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## TABLE OF CONTENTS

LAST UPDATE JANUARY 1, 2020

7000 GENERAL MEDICAL CARE
7001 GENERAL MEDICAL CARE
7002 SEDATION
7003 CARDIAC ARREST MANAGEMENT
7004 ALTERNATE MEDICATIONS
7100 CARDIAC EMERGENCIES
7101 ACUTE CORONARY SYNDROME
7102 DYSRHYTHMIA
7103 12 LEAD EKG
7200 ENVIRONMENTAL EMERGENCIES
7201 ALLERGIC-ANAPHYLACTIC REACTIONS
7202 ENVIRONMENTAL EMERGENCIES
7203 POISONING-OVERDOSE
7204 DROWNING-NEAR DROWNING
7205 HAZARDOUS MATERIAL EXPOSURE
7300 MEDICAL EMERGENCIES
7301 NON-TRAUMATIC HYPOTENSION
7302 SEPSIS
7303 HYPERKALEMIA
7304 SEVERE NAUSEA
7305 SEVERE PAIN
7306 HYPER/HYPOGLYCEMIA
7400 NEUROLOGIC EMERGENCIES
7401 ACUTE CEREBROVASCULAR ACCIDENT
7402 SEIZURES
7500 OBGYN EMERGENCIES
7501 IMMINENT DELIVERY
7502 SEVERE PRE-ECLAMPSIA-ECLAMPSIA
7503 VAGINAL HEMORRHAGE
7600 PEDIATRIC EMERGENCIES
7601 UNEXPECTED INFANT/CHILD DEATH
7602 BRIEF RESOLVED UNEXPLAINED EVENT
7603 SUSPECTED CHILD ABUSE REPORTING GUIDELINES
7604 APGAR
7700 RESPIRATORY EMERGENCIES
7701 RESPIRATORY DISTRESS



## 7800 TRAUMATIC EMERGENCIES

- 7801 BURNS/SMOKE INHALATION
- 7802 MAJOR TRAUMA
- 7803 TRAUMA TRIAGE
- 7804 CRUSH SYNDROME
- 7805 UNCONTROLLED HEMORRHAGE/TOURNIQUETS

## 7900 PROCEDURES

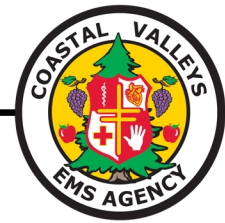
- 7901 TASER BARB REMOVAL
- 7902 FOOTBALL HELMET REMOVAL
- 7903 USE OF RESTRAINTS
- 7904 ADMINISTRATION OF NARCAN
- 7905 ADMINISTRATION OF KETAMINE
- 7906 ADMINISTRATION OF KETOROLAC
- 7907 ADMINISTRATION OF TXA
- 7908 CPAP
- 7909 SPINAL MOTION RESTRICTION
- 7910 HEMOSTATIC AGENTS
- 7911 ENDOTRACHEAL INTUBATION
- 7912 SUPRAGLOTTIC AIRWAY
- 7913 NEEDLE THORACOSTOMY
- 7914 PRE-EXISTING VASCULAR DEVICE
- 7915 FIELD BLOOD COLLECTION
- 7916 END TIDAL CO2 MONITORING
- 7917 VENTRICULAR ASSIST DEVICE (VAD)

## 8000 GENERAL CARE MANAGEMENT

- 8001 PHYSICIAN AND/OR R.N. AT SCENE
- 8002 TREATMENT/TRANSPORT OF MINORS
- 8003 PATIENT REFUSAL OF TREATMENT/TRANSPORT
- 8004 DETERMINATION OF DEATH IN PRE-HOSPITAL SETTING
- 8005 POINT OF ENTRY
- 8006 HOSPITAL BYPASS
- 8007 SUSPECTED ELDER AND DEPENDENT ADULT ABUSE REPORTING

## 8100 INTER-FACILITY TRANSPORT

- 8101 TRANSPORT OF POTASSIUM CHLORIDE
- 8102 INTRAVENOUS INFUSION OF HEPARIN AND NITROGLYCERIN
- 8103 MONITORING THORACOSTOMY TUBES
- 8104 INTER-FACILITY TRANSFERS



## Old Table of Contents with brief summary of changes:

### 7000 General Patient Care

7001 Use of Restraints: Now Po. No. 7903.

7002 Physician and or RN at the Scene: Now Po. No. 8001.

7003 Trauma Triage Decision Scheme: Now Po. No. 7803 (Traumatic Emergencies).

7004 Treatment – Transport of Minors: Now Po. No. 8002.

7005 Patient Refusal of Treatment or Transport: Now Po. No. 8003.

7006 Determination of Death in the Prehospital Setting: Now Po. No. 8004.

7007 Point of Entry: Now Po. No. 8005.

7008 Hospital Bypass: Now Po. No. 8006.

7009 Suspected Elder and Dependent Adult Abuse Reporting: Now Po. No. 8007.

7010 Suspected Child Abuse Reporting Guidelines: Now Po. No. 7603 (Pediatric Emergencies).

7011 Unexpected Infant-Child Death: Now Po. No. 7601 (Pediatric Emergencies).

7012 Apparent Life Threatening Event – ALTE: Now Po. No. 7602 Brief Resolved Unexplained Event (BRUE).

7013 Inter-Facility Transfer: Now Po. No. 8104.

7014 Administration of Naloxone: Now Po. No. 7904.

### 8000 BLS Treatment

~~8001 BLS Routine Medical Care:~~ Combined with ALS Routine Medical Care. Now Po. No. 7001 General Medical Care.

~~8002 BLS Spinal Immobilization:~~ Combined with ALS Spinal Motion Restriction. Now Po. No. 7909 Spinal Motion Restriction.

~~8008 Trauma Management:~~ Now part of Po. No. 7802 Major Trauma.

~~8009 Burns:~~ Now part of Po. No. 7801 Burns/Smoke Inhalation.

8010 Environmental Emergencies: Now Po. No. 7202 Environmental Emergencies.



~~8011 Routine Obstetric Delivery:~~ Now part of Po. No. 7501 Imminent Delivery.

~~8012 Newborn Care:~~ Now part of Po. No. 7501 Imminent Delivery.

~~8013 Obstetric Emergencies:~~ Now part of Po. No. 7501 Imminent Delivery.

8014 Football Helmet Removal: Now Po. No. 7902.

~~8015 Tourniquets:~~ Now part of Po. No. 7805 Uncontrolled Hemorrhage/Amputation.

8017 VAD – “NEW”

8018 Hemostatic Agents: Now Po. No. 7910.

8019 Sepsis Alert: Now Po. No. 7302.

## **9000 ALS Treatment Guidelines**

~~9001 ALS Routine Care:~~ Combined with BLS Routine Medical Care. Now Po. No. 7001 General Medical Care.

~~9002 Airway Management:~~ Now part of Po. No. 7001 General Medical Care and Po. No. 7701 Respiratory Emergencies.

9003 Spinal Immobilization: Now Po. No. 7909.

9004 Severe Pain: Now Po. No. 7305.

9005 Sedation: Now Po. No. 7002.

9006 Severe Nausea: Now Po. No. 7304.

9007 Alternate Medications: Now Po. No. 7004. Not being release at this time. Changing to Medication summary.

## **Cardiac Emergencies**

~~8101 Ventricular Fibrillation-Pulseless VT:~~ Combined with other Dysrhythmias, Now Po. No. 7102 Dysrhythmias.

~~9102 Wide-Complex Tachycardia:~~ Combined with other Dysrhythmias, Now Po. No. 7102 Dysrhythmias.

~~9103 Narrow-Complex Tachycardia A-fib, A-flutter:~~ Combined with other Dysrhythmias, Now Po. No. 7102 Dysrhythmias.

~~9104 Narrow-Complex Tachycardia:~~ Combined with other Dysrhythmias, Now Po. No. 7102 Dysrhythmias.



~~8105 Asystole — Pulseless Electrical Activity:~~ Combined with other Dysrhythmias, Now Po. No. 7102 Dysrhythmias.

~~8107 Brady-dysrhythmias:~~ Combined with other Dysrhythmias, Now Po. No. 7102 Dysrhythmias.

8106 Suspected Acute Coronary Syndrome: Now Po. No. 7101.

9110 Inappropriate Shock from Implanted Defibrillator

~~9111 Ventricular Ectopy:~~ Combined with other Dysrhythmias, Now Po. No. 7102 Dysrhythmias.

8016 Cardiac Arrest Management: Now Po. No. 7003.

## **Environmental Emergencies**

8201 Allergic/Anaphylaxis Reaction: Now Po. No. 7201.

8202 Poisoning-Overdose: Now Po. No. 7203.

9204 Drowning: Now Po. No. 7204.

~~9205 Heat Illness:~~ Combined with Hypothermia and Snakebite, now Po. No. 7202 Environmental Emergencies.

~~9206 Hypothermia:~~ Combined with Heat Illness and Snakebite, now Po. No. 7202 Environmental Emergencies.

~~9207 Snakebite:~~ Combined with Hypothermia and Heat Illness, now Po. No. 7202 Environmental Emergencies.

## **Neurologic Emergencies**

~~8301 Altered Level of Consciousness:~~ Removed. Added Hyper/Hypoglycemia protocol, Narcotic overdose moved to 7203 Poisoning/Overdose, Seizure protocol already exists.

9302 Seizures: Now Po. No. 7402.

9303 Acute Cerebrovascular Accident: Now Po. No. 7401.

## **Ob-Gyn Emergencies**

~~9401 Vaginal Hemorrhage without Shock:~~ Combined with Vaginal Hemorrhage with shock, Now Po. No. 7503 Vaginal Hemorrhage.



~~9402 Vaginal Hemorrhage with Shock:~~ Combined with Vaginal Hemorrhage without shock,  
Now Po. No. 7503 Vaginal Hemorrhage.

9403 Severe Pre-Eclampsia-Eclampsia: Now Po. No. 7502.

9404 Imminent Delivery: Now Po. No. 7501.

9405 APGAR Scoring: Now Po. No. 7604.

## **Respiratory Emergencies**

8501 Respiratory Distress: Now Po. No. 7701.

## **9600 Trauma**

~~9601 Amputation:~~ Combined with new Po. No. 7806 Uncontrolled Hemorrhage/Amputation.

9602 Burns: Now Po. No. 7801.

9603 Major Trauma: Now Po. No. 7802.

~~9604 Head Injury:~~ Combined with Po. No. 7802 Major Trauma.

9605 Crush Syndrome: Now Po. No. 7804.

## **9700 Pediatrics**

~~9704 Pediatric Tachycardia:~~ Combined into New Po. No. 7102 Dysrhythmias.

~~9705 Neonatal Resuscitation:~~ Combined into Po. No. 7501 Imminent Delivery.

~~9709 Pediatric Allergic Reaction:~~ Combined into Po. No. 7201 Allergic/Anaphylaxis Reactions.

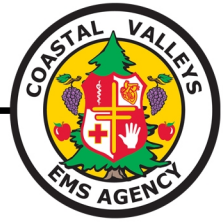
~~9710 Pediatric Seizure:~~ Combined into Po. No. 7402 Seizures.

~~9713 Pediatric Burns:~~ Combined into Po. No. 7801 Burns.

~~9714 Pediatric Severe Pain:~~ Combined with Po. No. 7305 Severe pain.

## **ALS Procedures**

8801 Adult Oral Endotracheal Intubation: Now Po. No. 7911.



8802 Supraglottic Airway: Now Po. No. 7912.

~~9803 Endotracheal Tube Introducer (ETTI):~~ Removed, no longer needed.

~~9804 Multi-Lumen Airway (Combitube):~~ Removed, no longer needed.

8806 CPAP: Now Po. No. 7908.

~~9807 Needle Cricothyrotomy for Complete Airway Obstruction:~~ Removed from scope.

9808 Needle Thoracotomy: Now Po. No. 7913.

9809 EKG – 12 Lead: Now Po. No. 7103.

~~9810 External Pacing:~~ Removed, no longer needed.

9811 Pre-Existing Vascular Device: Now Po. No. 7914.

~~9812 Intraosseous Infusion:~~ Removed, no longer needed.

9813 Field Blood Collection: Now Po. No. 7915.

8814 End-Tidal CO<sub>2</sub> Monitoring: Now Po. No. 7916.

~~9815 King Airway insertion:~~ Removed as an approved airway tool.

## **9900 Inter-Facility Transport**

9901 Transport of Potassium Chloride: Now Po. No. 8101.

9902 Intravenous Infusion of Heparin: Now Po. No. 8102.

9903 Monitoring Thoracostomy Tubes: Now Po. No. 8103.





## Summary of Changes

7000 General Medical Care		Notes	Changes	Justification
	7001 General Medical Care	Combined Policies Routine Medical Care 8001 (BLS) & 9001 (ALS) into one protocol.	1. Added additional ALS Procedures such as establishing an IV, ETCO2 Monitoring, and 12-Lead EKG.	Reduces duplicative language for general medical care and procedures on all supplemental policies.
	7002 Sedation	Previously Po. No. 9005	1. Definition Section: added indications from each section into the definition section. 2. Removed "anticipated cardio version and anticipated Pacing" and replaced with generic language. 3. Removed "Behavioral" as an indication. 4. Removed motion sickness from protocol all together. 5. Added Provide General Medical Care. 6. Removed Profound Sedation. 7. Adult IV dose changed to 25 - 50 mg instead of 25 mg. 8. Shortened repeat time for Midazolam administered IM. 9. Removed pediatric intubation. 10. Removed weight chart.	1. Put indications in one place and at the top of the protocol instead of scattered throughout. 2. New Language "Sedation prior to ALS treatment such as cardioversion" is more inclusive and reduces word count. 3. New language "Behaviors that endanger patient or others, or interferes with patient care" includes behavioral but also include other conditions that may require sedation. 4. Motion sickness treatment now part of Severe Nausea Po. No. 9006. 5. Creating the General Medical Care allows the removal of routine procedures such as EKG, BG, IV from other protocols to allow for paramedic judgement and to shorten the length of all policies in general. 6. Treatment for Moderate Sedation was a duplication of Profound sedation. 7. Allows paramedic judgment and titration to desired degree of sedation. 8. Relatively safe drug and previous wait time for repeat dose was too long. 9. Pediatric Intubation no longer part of Paramedic Scope. 10. Paramedics should be using pediatric medication administration guide.
c	7003 Cardiac Arrest Management	Previously Po. No. 8016.	1. Added on going v-fib should be work for at least 30 minutes.	1. Studies suggest that patients with ongoing V-Fib benefit from longer resuscitation efforts.
	7004 Alternate Medications	Previously Po. No. 9007	Not being reviewed at this time.	



## Summary of Changes

7100	Cardiac Emergencies	Notes	Changes	Justification
	7101 Acute Coronary Syndrome	Previously Po. No. 8106	<ol style="list-style-type: none"> <li>1. Nitroglycerin is only a consideration.</li> <li>2. Added additional SBP parameters for fluid and Nitroglycerin administration.</li> <li>3. Added guidance language regrading Inferior MI and Nitroglycerin administration.</li> <li>5. Added Sgarbossa's criteria.</li> </ol>	<ol style="list-style-type: none"> <li>1. Based on Cardiologist's recommendations and studies indicate that aggressive Nitroglycerin administration is not suggestive of better patient outcomes.</li> <li>2. Patients with a normal SBP do not need fluid resuscitation, however, patients with hypotension require aggressive fluid resuscitation.</li> <li>3. Nitroglycerine administration in patient with evidence of an Inferior MI is shown to reduce SBP and worsening of patient condition/outcomes.</li> <li>4. Sgarbossa's criteria is a new tool that may be used in the presence of LBBB in determining an MI.</li> </ol>
	7102 Dysrhythmia	<p>New Policy.Includes Ventricular Fibrillation-Pulseless VT Previously Po. No. 9101/9702.Includes Wide Complex Tachycardia Previously Po. No. 9102.Includes Narrow Complex Tachycardia Afib/Aflutter Previously Po. No. 7102.Includes Narrow Complex tachycardia Previously Po. No. 9104/9704.Includes Asystole-Pulseless Electrical Activity previously Po. No. 9105/9701.Includes Brady-dysrhythmias 9107/9703.</p>	<ol style="list-style-type: none"> <li>1. Includes all Dysrhythmias in one protocol.</li> <li>2. Airway and IV instructions removed, now part of "General Medical Care".</li> <li>3. Removed synchronized cardioversion from SVT.</li> <li>4. Removed Amiodarone from Atrial Fib/Flutter.</li> <li>5. Ongoing V-fib should be worked via CAM for at least 30 minutes.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduces number of protocols.</li> <li>2. Reduces length of protocols.</li> <li>3. SVT is a well-tolerated rhythm and does not require aggressive therapy.</li> <li>4. Atrial Fib/Flutter is a well-tolerated rhythm and does not require aggressive therapy.</li> <li>5. All changes were at the recommendation and guidance of both adult and Pediatric Cardiac Specialist.</li> </ol>
	7103 12 Lead EKG	Previously Po. No. 9809	<ol style="list-style-type: none"> <li>1. Added guidance language regrading Inferior MI and Nitroglycerin administration.</li> <li>2. Added Sgarbossa's criteria.</li> </ol>	<ol style="list-style-type: none"> <li>1. Nitroglycerine administration in patients with evidence of an Inferior MI is shown to reduce SBP and worsening of patient condition/outcomes.</li> <li>2. Sgarbossa's criteria is a new tool that may be used in the presence of LBB in determining an MI.</li> </ol>



## Summary of Changes

7200	Environmental Emergencies	Notes	Changes	Justification
	7201 Allergic-Anaphylactic Reactions	Previously Po. No. 9201/9202. Includes Allergic reaction previously Po. No. 9201/9709. Includes Anaphylaxis previously Po. No. 9202.	1. Changes to definitions.	1. New definitions capture the wide variety of presentations of allergic/anaphylactic reactions. .
	7202 Environmental Emergencies	Previously Po. No. 8010. Includes Heat Illness Previously Po. No. 9205. Includes hypothermia previously Po. No. 9206. Includes Snake bite, previously Po. No. 9207.	1. Clarification that snake bites can go to any receiving facility. 2. Removed Hazardous Material Guidance. 3. Removed Smoke Inhalation Guidance.	1. Previous guidance was that Rattle Snake bites could only go to one facility. Wanted to clear up any confusion or past practice. 2. Added to new Hazardous Materials Exposure Protocol. 3. Added to Burns/Smoke Inhalation Protocol.
	7203 Poisoning-Overdose	Previously Po. No. 8202	1. Removed Hydrocarbons, Caustic Substances, and Insecticides. 2. Added Narcotic overdose. 3. Added Poison Control as a resource for all poisoning/overdose.	1. Added to new policy Hazardous Materials Exposure. 2. Removed ALOC Protocol completely, Narcotic overdose should be with other overdose guidance. 3. A resource for any unknown and known poisoning/overdose.
	7204 Drowning/Near Drowning	Previously Po. No. 9204	1. Added special consideration guidance for AMA. 2. Clarification added regarding cold water drownings.	1. Near Drowning patients are at risk for decompensation for up to 24 hours thus requiring an ALS assessment and Base Physician consult to ensure patient is fully aware of the risk. 2. There is no body of water in CVEMSA's region that would constitute a cold water drowning.
	7205 Hazardous Material Exposure	New Policy		



## Summary of Changes

7300	Medical Emergencies	Notes	Changes	Justification
	7301 Non-Traumatic Hypotension	Previously Po. No. 8108	1. Added language regarding vaginal bleeding during 3rd trimester.	1. Patients with vaginal hemorrhage during the third trimester benefit from transport directly to a HCF with OB services.
	7302 Sepsis	Previously Po. No. 8019	1. Reformatted table.	1. The table for Sepsis Criteria reformatted to make it easier to understand.
	7303 Hyperkalemia	New Policy		
	7304 Severe Nausea	Previously Po. No. 9006	1. Added that Ondansetron is contraindicated in pregnancy. 2. Add Diphenhydramine for nausea in patients where Ondansetron is contraindicated. 3. Added motion sickness treatment.	1. Evidence shows Ondansetron is contraindicated in the pregnant patient. 2. Since Ondansetron is contraindicate in pregnant patients, Diphenhydramine is an alternative. 2. Motion sickness often is accompanied with Nausea/Vomiting. Brings these two policy together.
	7305 Severe Pain	Previously Po. No. 9004	1. Added Ketamine treatment. 2. Added Ketorolac. 3. Increase max dose of Fentanyl to 300 mcg.	1. New optional state scope medication for pain. 2. New optional state scope medication for pain. 3. Field pain management may require additional Fentanyl administration to achieve reduction in pain due to manipulation, movement, and transport. A 200 mcg max dose was limiting.
	7306 Hyper/Hypoglycemia	New Policy	1. Blood Glucose parameters reduced to 50 mg/dL. 2. D25 is the preferred intervention for Hypoglycemia when the patient is unable to self-administer Oral Glucose.	1. Allows for provider judgement to determine severity of hypoglycemia and the type of intervention. 2. Reduces the likelihood of rapidly increasing a diabetics BG, thus avoiding the "Ping/Pong effect".



## Summary of Changes

7400	Neurologic Emergencies	Notes	Changes	Justification
	7401 Acute Cerebrovascular Accident	Previously Po. No. 9303	1. BEFAST assessment replaces Cincinnati Stroke Scale. 2. Increase in onset of symptoms time interval to 18 hours.	1. BEFAST assessment is shown to be more predictive of a Stroke. 2. Evidence suggests that large vessel occlusions can still benefit from late intervention.
	7402 Seizures	Previously Po. No. 9302. Includes Pediatric Seizures previously Po. No. 9710	1. Increase in Midazolam dosing.	1. Midazolam is a relatively safe medication, an increase initial dose decreases likelihood needing a second dose and stopping seizure activity sooner.
7500	OBGYN Emergencies	Notes	Changes	Justification
	7501 Imminent Delivery	Previously Po. No. 9404. Includes parts of Vaginal Hemorrhage Previously Po. No. 9401 and 9402. Includes newborn care previously Po. No. 8012 Includes Neonatal Resuscitation previously Po. No. 9705.	1. Aligned with newborn care and Neonatal Resuscitation. 2. Added Pain Management to Mother's treatment. 3. Removed language delaying the cutting of the cord. 4. Added Vaginal Hemorrhage treatment for post-partum care.	1. Better illustrates the process of steps and priorities during delivery. A more holistic approach. 2. Allows for appropriate treatment of Mother's pain, often overlooked or not addressed. 3. Per OBGYN specialist, there is no benefit to waiting. 4. Provides a more natural flow of sequential events/interventions during imminent delivery into one protocol.
	7502 Severe Pre-Eclampsia-Eclampsia	Previously Po. No. 9403	1. Increase in Magnesium Sulfate Dose.	1. Per OBGYN specialist consult, the previously 2 G was not sufficient. Increasing the loading dose better manages symptoms/condition.
	7503 Vaginal Hemorrhage	Previously Po. No. 9401, renamed from Vaginal Hemorrhage without shock. Includes vaginal hemorrhage with shock previously Po. No. 9402	1. Removed post-partum guidance. 2. Added language regarding bleeding in the 3rd trimester.	1. Post-partum guidance added to Imminent Delivery protocol. 2. Patients bleeding in the third trimester are to be transport to a receiving facility with OB Services.
7600	Pediatric Emergencies	Notes	Changes	Justification
	7601 Unexpected Infant/Child Death	Previously Po. No. 7011, Not being review at this time.	1. No changes.	
	7602 Brief Resolved Unexplained Event	Previously ALTE Po. No. 7012	1. Switch from ALTE to BRUE	1. Captures other events that may frighten a caregiver.
	7603 Suspected Child Abuse Reporting Guidelines	Previously Po. No. 7010, not being review at this time.	1. No changes.	
	7604 APGAR	Previously Po. No. 9405	1. Removed suctioning with a bulb syringe for normal presenting newborns.	1. Patients with an APGAR 7-10 or presenting normal do not require suctioning.



## Summary of Changes

7700	Respiratory Emergencies	Notes	Changes	Justification
	7701 Respiratory Distress	Previously Po. No. 8501. Includes airway obstruction previously Po. No. 8005. Includes Pediatric Respiratory Distress Croup, Stridor, Previously Po. No. 9706. Includes Pediatric respiratory distress Bronchospasm, Previously Po. No. 9707.	1. Added I-Gel to BLS. 2. Added special considerations to address pulse oximetry limitations and parameters.	1. New Optional scope for approved providers. 3. Opportunity to provide some education specifically for patients that may deteriorate from Oxygen administration or lack of administration.
7800	Traumatic Emergencies	Notes	Changes	Justification
	7801 Burns/Smoke Inhalation	Previously Po. No. 9602. Includes Smoke Inhalation.	1. Added smoke inhalation treatment. 2. Added reference to Hazardous Materials Exposure for chemical exposure. 3. Added Base contact for AMA.	1. Smoke inhalation was previously in Environmental Emergencies, moved to Burns to better illustrate the relation. 2. Referenced to better illustrate the relation. 3. Adds an additional layer of protection for both the patient and the paramedic.
	7802 Major Trauma	Includes BLS Trauma Management previously Po. No. 8008. Includes Head Injury, previously Po. No. 9604.	1. Added Tranexamic Acid Administration. 2. Added Uncontrolled Hemorrhage/Amputation. 3. Added caution of administering too much NS.	1. New optional state scope medication. 2. Uncontrolled Hemorrhage/Amputation is a new policy. 3. Evidence shows too much fluid resuscitation can result in worsening patient outcomes.
	7803 Trauma Triage	Previously Po. No. 7003	1. Added geriatric section. 2. Added ground level fall w/ obvious head injury to criteria.	1. New trauma standards address the geriatric population. 2. Captures patients who might otherwise not meet trauma criteria, but would benefit from direct transport to a trauma center.
	7804 Crush Syndrome	Previously Po. No. 9605	1. Reference to hyperkalemia protocol for treatment of hyperkalemia. 2. Added additional definitions and education.	1. Crush syndrome may cause hyperkalemia, now that there is a hyperkalemia protocol, removed hyperkalemia instructions. 2. Crush syndrome is a rare event, additional definition and educational language is found to be helpful.
	7805 Uncontrolled Hemorrhage/Tourniquets	New Policy. Includes Tourniquets previously Po. No. 8015.		



## Summary of Changes

7900 Procedures	Notes	Changes	Justification
7901 Taser Barb Removal	New Policy		
7902 Football Helmet Removal	Previously Po. No. 8014	1. Added documentation requirements.	
7903 Use of Restraints	Previously Po. No. 7001	1. Added documentation requirements. 2. Added "swimmers position" as the preferred method for restraining a patient..	
7904 Administration of Narcan	Previously Po. No. 7014	1. Reorganized the some of the sequential steps. 4. Removed advanced airway clause.	1. More accurate flow for managing a suspected narcotic overdose and administering Narcan. 2. No pertinent to first responders.
7905 Administration of Ketamine	New Policy		
7906 Administration of Ketorolac	New Policy		
7907 Administration of TXA	New Policy		
7908 CPAP	Previously Po. No 8806.	No Changes	
7909 Spinal Motion Restriction	Previously Po. No. 8802	1. Removed flow chart. 2. Removed SMR placement procedures. 3. Added documentation requirements.	1. Added inclusion criteria. 2. Allows paramedic to apply appropriate level of immobilization and equipment to achieve SMR.
7910 Hemostatic Agents	Previously Po. No. 8018.	1. Format changes only.	
7911 Endotracheal Intubation	Previously Po. No. 8801.	1. Format changes only.	
7912 Supraglottic Airway	Previously Po. No. 8802.	1. Added I-Gel to BLS Scope for approved providers and accredited EMTs. 2. Tongue blade under required equipment.	1. New state optional scope procedure. 2. A tongue blade should be used to displace the tongue when inserting an I-Gel.
7913 Needle Thoracostomy	Previously Po. No. 8808	No Changes	
7914 Pre-Existing Vascular Device	Previously Po. No.	No Changes	
7915 Field Blood collection	Previously Po. No.	No Changes	
7916 End Tidal CO2 monitoring	Previously Po. No. 8814	No changes	
7917 Ventricular Assist Device (VAD)	Previously Po. No. 8017	No changes	



## Summary of Changes

8000	General Care Management	Notes	Changes	Justification
	8001 Physician and/or R.N. at scene	Previously Po. No. 7002	No changes	
	8002 Treatment/Transport of minors	Previously Po. No. 7004	1. Removed that patient can be released to self.	1. Minor patients should not be released to self.
	8003 Patient Refusal of Treatment/Transport	Previously Po. No 7005	No changes	
	8004 Determination of Death in Pre-hospital setting	Previously Po. No. 7006	1. Added that V-Fib patients require at least 30 minutes of resuscitation efforts.	
	8005 Point of Entry	Previously Po. No. 7007	No changes	
	8006 Hospital Bypass	Previously Po. No. 7008	No changes	
	8007 Suspected Elder and Dependent Adult Abuse Reporting	Previously Po. No. 7009	No changes	
8100	Inter-facility Transport	Notes	Changes	Justification
	8101 Transport of Potassium Chloride	Not under review at this time.	No changes	
	8102 Intravenous Infusion of Heparin and Nitroglycerin	Previously Po. No. 9902, still needs additional review and formatting.	1. Added additional approved heparin concentrations.	1. Some HCFs carry a different concentration delaying transport.
	8103 Monitoring Thoracostomy Tubes	Not under review at this time.	No Changes	
	8104 Inter-Facility Transfers	Previously 7013, still needs additional review and formatting.	1. Allows ALS to transport patients with Indwelling temporary pacemakers, on CPAP, and neonatal transport.	1. If transferring physician, receiving physician, and paramedic all agree, these patients may be transported by ALS, not just CCT.





## General Medical Care

Policy Number: 7001		Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director
Effective Date: January 1, 2020    Review Date: TBD		
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221		
I. Definition		
<div><div>A. All levels of provider will complete the following as part of providing general medical care for every patient:</div><div><div>1. Perform initial and focused assessment.</div><div>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.</div></div><div>B. This protocol applies to every patient contact and is the basis from which other treatment protocols build upon.</div><div><div>1. Scene size up:</div><div><div>a. Assess scene safety.</div><div>b. Use standard/universal precautions.</div><div>c. Determine the number of patients, activate MCI if indicated per <i>CVEMSA MCI Plan</i>.</div><div>d. Determine nature of illness/mechanism of injury.</div></div><div>2. Primary assessment:</div><div><div>a. Obtain vital signs.</div><div>b. Identify and treat immediate life threats.</div><div>c. If cardiac arrest suspected:</div><div><div>(1) Begin cardiac arrest management per <i>treatment guideline 7003 Cardiac Arrest Management</i>.</div></div><div>d. Systemic assessment of major body systems (medical).</div><div>e. Systemic assessment for injuries (trauma).</div></div><div>3. Obtain the following information from patient or historian if patient unable to provide:</div><div><div>a. Chief complaint.</div><div>b. History of current complaint.</div><div>c. Past medical history.</div><div>d. Medications.</div><div>e. Allergies.</div></div><div>4. Initiate treatment based on assessment findings as indicated by appropriate protocols.</div><div>5. Reassess.</div><div>6. Transport as indicated.</div><div><div>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.</div></div><div>7. Document all treatment on appropriate electronic patient care report (PCR) platform.</div></div></div>		
II. Basic Life Support		
<div>A. Primary assessment:</div> <div><div>1. Assess airway patency:</div><div><div>a. If airway is not patent, utilize BLS maneuvers, adjuncts, and suctioning if indicated to clear the airway.</div></div><div>2. Assess quality of breathing:</div><div><div>a. Initiate SpO<sub>2</sub> monitoring:</div><div><div>(1) For readings under 94%, consider oxygen therapy.</div><div><div>(a) Adjust oxygen device and flow to maintain a SpO<sub>2</sub> between 94% - 99%.</div><div>(b) For patients with COPD a normal reading may be 88%-92%.</div></div></div></div></div>		



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



## Sedation

Policy Number: 7002		Approved: Bryan Cleaver, EMS Administrator	
Effective Date: January 1, 2020		Mark Luoto, EMS Medical Director	
Review Date: TBD			
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221			
I. Definition			
<div><div>A. Anxiety communicated by patient not relieved with other calming measures.</div><div>B. Behaviors that endanger patient or others, or interferes with patient care.</div><div>C. Sedation prior to ALS treatment such as cardioversion.</div><div>D. Trismus.</div><div>E. Anticipated movement/manipulation of fractures or dislocations.</div><div>F. Airway management (physiological state that interferes with essential airway management).</div></div>			
II. Basic Life Support			
<div>A. Provide General Medical Care.</div>			
III. Advanced Life Support			
Adult		Pediatric (less than 14 years of age)	
<div><div>A. Mild Sedation:</div><div><div>1. Administer Diphenhydramine 50 mg IM.</div><div><div>a. Diphenhydramine 25 mg – 50 mg may be administered IV.</div><div>b. Max dose 50 mg.</div></div></div><div>B. Moderate/Significant Sedation:</div><div><div>1. Administer Midazolam 2 mg slow IVP.</div><div><div>a. Titrate to desired degree of sedation and maintain SBP ≥ 90 mmHg.</div><div>b. May repeat 1-2 mg every 3 minutes.</div><div>c. If unable to establish IV, administer 2 mg – 5 mg IM.</div><div><div>(1) May repeat initial IM dose every 10 – 15 minutes.</div></div><div>d. Max total dose 0.1 mg/kg.</div><div><div>(1) Patients with concomitant narcotic administration should not exceed a max dose of 0.05 mg/kg.</div><div>(2) For long transport, max dose may be exceeded for sedation maintenance.</div><div><div>(a) Administer 1 mg IV every 15 minutes.</div></div></div><div>2. If patient SBP &lt; 90 mmHg administer Fentanyl 50 mcg – 100 mcg IV/IM instead of Midazolam.</div></div></div></div>		<div><div>A. Mild Sedation:</div><div><div>1. Administer Diphenhydramine per pediatric medication administration guide.</div><div><div>a. Do not repeat.</div></div></div><div>B. Moderate/Significant Sedation:</div><div><div>1. Administer Midazolam per pediatric medication administration guide.</div><div><div>a. Titrate to desired degree of sedation and maintain age appropriate SBP.</div><div>b. May repeat 0.5 mg -1 mg every 3 minutes.</div><div>c. Max total dose 0.05 mg/kg.</div></div><div>2. If patient is hypotensive, administer Fentanyl per the pediatric medication administration guide instead of Midazolam.</div></div></div>	



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>	
V.	Base Orders	
	A. None.	
VI.	Contraindications	
	<p>A. Absolute:</p> <ol style="list-style-type: none"> <li>1. Sensitivity to the medication to be administered.</li> </ol> <p>B. Relative: Paramedic judgement is necessary when evaluating the need for sedation in these circumstances.</p> <ol style="list-style-type: none"> <li>1. Nausea/Vomiting.</li> <li>2. Depressed mentation.</li> <li>3. Hypotension.</li> <li>4. Suspected drug/alcohol intoxication.</li> <li>5. Head Injury.</li> <li>6. Multiple systems trauma.</li> <li>7. Concomitant narcotic administration.</li> </ol>	
VII.	Cross Reference	
	A. General Medical Care	Policy No. 7001



## Cardiac Arrest Management

Policy Number: 7003		Approved: Bryan Cleaver, EMS Administrator	
Effective Date: January 1, 2020		Review Date: TBD	
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		Pediatric (less than 14 years of age)	
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. Mechanical CPR devices (AutoPulse and LUCAS) can ONLY be used after the initial 10 minutes of resuscitation, and generally only if rescuer fatigue is an issue.		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.		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.		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.	



<ol style="list-style-type: none"> <li>3. Choice of adjuncts, including nasal and oral airways should be based on the specific needs of the patient.</li> <li>4. Small tidal volume ventilations (approximately 100 ml) should be administered on the upstroke of every 10<sup>th</sup> compression. A pediatric bag is preferred to help ensure small tidal volumes.</li> <li>5. Change to normal adult size BVM for patients with ROSC.</li> <li>6. Accredited EMTs who work for approved rural providers, may use an approved Supraglottic airway as an advanced rescue airway for adult patients in cardiac arrest when BLS maneuvers are unsuccessful per <i>procedure guideline 7912 Supraglottic Airway</i>.</li> </ol>	<ol style="list-style-type: none"> <li>4. Small tidal volume ventilations (approximately 100ml) should be administered on the upstroke of every 10<sup>th</sup> compression.</li> </ol>
III. Advanced Life Support	
Adult	Pediatric (less than 14 years of age)
<ol style="list-style-type: none"> <li>A. Switch to manual monitor and check rhythm.               <ol style="list-style-type: none"> <li>1. Defibrillate immediately if in VF/VT per manufacture guidelines.</li> <li>2. Analyze rhythm every 2 minutes.</li> </ol> </li> <li>B. Vascular access:               <ol style="list-style-type: none"> <li>1. Do not stop compressions to accomplish.</li> <li>2. An IO may be preferable limiting the interference with compressions.</li> </ol> </li> <li>C. Medication administration should occur per <i>treatment guideline 7102 Dysrhythmias</i>.               <ol style="list-style-type: none"> <li>1. Do not stop compressions while giving medications.</li> </ol> </li> <li>D. Airway management               <ol style="list-style-type: none"> <li>1. Maintain a BLS airway unless it is compromised.</li> <li>2. If ROSC is achieved, BLS airway is preferred but an approved alternate rescue airway device or endotracheal intubation can be considered per <i>procedure guidelines 7911 Endotracheal Intubation or 7912 Supraglottic Airway</i>.</li> </ol> </li> <li>3. Placing advanced airways should not interfere with continuous chest compressions or defibrillation.</li> </ol>	<ol style="list-style-type: none"> <li>A. Switch to manual monitor and check rhythm.               <ol style="list-style-type: none"> <li>1. Defibrillate immediately if in VF/VT per manufacturer guidelines.</li> <li>2. Analyze rhythm every 2 minutes.</li> </ol> </li> <li>B. Vascular access:               <ol style="list-style-type: none"> <li>1. Do not stop compressions to accomplish.</li> <li>2. An IO may be preferable, limiting the interference with compressions</li> </ol> </li> <li>C. Medication administration should occur per <i>treatment guideline 7102 Dysrhythmias</i>.               <ol style="list-style-type: none"> <li>1. Do not stop compressions while giving medications.</li> </ol> </li> <li>D. Airway management:               <ol style="list-style-type: none"> <li>1. Maintain a BLS airway unless it is compromised.</li> <li>2. End-tidal capnography should be used for evaluating the effectiveness of resuscitation, ROSC, and as a possible endpoint for the resuscitation.</li> <li>3. Place ETCO<sub>2</sub> filter line on BVM as soon as possible.</li> </ol> </li> <li>E. Post arrest management:               <ol style="list-style-type: none"> <li>1. If SBP &lt; 70 mmHg after 3 boluses contact Base Hospital for Push Dose Epinephrine order.</li> </ol> </li> </ol>





<ol style="list-style-type: none"> <li>4. End-tidal capnography should be used for evaluating the effectiveness of resuscitation, ROSC, and as a possible endpoint for the resuscitation.</li> <li>5. Place ETCO<sub>2</sub> filter line on BVM as soon as possible.</li> </ol> <p>E. Post arrest management:</p> <ol style="list-style-type: none"> <li>1. If unable to maintain a minimum systolic BP of 90 mmHg after IV fluid bolus of 1000 ml, administer push-dose Epinephrine.</li> <li>2. Mix 1 ml of Epinephrine 1:10,000 (0.1mg/ml) with 9 ml NS in a 10 ml syringe.</li> <li>3. Administer diluted Epinephrine 1 ml IV every 1-5 minutes, titrating to maintain a SBP &gt; 90 mmHg.</li> </ol>	<ol style="list-style-type: none"> <li>2. Refer to pediatric medication administration guide for medication dosing.</li> </ol>
<p>IV. Special Considerations</p> <ol style="list-style-type: none"> <li>A. Timekeeping is important:             <ol style="list-style-type: none"> <li>1. The compressor should count 1-10, repeat.</li> <li>2. Ventilator counts 10, 20, 30, etc. every 10 compressions.</li> </ol> </li> <li>B. A team leader should be identified at the beginning of the resuscitation attempt.             <ol style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>3. Overall scene management should be coordinated and supervised using the precepts of the Incident Command System.</li> </ol> </li> <li>C. Resuscitation time: minimum 20 minutes on scene in ALL, except very rare cases (i.e. unsafe and unworkable scenes).             <ol style="list-style-type: none"> <li>1. Ongoing V-Fib/Pulseless V-Tach should be worked for at least 30 minutes.</li> <li>2. Pediatric arrests are to be transported to the nearest emergency department as soon as practical.</li> </ol> </li> <li>D. Post Arrest Management             <ol style="list-style-type: none"> <li>1. Should focus on stabilizing the patient's life threats and transport.</li> <li>2. Prior to moving the patient, obtain a 12 lead EKG. 5-10 minutes on scene is reasonable to ensure rhythm stability.</li> <li>3. Ventilate the patient with 10 breaths per minute to achieve an EtCO<sub>2</sub> of 35-45 mmHg and an O<sub>2</sub> sat of 94-98%.</li> <li>4. No hyperventilation or hyper-oxygenation.</li> <li>5. Transport all ROSC patients to a STEMI receiving center if within a 30 minute transport time.</li> </ol> </li> <li>E. Continuous compressions and defibrillation are more important than ventilation, vascular access, and medications.</li> <li>F. Defibrillate per manufacturers recommendation.</li> <li>G. Remember, do not stop chest compressions for ventilation, charging of manual defibrillator or ALS procedures.</li> </ol>	

# COASTAL VALLEYS EMS AGENCY



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
C. Supraglottic Airway	Policy No. 7912
D. Endotracheal Intubation	Policy No. 7911





## Suspected Acute Coronary Syndrome

Policy Number: 7101		Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director
Effective Date: January 1, 2020    Review Date: TBD		
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221		
I. Definition		
<p>A. Acute Coronary Syndrome (ACS) has a wide variety of presentations. Symptoms may include:</p> <ul style="list-style-type: none"><li>1. Substernal pain.</li><li>2. Dysrhythmia.</li><li>3. Discomfort or tightness radiating to the jaw, back, and either shoulder or arm.</li><li>4. Nausea.</li><li>5. Diaphoresis.</li><li>6. Dyspnea.</li><li>7. Syncope/dizziness.</li><li>8. Other “suspicious symptoms”.</li></ul> <p>B. Myocardial Infarction (MI): Greater than 1 mm ST segment elevation in two or more contiguous leads or meets Sgarbossa criteria.</p>		
II. Basic Life Support		
<p>A. Provide General Medical Care.</p> <p>B. Administer Aspirin 324 mg PO (approximately 4 chewable tablets).</p>		
III. Advanced Life Support		
<p>A. Obtain 12-Lead EKG per <i>procedure guideline 7103 12-Lead EKG</i>.</p> <ul style="list-style-type: none"><li>1. If evidence of myocardial infarction (MI):<ul style="list-style-type: none"><li>a. Direct transport to the closest, most appropriate authorized STEMI Receiving Center (SRC) per <i>CVEMSA guideline 5005 Point of Entry</i>.</li><li>b. Early receiving center notification of a STEMI Alert.</li></ul></li></ul> <p>B. Consider administering Nitroglycerin 0.4 mg SL if SBP &gt; 110 mmHg.</p> <ul style="list-style-type: none"><li>2. May repeat every 5 minutes if symptoms persist and SBP remains &gt; 110 mmHg.</li><li>3. Max 1.2 mg (3 doses).</li><li>4. Optional:<ul style="list-style-type: none"><li>a. For prolonged transports, apply ½ inch of 2% Nitroglycerin paste.<ul style="list-style-type: none"><li>(1) May apply an additional ½ inch if signs and symptoms persist and SBP remains &gt; 110 mmHg.</li></ul></li></ul></li></ul> <p>C. Administer Fentanyl per <i>treatment guideline 7305 Severe Pain</i>. Fentanyl can be administered concurrently with Nitroglycerin.</p> <p>D. Fluid Resuscitation:</p> <ul style="list-style-type: none"><li>1. If SBP &lt; 110 mmHg, administer 250 ml NS fluid bolus IV.<ul style="list-style-type: none"><li>a. May repeat once.</li><li>b. Reassess vital signs after every 250 ml to ensure lung sounds remain clear.</li></ul></li><li>2. If SBP &lt;90 mmHg and cardiogenic shock suspected:<ul style="list-style-type: none"><li>a. Administer 500 ml NS fluid bolus IV.<ul style="list-style-type: none"><li>(1) Reassess vital signs after every 250 ml to ensure lung sounds remain clear.</li><li>(2) If rales develop or worsen and hypotension persists administer push-dose Epinephrine as described below.</li></ul></li></ul></li></ul>		



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. 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. Severe Pain          | Policy No. 7305 |



## Dysrhythmias

Policy Number: 7102		Approved: Bryan Cleaver, EMS Administrator	
Effective Date: January 1, 2019    Review Date: TBD		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 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)	
<b>A. Asystole:</b> 1. Confirm asystole by increasing gain to 2.0. a. If other dysrhythmia found, refer to appropriate dysrhythmia section of this protocol. 2. Administer 1:10,000 Epinephrine 1 mg IV. a. Repeat every 3-5 minutes. b. Max dose 3 mg.		<b>A. Asystole:</b> 1. Confirm asystole by increasing gain to 2.0. a. If other dysrhythmia found, refer to appropriate dysrhythmia section of this protocol. 2. Administer 1:10,000 Epinephrine IV per pediatric medication administration guide. a. Repeat every 3-5 minutes. b. Max dose 3 mg.	
<b>B. Bradycardia:</b> 1. Stable: Patient with signs of normal perfusion and/or a SBP > 110 mmHg. a. Provide General Medical Care. 2. Unstable: Patient with signs of decrease perfusion: a. If SBP < 90mmHg and lung sounds are clear: (1) Consider NS fluid bolus 10 ml/kg. (a) Recheck vitals every 250 ml. b. Administer Atropine 0.5 mg IV. (1) May repeat every 3 minutes. (2) Max dose 2 mg. c. If no response to NS fluid bolus and Atropine administration: (1) Consider cardiac pacing. d. If inadequate response to the above treatment: (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.		<b>B. Bradycardia:</b> 1. Stable: Patients with signs of normal perfusion and age appropriate SBP. a. Provide General Medical Care. 2. Unstable: Decreased perfusion or respiratory distress: a. Prepare push-dose Epinephrine: (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 to achieve dose per the pediatric medication administration guide. (3) Titrate to maintain age appropriate SBP. b. If no response to Epinephrine administration: (1) Administer Atropine per the pediatric medication administration guide. c. If no response to the above treatment: (1) Administer NS fluid bolus 20 ml/kg IV. d. Consider external pacing using pediatric pads.	

A. Asystole

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 starting with 200J to a max of 360J.
    - 1) Consider sedation per *treatment guideline 7002 Sedation* if patient is awake and aware.
    - 2) If rhythm does not convert with cardioversion contact Base Hospital for additional guidance.
  - 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.
3. 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.

## 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. Expedient transport is a priority.
2. If patient shows signs of decreased perfusion and responsive:
  - a. Administer Adenosine per pediatric medication administration guide.
    - 1) May repeat once.
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, repeat 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, transmit EKG to Base Hospital per *procedure guideline 7103 EKG 12-Lead* and contact base for further instructions.

**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 manufacturers recommendation (200 J, 300 J, 360 J).
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 &lt; 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	Policy No. 7001 Policy No. 7103 Policy No. 7002 Policy No. 7003



## EKG 12-Lead

Policy Number: 7103		Approved: Bryan Cleaver, EMS Administrator	
Effective Date: January 1, 2019    Review Date: TBD		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 4 <sup>th</sup> intercostal space.			
2. V2: Left 4 <sup>th</sup> intercostal space.			
3. V3: Halfway between V2 and V4.			
4. V4: Left 5 <sup>th</sup> intercostal space, mid-clavicular line.			
5. V5: Horizontal to V4, anterior axillary line.			
6. V6: Horizontal to V5, mid-axillary line.			
7. V4R: Right 5 <sup>th</sup> 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		Approved: Bryan Cleaver, EMS Administrator	
Effective Date: January 1, 2020    Review Date: TBD		Mark Luoto, EMS Medical Director	
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221			
I. Definition			
<div>A. Mild Allergic Reaction: Urticaria (itchy, raised welts).</div> <div>B. Moderate/Severe Allergic Reaction: The presence of swelling of mucus membranes, dyspnea, wheezing, chest or throat tightness, or abdominal cramps.</div> <div>C. Anaphylaxis: Signs of shock.</div>			
II. Basic Life Support			
<div>A. Provide General Medical Care.</div> <div>B. Assess severity of reaction:<div>1. Mild Allergic Reaction:<div>a. Observe for development of additional symptoms and do not delay Epinephrine administration if indicated.</div></div><div>2. Moderate/Severe Allergic Reaction:<div>a. Administer auto-injector Epinephrine 0.3 mg IM.</div></div><div>3. Anaphylaxis:<div>a. Administer auto-injector Epinephrine 0.3 mg IM.<div>(1) May repeat once after 10 minutes if symptoms persist.</div></div></div></div>			
III. Advanced Life Support			
Adult		Pediatric (less than 14 years of age)	
<div>A. Mild Allergic Reaction:<div>1. Administer Diphenhydramine 50 mg IM.</div></div> <div>B. Moderate/Severe Allergic Reaction:<div>1. Administer 1:1,000 Epinephrine 0.3 mg IM.<div>a. May repeat once after 10 minutes if symptoms persist.</div></div><div>2. For bronchospasm refer to refer to <i>treatment guideline 7701 Respiratory Distress</i>:<div>a. Administer Albuterol 5 mg in 6 ml nebulized.<div>(1) May repeat Albuterol as indicated.</div></div><div>b. Administer Atrovent 0.5 mg in 6 ml NS nebulized.<div>(1) Do not repeat.</div></div><div>c. Administer Diphenhydramine 50 mg IV/IM.</div></div></div>		<div>A. Mild Allergic Reaction:<div>1. Administer Diphenhydramine per pediatric medication administration guide.</div></div> <div>B. Moderate/Severe Allergic Reaction:<div>1. Administer 1:1,000 Epinephrine IM per pediatric medication administration guide.<div>a. Max initial dose 0.3 mg.</div><div>b. May repeat once after 10 minutes if symptoms persist.</div></div><div>2. For bronchospasm:<div>a. Administer Albuterol per pediatric medication administration guide.<div>(1) May repeat Albuterol as indicated.</div></div><div>b. Administer Atrovent per pediatric medication administration guide.<div>(1) Do not repeat.</div></div></div><div>3. Administer Diphenhydramine per pediatric medication administration guide.<div>a. Max dose 50 mg.</div></div></div>	





<p>A. Anaphylaxis:</p> <ol style="list-style-type: none"> <li>Administer 1:1,000 Epinephrine 0.3 mg IM. <ol style="list-style-type: none"> <li>May repeat twice at 10 minute intervals if symptoms persist.</li> </ol> </li> <li>Administer NS fluid bolus 10 ml/kg IV. <ol style="list-style-type: none"> <li>Recheck vital signs every 250 ml to ensure lung sounds remain clear.</li> <li>May repeat to a max volume of 30 ml/kg.</li> </ol> </li> <li>Administer Benadryl 50 mg IV.</li> <li>If unresponsive and severely hypotensive: <ol style="list-style-type: none"> <li>Prepare push-dose Epinephrine: <ol style="list-style-type: none"> <li>Mix 1 ml of 1:10,000 Epinephrine (0.1 mg/ml) with 9 ml NS in a 10 ml syringe.</li> <li>Administer push-dose Epinephrine 1 ml IV every 1-4 minutes. <ol style="list-style-type: none"> <li>Titrate to maintain SBP &gt; 90 mmHg.</li> </ol> </li> </ol> </li> </ol> </li> </ol>	<p>A. Anaphylaxis:</p> <ol style="list-style-type: none"> <li>Administer 1:1,000 Epinephrine IM per pediatric medication administration guide. <ol style="list-style-type: none"> <li>Max initial dose 0.3 mg.</li> <li>May repeat twice at 10 minute intervals if symptoms persist.</li> </ol> </li> <li>Administer NS fluid bolus 20 ml/kg IV. <ol style="list-style-type: none"> <li>May repeat once if symptoms persist.</li> </ol> </li> <li>Administer Benadryl IV per pediatric medication administration guide. <ol style="list-style-type: none"> <li>Max dose 50 mg.</li> </ol> </li> <li>If unresponsive and severely hypotensive: <ol style="list-style-type: none"> <li>Prepare push-dose Epinephrine: <ol style="list-style-type: none"> <li>Mix 1 ml of 1:10,000 Epinephrine (0.1 mg/ml) with 9 ml NS in a 10 ml syringe.</li> <li>Administer push-dose Epinephrine 1 ml IV every 1-4 minutes. <ol style="list-style-type: none"> <li>Titrate to maintain SBP &gt; 90 mmHg.</li> </ol> </li> </ol> </li> </ol> </li> </ol>		
<p>IV. Special Considerations</p> <ol style="list-style-type: none"> <li>Use caution when administering repeat doses of Epinephrine in patients over 60 years of age with a significant cardiac history.</li> <li>Allergic and Anaphylactic reactions have a variable degree of presentation, Urticaria may not always be present.</li> </ol>			
<p>V. Base Orders</p> <table border="1"> <tr> <td data-bbox="94 1360 812 1543"> <p>A. None</p> </td><td data-bbox="812 1360 1528 1543"> <p>A. If SBP &lt; 70 mmHg after 3 NS fluid boluses, consult with Base Hospital for push-dose Epinephrine administration.</p> <ol style="list-style-type: none"> <li>Refer to pediatric medication administration guide for push-dose Epinephrine dosage.</li> </ol> </td></tr> </table>		<p>A. None</p>	<p>A. If SBP &lt; 70 mmHg after 3 NS fluid boluses, consult with Base Hospital for push-dose Epinephrine administration.</p> <ol style="list-style-type: none"> <li>Refer to pediatric medication administration guide for push-dose Epinephrine dosage.</li> </ol>
<p>A. None</p>	<p>A. If SBP &lt; 70 mmHg after 3 NS fluid boluses, consult with Base Hospital for push-dose Epinephrine administration.</p> <ol style="list-style-type: none"> <li>Refer to pediatric medication administration guide for push-dose Epinephrine dosage.</li> </ol>		
<p>VI. Contraindications</p> <p>A. None.</p>			
<p>VII. Cross Reference</p> <table border="1"> <tr> <td data-bbox="94 1654 617 1707"> <p>A. General Medical Care</p> <p>B. Respiratory Distress</p> </td><td data-bbox="617 1654 1528 1707"> <p>Policy No. 7001</p> <p>Policy No. 7701</p> </td></tr> </table>		<p>A. General Medical Care</p> <p>B. Respiratory Distress</p>	<p>Policy No. 7001</p> <p>Policy No. 7701</p>
<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		Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director
Effective Date: January 1, 2020    Review Date: TBD		
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221		
I. Definition		
<div><div>A.</div><div>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.</div><div>B.</div><div>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.</div><div>C.</div><div>Moderate Hypothermia: Conscious and shivering, lethargic, pale, and cold skin.</div><div>D.</div><div>Severe Hypothermia: Stuporous or comatose, dilated pupils, hypotension, bradycardic or pulseless, and slow to absent respirations.</div></div>		
II. Basic Life Support		
<div><div>A.</div><div>Provide General Medical Care.</div><div>B.</div><div>Protect patient from further environmental exposure.</div><div>C.</div><div>Remove any heavy, constricting, or wet clothing.</div><div>D.</div><div>Heat-related illness:<div><div>1.</div><div>Provide cooling measures such as an ice pack.</div></div></div><div>E.</div><div>Cold-related illness:<div><div>1.</div><div>Provide passive warming measures such as a hot pack or additional blankets.</div></div></div><div>F.</div><div>Bites or Stings:<div><div>1.</div><div>Remove stinger if still present.</div><div>2.</div><div>Assess for signs of allergic/anaphylactic reactions per <i>treatment guideline 7201 Allergic/Anaphylactic reactions</i>.</div><div>3.</div><div>For suspected venomous snake bites:<div><div>a.</div><div>Do not delay transport. Patient may be transported to any receiving facility.</div><div>b.</div><div>Early receiving facility notification.</div><div>c.</div><div>Immobilize extremity at or below heart level.</div><div>d.</div><div>Do not:<div><div>(1)</div><div>Apply ice to the site.</div><div>(2)</div><div>Make incision over the bite.</div><div>(3)</div><div>Use restrictive bands.</div></div></div></div></div></div></div></div>		
III. Advanced Life Support		
<div><div>A.</div><div>Cold-related illness:<div><div>1.</div><div>Consider administering warm NS fluid bolus IV as indicated.</div></div></div><div>B.</div><div>Suspected venomous snake bites:<div><div>1.</div><div>Consider pain management per <i>treatment guideline 7305 Severe Pain</i>.</div><div>2.</div><div>Do not delay transport to initiate IV.</div></div></div></div>		



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



## Poisoning/Overdose

Policy Number: 7203		Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director	
Effective Date: January 1, 2020		Review Date: TBD	
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 <i>treatment guideline 7205 Hazardous Materials Exposure</i> .			
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		Pediatric (less than 14 years of age)	
A. Cyclic antidepressants:		A. Cyclic antidepressants:	
1. In the presence of widened QRS complex on EKG.		1. In the presence of widened QRS complex on EKG.	
a. Administer Sodium Bicarbonate 50 mEq/dL IV.		a. Administer Sodium Bicarbonate per pediatric medication administration guide.	
(1) May repeat once if widened QRS complex persists.		B. Narcotic overdose:	
B. Narcotic overdose:		1. In the presence of respiratory depression or arrest:	
1. In the presence of respiratory depression or arrest:		a. Administer Narcan per pediatric medication administration guide titrated to achieve adequate respiratory drive.	
a. Administer Narcan titrated to achieve adequate respiratory drive IV/IM/IN.		C. Phenothiazine/dystonic reaction:	
(1) Max dose 10 mg.		1. Administer Diphenhydramine per pediatric medication administration guide.	
C. Phenothiazine/dystonic reaction:			
1. Administer Diphenhydramine 1 mg/kg IV/IM.			
a. Max dose 50 mg.			
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: TBD		
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 <sub>2</sub> 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	Approved: Bryan Cleaver, EMS Administrator
Effective Date: January 1, 2020 Review Date: TBD	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	Pediatric ( less than 14 years of age)
<p>A. Insecticides: Organophosphates, Carbonates</p> <ol style="list-style-type: none"> <li>If signs of significant exposure (bradycardia, salivation, vomiting/diarrhea, wheezing, hypotension): <ol style="list-style-type: none"> <li>Administer Atropine 2 mg slow IVP. <ol style="list-style-type: none"> <li>May repeat if symptoms persist.</li> <li>Max dose 8 mg.</li> </ol> </li> </ol> </li> </ol>	<p>A. Insecticides: Organophosphates, Carbonates</p> <ol style="list-style-type: none"> <li>If signs of significant exposure (bradycardia, salivation, vomiting/diarrhea, wheezing, hypotension): <ol style="list-style-type: none"> <li>Administer Atropine per pediatric medication administration guide. <ol style="list-style-type: none"> <li>May repeat if symptoms persist.</li> <li>Max dose 4 mg.</li> </ol> </li> </ol> </li> </ol>
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		Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director	
Effective Date: January 1, 2020    Review Date: TBD			
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> .			
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 HCF 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: TBD

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.



EtCO<sub>2</sub> < 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 SBP > 90 mmHg.
1. May repeat to a max of 2 L.
  2. Boluses may be given in rapid succession if SBP remains < 90 mmHg.
- 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 EtCO<sub>2</sub> > 25 mmHg. Base consultation for an ill-appearing patient not meeting Sepsis Alert criteria is appropriate; this may be especially true for an EtCO<sub>2</sub> between 26 mmHg to 30 mmHg.
- B. EtCO<sub>2</sub> ≤ 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

DRAFT



## Hyperkalemia

Policy Number: 7303		Approved: Bryan Cleaver, EMS Administrator	
Effective Date: January 1, 2020		Review Date: TBD	
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221		Mark Luoto, EMS Medical Director	
I. Definition			
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.			
B. EKG findings include peaked “T” waves, absent “P” waves, and/or widening of the QRS.			
C. Crush Syndrome can develop when an individual is entrapped with extensive tissue involvement. Patients with Crush syndrome are at risk for developing Hyperkalemia.			
II. Basic Life Support			
A. Provide General Medical Care.			
B. Monitor closely for signs of cardiac arrest and defibrillate without delay.			
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)	
A. In the presence of altered mental status, chest pain, unexplained bradycardias, nausea/vomiting, and/or crush syndrome: 1. Administer Calcium Chloride 1 gm slow IVP over 2 minutes. 2. In second separate IV, administer Sodium Bicarbonate 1 mEq/kg IVP over 1 minute. 3. Administer Albuterol (no Atrovent) 5 mg in 6 ml NS via nebulized device.		A. In the presence of altered mental status, chest pain, unexplained bradycardias, nausea/vomiting, and/or crush syndrome: 1. Administer Calcium Chloride per pediatric medication administration guide. 2. In second separate IV, administer Sodium Bicarbonate per pediatric medication administration guide. 3. Administer Albuterol (no Atrovent) per pediatric medication administration guide.	
IV. Special Considerations			
A. If treatment is successful, you should see an increase in GCS and resolution in EKG abnormalities.			
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.			
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 Effective Date: January 1, 2020   Review Date: TBD	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. 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 IM. a. Max dose 50 mg.	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.	
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 B. Severe Pain	Policy No. 7001 Policy No. 7305



## Severe Pain

Policy Number: 7305		Approved: Bryan Cleaver, EMS Administrator	
Effective Date: January 1, 2020		Review Date: TBD	
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221			
I. Definition			
A. Severe pain in the presence of adequate vital signs and normal level of consciousness. 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. If unable to establish IV, administer Fentanyl 1 mcg/kg IM.		1. Do not repeat.	
a. May repeat in 30 minutes at ½ the initial dose.		2. Max dose 15 mg.	
b. Max single dose 100 mcg with a max total dose 200 mcg.			
4. 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 5 minutes per <i>procedure guideline 7905 Ketamine Administration</i> :			
1. Max single dose 30 mg.			
2. If unable to establish IV, administer Ketamine 0.5 mg/kg IM/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 <i>procedure guideline 7906 Ketorolac Administration</i> .			
1. If unable to establish IV, administer Ketorolac 30 mg IM.			
2. Do not repeat.			



IV. Special Considerations	
<p>A. Monitor patient vitals carefully and ensure patent airway.</p> <p>B. Use caution in frail and elderly patients.</p> <p>C. Consider using EtCO<sub>2</sub> monitoring with repeated doses.</p> <p>D. IM administration of Ketorolac may have a variable absorption rate.</p> <p>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.</p> <p>F. IN administration of Fentanyl is a useful method in treating pain for adults and children.</p> <p>F. 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.</p> <p>G. Ketorolac will not affect hemodynamics, respiratory function, or alertness. Except in kidney stone patients, it is generally 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.</p>	
V. Base Orders	
A. If pain persist, contact Base Hospital for any repeat doses exceeding max dose.	
VI. Contraindications	
<p>A. Sensitivity to the medication.</p> <p>B. Ketorolac is contraindicated in trauma patients and abdominal Pain.</p>	
VII. Cross Reference	
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	
Effective Date: January 1, 2020		Review Date: TBD	
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:		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 IVP or infusion.		1. Administer 10% Dextrose IV per pediatric medication administration guide.	
a. May repeat once if BG remains below 60 mg/dL and symptoms persist.		2. May repeat once if BG remains below 60 mg/dL and symptoms persist.	
2. If unable to establish IV, administer Glucagon 1 mg IM.		3. If unable to establish IV, administer Glucagon per pediatric medication administration guide.	
a. Do not repeat.		a. Do not repeat.	
B. If BG > 400 mg/dL:		B. If BG > 300 mg/dL:	
1. Administer NS fluid bolus 10 ml/kg IV.		1. Administer NS fluid bolus 20 ml/kg IV.	
a. May repeat as indicated.		a. Do not repeat.	
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> .			
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: TBD

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

Policy Number: 7402		Approved: Bryan Cleaver, EMS Administrator	
Effective Date: January 1, 2020		Review Date: TBD	
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 5 mg slow IV/IM/IN.		A. Administer Midazolam per pediatric medication administration guide.	
1. May repeat as needed in 5 minute intervals.		1. May repeat once for continued seizure activity after 5 minutes.	
2. Max dose 15 mg.			
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 administer, 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	



## Imminent Delivery

Policy Number: 7501		Approved: Bryan Cleaver, EMS Administrator	
Effective Date: January 1, 2020    Review Date: TBD		Mark Luoto, EMS Medical Director	
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221			
I. Definition			
<div>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.</div> <div>B. Normal newborn presentation: Has a pulse rate &gt; 100 BPM, cries when stimulated, actively moves all extremities, and has a good strong cry.</div> <div>C. Depressed newborn presentation: Lacking one or more of the normal newborn presentation characteristics.</div>			
II. Basic Life Support			
<div>A. Provide General Medical Care.</div> <div>B. Determine:<div><div>1. Gestational age.</div><div>2. Number of births.</div><div>3. Number of babies.</div><div>4. Identify expected complications.</div></div></div>			
Mother		Newborn	
<div>A. Normal presentation delivery:<div><div>1. As appropriate, place mother in position of comfort and coach mother to push with contractions.</div><div>2.. As the head is delivered:<div><div>a. Apply gentle pressure below the birth canal to slowly control delivery of the head to prevent tearing of perineal tissue.</div><div>b. If meconium present, gently suction baby's mouth and nose.</div><div>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.</div></div></div><div>3. Allow delivery.<div><div>a. Delivery of the shoulders may require some manipulation of the baby.</div></div></div><div>4. Clamp and cut the cord 6 inches – 8 inches from baby.</div></div></div>		<div>A. Normal presentation delivery:<div><div>1. As the head is delivered:<div><div>a. Inspect for the presence of meconium.<div><div>(1) If meconium is present, gently suction baby's mouth and nose.</div></div></div></div></div></div></div>	



- B. Abnormal presentation delivery:
1. Expedite transport with early receiving center notification.
  2. Breech presentation:
    - a. Allow delivery to proceed passively until baby's waist appears.
    - b. Rotate baby face down.
      - (1) Do not pull.
    - c. If head does not deliver within 3 minutes:
      - (1) Insert a gloved hand into the vagina to create an air passage for the infant.
      - (2) Ask the mother to bear down and sweep the head out of the vagina.
- C. Post-delivery:
1. Place newborn to mother's breast when possible.
  2. Initiate transport.
  3. Allow passive delivery of the placenta.
    - a. Do not pull.
  4. Provide fundal massage after the delivery of the placenta.
  5. Applying ice packs to the vaginal region is appropriate for pain if indicated.

- B. Post-delivery/Neonatal assessment:
1. Assess baby for heart rate, respirations, and color.
    - a. Normal newborn presentation:
      - (1) Dry baby and keep warm.
      - (2) Place baby on mother's abdomen or breast.
      - (3) Obtain APGAR after one minute.
        - (a) Repeat after 5 minutes
    2. Depressed newborn presentation:
      - a. Suction mouth and nose with bulb syringe, mouth before nose.
      - b. Apply vigorous stimulation by rubbing the baby's back or feet.
      - c. If pulse < 100 BPM:
        - (1) Provide assisted ventilations via BVM on room air.
        - (2) If cyanosis present, supplement with oxygen.
      - d. If pulse < 60 BPM:
        - (1) Start chest compressions.
          - (a) Chest compressions are indicated even though the newborn may have a pulse.
        - (2) If no improvement after 30 seconds provide positive pressure ventilations.
        - (3) Continue chest compressions as indicated.



III. Advanced Life Support	
Mother	Newborn
<p>A. Delivery:</p> <ol style="list-style-type: none"> <li>1. Establish IV as appropriate.</li> <li>2. Consider Fentanyl per <i>treatment guideline 7305 Severe Pain</i>.</li> </ol> <p>B. Post-delivery:</p> <ol style="list-style-type: none"> <li>1. If vaginal bleeding occurs after the delivery of the placenta with signs of shock: <ol style="list-style-type: none"> <li>a. Administer NS fluid bolus 250 ml IV. <ol style="list-style-type: none"> <li>(1) May repeat to a max total volume of 1 L.</li> <li>(2) Reassess vital signs every 250 ml to ensure lung sounds remain clear.</li> <li>(3) Consider second IV.</li> </ol> </li> <li>b. Optional for transport times in excess of one hour: <ol style="list-style-type: none"> <li>(1) Consider administer Oxytocin (Pitocin) 40 units in 1 L NS rapid IV infusion. <ol style="list-style-type: none"> <li>(a) If unable to obtain an IV, administer Oxytocin 10 units IM.</li> </ol> </li> </ol> </li> </ol> </li> </ol>	<p>A. Post-delivery neonatal resuscitation:</p> <ol style="list-style-type: none"> <li>1. Establish IV.</li> <li>2. Administer 1:10,000 Epinephrine IV per pediatric medication administration guide.</li> <li>3. Apply cardiac monitor: <ol style="list-style-type: none"> <li>a. Treat any dysrhythmias per <i>treatment guideline 7102 Dysrhythmia</i>.</li> </ol> </li> <li>4. Expedite transport with early receiving center notification.</li> <li>5. If return of spontaneous circulation (ROSC) or pulses increase over 60 BPM, provide supportive care.</li> </ol>
IV. Special Considerations	
<p>A. Obtaining an APGAR score should only occur one minute after delivery and 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	
A. General Medical Care	Policy No. 7001
B. Severe Pain	Policy No. 7305
C. Dysrhythmia	Policy No. 7102





## Severe Pre-eclampsia/Eclampsia

Policy Number: 7502		Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director
Effective Date: January 1, 2020    Review Date: TBD		
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 gm in 250 ml NS over 20 minutes.		
(1) If still transporting after one hour contact Base Hospital to infuse 2 gm 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: TBD		
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> .		
IV. Special Considerations		
A. Bleeding in the third trimester of pregnancy requires transport to a HCF 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	



## 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: TBD		
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221		
I. Definition		
<div><div>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:<div><div>1. Apnea.</div><div>2. Color change (cyanosis, pallor, erythema).</div><div>3. Marked change in muscle tone.</div><div>4. Choking or gagging.</div></div></div><div>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.</div><div>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.</div></div>		
II. Basic Life Support		
<div><div>A. Provide General Medical Care.</div><div>B. Assume the history given is accurate.</div><div>C. Obtain a description of the severity, nature, and duration of the event.</div><div>D. Obtain a complete medical history.</div><div>E. Check for the following:<div><div>1. Any known chronic illnesses.</div><div>2. If evidence of seizure activity refer to <i>treatment guideline 7402 Seizures</i>.</div><div>3. Current or recent infections.</div><div>4. History of gastro-esophageal reflux (spitting/vomiting).</div><div>5. Inappropriate mixture of formula.</div><div>6. History or evidence of recent trauma.</div><div>7. Medications (current and recent including over-the-counter drugs).</div><div>8. Associated events (eating, crying, etc.).</div></div></div><div>F. Complete a comprehensive physical exam:<div><div>1. Child’s overall appearance.</div><div>2. Skin color.</div><div>3. Interaction with the environment and parents.</div><div>4. Evidence of trauma.</div></div></div><div>G. Treat any identifiable injuries/illnesses.</div><div>H. Transport.</div></div>		
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



## APGAR SCORING

POLICY NO: **7604**

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, Sections 1797.220 & 1797.221

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### 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

POLICY NO: **7604**  
Last Revised: 07-01-06

Page 2 OF 2

### APGAR SCORING CHART

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

### REMINDER

Check APGAR score at 1 minute, 5 minutes and every 5 minutes thereafter.



## Respiratory Emergencies

Policy Number: 7701		Approved: Bryan Cleaver, EMS Administrator	
Effective Date: January 1, 2020		Review Date: TBD	
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 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:

1. Administer Albuterol 5 mg in 6 ml NS and Atrovent 0.5 mg in 3 ml NS via appropriate nebulizer device.
  - a. Repeat Albuterol if symptoms persist.
  - b. Do not repeat Atrovent.
2. If severe bronchospasm:
  - 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.
  - a. May repeat four (4) times as indicated at two (2) minute intervals.

C. Congestive heart failure or acute pulmonary edema:

1. Administer Nitroglycerin:
  - 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.
    - (1) May repeat once if symptoms persist and SBP > 100 mmHg.
2. Apply CPAP per *procedure guideline 7908 CPAP*.
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.
  - a. Repeat albuterol as indicated.
  - b. Do not repeat Atrovent.

B. Bronchospasm:

1. Administer Albuterol per pediatric medication administration guide via appropriate inline nebulizer device.
  - a. Repeat Albuterol if symptoms persist.
2. If severe bronchospasm:
  - a. Administer Atrovent per pediatric medication administration guide via appropriate nebulizer device.
3. If patient is apneic or has inadequate tidal volume:
  - 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:
    - (1) Administer 1:10,000 Epinephrine slow IVP per pediatric medication administration guide.
      - (a) May repeat every 10 minutes.
      - (b) Max dose 0.1 mg.

C. Stridor/Croup:

1. Consider 1:1,000 Epinephrine nebulized per pediatric medication administration guide.
2. Consider establishing IV.



IV. Special Considerations	
<p>A. Pulse Oximetry:</p> <ol style="list-style-type: none"> <li>Readings can be misleading with poor perfusion (shock), cold extremities, hypothermia, anemia, or in carbon monoxide poisoning.</li> <li>Readings may be difficult to obtain or unreliable during excessive patient moving or if nail polish is present.</li> <li>Readings between 88% - 92% is the goal for patients with Chronic Obstructive Pulmonary Disease (COPD).</li> <li>Patients with smoke inhalation, significant burns, and potential carbon monoxide poisoning will continue to receive high flow oxygen regardless of pulse oximetry reading.</li> <li>Patients with traumatic brain injury should receiving oxygen to maintain SpO<sub>2</sub> of 100%.</li> </ol> <p>B. Waveform capnography is useful in monitoring respiratory rates and may provide early indication of respiratory failure.</p> <p>C. Intubation of the severely asthmatic patient is extremely difficult and all other measures should be exhausted first.</p> <p>D. For respiratory depression with suspected narcotic overdose refer to <i>treatment guideline 7203 Poisoning-Overdose</i>.</p> <p>E. Do not delay transport for advance airway skills if you have an adequate BLS airway.</p>	
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		Approved: Bryan Cleaver, EMS Administrator	
Effective Date: January 1, 2020		Review Date: TBD	
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221			
I. Definition			
<div><div>A. Burns are damage to the skin caused by heat or caustic materials.</div><div>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.</div></div>			
II. Basic Life Support			
<div><div><div>A. Provide General Medical Care.</div><div>B. Stop the burning process.</div><div>C. Assess airway for signs of smoke inhalation or airway burns.</div><div>D. If carbon monoxide exposure suspected, apply high flow O<sub>2</sub>.</div><div>E. Assess for signs of trauma.</div><div>F. Remove jewelry and clothing from involved areas.</div><div>G. Apply blanket to keep patient warm.</div><div>H. For electric and thermal burns:<div><div>1. Cover with sterile dry dressing or sheet.</div><div>2. Do not flush with water after stopping the burn process.</div></div></div><div>I. For chemical burns:<div><div>1. Consider treating as a HAZMAT exposure per <i>treatment guideline 7205 Hazardous Material Exposure</i>.</div><div>2. If dry, brush and flush with large amounts of water.</div><div>3. If liquid flush with water or NS.</div><div>4. If eye(s) involved irrigate with NS 1 L.<div>a. Remove contact lenses if present and possible.</div></div></div></div></div></div>			
III. Advanced Life Support			
<div><div>A. Early receiving facility notification.</div><div>B. Consider pain management per <i>treatment guideline 7305 Severe Pain</i>.</div><div>C. If respiratory distress develops due to bronchospasms or airway swelling, <i>refer to treatment guideline 7701 Respiratory Distres</i>.</div></div>			
Adult		Pediatric (less than 15 years of age)	
<div><div>A. Placed advanced airway if indicated.</div><div>B. For partial thickness burn &gt; 10% body surface area:<div><div>1. Administer NS fluid bolus 1 L rapidly IV/IO.<div>a. Reassess vital signs after every 250 ml to ensure lung sounds remain clear.</div></div></div></div></div>		<div><div>A. For partial thickness burn &gt; 10% body surface area:<div><div>1. Administer NS fluid bolus 20 ml/kg IV.</div></div></div></div>	



IV. Special Considerations	
<p>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.</p> <p>B. Smoke inhalation injuries:</p> <ol style="list-style-type: none"> <li>1. Consider potential for carbon monoxide and/or cyanide toxicity in closed space fires. <ol style="list-style-type: none"> <li>a. Pulse oximetry is not accurate in carbon monoxide poisoning.</li> <li>b. Other significant chemicals that can be present in smoke depending on what is burning including ammonia, sulfur dioxide, hydrochloric acid, formaldehyde, and chlorine.</li> </ol> </li> <li>2. Physical findings suggestive of smoke inhalation or airway burns are: <ol style="list-style-type: none"> <li>a. Facial burns, singed nasal hairs, soot on face and/or tongue or burns to the mouth.</li> <li>b. Carbon particles (black) in sputum, stridor, hoarseness or changes in voice/speech.</li> <li>c. Coughing, wheezing, or labored breathing.</li> <li>d. Altered mental status: <ol style="list-style-type: none"> <li>(1) Patients exposed to smoke after the use of drugs or alcohol should receive a higher index of suspicion for smoke inhalation.</li> </ol> </li> </ol> </li> </ol>	
V. Base Orders	
<p>A. If hypotension and/or evidence of poor perfusion persists, contact base hospitals for additional NS fluid bolus administration.</p> <p>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.</p>	
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

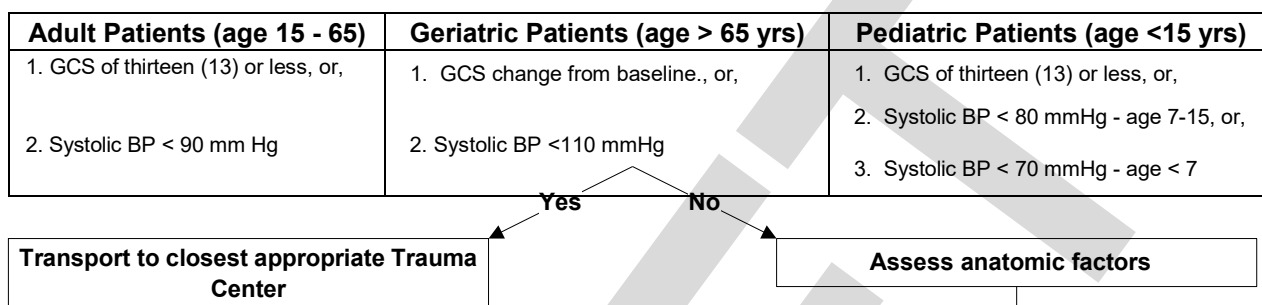
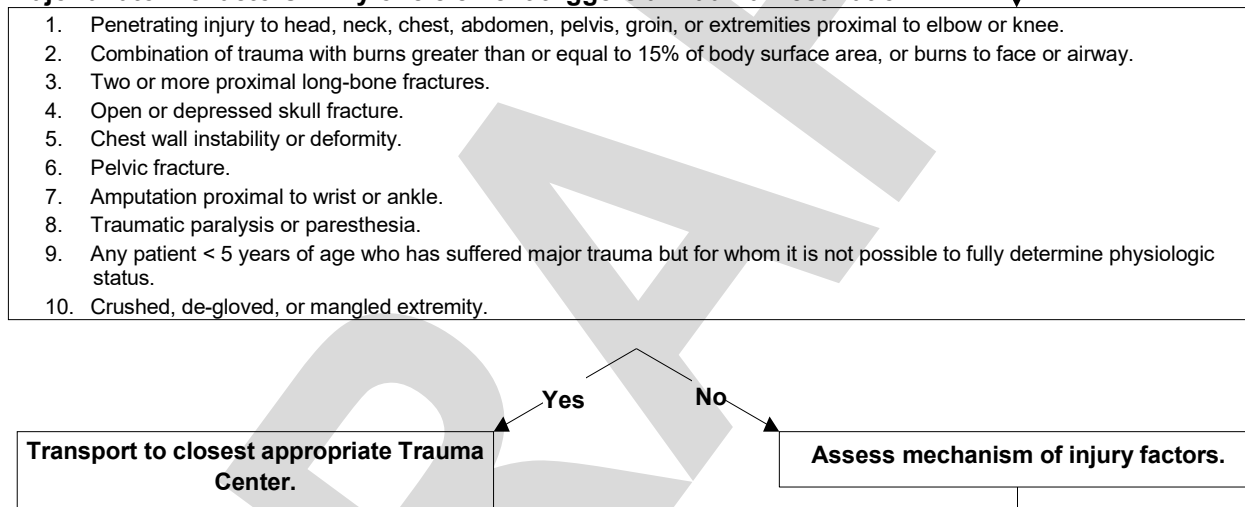
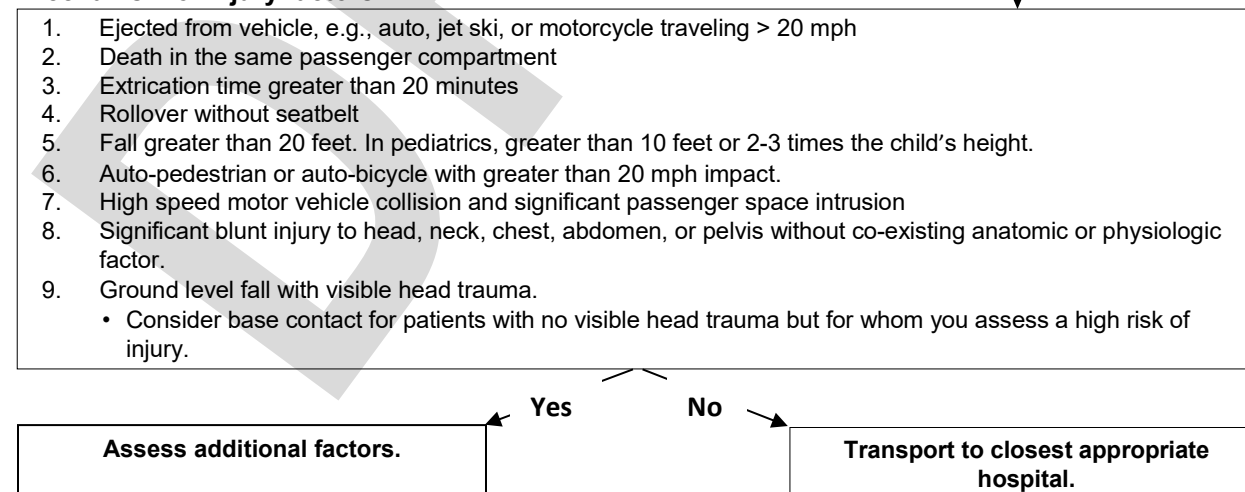
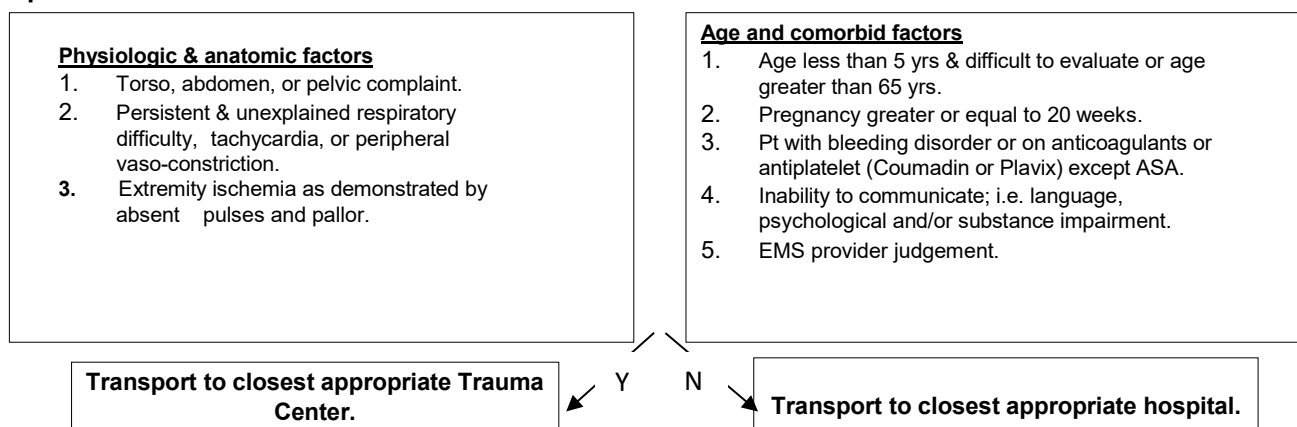


## Major Trauma

Policy Number: 7802		Approved: Bryan Cleaver, EMS Administrator	
Effective Date: January 1, 2020		Review Date: TBD	
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 <i>treatment guideline 7803 Trauma Triage</i> .			
D. Consider spinal motion restriction per <i>procedure guideline 7909 Spinal Motion Restriction</i> .			
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 <i>treatment guideline 7805 Uncontrolled Bleeding/Amputation and 7910 Hemostatic Agents</i> .			
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 <i>treatment guideline 7305 Severe Pain</i> .			
Adult		Pediatric (less than 14 years of age)	
A. Treat suspected shock in patients with:		A. Treat suspected shock in patients with:	
1. Significant mechanism of injury.		1. Significant mechanism of injury.	
2. Skin signs are pale cool, and diaphoretic.		2. Skin signs are pale, cool, and diaphoretic.	
3. SBP < 90 mmHg.		3. SBP is less than age appropriate parameters.	
a. Administer NS fluid bolus 250 ml IV as needed to maintain SBP 90 mmHg.		a. Administer NS fluid bolus 20 ml/kg IV to maintain age appropriate SBP.	
(1) Max 1 L judiciously.		(1) Do not repeat.	
(2) Warm fluids preferred.		(2) Warm fluids preferred.	
b. Consider administering Tranexamic Acid for suspected hemorrhagic shock per <i>procedure guideline 7907 Tranexamic Acid Administration</i> .			
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 <i>treatment guideline 7002 Sedation.</i>																	
IV. Special Considerations																	
A. Expedite transport; on-scene time should be less than 10 minutes in the absence of prolonged extrication. 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.																	
V. Base Orders																	
A. Additional administration of NS requires base hospital consult and physician approval.																	
VI. Contraindications																	
A. Traction splints are contraindicated for suspected pelvic fractures. 1. The use of pelvic binder or sheet may be used to stabilize. B. Ketorolac is contraindicated and shall not be administered to major trauma patients.																	
VII. Cross Reference																	
<table border="0"> <tbody> <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. Uncontrolled Bleeding/Amputation</td><td>Policy No. 7805</td></tr> <tr> <td>D. Sedation</td><td>Policy No. 7002</td></tr> <tr> <td>E. Tranexamic Acid Administration</td><td>Policy No. 7907</td></tr> <tr> <td>F. Hemostatic Agents</td><td>Policy No. 7910</td></tr> <tr> <td>G. Trauma Traige</td><td>Policy No. 7803</td></tr> <tr> <td>F. Spinal Motion Restriction</td><td>Policy No. 7909</td></tr> </tbody> </table>		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 Traige	Policy No. 7803	F. Spinal Motion Restriction	Policy No. 7909
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F. Spinal Motion Restriction	Policy No. 7909																


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

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

**Step 3 - Mechanism of injury factors:**

**Step 4 - Additional Factors**






## Crush Syndrome

Policy Number: 7804		Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director
Effective Date: January 1, 2020    Review Date: TBD		
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221		
I. Definition		
<div>A. Crush syndrome is a systemic illness characterized by dysrhythmias and shock.</div> <div>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:<div>1. Circumferential compression causing crush injury.</div><div>2. Involvement of a large muscle group (lower extremity including the thigh(s), and/or pelvic girdle, or upper extremity including the pectoral girdle).</div><div>3. Entrapment for at least 1 hour.</div></div> <div>C. The risk of crush syndrome increases with the amount of muscle involved and the duration of the entrapment.</div> <div>D. Hyperkalemia: EKG findings include peaked T-waves in multiple leads, absent p-waves, and/or widened QRS-complex).</div>		
II. Basic Life Support		
<div>A. For crush injury that does not meet the definition of crush syndrome, release compression and extricate patient.</div> <div>B. Provide General Medical Care.</div> <div>C. Consider spinal precautions per <i>procedure guideline 7803 Spinal Motion Restriction</i>.</div> <div>D. Provide passive warming measures if indicated.</div> <div>E. Consider the use of a tourniquet prior to extrication to prevent toxins from entering the patient or for hemorrhage control per <i>treatment guideline 7806 Uncontrolled Hemorrhage/Amputation</i>.</div>		
III. Advanced Life Support		
<div>A. Provide pain management per <i>treatment guideline 7305 Severe Pain</i>.</div> <div>B. If unable to establish vascular access while entrapped, consider tourniquet placement per <i>treatment guideline 7806 Uncontrolled Hemorrhage/Amputation</i> prior to extrication.</div> <div>C. Assess for signs of hyperkalemia. If evidence of hyperkalemia, refer to <i>treatment guideline 7303 Hyperkalemia</i>.</div>		
Adult		Pediatric (less than 15 years of age)
<div>A. For suspected crush syndrome:<div>1. Administer NS fluid bolus 1 L rapid IV infusion prior to release of compressive force.<div>a. May repeat once.</div><div>b. Max total volume 2 L.</div><div>c. Reassess vital signs after every 250 ml to ensure lung sounds remain clear.</div></div></div> <td><div>A. For suspected crush syndrome:<div>1. Administer NS fluid bolus 20 ml/kg rapid IV infusion prior to release of compressive force.<div>a. May repeat once.</div></div></div></td>		<div>A. For suspected crush syndrome:<div>1. Administer NS fluid bolus 20 ml/kg rapid IV infusion prior to release of compressive force.<div>a. May repeat once.</div></div></div>



IV. Special Considerations	
<p>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.</p> <p>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:</p> <ol style="list-style-type: none"> <li>1. Prolonged entrapment is likely (30 minutes) and/or,</li> <li>2. There are signs of hyperkalemia, and/or,</li> <li>3. There is risk of crush syndrome requiring medication administration.</li> </ol> <p>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.</p> <p>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 &gt; 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.</p>	
V. Base Orders	
<p>A. Additional administration of NS requires Base Hospital consult and physician approval.</p> <p>B. The duration of action of the medications is approximately 30 minutes. For persistent signs of hyperkalemia or the patient will not arrive at the hospital within 30 minutes, re-dosing of medications requires Base Hospital consult and physician approval.</p>	
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: March TBD

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.
- 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.	Tourniquet removal requires base hospital consult and physician approval.	
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
D.	Hemostatic Agents	Policy No. 7910



## Taser Deployment/Barb Removal

Policy Number: 7901		Approved: Bryan Cleaver, EMS Administrator	
Effective Date: January 1, 2020		Review Date: TBD	
I.		Definition	
A. None			
II.		Basic Life Support	
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 to an approved receiving facility.			
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.			
c. Bandage appropriately.			
b. Inspect the barb to ensure it is fully intact.			
(1) If not fully intact, patient should be transported to the ED for medical evaluation.			
III.		Advance Life Support	
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. RAS/AMA as appropriate per <i>treatment guideline 7005 Patient refusal of treatment or transport</i> .			
IV.		Special Considerations	
A. Patients must be transported for medical clearance to an approved medical facility.			
1. Patients who are rational, calm, alert and oriented and for whom the medical provider can perform a complete assessment may be transported by a law enforcement agency at their discretion.			
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.			
V.		Base Orders	
A. None.			
VI.		Contraindications	
A. None.			
VII.		Cross Reference	
A. General Medical Care		Policy No. 7001	
B. RAS/AMA		Policy No. 8003	
C. Dysrhythmias		Policy No. 7102	



## Football Helmet Removal

Policy Number: 7902

Effective Date: January 1, 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

Purpose: To provide guidelines on techniques to remove a football helmet from a patient.

### I. Procedure

#### A. Principles

1. 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.
2. 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.
3. Helmets are typically radiolucent and will not interfere with plain X-rays or CT scans.

#### B. Treatment:

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

#### C. Documentation:

1. Documentation on the EMS patient care report (PCR) shall include:
  - a. CSM evaluation before and after removal.

### II. Cross Reference:

- |                              |                 |
|------------------------------|-----------------|
| A. General Medical Care      | Policy No. 7001 |
| B. Spinal Motion Restriction | Policy No. 7909 |





## Use of Restraints

Policy Number: 7903	Approved: Bryan Cleaver	Mark Luoto
Effective Date: January 1, 2020	EMS Administrator	EMS Medical Director
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221		
Purpose: To provide guidelines on the use of restraints in the field or during transport for patients who are violent, potentially violent, or who may harm themselves or others.		

### I. Procedure

#### A. Principles

1. The safety of the patient, community, and responding personnel is of paramount concern.
2. Restraints are to be used only in situations where the patient is violent and is exhibiting behavior that is dangerous to self or others.
3. Prehospital personnel must consider that aggressive or violent behavior may be a symptom of underlying medical conditions.
4. 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.
5. 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.
6. Restraints applied by law enforcement require the officers continued presence to remove or adjust the restraints for patient safety.
7. 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.

#### B. Treatment:

1. Provide General Medical Care
2. Apply appropriate restraint.
  - a. 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.
  - b. The following forms of restraint shall NOT be used by prehospital personnel:
    - 1) Hard plastic ties or any restraint device requiring a key to remove.
    - 2) Sandwiching patients between backboards, scoop-stretchers, or flat, as a restraint.
    - 3) Restraining a patient's hands and feet behind the patient (i.e. hog tying).
    - 4) Patients shall not be transported in prone position.
  - c. Restraint equipment applied by law enforcement (handcuffs, plastic ties, or hobble restraints):
    - 1) 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.
    - 2) Law enforcement officer continuous presence is required to ensure patient and scene management safety.
      - a) The officer should, if possible, accompany the patient in the ambulance, or follow by driving in tandem with the ambulance on a predetermined route.
      - b) A method to alert the officer of any problems that may develop during transport shall be discussed prior to leaving the scene.
3. Consider medical restraints per *treatment guideline 7002 Sedation if indicated*.
4. Evaluate restrained extremities for pulse quality, capillary refill, color, nerve and motor function every 15 minutes.





## C. Documentation:

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

- 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.

## II. Cross Reference:

- |                         |                 |
|-------------------------|-----------------|
| A. General Medical Care | Policy No. 7001 |
| B. Sedation             | Policy No. 7002 |



## Administration of Naloxone IN for Public Safety First Aid Personnel

Policy Number: 7904	Approved:	Bryan Cleaver	Mark Luoto
Effective Date: January 1, 2020		EMS Administrator	EMS Medical Director
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221			
Purpose: To provide guidelines for public safety first aid personnel to administer Naloxone intranasal (IN) for suspected opioid overdose in the presence of severe respiratory depression or respiratory arrest.			

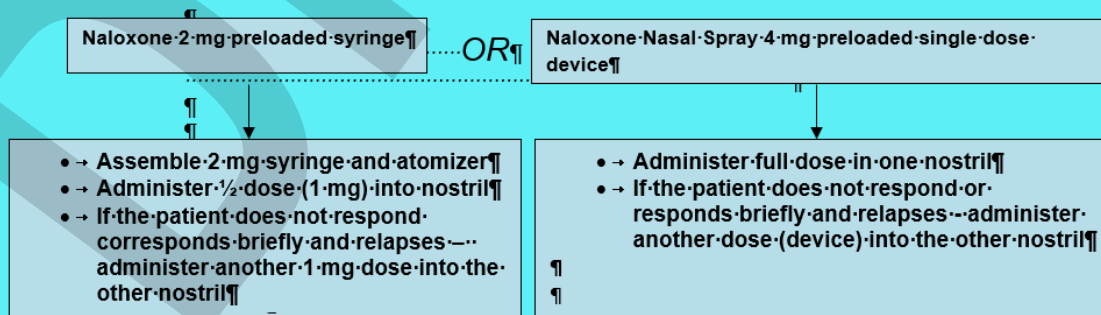
### I. Procedure

#### A. Principles

- Public Safety First Aid Personnel must be employed, authorized, and on-duty with an approved optional skills provider in order to administer Naloxone IN.
- Naloxone shall only be given when the following circumstances are true:
  - The environment is suspicious for use of opioids, AND
  - Victim is:
    - Unconscious/poorly responsive and respiratory (breathing) rate appears slow (< 6/minute) or shallow/inadequate with possible choking or gurgling sounds, OR
    - Unconscious and not breathing.
- 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.

#### B. Treatment:

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



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



C. Documentation:

1. 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.

II. Cross Reference:

A. General Medical Care      Policy No. 7001

DRAFT



## Administration of Ketamine

Policy Number: 7905  
Effective Date: January 1, 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

Purpose: To provide guidelines on the administration of Ketamine for patients with acute pain, including traumatic and burn injuries, that have a pain score of 5 or greater, are 15 years of age or older, and have a GCS 15 or normal mental status.

### I. Procedure

#### A. Principles

1. Ketamine is an NMDA-antagonist agent that is widely used throughout the world in both prehospital and hospital environments for several indications including:
  - a. Sedation.
  - b. Analgesia.
  - c. Anxiolysis.
  - d. Excited delirium.
  - e. Induction of anesthesia or intubation.
2. It has been shown in many studies to be a very effective agent in these uses 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.

#### B. Treatment:

1. Provide General Medical Care
2. Administer Ketamine per *treatment guideline 7305 Severe Pain*.
  - a. 0.3 mg/kg slow IV infusion over 5 minutes.
    - 1) Add Ketamine to a 100 ml bag of normal saline.
    - 2) Attach an adult drip set (10 gtts/ml).
    - 3) Run the infusion over at least 5 minutes.
    - 4) Examples of a 30 mg dose based on the following concentrations:
      - a) 10 mg/ml concentration equals 3 ml.
      - b) 50 mg/ml concentration equals 0.6 ml.
      - c) 100 mg/ml concentration equals 0.3 ml.
    - 5) Max dose 30 mg.
  - b. 0.5 mg/kg IN.
    - 1) Max dose 50 mg.
3. If after 15 minutes or more and pain score remains 5 or greater, a second dose may be given.

#### C. Documentation:

1. Documentation on the EMS patient care report (PCR) shall include:
  - a. O<sub>2</sub> Saturation
  - b. Vital signs every 5 minutes.
  - c. Initial pain score, then every 5 minutes post administration.

### II. Cross Reference:

- |                         |                 |
|-------------------------|-----------------|
| A. General Medical Care | Policy No. 7001 |
| B. Severe Pain          | Policy No. 7305 |



## Administration of Ketorolac

Policy Number: 7906  
Effective Date: January 1, 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

Purpose: To provide guidelines on the administration of Ketorolac for patients with any pain that is not effectively managed with BLS methods. It may be used in conjunction with Fentanyl or Ketorolac.

### I. Procedure

#### A. Principles

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. Ketorolac is contraindicated in the following patient types:
  - 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. Major Trauma.
  - k. Chest pain suspicious of ACS.
  - l. Abdominal Pain.

#### B. Treatment:

1. Provide General Medical Care
2. Administer Ketorolac per *treatment guideline 7305 Severe Pain*.

#### Adult

- a. 15 mg slow IV Push over 15 seconds.
- b. 30 mg IM.

#### Pediatric (less than 15 years of age)

- a. 0.5 mg/kg IV/IO/IM
  - 1) Max dose 15 mg.

#### C. Documentation:

1. Documentation on the EMS patient care report (PCR) shall include:
  - a. Initial pain score, then every 5 minutes post administration.

### II. Cross Reference:

- |                         |                 |
|-------------------------|-----------------|
| A. General Medical Care | Policy No. 7001 |
| B. Severe Pain          | Policy No. 7305 |



## Administration of Tranexamic Acid

Policy Number: 7907		Approved: Bryan Cleaver, EMS Administrator Mark Luoto, EMS Medical Director
Effective Date: January 1, 2020    Review Date: TBD		
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221		
Purpose: To provide guidelines on the administration of Tranexamic Acid (TXA) for patients suspicious of hemorrhagic shock from blunt or penetrating trauma.		
I. Procedure		
A. Principles		
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.		
2. TXA should be considered for all blunt or penetrating trauma patients 15 years or older or weigh greater than 45 kg, with an SBP < 90 mmHg indicating hemorrhagic shock that meet one of the following inclusion criteria.		
a. Multisystem trauma including associated spinal or head injury.		
b. Bleeding not controlled by direct pressure, hemostatic agents, or tourniquet application.		
3. TXA is contraindicated in the following patient types:		
a. > 3 hours post injury.		
b. Isolated extremity amputation when bleeding has been controlled and if there is a strong expectation of re-implantation		
c. Isolated spinal shock.		
d. Isolated head injury.		
e. Traumatic arrest with >5 minutes of CPR without ROSC.		
f. Drowning or hanging victims.		
g. < 15 years of age and weighing < 45 kg.		
h. Active thromboembolic event (within 24 hours); i.e. CVA, MI, PE, DVT.		
i. Hypersensitivity or anaphylactic reaction to TXA.		
B. Treatment:		
1. Provide General Medical Care		
2. Administer Tranexemic Acid (TXA) per <i>treatment guideline 7802 Major Trauma</i> .		
a. 1 g in 100 ml NS IV infusion over 10 minutes.		
1) Do not administer IV Push. This will cause hypotension.		
3. Place appropriate wrist band on the patient identifying that TXA was administered.		
C. Documentation:		
1. Documentation on the EMS patient care report (PCR) shall include:		
a. Time of injury.		
b. Time of administration.		
II. Cross Reference		
A. General Medical Care		Policy No. 7001
B. Major Trauma		Policy No. 7802



## Spinal Motion Restriction

Policy Number: 7909	Approved:	Bryan Cleaver EMS Administrator	Mark Luoto EMS Medical Director
Effective Date: January 1, 2020			
Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221			
Purpose: To provide guidelines for determining the appropriate use of Spinal Motion Restriction to protect patients from movement that could worsen an unstable spinal fracture.			

### I. Procedure

#### A. Principles:

1. Multiple studies have shown that mechanism of injury is generally a poor indicator of injury and many patients are immobilized inappropriately.
2. Unstable spinal fractures are very rare, less than 1%.
3. 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.
4. 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.
5. SMR should reduce, not increase, patient discomfort. SMR/immobilization that increases patient movement and/or pain should be avoided.
6. 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.
8. No patient should be placed in SMR without being assessed using the Coastal Valleys' spinal injury assessment.
9. If there is any doubt about the presence of a spinal injury, apply SMR and defer further evaluation to the Emergency Department.

#### B. Procedure:

1. Provide General Medical Care.
2. Determine need for SMR application:
  - a. SMR should be considered for high risk trauma patients whose injuries/complaints may indicate spinal cord damage, including:
    - (1) Axial spine loading.
    - (2) Age  $\geq 65$ .
    - (3) Meets Coastal Valleys' trauma triage criteria per *treatment guideline 7803 Trauma Triage*.
    - (4) Numbness or tingling in extremities.
  - b. SMR is indicated if the high risk trauma patient (above) meets any of the following:
    - (1). Unreliable patient:
      - (a) Uncooperative.
      - (b) Altered Mental Status/abnormal GCS from baseline.
      - (c) Inability to communicate because of alcohol, drugs, language barrier, etc.
      - (d) Distracting injuries.
    - (2). Spinal pain, tenderness, or deformity with palpation:
    - (3). Abnormal motor/sensory exam:
      - (a) Inability to perform wrist/hand extension bilaterally.
      - (b) Inability to perform foot plantarflexion or dorsiflexion bilaterally.
      - (c) Abnormal sensation.





- (d) Pain/weakness/paresthesia with self-initiated movement.
- c. 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.

C. Documentation:

- 1. 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.

II.

Cross Reference:

- |                         |                 |
|-------------------------|-----------------|
| A. General Medical Care | Policy No. 7001 |
| B. Major Trauma         | Policy No. 7802 |
| C. Trauma Triage        | Policy No. 7803 |



## Hemostatic Agents

Policy Number: 7910 Effective Date: January 1, 2020	Approved: Bryan Cleaver EMS Administrator	Mark Luoto EMS Medical Director
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Authority: California Health and Safety Code, Division 2.5 EMS, Sections 1797.220 & 1797.221

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.

### I. Procedure

#### A. Principles

1. The only hemostatic agents approved by California's Emergency Medical Services Authority for pre-hospital use include:
  - a. Quick Clot®, Z-Medical®:
    - 1) Quick Clot®, Combat Gauze® LE.
    - 2) Quick Clot®, EMS rolled gauze, 4x4 dressing, TraumaPad®.
  - b. Celox®:
    - 1) Celox® Gauze, Z-Fold hemostatic gauze.
    - 2) Celox® Rapid, Hemostatic fold gauze.
  - c. Hemostatic Celox granules delivered in an applicator is not authorized.

#### B. Treatment:

1. Provide General Medical Care
2. If bleeding persists after approximately 3 minutes of direct pressure, remove pressure dressing and apply hemostatic gauze directly to bleeding source.
3. Place absorbent pad of pressure dressing over gauze and wound.
4. Replace pressure dressing/tourniquet per *treatment guideline 7806 Uncontrolled Hemorrhage/Tourniquets*. If not tourniquet is available, maintain direct pressure with hand over gauze or wrap with available bandage.

#### C. Documentation:

1. Documentation on the EMS patient care report (PCR) shall include:
  - a. Time hemostatic agent applied.

### II. Cross Reference

- |  |                 |
|--|-----------------|
| A. General Medical Care                | Policy No. 7001 |
| B. Uncontrolled Hemorrhage/Tourniquets | Policy No. 7805 |



## SUPRAGLOTTIC AIRWAY

**DEFINITION:** Supraglottic Airway (SGA) is a device that is placed in the mouth and set over the glottis in order to provide ventilations and protect the patient's airway.

### ADULT & PEDIATRIC

### INDICATIONS/CONTRAINDICATIONS/COMPLICATIONS

- I. 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.
- II. Paramedics may use an approved SGA as a primary or secondary advanced rescue airway for patients weighing 2 kg or more.
- III. Indications for use:
  - A. Cardiac Arrest.
  - B. Respiratory arrest with no immediately reversible cause.
  - C. Obtunded patient with compromised airway.
- IV. Contraindications for use:
  - A. Intact gag reflex.
  - B. Severe airway trauma.
  - C. Severe airway edema.
  - D. Airway obstruction.
  - E. Caustic ingestion.
  - F. Trismus.
- V. Complications:
  - A. Airway trauma.
  - B. Emesis and aspiration.
  - C. Dislodgement.
  - D. Hypoxemia.

### EQUIPMENT

- I. 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.



	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

- II. Water based lubricant.
- III. Suction device.
- IV. Strap or tape for securing SGA.
- V. Bag valve mask (BVM).
- VI. Stethoscope.
- VII. Pulse oximetry device.
- VIII. End tidal capnography device.
- IX. Tongue blade.

## PROCEDURE

- I. Assure a patent airway, oxygenation and ventilation.
- II. Assure that a cardiac monitor and pulse oximetry is applied.
- III. Pre-oxygenate with 100% oxygen for 2-3 minutes, targeting >94% O<sub>2</sub> sat.
- IV. Apply a chin lift and introduce tongue blade into the mouth.
- V. Insert the SGA into the mouth.
- VI. Advance the tip over the base of the tongue.
- VII. Advance the tube without using excessive force until definitive resistance is felt. The position guide should be aligned with the teeth or gums.
- VIII. Attach the BVM and ventilate at the appropriate rate.
- IX. Connect the ETCO<sub>2</sub> device.

## EDUCATIONAL REQUIREMENTS/QUALITY ASSURANCE

- I. 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.
- II. 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.
- III. 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).



- 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 ETCO<sub>2</sub> 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:
  - a) 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).
  - b) 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).
  - c) Hypoxia: YES/NO/NOT DOCUMENTED (Hypoxia is defined as any O<sub>2</sub> saturation <90% during or after placement in a patient that was not hypoxic prior to placement).
  - d) Dislodgement: YES/NO/NOT DOCUMENTED (Dislodgement is defined as loss of the ability to adequately ventilate the patient after successful placement was achieved).
  - e) 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 ETCO<sub>2</sub> measurement with capnography).



## 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

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### 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.

## TREATMENT/TRANSPORT OF MINORS

POLICY NO: **7004**  
Last Revised: 06-01-07

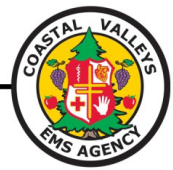
Page 2 OF 2

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### 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 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
    - 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





# 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 ETCO<sub>2</sub> 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 ETCO<sub>2</sub> 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)



## INTRAVENOUS INFUSIONS OF HEPARIN & NITROGLYCERIN

POLICY NO: **8102**

PAGE 1 OF 2

EFFECTIVE DATE: 07-01-06

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EMS Administrator

Dr. Mark Luoto  
EMS Medical Director

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

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### 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 notified.

## INTRAVENOUS INFUSIONS OF HEPARIN & NITROGLYCERIN

POLICY NO: **8102**  
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Page 2 OF 2

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### 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 and every 20 minutes for transports greater than 30 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 and every 20 minutes for transports greater than 30 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.



## 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

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### 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

POLICY NO: **8104**

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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**

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- 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.
- c. 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.
- c. Paramedics may transport neonates if determined appropriate by the transferring Physician, the transport paramedic, and the receiving Physician.
- d. Paramedics may transport patients with indwelling temporary pacemaker devices if determined appropriate by the transferring Physician, the transport paramedic, and the receiving Physician.
- e. 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 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.

# INTERFACILITY TRANSFERS

POLICY NO: **8104**

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- 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.