized Sequences
  (if synchronized mode is unable to capture use unsynchronized cardioversion)
- Use manufacturer recommended energy settings if different from below

ADULT	PEDIATRIC
50 J	1 J/kg
70/75 J	2 J/kg
100 J	2 J/kg
120 J	
150 J	
200 J	

~~(start at 120J in adult patient with unstable Atrial Fibrillation with RVR)~~

ATRIAL FIBRILLATION

ADULT	PEDIATRIC (≤34 KG)
BLS	
• **Universal Protocol #601** • Pulse Oximetry - O2 administration per Airway Management Protocol #602	Same as Adult
ALS	
Stable • Observe and monitor the patient **Unstable (See Notes)** • Consult the Base Hospital **Extremis (See Notes)** • 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) • Synchronized cardioversion **200 J**. • Use manufacturer-recommended energy settings if different from above	None
Base Hospital Orders Only	
• Unstable pt	• As needed

Notes

- Obtain 12-lead ECG before and after conversion, if possible.
- Vascular access may be omitted prior to cardioversion if unstable.
- Consider and treat underlying causes in unstable patients with atrial fibrillation and atrial flutter, i.e., sepsis, dehydration/hypovolemia, med errors, etc.
- Synchronized/Unsynchronized Sequences
  (If synchronized mode is unable to capture, use unsynchronized cardioversion.)
- Unstable is defined as a pt in A-FIB RVR presenting with signs/symptoms of hemodynamic instability:
  - SBP < 100 mmHg
  - Evidence of poor perfusion – capillary refill, color, temp, etc.
  - Altered Mental Status
  - Shortness of breath
  - Pulmonary edema
- Extremis is defined as a pt in A-FIB RVR, and imminent death is likely

TRAUMATIC CARDIAC ARREST

ADULT	PEDIATRIC (≤34KG)
BLS	
• **Universal Protocol #601** • Obvious Death – see Prehospital Determination of Death Policy #125 • Follow HPCPR guidelines for CPR (10:1) and minimize interruptions (< 5 seconds) • Pulse Oximetry - O2 administration per Airway Management Protocol #602	Same as Adult
ALS	
Trauma patients who arrest after EMS arrival on scene and < 20 min from trauma center • Do not delay transport • Perform ALS treatments en route • **Normal Saline** up to 500 mL – repeat x1 if no ROSC or SBP of < 90 mmHg • **<u>Do not use Epinephrine or Amiodarone</u>** unless the arrest is suspected to be of medical origin • Resuscitate and treat for reversible causes, i.e. hypoxia, hypovolemia, tension pneumothorax • Traumatic arrest with the suspicion of chest trauma, perform bilateral needle thoracostomy. See Needle Thoracostomy Procedure #705. **Traumatic arrest <u>with absent</u> signs of life on EMS arrival** • With absent signs of life consider non-initiation – Prehospital Determination of Death Policy #125	Same as Adult (except as noted below) • **Normal Saline** 20 mL/kg IV/IO – reassess and repeat
Base Hospital Orders Only	
• Trauma patients who arrest after EMS arrival on scene <u>and</u> > 20 min from trauma center or hospital - Contact SLO Trauma Center for treatment and/or destination • Termination of resuscitation • As needed	Same as Adult
Notes	

- Absent signs of life assessment include: pulseless, apneic, lack of heart and lung sounds, fixed and dilated pupils.
- Trauma Center is the preferred destination if equal or near equal distance.
- Do not delay transport for advanced airway or other treatment modalities.
- Consider medical origin in older patients with low probable mechanism of injury.
- Unsafe scene or other circumstances may warrant transport despite low potential for survival.
- Minimize disturbance of potential crime scene.
- Consider Oral Intubation or Supraglottic Airways (Adults), provider discretion.
- If the provider cannot accomplish an ALS airway, they should document in the PCR why an ALS airway wasn't accomplished.
- Policy #221: Mechanical CPR Devices are contraindicated for traumatic arrests.

DROWNING

ADULT	PEDIATRIC (≤34 KG)
BLS	
Consider scene safety and additional resources for victims requiring active rescue from aquatic environment • **In-Water Resuscitation:** Trained rescuers may initiate rescue breaths during extrication/rescue process, only if safe and effective, without delaying rapid removal from environment. (No chest compressions) • Obtain accurate time last known well/downtime - Universal Protocol #601 - O2 administration per Airway Management protocol #602 - **Prioritize the immediate reversal of hypoxia** • **ALS Assessment required** for persistent signs and symptoms of cough, abnormal lung sounds, altered mental status, hypoxia, hypotension, or dyspnea • **Apnea or cardiac arrest** - **5 initial rescue breaths prior to ventilation or compressions** - **Minimize interruptions in oxygenation and ventilation.** - PEEP valve with BVM when available - Expect vomiting, have suction ready - May ventilate through “foam” surfactant. • Consider hypothermia and warming measures • For an alert patient with SOB, apply CPAP Procedure #703	**Same as Adult**
ALS	
• **Persistent symptoms: cough, abnormal lung sounds, altered mental status, hypoxia, hypotension, dyspnea**	**Same as Adult**

- CPAP Procedure #703 as indicated - Monitor ETCO2 - Encourage transport and continued monitoring • **Apnea, or Cardiac Arrest** - Team to emphasize early high-quality ventilation, mask seal, and oxygenation techniques on scene - Cardiac Arrest Protocol #641 as indicated - **Early initiation** of ETI Procedure #717 or SGA Procedure #718 as indicated. - If non-shockable rhythms, may forego vector change (minimize ventilation interruptions) • **If high suspicion of trauma,** SMR Procedure #702. Avoid interruptions or delay in ventilation oxygenation during procedure and patient movement.	
Base Hospital Orders Only	
• Consult appropriate base station per EMS Base Station Report policy #121 as needed for patient presentation, downtime, trauma, airway concerns, prolonged resuscitation with PEA and Asystole, cold water immersion.	**Same as Adult**

Notes

- **Definition of drowning:** Respiratory impairment from submersion or immersion in a liquid.
- **Duration of submersion is the most important predictor of outcome.**
- **Hypoxia is the primary reversible cause of morbidity and mortality in drowning.**
- **Signs and symptoms include: cough, abnormal lung sounds, altered mental status, hypoxia, hypotension, dyspnea**
- Encourage transport of all symptomatic patients due to potential worsening over the next 6 hours.
- Early, effective ventilation and initiation of CPR are the most critical for improving survivability and neurologic outcomes.
- Surfactant is fluid from the lungs, usually “foam-like” and may be copious, DO NOT waste time attempting to suction. Ventilate with BVM through foam (suction water and vomit only when present.) Use judgement for need to suction copious fluids versus interrupting ventilation/oxygenation.
- PEA and Asystole Cardiac Arrest may benefit from prolonged resuscitation and/or transport in the presence of drowning/hypoxia. Use provider judgement and consult base as needed.
- Utilize bystanders, lifeguards, or other witnesses for accurate scene report and downtime.
- C-Spine immobilization not recommended except with strong evidence/report of traumatic mechanism.
- AHA guidelines 2024 show in-water rescue breaths leading to increased survival. Rescue phase

breaths should NOT be performed if the rescue agency does not train and/or practice this technique. Should not delay extrication to a controlled and safe working environment.

- Regardless of water temperature – resuscitate all patients with known submersion time of ≤ 25 minutes.
- SCUBA Diving emergencies, collect dive plan/dive computer data if available. Consider pertinent info for hospital or operational hyperbaric chamber.
- Drowning is a global issue with poor documentation and data, documentation should reflect current definitions and guidelines based on patient presentation and terminology.
- Document: witness statements, submersion time, type of water/temperature, initial presentation and neurological status, bystander interventions.
- DO NOT use terminology: “near drowning,” “dry drowning,” “delayed drowning,” “secondary drowning,” “wet drowning” with patients or with documentation as it is not physiologically relevant.

POLICY #220: EMERGENCY MEDICAL RESPONDER (EMR) TRAINING PROGRAM APPROVAL:

I. PURPOSE

As the County of San Luis Obispo EMS Agency (SLOEMSA) has primary responsibility for approving and monitoring the performance of Emergency Medical Responder (EMR) training programs located within the County of San Luis Obispo, this policy has been established to outline the process for approval of Emergency Medical Responder training programs to ensure their compliance with local policy, as well as national standards and guidelines.

II. POLICY

The approving authority for EMR training programs operating within the County of San Luis Obispo will be SLOEMSA. This does not apply to statewide public safety agencies such as the California Highway Patrol, California State Parks, etc.

A. Programs eligible for program approval shall be limited to:

1. Accredited universities and colleges, including junior and community colleges, school districts, or private post-secondary schools as approved by the State of California, Department of Consumer Affairs, Bureau of Private Postsecondary and Vocational Education

2. Medical training units of a branch of the Armed Forces of the United States, including the Coast Guard.

3. Agencies of government

4. Public safety agencies

III. PROCEDURE

A. Program Approval:

1. Submit a complete application, Attachment A – EMR Training Program Application, to SLOEMSA and provide the required items below:

a. A letter of intent

b. A copy of all course materials, including but not limited to course outline, objectives, and presentations or handouts used for instruction.

c. A copy of course written and skills tests.

d. Passing standards for course written and skills tests.

e. Program Director and Instructor(s) resumes that specify eligibility for program roles

f. A copy of the course completion certificate (template).

g. A copy of the EMSQIP.

Classroom space, including any breakout skills rooms, will be adequate in size and number for the number of students being instructed.

B. Program Approval Timelines

1. Upon receipt of a complete application packet, SLOEMSA shall notify the training program submitting its request for training program approval within seven (7) working days of receiving the request that the request for approval has been received.

2. The program review can take up to twenty-one (21) business days. Program approval or disapproval shall be made in writing by SLOEMSA to the requesting training program, within that timeframe.

3. SLOEMSA shall establish an effective date of program approval and expiration date in writing upon the satisfactory documentation of compliance with all program requirements.

4. Program approval shall be for four (4) years following the effective date of program approval and may be renewed every four (4) years, subject to the procedure for program approval specified by SLOEMSA in this policy.

C. Withdrawal of Program Approval

Noncompliance with any criterion required for EMR training program approval, use of any unqualified personnel, or noncompliance with any other applicable regulation, guidelines, or laws may result in suspension or revocation of program approval by SLOEMSA. Notification of noncompliance and action to place on probation, suspend, or revoke shall be done as follows:

1. SLOEMSA shall notify the EMR training program director in writing, by registered mail, of the provisions of this policy with which the EMR training program is not in compliance.

2. Within fifteen (15) working days of receipt of the notification of noncompliance, the approved EMR training program shall submit in writing, by registered mail, to SLOEMSA one of the following:

a. Evidence of compliance with the provisions outlined in this policy, or

b. A plan for meeting compliance with the provisions outlined in this policy within sixty (60) calendar days from the day of receipt of the notification of noncompliance.

3. Within fifteen (15) working days of the receipt of the response from the approved EMR training program, or within thirty (30) calendar days from the mailing date of the noncompliance notification if no response is received from the approved EMR training program, SLOEMSA shall notify the approved EMR training program in writing, by registered mail, of the decision to accept the evidence of compliance, accept the plan for meeting compliance, place on probation, suspend or revoke the EMR training program approval.

4. If the EMR training program approving authority decides to suspend, revoke, or place an EMR training program on probation the notification specified in this policy shall include the beginning and ending dates of the probation or suspension and the terms and conditions for lifting the probation or suspension or the effective date of the

revocation, which may not be less than sixty (60) days from the date of SLOEMSA's letter of decision to the EMR training program.

D. Program Review and Reporting

1. All program materials are subject to periodic review by SLOEMSA

2. All programs are subject to periodic on-site (scheduled or unscheduled) evaluation by SLOEMSA.

3. SLOEMSA shall be advised of any program changes in course content, hours of instruction, or instructional staff within thirty (30) calendar days.

4. Approved programs shall issue a tamper-resistant Course Completion Record to each student who successfully meets all requirements for certification. This Course Completion Record shall include:

a. The name of the individual

b. The date the course was completed

c. The name of the course completed is "Emergency Medical Responder"

d. Indicate course type "Initial" or "Renewal"

e. Number of hours of instruction completed

f. The name and signature of the Program Director

g. The name and location of the training program issuing the course completion

h. The name of the approving authority (i.e., Approved by the County of San Luis Obispo EMS Agency)

i. The following statements in bold print:

1. THIS IS NOT A CERTIFICATION

2. This course completion record is valid to apply for certification up to a maximum of two years from the course completion date and shall be recognized statewide.

IV. EDUCATIONAL STAFF QUALIFICATIONS

A. Program Director:

1. 40+ hours in adult teaching methods or valid teaching credential

2. Minimum 2 years of prehospital or emergency care.

B. Primary Instructor(s)

1. Licensed EMT, Paramedic, RN, or MD

2. 40+ hours of instructor training

3. Minimum 2 years of prehospital or emergency care experience

4. The Program Director may also be the Primary Instructor.

C. Teaching assistant(s)

1. Qualified by relevant EMS or healthcare experience
2. Operated under the supervision of the primary instructor

V. QUALITY IMPROVEMENT/ASSURANCE

A. Each program shall submit an EMS Quality Assurance and Improvement Plan that addresses the following:

1. Methods of student remediation.
2. A plan for the continuous update of examinations and student materials.
3. Identify the text and resource materials that the program will utilize.
4. Student course evaluations

VI. AUTHORITY

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

VII. ATTACHMENTS

A. EMR Training Program Application

Approvals:

EMS Agency, Administrator	
EMS Agency, Medical Director	

EMERGENCY MEDICAL RESPONDER (EMR) TRAINING PROGRAM APPLICATION

Check One: □ Initial Application □ Renewal

APPLICANT INFORMATION	
EMR Provider Name:	
EMR Provider Address:	EMR Provider Phone Number:
Program Director Name:	Program Director Phone Number:
Program Director Email:	Alternate Contact:

SUBMIT THE FOLLOWING WITH THIS APPLICATION
☐ Letter of intent.
☐ Copy of all course materials, including but not limited to course outline, objectives, and presentations or handouts used for instruction.
☐ Copy of course written and skills tests.
☐ Passing standards for course written and skills tests.
☐ Program Director and Instructor(s) resumes that specify eligibility for program role.
☐ Copy of the course completion certificate.
☐ Copy of the EMS Quality Improvement Program.

ATTESTATION OF PSFA&CPR APPLICANT	
I hereby certify that I have reviewed and understand the County of San Luis Obispo EMS Policy #xxx, Emergency Medical Responder Training Program Approval and Title 22, Div. 9.	
Signature of EMR Applicant:	Date:

*****EMS AGENCY USE ONLY BELOW THIS LINE*****	
Received Date:	☐ Email confirmation of application received.
Initial Review (w/in 21 work days), Date:	Letter of approval or disapproval, Date:
Update State Database:	Update SLOEMSA records:
☐ Submit Attachment B upon completion of initial training.	

POLICY #221 LEAVE BEHIND NALOXONE:

I. PURPOSE

A. To establish guidelines and procedures for Emergency Medical Services personnel to leave behind intranasal naloxone kits with at-risk individuals, family members, or other bystanders at the scene of a suspected opioid overdose or in situations where opioid overdose risk is identified.

II. POLICY

EMS personnel may utilize this policy while following any SLOEMSA treatment protocols and may leave behind naloxone kits when any of the following occur:

A. Scene of suspected opioid overdose with patient revived or refusing transport;

B. High-risk individuals identified (e.g., known opioid users, with paraphernalia present);

C. Upon request by patient, family, or bystander;

D. Regardless of overdose involvement, if EMS personnel assess risk in others present.

III. PROCEDURE

A. Assessment and Education

1. Confirm opioid involvement or risk factors.
2. Provide brief training on:
    - Signs/symptoms of opioid overdose
    - Proper intranasal naloxone administration
    - Importance of dialing 911
    - Good Samaritan protections

B. Distribution

1. Provide a SLOEMSA-approved naloxone kit (typically two doses of 4mg intranasal naloxone, naloxone instruction, resource handout, and fentanyl test strips).

C. Documentation

Document in the ePCR:

- Indication for leave behind
- Number of kits left

- Recipient's relationship to patient (if applicable)
- Verbal consent and understanding of use

D. Resupply

Participating agencies are responsible for procuring and supplies through the California DHCS Naloxone Distribution Project or the County of San Luis Obispo's Opioid Safety Coalition.

IV. AUTHORITY

- California Health and Safety Code, Division 2.5,
- Title 22, California Code of Regulations, Division 9
- California Civil Code § 1714.22

Approvals:

EMS Agency, Administrator	
EMS Agency, Medical Director	

POLICY #222 MECHANICAL CPR DEVICES:

I. PURPOSE

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

II. POLICY

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

A. Mechanical CPR devices may be used in adult, non-traumatic cardiac arrest patients when continuous, high-quality manual chest compressions are not feasible, or when fatigue is a concern.

B. Mechanical CPR devices are not mandatory and should be used at the provider's discretion.

C. Agencies must inform the SLOEMSA Medical Director in writing prior to deploying mechanical CPR devices in the field.

III. PROCEDURE

A. Training & Competency

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

B. Clinical Indications

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

C. Contraindications

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

D. Device Application

1. Manual CPR should be performed immediately on patient arrival. Do not delay the initiation of chest compressions to place the mechanical CPR device.
2. Apply the device using deployment to minimize interruptions. Please note that the principles of High Performance CPR (HPCPR) are still the top priority. Limit interruptions of compressions to < 5-10 sec. Confirm proper positioning and secure attachment. Monitor for movement, malfunctions, and signs of ROSC.
3. Follow device-specific manufacturer instructions for application and operation.

E. Documentation

1. Time of device application and removal.
2. Type of device used.
3. Any complications or malfunctions.

IV. AUTHORITY

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

Approvals:

EMS Agency, Administrator	
EMS Agency, Medical Director	