



General Medical Care

Policy Number: 7001

Effective Date: January 1, 2020 Review Date: November 24, 2020

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Definition

- A. All levels of provider will complete the following as part of providing general medical care for every patient:
 1. Perform initial and focused assessment.
 2. Use necessary and appropriate skills and procedures for which the provider has been trained and certified to perform in order to maintain patient's airway, breathing, and circulation.
- B. This protocol applies to every patient contact and is the basis from which other treatment protocols build upon.
 1. Scene size up:
 - a. Assess scene safety.
 - b. Use standard/universal precautions.
 - c. Determine the number of patients, activate MCI if indicated per *CVEMSA MCI Plan*.
 - d. Determine nature of illness/mechanism of injury.
 2. Primary assessment:
 - a. Identify and treat immediate life threats.
 - b. If cardiac arrest suspected, begin cardiac arrest management per *treatment guideline 7003 Cardiac Arrest Management*.
 - c. Systemic assessment of major body systems (medical).
 - d. Systemic assessment for injuries (trauma).
 - e. Obtain vital signs.
 3. Obtain the following information from patient or historian if patient unable to provide:
 - a. Chief complaint.
 - b. History of current complaint.
 - c. Past medical history.
 - d. Medications.
 - e. Allergies.
 4. Initiate treatment based on assessment findings as indicated by appropriate protocols.
 5. Base Hospital contact for patient care questions is highly encouraged for all level of providers.
 5. Reassess.
 6. Transport as indicated.
 - a. Use of lights and sirens during transport shall be based on the patient's clinical presentation and traffic conditions. Safety of the patient, crew members, and the public is paramount.
 7. Document all treatment on appropriate electronic patient care report (PCR) platform.

II. Basic Life Support

- A. Primary assessment:
 1. Assess airway patency:
 - a. If airway is not patent, utilize BLS maneuvers, adjuncts, and suctioning if indicated to clear the airway.
 2. Assess quality of breathing:
 - a. Initiate SpO₂ monitoring:
 - (1) For readings under 94%, consider oxygen therapy.
 - (a) Adjust oxygen device and flow to maintain a SpO₂ between 94% - 99%.
 - (b) For patients with COPD a normal reading may be 88%-92%.



<ul style="list-style-type: none"> b. If in respiratory distress with signs of hypoxia, consider BVM and/or CPAP device as appropriate. c. Consider oxygen therapy as appropriate to the nature of illness/mechanism of injury. 	
<ul style="list-style-type: none"> 3. Assess quality of pulse: <ul style="list-style-type: none"> a. Weak and rapid or slow pulse: <ul style="list-style-type: none"> (1) Assess for and consider treating shock. b. Strength, rate, and rhythm normal: <ul style="list-style-type: none"> (1) No immediate intervention. 4. Assess mental status: <ul style="list-style-type: none"> a. Check blood glucose if indicated. b. Administer Naloxone if indicated. 	
B. Ensure ALS response as appropriate.	
III. Advanced Life Support	
<ul style="list-style-type: none"> A. Primary assessment: <ul style="list-style-type: none"> 1. Airway/Breathing: <ul style="list-style-type: none"> a. Maintain airway using BLS maneuvers including supraglottic airway. <ul style="list-style-type: none"> (1) Place EtCO₂ monitoring device. 2. Circulation: <ul style="list-style-type: none"> a. Establish vascular access NS lock if indicated. <ul style="list-style-type: none"> (1) Fluid resuscitation with appropriate crystalloid as indicated by general impression and/or to maintain an age appropriate SBP. b. Cardiac monitor if indicated. <ul style="list-style-type: none"> (1) May consider 12-Lead EKG. (2) Treat dysrhythmias per <i>treatment guideline 7102 Dysrhythmias</i>. 	
Adult	Pediatric (less than 14 years of age)
<ul style="list-style-type: none"> A. Airway/breathing: <ul style="list-style-type: none"> 1. If airway patency is not achieved with BLS airway devices, advanced airway placement may be considered. 2. Place EtCO₂ monitoring device including Capnography. 	<ul style="list-style-type: none"> A. All pediatric patients receiving advanced life support interventions will be placed on a length based tape. B. All pediatric medication dosing will be determined by an approved pediatric medication administration guide.
IV. Special Considerations	
<ul style="list-style-type: none"> A. Oxygen therapy should focus on achieving an SpO₂ to a max of 99%. <ul style="list-style-type: none"> 1. Acute head injury is an exception. B. Two person BVM is more effective if possible. 	
V. Base Orders	
A. None.	
VI. Contraindications	
A. None.	
VII. Cross Reference	
A. Cardiac Arrest Management.	Policy No. 7003
B. Dysrhythmias	Policy No. 7102
C. MCI Plan	



Sedation

Policy Number: 7002

Effective Date: July 1, 2023

Review Date: July 1, 2025

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Definition

- A. Anxiety communicated by patient not relieved with other calming measures.
- B. Behaviors that endanger patient or others, or interferes with patient care.
- C. Sedation prior to ALS treatment such as cardioversion.
- D. Trismus.
- E. Anticipated movement/manipulation of fractures or dislocations.
- F. Airway management (physiological state that interferes with essential airway management).

II. Basic Life Support

- A. Provide General Medical Care.

III. Advanced Life Support

Adult

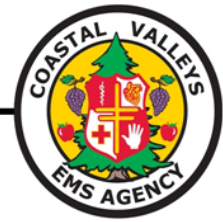
- A. Mild Sedation:
 - 1. Administer Diphenhydramine 50 mg IM.
 - a. Diphenhydramine 25 mg – 50 mg may be administered IV.
 - b. Max dose 50 mg.
- B. Moderate/Significant Sedation:
 - 2. Administer Midazolam 2 mg slow IVP.
 - a. Monitor EtCO₂.
 - b. Titrate to desired degree of sedation and maintain SBP \geq 90 mmHg.
 - c. May repeat 1-2 mg every 3 minutes.
 - d. If unable to establish IV, administer 2 mg – 5 mg IM.
 - (1) May repeat initial IM dose every 10 – 15 minutes.
 - e. Max total dose 10 mg.
 - (1) Patients with concomitant narcotic administration should not exceed a max dose of 0.05 mg/kg.
 - (2) For long transport, max dose may be exceeded for sedation maintenance.
 - (a) Administer 1 mg IV every 15 minutes.
 - (b) Additional doses greater than max dose requires base orders.
 - 2. If patient SBP < 90 mmHg administer Fentanyl 50 mcg – 100 mcg IV/IM instead of Midazolam.

Pediatric (less than 14 years of age)

- A. Mild Sedation:
 - 1. Administer Diphenhydramine per pediatric medication administration guide.
 - a. Do not repeat.
- B. Moderate/Significant Sedation:
 - 1. Administer Midazolam per pediatric medication administration guide.
 - a. Titrate to desired degree of sedation and maintain age appropriate SBP.
 - b. May repeat initial dose one time after 15 minutes.
 - c. If transport time is greater than 30 minutes, may repeat once as needed.
 - d. Any additional doses require base orders. 0.5 mg -1 mg
 - 2. If patient is hypotensive, administer Fentanyl per the pediatric medication administration guide instead of Midazolam.



IV.	Special Considerations
<p>A. Sedation is considered a chemical restraint when used to treat behavioral disturbance or endangerment. Detailed documentation is required when using sedation for this purpose.</p> <p>B. Pain management may be indicated in the presence of proposed sedation. Pain medication may be administered at a reduced dose, typically ½ the normal dose.</p> <p>C. Patients over 65 years of age should not exceed a max dose of Midazolam 0.05 mg/kg IV/IM.</p> <p>D. Concomitant narcotic administration.</p> <p>E. Concomitant use of Fentanyl and Midazolam is discouraged. The combination can cause respiratory depression and hypotension.</p>	
V.	Base Orders
<p>A. For transport times greater than 30 minutes, may repeat once as needed. Any additional doses require base orders.</p>	
VI.	Contraindications
<p>A. Absolute:</p> <ol style="list-style-type: none"> 1. Sensitivity to the medication to be administered. 2. Repeat dosing for pediatric patients with concomitant narcotic administration. <p>B. Relative: Paramedic judgement is necessary when evaluating the need for sedation in these circumstances.</p> <ol style="list-style-type: none"> 1. Nausea/Vomiting. 2. Depressed mentation. 3. Hypotension. 4. Suspected drug/alcohol intoxication. 5. Head Injury. 6. Multiple systems traumas. 	
VII.	Cross Reference
A. General Medical Care	Policy No. 7001



Cardiac Arrest Management

Policy Number: 7003

Effective Date: January 1, 2020 Review Date: November 24, 2020

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Definition

- A. The initial management in resuscitation of cardiac arrest patients is to establish circulation via high quality, uninterrupted chest compression.

II. Basic Life Support

A. Provide General Medical Care.

Adult

- A. Initial management:
1. Chest compressions should be 2+ inches in depth.
 2. During the resuscitation, attempt to limit any pause to 3 seconds or less.
 3. Set metronome at 110 compressions per minute.
 4. Allow for full recoil.
 5. Switch compressors every 2 minutes.
 6. Optional: Mechanical CPR devices (AutoPulse and LUCAS) may be used and is recommended only after at least two rounds of CPR and two defibrillations, if indicated, and generally only if rescuer fatigue is an issue.
- B. Defibrillation should be attempted as soon as possible during the resuscitation.
1. High performance CPR begins immediately upon arrival.
 2. AED should be attached during compressions.
 - a. If shock indicated, compress the chest 30 times during the charge of the AED.
 - b. Off-the-chest time should only occur during the actual defibrillation.
 - c. Hover hands over chest during shock administration and be ready to compress as soon as shock delivered.
- C. Airway management:
1. If only 2 rescuers on scene, place a NRB mask with high flow O₂ on patient for passive oxygenation until a third rescuer arrives.
 2. Two-handed, two thumbs on BVM is essential for maintaining a good BLS airway.
 3. Choice of adjuncts, including nasal and oral airways should be based on the specific needs of the patient.

Pediatric (less than 14 years of age)

- A. Initial management:
1. Chest compressions should be 1/3 to 1/2 depth of chest.
 - a. Child – 1 or 2 hands
 - b. Infant – 2 fingers
 2. During the resuscitation attempt to limit any pause to 3 seconds or less.
 3. Set metronome at 110 compressions per minute.
 4. Allow for full recoil of chest.
 5. Switch compressors every 2 minutes.
- B. Defibrillation should be attempted as soon as possible during the resuscitation.
1. High performance CPR begins immediately upon arrival.
 2. AED should be attached during compressions.
 - a. If shock indicated, compress the chest 30 times during the charge of the AED.
 - b. Off-the-chest time should only occur during the actual defibrillation.
 - c. Hover hands over chest during shock administration and be ready to compress as soon as shock delivered.
- C. Airway management:
1. If only 2 rescuers on scene, place a NRB mask with high flow O₂ on patient for passive oxygenation until a third rescuer arrives.
 2. Two-handed, two thumbs on BVM is essential for maintaining a good BLS airway.
 3. Choice of adjuncts, including nasal and oral airways should be based on the specific needs of the patient.
 4. Small tidal volume ventilations (approximately 100ml) should be administered on the upstroke of every 10th compression.



4. Small tidal volume ventilations (approximately 100 ml) should be administered on the upstroke of every 10th compression. A pediatric bag is preferred to help ensure small tidal volumes.
5. Change to normal adult size BVM for patients with ROSC.
6. Accredited EMTs who work for an approved rural providers, may use a Supraglottic airway as an advanced rescue airway for adult patients in cardiac arrest when BLS maneuvers are unsuccessful per *procedure guideline 7912 Supraglottic Airway*.

III. Advanced Life Support

Adult

- A. Switch to manual monitor and check rhythm.
 1. Defibrillate immediately if in VF/VT per manufacture guidelines.
 2. Analyze rhythm every 2 minutes.
- B. Vascular access:
 1. Do not stop compressions to accomplish.
 2. An IO may be preferable limiting the interference with compressions.
- C. Medication administration should occur per *treatment guideline 7102 Dysrhythmias*.
 1. Do not stop compressions while giving medications.
- D. Airway management
 1. Maintain a BLS airway unless it is compromised.
 2. If ROSC is achieved, BLS airway is preferred but an approved alternate rescue airway device or endotracheal intubation can be considered per procedure guidelines *7911 Endotracheal Intubation or 7912 Supraglottic Airway*.
 3. Placing advanced airways should not interfere with continuous chest compressions or defibrillation.
 4. End-tidal capnography should be used for evaluating the effectiveness of resuscitation, ROSC, and as a possible endpoint for the resuscitation.
 5. Place ETCO₂ filter line on BVM as soon as possible.

Pediatric (less than 14 years of age)

- A. Switch to manual monitor and check rhythm.
 1. Defibrillate immediately if in VF/VT per manufacturer guidelines.
 2. Analyze rhythm every 2 minutes.
- B. Vascular access:
 1. Do not stop compressions to accomplish.
 2. An IO may be preferable, limiting the interference with compressions
- C. Medication administration should occur per *treatment guideline 7102 Dysrhythmias*.
 1. Do not stop compressions while giving medications.
- D. Airway management:
 1. Maintain a BLS airway unless it is compromised.
 2. End-tidal capnography should be used for evaluating the effectiveness of resuscitation, ROSC, and as a possible endpoint for the resuscitation.
 3. Place ETCO₂ filter line on BVM as soon as possible.
- E. Post arrest management:
 1. If SBP < 70 mmHg after 3 boluses contact Base Hospital for Push Dose Epinephrine order.
 2. Refer to pediatric medication administration guide for medication dosing.



<p>E. Post arrest management:</p> <ol style="list-style-type: none"> 1. If unable to maintain a minimum systolic BP of 90 mmHg after IV fluid bolus of 1000 ml, administer push-dose Epinephrine. 2. Mix 1 ml of Epinephrine 1:10,000 (0.1mg/ml) with 9 ml NS in a 10 ml syringe. 3. Administer diluted Epinephrine 1 ml IV every 1-5 minutes, titrate to maintain a SBP > 90 mmHg. 	
IV. Special Considerations	
<p>A. Timekeeping is important:</p> <ol style="list-style-type: none"> 1. The compressor should count 1-10, repeat. 2. Ventilator counts 10, 20, 30, etc. every 10 compressions. <p>B. A team leader should be identified at the beginning of the resuscitation attempt.</p> <ol style="list-style-type: none"> 1. Cardiac arrest management should be handled in a sequential and orderly fashion, with all job tasks clearly identified and delegated to resuscitation team members. 2. It is always best for the person at the head to lead the CPR team (Rescuer #3). This rescuer should advise when at 200 compressions, as well as to charge the defibrillator at 2 minute intervals. 3. Overall scene management should be coordinated and supervised using the precepts of the Incident Command System. <p>C. Resuscitation time: minimum 20 minutes on scene in ALL, except very rare cases (i.e. unsafe and unworkable scenes).</p> <ol style="list-style-type: none"> 1. Ongoing V-Fib/Pulseless V-Tach should be worked for at least 30 minutes. 2. Pediatric arrests are to be transported to the nearest emergency department as soon as practical. <p>D. Post Arrest Management:</p> <ol style="list-style-type: none"> 1. Should focus on stabilizing the patient's life threats and transport. 2. Prior to moving the patient, obtain a 12 lead EKG. 5-10 minutes on scene is reasonable to ensure rhythm stability. 3. Ventilate the patient with 10 breaths per minute to achieve an EtCO₂ of 35-45 mmHg and an O₂ sat of 94-98%. 4. No hyperventilation or hyper-oxygenation. 5. Transport all ROSC patients to a STEMI receiving center if within a 30 minute transport time. <p>E. Continuous compressions and defibrillation take precedent over ventilation, vascular access, and medications.</p> <p>F. Defibrillate per manufacturers recommendation.</p> <p>G. Remember, do not stop chest compressions for ventilation, charging of manual defibrillator or ALS procedures.</p> <p>H. Evidence shows that Sodium Bicarbonate and Calcium Chloride are not helpful in cardiac arrest unless hyperkalemia is suspected. If hyperkalemia is suspected, Sodium Bicarbonate and Calcium Chloride administration may be considered.</p> <p>F. If tricyclic antidepressant overdose suspected, refer to <i>treatment guideline 7203 Poisoning-Overdose</i>.</p>	
V. Base Orders	
A. None.	A. If SBP<70mmHg after 3 boluses contact Base Hospital for Push Dose Epinephrine order.
VI. Contraindications	
A. None.	
VII. Cross Reference	
A. General Medical Care	Policy No. 7001
B. Dysrhythmias	Policy No. 7102

COASTAL VALLEYS EMS AGENCY



C.	Supraglottic Airway	Policy No. 7912
D.	Endotracheal Intubation	Policy No. 7911
F.	Poisoning Overdose	Policy No. 7203



ALTERNATE MEDICATIONS

POLICY NO: **7004**

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EFFECTIVE DATE: 08-01-13

REVISED DATE:

APPROVED: Bryan Cleaver
EMS Administrator

Dr. Mark Luoto
EMS Medical Director

AUTHORITY: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

PURPOSE

- a. To provide alternative medication options when drug shortages are eminent and all resources for restocking have been exhausted.

TREATMENT

- a. Adult Diazepam (Valium) dosing when Midazolam is not available:
 1. Diazepam (Valium) 5-10mg slow IV push; max 5mg/min. May repeat initial dose every 5-10 mins to max of 15mg.
 2. If unable to establish IV administer Diazepam (Valium) 5-10mg I/O slow push. May repeat initial dose after 10 mins to max of 15mg. Do not administer Diazepam (Valium) IM.
 3. In elderly patients > 65 yrs old use 2-5mg slow IV push. May repeat in 2mg increments every 5 minutes to a maximum dose of 10mg.
- b. Pediatric Diazepam (Valium) dosing when Midazolam is not available:
 1. Diazepam (Valium) 0.2mg/kg slow IV; max 2mg/min. May repeat initial dose after 5 mins to max of 5mg for <5 yrs old and 10mg for 5yrs and older.
 2. If unable to establish IV, administer Diazepam (Valium) 0.2mg/kg slow I/O; max 2mg/min. May repeat initial dose after 5 mins to max of 5mg for <5 yrs old and 10mg for 5yrs and older. Do not administer Diazepam (Valium) IM or PR.
- c. Adult Morphine dosing when Fentanyl is not available:
 1. Morphine 2-5mg IV every 5 mins to max dose of 15mg, maintain SBP >90mmHg.
 2. If unable to establish IV administer Morphine 5-10mg IM. May repeat in 30 mins to max dose of 15mg.
- d. Pediatric Morphine dosing when Fentanyl is not available:
 1. Morphine 0.05mg/kg IV or IM. May repeat x1 IV if needed.

SPECIAL CONSIDERATIONS

- a. Only one benzodiazepine or narcotic will be carried on a unit at one time.



Suspected Acute Coronary Syndrome

Policy Number: 7101

Effective Date: January 1, 2020 Review Date: February 23, 2021

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Definition

- A. Acute Coronary Syndrome (ACS) has a wide variety of presentations. Symptoms may include:
 - 1. Substernal pain.
 - 2. Dysrhythmia.
 - 3. Discomfort or tightness radiating to the jaw, back, and either shoulder or arm.
 - 4. Nausea.
 - 5. Diaphoresis.
 - 6. Dyspnea.
 - 7. Syncope/dizziness.
 - 8. Other "suspicious symptoms".
- B. Myocardial Infarction (MI): Greater than 1 mm ST segment elevation in two or more contiguous leads or meets Sgarbossa criteria.

II. Basic Life Support

- A. Provide General Medical Care.
- B. Administer Aspirin 324 mg PO (approximately 4 chewable tablets).

III. Advanced Life Support

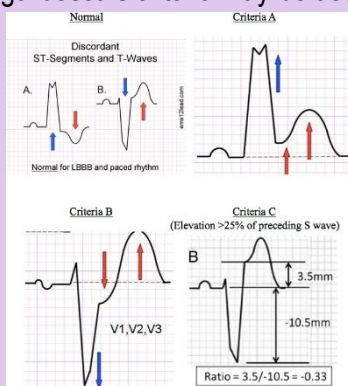
- A. Obtain 12-Lead EKG per *procedure guideline 7103 12-Lead EKG*.
 - 1. If evidence of myocardial infarction (MI):
 - a. Direct transport to the closest, most appropriate authorized STEMI Receiving Center (SRC) per *CVEMSA guideline 5005 Point of Entry*.
 - b. Early receiving center notification of a STEMI Alert.
- B. Administer Nitroglycerin 0.4 mg SL SBP > 110 mmHg, if inferior MI SBP > 150 mmHg.
 - 1. May repeat every 5 minutes if symptoms persist and SBP remains > 110 mmHg.
 - 2. Max 1.2 mg (3 doses).
 - 3. Optional:
 - a. For prolonged transports, apply ½ inch of 2% Nitroglycerin paste.
 - (1) May apply an additional ½ inch if signs and symptoms persist and SBP remains > 110 mmHg.
- C. Administer Fentanyl per *treatment guideline 7305 Pain Management*. Fentanyl can be administered concurrently with Nitroglycerin.
- D. Fluid Resuscitation:
 - 1. If SBP < 110 mmHg, administer 250 ml NS fluid bolus IV.
 - a. May repeat once.
 - b. Reassess vital signs after every 250 ml to ensure lung sounds remain clear.
 - 2. If SBP < 90 mmHg and cardiogenic shock suspected:
 - a. Administer 500 ml NS fluid bolus IV.
 - (1) Reassess vital signs after every 250 ml to ensure lung sounds remain clear.
 - (2) If rales develop or worsen and hypotension persists administer push-dose Epinephrine as described below.



3. If SBP remains < 90 mmHg:
 - a. Administer push-dose Epinephrine.
 - (1) Mix 1 ml 1:10,000 Epinephrine (0.1 mg/ml) with 9 ml NS in a 10 ml syringe.
 - (2) Administer diluted Epinephrine 1 ml every 1-5 minutes.
 - (3) Titrate to maintain SBP > 90 mmHg.
 - b. Consider establishing a second IV NS TKO during transport.

IV. Special Considerations

- A. For inferior myocardial infarctions with a normal blood pressure, prophylactic fluid administration is not recommended. Conversely hypotensive patients should be aggressively treated with fluid.
- B. Consider establishing an IV prior to NTG administration.
- C. Sgarbossa's criteria may be useful in the presence of LBBB in determining an MI.



V. Base Orders

- A. For questionable interpretations, consider Base Hospital consultation with transmission of the 12-Lead EKG.

VI. Contraindications

- A. Patients with evidence of an inferior myocardial infarction and a SBP < 150 mmHg should not receive Nitroglycerin.
- B. Nitroglycerin should not be administered to patients of either gender who have taken Viagra/Levitra within 24 hours, or Cialis within 72 hours.
- C. Aspirin should not be administered to patients with an active GI bleed.

VII. Cross Reference

- | | |
|-------------------------|-----------------|
| A. General Medical Care | Policy No. 7001 |
| B. EKG 12 Lead | Policy No. 7103 |
| C. Point of Entry | Policy No. 8005 |
| D. Pain Management | Policy No. 7305 |



Dysrhythmias

Policy Number: 7102		Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director
Effective Date: July 1, 2023	Review Date: July 1, 2025	
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221		
I. Definition		
A. The initial management of resuscitation of cardiac arrest patients is to establish circulation via high quality, uninterrupted chest compressions.		
II. Basic Life Support		
A. Provide General Medical Care.		
B. If cardiac arrest, begin cardiac arrest management per <i>treatment guideline 7003 Cardiac Arrest Management</i> .		
III. Advance Life Support		
A. Establish IV as appropriate.		
B. Monitor cardiac rhythm.		
1. Obtain 12-Lead EKG as appropriate.		
Adult	Pediatric (less than 14 years of age)	
A. Asystole/PEA:		A. Asystole:
1. Confirm asystole by increasing gain to 2.0.		1. Confirm asystole by increasing gain to 2.0.
a. If other dysrhythmia found, refer to appropriate dysrhythmia section of this protocol.		a. If other dysrhythmia found, refer to appropriate dysrhythmia section of this protocol.
2. Administer 1:10,000 Epinephrine 1 mg IV.		2. Administer 1:10,000 Epinephrine IV per pediatric medication administration guide.
a. Repeat every 3-5 minutes.		a. Repeat every 3-5 minutes.
b. Max dose 3 mg.		b. Max 3 doses.
B. Bradycardia:		B. Bradycardia:
1. Stable: Patient with signs of normal perfusion and/or a SBP > 110 mmHg.		1. Stable: Patients with signs of normal perfusion and age appropriate SBP.
a. Provide General Medical Care.		a. Provide General Medical Care.
2. Unstable: Patient with signs of decrease perfusion:		2. Unstable: Decreased perfusion or respiratory distress:
a. If SBP < 90mmHg and lung sounds are clear:		a. Prepare push-dose Epinephrine:
(1) Administer NS fluid bolus 10 ml/kg.		(1) Mix 1 ml of 1:10,000 Epinephrine (0.1 mg/ml) with 9 ml NS in a 10 ml syringe.
(a) Recheck vitals every 250 ml.		(2) Administer push-dose Epinephrine 1 ml IV every 1-4 minutes to achieve dose per the pediatric medication administration guide.
b. Administer Atropine 1 mg IV.		(3) Titrate to maintain age appropriate SBP.
(1) May repeat every 3-5 minutes.		b. If no response to Epinephrine administration:
(2) Max dose 3 mg.		(1) Administer Atropine per the pediatric medication administration guide.
c. If no response to NS fluid bolus and Atropine administration:		c. If no response to the above treatment:
(1) Consider cardiac pacing per <i>treatment guideline 7919 External Pacing</i> .		(1) Administer NS fluid bolus 20 ml/kg IV.
d. If inadequate response to the above treatment:		d. Consider external pacing using pediatric pads.
(1) Prepare push-dose Epinephrine:		
(a) Mix 1 ml of 1:10,000 Epinephrine (0.1 mg/ml) with 9 ml NS in a 10 ml syringe.		
(b) Administer push-dose Epinephrine 1 ml IV every 1-4 minutes.		
(c) Titrate to maintain SBP> 90 mmHg.		

A. Asystole/PEA

B. Bradycardia



C. Ventricular Fibrillation/Pulseless Ventricular Tachycardia:

1. Defibrillate using cardiac monitor.
 - a. Use energy settings recommended by the monitor manufacturer that have been approved by service provider medical director.
 - b. Repeat every 2 minutes as indicated.
 - c. If VF/Pulseless VT converts then recurs, defibrillate at last successful energy level.
2. Administer 1:10,000 Epinephrine 1 mg (10ml) IV.
 - a. Repeat every 3-5 minutes.
 - b. Max 3 mg.
3. If dysrhythmia persists after third defibrillation, administer Amiodarone 300 mg IV.
 - a. If dysrhythmia persists after 3-5 minutes, administer 150 mg Amiodarone IV.

D. Wide Complex Tachycardia:

1. Stable patient:
 - a. Administer Amiodarone 150 mg in 100 ml NS IV over 10 minutes.
 - 1) May repeat once if dysrhythmia persists.
2. Unstable patient: Dyspnea with SBP < 90mmHg or CHF:
 - a. Escalating synchronized cardioversion *per treatment guideline 7920 cardioversion*.
 - 1) Consider sedation *per treatment guideline 7002 Sedation* if patient is awake and aware.
 - b. If rhythm persists after cardioversion, administer Amiodarone 150 mg in 100 ml NS IV over 10 minutes.
 - 1) May repeat once if dysrhythmia persists.
 - c. If Magnesium Sulfate available, administer 2 g in 100 cc NS IV over 10 minutes.
3. If patient becomes pulseless refer to *treatment guideline 7003 Cardiac Arrest Management*.

E. Supraventricular Tachycardia: SVT is general above 150 BPM and is typically a well-tolerated rhythm that does not require aggressive therapy. Assess patient for other possible causes for symptoms.

1. Consider the Valsalva maneuver.

C. Ventricular Fibrillation/Pulseless Ventricular Tachycardia:

1. Defibrillate using cardiac monitor.
 - a. 2 Joules/kg.
 - 1) If dysrhythmia persists after 2 minutes, increase to 4 Joules/kg.
 - b. Repeat every 2 minutes as indicated.
2. Administer 1:10,000 Epinephrine IV per the pediatric medication administration guide.
 - a. Repeat every 3-5 minutes.
 - 1) Max 3 doses.
3. If dysrhythmia persists after the third defibrillation, administer Amiodarone IV per pediatric medication administration guide.
 - a. Flush tubing with NS 20 ml.
 - b. Repeat every 3-5 minutes with persistent VF/Pulseless VT.
 - 1) Max 2 doses or 15 mg/kg.

D. Wide Complex Tachycardia: P waves

absent/abnormal, HR not variable, QRS \geq 0.08 seconds, HR \geq 220 BPM in infants or HR \geq 180 in children.

1. Expedition transport is a priority.
2. If patient shows signs of decreased perfusion and is responsive:
 - a. Administer Adenosine per pediatric medication administration guide.
 - 1) May repeat once.
 - b. If unsuccessful, may consider contacting the Base Hospital for possible administration of Amiodarone per pediatric medication administration guide.
3. If patient is unresponsive:
 - a. Synchronized cardioversion per pediatric medication administration guide.
 - 1) If no change after cardioversion contact base for additional guidance
4. If patient becomes pulseless refer to *treatment guideline 7003 Cardiac Arrest Management*.

E. Supraventricular Tachycardia: SVT is typically a well-tolerated rhythm that does not require aggressive therapy. Assess patient for other possible causes for symptoms.

1. Consider the Valsalva maneuver.



2. A proximal vein is the preferred IV site.
3. Administer Adenosine 6 mg rapid IV push followed by NS flush 10 ml.
 - a. If dysrhythmia persists, administer Adenosine 12 mg rapid IV push followed by NS flush 10 ml.
4. If no response and SBP > 90 mmHg continue with transport and monitor for changes.
5. If SBP < 90 mmHg:
 - a. Administer NS fluid bolus 250 ml.
 - 1) Repeat once as indicated to maintain SBP > 90 mmHg.
 - 2) Recheck vitals every 250 ml.
 - b. If dysrhythmia persists and patient becomes unstable with a change in mental status and/or significant hypotension, synchronized cardioversion per *treatment guideline 7920 synchronized cardioversion*.

F. Atrial Fibrillation/Flutter: Atrial Fibrillation/Flutter is typically a well-tolerated rhythm that does not require aggressive therapy. Assess patient for other possible causes if symptomatic. Attempts to convert rhythm should be reserved for the patient in extremis.

1. If SBP < 90 mmHg:
 - a. Administer NS fluid bolus 250 ml IV.
 - 1) Repeat once as indicated to maintain SBP > 90 mmHg.
 - 2) Recheck vitals every 250 ml.
2. If dysrhythmia persists and SBP < 80 mmHg with acute altered mental status present:
 - a. Escalating synchronized cardioversion per *treatment guideline 7920 synchronized cardioversion*.
3. Optional rate reducing treatment for transport times in excess of one hour:
 - a. Obtain 12-Lead EKG per procedure guideline 9808 EKG 12-Lead to verify underlying rhythm.
 - b. If SBP > 120 mmHg and 12 Lead EKG confirms Atrial Fibrillation/Flutter:
 - 1) Administer Verapamil 2.5 mg IV.
 - a) The absence of fever (38° C or 100.4°F) must be documented.
 - b) Repeat every 10 minutes.

2. A proximal vein is the preferred IV site.
3. Administer Adenosine per pediatric medication administration guide.
 - a. Max 6 mg.
 - b. If dysrhythmia persists after 3 minutes, repeat Adenosine at two times the initial dose.
 - 1) Max 12 mg.
4. If no response and SBP is within normal limits for patient age/weight, continue with transport and monitor for changes.
5. If hypotension develops NS fluid bolus 20 ml/kg.

F. Atrial Fibrillation/Flutter: Atrial Fibrillation/Flutter is typically a well-tolerated rhythm that does not require aggressive therapy. Assess patient for other possible causes if symptomatic. Attempts to convert rhythm should be reserved for the patient in extremis.

1. If patient is conscious initiate transport and monitor.
2. If patient unconscious consider escalating synchronized cardioversion per pediatric medication administration guide.



<p>c) Max dose 15 mg. d) If heart rate falls below 100 BPM administration should stop. e) If SBP < 90 mmHg: i. Administer NS fluid bolus 10 ml/kg IV. ii. Recheck vitals every 250 ml. iii. If hypotension persists, administer Calcium Chloride 250 mg slow IV push. f) Do not use Verapamil in wide complex QRS dysrhythmias or patients with a history of Wolff-Parkinson-White Syndrome (WPW).</p>	
IV. Special Considerations	
A. Ongoing V-Fib/V-Tach should be worked for at least 30 minutes.	
A. None.	A. Pediatric dysrhythmias are very rare events. Expeditious transport should be a high priority and base hospital consult for medical guidance is highly encouraged.
V. Base Orders	
A. None	
VI. Contraindications	
A. None	
VII. Cross Reference	
A. General Medical Care B. EKG 12-Lead C. Sedation D. Cardiac Arrest Management E. External Pacing F. Synchronized Cardioversion	Policy No. 7001 Policy No. 7103 Policy No. 7002 Policy No. 7003 Policy No. 7919 Policy No. 7920

EKG 12-Lead

Policy Number: 7103

Effective Date: January 1, 2019 Review Date: February 23, 2021

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Definition

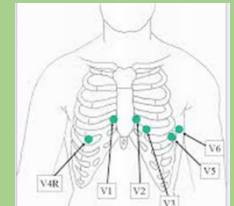
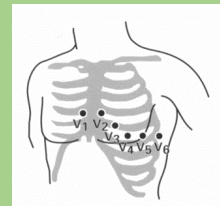
- A. Any patient with suspected Acute Coronary Syndrome (ACS).
- B. STEMI: Greater than 1 mm of ST segment elevation in two or more contiguous leads.
- C. Post cardiac arrest.

II. Basic Life Support

- A. None.

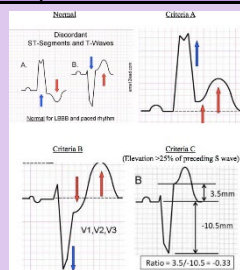
III. Advance Life Support

- A. Attach EKG leads to the patient (limb leads to the upper arms, legs, and six chest leads) to perform EKG.
 1. V1: Right 4th intercostal space.
 2. V2: Left 4th intercostal space.
 3. V3: Halfway between V2 and V4.
 4. V4: Left 5th intercostal space, mid-clavicular line.
 5. V5: Horizontal to V4, anterior axillary line.
 6. V6: Horizontal to V5, mid-axillary line.
 7. V4R: Right 5th intercostal space, mid-clavicular line.
- B. If 12 lead indicates an acute STEMI:
 1. Transport to an approved STEMI receiving center according to CVEMSA Policy 8005 Point of entry.
 2. Early receiving facility notification of a STEMI Alert.
 3. Transmit EKG to the receiving facility.
 - a. If unable to transmit and with patient permission, a cell phone may be used to send an image of the 12-Lead to the receiving facility.
 4. If evidence of an Inferior Myocardial Infarction, consider conducting a right sided 12-Lead to rule out a Right Ventricular Infarction (RVI). Patients with an inferior MI, who have a SBP < 150 mmHg should not receive Nitroglycerin.



IV. Special Considerations

- A. Sgarbossa's criteria may be useful in the presence of LBBB in determining an MI.



V. Base Orders

- A. None.

VI. Contraindications

- A. None.

VII. Cross References

- A. General Medical Care Policy No. 7001
- B. Point of Entry Policy No. 8005
- C. Acute Coronary Syndrome Policy No. 7101
- D. Cardiac Arrest Management Policy No. 7003



Allergic/Anaphylactic Reactions

Policy Number: 7201

Effective Date: January 1, 2020 Review Date: February 23, 2021

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Definition

- A. Mild Allergic Reaction: Urticaria (itchy, raised welts).
- B. Moderate/Severe Allergic Reaction: The presence of swelling of mucus membranes, dyspnea, wheezing, chest or throat tightness, or abdominal cramps.
- C. Anaphylaxis: Signs of shock.

II. Basic Life Support

- A. Provide General Medical Care.
- B. Assess severity of reaction:
 - 1. Mild Allergic Reaction:
 - a. Observe for development of additional symptoms and do not delay Epinephrine administration if indicated.
 - 2. Moderate/Severe Allergic Reaction:
 - a. Administer auto-injector Epinephrine 0.3 mg IM.
 - 3. Anaphylaxis:
 - a. Administer auto-injector Epinephrine 0.3 mg IM.
 - (1) May repeat once after 10 minutes if symptoms persist.

III. Advanced Life Support

Adult

- A. Mild Allergic Reaction:
 - 1. Administer Diphenhydramine 50 mg IM.
- B. Moderate/Severe Allergic Reaction:
 - 1. Administer 1:1,000 Epinephrine 0.3 mg IM.
 - a. May repeat once after 10 minutes if symptoms persist.
 - 2. For bronchospasm refer to *treatment guideline 7701 Respiratory Distress*:
 - a. Administer Albuterol 5 mg in 6 ml nebulized.
 - (1) May repeat Albuterol as indicated.
 - b. Administer Atrovent 0.5 mg in 6 ml NS nebulized.
 - (1) Do not repeat.
 - c. Administer Diphenhydramine 50 mg IV/IM.

Pediatric (less than 14 years of age)

- A. Mild Allergic Reaction:
 - 1. Administer Diphenhydramine per pediatric medication administration guide.
- B. Moderate/Severe Allergic Reaction:
 - 1. Administer 1:1,000 Epinephrine IM per pediatric medication administration guide.
 - a. Max initial dose 0.3 mg.
 - b. May repeat once after 10 minutes if symptoms persist.
 - 2. For bronchospasm:
 - a. Administer Albuterol per pediatric medication administration guide.
 - (1) May repeat Albuterol as indicated.
 - b. Administer Atrovent per pediatric medication administration guide.
 - (1) Do not repeat.
 - 3. Administer Diphenhydramine per pediatric medication administration guide.
 - a. Max dose 50 mg.



<p>A. Anaphylaxis:</p> <ol style="list-style-type: none"> 1. Administer 1:1,000 Epinephrine 0.3 mg IM. <ol style="list-style-type: none"> a. May repeat twice at 10 minute intervals if symptoms persist. 2. Administer NS fluid bolus 10 ml/kg IV. <ol style="list-style-type: none"> a. Recheck vital signs every 250 ml to ensure lung sounds remain clear. b. May repeat to a max volume of 30 ml/kg. 3. Administer Benadryl 50 mg IV. 4. If unresponsive and severely hypotensive: <ol style="list-style-type: none"> a. Prepare push-dose Epinephrine: <ol style="list-style-type: none"> (1) Mix 1 ml of 1:10,000 Epinephrine (0.1 mg/ml) with 9 ml NS in a 10 ml syringe. (2) Administer push-dose Epinephrine 1 ml IV every 1-4 minutes. <ol style="list-style-type: none"> (a) Titrate to maintain SBP > 90 mmHg. 	<p>A. Anaphylaxis:</p> <ol style="list-style-type: none"> 1. Administer 1:1,000 Epinephrine IM per pediatric medication administration guide. <ol style="list-style-type: none"> a. Max initial dose 0.3 mg. b. May repeat twice at 10 minute intervals if symptoms persist. 2. Administer NS fluid bolus 20 ml/kg IV. <ol style="list-style-type: none"> a. May repeat once if symptoms persist. 3. Administer Benadryl IV per pediatric medication administration guide. <ol style="list-style-type: none"> a. Max dose 50 mg. 4. If unresponsive and severely hypotensive: <ol style="list-style-type: none"> a. Prepare push-dose Epinephrine: <ol style="list-style-type: none"> (1) Mix 1 ml of 1:10,000 Epinephrine (0.1 mg/ml) with 9 ml NS in a 10 ml syringe. (2) Administer push-dose Epinephrine 1 ml IV every 1-4 minutes. <ol style="list-style-type: none"> (a) Titrate to maintain SBP > 90 mmHg.
IV. Special Considerations	
<p>A. Use caution when administering repeat doses of Epinephrine in patients over 60 years of age with a significant cardiac history.</p> <p>B. Allergic and Anaphylactic reactions have a variable degree of presentation, Urticaria may not always be present.</p>	
V. Base Orders	
<p>A. None</p>	<p>A. If SBP < 70 mmHg after 3 NS fluid boluses, consult with Base Hospital for push-dose Epinephrine administration.</p> <ol style="list-style-type: none"> 1. Refer to pediatric medication administration guide for push-dose Epinephrine dosage.
VI. Contraindications	
<p>A. None.</p>	
VII. Cross Reference	
<p>A. General Medical Care</p> <p>B. Respiratory Distress</p>	<p>Policy No. 7001</p> <p>Policy No. 7701</p>



Environmental Emergencies

Policy Number: 7202

Effective Date: January 1, 2020 Review Date: February 23, 2021

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Definition

- A. Heat Cramps/Heat Exhaustion: Cramping of the most worked muscles following replacement of exertion induced fluid losses (sweating) with water, exhaustion, fatigue, flu-like symptoms, normal/slightly elevated body temperature, normal mental status with clear lungs.
- B. Heat Stroke: Triad of exposure to heat stress, altered mental status, and elevated body temperature (usually above 104°F or 40°C); often associated with, tachycardia, hypotension, and the absence of sweating.
- C. Moderate Hypothermia: Conscious and shivering, lethargic, pale, and cold skin.
- D. Severe Hypothermia: Stuporous or comatose, dilated pupils, hypotension, bradycardic or pulseless, and slow to absent respirations.

II. Basic Life Support

- A. Provide General Medical Care.
- B. Protect patient from further environmental exposure.
- C. Remove any heavy, constricting, or wet clothing.
- D. Heat-related illness:
 - 1. Provide cooling measures such as an ice pack.
- E. Cold-related illness:
 - 1. Provide passive warming measures such as a hot pack or additional blankets.
- F. Bites or Stings:
 - 1. Remove stinger if still present.
 - 2. Assess for signs of allergic/anaphylactic reactions per *treatment guideline 7201 Allergic/Anaphylactic reactions*.
 - 3. For suspected venomous snake bites:
 - a. Do not delay transport. Patient may be transported to any receiving facility.
 - b. Early receiving facility notification.
 - c. Immobilize extremity at or below heart level.
 - d. Do not:
 - (1) Apply ice to the site.
 - (2) Make incision over the bite.
 - (3) Use restrictive bands.

III. Advanced Life Support

- A. Cold-related illness:
 - 1. Consider administering warm NS fluid bolus IV as indicated.
- B. Suspected venomous snake bites:
 - 1. Consider pain management per *treatment guideline 7305 Pain Management*.
 - 2. Do not delay transport to initiate IV.

COASTAL VALLEYS EMS AGENCY



Adult		Pediatric (less than 14 years of age)	
<p>A. Heat Cramps:</p> <ol style="list-style-type: none">1. Consider NS fluid bolus 250 ml IV as indicated.<ol style="list-style-type: none">a. Reassess vital signs every 250 ml to ensure lung sounds remain clear.b. May repeat to a max volume of 1 L. <p>B. Heat Stroke:</p> <ol style="list-style-type: none">1. Cool the patient.2. Administer NS fluid bolus 10 ml/kg IV.<ol style="list-style-type: none">a. Reassess vital signs every 250 ml to ensure lung sounds remain clear.b. May repeat to a max volume of 2 L.3. If seizures present, refer to <i>treatment guideline 7402 Seizures</i>.		<p>A. Heat Cramps/Heat Exhaustion/Heat Stroke:</p> <ol style="list-style-type: none">1. Consider NS fluid bolus 20 ml/kg IV.<ol style="list-style-type: none">a. Reassess vital signs after each bolus.2. If seizures present, refer to <i>treatment guideline 7402 Seizures</i>.	
IV.		Special Considerations	
A.		None.	
V.		Base Orders	
A.		None.	
VI.		Contraindications	
A.		None.	
VII.		Cross Reference	
A.		General Medical Care	
B.		Allergic/Anaphylactic Reactions	
C.		Seizures	
D.		Pain Management	
		Policy No. 7001	
		Policy No. 7201	
		Policy No. 7402	
		Policy No. 7305	



Poisoning/Overdose

Policy Number: 7203

Effective Date: January 1, 2020 Review Date: February 23, 2021

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Definition

A. None.

II. Basic Life Support

- A. Provide General Medical Care.
- B. For exposure to Hazardous Materials including, but not limited to hydrocarbons, caustic substances, and insecticides, refer to *treatment guideline 7205 Hazardous Materials Exposure*.
- C. Early transport and receiving hospital notification.
- D. Consider contacting Poison Control: 1-800-222-1222.
- E. Suspected narcotic overdose:
 - 1. In the presence of respiratory depression or arrest:
 - a. Administer preload Narcan 2 mg IN or nasal spray Narcan 4 mg IN.
 - (1) May repeat preload Narcan 2 mg IN once if respiratory depression persists.
 - (2) Max dose 4 mg IN.

III. Advanced Life Support

Adult

- A. Cyclic antidepressants:
 - 1. In the presence of widened QRS complex on EKG.
 - a. Administer Sodium Bicarbonate 50 mEq/dL IV.
 - (1) May repeat once if widened QRS complex persists.
- B. Narcotic overdose:
 - 1. In the presence of respiratory depression or arrest:
 - a. Administer Narcan titrated to achieve adequate respiratory drive IV/IM/IN.
 - (1) Max dose 10 mg.
- C. Phenothiazine/dystonic reaction:
 - 1. Administer Diphenhydramine 1 mg/kg IV/IM.
 - a. Max dose 50 mg.

Pediatric (less than 14 years of age)

- A. Cyclic antidepressants:
 - 1. In the presence of widened QRS complex on EKG.
 - a. Administer Sodium Bicarbonate per pediatric medication administration guide.
- B. Narcotic overdose:
 - 1. In the presence of respiratory depression or arrest:
 - a. Administer Narcan per pediatric medication administration guide titrated to achieve adequate respiratory drive.
- C. Phenothiazine/dystonic reaction:
 - 1. Administer Diphenhydramine per pediatric medication administration guide.

IV. Special Considerations

- A. Narcan should only be administered in the presence of respiratory depression or arrest. Narcan is not indicated in the presence of decreased mentation alone.

V. Base Orders

A. None.

VI. Contraindications

A. None.

VII. Cross Reference

- A. General Medical Care Policy No. 7001
- B. Hazardous Material Exposure Policy No. 7205



Drowning/Near Drowning

Policy Number: 7204		Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director
Effective Date: January 1, 2020 Review Date: February 23, 2021		
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221		
I. Definition		
A. Drowning: Cardiac arrest as a result of liquid immersion.		
B. Near drowning: Primary respiratory impairment due to liquid submersion.		
II. Basic Life Support		
A. Provide General Medical Care.		
B. Consider spinal motion restriction indicated per <i>procedure guideline 7909 Spinal Motion Restriction</i> .		
C. Airway and respiratory management is a priority.		
1. Drowning:		
a. Treat as cardiopulmonary arrest per <i>procedure guideline 7003 Cardiac Arrest Management</i> .		
2. Near Drowning:		
a. Anticipate vomiting.		
b. Suction as indicated.		
c. Remove wet clothing.		
d. If dyspnea persists despite suctioning and oxygen, consider <i>CPAP</i> per <i>procedure guideline 7908 CPAP</i> .		
e. All near drowning patients require advanced life support assessment.		
D. Provide passive warming measures as indicated.		
III. Advanced Life Support		
A. Consider CO ₂ monitoring.		
IV. Special Considerations		
A. Near drowning patients are at risk for decompensation for up to 24 hours after the incident. All near drowning patients require advance life support assessment.		
B. No body of water in CVEMSA's region meet criteria for a cold water drowning.		
V. Base Orders		
A. Near drowning patients refusing transport requires Base Hospital consult prior to signing against medical advice.		
VI. Contraindications		
A. None.		
VII. Cross Reference		
A. General Medical Care	Policy No. 7001	
B. CPAP	Policy No. 7908	
C. Cardiac Arrest Management	Policy No. 7003	
D. Spinal Motion Restriction	Policy No. 7909	



Hazardous Material Exposure

Policy Number: 7205

Effective Date: January 1, 2020 Review Date: February 23, 2021

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Definition

- A. Hazardous Material: Any material that poses a significant present or potential hazard to humans or the environment due to its quantity, concentration, and/or physical or chemical characteristics.
- B. Decontamination (Decon): The process of removing contaminants from people and equipment. There are three levels of Decon.
 - 1. Emergency Decon: Done by removing clothing and spraying patient with a hose to remove contaminants.
 - 2. Mass Decon: Setting up fog streams or using a commercially available tent to decontaminate multiple victims.
 - 3. Technical Decon: The process used to decontaminate responders and equipment at an incident.

II. Basic Life Support

- A. When a hazardous material event is identified:
 - 1. Stay uphill, upwind, and upstream.
 - 2. Use the acronym SIN:
 - a. Safety First: Keep responders and the public safe by staying away from the hazard and prevent secondary contamination by keeping distance from patients until decontaminated.
 - b. Isolated and Deny Entry: Establish an exclusion zone appropriate to the size of the incident.
 - c. Notification: Notify the appropriate resources such as Law Enforcement (evacuations/investigations), dispatch, Fire Department/HAZMAT, and/or additional EMS units if multiple patients suspected.
- B. Provide General Medical Care after the patient has been appropriately decontaminated.
- C. Use reference resources to determine level of risks of the substance:
 - 1. Emergency Response Guidebook for transportation events.
 - 2. NIOSH Pocket Guide.
 - 3. WISER online resource (Wireless Information System for Emergency Responders).
- D. Early notification to receiving facility identifying patient as having a HAZMAT exposure, identification of substance if known, and patient decontamination status.
 - 1. Do not transport a patient prior to appropriate decontamination.
 - 2. Do not enter the ED until directed by ED staff.
- E. For ingestions, do not induce vomiting.
 - 1. If patient does vomit, treat vomit as a hazardous material.
- F. For skin exposures, remove clothing and wash skin with water.
- G. For eye exposures, flush eyes with NS.

III. Advanced Life Support

Adult

- A. Insecticides: Organophosphates, Carbamates
 - 1. If signs of significant exposure (bradycardia, salivation, vomiting/diarrhea, wheezing, hypotension):
 - a. Administer Atropine 2 mg slow IVP.
 - 1) May repeat if symptoms persist.

Pediatric (less than 14 years of age)

- A. Insecticides: Organophosphates, Carbonates
 - 1. If signs of significant exposure (bradycardia, salivation, vomiting/diarrhea, wheezing, hypotension):
 - a. Administer Atropine per pediatric medication administration guide.



2) Max dose 8 mg.	1) May repeat if symptoms persist. 2) Max dose 4 mg.
IV. Special Considerations	
<p>A. Depending on the severity of exposure and the substance, emergency decon may be performed by a lay medical first responder, i.e. Pepper Spray. However, some exposures require decontamination to be performed by trained HAZMAT responders. All responders shall use judgement and take appropriate precautions to prevent secondary contamination.</p> <p>B. Significant organophosphate exposures often times require greater Atropine dosage to achieve symptom resolution.</p> <p>C. For decontamination, ensure all clothing is removed for physical contamination. This removes approximately 80% of the substance/contaminate.</p> <p>D. Pepper Spray should be consider a hazardous exposure and patients should be appropriately decontaminated prior to transport and entering the ED.</p>	
V. Base Orders	
A. Atropine dosing greater than max dose requires Base Hospital consult and physician approval/order.	
VI. Contraindications	
A. None.	
VII. Cross Reference	
A. General Medical Care Policy No. 7001	



Non-Traumatic Hypotension

Policy Number: 7301		Bryan Cleaver, EMS Administrator	
Effective Date: January 1, 2020 Review Date: May 25, 2021		Approved: Mark Luoto, EMS Medical Director	
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221			
I. Definition			
A. Sustained SBP < 90 mmHg and shock like appearance.			
II. Basic Life Support			
A. Provide General Medical Care.			
B. If cardiac etiology suspected refer to <i>treatment guideline 7101 Acute Coronary Syndrome</i> .			
III. Advanced Life Support			
A. Obtain 12 lead EKG per <i>treatment guideline 7103 12 Lead EKG</i> .			
B. Treat significant arrhythmias per <i>treatment guideline 7102 Dysrhythmias</i> .			
C. If Cardiogenic shock suspected, refer to <i>treatment guideline 7101 Acute Coronary Syndrome</i> .			
Adult		Pediatric (less than 14 years of age)	
A. Administer 250 ml fluid bolus NS. 1. May repeat up to 2 L. 2. Recheck vital signs after every 250 ml and ensure lung sounds remain clear.		A. Administer NS fluid bolus 20 ml/kg IV. 1. May repeat 3 times. 2. Recheck vital signs after each administration and ensure lung sounds remain clear.	
B. If rales present, refer to <i>treatment guideline 7701 Respiratory Distress</i> .			
C. If lungs remain clear and unable to maintain SBP > 90 mmHg NS fluid bolus of 2 L. 1. Prepare push dose Epinephrine: a. Mix 1 ml of 1:10,000 Epinephrine (0.1 mg/ml) with 9 ml NS in a 10 ml syringe. b. Administer push-dose Epinephrine 1 ml IV every 1 – 4 minutes. c. Titrate to maintain a SBP > 90 mmHg.			
IV. Special Considerations			
A. Bleeding in the third trimester of pregnancy requires transport to a receiving facility with OB services.			
V. Base Orders			
A. None.		A. If SBP < 70 mmHg after 3 NS fluid boluses, consult with Base Hospital for push-dose Epinephrine administration. 1. Refer to pediatric medication administration guide for push-dose Epinephrine dosage.	
VI. Contraindications			
A. None.			
VII. Cross Reference			
A. General Medical Care		Policy No. 7001	
B. 12 Lead EKG		Policy No. 7103	
C. Acute Coronary Syndrome		Policy No. 7101	
D. Respiratory Distress		Policy No. 7701	
E. Dysrhythmias		Policy No. 7102	



Sepsis

Policy Number: 7302

Effective Date: January 1, 2020 Review Date: May 25, 2021

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Definition

- A. Sepsis is a rapidly progressing, life-threatening condition due to systemic infection. Sepsis must be recognized early and treated aggressively to prevent progression to shock and death. The purpose of a Sepsis Alert is to provide pre-arrival Emergency Department notification in order to facilitate rapid assessment and treatment of a suspected severe sepsis patient.
- B. Sepsis Criteria:
1. Initiate a Sepsis Alert for adult patients meeting the following 3 criteria:

Suspected
Infection



Two or More SIRS Criteria:

1. Temperature > 100.4° F (38° C) or < 96.8° F (36° C).
2. Respiratory Rate > 20 breaths/min.
3. Heart Rate > 90 beats/min.



EtCO₂ < 25 mmHg

II. Basic Life Support

- A. Provide General Medical Care.

III. Advanced Life Support

- A. Administer NS fluid bolus 250 ml IV to maintain adequate perfusion:
1. May repeat to a max of 2 L.
 - a. Patients on renal dialysis should receive a max of 1 L.
- B. Early receiving facility notification of a Sepsis Alert.
- C. If unable to maintain SBP > 90 mmHg after NS fluid bolus of 2L:
1. Prepare push-dose Epinephrine:
 - a. Mix 1 ml of 1:10,000 Epinephrine (0.1 mg/ml) with 9 ml NS in a 10 ml syringe.
 - b. Administer push-dose Epinephrine 1 ml IV every 1 – 4 minutes.
 - c. Titrate to maintain a SBP > 90 mmHg.

IV. Special Considerations

- A. An article in the American Journal of Emergency Medicine states that using the above protocol demonstrated it was very predictive of sepsis and severe sepsis. A pre-hospital screening tool utilizing end-tidal carbon dioxide predicts sepsis and severe sepsis. The most common protocol infraction was activating a sepsis alert with an EtCO₂ > 25 mmHg. Base consultation for an ill-appearing patient not meeting Sepsis Alert criteria is appropriate; this may be especially true for an EtCO₂ between 26 mmHg to 30 mmHg.
- B. EtCO₂ ≤ 25 mmHg correlates to serum lactate levels > 4.

V. Base Orders

- A. None.

VI. Contraindications

- A. None.

VII. Cross Reference

- A. General Medical Care Policy No. 7001



Hyperkalemia	
Policy Number: 7303 Effective Date: January 1, 2020 Review Date: May 25, 2021	Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221	
I. Definition	
<p>A. Severe Hyperkalemia in the context of dialysis is common in end stage renal disease in patients who miss dialysis (which is the definitive treatment) that may result in EKG abnormalities and present in extremis.</p> <p>B. EKG findings include peaked "T" waves, absent "P" waves, and/or widening of the QRS.</p> <p>C. Crush Syndrome can develop when an individual is entrapped with extensive tissue involvement. Patients with Crush syndrome are at risk for developing Hyperkalemia.</p>	
II. Basic Life Support	
<p>A. Provide General Medical Care.</p> <p>B. Monitor closely for signs of cardiac arrest and defibrillate without delay.</p>	
III. Advanced Life Support	
A. Obtain 12 Lead EKG per <i>procedure guideline 7103 EKG 12-Lead</i> , looking for severe signs of hyperkalemia.	
Adult	Pediatric (less than 14 years of age)
<p>A. In the presence of altered mental status, chest pain, unexplained bradycardias, nausea/vomiting, and/or crush syndrome:</p> <ol style="list-style-type: none"> Administer Calcium Chloride 1 gm slow IVP over 2 minutes. In second separate IV, administer Sodium Bicarbonate 1 mEq/kg IVP over 1 minute. Administer Albuterol (no Atrovent) 5 mg in 6 ml NS via nebulized device. 	<p>A. In the presence of altered mental status, chest pain, unexplained bradycardias, nausea/vomiting, and/or crush syndrome:</p> <ol style="list-style-type: none"> Administer Calcium Chloride per pediatric medication administration guide. In second separate IV, administer Sodium Bicarbonate per pediatric medication administration guide. Administer Albuterol (no Atrovent) per pediatric medication administration guide.
IV. Special Considerations	
<p>A. If treatment is successful, you should see an increase in GCS and resolution in EKG abnormalities.</p> <p>B. In cases of crush syndrome with extended extrication, medications should be administered five minutes prior to release of the compressive force to prevent complications from the cellular toxins that enter the circulation system upon extrication of the patient. Calcium stabilizes the cardiac muscle and should be administered first.</p>	
V. Base Orders	
A. For repeat doses or if no changes noted after treatment consult with Base Hospital.	
VI. Contraindications	
A. Do not run Sodium Bicarbonate and Calcium Chloride concurrently. Either flush the line well or establish a separate IV.	
VII. Cross Reference	
A. General Medical Care	Policy No. 7001
B. 12-Lead EKG	Policy No. 7103
C. Crush Syndrome	Policy No. 7804



Severe Nausea	
Policy Number: 7304	Approved: Bryan Cleaver, EMS Administrator
Effective Date: January 1, 2020 Review Date: May 25, 2021	Mark Luoto, EMS Medical Director
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221	
I. Definition	
A. Nausea or persistent vomiting. B. Motion sickness.	
II. Basic Life Support	
A. Provide General Medical Care	
III. Advance Life Support	
Adult	Pediatric (less than 14 years of age)
A. Consider NS fluid bolus 250 ml IV for volume depletion if patient has been experiencing significant vomiting. 1. May repeat if indicated. B. Administer Ondansetron 4 mg slow IVP/IM/PO. 1. May repeat initial dose every 10 minutes if symptoms persist. 2. Max dose 12 mg. C. If patient is pregnant consider Diphenhydramine 25 mg – 50 mg IV/IM. D. For motion sickness: 1. Administer Diphenhydramine 25 mg - 50 mg Slow IVP/IM. a. Max dose 50 mg. b. For patients over 65 years of age administer 12.5 mg Slow IVP (over 1 to 2 minutes) or IM. May repeat once.	A. Consider NS fluid bolus 20 ml/kg IV for volume depletion if patient has been experiencing significant vomiting. 1. Do not repeat. B. For patients age 4 and older, refer to adult treatment. C. For motion sickness: 1. Administer Diphenhydramine per pediatric medication administration guide. a. Do not repeat.
IV. Special Considerations	
A. Ondansetron may be co-administered with narcotics when administered for pain control. B. Administer Diphenhydramine with caution in patients over 65 years of age. Diphenhydramine may cause delirium or exacerbation of neurocognitive disorders such as dementia.	
V. Base Orders	
A. Additional Ondansetron administration beyond max dose requires Base Hospital consult and approval.	
VI. Contraindications	
A. Ondansetron administration is contraindicated in pregnancy.	
VII. Cross Reference	
A. General Medical Care	Policy No. 7001
B. Severe Pain	Policy No. 7305



Pain Management

Policy Number: 7305		Approved: Bryan Cleaver, EMS Administrator	
Effective Date: January 1, 2020		Review Date: May 25, 2021	
Mark Luoto, EMS Medical Director			
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221			
I. Definition			
A. Pain in the presence of normal mentation and extrication, movement, or transportation is required which will cause considerable pain to the patient and there are no known contraindications to administering analgesia.			
II. Basic Life Support			
A. Provide General Medical Care.			
B. Place patient in position of comfort without significant manipulation of suspected fractures.			
C. Apply cold compress as indicated.			
III. Advanced Life Support			
Adult		Pediatric (less than 14 years of age)	
A. Administer Fentanyl 50 mcg – 100 mcg slow IVP (over one minute).		A. Administer Fentanyl per the pediatric medication administration guide.	
1. May repeat initial dose every 5 minutes if pain persists.		1. May repeat once.	
2. Max dose 300 mcg.		B. Administer Ketorolac per pediatric medication administration guide.	
3. Fentanyl may also be administered 1.5 mcg/kg IN.		1. Do not repeat.	
a. May repeat in 15 minutes		2. Max dose 15 mg.	
4. If unable to establish IV, administer Fentanyl 1 mcg/kg IM.			
a. May repeat in 30 minutes at ½ the initial dose.			
b. Max single dose 100 mcg with a max total dose 200 mcg.			
5. For transport times in excess of one hour, max total dose 300 mcg regardless of route.			
B. Administer Ketamine 0.3 mg/kg in 100 ml NS over 10 minutes per procedure guideline 7905 Ketamine Administration:			
1. Max single dose 30 mg.			
2. If unable to establish IV, administer Ketamine 0.5 mg/kg IN.			
a. Max single dose 50 mg.			
3. May repeat initial dose once after 15 minutes with a pain score ≥ 5.			
C. Administer Ketorolac 15 mg IV per procedure guideline 7906 Ketorolac Administration for mild to moderate pain.			
1. If unable to establish IV, administer Ketorolac 30 mg IM.			
2. Do not repeat.			



- D. Administer Lidocaine 2% when establishing IO access on a conscious patient.
1. Immediately following placement of the IO needle, administer 0.5 mg/kg 2% Lidocaine (not to exceed 50 mg) slowly through the IO site. Wait approximately 30–60 seconds before flushing with normal saline.
 2. In the event a patient regains consciousness and complains of severe pain secondary to the IO insertion, temporarily stop infusing the fluids, and administer 0.5 mg/kg 2% Lidocaine (not to exceed 50 mg) slowly through the IO site. Wait approximately 30–60 seconds before continuing fluid administration.

IV. Special Considerations

- A. Monitor patient vitals carefully and ensure patent airway.
- B. Use caution in frail and elderly patients.
- C. Consider using EtCO₂ monitoring with repeated doses.
- D. IM administration of Ketorolac may have a variable absorption rate.
- E. It is likely that 80% or more of our patients in Coastal Valleys will receive Fentanyl as the primary pain medication. It is effective, easy to administer and titrate, and inexpensive. In children, it can be effectively used IN, thus avoiding IV starts or injections.
- F. IN administration of Fentanyl is a useful method in treating pain for adults and children.
- G. Ketamine is equipotent to Fentanyl in most studies, but it likely has a higher side effect profile. Primarily it causes nausea, vomiting, and dysphoria, and this is especially true in elderly patients. It can be very helpful in patients using chronic narcotic pain medications. These side effects are minimized if administered over 10 minutes via infusion.
- H. Patients may experience a dysphoric or out of body sensation following administration that may cause fear. Prior to administration explain to the patient that Ketamine is a very effective pain medication and they may feel spacey and experience a brief period of dizziness and/or out of body sensation. Explain to the patient that these symptoms will resolve. This explanation has shown to be very effective in fear reduction following administration.
- I. Ketorolac will not affect hemodynamics, respiratory function, or alertness. Except in kidney stone patients, it is not as effective as Fentanyl or Ketamine. It is therefore most helpful in mild to moderate pain situations, or when you want to avoid narcotic analgesia.

V. Base Orders

- A. If pain persists, contact Base Hospital for any repeat doses exceeding max dose.

VI. Contraindications

- A. Sensitivity to the medication.
- B. Ketorolac is contraindicated in major trauma patients and abdominal pain.

VII. Cross Reference

Last Modified: August 11th, 2020

- | | |
|-----------------------------|-----------------|
| A. General Medical Care | Policy No. 7001 |
| B. Ketamine Administration | Policy No. 7905 |
| C. Ketorolac Administration | Policy No. 7906 |
| D. Burns | Policy No. 7801 |
| E. Major Trauma | Policy No. 7802 |



Hypo/Hyperglycemia	
Policy Number: 7306	Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director
Effective Date: January 1, 2020	Review Date: May 25, 2021
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221	
I. Definition	
A. Abnormal glucose levels in patients with known or suspected diabetes.	
II. Basic Life Support	
A. Provide General Medical Care. B. For suspected narcotic overdose refer to <i>treatment guideline 7203 Poisoning/Overdose</i> . C. For suspected stroke, refer to <i>treatment guideline 7401 Acute Cerebrovascular Accident (Stroke)</i> . D. Check blood glucose: 1. If BG < 50 mg/dL to 80 mg/dL and patient is alert and able to self-administer: a. Administer oral glucose paste or solution. b. Use caution when administering oral glucose in patients with a BG < 50 mg/dL. c. Recheck blood glucose until symptoms resolve or a normal reading is achieved.	
III. Advanced Life Support	
Adult	Pediatric (less than 14 years of age)
A. If BG < 50 mg/dL to 80 mg/dL and patient has an altered mental status and unable to self-administer oral glucose: 1. Administer Dextrose 25 G IV infusion (D10) or IVP (D50). Titrate to achieve normal mental status. D10 is preferred over D50. a. May repeat once if BG remains below 60 mg/dL and symptoms persist. 2. If unable to establish IV, administer Glucagon 1 mg IM. a. Do not repeat. B. If BG > 400 mg/dL: 1. Administer NS fluid bolus 10 ml/kg IV. a. May repeat as indicated. b. Max total volume 1 L. c. Reassess vital signs every 250 ml to ensure lung sounds remain clear. C. If seizures occur refer to <i>treatment guideline 7402 Seizures</i> .	A. If BG < 50 mg/dL to 80 mg/dL and patient has an altered mental status and unable to self-administer oral glucose: 1. Administer 10% Dextrose IV per pediatric medication administration guide. 2. May repeat once if BG remains below 60 mg/dL and symptoms persist. 3. If unable to establish IV, administer Glucagon per pediatric medication administration guide. a. Do not repeat. B. If BG > 300 mg/dL: 1. Administer NS fluid bolus 20 ml/kg IV. a. Do not repeat.
IV. Special Considerations	
A. If Glasgow Coma Scale < 15 and etiology unclear, consider AEIOU TIPS. B. 10% Dextrose is the preferred concentration for use. 50% Dextrose optional. C. BG may require 15 minutes or more to show improvements after Glucagon administration.	
V. Base Orders	
A. None.	
VI. Contraindications	
A. NS fluid bolus is contraindicated in patients with a history of CHF or renal failure.	
VII. Cross Reference	
A. General Medical Care	Policy No. 7001
B. Seizures	Policy No. 7402
C. Acute Cerebrovascular Accident (Stroke)	Policy No. 7401
D. Poisoning/Overdose	Policy No. 7203



Acute Cerebrovascular Accident (Stroke)

Policy Number: 7401

Effective Date: January 1, 2020 Review Date: August 24, 2021

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Definition

- A. Sudden onset weakness, paralysis, confusion, speech disturbances. May be associated with a headache.
- B. Stroke Alert Criteria:

Stroke Alert Criteria BEFAST Assessment	
Balance:	Does the person have sudden onset loss of balance, difficulty ambulating, and/or lack of coordination?
Eyes	Has the person had a sudden change of vision in one or both eyes?
Facial Droop	Does the person's face appear uneven?
Arm Weakness	Ask patient to close both eyes and extended both arms out straight, palms up, for 10 seconds. If both arms move the same or do not move, the test is normal. If one arm drifts downwards, the test is abnormal. Patients with arm weakness will tend to pronate (turn palms sideways or down).
Speech Abnormalities	Have the patient say, "The sky is blue today". If the patient speaks without slurring, the test is normal. If the patient slurs words or is unable to speak, the test is abnormal.
Time	When did the symptoms first begin and/or when was the patient last seen normal. Do not delay transport if the interval from the onset of symptoms to arrival at receiving facility is expected to be 18 hours or less.
If any one of these tests is abnormal and is a new finding, the Stroke Scale is abnormal and may indicate an acute stroke. Consult family if abnormalities are different from baseline.	

II. Basic Life Support

- A. Provide General Medical Care.
- B. Perform a BEFAST assessment.
- C. Early receiving facility notification of a Stroke Alert if indicated.
- D. Check blood glucose:
 - 1. If hypo/hyperglycemia etiology is suspected, refer to *treatment guideline 7306 Hypo/Hyperglycemia*.

III. Advanced Life Support

- A. Establish IV.
- B. Obtain 12 lead EKG per *procedure guideline 7103 12 Lead EKG*.
- C. If seizures occur refer to *treatment guideline 7402 Seizures*.

IV. Special Considerations

- A. If onset of symptoms are within 18 hours, transport to receiving facility is a priority to rapidly identify large vessel occlusions.
- B. If exact time of onset of symptoms is unclear, use last time patient known to be at baseline.
- C. Contact receiving facility as early as possible.
- D. If possible, bring a family member or other on-scene historian to the receiving facility.
- E. Rapid identification and transport of suspected stroke patients, along with a detailed history will help expedite patient evaluation at the receiving facility and make the widest range of possible treatment options available.

V. Base Orders

- A. None.



VI. Contraindications	
A. None.	
VII. Cross Reference	
A. General Medical Care	Policy No. 7001
B. Hypo/Hyperglycemia	Policy No. 7306
C. 12 Lead EKG	Policy No. 7103
D. Seizures	Policy No. 7402



Seizures

Seizures	
Policy Number: 7402	
Effective Date: January 1, 2020	Review Date: August 24, 2021
Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director	
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221	
I. Definition	
A. Active seizure (may include tonic or clonic activity or focal seizure with altered level of consciousness) upon presentation.	
II. Basic Life Support	
A. Provide General Medical Care.	
B. Protect from injury.	
C. For suspected febrile etiology, provide passive cooling measures.	
D. Check blood glucose:	
1. If hypo/hyperglycemia etiology is suspected, refer to <i>treatment guideline 7306 Hypo/Hyperglycemia</i> .	
III. Advanced Life Support	
Adult	Pediatric (less than 14 years of age)
A. Administer Midazolam 10 mg IM.	A. Administer Midazolam per pediatric medication administration guide.
1. Do not repeat IM.	1. May repeat once for continued seizure activity after 5 minutes.
2. If unable to administer IM or IV already established, administer Midazolam 5 mg IV/IN.	
4. May repeat 5 mg IV as needed in 5 minute intervals.	
5. Max dose 15 mg IV.	
B. If hypotension develops:	
1. Administer NS fluid bolus 250 ml IV.	
a. Repeat to maintain a SBP of > 100 mmHg.	
b. Reassess vital signs every 250 ml to ensure lung sounds remain clear.	
IV. Special Considerations	
A. Patients greater than 65 years of age treated with Midazolam should be monitored for hypotension.	
B. If eclampsia etiology suspected do not delay transport and refer to <i>treatment guideline 7502 Severe Pre-eclampsia/eclampsia</i> .	
V. Base Orders	
A. If seizure activity continues after Midazolam max dose administered, contact base hospital for consult.	
VI. Contraindications	
A. None.	
VII. Cross Reference	
A. General Medical Care	Policy No. 7001
B. Hypo/Hyperglycemia	Policy No. 7306
C. Pre-eclampsia/eclampsia	Policy No. 7502



Severe Pre-eclampsia/Eclampsia	
Policy Number: 7502	Approved: Bryan Cleaver, EMS Administrator
Effective Date: January 1, 2020 Review Date: August 24, 2021	Mark Luoto, EMS Medical Director
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221	
I. Definition	
A. Severe Pre-eclampsia: Third trimester pregnancy with Hypertension (SBP > 160 mmHg, DBP > 110 mmHg), mental status changes, visual disturbances, and/or peripheral edema. B. Eclampsia: Pre-eclampsia with seizures.	
II. Basic Life Support	
A. Provide General Medical Care. B. Position on left side for transport.	
III. Advanced Life Support	
A. Severe Pre-Eclampsia: 1. Establish IV: a. Do not delay transport to establish IV access. B. Eclampsia: 1. Administer Midazolam per <i>treatment guideline 7402 Seizures</i> . 2. Optional for transport times in excess of one hour: a. Consider Magnesium Sulfate 4 g in 250 ml NS over 20 minutes. (1) If still transporting after one hour contact Base Hospital to infuse 2 g in 250 ml NS over one hour. C. Early receiving center notification.	
IV. Special Considerations	
A. None.	
V. Base Orders	
A. Administration of Nitroglycerine 0.4 mg SL requires Base Hospital consult and physician approval. 1. May repeat once after 10 minutes if DBP < 110 mmHg.	
VI. Contraindications	
A. None.	
VII. Cross Reference	
A. General Medical Care	Policy No. 7001
B. Seizures	Policy No. 7402



Vaginal Hemorrhage

Policy Number: 7503		Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director
Effective Date: January 1, 2020 Review Date: August 24, 2021		
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221		
I. Definition		
A. Abnormal (non-menstrual) vaginal bleeding, between menses, during pregnancy, post-operative, any bleeding in third trimester.		
II. Basic Life Support		
A. Provide General Medical Care.		
III. Advanced Life Support		
A. If any vaginal hemorrhage in third trimester, establish second IV.		
B. If profuse vaginal hemorrhage and signs of shock:		
1. Administer NS fluid bolus 10 ml/kg.		
a. Reassess vital signs every 250 ml to ensure lung sounds remain clear.		
b. Consider second IV.		
C. If patient reports pregnancy, look for signs of imminent delivery per <i>treatment guideline 7501 Imminent Delivery</i> .		
D. If signs of post-partum hemorrhage refer to <i>treatment guideline 7501 Imminent Delivery</i> .		
IV. Special Considerations		
A. Bleeding in the third trimester of pregnancy requires transport to a receiving facility with OB services.		
B. Patients with vaginal bleeding who report possible pregnancy may be experiencing a spontaneous miscarriage. Being sensitive to any emotional response is imperative.		
V. Base Orders		
A. None.		
VI. Contraindications		
A. None.		
VII. Cross Reference		
A. General Medical Care	Policy No. 7001	
B. Imminent Delivery	Policy No. 7501	
C. Non-Traumatic Hypotension	Policy No. 7301	



Imminent Delivery

Policy Number: 7501

Effective Date: January 1, 2020 Review Date: August 24, 2021

Approved:

Bryan Cleaver, EMS Administrator

Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Definition

- A. Active Labor: Regular contractions, bloody show, low back pain, mother feels like having a bowel movement or the need to bear down, and/or crowning.
- B. Normal newborn presentation: Has a pulse rate > 100 BPM, cries when stimulated, actively moves all extremities, and has a good strong cry.
- C. Depressed newborn presentation: Lacking one or more of the normal newborn presentation characteristics.

II. Basic Life Support

- A. Provide General Medical Care.
- B. Determine:
 - 1. Gestational age.
 - 2. Number of pregnancies.
 - 3. Number of births.
 - 4. Identify expected complications.

Mother

- A. Normal presentation delivery:
 - 1. As appropriate, place mother in position of comfort and coach mother to push with contractions.
 - 2. As the head is delivered:
 - a. Apply gentle pressure below the birth canal to slowly control delivery of the head to prevent tearing of perineal tissue.
 - b. If meconium present, gently suction baby's mouth and nose.
 - c. If cord is around the newborns neck and cannot be slipped over the head, tell mother to stop pushing and apply gentle backward pressure to baby, allowing the cord to be slipped over the head.
 - 3. Allow delivery.
 - a. Delivery of the shoulders may require some manipulation of the baby.
 - 4. Clamp and cut the cord 6 inches – 8 inches from baby.
- B. Abnormal presentation delivery:
 - 1. Expedite transport with early receiving center notification.

Newborn

- A. Normal presentation delivery:
 - 1. As the head is delivered:
 - a. Inspect for the presence of meconium.
 - (1) If meconium is present, gently suction baby's mouth and nose.



<p>2. Breech presentation:</p> <ol style="list-style-type: none"> Allow delivery to proceed passively until baby's waist appears. Rotate baby face down. <ol style="list-style-type: none"> Do not pull. If head does not deliver within 3 minutes: <ol style="list-style-type: none"> Insert a gloved hand into the vagina to create an air passage for the infant. Ask the mother to bear down and sweep the head out of the vagina. <p>C. Post-delivery:</p> <ol style="list-style-type: none"> Place newborn to mother's breast when possible. Initiate transport. Allow passive delivery of the placenta. <ol style="list-style-type: none"> Do not pull. Provide fundal massage after the delivery of the placenta. Applying ice packs to the vaginal region is appropriate for pain if indicated. 	<p>B. Post-delivery/Neonatal assessment:</p> <ol style="list-style-type: none"> Assess baby for heart rate, respirations, and color. <ol style="list-style-type: none"> Normal newborn presentation: <ol style="list-style-type: none"> Dry baby and keep warm. Place baby on mother's abdomen or breast. Obtain APGAR after one minute. <ol style="list-style-type: none"> Repeat after 5 minutes. Depressed newborn presentation: <ol style="list-style-type: none"> Suction mouth and nose with bulb syringe, mouth before nose. Apply vigorous stimulation by rubbing the baby's back or feet. If pulse < 100 BPM: <ol style="list-style-type: none"> Provide assisted ventilations via BVM on room air. If cyanosis present, supplement with oxygen. If pulse < 60 BPM: <ol style="list-style-type: none"> Start chest compressions. <ol style="list-style-type: none"> Chest compressions are indicated even though the newborn may have a pulse. If no improvement after 30 seconds provide positive pressure ventilations. Continue chest compressions as indicated.
III. Advanced Life Support	
Mother	Newborn
<p>A. Delivery:</p> <ol style="list-style-type: none"> Establish IV as appropriate. Consider Fentanyl per <i>treatment guideline 7305 Severe Pain</i>. 	



<p>B. Post-delivery:</p> <ol style="list-style-type: none"> 1. If vaginal bleeding occurs after the delivery of the placenta with significant blood loss: <ol style="list-style-type: none"> a. Perform vigorous fundal massage. b. Administer NS fluid bolus 250 ml IV. <ol style="list-style-type: none"> (1) May repeat to a max total volume of 1 L. (2) Reassess vital signs every 250 ml to ensure lung sounds remain clear. (3) Consider second IV. c. If vaginal bleeding greater than 500 cc for vaginal birth and within 3 hours of delivery, administer Tranexemic Acid (TXA) per <i>procedure guideline 7907 Administration of Tranexemic Acid</i>. <ol style="list-style-type: none"> (1) The presence of hypotension is not required for administration of TXA. d. Optional for transport times in excess of one hour: <ol style="list-style-type: none"> (1) Consider administer Oxytocin (Pitocin) 20 units in 1 L NS rapid IV infusion. <ol style="list-style-type: none"> (a) If unable to obtain an IV, administer Oxytocin 10 units IM. 	<p>A. Post-delivery neonatal resuscitation:</p> <ol style="list-style-type: none"> 1. Establish IV. 2. Administer 1:10,000 Epinephrine IV per pediatric medication administration guide. 3. Apply cardiac monitor: <ol style="list-style-type: none"> a. Treat any dysrhythmias per <i>treatment guideline 7102 Dysrhythmia</i>. 4. Expedite transport with early receiving center notification. 5. If return of spontaneous circulation (ROSC) or pulses increase over 60 BPM, provide supportive care. 								
IV. Special Considerations									
<p>A. Obtaining an APGAR score should only occur one minute after delivery and again after five minutes. Obtaining an APGAR score should not delay neonatal assessment.</p> <p>B. Imminent delivery results in the management of two patients. Abnormal presentation of either mother or newborn will likely require additional personnel or transport units.</p> <p>C. Transport prior to delivery should occur only after proper vaginal exam suggests there is enough time to arrive at receiving facility. If delivery begins while in the ambulance, pull over and stop.</p> <p>D. Fundal massage should only begin after the placenta has been delivered.</p> <p>E. Clamping of the cord may be performed immediately after delivery. Waiting for the cord to stop pulsating is not necessary.</p>									
V. Base Orders									
A. None.									
VI. Contraindications									
A. None.									
VII. Cross Reference									
<table border="0"> <tr> <td>A. General Medical Care</td> <td>Policy No. 7001</td> </tr> <tr> <td>B. Severe Pain</td> <td>Policy No. 7305</td> </tr> <tr> <td>C. Administration of Tranexemic Acid</td> <td>Policy No. 7907</td> </tr> <tr> <td>C. Dysrhythmia</td> <td>Policy No. 7102</td> </tr> </table>		A. General Medical Care	Policy No. 7001	B. Severe Pain	Policy No. 7305	C. Administration of Tranexemic Acid	Policy No. 7907	C. Dysrhythmia	Policy No. 7102
A. General Medical Care	Policy No. 7001								
B. Severe Pain	Policy No. 7305								
C. Administration of Tranexemic Acid	Policy No. 7907								
C. Dysrhythmia	Policy No. 7102								

Revised: August 20, 2020

COASTAL VALLEYS EMS AGENCY





UNEXPECTED INFANT/CHILD DEATH

POLICY NO: **7601**

EFFECTIVE DATE: 01-01-06

REVISED DATE: 01-01-06

APPROVED: Bryan Cleaver
EMS Administrator

Dr. Mark Luoto
EMS Medical Director

AUTHORITY: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

PURPOSE

- a. To establish routine procedures to assist EMS personnel with calls involving the death of children in the pre-hospital setting. Goals of these procedures include minimizing the stress placed on parents and other family members, providing avenues for support to parents and families, and preventing scene contamination and disruption.

PROCEDURE

- a. Determine whether to perform further resuscitation measures:
 1. If patient does not exhibit lividity or rigor, and there is no authorized DNR present, proceed with CPR and follow applicable resuscitation treatment policies.
 2. If patient exhibits lividity and rigor, do not resuscitate or transport. If in the EMS personnel's judgment, transport will be beneficial due to scene conditions, transport may be initiated.
- b. Provide supportive measures for parents and siblings:
 1. Do not express your assumptions or judgments regarding the cause of death.
 2. Explain the resuscitation process, transport decision, and further actions to be taken by hospital personnel or the medical examiner.
 3. Use the child's first name.
 4. Allow parent to see the child and say goodbye.
 5. Maintain a supportive, professional attitude no matter how the parents react.
 6. Whenever possible, be responsive to parental requests.
 7. Be sensitive to ethnic and religious needs or response and make allowances for them.
 8. Assist family with contacting grief support if available.
- c. Obtain a patient history. Use a non-judgmental approach. Ask open ended questions as follows:
 1. When was your child well? What has changed or occurred since then?

UNEXPECTED INFANT/CHILD DEATH

POLICY NO: **7601**

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2. Has the child been sick?
3. Who found the child? Where?
4. Has the child been moved?
5. What time was the child last seen breathing?
6. Was the child taking any medications?
7. What was done after the child was discovered?
8. When did the child eat last?

DOCUMENTATION

- a. Thoroughly document all findings obtained during history gathering, patient assessment, and scene examination.



Brief Resolved Unexplained Event (BRUE)

Policy Number: 7602		Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director
Effective Date: January 1, 2020 Review Date: August 24, 2021		
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221		
I. Definition		
A. A Brief Resolved Unexplained Event (BRUE) is an episode that frightens a child's caretaker. These events can involve any of the following symptoms: 1. Apnea. 2. Color change (cyanosis, pallor, erythema). 3. Marked change in muscle tone. 4. Choking or gagging.		
B. These events usually occur in infants less than 12 months old, but BRUE should be suspected in any child less than two (2) years of age who displays these symptoms.		
C. Most patients will appear stable and may have a normal physical exam by the time field personnel arrive. Despite their appearance, some of these patients may be later diagnosed with conditions that require further medical care.		
II. Basic Life Support		
A. Provide General Medical Care.		
B. Assume the history given is accurate.		
C. Obtain a description of the severity, nature, and duration of the event.		
D. Obtain a complete medical history.		
E. Check for the following: 1. Any known chronic illnesses. 2. If evidence of seizure activity refer to <i>treatment guideline 7402 Seizures</i> . 3. Current or recent infections. 4. History of gastro-esophageal reflux (spitting/vomiting). 5. Inappropriate mixture of formula. 6. History or evidence of recent trauma. 7. Medications (current and recent including over-the-counter drugs). 8. Associated events (eating, crying, etc.).		
F. Complete a comprehensive physical exam: 1. Child's overall appearance. 2. Skin color. 3. Interaction with the environment and parents. 4. Evidence of trauma.		
G. Treat any identifiable injuries/illnesses.		
H. Transport.		
III. Advanced Life Support		
A. None.		
IV. Special Considerations		
A. None.		
V. Base Orders		
A. If the parent or guardian refuses medical care and/or transport, contact Base Hospital for consult prior to completing an AMA form and leaving the scene.		
VI. Contraindications		
A. None.		
VII. Cross Reference		
A. General Medical Care Policy No. 7001		
B. Seizures Policy No. 7402		



SUSPECTED CHILD ABUSE REPORTING GUIDELINES

POLICY NO: 7603

EFFECTIVE DATE: 01-01-06

REVISED DATE: 01-01-06

APPROVED: Bryan Cleaver
EMS Administrator

Dr. Mark Luoto
EMS Medical Director

AUTHORITY: Welfare and Institutions Code Sections 1560 and the California Code of Regulations, Title 22, 100159 and 100075

PURPOSE

- a. To provide guidelines for the identification of suspected child abuse and the procedure for reporting such suspicions by prehospital personnel.

DEFINITIONS

- a. **Agencies authorized to accept mandated reports:** Police Department, Sheriff's Department, Child Protective Services (CPS). School District police and security departments are not included.
- b. **Child:** Any person under the age of eighteen.
- c. **Mandated reporter:** Any healthcare practitioner, childcare custodian, or employee of a child protective agency. This includes EMTs and paramedics.
- d. **Neglect:** The negligent failure of a parent or caretaker to provide adequate food, clothing, shelter, medical/dental care, or supervision.
- e. **Physical abuse:** A physical injury, including death, to a child that appears to have been inflicted by other than accidental means.
- f. **Sexual abuse:** Sexual assault on or the exploitation of a minor. Sexual assault includes: rape, rape in concert (aiding or abetting or acting in concert with any person in the commission of a rape), incest, sodomy, oral copulation, penetration of genital or anal opening by a foreign object, and child molestation. It also includes lewd or lascivious conduct with a child under the age of fourteen years, which may apply to any lewd touching if done with the intention of arousing or gratifying the sexual desire of either the person involved or the child. Sexual exploitation includes conduct or activities related to pornography depicting minors and promoting prostitution by minors.

PRINCIPLES

- a. The purpose of reporting suspected child abuse/neglect is to protect the child, prevent further abuse of the child and other children in the home, and begin treatment of the entire family. The infliction of injury, rather than the degree of that injury, is the determinant for intervention by the CPS and law enforcement.
- b. California Penal Code, Sections 11166 and 11168, requires that mandated reporters promptly report all suspected non-accidental injuries, sexual abuse, or neglect of children to local law enforcement and/or to the CPS.

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- c. It is the job of law enforcement, CPS and the Courts to determine whether or not child abuse/neglect has, in fact, occurred. It is not necessary for the mandated reporter to determine child abuse, but only to suspect that it may have occurred. Children under the age of four, especially less than six months, are at highest risk.
 - d. Under current law, all healthcare professionals are mandated to report suspected child abuse/neglect that they have knowledge of or observe in their professional capacity. They are required to sign a statement acknowledging their understanding of this requirement. Any person who fails to report as required may be punished by six months in jail and/or a \$1,000 fine.
 - e. When a mandated reporter has knowledge of or has observed child abuse or neglect, that individual is required to report to the local law enforcement and/or to the CPS immediately or as soon as practically possible by telephone and shall complete the suspected child abuse report form within 36 hours.
 - f. When two or more mandated reporters are present at scene and jointly have knowledge of a known or suspected instance of child abuse/neglect, the telephone report can be made by a selected member and a single written report may be made and signed by the selected member of the reporting team. Any member who has knowledge that the designated reporter failed to uphold their agreement, shall thereafter make the report. If the paramedics are not selected as the designated reporter, they shall document the name and agency of the appointed team member on the Patient Care Report to indicate that the reporting obligation has been met.
 - g. Those persons legally required to report suspected child abuse have immunity from criminal or civil liability for reporting as required.

POLICY REPORTING PROCEDURES

- a. The primary purpose of the Department of Justice (DOJ) Suspected Child Abuse Report form SS 8572 is to make all agencies aware of possible abuse/neglect. This will lead to a thorough investigation and protection of the child. In order to facilitate this process in Coastal Valleys EMS Region, it is recommended that a prompt verbal report be made to both Child Protective Services (CPS) and local law enforcement. However, if the child is in imminent danger, local law enforcement should be notified immediately.
- b. To make a verbal report to CPS, call the 24-hour Child Abuse Hotline.

Sonoma
707-565-4604
800-870-7064

Mendocino
707-463-7990

- c. This should be done as soon as possible. It is recommended that the Child Abuse Report form be completed prior to making verbal notification. Prehospital care providers should be aware of their local law enforcement reporting procedures and telephone numbers for notification.
- d. The suspected child abuse/neglect report is to be completed according to the instructions on the back of the form. The completed form shall be sent to local law enforcement and CPS within 36 hours.

Sonoma County CPS
PO Box 1539

Mendocino County CPS
126 North Orchard Ave

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Santa Rosa, CA 95402 Ukiah, CA 95482

- e. The following should be documented on the EMS patient care report:
 - 1. The name of the CPS social worker and/or name, department and badge number of the law enforcement officer.
 - 2. Time of notification.
 - 3. Disposition of child if not transported.

REPORTING INSTRUCTIONS

- a. Complete DOJ Suspected Child Abuse Report form SS 8572 for all suspected cases of child abuse/neglect reported. The report shall be filled out as completely and clearly as possible using lay terminology.
- b. Section A - Case Identification:
 - 1. To be completed by investigating agency authorized to receive the report.
- c. Section B - Reporting Party:
 - 1. To be completed by the person who initiated the report. Include name, title, address, phone number (include area code), date of report and signature.
- d. Section C - Report Sent To:
 - 1. Check the appropriate box that identifies the agency designated to receive the report.
 - 2. Enter the name and address of the agency to which the report is being sent.
 - 3. Enter the name and phone number of the official at the designated agency and the date and time that contact occurred.
 - 4. The date and time are extremely important as they provide legal proof of verbal report.
- e. Section D - Involved Parties:
 - 1. Victim: Enter the name, address, physical data, present location and phone number where victim is located (attach additional sheets if multiple victims). If the birth date is not known, enter the approximate age.
 - 2. Siblings: Enter the name and physical data of siblings living in the same household as the victim. It is important to indicate when there are other children in the home even if no definitive information is available.
 - 3. Parents: Enter the names, physical data, addresses and phone numbers of father/stepfather and mother/stepmother. If information is unavailable, document "information not available."
- f. Section E - Incident Information:
 - 1. Enter the date, time and place where the incident occurred or was observed and check the appropriate boxes.
 - 2. Check the type of abuse (there may be more than one type of abuse).
 - 3. Write objectively; carefully describe all injuries and evidence of sexual assault, if applicable.

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4. When obtaining information from the individual who is witness to the alleged abuse/neglect, attempt to use direct quotes when describing the incident.
 5. If the parent, guardian or person accompanying the child changes his/her description of the occurrence, document both versions (use extra paper if needed).
 6. If known, document prior incidents involving the victim.
 7. When documenting neglect situations, stress the endangerment of the child. Endangerment is a key factor in the timely investigation of these cases.
 8. Indicate circumstances that may contribute to an abusive/neglectful situation (e.g. handicapped child or parent, substance abuse, spousal abuse, lack of resources, etc.).

DISTRIBUTION

- a. Retain the yellow copy of the suspected Child Abuse Report Form SS8572 for your records and submit top three copies (white, blue and green) to the applicable child protective agency.



APGAR SCORING

POLICY NO: **7604**

EFFECTIVE DATE: 07-01-06

REVISED DATE: 07-01-06

APPROVED: Bryan Cleaver
EMS Administrator

Dr. Mark Luoto
EMS Medical Director

AUTHORITY: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

DEFINITION

- a. **Apgar 7-10**
 1. Keep dry and warm (skin to skin with mother and blanket).
- b. **Apgar 4-6**
 1. Suction with bulb syringe.
 2. Ventilate 40-60 breaths/min with 100% oxygen.
 3. Monitor (begin cardiac compressions if heart rate not increasing after 15-30 seconds of assisted ventilations).
 4. Keep warm and dry.
- c. **Apgar 0-3**
 1. Suction with bulb syringe.
 2. Support ventilation 40-60 breath/min with 100% oxygen, bag and mask, intubate if bagging inadequate.
 3. Monitor; if heart rate < 80/min and not increasing with assisted ventilation after 15-30 seconds, begin cardiac compression.
 4. Keep warm and dry.

APGAR SCORING CHART

	0	1	2
Appearance	Blue-pale	Body pink Limbs blue	Pink all over
Pulse	0	<100	>100
Grimace	No response	Grimace	Cough, cry, sneeze
Activity	Flaccid	Some flexion	Active movement
Respiratory Effort	Absent	Slow, irregular	Strongly crying

REMINDER:

Check APGAR score after 1 minute, 5 minutes. Obtaining an APGAR should not delay neonatal assessment/resuscitation.



Respiratory Distress

Policy Number: 7701		Approved: Bryan Cleaver, EMS Administrator	
Effective Date: January 1, 2020		Review Date: November 23, 2021	
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221			
I. Definition			
A. None.			
II. Basic Life Support			
A. Provide General Medical Care.			
B. CPAP should be considered early in severe respiratory distress per <i>procedure guideline 7908 CPAP</i> .			
C. Airway obstruction:			
1. Conscious patient able to speak:			
a. Offer assurance, do not intervene, encourage coughing.			
b. Consider oxygen administration as indicated.			
c. Frequent gentle suctioning as indicated to control secretions.			
2. If patient is unconscious or becomes unconscious begin CPR.			
a. If an object is seen, remove object and reassess.			
b. Continue CPR as indicated and refer to <i>procedure guideline 7909 Cardiac Arrest Management</i> .			
Adult		Pediatric (less than 14 years of age)	
A. Airway obstruction:		A. Airway obstruction:	
1. Conscious patient unable to speak or cough:		1. Conscious patient unable to speak or cough:	
a. Administer continuous abdominal thrusts until foreign object is expelled, air movement is restored, or the patient becomes unconscious.		a. Infant < 1 year old:	
		(1) Place infant in a head down position supporting the head.	
		(2) Administer 5 back blows and 5 chest thrusts continuously until foreign object is expelled, air movement is restored, or the patient becomes unconscious.	
2. Unconscious or becomes unconscious patient:		b. Child > 1 year old:	
a. If unable to maintain an airway or ventilate after two attempts with BLS maneuver:		(1) Refer to adult treatment.	
(1) Attempt supraglottic airway per <i>procedure guideline 7912 Supraglottic Airway</i> .			
III. Advanced Life Support			
A. Airway obstruction:			
1. Inspect oral cavity:			
a. If object seen, use forceps and attempt to remove.			
A. Airway obstruction:		A. Airway obstruction:	
1. If unable to maintain an airway or ventilate after two attempts with BLS maneuver:		1. If unable to maintain an airway or ventilate after two attempts with BLS maneuver:	
a. Attempt oral endotracheal intubation per <i>procedure guidelines 7911 Endotracheal Intubation</i>		a. Attempt supraglottic airway per <i>procedure guideline 7912 Supraglottic Airway</i> .	
B. Bronchospasm:		B. Bronchospasm:	
1. Administer Albuterol 5 mg in 6 ml NS and Atrovent 0.5 mg in 3 ml NS via appropriate nebulizer device.		1. Administer Albuterol per pediatric medication administration guide via appropriate inline nebulizer device.	



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|--|--|
| <ul style="list-style-type: none"> a. Repeat Albuterol if symptoms persist. b. Do not repeat Atrovent. 2. If severe bronchospasm: <ul style="list-style-type: none"> a. Administer 1:1,000 Epinephrine 0.3 mg IM. 3. If respiratory arrest appears imminent, consider 1:10,000 Epinephrine 0.1 mg slow IVP. <ul style="list-style-type: none"> a. May repeat four (4) times as indicated at two (2) minute intervals. C. Congestive heart failure or acute pulmonary edema: <ul style="list-style-type: none"> 1. Administer Nitroglycerin: <ul style="list-style-type: none"> a. If SBP > 100 mmHg administer 0.4 mg SL. b. If SBP > 150 mmHg administer 0.8 mg SL. c. May repeat every 5 minutes to max of 2.4 mg. d. For prolonged transports (greater than 60 minutes) apply 2% Nitroglycerine paste ½ inch. <ul style="list-style-type: none"> (1) May repeat once if symptoms persist and SBP > 100 mmHg. 2. Apply CPAP per <i>procedure guideline 7908 CPAP</i>. 3. If wheezing or diminished lung sounds are present, administer Albuterol 5 mg in 6 ml NS and Atrovent 0.5 mg in 3 ml NS via appropriate inline nebulizer device. <ul style="list-style-type: none"> a. Repeat albuterol as indicated. b. Do not repeat Atrovent. | <ul style="list-style-type: none"> a. Repeat Albuterol if symptoms persist. 2. If severe bronchospasm: <ul style="list-style-type: none"> a. Administer Atrovent per pediatric medication administration guide via appropriate nebulizer device. 3. If patient is apneic or has inadequate tidal volume: <ul style="list-style-type: none"> a. Consider CPAP if age appropriate. b. Administer 1:1,000 Epinephrine IM per pediatric medication administration guide. c. If further deterioration anticipated or observed: <ul style="list-style-type: none"> (1) Administer 1:10,000 Epinephrine slow IVP per pediatric medication administration guide. <ul style="list-style-type: none"> (a) May repeat every 10 minutes. (b) Max dose 0.1 mg. C. Stridor/Croup: <ul style="list-style-type: none"> 1. Consider 1:1,000 Epinephrine nebulized per pediatric medication administration guide. 2. Consider establishing IV. |
|--|--|

IV. Special Considerations

- A. Pulse Oximetry:
 - 1. Readings can be misleading with poor perfusion (shock), cold extremities, hypothermia, anemia, or in carbon monoxide poisoning.
 - 2. Readings may be difficult to obtain or unreliable during excessive patient moving or if nail polish is present.
 - 3. Readings between 88% - 92% is the goal for patients with Chronic Obstructive Pulmonary Disease (COPD).
 - 4. Patients with smoke inhalation, significant burns, and potential carbon monoxide poisoning will continue to receive high flow oxygen regardless of pulse oximetry reading.
 - 5. Patients with traumatic brain injury should receiving oxygen to maintain SpO₂ of 100%.
- B. Waveform capnography is useful in monitoring respiratory rates and may provide early indication of respiratory failure.
- C. Intubation of the severely asthmatic patient is extremely difficult and all other measures should be exhausted first.

COASTAL VALLEYS EMS AGENCY



D. For respiratory depression with suspected narcotic overdose refer to *treatment guideline 7203 Poisoning-Overdose*.

E. Do not delay transport for advance airway skills if you have an adequate BLS airway.

V. Base Orders

A. Additional Nitroglycerin requires Base Hospital consult and Physician approval.

VI. Contraindications

A. None.

VII. Cross Reference

A. General Medical Care	Policy No. 7001
B. CPAP	Policy No. 7908
C. Cardiac Arrest Management	Policy No. 7909
E. Poisoning/Overdose	Policy No. 7203
F. Oral Endotracheal Intubation	Policy No. 7911
G. Supraglottic Airway	Policy No. 7912



Burns/Smoke Inhalation

Policy Number: 7801

Effective Date: January 1, 2020 Review Date: November 23, 2021

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Definition

- A. Burns are damage to the skin caused by heat or caustic materials.
- B. Smoke inhalation injuries and airway burns should be suspected for any patient that has been subjected to smoke in an enclosed space, near an explosion, and/or exposed to smoke from wood, cotton, petroleum or plastic products.

II. Basic Life Support

- A. Provide General Medical Care.
- B. Stop the burning process.
- C. Assess airway for signs of smoke inhalation or airway burns.
- D. If carbon monoxide exposure suspected, apply high flow O₂.
- E. Assess for signs of trauma.
- F. Remove jewelry and clothing from involved areas.
- G. Apply blanket to keep patient warm.
- H. For electric and thermal burns:
 - 1. Cover with sterile dry dressing or sheet.
 - 2. Do not flush with water after stopping the burn process.
- I. For chemical burns:
 - 1. Consider treating as a HAZMAT exposure per *treatment guideline 7205 Hazardous Material Exposure*.
 - 2. If dry, brush and flush with large amounts of water.
 - 3. If liquid flush with water or NS.
 - 4. If eye(s) involved irrigate with NS 1 L.
 - a. Remove contact lenses if present and possible.

III. Advanced Life Support

- A. Early receiving facility notification.
- B. Consider pain management per *treatment guideline 7305 Severe Pain*.
- C. If respiratory distress develops due to bronchospasms or airway swelling, refer to *treatment guideline 7701 Respiratory Distress*.

Adult

- A. Placed advanced airway if indicated.
- B. For partial thickness burn > 10% body surface area:
 - 1. Administer NS fluid bolus 1 L rapidly IV/IO.
 - a. Reassess vital signs after every 250 ml to ensure lung sounds remain clear.

Pediatric (less than 15 years of age)

- A. For partial thickness burn > 10% body surface area:
 - 1. Administer NS fluid bolus 20 ml/kg IV.

IV. Special Considerations

- A. Do not apply cool dressings after the initial burning process is stopped or allow environmental exposure. Cooling large surface area burns (greater than 10% body surface area) may result in hypothermia.
- B. Smoke inhalation injuries:
 - 1. Consider potential for carbon monoxide and/or cyanide toxicity in closed space fires.
 - a. Pulse oximetry is not accurate in carbon monoxide poisoning.



- b. Other significant chemicals that can be present in smoke depending on what is burning including ammonia, sulfur dioxide, hydrochloric acid, formaldehyde, and chlorine.
- 2. Physical findings suggestive of smoke inhalation or airway burns are:
 - a. Facial burns, singed nasal hairs, soot on face and/or tongue or burns to the mouth.
 - b. Carbon particles (black) in sputum, stridor, hoarseness or changes in voice/speech.
 - c. Coughing, wheezing, or labored breathing.
 - d. Altered mental status:
 - (1) Patients exposed to smoke after the use of drugs or alcohol should receive a higher index of suspicion for smoke inhalation.

V. Base Orders

- A. If hypotension and/or evidence of poor perfusion persists, contact base hospitals for additional NS fluid bolus administration.
- B. Patients refusing transport with smoke inhalation/airway burns, burns greater than 10% body surface area. Electrical burns, or chemical burns require base hospital consult and physician approval prior to signing against medical advice.

VI. Contraindications

- A. None.

VII. Cross Reference

- | | |
|--------------------------------|-----------------|
| A. General Medical Care | Policy No. 7001 |
| B. Severe Pain | Policy No. 7305 |
| C. Hazardous Material Exposure | Policy No. 7205 |
| D. Respiratory Emergencies | Policy No. 7701 |



Major Trauma

Policy Number: 7802

Effective Date: January 1, 2020 Review Date: November 23, 2021

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Definition

- A. Major trauma is any injury that has potential to cause disability or death.

II. Basic Life Support

- A. Provide General Medical Care.
- B. Do not delay transport.
- C. Early trauma center notification for patients meeting Trauma Triage Criteria per *treatment guideline 7803 Trauma Triage*.
- D. Consider spinal motion restriction per *procedure guideline 7909 Spinal Motion Restriction*.
- E. Remove or cut away patients clothing:
 - 1. Cover patient with blanket to maintain body temperature and privacy.
- F. If significant bleeding present, refer to *treatment guideline 7805 Uncontrolled Bleeding/Amputation and 7910 Hemostatic Agents*.
- G. If suspected fracture present:
 - 1. Pulses distal to the suspected fracture should be checked before and after movement or stabilization.
- I. Provide pain management:
 - 1. Stabilize suspected fractures in patients position of comfort.
 - 2. Apply cold compress if indicated.

III. Advanced Life Support

- A. Establish IV.
 - 1. Consider second IV when time allows.
- B. Consider pain management per *treatment guideline 7305 Severe Pain*.

Adult

- A. Treat suspected shock in patients with:
 - 1. Significant mechanism of injury.
 - 2. Skin signs are pale cool, and diaphoretic.
 - 3. SBP < 90 mmHg.
 - a. Administer NS fluid bolus 250 ml IV as needed to maintain SBP 90 mmHg.
 - (1) Max 1 L judiciously.
 - (2) Warm fluids preferred.
 - b. Consider administering Tranexamic Acid for suspected hemorrhagic shock per *procedure guideline 7907 Tranexamic Acid Administration*.
- B. Head injury with evidence of herniation:
 - 1. Ventilate patient to maintain capnography between 30 mmHg to 35 mmHg.
 - 2. Consider sedation if patient is combative, extremely agitated, or clenched (trismus) per *treatment guideline 7002 Sedation*.

Pediatric (less than 14 years of age)

- A. Treat suspected shock in patients with:
 - 1. Significant mechanism of injury.
 - 2. Skin signs are pale, cool, and diaphoretic.
 - 3. SBP is less than age appropriate parameters.
 - a. Administer NS fluid bolus 20 ml/kg IV to maintain age appropriate SBP.
 - (1) Do not repeat.
 - (2) Warm fluids preferred.



IV. Special Considerations	
<p>A. Expedite transport; on-scene time should be less than 10 minutes in the absence of prolonged extrication.</p> <p>B. Studies indicate that trauma patients receiving more than 750 ml NS before going to the operating room may have worse outcomes. Fluid replacement should be administered with discretion.</p>	
V. Base Orders	
A. Additional administration of NS requires base hospital consult and physician approval.	
VI. Contraindications	
<p>A. Traction splints are contraindicated for suspected pelvic fractures.</p> <p>1. The use of pelvic binder or sheet may be used to stabilize.</p> <p>B. Ketorolac is contraindicated and shall not be administered to major trauma patients.</p>	
VII. Cross Reference	
A. General Medical Care	Policy No. 7001
B. Severe Pain	Policy No. 7305
C. Uncontrolled Bleeding/Amputation	Policy No. 7805
D. Sedation	Policy No. 7002
E. Tranexamic Acid Administration	Policy No. 7907
F. Hemostatic Agents	Policy No. 7910
G. Trauma Triage	Policy No. 7803
F. Spinal Motion Restriction	Policy No. 7909

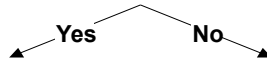


7803 Trauma Triage Decision Scheme

Step 1 – Physiological factors: Any one element triggers a Trauma Destination

Adult Patients (age 15 - 65)	Geriatric Patients (age > 65 yrs)	Pediatric Patients (age <15 yrs)
1. GCS of thirteen (13) or less, or, 2. Systolic BP < 90 mm Hg	1. GCS change from baseline., or, 2. Systolic BP <110 mmHg	1. GCS of thirteen (13) or less, or, 2. Systolic BP < 80 mmHg - age 7-15, or, 3. Systolic BP < 70 mmHg - age < 7

Transport to closest appropriate
Trauma Center



Assess anatomic factors

Step 2 - Major anatomic factors: Any one element triggers a Trauma Destination.

1. Penetrating injury to head, neck, chest, abdomen, pelvis, groin, or extremities proximal to elbow or knee.
2. Combination of trauma with burns greater than or equal to 15% of body surface area, or burns to face or airway.
3. Two or more proximal long-bone fractures.
4. Open or depressed skull fracture.
5. Chest wall instability or deformity.
6. Pelvic fracture.
7. Amputation proximal to wrist or ankle.
8. Traumatic paralysis or paresthesia.
9. Any patient < 5 years of age who has suffered major trauma but for whom it is not possible to fully determine physiologic status.
10. Crushed, de-gloved, or mangled extremity.

Yes No

Transport to closest appropriate
Trauma Center.

Assess mechanism of injury factors.

Step 3 - Mechanism of injury factors:

1. Ejected from vehicle, e.g., auto, jet ski, or motorcycle traveling > 20 mph
2. Death in the same passenger compartment
3. Extrication time greater than 20 minutes
4. Rollover without seatbelt
5. Fall greater than 20 feet. In pediatrics, greater than 10 feet or 2-3 times the child's height.
6. Auto-pedestrian or auto-bicycle with greater than 20 mph impact.
7. High speed motor vehicle collision and significant passenger space intrusion
8. Significant blunt injury to head, neck, chest, abdomen, or pelvis without co-existing anatomic or physiologic factor.
9. Ground level fall with head trauma for whom you assess a high risk of injury (on anticoagulation, except aspirin).

Yes No

Assess Additional Factors

Transport to closest appropriate
hospital.

Step 4 - Additional Factors

<u>Physiologic & anatomic factors</u>	<u>Age and comorbid factors</u>
1. Torso, abdomen, or pelvic complaint. 2. Persistent & unexplained respiratory difficulty, tachycardia, or peripheral vaso-constriction. 3. Extremity ischemia as demonstrated by absent pulses and pallor.	1. Age less than 5 yrs & difficult to evaluate or age greater than 65 yrs. 2. Pregnancy greater or equal to 20 weeks. 3. Pt with bleeding disorder or on anticoagulants or antiplatelet (Coumadin or Plavix) except ASA. 4. Inability to communicate; i.e. language, psychological and/or substance impairment. 5. EMS provider judgement.

Yes No

Transport to closest appropriate
Trauma Center

Transport to closest appropriate
hospital.



Crush Syndrome

Policy Number: 7804

Effective Date: January 1, 2020 Review Date: November 23, 2021

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Definition

- A. Crush syndrome is a systemic illness characterized by dysrhythmias and shock.
- B. Crush syndrome can develop when an individual is entrapped with extensive tissue injury. Patients are at risk for crush syndrome if they have all of the following:
 - 1. Circumferential compression causing crush injury.
 - 2. Involvement of a large muscle group (lower extremity including the thigh(s), and/or pelvic girdle, or upper extremity including the pectoral girdle).
 - 3. Entrapment for at least 1 hour.
- C. The risk of crush syndrome increases with the amount of muscle involved and the duration of the entrapment.
- D. Hyperkalemia: EKG findings include peaked T-waves in multiple leads, absent p-waves, and/or widened QRS-complex).

II. Basic Life Support

- A. For crush injury that does not meet the definition of crush syndrome, release compression and extricate patient.
- B. Provide General Medical Care.
- C. Consider spinal precautions per *procedure guideline 7803 Spinal Motion Restriction*.
- D. Provide passive warming measures if indicated.
- E. Consider the use of a tourniquet prior to extrication to prevent toxins from entering the patient or for hemorrhage control per *treatment guideline 7806 Uncontrolled Hemorrhage/Amputation*.

III. Advanced Life Support

- A. Provide pain management per *treatment guideline 7305 Severe Pain*.
- B. If unable to establish vascular access while entrapped, consider tourniquet placement per *treatment guideline 7806 Uncontrolled Hemorrhage/Amputation* prior to extrication.
- C. Assess for signs of hyperkalemia. If evidence of hyperkalemia, refer to *treatment guideline 7303 Hyperkalemia*.

Adult

- A. For suspected crush syndrome:
 - 1. Administer NS fluid bolus 1 L rapid IV infusion prior to release of compressive force.
 - a. May repeat once.
 - b. Max total volume 2 L.
 - c. Reassess vital signs after every 250 ml to ensure lung sounds remain clear.

Pediatric (less than 15 years of age)

- A. For suspected crush syndrome:
 - 1. Administer NS fluid bolus 20 ml/kg rapid IV infusion prior to release of compressive force.
 - a. May repeat once.

IV. Special Considerations

- A. First responders need to balance the need for extrication with the timing of interventions. Ideally normal saline and medications would be administered prior to the release of the compressive force, but extrication should not be unreasonably delayed for ALS care.
- B. Patients with crush injury require large volumes of fluid resuscitation. Patients with prolonged entrapment will require maintenance fluids. IO access should be considered when attempts at IV access are not successful if:
 - 1. Prolonged entrapment is likely (30 minutes) and/or,
 - 2. There are signs of hyperkalemia, and/or,
 - 3. There is risk of crush syndrome requiring medication administration.



- C. In cases of extended extrication, medications should be administered five minutes prior to release of the compressive force to prevent complications from the cellular toxins that enter the circulation system upon extrication of the patient. Calcium stabilizes the cardiac muscle and should be administered first.
- D. Tourniquet placement prior to extrication is a last resort for patients who are at risk for crush syndrome in whom vascular access cannot be established or when transport time is anticipated to be > 30 minutes. The tourniquet must completely occlude venous and arterial flow in order to protect the patient from crush syndrome. Establish vascular access and cardiac monitoring immediately after extrication and be prepared to treat symptoms of crush syndrome.

V. Base Orders

- A. Additional administration of NS requires Base Hospital consult and physician approval.
- B. The duration of action of the medications is approximately 30 minutes. For persistent signs of hyperkalemia and/or the patient will not arrive at the hospital within 30 minutes, re-dosing of medications requires Base Hospital consult and physician approval.

VI. Contraindications

- A. None.

VII. Cross Reference

- | | |
|-------------------------------------|-----------------|
| A. General Medical Care | Policy No. 7001 |
| B. Severe Pain | Policy No. 7305 |
| C. Uncontrolled Bleeding/Amputation | Policy No. 7805 |
| D. Spinal Motion Restriction | Policy No. 7909 |
| E. Hyperkalemia | Policy No. 7303 |



Uncontrolled Hemorrhage/Amputation

Policy Number: 7805

Effective Date: January 1, 2020 Review Date: November 23, 2021

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Definition

- A. Tourniquet Device: A tourniquet device is appropriate when upper and lower extremity hemorrhage cannot be controlled by direct pressure.
 - 1. Evidence for use of a tourniquet may include pulsing blood loss, large volume blood loss, inability to control significant extremity hemorrhage if direct pressure is ineffective or impractical.
- B. Wound packing: Wound packing is a technique to place direct pressure in junctional areas (neck, axilla, and groin) on a bleeding vessel.

II. Basic Life Support

- A. Provide General Medical Care.
- B. Apply direct pressure with gauze if indicated:
 - 1. If gauze becomes saturated with blood, add additional gauze with more pressure.
- C. Tourniquet device application:
 - 1. Expose injury.
 - 2. Avoid placement in the following areas:
 - a. Joints.
 - b. Angulated or open fracture.
 - c. Stab wound.
 - d. Gunshot wound.
 - 3. Assess and document circulation, motor, and sensation distal to injury site.
 - 4. Apply tourniquet proximal to injury site (usually 2-4 inches).
 - 5. Tighten tourniquet incrementally to least amount of pressure required to stop bleeding.
 - a. May consider applying a second tourniquet above the original if bleeding persists.
 - 7. Cover wound with appropriate sterile dressing and/or bandage.
 - a. Do not cover the tourniquet. Must be visible.
 - 8. Reassess extremity distal to tourniquet and document.
 - 9. Tourniquet placement date and time must be documented on the tourniquet device.
 - 10. Ensure receiving facility staff is aware of the tourniquet placement and time application took place.
- D. Wound Packing:
 - 1. Packing can be done with regular or approved hemostatic gauze.
 - a. For use of hemostatic gauze refer to *procedure guideline 7910 Hemostatic Agents*.
 - 2. Pack the wound tightly and apply firm pressure for at least 3 minutes.
 - 3. Secure a snug pressure dressing.
- E. Care of isolated extremity amputation:
 - 1. Wrap the amputated part in a sterile saline moistened gauze and placed in plastic bag.

III. Advanced Life Support

- A. Amputations:
 - 1. Consider pain management per *treatment guideline 7305 Severe Pain*.
 - 2. Consider sedation per *treatment guideline 7002 Sedation*.
 - 3. Once all bleeding is controlled and patient is a possible re-implantation candidate:
 - a. Administer Aspirin 162 mg PO.

IV. Special Considerations

- A. When using wound packing in the neck region, avoid airway occlusion.

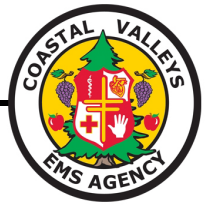


V. Base Orders	
A. Removal of an appropriately indicated and placed tourniquet requires base hospital consult and physician approval.	
B. Transport of patients with an appropriately indicated and placed tourniquet to a non-trauma receiving center requires base hospital consultation.	
VI. Contraindications	
A. Wound packing is contraindicated in the chest and abdominal injuries. Use direct pressure only.	
VII. Cross Reference	
A. General Medical Care	Policy No. 7001
B. Severe Pain	Policy No. 7305
C. Sedation	Policy No. 7002
C. Hemostatic Agents	Policy No. 7910
D. Trauma Triage	Policy No. 7803



Taser Barb Removal

<p>Policy Number: 7901 Effective Date: January 1, 2020 Review Date: February 25, 2020</p>	<p>Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director</p>
<p>Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221</p>	
<p>I. Principles</p>	
<p>A. Purpose: To provide guidance on the removal of Taser Barbs in the prehospital setting.</p>	
<p>II. Scope EMT-B, Paramedic</p>	
<p>III. Basic Life Support:</p>	
<p>A. Ensure scene safety and that electrical current is no longer flowing through Taser. B. Provide General Medical Care. C. Patients who have been tased in sensitive areas (face, neck, groin, breast, or spinal column): 1. Stabilize barbs in place. 2. Transport patient by ambulance per <i>treatment guideline 8005 Point of Entry</i>. D. Barb removal: 1. Place one hand on the skin around the puncture site. 2. Place hand or pliers firmly on the barb. 3. In one fluid motion pull the barb straight out of the puncture site. a. Repeat on the second barb. b. Bandage appropriately. c. Inspect the barb to ensure it is fully intact. 1) If not fully intact, patient should be transported to the ED for medical evaluation.</p>	
<p>IV. Advanced Life Support:</p>	
<p>A. Place patient on cardiac monitor. 1. Obtain 12-Lead EKG in patients with a history of cardiac problems. 2. Monitor heart rhythm and treat any dysrhythmias per <i>treatment guideline 7102 dysrhythmias</i>. 3. AMA as appropriate per <i>treatment guideline 8003 Patient refusal of treatment or transport</i>.</p>	
<p>V. Special Considerations:</p>	
<p>A. Patients must be transported for medical clearance to an approved medical facility unless they meet criteria for AMA. B. A patient care report with a complete history, assessment, and vital signs will be completed for all patient contacts regardless of the resolution. C. Taser barb deployment does not constitute penetrating trauma for the trauma triage criteria.</p>	
<p>VI. Base Orders: None.</p>	
<p>VII. Contraindications: None.</p>	
<p>VIII. Documentation on the EMS patient care report (PCR) shall include:</p>	
<p>A. Location of the Taser barb. B. Any complications with removal.</p>	



Football Helmet Removal

Policy Number: 7902
Effective Date: January 1, 2020
Review Date: February 25, 2020

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Principles

A. Purpose: To provide guidance on the removal of football helmets in the prehospital setting.

II. Scope EMT-B, Paramedic

III. Basic Life Support:

- A. Remove face shield.
- B. Maintain cervical neutrality while first removing the helmet.
- C. After the helmet is successfully removed maintain spinal neutrality by holding manual cervical immobilization.
- D. Remove shoulder padding by cutting the pad laces.
 - 1. If unable to cut pad laces, coordinate a slight lift of the torso to slide the pads off.
 - a. Maintain spinal neutrality during this process may require up to 4 personnel.
- E. Evaluate the need for continuous spinal motion restriction per *treatment guideline 7909 Spinal Motion Restriction*.

IV. Advanced Life Support: None.

V. Special Considerations:

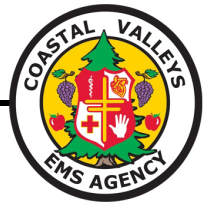
- A. Helmets in conjunction with shoulder pads help immobilize the neck in neutral spinal alignment. If the helmet is removed, and the shoulder pads are left in place, the head could fall back into extension due to the bulk of the pads. If the helmet must be removed, it should be taken off simultaneously with the shoulder pads while constantly maintaining a neutral spine.
- B. Removal of a football helmet should be reserved for patients where protective equipment is interfering with appropriate spinal motion restriction or if the airway cannot be managed.
- C. Helmets are typically radiolucent and will not interfere with plain X-rays or CT scans.

VI. Base Orders: None.

VII. Contraindications: None.

VIII. Documentation on the EMS patient care report (PCR) shall include:

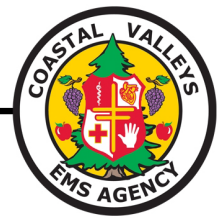
- A. CSM evaluation before and after helmet removal.



Use of Restraints

<p>Policy Number: 7903 Effective Date: January 1, 2020 Review Date: February 25, 2020</p>	<p>Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director</p>
<p>Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221</p>	
<p>I. Principles</p>	
<p>A. Purpose: To provide guidance on the use and placement of restraints.</p>	
<p>II. Scope EMT-B, Paramedic</p>	
<p>III. Basic Life Support:</p>	
<p>A. Apply appropriate restraint.</p> <ol style="list-style-type: none"> 1. Restraint equipment, applied by prehospital personnel, must be either padded leather restraints or soft restraints (i.e. Posey, Velcro, or seat belt type). Both methods must allow for quick release. Swimmers position is the preferred restrained position. 2. The following forms of restraint shall NOT be used by prehospital personnel: <ol style="list-style-type: none"> a. Hard plastic ties or any restraint device requiring a key to remove. b. Sandwiching patients between backboards, scoop-stretchers, or flat, as a restraint. c. Restraining a patient's hands and feet behind the patient (i.e. hog tying). d. Patients shall not be transported in prone position. 3. Restraint equipment applied by law enforcement (handcuffs, plastic ties, or hobble restraints): <ol style="list-style-type: none"> a. Must provide sufficient slack in the restraint device to allow the patient to straighten the abdomen and chest and to take full tidal volume breaths. b. Law enforcement officer continuous presence is required to ensure patient and scene management safety. <ol style="list-style-type: none"> 1) The officer should, if possible, accompany the patient in the ambulance, or follow by driving in tandem with the ambulance on a predetermined route. 2) A method to alert the officer of any problems that may develop during transport shall be discussed prior to leaving the scene. 4. Evaluate restrained extremities for pulse quality, capillary refill, color, nerve and motor function every 15 minutes. 	
<p>IV. Advanced Life Support:</p>	
<p>A. Consider medical restraints per <i>treatment guideline 7002 Sedation</i> if indicated.</p>	
<p>V. Special Considerations</p>	
<ol style="list-style-type: none"> A. The safety of the patient, community, and responding personnel is of paramount concern. B. Restraints are to be used only in situations where the patient is violent and is exhibiting behavior that is dangerous to self or others. C. Prehospital personnel must consider that aggressive or violent behavior may be a symptom of underlying medical conditions. D. The responsibility for patient health care management rests with the highest medical authority on scene. Therefore, prehospital personnel shall determine medical intervention and patient destination. Authority for scene management shall be vested in law enforcement. E. The method of restraint used shall allow for adequate monitoring of vital signs and shall not restrict the ability to protect the patient's airway nor compromise neurological or vascular status. F. Restraints applied by law enforcement require the officers continued presence to remove or adjust the restraints for patient safety. G. This policy is not intended to negate the need for law enforcement personnel to use appropriate restraint equipment that is approved by their respective agency to establish scene management control. 	

VI. Base Orders:	None.
VII. Contraindications:	None.
VIII. Documentation on the EMS patient care report (PCR) shall include:	
<ul style="list-style-type: none"> A. The reasons restraints were necessary, type of restraints, and restraint technique. B. Which agency applied the restraints (i.e. EMS, Fire, Law Enforcement). C. Information and data regarding the monitoring of circulation to the restrained extremities. D. Information and data regarding the monitoring of respiratory status while restrained. E. Law enforcement presence in the ambulance or following in tandem with the ambulance. 	



Administration of Narcan

Policy Number: 7904

Effective Date: January 1, 2020

Review Date: February 25, 2020

Approved:

Bryan Cleaver, EMS Administrator

Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Principles

- A. Purpose: To provide guidance on the administration of Narcan for suspected opiate overdose.
- B. Indications: Naloxone shall only be given when the following circumstances are true:
 - 1. The environment is suspicious for use of opioids, AND
 - 2. Victim is:
 - a. Unconscious/poorly responsive and respiratory (breathing) rate appears slow (< 6/minute) or shallow/inadequate with possible choking or gurgling sounds, OR
 - b. Unconscious and not breathing.

II. Scope

Public Safety First Aid Personnel must be employed, authorized, and on-duty with an approved optional skills provider in order to administer Naloxone IN.
EMT-B, Paramedic

III. Public Safety First Aid Personnel:

- A. Ensure the appropriate EMS units have been requested.
- B. Provide General Medical Care.
- C. Utilize personal protective equipment.
- D. Assess respiratory status, manage airway, and assist ventilations as appropriate.
- E. Assess pulse rate, if pulseless:
- F. Begin chest compression.
 - 1. If available, apply and activate AED.
- G. If available administer oxygen per *treatment guideline 7001 General Medical Care*.
- H. Stimulate victim to determine if the person will awaken:
 - 1. Administer Naloxone if no response to stimulation and continued poor/absent breathing:
 - a. Administration options:

Naloxone 2 mg preload syringe.

- 1. Assemble 2 mg syringe and atomizer.
- 2. Administer ½ dose (1 mg) into nostril.
 - a. If the patient does not respond or responds briefly and relapses:
 - 1) Administer another 1 mg into the other nostril.

Naloxone Nasal Spray 4 mg preload single dose device.

- 1. Administer full dose in one nostril.
- 2. If the patient does not respond or responds briefly and relapses:
 - a. Administer another dose (device) in the other nostril.

- I. Observe for improved breathing and increasing level of consciousness.
 - 1. If breathing and level of consciousness do not improve continue to assist with breathing.
 - a. Begin CPR and apply and activate AED if indicated.
 - 2. If breathing resumes, place patient in the recovery position.
 - 3. Report administration of Naloxone to the appropriate EMS Provider.
 - 4. Complete any internal agency documentation.

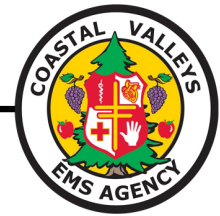
IV. Basic Life Support:	
A. Administer Narcan per <i>treatment guideline 7203 Poisoning/Overdose</i> .	
V. Advance Life Support:	
A. Administer Narcan per <i>treatment guideline 7203 Poisoning/Overdose</i> .	
VI. Special Considerations:	
A. Naloxone administration can cause sudden agitated behavior or symptoms of opioid withdrawal such as vomiting, abdominal cramps, and/or sweating. Be aware and prepared to assist patient.	
VII. Base Orders:	None.
VIII. Contraindications:	None.
IX. Documentation on the EMS patient care report (PCR) shall include:	
A. Agency Name who administered the Naloxone.	
B. Symptoms prior to administration as reported by Public Safety First Aid Personnel.	
C. Dose administered by Public Safety First Aid Personnel.	



Administration of Ketamine

<p>Policy Number: 7905 Effective Date: January 1, 2020 Review Date: February 25, 2020</p>	<p>Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director</p>
<p>Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221</p>	
<p>I. Principles</p>	
<p>A. Purpose: To provide guidance on the administration of Ketamine for severe pain. B. Indications: Severe pain with a pain scale greater than 5. C. Education: 1. Ketamine is an NMDA-antagonist agent that is widely used throughout the world in both prehospital and hospital environments for Analgesia. 2. It has been shown in many studies to be a very effective agent for severe pain and importantly has been shown to be stable in those with hemodynamic compromise and does not cause respiratory depression as an inherent property of the drug. The expected effect of the medication in this setting is rapid relief of pain without the untoward side effects typically seen with opioid analgesics, including sedation and respiratory compromise.</p>	
<p>II. Scope: Paramedic</p>	
<p>III. Basic Life Support: None.</p>	
<p>IV. Advance Life Support:</p>	
<p>A. Patients may experience a dysphoric or out of body sensation following administration that may cause fear. Prior to administration explain to the patient that Ketamine is a very effective pain medication and they may feel spacey and experience a brief period of dizziness and/or out of body sensation. Explain to the patient that these symptoms will resolve. This explanation has shown to be very effective in fear reduction following administration. B. Administer Ketamine per <i>treatment guideline 7305 Pain Management</i>. 1. 0.3 mg/kg slow IV infusion over 10 minutes. a. Add Ketamine to a 100 ml bag of normal saline. b. Attach an adult drip set (10 gtts/ml). c. Run the infusion over at least 10 minutes. d. Examples of a 30 mg dose based on the following concentrations: 1) 10 mg/ml concentration equals 3 ml. 2) 50 mg/ml concentration equals 0.6 ml. 3) 100 mg/ml concentration equals 0.3 ml. e. Max dose 30 mg. 2. 0.5 mg/kg IN. a. Max dose 50 mg. B. If after 15 minutes or more and pain score remains 5 or greater, a second dose may be given.</p>	
<p>V. Special Considerations: None.</p>	
<p>VI. Base Orders: None.</p>	
<p>VII. Contraindications:</p>	
<p>A. Do not administer if evidence of intracranial pressure (ICP). B. Pregnancy.</p>	
<p>VIII. Documentation on the EMS patient care report (PCR) shall include:</p>	
<p>A. O₂ Saturation. B. Vital signs every 5 minutes. C. Initial pain score, then repeat every 5 minutes following administration. D. Patient weight.</p>	

E. Dosage.



Administration of Ketorolac

Policy Number: 7906 Effective Date: January 1, 2020 Review Date: February 25, 2020		Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221		
I. Principles		
A. Purpose: To provide guidance on the administration of Ketorolac for pain. B. Indications: Mild to moderate pain. C. Education: <ol style="list-style-type: none"> 1. Ketorolac is a first generation non-steroidal anti-inflammatory drug (NSAID) that has been approved for use by the FDA since 1989. Since its approval, Ketorolac has been used throughout the world for pain control both within hospitals, and more recently, prehospital. For healthy adult patients, Ketorolac has been a successful analgesic with a small side effect profile. Specifically, for biliary and renal colic. Studies have shown great success with this NSAID's use over other interventions. Ketorolac as a pain medication avoids risks of life-threatening respiratory depression and hypotension that is seen with the IV opiate medications commonly used in EMS. 2. Hematuria should not inhibit administration unless significant. 		
II. Scope		Paramedic
IV. Basic Life Support:		None.
V. Advance Life Support:		
A. Administer Ketorolac per <i>treatment guideline 7305 Severe Pain</i> .		
Adult		Pediatric (less than 15 years of age)
A. 15 mg slow IV Push over 15 seconds. 1. If unable to establish an IV, administer 30 mg IM.		A. 0.5 mg/kg IV/IM 1. Max dose 15 mg.
VI. Special Considerations: None.		
VI. Base Orders: None.		
VII. Contraindications:		
A. History of renal disease or kidney transplant. B. Hypotension. C. History of GI bleeding or ulcers. D. Current anticoagulation therapy or active bleeding. E. Current steroid use. F. Age <2 years old or > 65 years old. G. History of asthma. H. Pregnant or high possibility of pregnancy. I. Severe headache with signs and symptoms of intracranial bleeding and/or disease. J. Patients meeting Trauma center criteria. K. Chest pain suspicious of ACS. L. Abdominal Pain (unless in the presence of previous kidney stones with same presentation).		
VIII. Documentation on the EMS patient care report (PCR) shall include:		
A. Initial pain score, then repeat every 5 minutes following administration.		



Administration of Tranexamic Acid

Policy Number: 7907 Effective Date: January 1, 2020 Review Date: February 25, 2020		Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221		
I. Principles		
A. Purpose: To provide guidance on the administration of Tranexamic Acid for blunt or penetrating major trauma and postpartum hemorrhage. B. Indications: Blunt or penetrating major Trauma and significant postpartum hemorrhage. C. Criteria for Traumatic Hemorrhagic shock: 1. Within 3 hours of injury, TXA should be considered for all blunt or penetrating trauma patients with signs and symptoms of hemorrhagic shock for age greater than 15 years or more than 45 KG, and that meet ANY ONE of the following inclusion criteria: a. Systolic blood pressure of less than 90 mm Hg at any time during patient encounter b. Bleeding not controlled by direct pressure, hemostatic agents, or tourniquet application. D. Criteria for postpartum hemorrhage: a. Within 3 hours of vaginal delivery, TXA should be considered for vaginal bleeding greater than 500 cc. This should follow vigorous fundal massage and IV fluids. b. Systolic blood pressure less than 90 mmHg is not a requirement for administration for postpartum hemorrhage. E. Education: 1. Tranexamic Acid (TXA) is a lysine analogue that works to inhibit the formation of plasmin, which is a molecule responsible for clot degradation. It therefore stabilizes clots and slows down bleeding. It has recently been shown in multiple studies to reduce mortality in trauma patients meeting specific physiologic criteria or who have signs of massive trauma.		
II. Scope		Paramedic
III. Basic Life Support:		None.
IV. Advance Life Support:		
A. Administer Tranexemic Acid (TXA) per <i>treatment guideline 7802 Major Trauma</i> . 1. 1 gram in 100 ml NS IV infusion over 10 minutes. a. Do not administer IV Push. This will cause hypotension. 2. Place appropriate wrist band on the patient identifying that TXA was administered.		
V. Special Considerations:		None.
VI. Base Orders:		None.
VII. Contraindications:		
A. > 3 hours post injury or birth. B. Isolated extremity amputation when bleeding has been controlled and if there is a strong expectation of re-implantation C. Isolated spinal shock. D. Traumatic arrest with >5 minutes of CPR without ROSC. E. Drowning or hanging victims. F. < 15 years of age and weighing < 45 kg. G. Active thromboembolic event (within 24 hours); i.e. CVA, MI, PE, DVT. H. Hypersensitivity or anaphylactic reaction to TXA.		
VIII. Documentation on the EMS patient care report (PCR) shall include:		
A. Time of injury/birth. B. Time of administration.		



Continuous Positive Airway Pressure (CPAP)

Policy Number: 7908

Effective Date: January 1, 2020

Review Date: February 25, 2020

Approved:

Bryan Cleaver, EMS Administrator

Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Principles

- A. Purpose: To improve ventilation and oxygenation, and avoid intubation, in patients with moderate to severe respiratory distress.
- B. Indications: Patients age 8 or older in moderate to severe respiratory distress secondary to:
 - 1. CHF with pulmonary edema.
 - 2. Acute exacerbation of COPD or asthma.
 - 3. Pneumonia.
 - 4. Near drowning.
 - 5. Any other cause of respiratory failure.

II. Scope EMT-B, Paramedic

III. Basic Life Support:

- A. Place patient in seated position.
- B. Monitor BP, HR, RR, O₂ saturation.
- C. Set up CPAP system (per manufacturer's recommendation) with pressure set between 5-10 cm H₂O.
- D. Explain procedure to patient.
- E. Apply mask while reassuring patient and encouraging patient to breath normally.
- F. Re-evaluate the patient every 5 minutes.
- G. Normally the patient will improve in the first 5 minutes with CPAP as evidenced by:
 - 1. Decreased heart rate.
 - 2. Decreased respiratory rate.
 - 3. Decreased blood pressure.
 - 4. Increased O₂ saturation.
- H. Bag-valve-mask ventilation or endotracheal intubation per *Treatment Guideline 8801 Oral Intubation* should be considered if the patient fails to show improvement.

IV. Advance Life Support: None.

V. Special Considerations

- A. Complications may include:
 - 1. Hypotension.
 - 2. Pneumothorax.
 - 3. Corneal drying.
 - 4. Gastric distention.

VI. Base Orders: None.

VII. Contraindications:

- A. Respiratory or cardiac arrest
- B. Tracheostomy
- C. Agonal respirations
- D. Signs and symptoms of pneumothorax
- E. Inability to maintain airway patency
- F. Major head or neck trauma

G. Vomiting
VIII. Documentation on the EMS patient care report (PCR) shall include:
A. O ₂ Saturation prior to placement and every 5 minutes following placement.



Spinal Motion Restriction

Policy Number: 7909
Effective Date: January 1, 2020
Review Date: May 19, 2020

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Principles

A. Purpose: To provide guidance on the proper indication and application of spinal motion restriction.

II. Scope EMT-B, Paramedic

III. Basic Life Support: None.

A. Determine need for SMR application:

1. SMR should be considered for high risk trauma patients whose injuries/complaints may indicate spinal cord damage, including:
 - a. Axial spine loading.
 - b. Age \geq 65.
 - c. Meets Coastal Valleys' trauma triage criteria per *treatment guideline 7803 Trauma Triage*.
 - d. Numbness or tingling in extremities.
2. SMR is indicated if the high risk trauma patient (above) meets any of the following:
 - a. Unreliable patient:
 - 1) Uncooperative.
 - 2) Altered Mental Status/abnormal GCS from baseline.
 - 3) Inability to communicate because of alcohol, drugs, language barrier, etc.
 - 4) Distracting injuries.
 - b. Spinal pain, tenderness, or deformity with palpation:
 - c. Abnormal motor/sensory exam:
 - 1) Inability to perform wrist/hand extension bilaterally.
 - 2) Inability to perform foot plantarflexion or dorsiflexion bilaterally.
 - 3) Abnormal sensation.
 - 4) Pain/weakness/paresthesia with self-initiated movement.
 - d. No form of SMR required for:
 - 1) Patients that do not meet the above criteria.
 - 2) Penetrating trauma patients without spinal pain or neuro deficits do not need SMR.
 - 3) If patient meets SMR criteria, apply appropriate level of SMR.

IV. Advance Life Support: None.

V. Special Considerations

- A. Multiple studies have shown that mechanism of injury is generally a poor indicator of injury and many patients are immobilized inappropriately.
- B. Unstable spinal fractures are very rare, less than 1%.
- C. Traditional full spinal immobilization, the current standard for almost all patients, may cause airway compromise, skin breakdown, and pain in virtually everyone, which often leads to unnecessary diagnostic procedures.
- D. Most significant spinal injuries will present with spine pain, vertebral tenderness to palpation, and sometimes with neurologic symptoms and/or deficits. Alert and oriented patients with true spinal injuries will self-splint. These injuries are best recognized with a careful history and physical exam.

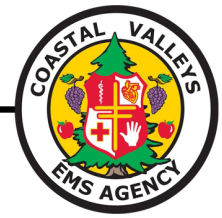
- E. SMR should reduce, not increase, patient discomfort. SMR/immobilization that increases patient movement and/or pain should be avoided.
- F. SMR should be accomplished using the most appropriate method/tool for each specific circumstance. This may include vacuum splints, stiff or soft cervical collars, KED, padded long boards, straps, head stabilization devices, and soft materials such as pillows and pull sheets.
- G. No patient should be placed in SMR without being assessed using the Coastal Valleys' spinal injury assessment.
- H. If there is any doubt about the presence of a spinal injury, apply SMR and defer further evaluation to the Emergency Department.

VI. Base Orders: None.

VII. Contraindications: None.

VIII. Documentation on the EMS patient care report (PCR) shall include:

- A. Inclusion/exclusion criteria.
- B. Method and equipment used to apply SMR.
- C. Neurologic status before and after SMR applied.
- D. Neurologic status before and after movement.



Hemostatic Agents

Policy Number: 7910
Effective Date: January 1, 2020
Review Date: May 19, 2020

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Principles

- A. Purpose: To provide guidelines on the use of hemostatic agents in the presence of severe arterial bleeding or to control severe hemorrhage where tourniquets are not indicated (junctional injuries: neck, axilla, groin). Use of hemostatic agents is an approved optional skill.
- B. Education: The only hemostatic agents approved by California's Emergency Medical Services Authority for pre-hospital use include:
 - 1. Quick Clot®, Z-Medical®:
 - a. Quick Clot®, Combat Gauze® LE.
 - b. Quick Clot®, EMS rolled gauze, 4x4 dressing, TraumaPad®.
 - 2. Celox®:
 - a. Celox® Gauze, Z-Fold hemostatic gauze.
 - b. Celox® Rapid, Hemostatic fold gauze.
 - 3. Hemostatic Celox granules delivered in an applicator is not authorized.

II. Scope EMT-B, Paramedic

III. Basic Life Support:

- A. If bleeding persists after approximately 3 minutes of direct pressure, remove pressure dressing and apply hemostatic gauze directly to bleeding source.
- B. Place absorbent pad of pressure dressing over gauze and wound.
- C. Replace pressure dressing/tourniquet per *treatment guideline 7806 Uncontrolled Hemorrhage/Tourniquets*. If no tourniquet is available, maintain direct pressure with hand over gauze or wrap with available bandage.

IV. Advance Life Support: None.

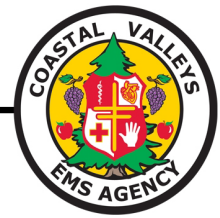
V. Special Considerations: None.

VI. Base Orders: None.

VII. Contraindications: None.

VIII. Documentation on the EMS patient care report (PCR) shall include:

- A. Time hemostatic agent applied.



Endotracheal Intubation

Policy Number: 7911
Effective Date: January 1, 2020
Review Date: May 19, 2020

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Principles

- A. Purpose: To provide guidelines on the indications and procedure of endotracheal intubation.
- B. Indications:
 - 1. Inability to adequately ventilate a patient with a Bag Valve Mask (BVM) and basic airway adjunct
 - 2. An unconscious patient without a gag reflex who is apneic or is demonstrating inadequate respiratory effort.

II. Scope Paramedic

III. Basic Life Support: None

IV. Advance Life Support:

- A. Check equipment and position the patient.
 - 1. If trauma, have assistant hold in-line spinal immobilization in neutral position.
 - 2. If no trauma, place in sniffing position (best obtained with face parallel to the ceiling, and the auditory canals in the same plane as the sternal notch).
- B. Hyper-oxygenate with 100% O₂ with BVM for 1-3 minutes. Avoid hyperventilation and suction airway if needed.
- C. Select the proper ETT and insert stylet (straight with 30 degree angle at the balloon – the “hockey stick” configuration).
- D. ETTI (bougie) is an appropriate, optional method.
- E. Perform laryngoscopy.
 - 1. Place laryngoscope in mouth and carefully follow the tongue until the epiglottis is visualized at the base of the tongue. With visualization of the epiglottis, the success is highly likely. To improve laryngeal view, use the right hand to manipulate the thyroid cartilage and then have an assistant maintain that position as you proceed.
 - 2. Place the ETT. Confirm tracheal location and appropriate depth and secure tube. Typically observe the balloon pass 2-3cm beyond the cords and the tube is generally positioned at 22cm at the teeth.
 - 3. Confirm and document tracheal location by:
 - a. ETCO₂, preferably with waveform capnography
 - b. Presence and symmetry of breath sounds
 - c. Increasing O₂ saturation.
 - d. Other means as needed
- F. Ventilate with BVM. Assess adequacy of ventilations.
- G. During transport continually reassess ventilation, oxygenation and tube position with continuous waveform capnography and O₂ sat.

V. Special Considerations:

- A. Ventilate at age appropriate rates. Do not hyperventilate. Aim for O₂ sat of 88-92% in COPD patients, 94-98% in all others.
- B. Post ROSC patients should be ventilated at 8-10 breaths per minute with low tidal volumes.
- C. If the intubated patient deteriorates, think “DOPE”.
 - 1. Dislodgement.
 - 2. Obstruction.
 - 3. Pneumothorax.
 - 4. Equipment failure (no oxygen).

- D. Reconfirm and document correct tube position, preferably with waveform capnography, after moving the patient and before disconnecting from monitor in the ED.
- E. Unsuccessful intubation does not equal failed airway management. Many patients cannot be intubated. Many patients cannot be intubated without paralytics. Abandon further attempts at intubation and use a supraglottic airway or BVM ventilations if 2 attempts at intubation are unsuccessful.
- F. Video laryngoscopy is an optional airway device.
- G. Accredited flight paramedics are permitted to perform oral endotracheal intubation on all ages.

VI. Base Orders: None.

VII. Contraindications:

- A. A patient who can be measured with a length based resuscitation tape.

VIII. Documentation on the EMS patient care report (PCR) shall include:

- A. Number of intubation attempts.
- B. Successful or unsuccessful attempts.
- C. Correct tube position.
- D. Reassessment of placement every 2-3 minutes.
- E. EtCO₂ Wave form if available.
- F. SPO₂ before and after placement.



Supraglottic Airway

Policy Number: 7912
Effective Date: January 1, 2020
Review Date: May 19, 2020

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Principles

- A. Purpose: To provide guidelines on the indications and procedure of supraglottic airways.
- B. Indications:
 1. Cardiac Arrest.
 2. Respiratory arrest with no immediately reversible cause.
 3. Obtunded patient with compromised airway.
- C. Criteria:
 1. Accredited EMTs who worked for approved providers, may use an approved SGA as an advanced rescue airway for adult patients in cardiac arrest when BLS maneuvers are unsuccessful.
 2. Paramedics for patients weighing 2 kg or more.
- D. Equipment: Appropriately sized SGA – i-Gel is the SGA device that is authorized for use by CVEMSA. Other SGAs may be approved in the future if appropriate.
 1. Water based lubricant.
 2. Suction device.
 3. Strap or tape for securing SGA.
 4. Bag valve mask (BVM).
 5. Stethoscope.
 6. Pulse oximetry device.
 7. End tidal capnography device.
 8. Tongue blade.
- E. Educational requirements/Quality assurance:
 1. Educational Requirements:
 - a. Successful completion of a SGA skills training approved by CVEMSA.
 - b. Successfully complete a semi-annual skills competency as defined by CVEMSA.
 2. Quality Assurance:
 - a. 100% audit of all SGA attempts will be reviewed by the ALS Provider's Clinical Coordinator.
 - b. A report will be provided by the ALS Provider's Clinical Coordinator to the CVEMSA QI Committee.
 3. Quality Assurance Metrics:
 - a. Rescue Device Needed: YES/NO/NOT DOCUMENTED (Rescue Device is defined as a device used after the failure of the initial device attempted for secondary management, after bag-mask ventilation).



	Patient Size	Size	Weight
	Neonate	1	2-5kg
	Infant	1.5	5-12kg
	Small paediatric	2	10-25kg
	Large paediatric	2.5	25-35kg
	Small adult	3	30-60kg
	Medium adult	4	50-90kg
	Large adult	5	90+kg

- b. Successful Placement: YES/NO/NOT DOCUMENTED (Successful Placement is defined as the ability to ventilate the patient with minimal or no air leak, confirmed with all of the following: visible chest rise during ventilation, air movement with auscultation, and ET/CO₂ measurement with capnography).
- c. Number of Attempts: DOCUMENTED/NOT DOCUMENTED (Attempt is defined as insertion of the SGA device into the mouth).
- d. Time to Insertion: IN SECONDS/NOT DOCUMENTED (Time to Insertion is defined as the time from insertion of the SGA into the mouth for the first attempt until the time of the first successful ventilation with minimal or no air leak).
- e. Complications:
 - 1) Regurgitation/Emesis: YES/NO/NOT DOCUMENTED (Regurgitation is defined as the presence of gastric contents noted in the oropharynx or on the device during or after placement).
 - 2) Bleeding/Trauma: YES/NO/NOT DOCUMENTED (Bleeding/Trauma is defined as the presence of blood noted in the oropharynx or on the device during or after placement, or any abrasion/laceration/dental trauma or other trauma occurring during the placement or repositioning of the device. This excludes bleeding or trauma present prior to attempting device placement).
 - 3) Hypoxia: YES/NO/NOT DOCUMENTED (Hypoxia is defined as any O₂ saturation <90% during or after placement in a patient that was not hypoxic prior to placement).
 - 4) Dislodgement: YES/NO/NOT DOCUMENTED (Dislodgement is defined as loss of the ability to adequately ventilate the patient after successful placement was achieved).
 - a) If Dislodgement after placement, successful replacement: YES/NO/NOT DOCUMENTED/NOT APPLICABLE (Successful replacement is defined as the ability to ventilate the patient with minimal or no air leak, after dislodgment and replacement of the same device, confirmed with all of the following: visible chest rise during ventilation, air movement on auscultation and ET/CO₂ measurement with capnography).

II. Scope EMT-B, Paramedic

III. Basic Life Support:

- A. Assure a patent airway, oxygenation and ventilation.
- B. Assure that a cardiac monitor and pulse oximetry is applied.
- C. Pre-oxygenate with 100% oxygen for 2-3 minutes, targeting >94% O₂ sat.
- D. Apply a chin lift and introduce tongue blade into the mouth.
- E. Insert the SGA into the mouth.
- F. Advance the tip over the base of the tongue.
- G. Advance the tube without using excessive force until definitive resistance is felt. The position guide should be aligned with the teeth or gums.
- H. Attach the BVM and ventilate at the appropriate rate.

IV. Advance Life Support:

- A. Connect the EtCO₂ device.

V. Special Considerations:

- A. Ventilate at age appropriate rates. Do not hyperventilate. Aim for O₂ sat of 88-92% in COPD patients, 94-98% in all others.
- B. Post ROSC patients should be ventilated at 8-10 breaths per minute with low tidal volumes.
- C. If the intubated patient deteriorates, think "DOPE".
 - 1. Dislodgement.
 - 2. Obstruction.
 - 3. Pneumothorax.
 - 4. Equipment failure (no oxygen).

D. Reconfirm and document correct tube position, preferably with waveform capnography, after moving the patient and before disconnecting from monitor in the ED.

VI. Base Orders: None.

VII. Contraindications:

- A. Intact gag reflex.
- B. Severe airway trauma.
- C. Severe airway edema.
- D. Airway obstruction.
- F. Caustic ingestion.
- G. Trismus.

VIII. Documentation on the EMS patient care report (PCR) shall include:

- A. Number of intubation attempts if attempted prior to supraglottic airway attempts.
- B. Successful or unsuccessful supraglottic airway attempts.
- C. Complications.
- D. Correct tube position.
- E. Reassessment of placement every 2-3 minutes.
- F. EtCO₂ Wave form if applicable to scope.
- G. SPO₂ before and after placement.



Needle Thoracostomy

Policy Number: 7913
Effective Date: January 1, 2020
Review Date: May 19, 2020

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Principles

- A. Purpose: To provide guidelines on the indications and procedure of needle thoracostomy placement.
- B. Indications:
 - 1. Trauma patients with obvious chest trauma (i.e. open chest wounds, evidence of crush or flail segment), or a mechanism consistent with chest trauma who demonstrates:
 - a. Decreased or absent breath sounds on the affected side, AND
 - b. SBP < 90mmHg in adults, <70mmHg in children and infants AND
 - c. One or more of the following:
 - 1) Altered mental status
 - 2) Severe respiratory distress with a respiratory rate > 30 or < 10 breaths per minute
 - 3) Severe hypoxemia with O₂ sat < 90%
 - 4) Cool, pale, moist skin
 - 2. Traumatic full arrest with PEA rhythm. Bilateral needle thoracostomy should be performed if evidence of chest wall trauma.
 - 3. Trauma patients requiring positive pressure ventilation (via BVM or advanced airway) who develop hypoxemia or severe hypotension after the initiation of positive pressure ventilation.
 - 4. PEA cardiac arrest that started after the initiation of positive pressure ventilation.
- C. Equipment:
 - 1. 8cm (3.25 inch) 14g needle over catheter. Children < 5 yrs old use 18g angio-catheter.
 - 2. Large syringe.
 - 3. Alcohol or Chlorhexidine.
 - 4. Tape or commercial securing device.

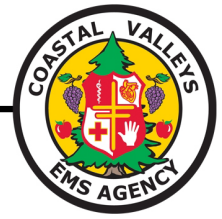
II. Scope Paramedic

III. Basic Life Support: None.

IV. Advance Life Support:

- A. Location:
 - 1. The 2nd intercostal space in the mid-clavicular line, just over the top of the 3rd rib. This is usually found 2 fingers below the clavicle OR
 - 2. The 4th intercostal space in the anterior axillary line, just over the top of the 5th rib.
- B. Procedure:
 - 1. Attach a syringe to the thoracostomy needle. Carefully advance the needle perpendicular to the chest wall while withdrawing on the syringe until air is aspirated, confirming penetration into the pleural space. Advance the needle an additional 1cm before further advancing the catheter and withdrawing the needle.
 - 2. Secure the catheter to the skin with tape or the securing device.
 - 3. Do not place a one-way valve on the catheter hub.

V. Special Considerations:



- A. The procedure of needle thoracostomy in pediatric patients is unchanged from that of adults. It is expected that a shorter distance will need to be traversed to enter the pleural space in children due to the thinner chest wall.
- B. It is rare for COPD/ASTHMA patients to develop a tension pneumothorax outside of the setting of positive pressure ventilation. Base hospital contact is recommended before considering a needle thoracostomy in these patients.

VI. Base Orders: None.

VII. Contraindications: None.

VIII. Documentation on the EMS patient care report (PCR) shall include:

- A. Indications for performing the procedure.
- B. Any improvements post procedure.
- C. Complications.
- D. EtCO₂ Wave form before and after placement if available.
- E. SPO₂ before and after placement.



Pre-Existing Vascular Device

Policy Number: 7914
Effective Date: January 1, 2020
Review Date: May 19, 2020

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Principles

- A. Purpose: To provide vascular access for patients in extremis due to circulatory shock or cardiopulmonary arrest with no other vascular access available.
- B. Indications:
 - 1. Only in the absence of any other observable vascular access, when the patient has:
 - a. Cardiopulmonary arrest.
 - b. Extremis due to circulatory shock.
- C. Policy:
 - 1. Paramedics may access pre-existing vascular access devices under appropriate circumstances. They may encounter various types of catheters. A pre-existing vascular access device is an indwelling catheter/device placed into one of the central veins to provide vascular access for those patients requiring long term intravenous therapy or hemodialysis. The types of catheters used are:
 - a. Indwelling silastic catheter/device exiting externally: (Broviac, Hickman and others); silicone catheter inserted into SCV or the right atrium usually via the cephalic vein; enter the skin through an incision in the right anterior chest; line is kept heparinized and protected by an injectable cap.
 - b. Hemodialysis shunt: a tube that diverts blood flow from an artery to a vein.
 - c. Internal subcutaneous infusion ports/fistulas: any access that is subcutaneous requiring entry through the skin. Not recommended for use in the prehospital setting.

II. Scope Paramedic

III. Basic Life Support: None.

IV. Advance Life Support:

- A. Procedure:
 - 1. Due to the location of the catheter, strict adherence to aseptic technique is crucial when handling a PVAD:
 - a. Use sterile gloves;
 - b. Prep injectable port and surrounding skin with alcohol swab prior to attaching I.V. tubing;
 - c. Use new supplies if equipment becomes contaminated;
 - d. Recover port with sterile dressing and securely tape.
- B. The PVAD provides a direct line into the central circulation; introduction of air into these devices can be hazardous.
- C. Approved Infusions:
 - 1. Intravenous solutions
 - 2. All medications except diazepam (Valium) as it interacts with silicone causing crystallization of the medications and deterioration of the silicone.
 - 3. Follow all medications with 5 ml of saline to avoid clots.

V. Special Considerations:

- A. Do not remove injection cap from catheter.
- B. Do not allow I.V. fluids to run dry.
- C. Always expel air from preload/syringe prior to administration.
- D. Do not inject medications or fluids if resistance is met when establishing patency.

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- E. Should damage occur to the external catheter, clamp immediately between the skin exit site and the damaged area to prevent air embolism or blood loss.
- F. Use padded hemostats.
- G. Do not use a syringe smaller than 10 ml to prevent catheter damage from excess infusion pressure.
- H. Do not manipulate or remove an indwelling catheter under any circumstances.

VI. Base Orders: None.

VII. Contraindications: None.

VIII. Documentation on the EMS patient care report (PCR) shall include:

- A. Indications for performing the procedure.
- B. Identify any infusions or medication administration through the PVAD.
- C. Complications.



Field Blood Collection

Policy Number: 7915
Effective Date: January 1, 2020
Review Date: May 19, 2020

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Principles

- A. Purpose: To establish guidelines for blood collections for non-medical purposes at the request of law enforcement personnel.
- B. Policy: Paramedics are empowered by law to obtain blood samples by request of appropriate law enforcement agency. If the patient is in the care of the paramedic the blood collection must not interfere with medical care. It will be the provider agency's right to determine if their personnel shall participate in this policy.

II. Scope Paramedic

III. Basic Life Support: None.

IV. Advance Life Support:

- A. Procedure:
1. A law enforcement representative must request the blood sample be collected and must be present to witness.
 2. There must be the appropriate collection equipment immediately available.
 3. The paramedic will obtain the collection sample only if the following conditions are met:
 4. The paramedic provider agency has a written agreement with the local law enforcement agency to provide blood collection services;
 5. The paramedic is capable of obtaining the collection sample;
 6. If the individual that the blood sample is being drawn from is a patient, treatment may not be delayed, compromised, or interfered with as a result of the blood collection;
 7. The paramedic ensures appropriate chain of custody of the blood sample.
 8. If the subject is physically combative and requires the need to be physically restrained, the draw will be completed at the paramedics' discretion. Their decision will be based on the safety of the subject, those restraining the subject, and the safety of the paramedic completing the blood draw. This applies to both consensual and forced draws that are being requested with an order from the court.
 9. No more than 3 attempts should be made unless circumstances dictate the need for additional attempts.

V. Special Considerations: None.

VI. Base Orders: None.

VII. Contraindications: None.

VIII. Documentation is Agency specific.



End Tidal CO₂ Monitoring

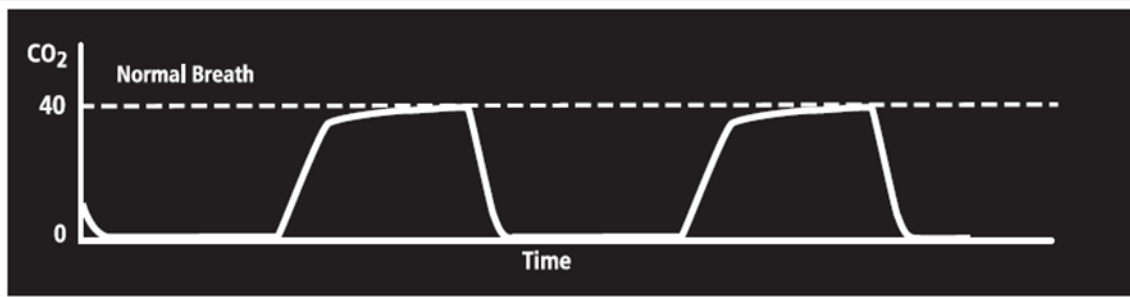
Policy Number: 7916
Effective Date: January 1, 2020
Review Date: May 19, 2020

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

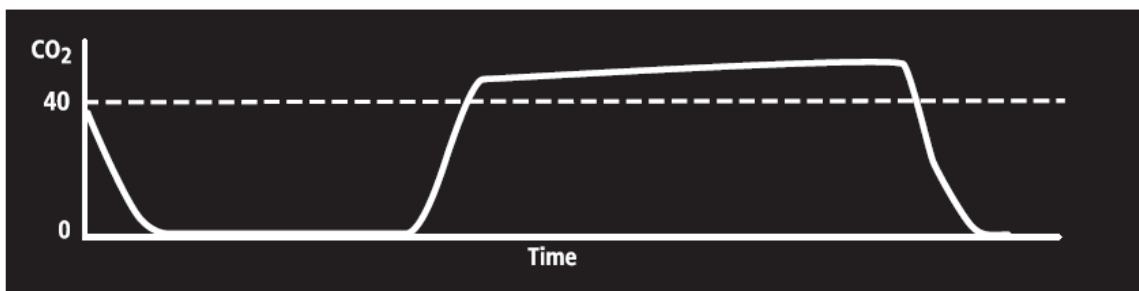
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Principles

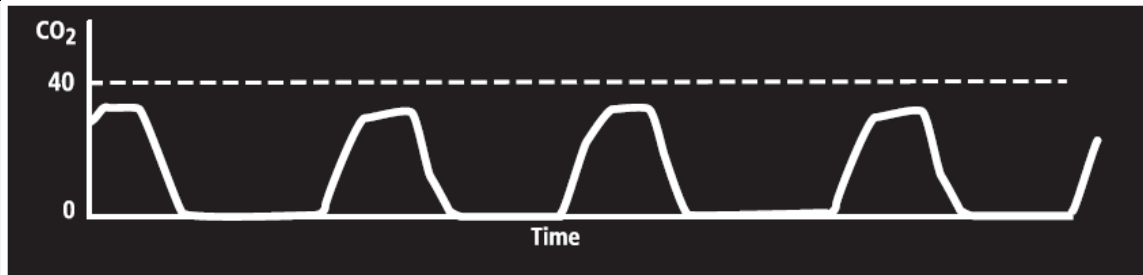
- A. Purpose: To ensure proper use of End-Tidal CO₂ (ETCO₂) monitor and provide optimal care to all intubated patients.
- B. Indications:
 - 1. Confirm correct placement of the endotracheal tube.
 - 2. Measure the adequacy of ventilation and perfusion of patients in cardiac arrest and help identify ROSC.
 - 3. May be used in non-intubated patients with respiratory and cardiac emergency situations to monitor ventilator status.
- C. Training:
 - 1. Practical training will be conducted by an approved Paramedic Field Training Officer (FTO).
 - 2. No paramedic shall use ETCO₂ monitoring prior to training with an approved Paramedic FTO.
- D. Education:
 - 1. Normal ETCO₂ Waveform: Square and boxlike.



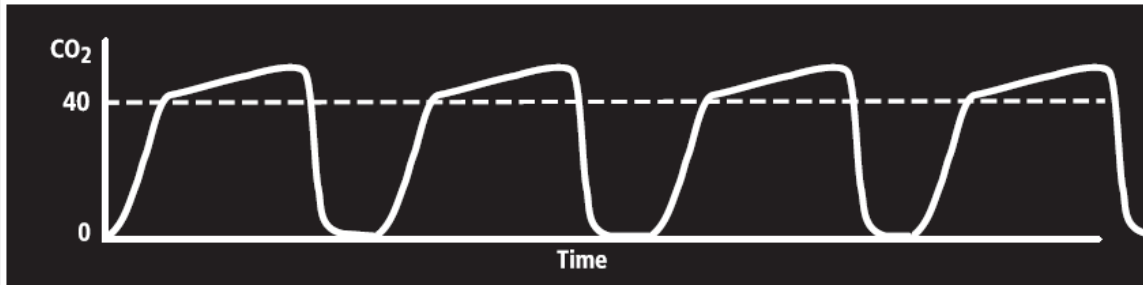
- 2. Hypoventilation: Can be due to sedation/analgesia, drug or alcohol intoxication, postictal states, head trauma, CVA, CHF, meningitis/encephalitis.



- 3. Hyperventilation: Anxiety, panic attack, respiratory distress (well compensated).



4. Bronchospasm: Diagnose the presence of bronchospasm, assess the severity of asthma and COPD and gauge the response to treatment.



II. Scope Paramedic

III. Basic Life Support: None.

IV. Advance Life Support:

A. Procedure:

1. ETCO₂ monitoring in intubated patients:
 - a. A self-test may take up to one minute to assure the display is on the screen.
 - b. Connect the 15mm airway adapter of the sampling sensor to the ET tube adapter. The airway adapter will allow connection of a standard ventilation device.
 - c. Normal exhalation moisture will not affect the sampling.
 - 1) If bronchial secretions or vomitus surrounds the sampling device due to suctioning, erroneous readings will occur.
 - 2) It is suggested that while performing these functions the sensor should be temporarily removed, otherwise the sensor may need to be replaced.
 - d. The CO₂ module will not recognize a breath when the ETCO₂ value is less than 8mm Hg.
 - 1) The waveform remains valid and can be used to determine the ETCO₂ measurement and the presence, if any, of respirations.
 - e. When CO₂ is not detected, three factors must be quickly evaluated for possible causes:
 - 1) Loss of airway function
 - a) Improper tube placement.
 - b) Apnea.
 - 2) Loss of circulatory function:
 - a) Massive P.E,
 - b) Cardiac arrest
 - c) Exsanguination
 - 3) Equipment malfunction:
 - a) ET tube extubation.
 - b) ET tube obstruction.
2. Assure the waveform is visible on the screen. The ETCO₂ monitoring area will display a reading from 0-100mmHg.
3. ETCO₂ monitoring in non-intubated patients:
 - a. Normal exhalation moisture will not affect the sampling.

- b. The CO₂ module will not recognize a breath when the ETCO₂ value is less than 8 mmHg. However, the waveform remains valid and can be used to determine the ETCO₂ measurement and the presence, if any, of respiration.
- 4. When CO₂ is not detected, possible causes such as equipment malfunction, loss of airway function, total airway obstruction, or device malfunction may have occurred and must be quickly corrected. See the causes listed under the intubated patient section.
- 5. Assure the waveform is visible on the screen. The ETCO₂ monitoring area will display in 0-100 mmHg.
- 6. Oxygen can be given either by non-rebreather or a nasal circuit. Oxygen is delivered from holes proximal to the nasal/oral opening, thus O₂ will be entrained, whether the patient is a mouth breather or not.
- 7. Look for changes in the shape and character of the waveform as well as the ETCO₂ level.
- 8. Use the neonatal adapter for infants at or <5kg. Use the adult adapter for all others.

V. Special Considerations: None.

VI. Base Orders: None.

VII. Contraindications: None.

VIII. Documentation on the EMS patient care report (PCR) shall include:

A. Initial End Tidal CO₂.

B. Before and after End Tidal CO₂ following airway interventions.



Ventricular Assist Device (VAD)

Policy Number: 7917
Effective Date: January 1, 2020
Review Date: August 25, 2020

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Principles:

- A. Purpose: To ensure proper understanding when treating patients with ventricular assist devices (VAD).
- B. Education:
1. A Ventricular Assist Device (VAD) is an implanted device that is used to partially or completely replace the function of a failing heart. VADs are used as a bridge to transplant or as a destination therapy for those who are not transplant candidates.
 2. All VAD patients have a VAD team member who is available 24 hours a day. The VAD team member's contact number is listed on a sticker on the patient's controller (system).
 3. The patient's assessment, treatment and presentation will depend on the type of VAD. Pulse and blood pressure may or may not be palpable. If a pulse is palpable, it may not correspond with the heart rate on the monitor. The patient's underlying rhythm only requires treatment if the patient is symptomatic. Some VADs have back up hand pumps for use if the machine stops working. The VAD team member will give direction on managing the VAD machine.
 4. The patient and the patient's family members receive training in their specific VAD and are good resources to prehospital personnel and can be utilized in the care of the VAD patient.
 5. VAD patients are on anticoagulants and prone to bleeding.
 6. All VAD patients can be defibrillated and cardioverted, if indicated.
 7. Chest compressions may dislodge the internal VAD tubes from the heart, causing the patient to bleed into the thoracic and/or abdominal cavities.

II. Scope EMT-B, Paramedic

III. Basic Life Support:

A. Procedure:

1. When responding to a patient with a VAD, call the appropriate VAD team member as directed on the sticker on the patient's VAD controller.
2. If blood pressure and pulse are not palpable, utilize other methods of assessment on VAD patients including, but not limited to, skin signs, level of consciousness, oxygen saturation and general appearance.
3. VAD patients should be treated by the appropriate treatment guideline or protocol based on the patient's assessment and findings.
4. Attempt to locate a DNR/POLST form. Many VAD patients have made end-of-life care decisions.
5. DO NOT perform chest compressions on VAD patients, even if unconscious and cardiopulmonary arrest is suspected. Contact the VAD team member for further information.
6. Establish base contact if necessary.
7. Allow the family member to ride with the patient if treatment and space permit.

IV. Advance Life Support: None.

V. Special Considerations: None.

VI. Base Orders: None.

VII. Contraindications: None.

VIII. Documentation on the EMS patient care report (PCR) shall include:

- A. Chief Complaint.
- B. Primary Impression.
- C. Reference any treatment/procedures guidelines used.



Intraosseous (IO) Vascular Access

Policy Number: 7918
Effective Date: July 1, 2023
Review Date: July 1, 2025

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Principles

- A. Purpose: To provide guidelines on the indications and procedure to obtain Intraosseous (IO) Vascular Access to treat critically ill patients when a peripheral IV cannot be established.
- B. Indications:
 - 1. Intravenous fluids or medications are urgently needed and a peripheral IV cannot be established in two (2) attempts or within 90 seconds and the patient exhibits one or more of the following:
 - a. GCS of 8 or less.
 - b. Imminent respiratory failure.
 - c. Hemodynamic instability (SBP < 90 mmHg).
 - 2. Cardiopulmonary or traumatic arrest in which it may be obvious that attempts at placing an IV would likely be unsuccessful and/or too time consuming, resulting in a delay of life saving fluids or medications.
- C. Equipment:
 - 1. Approved Intraosseous infusion need/device (EZ-IO or bone injection gun).
 - 3. Alcohol or Chlorhexidine.
 - 4. 10 ml Normal Saline syringe.
 - 5. Standard extension set.
 - 6. 2% Lidocaine per *treatment guideline 7305 Pain Management*.

II. Scope Paramedic

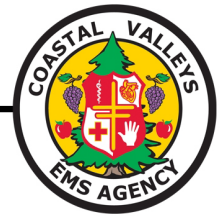
III. Basic Life Support: None.

IV. Advance Life Support:

- A. Location:
 - 1. Proximal tibia.
 - 2. Distal tibia.
 - 3. Proximal Humeral
- B. Procedure:
 - 1. Clean the site appropriately.
 - 2. Stabilize the selected extremity/site.
 - 3. Insert needle from a 90-degree angle.
 - 4. When needle is in the position, remove stylet.
 - 5. Connect extension tubing primed with normal saline.
 - 6. Confirm proper placement by rapid IV Push of NS through the IO with a 10 cc prefilled syringe.
 - 7. Consider pain management per *treatment guideline 7305 pain management* for awake patients prior to other medication administration.
 - 9. Dress site and secure device.
 - 10. Apply appropriate identification such as a wristband.

V. Special Considerations: None.

VI. Base Orders: None.



VII. Contraindications:

- A. Fracture of the bones selected for IO placement (consider an alternate site).
- B. Excessive tissue at the insertion site with the absence of anatomical landmarks.
- C. Previous significant orthopedic procedure within the last 24 hours
- D. Signs on infection at the site.

VIII. Documentation on the EMS patient care report (PCR) shall include:

- A. Indications for performing the procedure.
- B. Any improvements post procedure.
- C. Complications.

COASTAL VALLEYS EMS AGENCY



External Pacing

Policy Number: 7919 Effective Date: July 1, 2023 Review Date: July 1, 2025		Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221		
I. Principles		
A. Purpose: To provide guidelines on the indications and procedure to provide external cardiac pacing. B. Indications: 1. Unstable patient with bradycardia, signs of decrease perfusion and no response to NS Bolus or Atropine administration per <i>treatment guideline 7102 Dysrhythmias</i> . C. Equipment: 1. Cardiac monitor with pacing capabilities. 2. Compatible adhesive pads and appropriately sized for the patient.		
II. Scope	Paramedic	
III. Basic Life Support:	None.	
IV. Advance Life Support:		
A. Location: 1. Chest wall in anterior/posterior position, or, 2. Chest wall in sternal apex position. B. Procedure: 1. Monitor EtCO₂ 2. Confirm Rhythm using cardiac monitor. 3. Place pads appropriately according to manufacturer recommendations. 4. Confirm monitor is placed in pacing mode. 5. Confirm pacing spikes on ECG 6. Slowly adjust output control until capture is seen. 7. Confirm electrical and mechanical capture. 8. Consider sedation per <i>treatment guideline 7002 Sedation if patient is awake and aware</i> .		
Adult		Pediatric (less than 15 years of age)
A. Rate: 1. Start at a rate of 80 BPM. 2. Start at 65 milliamps.		A. Rate: 1. Start at a rate of 100 BPM. 2. Start at 5 milliamps.
V. Special Considerations: None.		
VI. Base Orders: None.		
VII. Contraindications: None.		
VIII. Documentation on the EMS patient care report (PCR) shall include:		
A. Indications for performing the procedure. B. Any improvements post procedure. C. Complications.		

Commented [CS1]: Public Comment Added

Commented [CS2]: Public comment added

Commented [CS3]: Public comment added – consistent with CV & Sedation protocol



Synchronized Cardioversion

Policy Number: 7920
Effective Date: July 1, 2023
Review Date: July 1, 2025

Approved: Bryan Cleaver, EMS Administrator
Mark Luoto, EMS Medical Director

Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

I. Principles

- A. Purpose: To provide guidelines on the indications and procedure to provide synchronized Cardioversion.
- B. Indications:
 - 1. Unstable patient with a wide or narrow complex tachycardia, Dyspnea, and an SBP < 90mmHG per *treatment guideline 7102 Dysrhythmias*.
- C. Equipment:
 - 1. Cardiac monitor with pacing capabilities.
 - 2. Compatible adhesive pads and appropriately sized for the patient.

II. Scope Paramedic

III. Basic Life Support: None.

IV. Advance Life Support:

- A. Location:
 - 1. Chest wall in anterior/posterior position, or,
 - 2. Chest wall in sternal apex position.
- B. Procedure:
 - 1. Confirm Rhythm using cardiac monitor.
 - 2. Place pads appropriately according to manufacturer recommendations.
 - 3. Confirm monitor is placed in cardioversion mode.
 - 4. Consider sedation per *treatment guideline 7002 Sedation if patient is awake and aware*.

Adult

- A. Escalating synchronized cardioversion starting at 100J to a max of 300J (360J Monophasic).

Pediatric (less than 15 years of age)

- B. If patient is unresponsive
 - 1. Escalating synchronized cardioversion:
 - a. Start at 0.5 to 1 Joules/kg.
 - b. If no change, repeat cardioversion 2 Joules/kg.

V. Special Considerations: None.

VI. Base Orders: None.

VII. Contraindications: None.

VIII. Documentation on the EMS patient care report (PCR) shall include:

- A. Indications for performing the procedure.
- B. Any improvements post procedure.
- C. Complications.



PHYSICIAN AND/OR R.N. AT THE SCENE

POLICY NO: **8001**

PAGE 1 OF 2

EFFECTIVE DATE: 07-01-06

REVISED DATE: 07-01-06

APPROVED: Bryan Cleaver
EMS Administrator

Dr. Mark Luoto
EMS Medical Director

AUTHORITY: California Health and Safety Code, Division 2.5 EMS, California Code of Regulations, Title 22, Division 9; California Code of Regulations, Title 13

POLICY

- a. This policy outlines the steps to be followed when, at the scene of injury or illness, a bystander identifies himself or herself as a physician or a registered nurse (R.N.).

PROCEDURE FOR PHYSICIAN AT THE SCENE

- a. When a bystander at an emergency scene identifies himself/herself as a physician, the EMT-P will give the individual a "Note to Physician on Involvement with EMT-Ps (Paramedic)." (See the example on the Page 2).
- b. Thank the physician for his/her offer of assistance and remain courteous at all times.
- c. If the physician on the scene desires option 1:
 1. The Base Hospital will retain medical control if Base contact was established.
 2. The EMT-Ps will utilize the physician as an "assistant" in patient care activities.
- d. If the physician on the scene desires option 2 or 3, the EMT-Ps will:
 1. Ask to see the physician's medical license, unless they know the physician.
 2. Immediately contact the Base and speak to the Base Hospital Physician.
- e. The EMT-Ps should instruct the physician on scene in radio/phone operation and have that physician speak directly with the Base Hospital Physician. The Base Hospital Physician may:
 1. Request that the physician on scene function in an observer capacity only. (Option 1)
 2. Retain medical control but consider suggestions offered by the physician on the scene. (Option 2)
 3. Delegate medical control to the physician on the scene. (Option 3)
- f. EMT-Ps will make ALS equipment and supplies available to the physician and offer assistance.
- g. Ensure that the physician accompanies the patient to the Receiving Hospital in the ambulance.
- h. Ensure that the physician signs for all instructions and medical care given on the EMS Response report.
- i. Keep the Base Hospital advised.
- j. Complete an ALS service provider incident report and forward a copy to the EMS agency within seventy-two (72) hours.

PROCEDURE FOR R.N. AT THE SCENE

- a. Identification
 1. Recognition by paramedic; -OR-
 2. Valid California R.N. license;

PHYSICIAN AND/OR R.N. AT THE SCENE

POLICY NO: **8001**

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Last Revised: 07-01-06

b. An R.N. may perform BLS procedures at the discretion of the paramedics.

STATE OF CALIFORNIA CMA -California Medical Association

NOTE TO PHYSICIAN ON INVOLVEMENT WITH EMT-Ps (PARAMEDIC)

A life support team [AEMT or EMT-P (Paramedic)] operates under standard policies and procedures developed by the local EMS agency and approved by their Medical Director under the Authority of Division 2.5 of the California Health and Safety Code. The drugs they carry and procedures they can do are restricted by law and local policy.

If you want to assist, this can only be done through one of the alternatives listed on the back of this card. CMA, State EMS Authority, CCLHO, and BMQA have endorsed these alternatives.

Assistance rendered in the endorsed fashion, without compensation, is covered by the protection of the "Good Samaritan Code" (see Business and Professions Code, Sections 2144, 2395-2398 and Health and Safety Code, Section 1799.104).

(over)

ENDORSED ALTERNATIVES FOR PHYSICIAN INVOLVEMENT

After identifying yourself by name as a physician licensed in the State of California, and, if requested, showing proof of identity, you may choose to do one of the following:

1. Offer your assistance with another pair of eyes, hands, or suggestions, but let the life support team remain under base hospital control; or,
2. Request to talk to the base station physician and directly offer your medical advise and assistance; or,
3. Take total responsibility for the care given by the life support team and physically accompany the patient until the patient arrives at a hospital and the receiving physician assumes responsibility. In addition, you must sign for all instructions given in accordance with local policy and procedures. (Whenever possible, remain in contact with the base station physician).

(REV. 7/88) 88 49638 Provided by the Emergency Medical Services Authority



TREATMENT/TRANSPORT OF MINORS

POLICY NO: **8002**

PAGE 1 OF 2

EFFECTIVE DATE: 06-01-07

REVISED DATE: 01-01-20

APPROVED: Bryan Cleaver
EMS Administrator

Dr. Mark Luoto
EMS Medical Director

AUTHORITY: California Health and Safety Code, Division 2.5 EMS, California Code of Regulations, Title 22, Division 9.; California Code of Regulations, Title 13; Family Code Section 6922 through 6929 & 7002; Business & Professions Code Section 2397

PURPOSE:

- a. To describe the guidelines for treatment and/or transport of a patient under the age of eighteen.

DEFINITIONS:

- a. Minor: A person less than eighteen years of age who is not emancipated.
- b. Emancipated Minor: A person less than eighteen years of age who:
 1. Is married or previously married
 2. Is on active duty in the military
 3. Is an emancipated minor (decreed by court, identification card by DMV)
- c. Legal Representative: A person who is granted custody or conservatorship of another person by a court of law.
- d. Emergency: Condition or situation in which an individual has a need for immediate medical attention or where the potential for need is perceived by EMS personnel or a public safety agency.

PRINCIPLES:

- a. **Voluntary Consent:** Treatment or transport of a minor child shall be with the verbal or written consent of the parents or legal representative. If the minor is legally able to consent, then treatment or transport shall be with the verbal or written consent of the minor.
- b. **Implied Consent:** In the absence of a parent or legal representative, emergency treatment and/or transport of a minor may be initiated without consent.

PROCEDURE:

- a. Un-emancipated Minors Requiring Transport
 1. In the absence of a parent or legal representative, minors with an emergency condition shall be treated and transported to the health facility most appropriate to the needs of the patients.
 2. Hospital or provider agency personnel shall make every effort to inform a parent or legal representative of where their child has been transported.
 3. If prehospital care personnel believe a parent or other legal representative of a minor is making a decision that appears to be endangering the health and welfare of the minor by refusing indicated immediate care or transport, law enforcement authorities should be involved.
- b. Un-emancipated Minors Not Requiring Transport
 1. A minor child who is evaluated by EMS personnel and determined not to be injured, to

TREATMENT/TRANSPORT OF MINORS

POLICY NO: **8002**

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Last Revised: 01-01-20

-
- have sustained only minor injuries, or to have illnesses or injuries not requiring immediate treatment or transportation, may be released to:
- a) Parent or legal representative (verbal consent via phone is appropriate).
 - b) A responsible adult at the scene
 - c) Designated care giver
 - d) Law enforcement
- c. EMS personnel **shall** document on the Patient Care Report Form to whom the patient was released.



PATIENT REFUSAL OF TREATMENT OR TRANSPORT

POLICY NO: **8003**

PAGE 1 OF 3

EFFECTIVE DATE: 01-01-06

REVISED DATE: 01-01-06

APPROVED: Bryan Cleaver
EMS Administrator

Dr. Mark Luoto
EMS Medical Director

AUTHORITY: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220, 1798, (a)(1); California Welfare and Institution Code, Sections 305, 625, 5150, and 5170; Title 22, California Code of Regulations, Section 100042(a).

PURPOSE

- a. To provide procedures for EMS personnel to follow when patients, parents, or legal representative refuse indicated medical treatment or ambulance transportations.

DEFINITIONS

- a. Adult: For purposes of this policy, a person at least eighteen years of age, or an emancipated minor.
- b. Minor: A person less than eighteen years of age who is not emancipated.
- c. Emancipated Minor: A person less than 18 years of age who:
 - 1. Is married or previously married
 - 2. Is on active duty in the military
 - 3. Is an emancipated minor (decreed by court, identification card by DMV)
- d. Competent: The patient is alert and oriented and has the capacity to understand the circumstances surrounding his/her illness or impairment, and the risks associated with refusing treatment or transport.
- e. Emergency: Condition or situation in which an individual has a need for immediate medical attention or where the potential for need is perceived by EMS personnel or a public safety agency.
- f. "Individual not requiring transport" or "release at scene": An individual who, after a complete assessment by ALS personnel, does not appear to have a medical problem that requires immediate treatment and/or transportation by the medical system.
- g. Refusing care against medical advice (AMA): A competent adult who is determined by EMS or base hospital personnel to have a medical problem which requires the immediate treatment and/or transport capabilities of the EMS system, and who has been advised of his/her condition and the known and unknown risks and/or possible complications of refusing medical care, and who still declines treatment or transport.

PATIENT REFUSAL OF TREATMENT OR TRANSPORT

POLICY NO: **8003**

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Last Revised: 01-01-06

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- h. 5150: Refers to a patient who is held against his/her will for evaluation under the authority of Welfare and Institutions Code, Section 5150, because the patient is a danger to him/herself, a danger to others, and/or gravely disabled, e.g., unable to care for self. This written order may be placed by a law enforcement officer, County mental health worker, or an emergency physician certified by the County to place an individual on a 5150 hold.

PRINCIPLES

- a. A competent adult or a competent emancipated minor has the right to determine the course of his/her own medical care and shall be allowed to make decisions affecting his/her medical care, including the refusal of care.
- b. With the exceptions of minors who have clear legal capacity to refuse emergency treatment or transport (emancipated minors) a patient less than 18 years old must have a parent or legal representative present to refuse evaluation, treatment, or transport.
- c. An adult or emancipated minor may refuse medical evaluation, treatment, and/or ambulance/medical transportation, provided that he/she is competent and has been advised of the risk and consequences, which may result in refusal of evaluation, treatment and/or transportation.
- d. Refusal of evaluation, treatment and/or transportation should not be considered for patients who do not have the capacity to make competent decisions regarding their own care. A patient's competence may be significantly impaired by mental illness, drug or alcohol intoxication, physical or mental impairment. Patients, who have attempted suicide, verbalized suicidal intent or when other factors lead EMS personnel to suspect suicidal intent, should not be regarded as competent.

PROCEDURE

- a. When a competent adult or emancipated minor refuses indicated emergency treatment or transportation, EMS personnel shall:
 - 1. Advise the patient of the risks and consequences which may result from refusal of treatment or transport.
 - 2. If the patient's condition meets ALS treatment criteria, and a BLS unit is alone on scene, an ALS unit should be requested.
 - 3. Have the patient or his/her legal representative, as appropriate, sign the release (AMA) section of the RAS/AMA form. The signature shall be witnessed, preferably by a family member. The patient should be advised to arrange for medical care immediately, if appropriate, or if he/she develops adverse symptoms at a later time. If the patient requests additional medical advice, the base hospital should be involved.
 - 4. If the patient refuses to sign the AMA form, this fact should be documented on the form.
 - 5. If EMS personnel determine that a patient with an emergency condition is not competent to refuse evaluation, treatment or transport, the following alternatives exist:
 - a) Patient should be transported to an appropriate facility under implied consent. In this case, a 5150 hold is not necessary.
 - b) If EMS personnel determine it is necessary to transport the patient against his/her will and the patient resists or the EMS personnel believe the patient will resist, assistance

PATIENT REFUSAL OF TREATMENT OR TRANSPORT

POLICY NO: **8003**

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from law enforcement should be requested in transporting the patient. The police may consider the placement of a 5150 hold on the patient, but this is not required for transport.

- c) If EMS personnel believe a parent or other legal representative of the patient is acting unreasonably in refusing indicated immediate care or transport, law enforcement authorities should be involved.

NOTE: At no time are field personnel to put themselves in danger by attempting to transport or treat a patient who refuses. At all times, good judgment should be used and appropriate assistance obtained.

RELEASE AT SCENE

- a. When ALS personnel have been called to an incident and have determined that an adult or emancipated minor does not require treatment and/or transport, the patient may be released at scene. The patient should be advised to arrange for medical care if he/she develops adverse symptoms at a later time.
- b. A patient released at scene should **NOT** sign an AMA form, as this implies that the patient is at significant risk by not utilizing the EMS system for treatment and/or transportation. ALS personnel shall document any advice given to the patient regarding follow-up treatment.

5150

- a. Patients exhibiting signs of being a danger to themselves or others, or are gravely disabled, cannot be released at scene. EMS personnel should notify the proper authorities to request a 5150 determination and remain with the patient until authorities have made such a determination.

DOCUMENTATION

- a. A PCR and a RAS/AMA form must be completed for each incident of patient refusal of emergency medical evaluation, care and/or transportation. EMS personnel shall ensure that documentation includes a patient history and assessment, details of the exam/evaluation that was performed, a description of the patient that clearly indicates his/her decision-making capacity, why the patient is refusing care, a statement that the patient understands the risks and consequences of refusing medical attention, and any alternatives presented to the patient.



DETERMINATION OF DEATH IN THE PREHOSPITAL SETTING

ADULT & PEDIATRIC

BLS

I. CAUSES FOR DETERMINATION OF DEATH

- A. Any adult patient (15yrs old and >) who remains pulseless, apneic and "No Shock Advised" from AED after completing 20 minutes of CAM per *Treatment Guideline 8016 Cardiac Arrest Management* prior to ALS arrival.
- B. Decapitation
- C. Incineration
- D. Rigor Mortis
- E. Livor Mortis (Lividity)
- F. Decomposition
- G. Pulseless blunt traumatic arrest – **ADULT only**
- H. Total separation of vital organs from body, or total destruction of organs with absence of life signs
- I. Absence of life signs or severely compromised vital signs when there are multiple victims, and resuscitation would hinder care of more viable patients.
- J. Submersion greater than or equal to one hour: physical examination of body with accurate and reliable history of submersion time.
- K. Valid DNR
 - 1) Upon presentation of a valid POLST form, DNR or Durable Power of Attorney for Health Care, (DPAHC must request DNR or similar status).
 - a) Do not initiate CPR.
 - b) Terminate CPR if already in progress.
 - c) If there is any doubt whether to start or withhold CPR, first responders should start CPR and await the arrival of an advanced life support provider.
 - d) Notify appropriate law enforcement agency and/or coroner. A completed PCR must be left at the scene or faxed within 2 hours to the coroner.
 - e) Ensure scene security until released by law enforcement.
 - f) Base Hospital contact is not necessary.
 - g) Resuscitation may be withheld at family request if there is unanimous agreement between all family members on scene. In such a case the EMT or Paramedic may choose to consult with the Base Hospital MD, however the consultation is optional. If there is any doubt or dissension among family or rescuers as to the appropriateness of the decision to withhold resuscitation, resuscitative efforts should continue as per protocol(s).

Consideration: Strong family insistence on resuscitation may lead to base contact in cases where it otherwise would not be indicated.



ALS

I. TERMINATION OF RESUSCITATION - **ADULT**

- A. Any patient who remains pulseless, apneic, and asystolic after completing appropriate ACLS intervention per protocol for a minimum of 20 minutes.
- B. Patients who remain pulseless and apneic with PEA, may have the resuscitation terminated after 20 minutes if an ETCO₂ level is less than 10.
- C. Ongoing V-Fib should be worked via CAM for at least 30 minutes.
- D. Penetrating traumatic arrest with asystole.
- E. Adult penetrating traumatic cardiac arrest with documented electrical cardiac activity with a transport time to the nearest emergency department or trauma center that exceeds 20 minutes or the patient remains in cardiac arrest after 20 minutes of on scene cardiorespiratory resuscitation.

II. TERMINATION OF RESUSCITATION DURING TRANSPORT- **ADULT**

- A. If the patient is already en route to the hospital, such a decision results in the immediate termination of Code 3 transport.
- B. Transport shall continue to the closest receiving facility.
- C. All disposable ALS devices shall remain in place.

III. PEDIATRIC CONSIDERATIONS

- A. Pediatric traumatic cardiac arrests are to be transported after appropriate on scene care.
- B. Nontraumatic pediatric cardiac arrest patients are to be transported to the nearest emergency department as soon as practical. Refer to *Treatment Guideline 7011 Unexpected Infant/Child Death* to determine whether to perform resuscitation measures.

BASE HOSPITAL ORDERS ONLY

- I. Patients who remain pulseless and apneic with PEA, and an ETCO₂ greater than 10, Base Hospital contact is necessary before the termination of resuscitation.
- II. Patients who remain pulseless and apneic with ventricular fibrillation or ventricular tachycardia and have received a minimum of 20 minutes of continuous resuscitation, cannot have further efforts terminated without Base Hospital contact.

ADDITIONAL INFORMATION

I. PROCEDURE FOR AN ARREST IN A PUBLIC FORUM

- A. Victims of an arrest in a public forum should have resuscitation begun immediately, and shall be moved to a private working space or placed in the ambulance when appropriate, out of the public view.
- B. Exceptions include:
 - 1) Suspected crime scene
 - 2) Decapitation
 - 3) Incineration
- C. Should determination of death be made during transport, an immediate termination of Code 3 transport shall occur. The patient will then be transported to the appropriate facility, either a hospital, or an authorized on-site medical facility. All other determination of death procedures shall apply.



II. DEFINITIONS

- A. Absence of life signs is determined by the physical examination of the patient. Palpating the carotid pulse for a minimum of 60 seconds. Assessing the absence or respirations for a minimum of 60 seconds.
- B. Asystole is determined by the use of a cardiac monitor, attaching the leads, and documenting asystole in 2 leads for a minimum of 60 seconds.
- C. Rigor Mortis – the stiffness seen in corpses. Rigor mortis begins with the muscles of mastication and progresses from the head down, affecting the legs last. It generally manifests within 1-6 hours.
- D. Livor Mortis (Lividity) – cutaneous dark spots on dependent portions of a corpse. Generally manifests within 30 minutes to 2 hours.
- E. DNR – Do Not Resuscitate.
- F. POLST – Physician Order for Life Sustaining Treatment (copies of the original are acceptable).



PATIENT DESTINATION/POINT OF ENTRY

POLICY NO: **8005**

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EFFECTIVE DATE: 04-02-18

REVISED DATE: 04-02-18

APPROVED: Bryan Cleaver
EMS Administrator

Dr. Mark Luoto
EMS Medical Director

AUTHORITY: California Health and Safety Code, Division 2.5 EMS

PURPOSE

- a. Patients shall be transported to the nearest California licensed emergency receiving facility which is equipped, staffed, and prepared to receive emergency cases and administer emergency medical care appropriate to the needs of the patient as set forth herein. (Note: this does not preclude the transport of a patient to other facilities during the course of non-emergency inter-facility transfers or scheduled non-emergency transports at the request or direction of the patient's private physician.)

DESTINATION DETERMINATION – GENERAL CONSIDERATIONS

- a. The criteria listed below are the primary factors for determining the appropriate destination for patients. When the patient's condition is unstable or life threatening, the patient should be transported to the closest appropriate hospital.
- b. The following factors may also be considered in determining patient destination:
 1. Patient request
 2. Family request
 3. Patient's physician request or preference

DEFINITION OF AN EMS RECEIVING HOSPITAL

- a. A Receiving Hospital is a hospital designated by the EMS Agency and must be licensed by the State Department of Health Services as a general acute care hospital and have a special permit for Standby/Basic or Comprehensive Emergency Medical Services. A Receiving Hospital must have a physician on duty, be equipped at all times to provide prompt care for any patient presenting with urgent medical problems.

PATIENT DESTINATION/POINT OF ENTRY

POLICY NO: **8005**
Last Revised: 04-02-18

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b. **Approved Base and Receiving Facilities:**

<u>Facility Name</u>	<u>Status</u>	<u>Location</u>
Sonoma County		
Healdsburg District Hospital	Standby	Healdsburg
Kaiser Permanente Santa Rosa Medical Center	Basic	Santa Rosa
Sonoma West Medical Center	Standby	Sebastopol
Petaluma Valley Hospital	Basic	Petaluma
Santa Rosa Memorial Hospital	Basic (Base)	Santa Rosa
Sonoma Valley Hospital	Basic	Sonoma
Sutter Santa Rosa Regional Hospital	Basic	Santa Rosa
Mendocino County		
Adventist Health Howard Memorial	Standby (Base)	Willits
Mendocino Coast District Hospital	Basic (Base)	Ft. Bragg
Adventist Health Ukiah Valley	Basic (Base)	Ukiah
Redwood Coast Medical Services	Clinic (Alt Receiving Facility)	Gualala

DESTINATION FOR MAJOR TRAUMA PATIENTS

- a. Major trauma patients (i.e. those patients meeting trauma triage criteria) shall be transported as follows:
1. Within 60 minutes air transport time from a trauma center – patient shall be transported to the closest **APPROPRIATE** trauma center.
 2. Greater than 60 minutes air transport time from a trauma center – contact base hospital for destination
- b. Notwithstanding the above, patients with the following conditions shall be transported to the closest emergency department (including a standby ED):
1. Pulseless, apneic following trauma
 2. Unstable or unmanageable airway
 3. Rapidly deteriorating vital signs
 4. Base station physician order
- c. **Approved Trauma Centers:**
- Santa Rosa Memorial Hospital (Level II Trauma Center)
 - Queen of the Valley Medical Center (Level III Trauma Center)
 - Adventist Health Ukiah Valley (Level IV Trauma Center)
 - Adventist Health Howard Memorial (Level IV Trauma Center)
 - Marin General Hospital (Level III Trauma Center)

PATIENT DESTINATION/POINT OF ENTRY

POLICY NO: **8005**
Last Revised: 04-02-18

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DESTINATION FOR PEDIATRIC TRAUMA PATIENTS

- a. Pediatric patients (less than 15 years of age) with major trauma may be transported by EMS helicopter to an approved pediatric trauma center with the following exceptions:
 - 1. Greater than 60 minutes transport time unless otherwise authorized by base hospital
 - 2. Pediatric patients meeting trauma triage criteria and originating from within the core area of Santa Rosa will be transported by ground ambulance to the closest appropriate Trauma Center.
- b. Notwithstanding the above, patients with the following conditions shall be transported to the closest emergency department (including a standby ED):
 - 1. Pulseless, apneic following trauma
 - 2. Unstable or unmanageable airway
 - 3. Rapidly deteriorating vital signs
 - 4. Base station physician order
- c. **Approved Pediatric Trauma Centers:**
 - UCSF Benioff Children's Hospital Oakland (Level I Pediatric Trauma Center)
 - UC Davis Medical Center (Level I Pediatric Trauma Center)

DESTINATION FOR ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION PATIENTS (STEMI)

- a. Critical cardiac patients (i.e. those with ST segment elevation myocardial infarction on Prehospital 12 Lead ECG) shall be transported as follows:
 - 1. Within 30 minutes transport time from a STEMI Receiving Center – patients shall be transported to the closest appropriate STEMI Receiving Center
 - 2. Greater than 30 minutes transport time from a STEMI Receiving Center – patients shall be transported to the closest hospital with an emergency department
- b. **Approved STEMI Receiving Centers:**
 - Santa Rosa Memorial Hospital
 - Sutter Santa Rosa Regional Hospital
 - Adventist Health St. Helena
 - Queen of the Valley Medical Center
 - Kaiser Permanente San Rafael Medical Center

DESTINATION FOR BURN PATIENTS VIA EMS AIRCRAFT

- a. Patients with significant burns may be transported directly by EMS aircraft from the field to a regional burn center (with approved helipad) within the guidelines of *#4007 EMS Aircraft Policy*.
- b. Patients with the following anatomical criteria are candidates for transport directly by air to the closest regional burn center:

PATIENT DESTINATION/POINT OF ENTRY

POLICY NO: **8005**
Last Revised: 04-02-18

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-
1. Full thickness burns greater than 5% burn surface area (BSA)
 2. Partial thickness burns greater than 10% BSA if under age 10 or over 50
 3. Partial thickness over 20% - any age
 4. Partial or full thickness burns to the face, eyes, ears, hands, feet, perineum, genitalia, or major joints
 5. Significant electrical and caustic chemical agent burns
 6. Circumferential burns to an extremity or trunk
 7. Inhalation injury with evidence of significant burns
 8. Burns in high risk patients, including those with significant underlying medical conditions
- c. Base contact should be made in cases where the burns are of uncertain depth or severity or in any other case where the Prehospital personnel require assistance deciding which the most appropriate receiving facility is.
- d. EMS Air crews will be responsible for notifying the regional burn center with their ETA and field assessment.
- e. Exceptions:
1. Burn patients meeting trauma triage criteria will be transported to the nearest trauma receiving facility. Patients with any of the following will be transported to the nearest receiving facility:
 - a) Unmanageable airway
 - b) Deteriorating vital signs
 - c) Pulseless and apneic
- f. **Approved Regional Burn Center (adult & pediatric):**
UC Davis Medical Center

DESTINATION FOR PATIENTS WITH SUSPECTED ACUTE CEREBROVASCULAR ACCIDENT (CVA)

- a. Patients suspected of experiencing an acute CVA will be transported to the closest approved receiving hospital. If the closest receiving hospital does not have a functioning CT scanner and the patient has an abnormal Cincinnati Stroke Scale and the onset of symptoms to arrival at receiving hospital is expected to be 18 hours or less the patient may be transported to the next closest receiving hospital with an operational CT scanner.
- b. Patients with unstable airways, uncontrolled bleeding, or in cardiac arrest should be transported to the nearest Emergency Department regardless of CT status.



HOSPITAL BYPASS

POLICY NO: **8006**

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EFFECTIVE DATE: 8/1/2016

REVISED DATE: 8/1/2016

APPROVED: Bryan Cleaver
EMS Administrator

Dr. Mark Luoto
EMS Medical Director

AUTHORITY: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

PURPOSE

- a. The purpose of this policy is to define the criteria by which a hospital may qualify for Hospital Bypass and define the hospital's responsibilities during an approved bypass occurrence.

TRAUMA BYPASS ELIGIBILITY

- a. A Trauma Center may be considered eligible for Trauma Bypass when any one of the following conditions exists:
 - 1) The Trauma Center is inundated when any one of the following conditions are met:
 - a. The in-house trauma surgeon and back-up trauma surgeon(s) are encumbered in emergency resuscitation or operative procedures.
 - b. The anesthesia on-call and back-up anesthesia involved in emergency resuscitation or operative cases.
 - c. All O.R. crews involved in emergency resuscitation or operative cases.
 - 2) Facility does not have the capability or capacity to provide certain specialized treatment intervention.

STEMI BYPASS ELIGIBILITY

- a. A STEMI Center may be considered eligible for STEMI Bypass when any one of the following conditions exists:
 - 1) The Cardiac Catheterization Lab is inoperable due to internal disaster i.e. fire, flood, structural damage, contamination, etc.
 - 2) All Cardiac Catheterization Labs are involved in emergency cases.
 - 3) Facility does not have the capability or capacity to provide certain specialized treatment interventions.

HOSPITAL BYPASS

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STROKE BYPASS ELIGIBILITY

- a. A hospital may be considered eligible for Stroke Bypass when any one of the following conditions exists.
 - 1) The hospital does not have an operational CT scanner.
 - 2) Facility does not have the capability or capacity to provide certain specialized treatment interventions.

TOTAL BYPASS ELIGIBILITY

- a. A hospital may be considered eligible for Total Bypass only when the following condition exists:
 - 1) The physical plant is inoperable due to internal disaster i.e. fire, flood, structural damage, contamination, etc. such that the physical plant is closed to emergency and walk-in traffic.

BYPASS INELIGIBILITY

- a. Except as noted in the Interfacility section below, the following conditions do not constitute acceptable grounds for Hospital Bypass:
 - 1) ED saturation.
 - 2) Lack of clinical specialty back up, inpatient bed space or nursing staff.
- b. Trauma Bypass shall not be contingent upon ED saturation or non-functioning CT scanner, except for isolated traumatic head injuries.

BYPASS PROCEDURE

- a. Trauma, STEMI and Stroke Bypass in accordance with this policy may be initiated by the emergency department supervisor or designee.
- b. The on-call hospital administrator or designee must be notified and must approve the bypass status change prior to actual bypass of patients.
- c. The emergency department supervisor or designee shall contact the Emergency Medical Communications Center and advise the Communications Supervisor of the initiation of Trauma (Inundation), STEMI or Stroke Bypass.
- d. Trauma Bypass for reason other than *Trauma Center Inundated* as defined in 7008.01(a.)(1) and/or Total Bypass must be approved on a case-by-case basis. The emergency department supervisor or designee shall contact the Emergency Medical Communications Center and request the initiation of Total Bypass or Trauma Bypass for reasons other than *Trauma Center*

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Inundated. The Communications Supervisor shall contact the EMS Duty Officer for approval prior to initiating Bypass. In extremity, the Communications Supervisor may initiate the requested Bypass subject to EMS Duty Officer confirmation.

- e. The Emergency Medical Communication Center shall notify EMS system field providers of the change in hospital status.
- f. The emergency department supervisor or designee shall make the Bypass status change in the ImageTrend Resource Bridge hospital notification system.

IMAGETREND RESOURCE BRIDGE STATUS DEFINITIONS:

- a. **Total Bypass:** Not operational – unable to receive patients
- b. **Normal Operations:** Operational
- c. **Trauma Bypass:**
 - 1) **Trauma Center must enter a Comment when choosing “Trauma Bypass” status and select one or more from this list when choosing “Trauma Bypass” status:**
 - i. Trauma Center Inundated – In house Trauma staff and backups (OR, Surgeon, Anesthesia) are involved in emergency resuscitation or operative cases. Hospital Administrator’s name approving the bypass must be entered in the comment box.
 - ii. Trauma Center Bypass – Other – Unusual circumstances approved by the On-Call EMS Duty Officer. Not to be used for “Trauma Center Inundation.” Sonoma contact EMS Duty Officer at 568-5992
 - 2) Comment: Include the name of the Hospital Administrator approving the bypass.
 - 3) Any ambulance transport initiated to the compromised Trauma Center prior to the status being changed shall continue to that facility and will not be redirected.
- d. **STEMI Bypass:** Unable to receive STEMI patients.
- e. **Stroke Bypass:** Unable to receive stroke patients due to lack of CT scan capability.

AMBULANCE DIRECTION FOR TRAUMA PATIENTS DURING BYPASS EVENT

- a. Ambulance providers shall call their assigned base hospital for direction during any Trauma Center bypass event and consider the following:
 - 1) Transportation to the next closest Trauma Center by either ground or air. Ground ambulance providers should consider utilization of an EMS aircraft and/or transportation to an off-scene landing zone.

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- 2) Patients may be transported to the nearest Emergency Department if timely access to an alternative Trauma Center is not possible.

OFF BYPASS

- a. To re-establish normal ambulance traffic and acceptance of all patients, the supervisor or designee shall:
 - 1) Update their status in ImageTrend Resource Bridge. In the event of an ImageTrend outage, please contact the EMS Duty Officer at (707) 568-5992.
 - 2) Contact the Emergency Medical Communications Center and advise that the bypass event is terminated.

EMS AGENCY NOTIFICATIONS

- a. Hospitals will monitor and review all bypass incidents and will submit reports to the EMS Agency when requested.

BYPASS ADDENDUM

- a. In circumstances of appropriate hospital bypass, the EMS Agency, the base hospital, the requesting hospital, and pre-hospital personnel shall not be considered in violation of the Coastal Valleys Point of Entry Policy.
- b. Base hospitals and/or the EMS Agency may check with a hospital on bypass at any time to determine the prognosis for continuance of bypass. The EMS Agency may at any time send EMS Agency staff to the facility on bypass to verify the reasons given for bypass.
- c. Whenever a Trauma Center in the EMS system is on bypass, base hospitals shall keep an update of surrounding Trauma Center availability for their service area and applicable adjacent areas.

INTERFACILITY TRAUMA TRANSFER – SPECIAL CONSIDERATIONS FOR LEVEL II TRAUMA CENTER

- a. The trauma center shall not redirect interfacility trauma patients from the Coastal Valleys EMS Region, including Lake County when:
 - 1) Patients are candidates for immediate surgical/operative intervention and when such services are available, and the trauma center is not on Trauma Bypass regardless of bed availability.
- b. The trauma center may redirect interfacility trauma patient transfers when not on Trauma Bypass in the following circumstances:

HOSPITAL BYPASS

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- 1) Patients requiring surgical specialty care services when such services are not available, e.g., cardiothoracic.
- c. In the event a sending facility is redirected by the Trauma Center, the sending facility shall contact the nearest Level I Trauma Center for consultation and direction.

EMS AGENCY RIGHT TO DENY BYPASS

- a. The EMS Agency reserves the right to deny bypass approval based on overriding community need, impending EMS system need or determination that bypass criteria are unmet. If multiple hospitals meet bypass criteria at the same time, hospitals will be expected to treat patients to the best of their ability and there will be no EMS Agency approved bypass for any facility.



SUSPECTED ELDER AND DEPENDENT ADULT ABUSE REPORTING GUIDELINES

POLICY NO: **8007**

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EFFECTIVE DATE: 07-01-06

REVISED DATE: 07-01-06

APPROVED: Bryan Cleaver
EMS Administrator

Dr. Mark Luoto
EMS Medical Director

AUTHORITY: Welfare and Institutions Code Sections 1560 and the California Code of Regulations, Title 22, 100159 and 100075

PURPOSE

- a. To define suspected elder and dependent adult abuse and the required reporting procedures for prehospital care personnel.

PRINCIPLES

- a. Elder adults (age 65 or over) and dependent adults (ages 18 to 64) with mental, developmental, or physical disabilities may be vulnerable to abuse or neglect.

POLICY

- a. EMT's and EMT-P's, as health care practitioners, are mandated reporters and have a legal obligation to report known or suspected elder or dependent adult abuse under the following circumstances:
 - 1. When the reporter has observed an incident that reasonably appears to be physical abuse
 - 2. When the reporter has observed a physical injury where the nature of the injury, its location on the body or the repetition of the injury clearly indicates that physical abuse has occurred
 - 3. When an elder or a dependent adult tells the reporter that he or she has experienced behavior constituting physical abuse.
- b. The law encourages mandated reporters to voluntarily report known or suspected instances of other types of abuse of an elder or of a dependent adult including neglect, mental abuse, financial abuse, isolation and abandonment.
- c. Reports made under this law are confidential. The identity of all persons making reports of elder or dependent abuse is also confidential. This information will be shared only between the investigating and licensing agencies, with the district attorney in a criminal prosecution resulting from the report, by court order, or when the reporter waives the right to remain anonymous.
- d. When two or more persons who are required to report are present and jointly have

SUSPECTED ELDER AND DEPENDENT ADULT ABUSE REPORTING GUIDELINES

POLICY NO: **8007**

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knowledge of a known or suspected instance of abuse of an elder or dependent adult, and when there is agreement among them, the telephone report may be made by a member of the team selected by mutual agreement and a single report may be made and signed by the selected member of the reporting team. Any member who has knowledge that the member designated to report has failed to do so shall hereafter make the report.

- e. Reporting is the individual responsibility of the mandated reporter. No supervisor or administrator may prohibit the filing of a required report.
- f. Mandated reporters who report suspected cases of elder or dependent adult abuse in good faith, have absolute immunity, both civilly and criminally, for making a report of physical abuse of an elder or dependent adult. This includes taking of photographs of the victim and surroundings to submit with the report.

FAILURE TO MAKE A MANDATORY REPORT OF SUSPECTED PHYSICAL ABUSE OF AN ELDER OR DEPENDENT ADULT IS A MISDEMEANOR.

REPORTING PROCEDURES

- a. Reports of physical abuse are to be made immediately, or as soon as possible, by telephone.
- b. When reporting abuse that allegedly occurred in a long -term care facility or Adult Day Health Care Center, contact either the local law enforcement agency or the Long-term Care Ombudsman Program:

Sonoma
707-565-5940

Mendocino
707-463-7900

- c. When the abuse is alleged to have occurred anywhere else, contact either the local law enforcement agency or Adult Protective Services at:

Sonoma
707-565-5940

Mendocino
707-463-7900

VERBAL REPORT

- a. Reports are to include the following information:
 - 1. The name, address, telephone number and occupation of the person making the report.
 - 2. The name, address, and age of the elder or dependent adult.
 - 3. Date, time, and place of the incident.
 - 4. Other details, including the reporter's observations and beliefs concerning the incident.
 - 5. Any statement relating to the incident made by the victim.
 - 6. The name(s) of any individual(s) believed to have knowledge of the incident.
 - 7. The name(s) of the individual(s) believed to be responsible for the incident and their connection to the victim.

WRITTEN REPORT

- a. The Report of Suspected Dependent Adult/Elder Abuse must be completed and submitted to

SUSPECTED ELDER AND DEPENDENT ADULT ABUSE REPORTING GUIDELINES

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the agency initially contacted within two (2) working days of the verbal report.

VOLUNTARY REPORTS

- a. Reports of mental or financial abuse, neglect, isolation or abandonment of an elder or dependent adult by that person's caretaker may be made by verbal or written report.

REPORT INSTRUCTIONS

- a. Complete a form for each incident and each victim of suspected elder physical abuse.
- b. Fill out the form as completely and clearly as possible using lay terminology.
- c. If any item of information is unknown, write 'unknown' beside the item.
- d. Section A - Reporting Party:
 - 1. The person initiating the report must complete this section. It must include the reporting person's name, place of employment, and employment phone number.
 - 2. For legal purposes, the date of the written report must be completed.
 - 3. The signature of the reporting party is required in this section.
- e. Section B - Report Made To:
 - 1. Record the name of the person and agency to whom a verbal report was first made. This person will be receiving the written reports.
 - 2. When the report was made to more than one agency, the contact person(s) for the additional agencies should be listed in the comment section.
 - 3. The date and time of the verbal report must be recorded to provide legal proof of the verbal report.
- f. Section C - Victim:
 - 1. Enter as much information as possible.
 - 2. If the birth date is unknown, enter the approximate age.
- g. Section D - Incident Information:
 - 1. Record the date, time, and place of incident.
 - 2. Check the appropriate box indicating how the person filing the report became aware of the incident.
 - 3. If the incident occurred in an out-of-home-care setting, check the appropriate box.
 - 4. When more than one type of abuse is suspected, check all that apply.
- h. Section E - Comments:
 - 1. Write objectively.
 - 2. Quote statements made by the victim or guardian.
 - 3. Document the incident as it was told by each person (use extra paper if necessary).
 - 4. Indicate circumstances that may have contributed to the abusive/neglectful situation (i.e. handicapped, bedridden, lack of resources).

SUSPECTED ELDER AND DEPENDENT ADULT ABUSE REPORTING GUIDELINES

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DISTRIBUTION INSTRUCTION

- a. Send the original report to the elder protective agency previously contacted by phone.
- b. Send a copy of the report to:
 - Mendocino County APS Sonoma County APS
 - 126 North Orchard Avenue P O Box 1539
 - Ukiah, CA 95482 Santa Rosa CA 95402
- c. The reporting party should retain one copy of the original.



TRANSPORT OF POTASSIUM CHLORIDE (KCL)

POLICY NO: **8101**

EFFECTIVE DATE: 07-01-06

REVISED DATE: 01-01-20

APPROVED: Bryan Cleaver
EMS Administrator

Dr. Mark Luoto
EMS Medical Director

AUTHORITY: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

PURPOSE

- a. Monitoring an I.V. solution containing KCL for the treatment of potassium deficiency.

POLICY

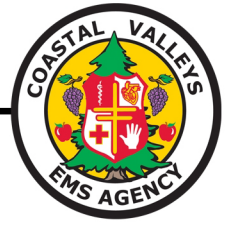
- a. A paramedic may transport a patient who has a pre-existing I.V. solution containing KCL < 20mEq.

PROCEDURE

- a. Prehospital care providers are not allowed to start or add KCL to the I.V. solution.
- b. Infusions containing KCL that have been established may be monitored only.
- c. Monitor ECG rhythm to detect dysrhythmias
- d. Usual dose is 10-20 mEq added to 1 liter of I.V. solution and administered at a mechanically controlled rate not to exceed 10 mEq/hour (restrictions in scope of practice limits dose to 20 mEq/L).
- e. Monitor I.V. site as infiltration may cause necrosis. If patient complains of burning or irritation at the insertion site, the I.V. should be checked for patency and the infusion rate slowed.
- f. If fluid bolus or I.V. medications are needed, the KCL infusion shall be discontinued and a new I.V. solution without KCL and administration device shall be used as replacement.

ADVERSE EFFECTS

- a. Observe for:
 - 1. Cardiovascular: dysrhythmias, cardiac arrest
 - 2. Respiratory: depression/arrest
 - 3. Gastrointestinal: nausea/vomiting, diarrhea, abdominal pain
 - 4. Neurological: paresthesia of extremities, muscular paralysis, confusion.
 - 5. Other: hyperkalemia, venous thrombosis



TRANSPORT OF POTASSIUM CHLORIDE (KCL)

POLICY NO: **8101**

EFFECTIVE DATE: 07-01-06

REVISED DATE: 01-01-20

APPROVED: Bryan Cleaver
EMS Administrator

Dr. Mark Luoto
EMS Medical Director

AUTHORITY: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221



INTRAVENOUS INFUSIONS OF HEPARIN & NITROGLYCERIN

POLICY NO: **8102**

EFFECTIVE DATE: 07-01-06

REVISED DATE: 08-11-2020

APPROVED: Bryan Cleaver
EMS Administrator

Dr. Mark Luoto
EMS Medical Director

AUTHORITY: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

PURPOSE:

- a. To provide a mechanism for Paramedics to be permitted to monitor infusions of nitroglycerin and heparin during inter-facility transfers.

POLICY:

- a. Paramedics
 1. Only those Paramedics who have successfully completed training program(s) approved by the Coastal Valleys EMS Agency Medical Director on nitroglycerin and heparin infusions will be permitted to monitor them during inter-facility transports.
- b. ALS Ambulance Providers
 1. Only those ALS Ambulance providers approved by the Coastal Valleys EMS Agency Medical Director will be permitted to provide the service of monitoring nitroglycerin and/or heparin infusions during interfacility transports from approved hospital(s) within their service area.
- c. Patients
 1. Patients that are candidates for paramedic transport will have pre-existing heparin and/or nitroglycerin drips in peripheral lines. Pre-hospital personnel will not initiate heparin and nitroglycerin drips.

PROCEDURE:

- a. The paramedic shall receive the transferring orders from the transferring physician prior to leaving the sending hospital, including a telephone number where the transferring physician can be reached during the patient transport. The written order must include the type of solution, dosage and rate of infusion for the IV fluids.
- b. If medication administration is interrupted (infiltration, accidental disconnection, malfunctioning pump, etc.), the Paramedic may restart the line as delineated in the transfer orders.
- c. All medication drips will be in the form of an IV piggyback monitored by a mechanical pump familiar to the Paramedic. In cases of pump malfunction that cannot be corrected, the medication drip will be discontinued and the transferring hospital and base hospital will be

INTRAVENOUS INFUSIONS OF HEPARIN & NITROGLYCERIN

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Last Revised: 08-11-2020

notified.

d. NITROGLYCERIN DRIPS

1. Paramedics are allowed to transport patients on nitroglycerin drips within the following parameters:
 - a) Infusion fluid will be D5W. Medication concentration will be either 25 mg/250mL or 50 mg/250mL.
 - b) Regulation of the drip rate will be within parameters as defined by the transferring physician, but in no case will changes be in greater than 5 mcg/minute increments every 10 minutes.
 - c) In cases of severe hypotension, the medication drip will be discontinued and the transferring hospital and base hospital will be notified.
 - d) ABSOLUTE DRIP RATES WILL NOT EXCEED 50 mcg/minute.
 - e) Vital signs will be monitored and documented every 10 minutes.

e. HEPARIN DRIPS

1. Paramedics are allowed to transport patients on heparin drips within the following parameters:
 - a) Infusion fluid will be D5W or NS. Medication concentration will be 100U/mL of IV fluid (25,000U/250mL).
 - b) Drip rates will remain constant during transport. No regulation of the rate will be performed except to turn off the infusion completely.
 - c) DRIP RATES WILL NOT EXCEED 1600 U/HOUR.
 - d) Vital signs will be monitored and documented every 10 minutes.

QI:

- a. All calls will be audited by the provider agency and by the transferring and receiving hospitals. Audits will assess compliance with physician orders and regional protocols, including base hospital contact in emergency situations. Reports will be sent to the EMS agency as requested.



MONITORING THORACOSTOMY TUBES

POLICY NO: **8103**

EFFECTIVE DATE: 07-01-06

REVISED DATE: 07-01-06

APPROVED: Bryan Cleaver
EMS Administrator

Dr. Mark Luoto
EMS Medical Director

AUTHORITY: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

PURPOSE

- a. To monitor thoracostomy tubes previously established.

EQUIPMENT

- a. Firm plastic thoracostomy tube.
- b. Negative pressure drainage receptacle attached to the thoracostomy tube to form a closed drainage system.
- c. Rubber-tipped clamp.

PRECAUTIONS

- a. Keep drainage receptacle below level of chest to prevent drained fluid from re-entering pleural space.
- b. Keep drainage tubing in view.
- c. Do not permit dependent loops or kinks to form, as this will increase pleural pressure, formation of clots or interference with the flow of drainage.
- d. Keep dressing at insertion site secure to prevent air entering the pleural space.
- e. Maintain aseptic technique.
- f. Do not disconnect drainage system or puncture tubing.
- g. Tape all connections securely to prevent violation of sterility and loss of negative drainage pressure.
- h. Avoid pulling on thoracostomy tube to prevent accidental dislodging of the tube.

COMPLICATIONS

- a. Complications require immediate intervention. Contact the base hospital to report the problem, the intervention taken and to request further assistance.
- b. Tube dislodgement or withdrawal.
 - 1. If accidental withdrawal of tube occurs, place occlusive dressing over insertion site.

MONITORING THORACOSTOMY TUBES

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2. If the tube becomes dislodged or a malfunction with air leak occurs in the system, clamp the tube close to the chest wall and observe for signs and symptoms of tension pneumothorax.
- c. Drained fluid re-enters pleural space.
 1. If drained fluid re-enters the pleural space place receptacle below level of chest to facilitate gravity drainage.
 - d. Hemorrhage through tube
 1. If hemorrhage occurs through chest tube, observe for signs and symptoms of shock and treat according to protocol.
 - e. Receptacle fills in transit.
 1. Keep in position.
 2. Do not remove or elevate.



INTERFACILITY TRANSFERS

POLICY NO: **8104**

EFFECTIVE DATE: 01-01-2020

REVISED DATE: 01-01-2020

APPROVED: Bryan Cleaver
EMS Administrator

Dr. Mark Luoto
EMS Medical Director

AUTHORITY: California Health and Safety Code, Division 2.5: Section 1797-1799.207

PURPOSE

- a. The purpose of this policy is to serve as the utilization standard for all patient transfers between acute care facilities within the Coastal Valleys EMS Agency Region (LEMSA).

SCOPE

- a. This policy will be utilized for all patient transfers between acute care facilities. This procedure is not a substitute for required transfer agreements. Each facility shall have its own internal written transfer policy that clearly establishes administrative and professional responsibilities. Transfer agreements must be negotiated and signed with facilities that have specialized services not available at the transferring facility. [H&S Code 1317.3(a) and 1317.2(b)]
- b. This policy applies to transfers originating **within** the LEMSAs with the destination within or out of the same region.
- c. EMTs and Paramedics may perform any activity identified in their scope of practice, California Administrative Code, Title 22, Division 9, which has been approved by the LEMSAs. LEMSAs Treatment Guidelines allow for defined treatment options. Written orders originating from non-Base Hospital Medical Direction will need to have Base Hospital Physician contact and direction.
- d. Patient transfers between acute care facilities will be completed based upon the medical needs of the patient and through the cooperation of both the sending and receiving facilities in accordance with approved internal procedures and EMTALA regulation.
 1. These procedures are suggested for patient transfers from sub-acute and chronic care facilities to acute care facilities.
 2. These procedures are not necessary for transfers to sub-acute and chronic care facilities.

TRANSFER STANDARDS

- a. Physicians- Physicians considering patient transfer should exercise conservative judgment, always deciding in favor of patient safety. Notwithstanding the fact that the receiving facility or physicians at the receiving facility have consented to the patient transfer, the transferring physician and facility have responsibility for the patient that he or she transfers until that patient arrives at the receiving facility. The transferring physician determines what professional medical assistance should be provided for the patient during the transfer (if necessary, with the consultation of the appropriate EMS Base Hospital Physician). [H&S Code 1317.2(d)]

INTERFACILITY TRANSFERS

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- b. Consent of Receiving Physician - No transfer shall be made without the consent of the receiving physician and confirmation by the receiving hospital that the patient meets the hospital's admissions criteria relating to appropriate bed, personnel and equipment necessary to treat the patient.
- c. If the patient presents to an emergency department, the patient must be examined and evaluated to determine if the patient has an emergency medical condition or is in active labor. If an emergency exists, the emergency department must provide emergency care and emergency services when appropriate facilities and qualified personnel are available.
- d. The transferring physician must determine whether the patient is medically fit to transfer and when indicated, will take steps to stabilize the patient's condition.
- e. Active labor- The term "active labor" means labor at a time at which:
 - 1. Delivery is imminent.
 - 2. There is inadequate time to effect safe transfer to another hospital prior to delivery,
 - 3. A transfer may pose a threat to the health and safety of the patient or the unborn child. [H&S Code 1317.1(c)]
- f. Immediate transfer of Critical Trauma Patients – Patients who meet the LEMSA Trauma Triage Criteria may be immediately transferred to a Trauma Center (Refer to LEMSA Point of Entry Guidelines)
 - 1. Immediate transfer is at the discretion of the examining physician. It is recommended to select the most appropriate, expeditious transport modality available. It may be based on patient condition, availability of surgeon and operating room, but NOT financial factors.
 - 2. Those patients immediately transferred will be audited for both medical care and compliance with this procedure.
- g. Immediate transfer of Acute STEMI Patients – Patients who meet the LEMSA STEMI criteria as outlined in the LEMSA Treatment Guidelines Policy, may be immediately transferred to a STEMI Center (Refer to LEMSA Point of Entry Guidelines)
 - 1. Immediate transfer is at the discretion of the examining physician. It is recommended that the most appropriate and expeditious transport modality available be selected. The mode of transportation may be based on patient condition, availability of cardiologist and cardiac cath. the facility, but NOT financial considerations.

TRANSFER PROCEDURE

- a. Transferring facility will advise EMS provider/transfer coordinator of the following:
 - 1. Patient's name
 - 2. Diagnosis/level of acuity
 - 3. Destination
 - 4. Transfer date and time
 - 5. Unit transferring patient
 - 6. Level of transfer requested
 - 7. Sending doctor's name
 - 8. Treatment received
 - 9. History, medication, allergies, and orders
 - 10. Special equipment with the patient-
 - a. Medical devices or specialized treatment administration devices which require licensed practitioners.
 - 11. Additional hospital personnel attending patient
- b. If a patient requires a ventilator, respirator, or in situations where additional airway management may be advantageous, a respiratory therapist or R.N. will accompany the patient to assist in airway management.

INTERFACILITY TRANSFERS

POLICY NO: **8104**

- c. The EMS provider/transfer coordinator agrees to accept the transfer based on reported information and advises ETA of the transfer unit.

APPROVED FOR PARAMEDIC (ALS) TRANSFERS

- a. Paramedics may transport patients with the following medications running as directed by the sending physician.
 - 1. Aerosolized or nebulized beta-2 specific bronchodilators.
 - 2. Atrovent.
 - 3. Nitroglycerin and heparin preparations, per *treatment guideline 8102 Intravenous infusion of Heparin and Nitroglycerin*.
 - 4. Potassium per *treatment guideline 8101 Transport of Potassium Chloride*.
- b. Paramedics may treat patients per CVEMSA Treatment Guidelines as indicated enroute.
- c. Paramedics may transport patients with an indwelling temporary pacemaker in place if determined appropriate by the transferring Physician, the transport paramedic, and the receiving physician.
- d. Paramedics may transport patients 28 days or less (neonates) if determined appropriate by the transferring Physician, the transport paramedic, and the receiving physician.
- e. Paramedics may transport patients on Continuous Positive Airway Pressure (CPAP) on a case-by-case basis based upon the comfort level of the transferring physician, paramedic, and receiving physician.
 - 1. If patient is previously on BiPAP, it is recommended that patient be monitored on CPAP device for 5-15 minutes prior to transport to ensure stability.
- f. Paramedics may transport neonates if determined appropriate by the transferring Physician, the transport paramedic, and the receiving Physician.
- g. Paramedics may transport patients with indwelling temporary pacemaker devices if determined appropriate by the transferring Physician, the transport paramedic, and the receiving Physician.
- h. Paramedics may transport diagnosed LVO patients whom have stable vital signs and do not require ventilatory support if determined appropriate by the transferring Physician, the transport paramedics, and the receiving Physician.
- i. Paramedics may treat patients per CVEMSA Treatment Guidelines as indicated enroute.

APPROVED FOR EMT (BLS) TRANSFER

- a. Monitor IV lines delivering intravenous glucose solutions or isotonic balanced salt solutions including Ringer's lactate for volume replacement.
- b. Monitor, maintain and adjust as necessary to maintain a preset rate of flow and/or turn off the flow of intravenous fluid.
- c. Transfer a patient, who is deemed appropriate for transfer by the transferring physician, and who has nasogastric (NG) tubes, gastrostomy tubes, heparin locks, foley catheters, tracheostomy tubes and/or indwelling vascular access lines, excluding arterial lines.

APPROVED FOR WHEELCHAIR/GURNEY CAR TRANSFER

- a. Any patient who does not require monitoring or intervention by transport personnel. Any medical devices on the patient will not be in use nor available to transporting personnel.
- b. Any transdermal medication applications must have been in use for 12 hours or more.

COMMUNICATION

- a. Transport personnel shall receive appropriate patient status report from transferring physician and/or RN.
- b. The paramedic shall receive the transferring orders from the transferring physician prior to leaving the sending

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hospital, including a telephone number where the transferring physician can be reached during the patient transport.

- c. Copies of all pertinent medical records, lab reports, x-rays, and transfer forms accompany patient to receiving facility.
- d. Transport personnel shall receive patient report and confirm appropriate level of care for transfer. If transport personnel and transferring physician are unable to agree, they will confer with the base hospital physician.
- e. All levels of transfer will have a patient care record completed by the transport personnel.

TRANSFER SUMMARY

- a. The records transferred with the patient shall include a "transfer summary" signed by the transferring physician which contains relevant transfer information. The form of the "transfer summary" shall, at a minimum, contain the patient's name, address, sex, race, age and medical condition; the name and address of the transferring doctor or emergency department personnel authorizing the transfer; the time and date the patient was first presented at the transferring hospital; the name of the physician at the receiving hospital consenting to the transfer and the time and date of the consent; the time and date of the transfer; the reason for the transfer; and the declaration of the signor that the signor is assured, within reasonable medical probability, that the benefits of the transfer outweigh any medical risk to the patient.
- b. Neither the transferring physician nor transferring hospital shall be required to duplicate in the "transfer summary" information contained in medical records transferred with the patient. In addition, the "transfer summary" shall include any other information pertinent to patient care as outlined in this policy.

TRANSFER PROCEDURES FOR PATIENTS WITH DNR ORDERS

- a. Patients who are being transferred with Do Not Resuscitate or Physician Orders for Life Sustaining Treatment (POLST) orders shall also have orders to the effect of the destination of the patient in the case of death during transfer. Options for destination include the patient's intended receiving facility (i.e. home, skilled nursing home, hospital), predetermined funeral home or the coroner's office. It shall be the responsibility of the transferring facility and the provider of the transport to ensure that these arrangements have been made prior to the initiation of the transfer.

EXCEPTIONS TO TRANSFER PROCEDURE

- a. If an ALS transfer unit is unavailable, the transferring physician may request a BLS unit staffed with at least one R.N. and appropriate equipment.

QUALITY IMPROVEMENT

- a. ALS interfacility transfer calls will be reviewed as per the Quality Improvement policy of the CVEMSA policy manual.