Clinical Judgment and Use of These Guidelines

The Coastal Valleys Emergency Medical Services Agency Treatment Guidelines are intended to guide and support—not replace—the clinical judgment of EMS clinicians. They establish evidence-informed approaches to the assessment and treatment of patients commonly encountered in the prehospital environment. No guideline, however, can anticipate every patient presentation, clinical circumstance, resource limitation, or operational challenge.

Clinicians practicing within the CVEMSA region are expected to assess each patient individually and provide care appropriate to the patient's condition, consistent with their authorized scope of practice, and based on the information reasonably available at the time. When a patient's needs or the circumstances of an incident are not adequately addressed by a guideline, clinicians should exercise sound professional judgment and seek base-hospital consultation when required or reasonably available.

When clinical circumstances support modifying or departing from a guideline, the clinician should clearly document the relevant assessment findings, circumstances, consultation obtained, and clinical reasoning. Any subsequent review will consider the totality of the circumstances, including the patient's presentation, the clinician's authorized scope of practice, the information and resources available at the time, and whether the decision was clinically reasonable and made in the patient's best interest.

Review of clinical decisions is intended to support patient safety, professional development, consistency of care, and continuous system improvement. The fact that care differed from a guideline does not, by itself, determine whether the care was appropriate.

Nothing in this statement authorizes care outside a clinician's scope of practice, supersedes applicable law or regulation, or eliminates requirements expressly identified as mandatory, including required base-hospital consultation.

These guidelines are intended to promote thoughtful, patient-centered care while recognizing that sound clinical judgment remains essential to prehospital medicine.

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7001 General Medical Care

I. Definition

A. All levels of providers will complete the following as part of providing general medical care for every patient:
   1. Perform initial and focused assessment.
   2. Use necessary and appropriate skills and procedures for which the provider has been trained and certified to perform to maintain patient's airway, breathing, and circulation.

B. This protocol applies to every patient contact and is the basis from which other treatment guidelines build upon.
   1. Scene size up:
      a. Assess scene safety.
      b. Use standard/universal precautions.
      c. Determine the number of patients, activate MCI if indicated per *LEMSA MCI Plan.*
      d. Determine nature of illness/mechanism of injury.
   2. Primary assessment:
      a. Identify and treat immediate life threats.
      b. If cardiac arrest suspected, begin cardiac arrest management per *treatment guideline 7101 Cardiac Arrest Management*.
      c. Systemic assessment of major body systems (medical).
      d. Systemic assessment for injuries (trauma).
      e. Obtain vital signs.
   3. Obtain the following information from patient or historian if patient unable to provide:
      a. Chief complaint.
      b. History of current complaint.
      c. Past medical history.
      d. Medications.
      e. Allergies.
   4. Initiate treatment based on assessment findings as indicated by appropriate treatment guideline.
   5. Base Hospital contact for patient care questions is highly encouraged for all levels of providers.
   5. Reassess.
   6. Transport as indicated.
      a. Use of lights and sirens during transport shall be based on the patient's clinical presentation and traffic conditions. Safety of the patient, crew members, and the public is paramount.
   7. Document all treatment on appropriate electronic patient care report (PCR) platform.

II. Basic Life Support

A. Primary assessment:
   1. Assess airway patency:
      a. If airway is not patent, utilize BLS maneuvers, adjuncts, and suctioning if indicated to clear the airway.
   2. Assess quality of breathing:
      a. Initiate SpO_2 monitoring:
         (1) For readings under 94%, consider oxygen therapy.
            (a) Adjust oxygen device and flow to maintain a SpO_2 between 94% - 99%.
            (b) For patients with COPD a normal reading may be 88%-92%.
      b. If in respiratory distress with signs of hypoxia, consider BVM and/or CPAP device as appropriate.
      c. Consider oxygen therapy as appropriate to the nature of illness/mechanism of injury.
   3. Assess quality of pulse:
      a. Weak and rapid or slow pulse:
         (1) Assess for and consider treating shock.
      b. Strength, rate, and rhythm normal:
         (1) No immediate intervention.

4. Assess mental status:
   a. Check blood glucose if indicated.
   b. Administer Naloxone if indicated.

B. Ensure ALS response as appropriate

III. Advanced Life Support

A. Primary assessment:
1. Airway/Breathing:
   a. Maintain airway using BLS maneuvers when possible.
      (1) Place $EtCO_2$ monitoring device.
2. Circulation:
   a. Establish vascular access NS lock if indicated.
      (1) Fluid resuscitation with appropriate crystalloid as indicated by general impression and/or to maintain an age appropriate SBP.
   b. Cardiac monitor if indicated.
      (1) May consider 12-Lead EKG.
      (2) Treat dysrhythmias per *treatment guideline* *7103 Dysrhythmias*.

Adult	Pediatric (less than 15 years of age)
A. Airway/breathing: 1. If airway patency is not achieved with BLS airway maneuvers, advanced airway placement shall be considered. 2. Place $EtCO_2$ monitoring device including Capnography.	A. All pediatric patients receiving advanced life support interventions shall be placed on a length-based tape OR patient age entered into LEMSA approved pediatric medication administration application. B. All pediatric medication dosing will be determined by a LEMSA approved pediatric medication administration guide.

IV. Special Considerations

A. Oxygen therapy should focus on achieving an SpO_2 to a max of 99%.
   1. Acute head injury is an exception.

B. Two person BVM is more effective if possible.

V. Base Orders

A. None.

VI. Contraindications

A. None.

7002 Turnover of Patient Care

I. POLICY and INTENT

A. The purpose of this policy is to define the process for the transfer of care between prehospital care providers.

II. DEFINITIONS

A. BLS: EMT level of care
B. ALS: Paramedic level of care
C. First Response: Non-ambulance EMS response
D. Transport: EMS ambulance
E. IC: Incident Commander

III. TRANSFER OF RESPONSIBILITY - PATIENT TURNOVERS

A. Patients under the care of a First Responder or transport provider may be transferred to another provider or transport unit, if the level of care is appropriate for the patient's condition.
Providers transferring care will provide the transport care provider with a complete report on the patient's condition, treatment provided and properly document the transfer of responsibility and care per Administrative Policy *6001 EMS Provider Data Requirements.*
B. Transition of patient care may be affected by scene hazards such as SWAT operations, heavy rescue, crash-fire-rescue, confined space rescue or hazardous materials incidents. In such hazardous situations, the Incident Commander (IC) shall determine when the patient can be safely accessed by transport care providers.
C. The care provider with patient health care authority shall comply with all IC decisions regarding scene safety. The care provider with patient health care authority shall keep IC informed of resource needs and medical decisions.
D. ALS First Response or ALS transport personnel may transfer care of patients to BLS transport units if an assessment on scene has been completed, the patient is deemed stable, and does not meet the following BLS Exclusion Criteria:
    1. BLS Exclusion Criteria:
        a. Airway emergencies
        b. Respiratory distress that has received any ALS intervention
        c. Unresolved hypotension for any reason
        d. Cardiac-related working primary impression
        e. Suspected stroke, regardless of time of onset
        f. Acute change in mental status
        g. Severe acute pain where complaints of pain and physical exam are consistent
        h. Anaphylaxis. This is defined as systemic symptoms characterized by respiratory findings and shock, usually within 30 minutes of exposure. This does not include localized swelling and itching at site of exposure.
        i. Obstetric complaint with reported gestational age of 20 weeks or later
        j. Hypoglycemia when the patient cannot safely take oral glucose during transport
        k. Paramedic Discretion: Any condition where the complaint, or extent of a known problem is unclear. Examples include major trauma, severe abdominal pain in a patient with comorbid conditions of age and complex medical history, etc.

l. Meets Specialty Care destination/activation/alert criteria

F. The process to ensure patient transport safety will include:

1. Patients must be stable with medical complaints that can be cared for at the BLS level. Before transferring care to the BLS transport unit, the examining paramedic will reasonably determine that there are no anticipated changes in the patients' present condition.
2. ALS assessment tools may be utilized (such as EKG monitoring and blood glucose determination) to fully assess the patient and determine eligibility for turnover to BLS. Saline locks are permissible.
3. All administration of ALS medications requires the patient to remain under the care of ALS personnel with the exception of Ondansetron-PO.
4. Except during a declared MCI or when no other ALS transport alternative exists, patients meeting trauma criteria will be considered ALS patients and treated accordingly.
5. The EMT who will be in attendance is comfortable with the patients' condition and fully accepts responsibility for the patient and ongoing care.

IV. TRANSFER BETWEEN SPECIALTY UNITS AND CIRCUMSTANCES

A. Flight nurses may turn patients over to paramedics. These patients must not have or require any medications or therapies that are outside the paramedic scope of practice, and the transporting paramedic must agree to accept responsibility for the patient.

B. These same procedures should be utilized for turnovers from, or to, specialized transport vehicles or other modality as long as the delay caused by the turnover is offset by a safer or more rapid transport overall.

C. These procedures will also apply when providers caring for patients in a standby capacity at a special event or mass gathering and require another unit to transport from the event location.

V. MEASURABLE INDICATORS

A. A patient status change resulting in the BLS transport unit upgrading to an emergent transport or requesting emergent ALS assistance or intercept will be a sentinel event requiring investigation. All sentinel events will be reviewed by the provider Medical Director.

B. Medical decisions or actions of the care provider, at the time of occurrence, that seem to be non-compliant with LEMSA policies and procedures should be brought to the attention of the IC, when present. The IC may intervene by advising the involved medical care provider of such concerns. If concerns persist after consultation and communication with the care provider, the Base Hospital should be contacted. The Base Hospital Physician has final authority over patient care decisions. The IC will submit a written incident report detailing the concerns via the LEMSA Event Reporting system per Administrative Guideline *6003 EMS Event Reporting*.

C. Any significant problem which poses a potential or actual threat to patient care or public health and safety that requires immediate attention should be brought to the attention of the IC, or Incident Safety Officer, if one is appointed. Care providers should follow up by preparing an incident report which provides a factual summary of the incident, actions, results and incident outcome. Incident reports shall be submitted through the organization, agency or department chain of command, with referral to the LEMSA

7003 Patient Destination/Point of Entry

I. PURPOSE

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

II. DESTINATION DETERMINATION - GENERAL CONSIDERATIONS

A. The criteria listed below are the primary factors for determining the appropriate destination for patients. When the patient's condition is unstable or life threatening, the patient should be transported to the closest appropriate hospital.

B. The following factors may also be considered in determining patient destination:

1. Patient request
2. Family request
3. Patient's physician request or preference

III. DEFINITION OF AN EMS RECEIVING HOSPITAL

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

B. Approved Facilities:

Facility Name	Base	STEMI	Stroke	Trauma	Pediatric Trauma	Burn	Alternate Receiving Facility	Location
Sonoma County								
Healdsburg Hospital, Providence			X					Healdsburg
Kaiser Permanente Santa Rosa Medical Center			X					Santa Rosa
Petaluma Valley Hospital			X					Petaluma
Providence Santa Rosa Memorial Hospital	X	X	X	Level II				Santa Rosa
Sonoma Valley Hospital			X					Sonoma Valley
Sutter Santa Rosa Regional Hospital		X	X					Santa Rosa
Mendocino County								
Adventist Health Howard Memorial	X		X	Level IV				Willits
Adventist Health Mendocino Coast	X		X					Ft. Bragg
Adventist Health Ukiah Valley	X		X	Level IV				Ukiah
Redwood Coast Medical Service							X	Gualala
Round Valley Indian Health Center							X	Covelo

Facility Name	Base	STEMI	Stroke	Trauma	Pediatric Trauma	Burn	Alternate Receiving Facility	Location
Out of Region								
Adventist Health St. Helena		X						St. Helena
Kaiser Permanente San Rafael		X	X					San Rafael
Kaiser Permanente Vallejo Medical Center		X	X					Vallejo
Marin General Hospital				Level III				Kentfield
Queen of the Valley		X	X	Level III				Napa
UC Davis Medical Center				Level I	Level I	X		Sacramento
UCSF Benioff Children's Hospital Oakland				Level I	Level I			Oakland

I. DESTINATION FOR MAJOR TRAUMA PATIENTS

A. Major trauma patients (i.e. those patients meeting trauma triage criteria) shall be transported as follows:

1. Within 60 minutes air transport time from a trauma center - patient shall be transported to the closest **APPROPRIATE** trauma center.
2. Greater than 60 minutes air transport time from a trauma center - contact base hospital for destination

B. Notwithstanding the above, patients with the following conditions shall be transported to the closest emergency department (including a standby ED):

1. Unstable or unmanageable airway
2. Rapidly deteriorating vital signs
3. Base station physician order

II. DESTINATION FOR PEDIATRIC TRAUMA PATIENTS

A. Pediatric patients (less than 15 years of age) with major trauma may be transported by EMS aircraft to an approved pediatric trauma center with the following exceptions:

1. Greater than 60 minutes transport time unless otherwise authorized by base hospital
2. Pediatric patients meeting trauma triage criteria and originating from within the core area of Santa Rosa will be transported by ground ambulance to the closest appropriate Trauma Center.

B. Notwithstanding the above, patients with the following conditions shall be transported to the closest emergency department (including a standby ED):

1. Pulseless, apneic following trauma
2. Unstable or unmanageable airway
3. Rapidly deteriorating vital signs
4. Base station physician order

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

A. Critical cardiac patients (i.e. those with ST segment elevation myocardial infarction on prehospital 12 Lead ECG) shall be transported as follows:

1. Within 30 minutes transport time from a STEMI Receiving Center – patients shall be

transported to the closest appropriate STEMI Receiving Center

2. Greater than 30 minutes transport time from a STEMI Receiving Center – patients shall be transported to the closest hospital with an emergency department

IV. DESTINATION FOR BURN PATIENTS VIA EMS AIRCRAFT

A. Patients with significant burns may be transported directly by EMS aircraft from the field to a regional burn center (with approved helipad) within the guidelines of *4005 EMS Aircraft Policy*.

B. Patients with the following anatomical criteria are candidates for transport directly by air to the closest regional burn center:

1. Full thickness burns greater than 5% burn surface area (BSA)
2. Partial thickness burns greater than 10% BSA if under age 10 or over 50
3. Partial thickness over 20% - any age
4. Partial or full thickness burns to the face, eyes, ears, hands, feet, perineum, genitalia, or major joints
5. Significant electrical and caustic chemical agent burns
6. Circumferential burns to an extremity or trunk
7. Inhalation injury with evidence of significant burns
8. Burns in high-risk patients, including those with significant underlying medical conditions

C. Base contact should be made in cases where the burns are of uncertain depth or severity or in any other case where the prehospital personnel require assistance deciding which the most appropriate receiving facility is.

D. EMS Air crews will be responsible for notifying the regional burn center with their ETA and field assessment.

E. exceptions:

1. Burn patients meeting trauma triage criteria will be transported to the nearest trauma center. Patients with any of the following will be transported to the nearest receiving facility:
   a) Unmanageable airway
   b) Deteriorating vital signs
   c) Pulseless and apneic

V. DESTINATION FOR PATIENTS WITH SUSPECTED ACUTE CEREBROVASCULAR ACCIDENT (CVA)

A. Rapidly transport to the patient's preferred hospital as long as the estimated transport time does not increase travel time by more than ten (10) minutes compared to the closest receiving hospital. If the closest receiving hospital does not have a functioning CT scanner and the patient has an abnormal BEFAST and the onset of symptoms to arrival at receiving hospital is expected to be 18 hours or less the patient may be transported to the next closest receiving hospital with an operational CT scanner.

B. Patients with unstable airways, uncontrolled bleeding, or in cardiac arrest should be transported to the nearest receiving hospital regardless of CT status.

7004 Base/Receiving Hospital Notification

I. PURPOSE

A. Establish consistent criteria for base hospital and receiving hospital contact.

B. Provide guidance for concise and clinically relevant radio reports.

C. Establish a standardized communication format for receiving hospital notification.

II. POLICY

A. Base Hospital Consultation

1. Field personnel shall contact the Base Hospital physician when consultation, treatment authorization, destination guidance, or physician-to-physician consultation is needed.
2. Medical direction to EMS personnel shall only be provided by physicians authorized to function as Base Hospital physicians within the LEMSA System. Receiving hospitals that are not designated base hospitals shall not issue treatment orders, direct patient care interventions, or otherwise provide online medical direction to field personnel.
3. The time of contact and physician consulted shall be documented in the patient care record.

B. Receiving Hospital Notification

1. Advance notification should be provided for emergency department transports whenever practical. Reports should be brief, clear, and focused on information necessary to prepare the receiving hospital.
2. Receiving hospitals that are not designated Base Hospitals shall not provide medical direction to field personnel.

C. Standard Receiving Hospital Report Format

1. The preferred communication format within this LEMSA region is MIVT.

Element	Description
M	Mechanism of injury or medical complaint
I	Injuries, impression, or significant findings
V	Vital signs and patient condition
T	Treatments provided and patient response

2. Additional information may include estimated time of arrival, specialty center activation criteria, airway status, changes in patient condition, or requests for hospital resources.

III. SPECIALTY PATIENT NOTIFICATIONS

A. Patients meeting trauma, STEMI, stroke, sepsis, cardiac arrest, pediatric critical care, or other specialty care criteria should have these findings communicated during the radio report.

IV. DOCUMENTATION

A. Receiving hospital notifications and base hospital consultations shall be documented in the patient care report.

7101 Cardiac Arrest Management

I. Definition

A. The initial priority in the management of cardiac arrest patients is to re- establish circulation through high quality, uninterrupted chest compressions.

II. Basic Life Support

A. Provide General Medical Care.

Adult	Pediatric (less than 15 years of age)
A. Resuscitation time: minimum 20 minutes on scene, except in very rare cases (i.e. unsafe and unworkable scenes). B. Initial management: 1. Chest compressions should be 2+ inches in depth. 2. During the resuscitation, attempt to limit any pause to 3 seconds or less. 3. Set metronome at 110 compressions per minute. 4. Allow for full recoil. 5. Switch compressors every 2 minutes. 6. Optional: Mechanical CPR devices (AutoPulse and LUCAS) may be used and is recommended only after at least three rounds (6 minutes) of CPR and generally only if rescuer fatigue or available staff to perform CAM effectively is an issue.	A. Resuscitation time: at minimum, pediatric arrests should be resuscitated at scene for 10 to 30 minutes. B. Initial management: 1. Chest compressions should be at least 1/3 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.
C. 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. 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.
D. Airway management: 1. If only 2 rescuers on scene, place a NRB mask with high flow 0_2 on patient for passive oxygenation until a third rescuer arrives. 2. Two-handed, two thumbs on BVM is essential for maintaining a good BLS airway. 3. Choice of adjuncts, including nasal and oral airways should be based on the specific needs of the patient. 4. Small tidal volume ventilations (approximately 300 ml) should be administered on the upstroke of every 10th compression.	D. Airway management: 1. If only 2 rescuers on scene, place a NRB mask with high flow O_2 on patient for passive oxygenation until a third rescuer arrives. 2. Two-handed, two thumbs on BVM is essential for maintaining a good BLS airway. 3. Choice of adjuncts, including nasal and oral airways should be based on the specific needs of the patient. 4. Small tidal volume ventilations (approximately 100 ml) should be administered on the upstroke of every 10th compression

III.	Advanced Life Support
Adult	Pediatric (less than 15 years of age)
A. Switch to manual monitor and check rhythm. 1. Defibrillate immediately if in VF/VT per manufacturer guidelines. 2. Analyze rhythm every 2 minutes. B. Vascular access: 1. Do not stop compressions to accomplish. 2. An IO may be preferable limiting the interference with compressions. C. Medication administration should occur per *treatment guideline 7103 Dysrhythmias*. 1. Do not stop compressions while giving medications. D. Airway management 1. Maintain a BLS airway for the first six (6) rounds of compression unless the airway is compromised. a. After at least six (6) rounds of compressions an attempt at intubation should be performed ONLY if it does not interfere with CPR and defibrillation. 2. If ROSC is achieved an approved alternate rescue airway device or endotracheal intubation can be considered per procedure guidelines *8101 Endotracheal Intubation* or *8102 Supraglottic Airway*, 3. Placing advanced airways should not interfere with continuous chest compressions or defibrillation. 4. End-tidal capnography should be used for evaluating the effectiveness of resuscitation, ROSC, and as a possible endpoint for the resuscitation. 5. Place $ETCO_2$ filter line on BVM as soon as possible. E. Post arrest management: 1. If unable to maintain a minimum systolic BP of 90 mmHg after IV fluid bolus of 1000 ml, administer push-dose Epinephrine. 2. Mix 1 ml of Epinephrine 1:10,000 (0.1mg/ml) with 9 ml NS in a 10 ml syringe. 3. Administer diluted Epinephrine 1 ml IV every 1-5 minutes, titrate to maintain a SBP > 90 mmHg	A. Switch to manual monitor and check rhythm. 1. Defibrillate immediately if in VF/VT per manufacturer guidelines. 2. Analyze rhythm every 2 minutes. B. Vascular access: 1. Do not stop compressions to accomplish. 2. An IO may be preferable, limiting the interference with compressions C. Medication administration should occur per *treatment guideline 7103 Dysrhythmias*. 1. Do not stop compressions while giving medications. D. Airway management: 1. Maintain a BLS airway unless it is compromised. 2. End-tidal capnography should be used for evaluating the effectiveness of resuscitation, ROSC, and as a possible endpoint for the resuscitation. 3. Place $ETCO_2$ filter line on BVM as soon as possible. E. Post arrest management: 1. If SBP < 70 mmHg after 3 boluses contact Base Hospital for Push Dose Epinephrine order. 2. Refer to pediatric medication administration guide for medication dosing.

IV. Special Considerations

A. Traumatic arrest considerations
   1. Penetrating traumatic arrest in PEA >40 bpm requires immediate transport to the nearest trauma center, if nearest trauma center is greater than 30 minutes away, expedite transport to closest emergency department.

B. Timekeeping is important:
   1. The compressor should count 1-10, repeat.
   2. Ventilator counts 10, 20, 30, etc. every 10 compressions.

C. A team leader should be identified at the beginning of the resuscitation attempt.
   1. Cardiac arrest management should be handled in a sequential and orderly fashion, with all job tasks clearly identified and delegated to resuscitation team members.
   2. It is always best for the person at the head to lead the CPR team (Rescuer #3). This rescuer should advise when at 200 compressions, as well as to charge the defibrillator at 2-minute intervals.
   3. Overall scene management should be coordinated and supervised using the precepts of the Incident Command System.

D. Resuscitation time:
   1. Ongoing V-Fib/Pulseless V-Tach should be resuscitated for at least 30 minutes.
   2. Pediatric arrests that are resuscitated in the field have a much higher rate of survival to discharge neurologically intact. At minimum, pediatric arrests should be resuscitated at scene for 10 to 30 minutes with a minimum of three (3) rounds of epinephrine.

E. Post Arrest Management:
   1. Should focus on stabilizing the patient's life threats and transport.
   2. Prior to moving the patient, obtain a 12 lead EKG. 5-10 minutes on scene is reasonable to ensure rhythm stability.
   3. Ventilate the patient with 10 breaths per minute to achieve an $EtCO_2$ of 35-45 mmHg and an O_2 sat of 94-98%.
   4. No hyperventilation or hyper-oxygenation.
   5. Transport all ROSC patients to a STEMI receiving center if within a 30-minute transport time.

F. Continuous compressions and defibrillation take precedent over ventilation, vascular access, and medications.

G. Defibrillate per manufacturers recommendation.

H. Remember, do not stop chest compressions for ventilation, charging of manual defibrillator or ALS procedures.

I. Evidence shows that Sodium Bicarbonate and Calcium Chloride are not helpful in cardiac arrest unless hyperkalemia is suspected. If hyperkalemia is suspected, Sodium Bicarbonate and Calcium Chloride administration may be considered.

J. If tricyclic antidepressant overdose suspected, refer to *treatment guideline 7203 Poisoning-Overdose*.

K. After three unsuccessful defibrillation attempts consider changing the vector of pads from anterior lateral to anterior posterior or vice versa.

. Base Orders

A. None.	A. If SBP<70mmHg after 3 boluses contact Base Hospital for Push Dose Epinephrine order.

VI. Contraindications

A. None.

7102 Suspected Acute Coronary Syndrome

I. Definition

A. Acute Coronary Syndrome (ACS) has a wide variety of presentations. Symptoms may include:
   1. Substernal pain.
   2. Dysrhythmia.
   3. Discomfort or tightness radiating to the jaw, back, and either shoulder or arm.
   4. Nausea.
   5. Diaphoresis.
   6. Dyspnea.
   7. Syncope/dizziness.
   8. Other "suspicious symptoms".

B. Myocardial Infarction (MI): Greater than 1 mm ST segment elevation in two or more contiguous leads or meets Sgarbossa criteria.

II. Basic Life Support

A. Provide General Medical Care.

B. Administer Aspirin 324 mg PO (approximately 4 chewable tablets).

III. Advanced Life Support

A. Obtain 12-Lead EKG per *procedure guideline* *8104 12-Lead EKG*.
   1. If evidence of myocardial infarction (MI):
      a. Direct transport to the closest, most appropriate authorized STEMI Receiving Center (SRC) per *LEMSA treatment guideline* *7003 Patient Destination / Point of Entry*.
      b. Early receiving center notification of a STEMI Alert.

B. Administer Nitroglycerin 0.4 mg SL SBP > 110 mmHg, if inferior MI SBP > 150 mmHg.
   1. May repeat every 5 minutes if symptoms persist and SBP remains > 110 mmHg.
   2. Max 1.2 mg (3 doses).
   3. Optional:
      a. For prolonged transports, apply ½ inch of 2% Nitroglycerin paste.
         (1) May apply an additional ½ inch if signs and symptoms persist and SBP remains > 110 mmHg.

C. Administer Fentanyl per *treatment guideline* *7305 Pain Management*. Fentanyl can be administered concurrently with Nitroglycerin.

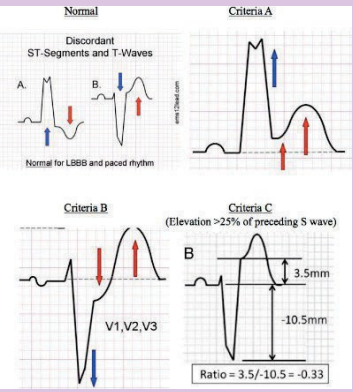
D. Fluid Resuscitation:
   1. If SBP < 110 mmHg, administer 250 ml NS fluid bolus IV.
      a. May repeat once.
      b. Reassess vital signs after every 250 ml to ensure lung sounds remain clear.
   2. If SBP <90 mmHg and cardiogenic shock suspected:
      a. Administer 500 ml NS fluid bolus IV.
         (1) Reassess vital signs after every 250 ml to ensure lung sounds remain clear.
         (2) If rales develop or worsen and hypotension persists, administer push-dose Epinephrine as described below.
   3. If SBP remains < 90 mmHg:
      a. Administer push-dose Epinephrine.
         (1) Mix 1 ml 1:10,000 Epinephrine (0.1 mg/ml) with 9 ml NS in a 10 ml syringe.
         (2) Administer diluted Epinephrine 1 ml every 1-5 minutes.
         (3) Titrate to maintain SBP > 90 mmHg.
      b. Consider establishing a second IV NS TKO during transport.

IV. Special Considerations

A. For inferior myocardial infarctions with a normal blood pressure, prophylactic fluid administration is not recommended. Conversely hypotensive patients should be aggressively treated with fluid.

B. Consider establishing an IV prior to NTG administration.

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



V. Base Orders

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

VI. Contraindications

A. Patients with evidence of an inferior myocardial infarction and a SBP < 150 mmHg should not receive Nitroglycerin.

B. Nitroglycerin should not be administered to patients of either gender who have taken Viagra/Levitra within 24 hours, or Cialis within 72 hours.

C. Aspirin should not be administered to patients with an active GI bleed.

7103 Dysrhythmias

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 *treatment guideline* *7101 Cardiac Arrest Management*.

III. Advance Life Support

A. Establish IV as appropriate.
B. Monitor cardiac rhythm.
1. Obtain 12-Lead EKG as appropriate.

Adult

A. Asystole/PEA:
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. Bradycardia:
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 decreased perfusion:
   a. If SBP < 90mmHg and lung sounds are clear:
      (1) Administer NS fluid bolus 10 ml/kg.
         (a) Recheck vitals every 250 ml.
   b. Administer Atropine 1 mg IV.
      (1) May repeat every 3-5 minutes.
      (2) Max dose 3 mg.
   c. If no response to NS fluid bolus and Atropine administration:
      (1) Consider cardiac pacing per *treatment guideline 8109 External 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 1-5 minutes.
         (c) Titrate to maintain SBP> 90 mmHg.

Pediatric (less than 15 years of age)

A. Asystole:
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 3 doses.

B. Bradycardia:
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 (10 mcg) IV every 1-5 minutes 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.

C. Ventricular Fibrillation/Pulseless Ventricular Tachycardia:

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

D. Wide Complex Tachycardia:

1. Stable patient:
   a. Administer Amiodarone 150 mg in 100 ml NS IV over 10 minutes.
      1) May repeat once if dysrhythmia persists.
2. Unstable patient: Dyspnea with SBP < 90mmHg or CHF:
   a. Escalating synchronized cardioversion *per treatment guideline* *8110 Synchronized Cardioversion*.
      1) Consider sedation per *treatment guideline* *7403 Sedation* if patient is awake and aware.
   b. If rhythm persists after synchronized cardioversion, administer Amiodarone 150 mg in 100 ml NS IV over 10 minutes.
      1) May repeat once if dysrhythmia persists.
   c. If Magnesium Sulfate available, administer 2 g in 100 cc NS IV over 10 minutes.
3. If patient becomes pulseless refer to *treatment guideline* *7101 Cardiac Arrest Management*.

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

1. Consider the Valsalva maneuver
2. A proximal vein is the preferred IV site.
3. Administer Adenosine 6 mg rapid IV push followed by NS flush 10 ml.
   a. If dysrhythmia persists, administer Adenosine 12 mg rapid IV push followed by NS flush 10 ml

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 ≥ 0.08 seconds, HR ≥ 220 BPM in infants or HR ≥ 180 in children.

2. Expeditious transport is a priority.
3. If patient shows signs of decreased perfusion and is responsive:
   a. Administer Adenosine per pediatric medication administration guide.
      1) May repeat once.
   b. If unsuccessful, may consider contacting the Base Hospital for possible administration of Amiodarone per pediatric medication administration guide.
4. If patient is unresponsive:
   a. Synchronized cardioversion per pediatric medication administration guide.
      1) If no change after synchronized cardioversion contact base for additional guidance
4. If patient becomes pulseless refer to *treatment guideline* *7101 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 per pediatric medication administration guide.
   a. Max 6 mg.
   b. If dysrhythmia persists after 3 minutes, repeat Adenosine at two times the initial dose.

4. If no response and SBP > 90 mmHg continue with transport and monitor for changes 5. If SBP< 90 mmHg: a. Administer NS fluid bolus 250 ml. 1) Repeat once as indicated to maintain SBP > 90 mmHg. 2) Recheck vitals every 250 ml. b. If dysrhythmia persists and patient becomes unstable with a change in mental status and/or significant hypotension, synchronized cardioversion per *treatment guideline* *8110 synchronized cardioversion*.	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 SBP < 90 mmHg: a. Administer NS fluid bolus 250 ml IV. 1) Repeat once as indicated to maintain SBP > 90 mmHg. 2) Recheck vitals every 250 ml. 2. If dysrhythmia persists and SBP < 80 mmHg with acute altered mental status present: a. Escalating synchronized cardioversion per *treatment guideline* *8110 synchronized cardioversion*. 3. Optional rate reducing treatment for transport times exceeding one hour: a. Obtain 12-Lead EKG per procedure guideline *8104 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. c) Max dose 15 mg. d) If heart rate falls below 100 BPM administration should stop. e) If SBP < 90 mmHg: i. Administer NS fluid bolus 10 ml/kg IV. ii. Recheck vitals every 250 ml. iii. If hypotension persists, administer Calcium Chloride 250 mg slow IV push. f) Do not use Verapamil in wide complex QRS dysrhythmias or patients with a history of Wolff-Parkinson-White Syndrome (WPW).	**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 is unconscious consider escalating synchronized cardioversion per pediatric medication administration guide.

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	

7201 Environmental Emergencies

I. Definition

A. **Heat Cramps/Heat Exhaustion:** Heat-related illnesses caused by prolonged heat exposure and dehydration, characterized by muscle cramps, heavy sweating, weakness, dizziness, nausea, or syncope without significant altered mental status.

B. **Heat Stroke:** A life-threatening heat-related illness caused by failure of thermoregulation (absent sweating), characterized by central nervous system dysfunction with a markedly elevated core body temperature, typically ≥40°C (104°F).

C. **Moderate Hypothermia:** A core body temperature of **28–32°C (82.4–89.6°F)** characterized by progressive depression of mental status and physiologic function, including decreased level of consciousness, slowed respirations, bradycardia, and impaired motor function.

D. **Severe Hypothermia:** A core body temperature **<28°C (82.4°F)** characterized by profound depression of neurologic and cardiovascular function, including unconsciousness, absent or minimal shivering, severe bradycardia, hypotension, and increased risk of cardiac arrest.

II. Basic Life Support

A. Provide General Medical Care.

B. Protect patient from further environmental exposure.

C. Remove any heavy, constricting, or wet clothing.

D. Heat-related illness:
   1. Provide cooling measures such as an ice pack.

E. Cold-related illness:
   1. Provide passive warming measures such as a hot pack or additional blankets.

F. Bites or Stings:
   1. Remove stinger if still present.
   2. Assess for signs of allergic/anaphylactic reactions per *treatment guideline* *7202 Allergic/Anaphylactic reactions*.
   3. For suspected venomous snake bites:
      a. Do not delay transport. Patient may be transported to any receiving facility.
      b. Early receiving facility notification.
      c. Immobilize extremity at or below heart level.
      d. Do not:
         (1) Apply ice to the site.
         (2) Make incision over the bite.
         (3) Use restrictive bands.

III. Advanced Life Support

A. Cold-related illness:
   1. Consider administering warm NS fluid bolus IV as indicated.

B. Suspected venomous snake bites:
   1. Consider pain management per *treatment guideline* *7305 Pain Management*.
   2. Do not delay transport to initiate IV.

Adult	Pediatric (less than 15years of age)
A. Heat Cramps: 1. Consider NS fluid bolus 250 ml IV as indicated. a. Reassess vital signs every 250 ml to ensure lung sounds remain clear. b. May repeat to a max volume of 1 L. B. Heat Stroke: 1. Cool the patient. 2. Administer NS fluid bolus 10 ml/kg IV. a. Reassess vital signs every 250 ml to ensure lung sounds remain clear. b. May repeat to a max volume of 2 L. 3. If seizures present, refer to *treatment guideline 7402 Seizures*.	A. Heat Cramps/Heat Exhaustion/Heat Stroke: 1. Consider NS fluid bolus 20 ml/kg IV. a. Reassess vital signs after each bolus. 2. If seizures present, refer to *treatment guideline 7402 Seizures*.
IV. Special Considerations	
A. None.	
V. Base Orders	
A. None.	
VI. Contraindications	
A. None.	

7202 Allergic/Anaphylactic Reactions

I. Definition

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

II. Basic Life Support

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

III. Advanced Life Support

Adult

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

Pediatric (less than 15 years of age)

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

C. Anaphylaxis: 1. Administer 1:1,000 Epinephrine 0.3 mg IM. a. May repeat twice at 10-minute intervals if symptoms persist. 2. Administer NS fluid bolus 10 ml/kg IV. a. Recheck vital signs every 250 ml to ensure lung sounds remain clear. b. May repeat to a max volume of 30 ml/kg. 3. Administer Diphenhydramine 50 mg IV. 4. If unresponsive and severely hypotensive: 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 1-5 minutes. • Titrate to maintain SBP > 90 mmHg.	C. Anaphylaxis: 1 Administer 1:1,000 Epinephrine IM per pediatric medication administration guide. a. Max initial dose 0.3 mg. b. May repeat twice at 10-minute intervals if symptoms persist. 2 Administer NS fluid bolus 20 ml/kg IV. c. May repeat once if symptoms persist. 3 Administer Diphenhydramine IV per pediatric medication administration guide. d. Max dose 50 mg. 4 If unresponsive and severely hypotensive: e. 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 IV every 1-5 minutes per pediatric medication administration guide. • Titrate to maintain SBP > 90 mmHg.
IV. Special Considerations	
A. Use caution when administering repeat doses of Epinephrine in patients over 60 years of age with a significant cardiac history. B. Allergic and Anaphylactic reactions have a variable degree of presentation, Urticaria may not always be present.	
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.	

7203 Poisoning/Overdose

I. Definition

A. None.

II. Basic Life Support

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

III. Advanced Life Support

Adult	Pediatric (less than 15 years of age)
A. Cyclic antidepressants: 1. In the presence of widened QRS complex on EKG. a. Administer Sodium Bicarbonate 50 mEq/dL IV. (1) May repeat once if widened QRS complex persists. B. Narcotic overdose: 1. In the presence of respiratory depression or arrest: a. Administer Narcan titrated to achieve adequate respiratory drive IV/IM/IN. (1) Max dose 10 mg. C. Phenothiazine/dystonic reaction: 1. Administer Diphenhydramine 1 mg/kg IV/IM. a. Max dose 50 mg.	A. Cyclic antidepressants: 1. In the presence of widened QRS complex on EKG. a. Administer Sodium Bicarbonate per pediatric medication administration guide. B. Narcotic overdose: 1. In the presence of respiratory depression or arrest: a. Administer Narcan per pediatric medication administration guide titrated to achieve adequate respiratory drive. C. Phenothiazine/dystonic reaction: 1. Administer Diphenhydramine per pediatric medication administration guide.

IV. Special Considerations

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

V. Base Orders

A. None.

VI. Contraindications

A. None.

7204 Drowning/Near Drowning

I. Definition

A. Drowning: Cardiac arrest secondary to liquid submersion.
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 *treatment guideline* *8005 Spinal Motion Restriction*.
C. Airway and respiratory management is a priority.
   1. Drowning:
      a. Treat as cardiopulmonary arrest per *treatment guideline* *7101 Cardiac Arrest Management*.
   2. Near Drowning:
      a. Anticipate vomiting.
      b. Suction as indicated.
      c. Remove wet clothing.
      d. If dyspnea persists despite suctioning and oxygen, consider CPAP per *treatment guideline* *8004 CPAP*.
      e. All near drowning patients require advanced life support assessment.
D. Provide passive warming measures as indicated.

III. Advanced Life Support

A. Consider End Tidal CO_2 monitoring.

IV. Special Considerations

A. Near drowning patients are at risk for decompensation for up to 24 hours after the incident. All near drowning patients require advance life support assessment.
B. In LEMSA's region there is no body of water that meets the 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.

7205 Hazardous Materials Exposure

Hazardous Materials Exposure – Critical Field Priorities

- Protect yourself first—do not enter without appropriate PPE/training
- When in doubt, activate HazMat early—even if unsure
- Stay uphill, upwind, and upstream
- Isolate the scene and establish Hot/Warm/Cold Zones
- Do not rush in—rescuer safety takes priority
- Remove from exposure and initiate gross decontamination early
- Do not contaminate your ambulance, apparatus, or the receiving facility
- Notify dispatch and receiving facility early with HazMat details
- Use available resources (ERG, Poison Control, HazMat, Medical Control)

I. Definition

A. Hazardous Material (HazMat):

Any substance (chemical, biological, radiological, nuclear, or explosive – CBRNE) capable of causing harm to humans, property, or the environment due to its properties or exposure.

B. Contamination:

The presence of a hazardous substance on a person, object, or environment.

C. Decontamination:

The process of removing or neutralizing contaminants to prevent further harm or secondary exposure.

1. **Emergency (Gross) Decontamination:** Immediate removal of clothing and flushing with copious water.
2. **Technical Decontamination:** Structured decon performed by trained HazMat personnel.

D. Operational Zones (per FIRESCOPE):

1. **Hot Zone (Exclusion Zone):** Area of active contamination; access limited to properly protected personnel.
2. **Warm Zone (Contamination Reduction Zone):** Area for decontamination operations.
3. **Cold Zone (Support Zone):** Clean area for treatment, transport, and staging.

II. General Operational Principles (All Levels)

A. Scene Safety & Approach

1. Approach uphill, upwind, and upstream.
2. Utilize S.I.N. (Safety, Isolation, Notification):
   a. **Safety:** Prevent responder exposure; do not enter Hot Zone without appropriate PPE/training.
   b. **Isolation:** Establish zones and deny entry.
   c. **Notification:** Request Fire/HazMat, Law Enforcement, and additional EMS resources early.

B. Incident Management

1. All HazMat incidents shall operate under ICS/NIMS.
2. Establish:
   a. Incident Command
   b. HazMat Group/Branch
   c. Medical Group/Branch
3. Integrate EMS within unified command structure.

C. Information Gathering

1. Utilize available resources:
   a. Emergency Response Guidebook (ERG)

b. Safety Data Sheets (SDS)
c. NIOSH Pocket Guide
d. CHEMTREC / Poison Control
e. HazMat Technical Reference

III. Patient Care & Decontamination

A. Decontamination Principles
1. Responder safety takes priority over patient care.
2. Remove clothing (may reduce contamination by ~80–90%).
3. Perform gross decontamination with water unless contraindicated (e.g., reactive substances).
4. Eye exposures: Irrigate with water or normal saline.
5. Preserve patient dignity when feasible.

B. Medical Care Timing
1. Proper Responder PPE is essential during patient care
2. Do not delay removal from exposure and gross decontamination
3. Provide life-saving interventions when they can be performed without causing responder or system contamination.

C. Transport Considerations
1. Avoid contaminating transport units and receiving facilities.
2. If immediate transport is required prior to full decon:
   a. Notify receiving facility early
   b. Use containment measures (e.g., sheet wrap, PPE)
   c. Coordinate destination with Medical Control / Incident Command
3. Do not enter receiving facility until directed.

D. Communication
1. Provide early notification including:
   a. Suspected substance
   b. Exposure route
   c. Decontamination status
   d. Number of patients

IV. Clinical Management

A. General Toxic Exposure
1. Support airway, breathing, circulation
2. Oxygen as indicated
3. Cardiac monitoring
4. Symptom-based management

B. Organophosphate / Carbamate Exposure
1. **Adult:**
   a. Atropine 2 mg IV/IM; repeat every 3–5 minutes until secretions dry and ventilation improves
   b. No absolute maximum dose in severe poisoning (titrate to effect)
   c. Consider pralidoxime (2-PAM) per regional protocol if available per *treatment guideline 7906 Administration of nerve agent antidote*.
2. **Pediatric:**
   a. Atropine 0.02 mg/kg IV/IM (minimum 0.1 mg)

b. Repeat every 3–5 minutes as needed
c. Consider pralidoxime (2-PAM) *per treatment guideline* *7906 Administration of nerve agent antidote*
d. Treat seizures per *treatment guideline* *7402 Seizures*

C. Opioid Exposure (including suspected aerosolized exposure)
1. Naloxone per *treatment guideline* *7902 administration of Naloxone* & *7203 Poisoning/Overdose*
2. Routine incidental dermal exposure to fentanyl does NOT typically result in toxicity
3. Prioritize standard PPE (gloves, mask, eye protection) rather than excessive measures

D. Chemical Irritants (e.g., Pepper Spray, Tear Gas)
1. Remove from exposure
2. Irrigate eyes/skin with water
3. Supportive care

E. Radiation Exposure
1. Decontaminate external contamination first
2. Treat traumatic/medical conditions after stabilization
3. Limit responder exposure using time, distance, shielding principles
4. Risk of exposure to responders and others is usually minimal once decontaminated.

F. Explosives / Secondary Devices
1. Maintain situational awareness
2. Coordinate with Law Enforcement Bomb Squad
3. Do not enter unsecured scenes

V. Special Considerations

A. Mass Casualty Incidents (MCI)
1. Initiate MCI protocols
2. Prioritize rapid triage and gross decontamination
3. Utilize mass decon systems when available

B. Secondary Contamination Risk
1. Protect EMS, hospital staff, and public
2. Use PPE appropriate to suspected hazard

VI. Early Hospital Notification

A. Hospitals must be notified early.
1. When patients from a HazMat exposure will be transported to their facility
2. When victims of a HazMat exposure may self-transport with or without Decon
3. When consult is needed regarding toxic exposures

VIII. Documentation

A. Include in ePCR documentation:
1. Suspected substance
2. Exposure route and duration
3. Decontamination performed
4. PPE used
5. Notifications made
6. Patient response to treatment

7206 Burns/Smoke Inhalation

I. Definition

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

II. Basic Life Support

A. Provide General Medical Care.
B. Stop the burning process.
C. Assess airway for signs of smoke inhalation or airway burns.
D. If carbon monoxide exposure suspected, apply high flow O_2.
E. Assess for signs of trauma.
F. Remove jewelry and clothing from involved areas.
G. Apply blanket to keep patient warm.
H. For electric and thermal burns:
   1. Cover with sterile dry dressing or sheet.
   2. Do not flush with water after stopping the burn process.
I. For chemical burns:
   1. Consider treating as a HAZMAT exposure per *treatment guideline* *7205 Hazardous Material Exposure*.
   2. If, dry, brush and flush with large amounts of water.
   3. If liquid flush with water or NS.
   4. If eye(s) involved irrigate with NS 1 L.
      a. Remove contact lenses if present and possible.

III. Advanced Life Support

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

Adult	Pediatric (less than 15 years of age)
A. Place an advanced airway if indicated. B. For partial thickness burn > 10% body surface area: 1. Administer NS fluid bolus 1 L rapidly IV/IO. a. Reassess vital signs after every 250 ml to ensure lung sounds remain clear.	A. For partial thickness burn > 10% body surface area: 1. Administer NS fluid bolus 20 ml/kg IV.

IV. Special Considerations

A. Do not apply cool dressings after the initial burning process is stopped or allow environmental exposure. Cooling large surface area burns (greater than 10% body surface area) may result in hypothermia.
B. Smoke inhalation injuries:
   1. Consider potential for carbon monoxide and/or cyanide toxicity in closed space fires.
      a. Pulse oximetry is not accurate in carbon monoxide poisoning.
      b. Other significant chemicals that can be present in smoke depending on what is burning including ammonia, sulfur dioxide, hydrochloric acid, formaldehyde, and chlorine.
   2. Physical findings suggestive of smoke inhalation or airway burns are:
      a. Facial burns, singed nasal hairs, soot on face and/or tongue or burns to the mouth.
      b. Carbon particles (black) in sputum, stridor, hoarseness or changes in voice/speech.
      c. Coughing, wheezing, or labored breathing.
      d. Altered mental status:
         (1) Patients exposed to smoke after the use of drugs or alcohol should receive a higher index of suspicious for smoke inhalation.

V.	Base Orders
	A. If hypotension and/or evidence of poor perfusion persists, contact base hospitals for additional NS fluid bolus administration. B. Patients refusing transport with smoke inhalation/airway burns, burns greater than 10% body surface area electrical burns, or chemical burns require base hospital consult and physician approval prior to signing against medical advice.
VI.	Contraindications
	A. None.

7301 Non-Traumatic Hypotension

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 *treatment guideline* *7102 Suspected Acute Coronary Syndrome*.

III. Advanced Life Support

A. Obtain 12 lead EKG per *treatment guideline* *8104 12 Lead EKG*.
B. Treat significant arrhythmias per *treatment guideline* *7103 Dysrhythmias*.
C. If Cardiogenic shock suspected, refer to *treatment guideline* *7102 Suspected Acute Coronary Syndrome*.

Adult	Pediatric (less than 15years 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. B. If rales present, refer to *treatment guideline* *7701 Respiratory Distress*. 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 – 5 minutes. c. Titrate to maintain a SBP > 90 mmHg.	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.

IV. Special Considerations

A. Bleeding in the third trimester of pregnancy requires transport to a receiving facility with OB services.

V. Base Orders

A. None.	A. If SBP < 70 mmHg after 3 NS fluid boluses, consult with Base Hospital for push-dose Epinephrine administration. 1. Refer to pediatric medication administration guide for push-dose Epinephrine dosage.

VI. Contraindications

A. None.

7302 Sepsis

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.

B. The purpose of a Sepsis Alert is to provide pre-arrival Emergency Department notification to facilitate rapid assessment and treatment of a suspected severe sepsis patient.

C. Sepsis Criteria:

1. Initiate a Sepsis Alert for adult patients meeting the following 3 criteria:

Suspected Infection + **Two or more SIRS criteria met**
1. **Temperature >100.4°F (38°C) or < 96.8°F (36° C)**
2. **Respiratory rate > 20 breaths/Min**

+ **$ETCO_2$ < 25mmhg**

II. Basic Life Support

A. Provide General Medical Care.

III. Advanced Life Support

A. Administer NS fluid bolus 250 ml IV to maintain adequate perfusion:
   1. May repeat to a max of 2 L.
      a. Patients on renal dialysis should receive a max of 1 L.

B. Early receiving facility notification of a Sepsis Alert.

C. If unable to maintain SBP > 90 mmHg after NS fluid bolus of 2L:
   1. Prepare push-dose Epinephrine:
      a. Mix 1 ml of 1:10,000 Epinephrine (0.1 mg/ml) with 9 ml NS in a 10 ml syringe.
      b. Administer push-dose Epinephrine 1 ml IV every 1 – 5 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 $EtCO_2$ > 25 mmHg. Base consultation for an ill-appearing patient not meeting Sepsis Alert criteria is appropriate; this may be especially true for an $EtCO_2$ between 26 mmHg to 30 mmHg.

B. $EtCO_2 \leq 25$ mmHg correlates to serum lactate levels > 4.

V. Base Orders

A. None.

VI. Contraindications

A. None.

7303 Hyperkalemia

I. Definition

A. Severe Hyperkalemia in the context of dialysis is common in end stage renal disease patients who miss dialysis treatment(s) and 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 *procedure guideline* *8104 EKG 12-Lead*, looking for severe signs of hyperkalemia.

Adult	Pediatric (less than 15 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 of 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.

7304 Severe Nausea

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 15 years of age)
A. Consider NS fluid bolus 250 ml IV for volume depletion if patient has been experiencing significant vomiting. 1. May repeat if indicated. B. Administer Ondansetron 4 mg slow IVP/IM/PO. 1. May repeat initial dose every 10 minutes if symptoms persist. 2. Max dose 12 mg. C. If patient is pregnant consider Diphenhydramine 25 mg – 50 mg IV/IM. D. For motion sickness: 1. Administer Diphenhydramine 25 mg - 50 mg Slow IVP/IM. a. Max dose 50 mg. b. For patients over 65 years of age administer 12.5 mg slow IVP (over 1 to 2 minutes) or IM. May repeat once.	A. Consider NS fluid bolus 20 ml/kg IV for volume depletion if patient has been experiencing significant vomiting. 1. Do not repeat. B. For patients age 4 and older, refer to adult treatment. C. For motion sickness: 1. Administer Diphenhydramine per pediatric medication administration guide. a. Do not repeat.

IV. Special Considerations

A. Ondansetron may be co-administered with narcotics when administered for pain control.
B. Administer Diphenhydramine with caution in patients over 65 years of age. Diphenhydramine may cause delirium or exacerbation of neurocognitive disorders such as dementia.

V. Base Orders

A. Additional Ondansetron administration beyond max dose requires Base Hospital consult and approval.

VI. Contraindications

A. None

7305 Pain Management

I. Definition

The assessment, treatment, and ongoing reassessment of a patient's pain using evidence-based pharmacologic and non-pharmacologic interventions to reduce suffering, improve comfort and function, and support safe, patient-centered care.

II. Basic Life Support

A. Provide General Medical Care.
B. Evaluate patient pain level
C. Provide calming measures
D. Place patient in position of comfort without significant manipulation of suspected injuries/fractures.
E. Apply cold compress as indicated.

III. Advanced Life Support

Adult	Pediatric (less than 15 years of age)
A. Administer Fentanyl 50 mcg – 100 mcg slow IVP (over one minute). 1. May repeat initial dose every 5 minutes if pain persists. 2. Max dose 300 mcg. 3. Fentanyl may also be administered 1.5 mcg/kg IN. a. May repeat in 15 minutes 4. If unable to establish IV, administer Fentanyl 1 mcg/kg IM. a. May repeat in 30 minutes at ½ the initial dose. b. Max single dose 100 mcg with a max total dose 200 mcg. 5. For transport times more than one-hour, max total dose 300 mcg regardless of route. B. Administer Acetaminophen 1000 mg in 100 ml NS over 15 minutes per *procedure guideline 7905 Administration of Acetaminophen*. 1. Do not repeat. C. Administer Ketorolac 15 mg IV per *procedure guideline 7903 Administration of Ketorolac* for mild to moderate pain. 1. If unable to establish IV, administer Ketorolac 30 mg IM. 2. Do not repeat. D. Administer Lidocaine 2% when establishing IO access on a conscious patient. 1. Immediately following placement of the IO needle, administer 0.5 mg/kg 2% Lidocaine (not to exceed 50 mg) slowly through the IO site. Wait approximately 30–60 seconds before flushing with normal saline.	A. Administer Fentanyl per the pediatric medication administration guide. 1. May repeat once. B. Administer Ketorolac per pediatric medication administration guide. 1. Do not repeat. 2. Max dose 15 mg.

2. In the event a patient regains consciousness and complains of severe pain secondary to the IO insertion, temporarily stop infusing the fluids, and administer 0.5 mg/kg 2% Lidocaine (not to exceed 50 mg) slowly through the IO site. Wait approximately 30–60 seconds before continuing fluid administration.

IV. Special Considerations

A. Monitor patient vitals carefully and ensure patent airway.
B. Use caution in frail and elderly patients.
C. Consider using $EtCO_2$ monitoring with repeated doses.
D. IM administration of Ketorolac may have a variable absorption rate.
E. Fentanyl should be considered the primary pain medication. It is effective, easy to administer, and titrate. In children, it can be effectively used IN, thus avoiding IV starts or injections.
F. IN administration of Fentanyl is a useful method in treating pain for adults and children.
G. Ketorolac will not affect hemodynamics, respiratory function, or alertness. Except in kidney stone patients, it is not as effective as Fentanyl. It is therefore most helpful in mild to moderate pain situations, or when you want to avoid narcotic analgesia.
H. Patients with known or suspected liver failure should not receive Acetaminophen and only one dose of Fentanyl.

V. Base Orders

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

VI. Contraindications

A. Sensitivity to the medication.
B. Ketorolac is contraindicated in many patient presentations refer to *treatment guideline* *7903 administration of Ketorolac*

7306 Hypo/Hyperglycemia

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 *treatment guideline* *7203 Poisoning/Overdose*.
C. For suspected stroke, refer to *treatment guideline* *7401 Acute Cerebrovascular Accident (Stroke)*.
D. Check blood glucose:
   1. If BG <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

A. If BG <80 mg/dL and patient has an altered mental status and unable to self-administer oral glucose:
   1. Administer Dextrose 25 G IV infusion (D10) or IVP (D50). Titrate to achieve normal mental status. D10 is preferred over D50.
      a. May repeat once if BG remains below 60 mg/dL and symptoms persist.
   2. If unable to establish IV, administer Glucagon 1 mg IM.
      a. Do not repeat.
B. If patient is hyperglycemic (BG > 400 mg/dL) and symptomatic (tachypnea, altered mental status, or $ETCO_2$ <25 mmHg):
   1. Administer NS fluid bolus 10 ml/kg IV.
      a. May repeat as indicated.
      b. Max total volume 1 L.
      c. Reassess vital signs every 250 ml to ensure lung sounds remain clear.
C. If seizures occur refer to *treatment guideline* *7402 Seizures.*

Pediatric (less than 15 years of age)

A. If BG <80 mg/dL and patient has an altered mental status and unable to self-administer oral glucose:
   1. Administer 10% Dextrose IV per pediatric medication administration guide.
   2. May repeat once if BG remains below 60 mg/dL and symptoms persist.
   3. If unable to establish IV, administer Glucagon per pediatric medication administration guide.
      a. Do not repeat.
      b. If BG > 300 mg/dL:
   1. Administer NS fluid bolus 20 ml/kg IV.
      a. Do not repeat.

IV. Special Considerations

A. If Glasgow Coma Scale < 15 and etiology unclear, consider AEIOU TIPS.
B. 10% Dextrose is the preferred concentration for use. 50% Dextrose optional.
C. BG may require 15 minutes or more to show improvements after Glucagon administration.
D. Patients who present with signs of DKA (tachypnea, $ETCO_2$ less than 25 mmHg, or altered mental status) may require more than 1 L NS for prolonged transports.

V. Base Orders

A. Base Hospital consultation is advised if administering greater than 1 L NS.

VI. Contraindications

A. NS fluid bolus is contraindicated in patients with a history of CHF or renal failure.

7401 Acute Cerebrovascular Accident (Stroke)

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* *8104 12 Lead EKG*.
C. If seizures occur refer to *treatment guideline* *7402 Seizures*.

IV. Special Considerations

A. If onset of symptoms is within 24 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.
F. Rapidly transport to the patient's preferred hospital if the estimated transport time does not increase travel time by more than ten (10) minutes compared to the closest receiving hospital. If the closest receiving hospital does not have a functioning CT scanner, the patient has an abnormal BEFAST, and symptom onset is less than 24 hours patient may be transported to the next closest receiving hospital with an operational CT scanner.

V.	Base Orders
A.	None.

VI.	Contraindications
A.	None.

7402 Seizures

I. Definition

A. **Active Seizure:** Ongoing involuntary motor activity or other clinical manifestations of a seizure occurring at the time of patient assessment, or recurrent seizures without return to the patient's baseline level of consciousness between episodes. May include focal or tonic/clonic movement and altered mentation.

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 *treatment guideline* *7306 Hypo/Hyperglycemia*.

III. Advanced Life Support

Adult	Pediatric (less than 15 years of age)
A. Administer Midazolam 10 mg IM. 1. Do not repeat IM. 2. If unable to administer IM or IV already established, administer Midazolam 5 mg IV/IN. 4. May repeat 5 mg IV as needed in 5 minute intervals. 5. Max dose 15 mg IV. B. If hypotension develops: 1. Administer NS fluid bolus 250 ml IV. a. Repeat to maintain a SBP of > 100 mmHg. b. Reassess vital signs every 250 ml to ensure lung sounds remain clear.	A. Administer Midazolam IV, IM, or IN per pediatric medication administration guide. 1. May repeat once for continued seizure activity after 5 minutes.

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 *treatment guideline* *7502 Severe Pre-eclampsia/eclampsia.*

V. Base Orders

A. If seizure activity continues after Midazolam max dose administered, contact base hospital for consult.

VI. Contraindications

A. None.

7403 Sedation

I. Definition

Sedation: The use of medication to intentionally reduce a patient's level of consciousness or agitation to facilitate safe patient care, medical treatment, or transport while providing appropriate monitoring and airway management. Sedation may be appropriate under these circumstances.

A. Severe anxiety communicated by patient not relieved with other calming measures.
B. Behaviors that endanger patient or others or interfere with safe patient care.
C. Proceeding a potentially anxiety producing or painful ALS treatment such as cardioversion.
D. Trismus. (Clenched jaw causing airway compromise)
E. Anticipated movement/manipulation of fractures or dislocations.
F. Airway management (physiological state that interferes with essential airway management).

Behavioral Activity Rating Scale (BARS): A validated 7-point behavioral assessment tool used to objectively describe a patient's level of behavioral activity and agitation. BARS provides a standardized method for assessing agitation severity, communicating patient status, trending response to treatment, and supporting clinical decision-making. It does not replace provider judgment or existing treatment indications. per *treatment policy 8009 BARS*

II. Basic Life Support

A. Provide General Medical Care and determine BARS score

III. Advanced Life Support

Adult

A. Behavioral Assessment-Whenever practical, patients being considered for behavioral sedation should be assessed using BARS before medication administration.
   1. Repeat BARS assessment following intervention when patient condition permits.
B. Mild Sedation:
   1. Administer Diphenhydramine 50 mg IM.
      a. Diphenhydramine 25 mg – 50 mg may be administered IV.
      b. Max dose 50 mg.
C. Moderate/Significant Sedation:
   2. Administer Midazolam 2 mg slow IVP.
      a. Monitor $EtCO_2$.
      b. Titrate to desired degree of sedation and maintain SBP $\geq$ 90 mmHg.
      c. May repeat 1-2 mg every 3 minutes.
      d. If unable to establish IV, administer 2 mg – 5 mg IM.
         (1) May repeat initial IM dose every 10 – 15 minutes.
      e. Max total dose 10 mg.
         (1) Patients with concomitant narcotic administration should not exceed a max dose of 0.05 mg/kg.
         (2) For long transport, max dose may be exceeded for sedation maintenance.
            (a) Administer 1 mg IV every 15 minutes.
            (b) Additional doses greater than max dose requires base orders.
   2. If patient SBP < 90 mmHg administer Fentanyl 50 mcg – 100 mcg IV/IM

Pediatric (less than 15 years of age)

A. Behavioral Assessment-Whenever practical, patients being considered for behavioral sedation should be assessed using BARS before medication administration.
   1. Repeat BARS assessment following intervention when patient condition permits.
B. Mild Sedation:
   1. Administer Diphenhydramine IV, IO, or IM per pediatric medication administration guide.
      a. Do not repeat.
C. Moderate/Significant Sedation:
   1. Administer Midazolam IV or IM per pediatric medication administration guide.
      a. Titrate to desired degree of sedation and maintain age appropriate SBP.
      b. May repeat initial dose one time after 15 minutes.
      c. If transport time is greater than 30 minutes, may repeat once as needed.
      d. Any additional doses require base orders. 0.5 mg -1 mg
   2. If patient is hypotensive, administer Fentanyl per the pediatric medication administration guide.

IV. Special Considerations

A. Behavioral Activity Rating Scale (BARS)

1. The Behavioral Activity Rating Scale (BARS) should be used when practical to objectively assess and communicate the severity of patient agitation.

a.

Score	Assessment	Typical EMS Considerations
1	Difficult to arouse	Monitor airway/LOC
2	Sleeping, responds normally	Observation
3	Drowsy/sedated	Frequent reassessment
4	Calm and cooperative	No intervention indicated
5	Restless or anxious	Verbal de-escalation, reduce stimuli, reassess
6	Extremely active, escalating	Consider sedation if clinically indicated
7	Violent or dangerous	Consider Physical restraint and/or sedation

2. BARS scores should supplement, but not replace, clinical judgment regarding the need for sedation.
3. Trends in BARS scores may assist in determining whether verbal de-escalation, environmental modification, or pharmacologic intervention has been effective.
4. BARS scores should be communicated during transfer of care whenever behavioral disturbance is a component of the patient's presentation.

B. Sedation is considered a chemical restraint when used to treat behavioral disturbance or endangerment. Detailed documentation is required when using sedation for this purpose, BARS scores should be documented in ePCR.

C. 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.

D. Patients over 65 years of age should not exceed a max dose of Midazolam 0.05 mg/kg IV/IM.

E. Concomitant use of Fentanyl and Midazolam is discouraged. The combination can cause respiratory depression

a. and hypotension.

V, Base Orders

A. For transport times greater than 30 minutes, may repeat once as needed. Any additional doses require base orders.

VI. Contraindications

A. Absolute:

1. Sensitivity to the medication to be administered.
2. Repeat dosing for pediatric patients with concomitant narcotic administration.

B. Relative: Paramedic judgement is necessary when evaluating the need for sedation in these circumstances.

1. Nausea/Vomiting.
2. Depressed mentation.
3. Hypotension.
4. Suspected drug/alcohol intoxication.
5. Head Injury.
6. Multiple systems traumas.

7501 Imminent Delivery

I. Definition

A. Active Labor: Regular contractions, bloody show, low back pain, mother feels like having a bowel movement or the need to bear down, and/or crowning.

B. Normal newborn presentation: Has a pulse rate > 100 BPM, cries when stimulated, actively moves all extremities, and has a good strong cry.

C. Depressed newborn presentation: Lacking one or more of the normal newborn presentation characteristics.

II. Basic Life Support

A. Provide General Medical Care.

B. Determine:
1. Gestational age.
2. Number of pregnancies.
3. Number of births.
4. Identify expected complications.

Mother

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

B. Abnormal presentation delivery:
1. Expedite transport with early receiving center notification.

Newborn

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

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. 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.	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 ventilation. (3) Continue chest compressions as indicated.
III. Advanced Life Support	
Mother	Newborn
A. Delivery: 1. Establish IV as appropriate. 2. Consider Fentanyl per *treatment guideline* *7305 Pain Management*. B. Post-delivery: 1. If vaginal bleeding occurs after the delivery of the placenta with significant blood loss: a. Perform vigorous fundal massage. b. Administer NS fluid bolus 250 ml IV. (1) May repeat to a max total volume of 1 L. (2) Reassess vital signs every 250 ml to ensure lung sounds remain clear. (3) Consider second IV. c. If vaginal bleeding greater than 500 cc for vaginal birth and within 3 hours of delivery, administer Tranexamic Acid (TXA) per *procedure guideline* *7904 Administration of Tranexamic Acid*. (1) The presence of hypotension is not required for administration of TXA. d. Optional for transport times exceeding one hour: (1) Consider Oxytocin (Pitocin) 20 units in 1 L NS rapid IV infusion.	A. Post-delivery neonatal resuscitation: 1. Establish IV. 2. Administer 1:10,000 Epinephrine IV per pediatric medication administration guide. 3. Apply cardiac monitor: a. Treat any dysrhythmias per *treatment guideline* *7103 Dysrhythmia*. 4. Expedite transport with early receiving center notification. 5. If return of spontaneous circulation (ROSC) or pulses increase over 60 BPM, provide supportive care

(a) If unable to obtain an IV, administer Oxytocin 10 units IM.	

IV. Special Considerations

A. Obtaining an APGAR score should only occur one minute after delivery and again after five minutes. Obtaining an APGAR score should not delay neonatal assessment.

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.

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.

D. Fundal massage should only begin after the placenta has been delivered.

E. Clamping of the cord may be performed immediately after delivery. Waiting for the cord to stop pulsating is not necessary.

V. Base Orders

A. None.

VI. Contraindications

A. None.

7502 Severe Pre-eclampsia/Eclampsia

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 *treatment guideline* *7402 Seizures*.
   2. Optional for transport times exceeding one hour:
      a. Consider Magnesium Sulfate 4 g in 250 ml NS over 20 minutes.
         (1) If still transporting after one hour contact Base Hospital to infuse 2 g in 250 ml NS over one hour.
C. Early receiving center notification.

IV. Special Considerations

A. None.

V. Base Orders

A. Administration of Nitroglycerine 0.4 mg SL requires Base Hospital consult and physician approval.
   1. May repeat once after 10 minutes if DBP < 110 mmHg.

VI. Contraindications

A. None.

7503 Vaginal Hemorrhage

I. Definition

A. **Vaginal Hemorrhage:** Bleeding from the vagina that is abnormal in volume, timing, or clinical presentation and may be associated with pregnancy, childbirth, trauma, gynecologic conditions, post-operative, or other medical causes.

II. Basic Life Support

A. Provide General Medical Care.

III. Advanced Life Support

A. If any vaginal hemorrhage in third trimester of pregnancy, establish 2 large bore IVs.
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 *treatment guideline* *7501 Imminent Delivery*.
D. If signs of post-partum hemorrhage refer to *treatment guideline* *7501 Imminent Delivery*.

IV. Special Considerations

A. Bleeding in the third trimester of pregnancy requires transport to a receiving facility with OB services.
B. Patients with vaginal bleeding who report possible pregnancy may be experiencing a spontaneous miscarriage. Being sensitive to any emotional response is imperative.

V. Base Orders

A. None.

VI. Contraindications

A. None.

7601 Unexpected Infant/Child Death

I. PURPOSE

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

II. PROCEDURE

A. Determine whether to perform further resuscitation measures:

1. If patient does not exhibit lividity or rigor, and there is no authorized DNR present, proceed with CPR and follow *treatment guideline 7101 Cardiac Arrest Management.*
2. If patient exhibits lividity and rigor, do not resuscitate or transport. If in the EMS personnel's judgment, transport will be beneficial due to scene conditions, transport may be initiated.

B. Provide supportive measures for parents and siblings:

1. Do not express your assumptions or judgments regarding the cause of death**.**
2. Explain the resuscitation process, transport decision, and further actions to be taken by hospital personnel or the medical examiner.
3. Use the child's first name.
4. Allow parent to see the child and say goodbye.
5. Maintain a supportive, professional attitude no matter how the parents react.
6. Whenever possible, be responsive to parental requests.
7. Be sensitive to ethnic and religious needs or response and make allowances for them.
8. Assist family with contacting grief support if available.

C. Obtain a patient history. Use a non-judgmental approach. Ask open ended questions as follows:

1. When was your child well? What has changed or occurred since then?
2. Has the child been sick?
3. Who found the child? Where?
4. Has the child been moved?
5. What time was the child last seen breathing?
6. Was the child taking any medications?
7. What was done after the child was discovered?
8. When did the child eat last?

III. DOCUMENTATION

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

7602 Brief Resolved Unexplained Event (BRUE)

I. Definition

A. A Brief Resolved Unexplained Event (BRUE) is an episode that frightens a child's caretaker. These events can involve any of the following symptoms:
   1. Apnea.
   2. Color change (cyanosis, pallor, erythema).
   3. Marked change in muscle tone.
   4. Choking or gagging.

B. These events usually occur in infants less than 12 months old, but BRUE should be suspected in any child less than two (2) years of age who displays these symptoms.

C. Most patients will appear stable and may have a normal physical exam by the time field personnel arrive. Despite their appearance, some of these patients may be later diagnosed with conditions that require further medical care.

II. Basic Life Support

A. Provide General Medical Care.

B. Assume the history given is accurate.

C. Obtain a description of the severity, nature, and duration of the event.

D. Obtain a complete medical history.

E. Check for the following:
   1. Any known chronic illnesses.
   2. If evidence of seizure activity refer to *treatment guideline 7402 Seizures*.
   3. Current or recent infections.
   4. History of gastro-esophageal reflux (spitting/vomiting).
   5. Inappropriate mixture of formula.
   6. History or evidence of recent trauma.
   7. Medications (current and recent including over-the-counter drugs).
   8. Associated events (eating, crying, etc.).

F. Complete a comprehensive physical exam:
   1. Child's overall appearance.
   2. Skin color.
   3. Interaction with the environment and parents.
   4. Evidence of trauma.

G. Treat any identifiable injuries/illnesses.

H. Transport.

III. Advanced Life Support

A. None.

IV. Special Considerations

A. None.

V. Base Orders

A. If the parent or guardian refuses medical care and/or transport, contact Base Hospital for consult prior to completing an AMA form and leaving the scene.

VI. Contraindications

A. None.

7701 Respiratory Distress

I. Definition

A. None.

II. Basic Life Support

A. Provide General Medical Care.
B. CPAP should be considered early in severe respiratory distress per *procedure guideline* *8004 CPAP*.
C. Airway obstruction:
1. Conscious patient able to speak:
a. Offer assurance, do not intervene, encourage coughing.
b. Consider oxygen administration as indicated.
c. Frequent gentle suctioning as indicated to control secretions.
2. If patient is unconscious or becomes unconscious begin CPR.
a. If an object is seen, remove object and reassess.
b. Continue CPR as indicated and refer to *treatment guideline* *7101 Cardiac Arrest Management*.

Adult	Pediatric (less than 15 years of age)
A. Airway obstruction: 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. 2. Unconscious or becomes unconscious patient: a. If unable to maintain an airway or ventilate after two attempts with BLS maneuver: (1) Attempt supraglottic airway per *treatment guideline* *8102 Supraglottic Airway.*	A. Airway obstruction: 1. Conscious patient unable to speak or cough: 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. b. Child > 1 year old: (1) Refer to adult treatment.

III. Advanced Life Support

A. Airway obstruction:
1. Inspect oral cavity:
a. If object seen, use forceps and attempt to remove.

A. Airway obstruction: 1. If unable to maintain an airway or ventilate after two attempts with BLS maneuver: a. Attempt oral endotracheal intubation per *procedure guidelines* *8101 Endotracheal Intubation* 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.	A. Airway obstruction: 1. If unable to maintain an airway or ventilate after two attempts with BLS maneuver: a. place a supraglottic airway per *treatment guideline* *8102 Supraglottic Airway*. 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 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* *8004 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.

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

A. Pulse Oximetry:
1. Readings can be misleading with poor perfusion (shock), cold extremities, hypothermia, anemia, or in carbon monoxide poisoning.
2. Readings may be difficult to obtain or unreliable during excessive patient moving or if nail polish is present.
3. Readings between 88% - 92% is the goal for patients with Chronic Obstructive Pulmonary Disease (COPD).
4. Patients with smoke inhalation, significant burns, and potential carbon monoxide poisoning will continue to receive high flow oxygen regardless of pulse oximetry reading.
5. Patients with traumatic brain injury should receiving oxygen to maintain $Sp0_2$ of 100%.

B. Waveform capnography is useful in monitoring respiratory rates and may provide early indication of respiratory failure.

C. Intubation of the severely asthmatic patient is extremely difficult and all other measures should be exhausted first.

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

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

V. Base Orders

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

VI. Contraindications

A. None.

7801 Trauma Triage Decision Scheme

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

Adult Patients (age 15 - 65)	Geriatric Patients (age > 65 yrs)	Pediatric Patients (age <15 yrs)
• GCS 13 or less **OR** • Systolic BP < 90 mmHg	• GCS Change from baseline **OR** • Systolic BP <110 mmHg	• GCS 13 or less **OR** • Age 7-15 Systolic BP < 80 mmHg • Age <7 Systolic BP < 70 mmHg

Transport to closest appropriate Trauma Center ← Yes | No → **Assess anatomic factors**

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

1. Penetrating injury to head, neck, chest, abdomen, pelvis, groin, or extremities proximal to elbow or knee.
2. Combination of trauma with burns greater than or equal to 15% of body surface area, burns to face, or airway
3. Two or more long bone fractures
4. Open or depressed skull fracture
5. Chest wall instability
6. Pelvic Fracture
7. Amputation proximal to the wrist or ankle
8. Traumatic Paralysis or paresthesia
9. Any patient <5 years who suffered major trauma with inability to determine physiologic status
10. Crushed, degloved, or mangled extremity

Transport to closest appropriate Trauma Center ← Yes | No → **Assess mechanisms of injury**

Step 3 - Mechanism of injury factors: Combined with any one additional factor

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

Assess Additional Factors ← Yes | No → **Transport to closest appropriate hospital.**

Step 4 - Additional Factors

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

Transport to closest appropriate Trauma Center ← Yes | No → **Transport to closest appropriate hospital.**

7802 Major Trauma

Definition

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

II. Basic Life Support

A. Provide General Medical Care.
B. Do not delay transport.
C. Early trauma center notification for patients meeting Trauma Triage Criteria per *treatment guideline* *7801 Trauma Triage*.
D. Consider spinal motion restriction per *treatment guideline* *8005 Spinal Motion Restriction*.
E. Remove or cut away patients clothing:
   1. Cover patient with blanket to maintain body temperature and privacy.
F. If significant bleeding present, refer to *treatment guideline* *7804 Uncontrolled Hemorrhage/Amputation* *and* *8006 Hemostatic Agents*.
G. If suspected fracture present:
   1. Pulses distal to the suspected fracture should be checked before and after movement or stabilization.
I. Provide pain management:
   1. Stabilize suspected fractures in patients position of comfort.
   2. Apply cold compress if indicated.

III. Advanced Life Support

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

Adult

A. Treat suspected shock in patients with:
   1. Significant mechanism of injury.
   2. Skin signs are pale cool, and diaphoretic.
   3. SBP < 90 mmHg.
      a. Administer NS fluid bolus 250 ml IV as needed to maintain SBP 90 mmHg.
         (1) Max 1 L judiciously.
         (2) Warm fluids preferred.
      b. Consider administering Tranexamic Acid for suspected hemorrhagic shock per *treatment guideline* *7904 Tranexamic Acid Administration.*
B. Head injury with evidence of herniation:
   1. Ventilate patient to maintain capnography between 30 mmHg to 35 mmHg.
   2. Consider sedation if patient is combative, extremely agitated, or clenched (trismus) per *treatment guideline* *7403 Sedation*.

Pediatric (less than 15 years of age)

A. Treat suspected shock in patients with:
   1. Significant mechanism of injury.
   2. Skin signs are pale, cool, and diaphoretic.
   3. SBP is less than age-appropriate parameters.
      a. Administer NS fluid bolus 20 ml/kg IV to maintain age appropriate SBP.
         (1) Do not repeat.
         (2) Warm fluids preferred.
      b. Consider administering Tranexamic Acid for suspected hemorrhagic shock per *treatment guideline* *7904 Tranexamic Acid Administration.* *(Pediatric dose 15mg/kg)* Reference pediatric medication administration guide.

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 excessive amounts of NS before going to the operating room may have worse outcomes. Fluid replacement should be administered judiciously to maintain a BP.
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.

7803 Crush Syndrome

I. Definition

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

II. Basic Life Support

A. For crush injury that does not meet the definition of crush syndrome, release compression and extricate patient.
B. Provide General Medical Care.
C. Consider spinal precautions per *treatment guideline* *8005 Spinal Motion Restriction*.
D. Provide passive warming measures if indicated.
E. Consider the use of a tourniquet prior to extrication to prevent toxins from entering the patient or for hemorrhage control per *treatment guideline* *7804 Uncontrolled Hemorrhage/Amputation*.

III. Advanced Life Support

A. Provide pain management per *treatment guideline* *7305 Pain Management*.
B. If unable to establish vascular access while entrapped, consider tourniquet placement per *treatment guideline* *7804 Uncontrolled Hemorrhage/Amputation* prior to extrication.
C. Assess for signs of hyperkalemia. If evidence of hyperkalemia, refer to *treatment guideline* *7303 Hyperkalemia*.

Adult	Pediatric (less than 15 years of age)
A. For suspected crush syndrome: 1. Administer NS fluid bolus 1 L rapid IV infusion prior to release of compressive force. a. May repeat once. b. Max total volume 2 L. c. Reassess vital signs after every 250 ml to ensure lung sounds remain clear.	A. For suspected crush syndrome: 1. Administer NS fluid bolus 20 ml/kg rapid IV infusion prior to release of compressive force. a. May repeat once.

IV. Special Considerations

A. First responders need to balance the need for extrication with the timing of interventions. Ideally normal saline and medications would be administered prior to the release of the compressive force, but extrication should not be unreasonably delayed for ALS care.
B. Patients with crush injury require large volumes of fluid resuscitation. Patients with prolonged entrapment will require maintenance fluids. IO access should be considered when attempts at IV access are not successful if:
   1. Prolonged entrapment is likely (30 minutes) and/or,
   2. There are signs of hyperkalemia, and/or,
   3. There is risk of crush syndrome requiring medication administration.
C. In cases of extended extrication, medications should be administered five minutes prior to release of the compressive force to prevent complications from the cellular toxins that enter the circulation system upon extrication of the patient. Calcium stabilizes the cardiac muscle and should be administered first.
D. Tourniquet placement prior to extrication is a last resort for patients who are at risk for crush syndrome in whom vascular access cannot be established or when transport time is anticipated to be > 30 minutes. The tourniquet must completely occlude venous and arterial flow in order to protect the patient from crush syndrome. Establish vascular access and cardiac monitoring immediately after extrication and be prepared to treat symptoms of crush syndrome.

V.	Base Orders
A.	Additional administration of NS requires Base Hospital consult and physician approval.
B.	The duration of action of the medications is approximately 30 minutes. For persistent signs of hyperkalemia and/or the patient will not arrive at the hospital within 30 minutes, re-dosing of medications requires Base Hospital consult and physician approval.
VI.	Contraindications
A.	None.

7804 Uncontrolled Hemorrhage/Amputation

I. Definition

A. Tourniquet Device: A tourniquet device is appropriate when upper and lower extremity hemorrhage cannot be controlled by direct pressure.
   1. Evidence for use of a tourniquet may include pulsing blood loss, large volume blood loss, inability to control significant extremity hemorrhage if direct pressure is ineffective or impractical.

B. Wound packing: Wound packing is a technique to place direct pressure in junctional areas (neck, axilla, and groin) on a bleeding vessel.

II. Basic Life Support

A. Provide General Medical Care.

B. Apply direct pressure with gauze if indicated:
   1. If gauze becomes saturated with blood, add additional gauze with more pressure.

C. Tourniquet device application:
   1. Expose injury.
   2. Avoid placement in the following areas:
      a. Joints.
      b. Angulated or open fracture.
      c. Stab wound.
      d. Gunshot wound.
   3. Assess and document circulation, motor, and sensation distal to injury site.
   4. Apply tourniquet proximal to injury site (usually 2-4 inches).
   5. Tighten tourniquet incrementally to least amount of pressure required to stop bleeding.
      a. May consider applying a second tourniquet above the original if bleeding persists.
   7. Cover wound with appropriate sterile dressing and/or bandage.
      a. Do not cover the tourniquet. Must be visible.
   8. Reassess extremity distal to tourniquet and document.
   9. Tourniquet placement date and time must be documented on the tourniquet device.
   10. Ensure receiving facility staff is aware of the tourniquet placement and time application took place.

D. Wound Packing:
   1. Packing can be done with regular or approved hemostatic gauze.
      a. For use of hemostatic gauze refer to *treatment guideline* *8006 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 Pain Management*.
   2. *Consider sedation per treatment guideline* *7403 Sedation*.
   3. Once all bleeding is controlled and patient is a possible re-implantation candidate:
      a. Administer Aspirin 162 mg PO.

IV. Special Considerations

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

V. Base Orders

A. Removal of an appropriately indicated and placed tourniquet requires base hospital consult and physician approval.

B. Transport of patients with an appropriately indicated and placed tourniquet to a non-trauma receiving center requires base hospital consultation.

VI. Contraindications

A. Wound packing is contraindicated in the chest and abdominal injuries. Use direct pressure only.

7901 Approved Medications List

I. Purpose

A. To establish a consolidated list of medications approved for use within the LEMSA system, including approved indications, routes of administration, and authorized clinician/provider levels.

B. This guideline is intended as a quick-reference document only and does not replace specific treatment guidelines, medication reference documents, California EMS Authority scope of practice regulations, Local Optional Scope of Practice (LOSOP) approvals, or agency-specific policies.

II. Approved Medications Matrix

Medication	Common Uses	Approved Routes	Authorized Provider Level
Acetaminophen (IV)	Pain	IV Infusion	ALS
Adenosine	SVT	IV	ALS
Albuterol	Bronchospasm, asthma, COPD	Nebulized	ALS
Amiodarone	Ventricular dysrhythmias	IV/IO	ALS
Aspirin	ACS/chest pain	PO	BLS & ALS
Atropine	Bradycardia, organophosphate poisoning	IV/IO	ALS
Calcium Chloride	Hyperkalemia, calcium channel blocker overdose	IV/IO	ALS
D10 (Dextrose 10%)	Hypoglycemia	IV/IO Infusion	ALS
D50 (Dextrose 50%)	Severe hypoglycemia	IV/IO	ALS
Diphenhydramine	Allergic reaction, dystonic reaction	IV/IM	ALS
Epinephrine Auto-Injector (1:1,000)	Anaphylaxis	IM	BLS & ALS
Epinephrine (draw-up 1:1,000)	Anaphylaxis, severe asthma	IM	ALS; EMT optional scope to treat Anaphylaxis by LEMSA approved agencies only
Epinephrine (1:10,000, 1:100,000)	Cardiac arrest, profound hypotension	IV/IO	ALS
Fentanyl	Pain management	IV/IO/IN	ALS
Glucagon	Hypoglycemia without IV access	IM	ALS
Glucose (oral)	Hypoglycemia (conscious patient)	PO	BLS & ALS
Medication	Common Uses	Approved Routes	Authorized Provider Level

Medication	Common Uses	Approved Routes	Authorized Provider Level
Heparin	Acute coronary syndrome	Infusion	ALS approved providers only
Ipratropium (Atrovent)	Bronchospasm	Nebulized	ALS
Ketorolac	Pain management	IV/IM	ALS
Lidocaine	IO analgesia	IV/IO	ALS
Magnesium Sulfate	Wide complex tachycardia, eclampsia	IV/IO	ALS
Midazolam	Seizures, sedation	IV/IO/IM/IN	ALS
Naloxone	Opioid overdose	IN/IM/IV/IO	BLS & ALS
Nitroglycerin	Chest pain, pulmonary edema	SL/topical	ALS
Nitroglycerin Infusion	Chest pain, pulmonary edema	Infusion	ALS approved providers only
Normal Saline	Volume replacement, medication carrier	IV/IO	ALS
Ondansetron	Nausea/vomiting	IV/IM/ODT	ALS
Oxygen	Hypoxia, respiratory distress	Inhaled	BLS & ALS
Oxytocin (Pitocin)	Postpartum hemorrhage (LOSOP)	IV infusion/IM	ALS – Approved agencies only
Sodium Bicarbonate	Hyperkalemia, tricyclic overdose, prolonged arrest	IV/IO	ALS
Tranexamic Acid (TXA)	Hemorrhagic shock in trauma or post-partum hemorrhage	IV infusion	ALS
Verapamil	Atrial fibrillation/flutter with RVR, SVT (LOSOP)	IV	ALS – Approved agencies only

III. Provider Level Definitions

A. BLS- Emergency Medical Technician (EMT) personnel functioning within California EMT scope of practice and approved LEMSA policies.

B. ALS- Paramedics functioning under LEMSA paramedic accreditation and approved ALS provider agency policies.

IV. Optional Scope / LOSOP

A. Certain medications or administration methods may require:

1. EMS Agency-specific approval
2. Local Optional Scope of Practice (LOSOP)
3. Additional credentialing
4. Specialized training
5. Agency medical director authorization

V. General Medication Administration Requirements

A. Medications shall only be administered:
   1. For approved indications
   2. By authorized personnel
   3. Within approved scope of practice
   4. In accordance with current LEMSA treatment guidelines
   5. Medication shortages, substitutions, or temporary formulary changes may be authorized by the EMS Medical Director through official policy memoranda or temporary treatment updates.
B. Controlled substances shall be stored, tracked, wasted, and documented in accordance with:
   1. DEA requirements
   2. California law
   3. Agency policy
   4. All medication administrations shall be documented in the electronic patient care record (ePCR).

7902 Administration of Naloxone

I. Principles

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

II. Scope

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

III. Public Safety-First Aid Personnel:

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

Naloxone 2 mg preload syringe.

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

Naloxone Nasal Spray 4 mg preload single dose device.

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

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

IV. Basic Life Support:

A. Administer Narcan per *treatment guideline* *7203 Poisoning/Overdose*.

V. Advance Life Support:

A. Administer Narcan per *treatment guideline* *7203 Poisoning/Overdose*.

VI. Special Considerations:

A. Naloxone administration can cause sudden agitated behavior or symptoms of opioid withdrawal such as vomiting, abdominal cramps, and/or sweating. Be aware and prepared to assist patient.

VII. Base Orders: None.

VIII. Contraindications: None.

IX. Documentation on the EMS patient care report (PCR) shall include:
A. Agency name who administered the Naloxone. B. Symptoms prior to administration as reported by Public Safety first aid personnel. C. Dose administered by Public Safety first aid personnel.

7903 Administration of Ketorolac

I. Principles

A. Purpose: To provide guidance on the administration of Ketorolac for pain.
B. Indications: Mild to moderate pain.
C. Education:
1. Ketorolac is a first generation non-steroidal anti-inflammatory drug (NSAID) that has been approved for use by the FDA since 1989. Since its approval, Ketorolac has been used throughout the world for pain control both within hospitals, and more recently, prehospital. For healthy adult patients, Ketorolac has been a successful analgesic with a small side effect profile. Specifically, for biliary and renal colic. Studies have shown great success with this NSAID's use over other interventions. Ketorolac as a pain medication avoids risks of life-threatening respiratory depression and hypotension that is seen with the IV opiate medications commonly used in EMS.
2. Hematuria should not inhibit administration unless significant.

II. Scope Paramedic

III. Basic Life Support: None.

IV. Advance Life Support:

A. Administer Ketorolac per *treatment guideline* *7305 Pain Management*.

Adult	Pediatric (less than 15 years of age)
A. 15 mgs slow IV Push over 15 seconds. 1. If unable to establish an IV, administer 30 mg IM.	A. 0.5 mg/kg IV/IM 1. Max dose 15 mg.

V. Special Considerations: None.

VI. Base Orders: None.

VII. Contraindications:

A. History of renal disease or kidney transplant.
B. Hypotension.
C. History of GI bleeding or ulcers.
D. Current anticoagulation therapy or active bleeding.
E. Current steroid use.
F. Age <2 years old or > 65 years old.
G. History of asthma.
H. Pregnant or high possibility of pregnancy.
I. Severe headache with signs and symptoms of intracranial bleeding and/or disease.
J. Patients meeting Trauma criteria.
K. Chest pain suspicious of ACS.
L. Abdominal Pain (unless in the presence of previous kidney stones with same presentation).

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

A. Initial pain score, then repeat every 5 minutes following administration.

7904 Administration of Tranexamic Acid (TXA)

I. Principles

A. Purpose: To provide guidance on the administration of Tranexamic Acid (TXA) for blunt or penetrating major trauma and postpartum hemorrhage.

B. Indications: Blunt or penetrating Trauma and significant postpartum hemorrhage.

C. Criteria for Traumatic Hemorrhagic shock:

1. Within 3 hours of injury, TXA should be considered for all blunt or penetrating trauma patients with signs and symptoms of hemorrhagic shock for any adult or pediatric patient that meets **ANY ONE** of the following inclusion criteria:
   a. Systolic blood pressure of less than 90 mm Hg at any time during patient encounter
   b. Bleeding not controlled by direct pressure, hemostatic agents, or tourniquet application.

D. Criteria for postpartum hemorrhage:

a. Within 3 hours of vaginal delivery, TXA should be considered for vaginal bleeding greater than 500 cc. This should follow vigorous fundal massage and IV fluids.
b. Systolic blood pressure less than 90 mmHg is **not** a requirement for administration for postpartum hemorrhage.

E. Education:

1. Tranexamic Acid (TXA) is a lysine analogue that works to inhibit the formation of plasmin, which is a molecule responsible for clot degradation. It therefore stabilizes clots and slows down bleeding. It has recently been shown in multiple studies to reduce mortality in trauma patients meeting specific physiologic criteria or who have signs of major trauma.

II. Scope Paramedic

III. Basic Life Support: None.

IV. Advance Life Support:

A. Administer Tranexamic Acid (TXA) per *treatment guideline 7802 Major Trauma*.

1. Adult - 2 gram in 100 ml NS IV infusion over 10 minutes or for
2. Pediatric dosing- <15 years old-15mg/kg
3. Do not administer IV Push. This will cause hypotension.
4. Place appropriate wristband on the patient identifying that TXA was administered.

V. Special Considerations: None.

VI. Base Orders: None.

VII. Contraindications:

A. > 3 hours post injury or birth.
B. Isolated extremity amputation when bleeding has been controlled and if there is a strong expectation of re-implantation
C. Isolated spinal shock.
D. GI bleed
E. Traumatic arrest with >5 minutes of CPR without ROSC.
F. Drowning or hanging victims.
G. Active thromboembolic event (within 24 hours); i.e. CVA, MI, PE, DVT.
H. Hypersensitivity or anaphylactic reaction to TXA.

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

A. Time of injury/birth.
B. Time of administration.

7905 Administration of Acetaminophen

I. Principles

A. Purpose: To provide guidance on the administration of Acetaminophen for pain.
B. Indications: Mild to Moderate pain.

II. Scope: Paramedic.

III. Basic Life Support: None.

IV. Advance Life Support:

A. Administer Acetaminophen per *treatment guideline* *7305 Pain Management*.
1. 1000 mg in 100 ml NS IV infusion over 15 minutes.
a. Do not repeat.

V. Special Considerations: None.

VI. Base Orders:

A. For transports greater than 30 minutes may consider administration of Acetaminophen for antipyretic effects with base approval.

VII. Contraindications:

A. Known or suspected Liver Failure or Liver Transplant.

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

A. O_2 Saturation.
B. Temperature within 15 minutes of administration.
C. Pain scale with each set of vital signs.
D. Patient weight.
E. Dosage.

7906 Administration of Nerve Agent Antidote

I. PURPOSE

A. To establish guidance for the safe administration of nerve agent antidotes to patients and EMS personnel exposed to nerve agents or organophosphate agents.

II. POLICY

A. Nerve agent antidotes may be administered to exposed patients or EMS personnel exhibiting signs and symptoms consistent with cholinergic toxicity in accordance with approved treatment guidelines, medical direction, and LEMSA policy.

III. OPERATIONAL CONSIDERATIONS

A. Scene safety and appropriate PPE shall be established prior to patient care.
B. Operations shall occur within the Incident Command System.
C. Personnel shall operate within their level of hazardous materials training.
D. Decontamination should occur as soon as practical.

IV. APPROVED ANTIDOTE RESOURCES

A. Approved antidote resources may include:
   1. Atropine autoinjectors.
   2. Combination atropine/pralidoxime autoinjectors.
   3. Regional or federal pharmaceutical stockpile resources.
   4. LEMSA-approved medication supplies.

V. INDICATIONS

A. Antidotes should be considered for patients demonstrating signs or symptoms of nerve agent or organophosphate exposure, including respiratory distress, bronchorrhea, bronchospasm, excessive secretions, miosis, vomiting, seizures, or altered mental status.

VI. CHOLINERGIC TOXIDROME

A. DUMBELS (formerly SLUDGE):
   D – Diarrhea
   U – Urination
   M – Miosis
   B – Bronchorrhea/Bronchospasm
   E – Emesis
   L – Lacrimation
   S – Salivation/Sweating

VII. TREATMENT PRINCIPLES

A. Antidotes shall not be administered prophylactically.
B. Treatment should be guided by respiratory status and secretions.
C. Repeat atropine dosing may be required.
D. Seizures should be treated per *treatment guidelines 7402 Seizures*.
E. Clinical treatment shall follow *treatment guideline 7203 Poisoning/Overdose*.

VIII. DECONTAMINATION

A. Remove contaminated clothing when appropriate, isolate contaminated materials, perform decontamination as resources allow, and limit secondary contamination.
B. Reference *treatment guideline 7205 HAZMAT Exposure policy*.

7907 Alternate Medications

I. PURPOSE

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

II. TREATMENT

A. Adult Diazepam (Valium) dosing when Midazolam is not available:

1. Diazepam (Valium) 5-10mg slow IV push; max 5mg/min. May repeat initial dose every 5-10 mins to max of 30mg.
2. If unable to establish IV administer Diazepam (Valium) 5-10mg IO slow push. May repeat initial dose after 10 mins to max of 15mg. Diazepam (Valium) maybe administered IM only when IV/ IO cannot be established.
3. In elderly patients > 65 yrs old use 2-5mg slow IV push. May repeat in 2mg increments every 5 minutes to a maximum dose of 10mg.

B. Pediatric Diazepam (Valium) dosing when Midazolam is not available:

1. Diazepam (Valium) 0.2mg/kg slow IV; max 2mg/min. May repeat initial dose after 5 mins to max of 5mg for <5 yrs old and 10mg for 5yrs and older.
2. If unable to establish IV, administer Diazepam (Valium) 0.2mg/kg slow I/O; max 2mg/min. May repeat initial dose after 5 mins to max of 5mg for <5 yrs old and 10mg for 5yrs and older. Diazepam may be administered IM ONLY if unable to establish IV/IO.

C. Adult Morphine dosing when Fentanyl is not available:

1. Morphine 2-5mg IV every 5 mins to max dose of 20-30 mg, titrate to pain, respiratory status, maintenance of a SBP >90mmHg.
2. If unable to establish IV administer Morphine 5-10mg IM. May repeat in 30 mins to max dose of 15mg.

D. Pediatric Morphine dosing when Fentanyl is not available:

1. Morphine 0.05mg/kg IV or IM. May repeat x1 IV if needed.

III. SPECIAL CONSIDERATIONS

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

8001 Taser Barb Removal

I. Principles

A. Purpose: To provide guidance on the removal of Taser Barbs in the prehospital setting.

II. Scope

EMT-B, Paramedic

III. 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 per *treatment guideline* *7003 Patient Destination / Point of Entry*.
D. Barb removal:
   1. Place one hand on the skin around the puncture site.
   2. Place hand or pliers firmly on the barb.
   3. In one fluid motion pull the barb straight out of the puncture site.
      a. Repeat on the second barb.
      b. Bandage appropriately.
      c. Inspect the barb to ensure it is fully intact.
         1) If not fully intact, patient should be transported to the ED for medical evaluation.

IV. Advanced 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 *treatment guideline* *7103 Dysrhythmias*.
   3. AMA as appropriate per *treatment guideline* *8203 Patient Refusal of Treatment or Transport*.

V. Special Considerations:

A. Patients must be transported for medical clearance to an approved medical facility unless they meet criteria for AMA.
B. A patient care report with a complete history, assessment, and vital signs will be completed for all patient contacts regardless of the resolution.
C. Taser barb deployment does not constitute penetrating trauma for the trauma triage criteria.

VI. Base Orders:

None.

VII. Contraindications:

None.

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

A. Location of the Taser barb.
B. Any complications with removal.

8002 Football Helmet Removal

I. Principles

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

II. Scope EMT-B, Paramedic

III. Basic Life Support:

A. Remove face shield.
B. Maintain cervical neutrality while first removing the helmet.
C. After the helmet is successfully removed maintain spinal neutrality by holding manual cervical immobilization.
D. Remove shoulder padding by cutting the pad laces.
   1. If unable to cut pad laces, coordinate a slight lift of the torso to slide the pads off.
      a. Maintain spinal neutrality during this process may require up to 4 personnel.
E. Evaluate the need for continuous spinal motion restriction per *treatment guideline* *8005 Spinal Motion Restriction*.

IV. Advanced Life Support: None.

V. Special Considerations:

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

VI. Base Orders: None.

VII. Contraindications: None.

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

A. CSM evaluation before and after helmet removal.

8003 Use of Restraints

I. Principles

A. Purpose

1. To provide guidance for EMS personnel on the safe and appropriate use of restraints when necessary to protect the patient, EMS personnel, and the public.
2. To emphasize patient safety, prevention of positional asphyxia, and alignment with current best practices in the management of violent or severely agitated patients.
3. To acknowledge that restraints shall only be used when a patient's behavior presents an immediate danger to themselves, or others and when less restrictive measures have been ineffective, impractical, or are reasonably believed unlikely to succeed.
4. To prioritize good faith efforts to utilize verbal de-escalation techniques to gain compliance whenever scene safety allows.
5. To ensure restraint use remains clinically justified, medically directed, continuously monitored, and consistent with applicable California law and EMS standards of care.
6. To support safe, reasonable, and defensible EMS decision-making that balances patient rights, provider safety, and public safety.

II. Scope

A. Apply Appropriate Restraint

1. Behavioral Activity Rating Scale (BARS)- when scene safety permits, EMS personnel should assess patient agitation using BARS. The BARS score provides an objective description of behavioral activity and may assist in determining the effectiveness of de-escalation efforts, communicating patient condition, and documenting changes during care. BARS is intended to support—not replace—clinical judgment regarding restraint decisions. *see treatment policy 8009 BARS*
2. The highest-level medical authority on scene is responsible for patient medical care decisions, including restraint use, sedation, and transport destination. Law enforcement remains responsible for scene security, criminal detention, and management of law enforcement restraint devices.
3. Whenever scene safety permits, EMS personnel should attempt to manage agitated or combative patients through verbal de-escalation and non-physical techniques prior to the application of physical restraints.
4. Verbal de-escalation is intended to reduce agitation, lower the risk of injury to the patient and responders, and may prevent the need for physical restraint or sedation.
5. Verbal de-escalation techniques should not delay necessary intervention when a patient's behavior presents an immediate threat to the safety of the patient, responders, or others on scene.
6. Restraint equipment applied by prehospital personnel must be approved by the LEMSA Medical Director. All restraints applied by prehospital personnel must be soft, non-locking, and allow for rapid release.
7. Hard restraints, handcuffs, or other law enforcement custody devices shall <u>not</u> be applied by EMS personnel unless specifically authorized by local policy and the LEMSA Medical Director

B. Patient positioning

1. Patients should be restrained in fowlers / semi fowlers or position of maximum comfort, elevating the head to support airway and ventilation unless contraindicated.
2. Positioning that allows the patient to maintain airway control and adequate respiratory effort is required.
3. The following restraint techniques shall <u>NOT</u> be used by prehospital personnel:
   a. Sandwiching patients between backboards, scoop stretchers, or other rigid devices to immobilize them.
   b. Restraining a patient's hands and feet behind their back (e.g., hog-tie or hobble restraints).
   c. Any restraint technique that restricts chest wall movement or impairs the ability to breathe normally.
   d. Transport of restrained patients in the prone position.
4. EMS personnel must be aware that positional asphyxia can occur in restrained patients, particularly those who are agitated, intoxicated, or experiencing delirium or other medical emergencies. Continuous monitoring of respiratory effort and airway status is required.

C. Restraints applied by law enforcement (handcuffs, plastic ties, or hobble restraints)

1. Must allow sufficient slack for the patient to fully expand the chest and abdomen for normal breathing.
2. EMS personnel shall request modification of restraints if they believe the restraint technique may compromise patient safety.
3. Law enforcement shall remain responsible for management of their restraints.
4. Continuous presence of a law enforcement officer is required when law enforcement restraints remain in place.
5. When feasible, the officer should accompany the patient in the ambulance or follow in tandem. If the officer is following in a separate vehicle, communication capability with EMS must be confirmed prior to departure.

D. A communication plan should be established prior to leaving the scene in the event the patient becomes combative, or the restraints require adjustment.
Monitoring of restrained patients
1. Respiratory effort, airway status, and level of consciousness shall also be continuously monitored.
2. Evaluate restrained extremities for:
   a. Pulse quality
   b. Capillary refill
   c. Skin color
   d. Motor function
   e. Sensory function
3. These assessments shall be performed at least every 15 minutes or more frequently if clinically indicated.

III. Special Considerations

A. The safety of the patient, EMS personnel, law enforcement, and the public is the highest priority when managing violent or combative patients.
B. Behavioral Activity Rating Scale, when feasible:
1. Obtain an initial BARS assessment before restraint application.
2. Repeat BARS assessments after verbal de-escalation, sedation (ALS Only), or other interventions when safe.
3. Use changes in BARS score to objectively describe behavioral improvement or worsening. A patient's
4. BARS score should be included in verbal handoff whenever behavioral disturbance contributed to EMS care.

C. Restraints should only be used when a patient demonstrates behavior that poses an immediate threat to themselves or others, and less restrictive options are not feasible.
D. Aggressive or violent behavior may be the result of underlying medical conditions, including but not limited to:
1. Hypoxia
2. Head injury
3. Hypoglycemia
4. Stroke
5. Drug intoxication or withdrawal
6. Psychiatric crisis
7. Severe metabolic abnormalities

E. EMS personnel must assess and treat potential medical causes including the consideration of medical sedation to reduce the effects of overexertion and distress.
F. When a patient is medically sedated and physically restrained continuous monitoring of respiratory effort, airway status, and level of consciousness is required.
G. When available and clinically appropriate, pulse oximetry, cardiac monitoring, and capnography shall be utilized, particularly when sedation or respiratory compromise is present.
H. Restraints must always allow for:
1. Adequate airway protection
2. Adequate ventilation
3. Ongoing monitoring of vital signs
4. Continuous patient observation

I. Patients in restraints should be placed on a cardiac monitor and pulse oximetry when available, particularly when sedation is administered.

J. If spit masks or similar protective devices are used, they must not impair breathing or airway assessment and should be removed immediately if vomiting or respiratory distress occurs.
K. Restraints applied by law enforcement require continued officer presence to adjust or remove the restraints as necessary. EMS shall not assist law enforcement in restraining individuals who are not being transported by EMS to health care facility.
L. EMS personnel should recognize that agitation may be the result of fear, confusion, intoxication, psychiatric crisis, or underlying medical conditions. A calm and patient-centered approach may reduce escalation and improve cooperation. De-escalation strategies may include:
   1. Speaking in a calm, respectful, and reassuring tone
   2. Introducing oneself and explaining the role of EMS personnel
   3. Using simple, clear communication and avoiding rapid or complex instructions
   4. Allowing the patient time to respond and process information
   5. Maintaining a non-threatening posture and appropriate physical distance
   6. Limiting the number of personnel interacting directly with the patient when feasible
   7. Reducing environmental stimulation when possible (noise, lights, crowding)
   8. Offering choices when appropriate to promote patient cooperation
M. EMS should never place themselves at risk and are under no obligation to engage violently with any patient. EMS may withdraw from any situation that puts their safety at risk. If withdrawal occurs, EMS should relocate to a safe staging area and request law enforcement assistance.
N. Interfacility Transfer Considerations
   1. EMS personnel may apply physical restraints to an interfacility transport patient when the patient demonstrates **current behavior that poses an immediate or imminent risk of harm to themselves or others**, or when the patient's behavior indicates a **high likelihood of escalation during transport** based on current presentation.
   2. The transporting provider shall attempt to discuss the need and appropriateness of restraint use with the agency who authorized the psychiatric hold (5150) or with the behavioral health clinician engaged in the care of the patient.
   3. A history of recent aggressive or violent behavior may be considered as part of the overall assessment; however, **restraint use shall not be based solely on past behavior or psychiatric hold status in the absence of current risk.**
   4. Patients on a psychiatric hold (e.g., 5150) shall not be restrained solely due to their legal status. Restraints must be clinically justified and consistent with EMS policy and medical control. Legal status alone is insufficient to justify restraint during transfer.

V. Documentation

A. Documentation in the EMS Patient Care Report (PCR) shall include:
   1. The behavior or circumstances requiring restraint. Including initial and subsequent BARS scores
   2. Type of restraints used, restraint technique applied, and by which agency (EMS, Fire, or Law).
   3. Any medications administered for patient anxiety.
   4. Any complications or changes in patient condition during restraint or transport.
   5. Presence of law enforcement during transport, including whether the officer rode in the ambulance or followed in tandem
   6. Ongoing monitoring of:
      a. Circulation to restrained extremities
      b. Respiratory status, mental status, vital signs

8004 Continuous Positive Airway Pressure (CPAP)

I. Principles

A. Purpose: To improve ventilation and oxygenation, and avoid intubation, in patients with moderate to severe respiratory distress.

B. Indications: Patients age 8 or older in moderate to severe respiratory distress secondary to:

1. CHF with pulmonary edema.
2. Acute exacerbation of COPD or asthma.
3. Pneumonia.
4. Near drowning.
5. Any other cause of respiratory failure.

II. Scope EMT-B, Paramedic

III. Basic Life Support:

A. Place patient in seated position.

B. Monitor BP, HR, RR, O_2 saturation.

C. Set up CPAP system (per manufacturer's recommendation) with pressure set between 5-10 cm H_2O.

D. Explain procedure to patient.

E. Apply mask while reassuring patient and encouraging patient to breath normally.

F. Re-evaluate the patient every 5 minutes.

G. Normally the patient will improve in the first 5 minutes with CPAP as evidenced by:

1. Decreased heart rate.
2. Decreased respiratory rate.
3. Decreased blood pressure.
4. Increased O_2 saturation.

H. Bag-valve-mask ventilation or endotracheal intubation per *treatment guideline* *8101 Endotracheal Intubation* should be considered if the patient fails to show improvement.

IV. Advance Life Support: None.

V. Special Considerations

A. Complications may include:

1. Hypotension.
2. Pneumothorax.
3. Corneal drying.
4. Gastric distention.

VI. Base Orders: None.

VII. Contraindications:

A. Respiratory or cardiac arrest

B. Tracheostomy

C. Agonal respirations

D. Signs and symptoms of pneumothorax

E. Inability to maintain airway patency

F. Major head or neck trauma

G. Vomiting

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

A. O_2 Saturation prior to placement and every 5 minutes following placement.

8005 Spinal Motion Restriction

I. Principles

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

II. Scope

EMT-B, Paramedic

III. Basic Life Support:

A. Determine need for SMR application:
1. SMR should be considered for high risk trauma patients whose injuries/complaints may indicate spinal cord damage, including:
   a. Axial spine loading.
   b. Age ≥ 65.
   c. Meets LEMSA's trauma triage criteria per *treatment guideline* *7801 Trauma Triage*.
   d. Numbness or tingling in extremities.
2. SMR is indicated if the high risk trauma patient (above) meets any of the following:
   a. Unreliable patient:
      1) Uncooperative.
      2) Altered Mental Status/abnormal GCS from baseline.
      3) Inability to communicate because of alcohol, drugs, language barrier, etc.
      4) Distracting injuries.
   b. Spinal pain, tenderness, or deformity with palpation:
   c. Abnormal motor/sensory exam:
      1) Inability to perform wrist/hand extension bilaterally.
      2) Inability to perform foot plantarflexion or dorsiflexion bilaterally.
      3) Abnormal sensation.
      4) Pain/weakness/paresthesia with self-initiated movement.
   d. SMR is not required for:
      1) Patients that do not meet the above criteria.
      2) Penetrating trauma patients **without** spinal pain or neuro deficits.

IV. Advance Life Support: None.

V. Special Considerations

A. Multiple studies have shown that mechanism of injury is generally a poor indicator of injury and many patients are immobilized inappropriately.
B. Unstable spinal fractures are very rare, less than 1%.
C. Traditional full spinal immobilization, the current standard for almost all patients, may cause airway compromise, skin breakdown, and pain in virtually everyone, which often leads to unnecessary diagnostic procedures.
D. Most significant spinal injuries will present with spine pain, vertebral tenderness to palpation, and sometimes with neurologic symptoms and/or deficits. Alert and oriented patients with true spinal injuries will self-splint. These injuries are best recognized with a careful history and physical exam.
E. SMR should reduce, not increase, patient discomfort. SMR/immobilization that increases patient movement and/or pain should be avoided.
F. SMR should be accomplished using the most appropriate method/tool for each specific circumstance. This may include vacuum splints, stiff or soft cervical collars, KED, padded long boards, straps, head stabilization devices, and soft materials such as pillows and pull sheets.
G. No patient should be placed in SMR without being assessed using the LEMSA's spinal injury assessment.
If there is any doubt about the presence of a spinal injury, apply SMR and defer further evaluation to the Emergency Department.

VI. Base Orders: None.

VII. Contraindications: None.

VIII. Documentation on the EMS patient care report (PCR) shall include:
A. Inclusion/exclusion criteria. B. Method and equipment used to apply SMR. C. Neurologic status before and after SMR applied. D. Neurologic status before and after movement.

8006 Hemostatic Agents

I. Principles

A. Purpose: To provide guidelines on the use of hemostatic agents in the presence of severe arterial bleeding or to control severe hemorrhage where tourniquets are not indicated (junctional injuries: neck, axilla, groin). Use of hemostatic agents is an approved optional skill.

B. Education: The only hemostatic agents approved by California's Emergency Medical Services Authority for pre-hospitaluse include:

1. Quick Clot®, Z-Medical®:
   a. Quick Clot®, Combat Gauze® LE.
   b. Quick Clot®, EMS rolled gauze, 4x4 dressing, TraumaPad®.
2. Celox®:
   a. Celox® Gauze, Z-Fold hemostatic gauze.
   b. Celox® Rapid, Hemostatic fold gauze.
3. Hemostatic Celox granules delivered in an applicator is not authorized.

II. Scope

EMT-B, Paramedic

III. Basic Life Support:

A. If bleeding persists after approximately 3 minutes of direct pressure, remove pressure dressing and apply hemostatic gauze directly to bleeding source.

B. Place absorbent pad of pressure dressing over gauze and wound.

C. Replace pressure dressing/tourniquet per *treatment guideline* *7804 Uncontrolled Hemorrhage/Amputation*. If no tourniquet is available, maintain direct pressure with hand over gauze or wrap with available bandage.

IV. Advance Life Support:

None.

V. Special Considerations:

None.

VI. Base Orders:

None.

VII. Contraindications:

None.

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

A. Time hemostatic agent applied.

8007 APGAR Scoring

I. 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.

II. APGAR SCORING CHART

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

REMINDER:

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

8008 Ventricular Assist Device (VAD)

I. Principles:

A. Purpose: To ensure proper understanding when treating patients with ventricular assist devices (VAD).

B. Education:

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

II. Scope EMT-B, Paramedic

III. Basic Life Support:

A. Procedure:

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

IV. Advance Life Support: None.

V. Special Considerations: None.

VI. Base Orders: None.

VII. Contraindications: None.

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

A. Chief Complaint.

B. Primary Impression.

C. Reference any treatment/procedures guidelines used.

8009 Behavioral Activity Rating Scale (BARS)

I. Principles

A. Purpose: To Standardize Behavioral Assessment Across the Continuum of Care

II. Scope

EMT-B, Paramedic

III. Basic Life Support:

A. The Behavioral Activity Rating Scale (BARS) should be used when practical to objectively assess and communicate the severity of patient agitation.

Score	Assessment	Typical EMS Consideration
1	Difficult to arouse	Monitor airway/Level of consciousness
2	Sleeping, responds normally	Observation
3	Drowsy/Sedated	Frequent reassessment
4	Calm and cooperative	No intervention indicated
5	Restless or anxious	Verbal de-escalation, reduce stimuli, reassess
6	Extremely active, escalating	Consider ALS for sedation if clinically indicated
7	Violent or dangerous	Consider Physical restraint (ALS- and/or sedation)

IV. Special Considerations

A. BARS scores should supplement, but not replace, clinical judgment regarding the need for sedation (ALS Only).

B. Trends in BARS scores may assist in determining whether verbal de-escalation, environmental modification, or pharmacologic intervention (ALS only) has been effective.

C. BARS scores should be communicated during transfer of care whenever behavioral disturbance is a component of the patient's presentation.

V. Base Orders:

None.

VI. Contraindications:

None.

VII. Documentation on the EMS patient care report (ePCR) shall include:

A. BARS score/ time

B. Method and equipment used to manage patient (if any)

C. Reassessment with documented changes in BARS score

8101 Endotracheal Intubation

I. Principles

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

II. Scope Paramedic

III. Basic Life Support: None

IV. Advance Life Support:

A. Check equipment and position the patient.
1. If trauma, have assistant hold in-line spinal immobilization in neutral position.
2. If no trauma, place in sniffing position (best obtained with face parallel to the ceiling, and the auditory canals in the same plane as the sternal notch).
B. Hyper-oxygenate with 100% O_2 with BVM for 1-3 minutes. Avoid hyperventilation and suction airway if needed.
C. Select the proper ETT and insert stylet (straight with 30 degree angle at the balloon – the "hockey stick" configuration).
D. ETTI (bougie) is an appropriate, optional method.
E. Perform laryngoscopy.
1. Place laryngoscope in mouth and carefully follow the tongue until the epiglottis is visualized at the base of the tongue. With visualization of the epiglottis, the success is highly likely. To improve laryngeal view, use the right hand to manipulate the thyroid cartilage and then have an assistant maintain that position as you proceed.
2. Place the ETT. Confirm tracheal location and appropriate depth and secure tube. Typically observe the balloon pass 2-3 cm beyond the cords, and the tube is generally positioned at 22cm at the teeth.
3. Confirm and document tracheal location by:
a. $ETCO_2$, preferably with waveform capnography
b. Presence and symmetry of breath sounds
c. Increasing O_2 saturation.
d. Other means as needed
F. Ventilate with BVM. Assess adequacy of ventilations.
G. During transport continually reassess ventilation, oxygenation and tube position with continuous waveform capnography and O_2 sat.

V. Special Considerations:

A. Ventilate at age-appropriate rates. Do not hyperventilate. Aim for O_2 sat of 88-92% in COPD patients, 94-98% in all others.
B. Post ROSC patients should be ventilated at 8-10 breaths per minute with low tidal volumes.
C. If the intubated patient deteriorates, think "DOPE".
1. Dislodgement.
2. Obstruction.
3. Pneumothorax.
4. Equipment failure (no oxygen).
D. Reconfirm and document correct tube position, preferably with waveform capnography, after moving the patient and before disconnecting from monitor in the ED.
E. Unsuccessful intubation does not equal failed airway management. Many patients cannot be intubated. Many patients cannot be intubated without paralytics. Abandon further attempts at intubation and use a supraglottic airway or BVM ventilations if 2 attempts at intubation are unsuccessful.
F. Video laryngoscopy is an optional airway device.
G. Accredited flight paramedics are permitted to perform oral endotracheal intubation on all ages.

VI. Base Orders: None.

VII. Contraindications:

A. A patient who can be measured with a length based resuscitation tape.
VIII. Documentation on the EMS patient care report (PCR) shall include:
A. Number of intubation attempts. B. Successful or unsuccessful attempts. C. Correct tube position. D. Reassessment of placement every 2-3 minutes. E. $EtCO_2$ Waveform if available. F. SPO_2 before and after placement.

8102 Supraglottic Airway

I. Principles

A. Purpose: To provide guidelines on the indications and procedure of supraglottic airways.

B. Indications:

1. Cardiac Arrest.
2. Respiratory arrest with no immediately reversible cause.
3. Obtunded patient with compromised airway.

C. Criteria:

1. Patients weighing >2 kg or more.

D. Equipment: Appropriately sized SGA – i-Gel is the SGA device that is authorized for use by LEMSA.

1. Water based lubricant.
2. Suction device.
3. Strap or tape for securing SGA.
4. Bag valve mask (BVM).
5. Stethoscope.
6. Pulse oximetry device.
7. End tidal capnography device.
8. Tongue blade.

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

E. Quality Assurance Metrics:

1. 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).
2. 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 $ETCO_2$ measurement with capnography)
3. Number of Attempts: DOCUMENTED/NOT DOCUMENTED (Attempt is defined as insertion of the SGA device into the mouth).
4. 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).
5. 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 O2 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).
      1) 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 ETCO2 measurement with capnography).

II. Scope Paramedic

III. Basic Life Support: NA

IV. Advance Life Support:

A. Assure a patent airway, oxygenation and ventilation.
B. Assure that a cardiac monitor and pulse oximetry is applied.
C. Pre-oxygenate with 100% oxygen for 2-3 minutes, targeting >94% O_2 sat.
D. Apply a chin lift and introduce tongue blade into the mouth.
E. Insert the SGA into the mouth.
F. Advance the tip over the base of the tongue.
G. Advance the tube without using excessive force until definitive resistance is felt. The position guide should be aligned with the teeth or gums.
H. Attach the BVM and ventilate at the appropriate rate.
I. Connect the $EtCO_2$ device.

V. Special Considerations:

A. Ventilate at age-appropriate rates. Do not hyperventilate. Aim for O_2 sat of 88-92% in COPD patients, 94-98% in all others.
B. Post ROSC patients should be ventilated at 8-10 breaths per minute with low tidal volumes.
C. If the intubated patient deteriorates, think "DOPE".
1. Dislodgement.
2. Obstruction.
3. Pneumothorax.
4. Equipment failure (no oxygen).
D. Reconfirm and document correct tube position, preferably with waveform capnography, after moving the patient and before disconnecting from monitor in the ED.

VI. Base Orders: None.

VII. Contraindications:

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

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

A. Number of intubation attempts if attempted prior to supraglottic airway attempts.
B. Successful or unsuccessful supraglottic airway attempts.
C. Complications.
D. Correct tube position.
E. Reassessment of placement every 2-3 minutes.
F. $EtCO_2$ Wave form if applicable to scope.
G. SPO_2 before and after placement.

8103 End Tidal CO_2 Monitoring

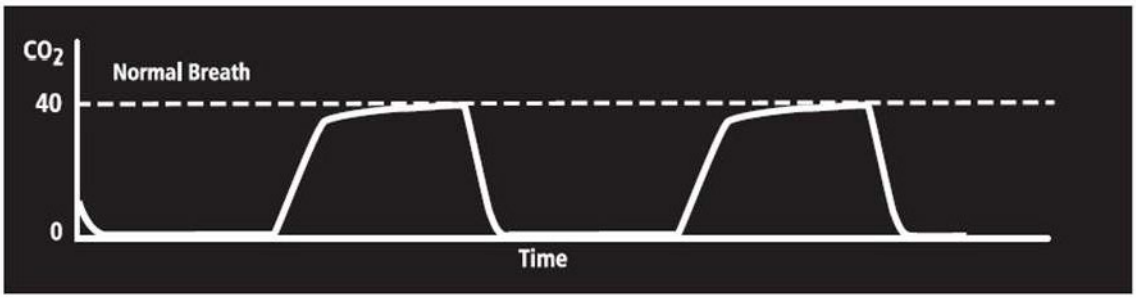
I. Principles

A. Purpose: To ensure proper use of End-Tidal CO_2 ($ETCO_2$) monitor and provide optimal care to all intubated patients.

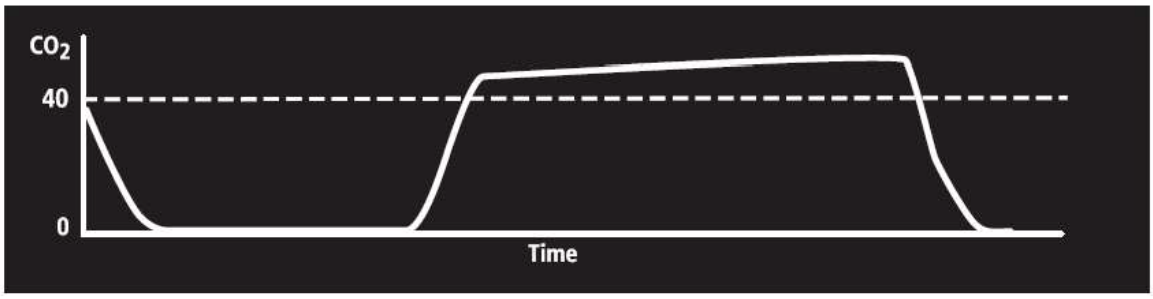
B. Indications:
1. Confirm correct placement of the advanced airway.
2. Measure the adequacy of ventilation and perfusion of patients in cardiac arrest and help identify ROSC.
3. May be used in non- intubated patients with respiratory and cardiac emergency situations to monitor ventilator status.

C. Training:
1. Practical training will be conducted by an approved Paramedic Field Training Officer (FTO).
2. No paramedic shall use $ETCO_2$ monitoring prior to training with an approved Paramedic FTO.

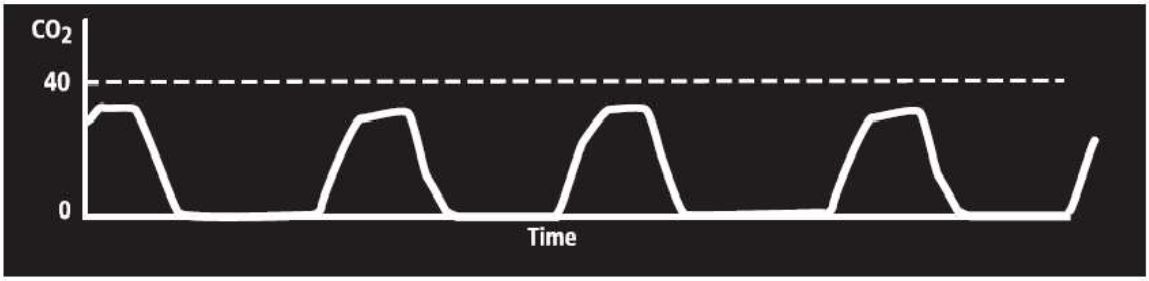
D. Education:
1. Normal $ETCO_2$ Waveform: Square and boxlike.



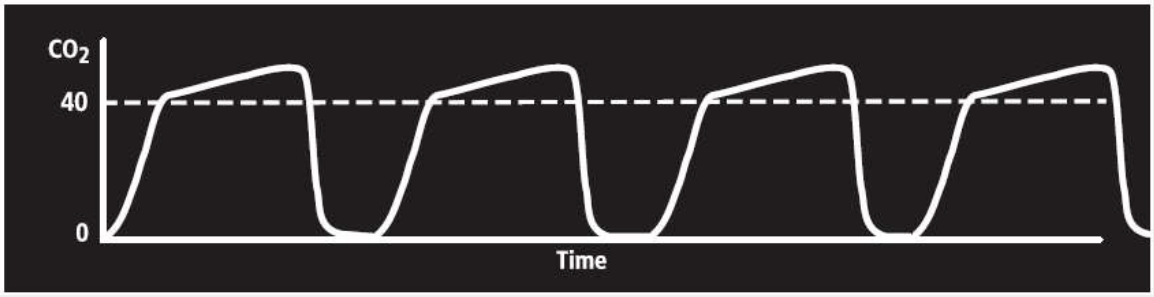
2. Hypoventilation: Can be due to sedation/analgesia, drug or alcohol intoxication, postictal states, head trauma, CVA, CHF, meningitis/encephalitis.



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



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



II.	Scope	Paramedic
III.	Basic Life Support:	None.
IV.	Advance Life Support:	

A. Procedure:

1. $ETCO_2$ monitoring in intubated patients:
   a. A self-test may take up to one minute to assure the display is on the screen.
   b. Connect the 15mm airway adapter of the sampling sensor to the advanced airway tube adapter. The airway adapter will allow connection of a standard ventilation device.
   c. Normal exhalation moisture will not affect the sampling.
      1) If bronchial secretions or vomitus surrounds the sampling device due to suctioning, erroneous readings will occur.
      2) It is suggested that while performing these functions the sensor should be temporarily removed, otherwise the sensor may need to be replaced.
   d. The CO_2 module will not recognize a breath when the $ETCO_2$ value is less than 8mm Hg.
      1) The waveform remains valid and can be used to determine the $ETCO_2$ measurement and the presence, if any, of respirations.
   e. When CO_2 is not detected, three factors must be quickly evaluated for possible causes:
      1) Loss of airway function
         a) Improper tube placement.
         b) Apnea.
      2) Loss of circulatory function:
         a) Massive P.E,
         b) Cardiac arrest
         c) Exsanguination
      3) Equipment malfunction:
         a) advanced airway extubation.
         b) advanced airway obstruction.
2. Assure the waveform is visible on the screen. The $ETCO_2$ monitoring area will display a reading from 0-100mmHg.
3. $ETCO_2$ monitoring in non-intubated patients:
   a. Normal exhalation moisture will not affect the sampling.
   b. The CO_2 module will not recognize a breath when the $ETCO_2$ value is less than 8 mmHg. However, the waveform remains valid and can be used to determine the $ETCO_2$ measurement and the presence, if any, of respiration.
4. When CO_2 is not detected, possible causes such as equipment malfunction, loss of airway function, total airway obstruction, or device malfunction may have occurred and must be quickly corrected. See the causes listed under the intubated patient section.
5. Assure the waveform is visible on the screen. The $ETCO_2$ monitoring area will display in 0-100 mmHg.
6. Oxygen can be given either by non-rebreather or a nasal circuit. Oxygen is delivered from holes proximal to the nasal/oral opening, thus O_2 will be entrained, whether the patient is a mouth breather or not.
7. Look for changes in the shape and character of the waveform as well as the $ETCO_2$ level.
8. Use the neonatal adapter for infants at or <5kg. Use the adult adapter for all others.

V. Special Considerations:	None.
VI. Base Orders:	None.
VII. Contraindications:	None.
VIII. Documentation on the EMS patient care report (PCR) shall include:	
A. Initial End Tidal CO_2. B. Before and after End Tidal CO_2 following airway interventions.	

8104 EKG 12-Lead

I. Definition

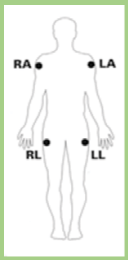
A. Any patient with suspected Acute Coronary Syndrome (ACS).
B. STEMI: Greater than 1 mm of ST segment elevation in two or more contiguous leads.
C. Post cardiac arrest.

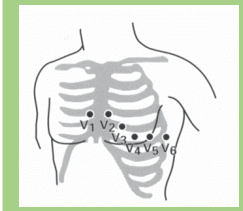
II. Basic Life Support

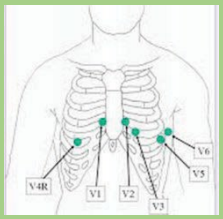
A. None.

III. Advance Life Support

A. Attach EKG leads to the patient (limb leads to the upper arms, legs, and six chest leads) to perform EKG.
   1. V1: Right 4th intercostal space.
   2. V2: Left 4th intercostal space.
   3. V3: Halfway between V2 and V4.
   4. V4: Left 5th intercostal space, mid-clavicular line.
   5. V5: Horizontal to V4, anterior axillary line.
   6. V6: Horizontal to V5, mid-axillary line.
   7. V4R: Right 5th intercostal space, mid-clavicular line.



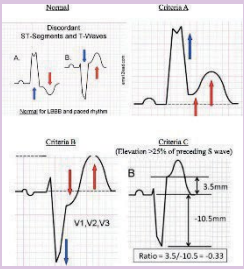




B. If 12 lead indicates an acute STEMI:
   1. Transport to an approved STEMI receiving center according to *treatment guideline* *7003 Patient Destination/Point of Entry*.
   2. Early receiving facility notification of a STEMI Alert.
   3. Transmit EKG to the receiving facility.
      a. If unable to 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.

8105 Needle Thoracostomy

I. Principles

A. Purpose: To provide guidelines on the indications and procedure of needle thoracostomy placement.

B. Indications:

1. Trauma patients with obvious chest trauma (i.e. open chest wounds, evidence of crush or flail segment), or a mechanism consistent with chest trauma who demonstrates:
   a. Decreased or absent breath sounds on the affected side, AND
   b. SBP < 90mmHg in adults, <70mmHg in children and infants AND
   c. One or more of the following:
      1) Altered mental status
      2) Severe respiratory distress with a respiratory rate > 30 or < 10 breaths per minute
      3) Severe hypoxemia with O_2 sat < 90%
      4) Cool, pale, moist skin
2. Traumatic full arrest with PEA rhythm. Bilateral needle thoracostomy should be performed if evidence of chest wall trauma.
3. Trauma patients requiring positive pressure ventilation (via BVM or advanced airway) who develop hypoxemia or severe hypotension after the initiation of positive pressure ventilation.
4. PEA cardiac arrest that started after the initiation of positive pressure ventilation.

C. Equipment:

1. 8cm (3.25 inch) 14g needle over catheter. Children < 5 yrs old use 18g angio-catheter.
2. Large syringe.
3. Alcohol or Chlorhexidine.
4. Tape or commercial securing device.

II. Scope — Paramedic

III. Basic Life Support: None.

IV. Advance Life Support:

A. Location:

1. The 2nd intercostal space in the mid-clavicular line, just over the top of the 3rd rib. This is usually found 2 fingers below the clavicle OR
2. The 4th intercostal space in the anterior axillary line, just over the top of the 5th rib.

B. Procedure:

1. Attach a syringe to the thoracostomy needle. Carefully advance the needle perpendicular to the chest wall while withdrawing on the syringe until air is aspirated, confirming penetration into the pleural space. Advance the needle an additional 1cm before further advancing the catheter and withdrawing the needle.
2. Secure the catheter to the skin with tape or the securing devise.
3. Do not place a one-way valve on the catheter hub.

V. Special Considerations:

A. The procedure of needle thoracostomy in pediatric patients is unchanged from that of adults. It is expected that a shorter distance will need to be traversed to enter the pleural space in children due to the thinner chest wall.

B. It is rare for COPD/ASTHMA patients to develop a tension pneumothorax outside of the setting of positive pressure ventilation. Base hospital contact is recommended before considering a needle thoracostomy in these patients.

VI. Base Orders: None.

VII. Contraindications: None.

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

A. Indications for performing the procedure.

B. Any improvements post procedure.

C. Complications.

D. $EtCO_2$ Waveform before and after placement if available.

E. SPO_2 before and after placement.

8106 Pre-Existing Vascular Device

I. Principles

A. Purpose: To provide vascular access for patients in extremis due to circulatory shock or cardiopulmonary arrest with no other vascular access available.

B. Indications:

1. Only in the absence of any other observable vascular access, when the patient has:
   a. Cardiopulmonary arrest.
   b. Extremis due to circulatory shock.

C. Policy:

1. Paramedics may access pre-existing vascular access devices under appropriate circumstances. They may encounter various types of catheters. A pre-existing vascular access device is an indwelling catheter/device placed into one of the central veins to provide vascular access for those patients requiring long term intravenous therapy or hemodialysis. The types of catheters used are:
   a. Indwelling silastic catheter/device exiting externally: (Broviac, Hickman and others); silicone catheter inserted into SCV or the right atrium usually via the cephalic vein; enter the skin through an incision in the right anterior chest; line is kept heparinized and protected by an injectable cap.
   b. Hemodialysis shunt: a tube that diverts blood flow from an artery to a vein.
   c. Internal subcutaneous infusion ports/fistulas: any access that is subcutaneous requiring entry through the skin. Not recommended for use in the prehospital setting.

II. Scope — Paramedic

III. Basic Life Support: None.

IV. Advance Life Support:

A. Procedure:

1. Due to the location of the catheter, strict adherence to aseptic technique is crucial when handling a PVAD:
   a. Use sterile gloves;
   b. Prep injectable port and surrounding skin with alcohol swab prior to attaching I.V. tubing;
   c. Use new supplies if equipment becomes contaminated;
   d. Recover port with sterile dressing and securely tape.

B. The PVAD provides a direct line into the central circulation; introduction of air into these devices can be hazardous.

C. Approved Infusions:

1. Intravenous solutions
2. All medications except diazepam (Valium) as it interacts with silicone causing crystallization of the medications and deterioration of the silicone.
3. Follow all medications with 5 ml of normal saline to avoid clots.

V. Special Considerations:

A. Do not remove injection cap from catheter.
B. Do not allow I.V. fluids to run dry.
C. Always expel air from preload/syringe prior to administration.
D. Do not inject medications or fluids if resistance is met when establishing patency.
E. Should damage occur to the external catheter, clamp immediately between the skin exit site and the damaged area to prevent air embolism or blood loss.
F. Use padded hemostats.
G. Do not use a syringe smaller than 10 ml to prevent catheter damage from excess infusion pressure.
H. Do not manipulate or remove an indwelling catheter under any circumstances.

VI. Base Orders: None.

VII. Contraindications: None.

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

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

8107 Field Blood Collection

I. Principles

A. Purpose: To establish guidelines for blood collections for non-medical purposes at the request of law enforcement personnel.

B. Policy: Paramedics are empowered by law to obtain blood samples by request of appropriate law enforcement agency. If the patient is in the care of the paramedic, the blood collection must not interfere with medical care. It will be the provider agency's right to determine if their personnel shall participate in this policy.

II. Scope

Paramedic

III. Basic Life Support:

None.

IV. Advance Life Support:

A. Procedure:

1. A law enforcement representative must request the blood sample be collected and must be present to witness.
2. There must be the appropriate collection equipment immediately available.
3. The paramedic will obtain the collection sample only if the following conditions are met:

a) The paramedic provider agency has a written agreement with the local law enforcement agency to provide blood collection services;

b) The paramedic is capable of obtaining the collection sample;

c) If the individual that the blood sample is being drawn from is a patient, treatment may not be delayed, compromised, or interfered with as a result of the blood collection;

d) The paramedic ensures appropriate chain of custody of the blood sample.

e) If the subject is physically combative and requires the need to be physically restrained, the draw will be completed at the paramedics' discretion. Their decision will be based on the safety of the subject, those restraining the subject, and the safety of the paramedic completing the blood draw. This applies to both consensual and forced draws that are being requested with an order from the court.

f) No more than 3 attempts should be made unless circumstances dictate the need for additional attempts.

V. Special Considerations:

None.

VI. Base Orders:

None.

VII. Contraindications:

None.

VIII. Documentation is Agency specific.

8108 Intraosseous (IO) Vascular Access

I. Principles

A. Purpose: To provide guidelines on the indications and procedure to obtain Intraosseous (IO) Vascular Access to treat critically ill patients when a peripheral IV cannot be established.

B. Indications:

1. Intravenous fluids or medications are urgently needed and a peripheral IV cannot be established in two (2) attempts or within 90 seconds and the patient exhibits one or more of the following:
   a. GCS of 8 or less.
   b. Imminent respiratory failure.
   c. Hemodynamic instability (SBP < 90 mmHg).
2. Cardiopulmonary or traumatic arrest in which it may be obvious that attempts at placing an IV would likely be unsuccessful and/or too time consuming, resulting in a delay of life saving fluids or medications.

C. Equipment:

1. Approved Intraosseous infusion need/device (EZ-IO or bone injection gun).
3. Alcohol or Chlorhexidine.
4. 10 ml Normal Saline syringe.
5. Standard extension set.
6. 2% Lidocaine per *treatment guideline* *7305 Pain Management*.

II. Scope — Paramedic

III. Basic Life Support: — None.

IV. Advance Life Support:

A. Location:

1. Proximal tibia.
2. Distal tibia.
3. Proximal Humeral
4. Distal Femur (Pediatric –Only for patients less than 15 years old)

B. Procedure:

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

V. Special Considerations: — None.

VI. Base Orders: — None.

VII. Contraindications:

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

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

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

8109 External Cardiac Pacing

I. Principles

A. Purpose: To provide guidelines for the indications and procedure to provide external cardiac pacing.
B. Indications:
1. Unstable patient with bradycardia, signs of decrease perfusion and no response to NS Bolus or Atropine administration per *treatment guideline* *7103 Dysrhythmias*.
C. Equipment:
1. Cardiac monitor with pacing capabilities.
2. Compatible adhesive pads and appropriately sized for the patient.

II. Scope Paramedic

III. Basic Life Support: None.

IV. Advance Life Support:

A. Location:
1. Chest wall in anterior/posterior position, or,
2. Chest wall in sternal apex position.
B. Procedure:
1. Monitor $EtCO_2$
2. Confirm Rhythm using cardiac monitor.
3. Place pads appropriately according to manufacturer recommendations.
4. Confirm monitor is placed in pacing mode.
5. Confirm pacing spikes on ECG
6. Slowly adjust output control until capture is seen.
7. Confirm electrical and mechanical capture.
8. Consider sedation per *treatment guideline* *7403 Sedation* if patient is awake and aware.

Adult	Pediatric (less than 15 years of age)
A. Rate: 1. Start at a rate of 80 BPM. 2. Start at 65 milliamps.	A. Rate: 1. Start at a rate of 100 BPM. 2. Start at 5 milliamps.

V. Special Considerations: None.

VI. Base Orders: None.

VII. Contraindications: None.

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

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

8110 Synchronized Cardioversion

I. Principles

A. Purpose: To provide guidelines on the indications and procedure to provide synchronized cardioversion.
B. Indications:
1. Unstable patient with a wide or narrow complex tachycardia, dyspnea, and an SBP < 90mmHG per *treatment guideline 7103 Dysrhythmias*.
C. Equipment:
1. Cardiac monitor with pacing capabilities.
2. Compatible adhesive pads and appropriately sized for the patient.

II. Scope

Paramedic

III. Basic Life Support:

None.

IV. Advance Life Support:

A. Location:
1. Chest wall in anterior/posterior position, or,
2. Chest wall in sternal apex position.
B. Procedure:
1. Confirm rhythm using cardiac monitor.
2. Place pads appropriately according to manufacturer recommendations.
3. Confirm monitor is placed in cardioversion mode.
4. Consider sedation per *treatment guideline 7403 Sedation* if patient is awake and aware.

Adult	Pediatric (less than 15 years of age)
A. Use manufacturer-recommended biphasic energy settings, but for unstable atrial fibrillation/flutter. B. The initial synchronized cardioversion dose should be 200 J or the device-specific equivalent.	B. If patient is unresponsive 1. Escalating synchronized cardioversion: a. Start at 0.5 to 1 Joules/kg. b. If no change, repeat cardioversion 2 Joules/kg.

V. Special Considerations:

None.

VI. Base Orders:

None.

VII. Contraindications:

None.

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

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

8201 Determination of Death

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* *7101 Cardiac Arrest Management* prior to ALS arrival.

B. Decapitation

C. Incineration

D. Rigor Mortis

E. Livor Mortis (Lividity)

F. Decomposition

G. Pulseless and apneic blunt traumatic arrest – **ADULT only**

H. Pulseless and apneic penetrating traumatic arrest and ALS arrival is greater than 10 minutes– **ADULT only.**

I. Total separation of vital organs from body, or total destruction of organs with absence of life signs

J. Absence of life signs or severely compromised vital signs when there are multiple victims, and resuscitation would hinder care of more viable patients.

K. Submersion greater than or equal to one hour: physical examination of body with accurate and reliable history of submersion time.

L. 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.

M. 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 MEDICAL – 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 $ETCO_2$ level is less than 10.
   C. Ongoing V-Fib should be worked via CAM for at least 30 minutes requires base contact.

II. PEDIATRIC CONSIDERATIONS
   A. Pediatric **medical** arrests that are resuscitated in the field have a much higher rate of survival to discharge neurologically intact. At minimum, pediatric **medical** arrests should be resuscitated at scene for 10 to 30 minutes with a minimum of three (3) rounds of epinephrine. Refer to *treatment guideline* *7601 Unexpected Infant/Child Death* to determine whether to perform resuscitation measures.
   B. Pediatric traumatic arrests are to be transported expediently to the appropriate facility.

III. TERMINATION OF RESUSCITATION TRAUMA – ADULT
   A. Pulseless and apneic blunt force traumatic arrest.
   B. Penetrating traumatic arrest that is:
      1. Pulseless and Apneic, **and**,
      2. Asystole or PEA less than 40 BPM in two (2) leads for 60 seconds
         a. If the patient presents with a penetrating traumatic arrest and a PEA >40, immediate transport should be initiated to the nearest trauma center. If the nearest trauma center is greater than 30 minutes, expedite transport to the closest emergency department.

IV. TERMINATION OF RESUSCITATION DURING TRANSPORT- **ADULT**
   A. If the patient is already enroute 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.

BASE HOSPITAL ORDERS ONLY

I. Patients who remain pulseless and apneic with PEA, and an $ETCO_2$ 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 30 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 using 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).

III. BLS DETERMINATION OF DEATH

A. If BLS terminates resuscitation prior to ALS arrival, ALS reassessment is not required.

8202 Treatment/Transport of Minors

I. PURPOSE:

A. To describe the guidelines for treatment and/or transport of a patient under the age of 18.

II. DEFINITIONS:

A. Minor: A person less than 18 years of age who is not emancipated.

B. Emancipated Minor: A person less than 18 years of age who**:**

1. Is married or previously married
2. Is on active duty in the military
3. Is an emancipated minor (decreed by court, identification card by DMV)

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.

III. 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.

IV. 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 <u>Not</u> 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 (verbal consent via phone is appropriate).
   b) A responsible adult at the scene
   c) Designated care giver
   d) Law enforcement

C. EMS personnel **<u>shall</u>** document on the Patient Care Report Form to whom the patient was released.

8203 Patient Refusal of Treatment or Transport

I. PURPOSE

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

II. DEFINITIONS

A. Adult: For purposes of this policy, a person at least 18 years of age, or an emancipated minor.

B. Minor: A person less than 18 years of age who is not emancipated.

C. Emancipated Minor: A person less than 18 years of age who:

1. Is married or previously married
2. Is on active duty in the military
3. Is an emancipated minor (decreed by court, identification card by DMV)

D. Competent: The patient is alert and oriented and has the capacity to understand the circumstances surrounding his/her illness or impairment, and the risks associated with refusing treatment or transport.

E. Emergency: Condition or situation in which an individual has a need for immediate medical attention or where the potential for need is perceived by EMS personnel or a public safety agency.

F. "Individual not requiring transport" or "release at scene": An individual who, after a complete assessment by ALS personnel, does not appear to have a medical problem that requires immediate treatment and/or transportation by the medical system.

G. Refusing care against medical advice (AMA): A competent adult who is determined by EMS or base hospital personnel to have a medical problem which requires the immediate treatment and/or transport capabilities of the EMS system, and who has been advised of his/her condition and the known and unknown risks and/or possible complications of refusing medical care, and who still declines treatment or transport.

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

III. PRINCIPLES

A. A competent adult or a competent, emancipated minor has the right to determine the course of his/her own medical care and shall be allowed to make decisions affecting his/her medical care, including the refusal of care.

B. With the exceptions of minors who have clear legal capacity to refuse emergency treatment or transport (emancipated minors) a patient less than 18 years old must have a parent or legal representative present to refuse evaluation, treatment, or transport.

C. An adult or emancipated minor may refuse medical evaluation, treatment, and/or ambulance/medical transportation, provided that he/she is competent and has been advised of the risk and consequences, which may result in refusal of evaluation, treatment and/or transportation.

D. Refusal of evaluation, treatment and/or transportation should not be considered for patients who do not have the capacity to make competent decisions regarding their own care. A patient's competence may be significantly impaired by mental illness, drug or alcohol intoxication, physical or mental impairment. Patients, who have attempted suicide, verbalized suicidal intent or when other factors lead EMS personnel to suspect suicidal intent, should not be regarded as competent.

IV. PROCEDURE

A. When a competent adult or emancipated minor refuses indicated emergency treatment or transportation, EMS personnel shall:

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

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

V. RELEASE AT SCENE

A. When ALS personnel have been called to an incident and have determined that an adult or emancipated minor does not require treatment and/or transport, the patient may be released at scene. The patient should be advised to arrange for medical care if he/she develops adverse symptoms at a later time.

B. A patient released at scene should NOT sign an AMA form, as this implies that the patient is at significant risk by not utilizing the EMS system for treatment and/or transportation. ALS personnel shall document any advice given to the patient regarding follow-up treatment.

VI. 5150

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

VII. DOCUMENTATION

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

8204 EMT Transport of Emergent Patients

I. Purpose

A. The purpose of this policy is to provide direction for EMTs making transport decisions for emergent patients in their care. While in general, patients meeting criteria for ALS transport should be turned over to ALS personnel, in certain circumstances, the rapid BLS transport of an emergent patient is preferable to waiting for ALS response or intercept.

II. BLS IMMEDIATE TRANSPORT

A. EMTs with emergent patients in their care must determine the ETA of ALS unit to their location. In cases where the time to the arrival of an ALS unit to the scene is longer than the combination of patient extrication and transport time to an appropriate ED, the BLS unit should transport the patient without delay. If EMT personnel determine immediate transport is appropriate, any ALS response to the scene should not be canceled until the BLS ambulance is enroute to the closest hospital.

III. ALS INTERCEPT

A. In some circumstances, EMTs should rendezvous with an ALS ambulance or first responders to access ALS care.

IV. Rendezvous Procedure:

A. EMTs shall contact the dispatch center as soon as possible to request an ALS rendezvous if an ALS ambulance is not responding to the incident. The request for ALS intercept should be made as early as possible.

B. The BLS transporting unit shall not wait at the scene for a rendezvous.

C. Once a rendezvous location has been identified and if the BLS transporting unit arrives to that location prior to the ALS ambulance, the BLS transporting unit shall not wait at the initial rendezvous site if there is extended wait time for the ALS ambulance arrival. If the ALS rendezvous unit has not arrived at the rendezvous site, the BLS transporting unit should proceed to the next best rendezvous location or to the closest hospital without delay.

D. The EMS dispatch center will monitor and support communication for the rendezvous; however, EMS units may also communicate directly to provide a report on patient condition and/or additional rendezvous information if appropriate.

E. When the rendezvous occurs, paramedic personnel shall join the patient in the back of the BLS ambulance transporting the patient. Good pre-rendezvous communications are essential to allow the paramedics to prepare the proper equipment for transfer into the transporting unit.

8205 Hospital Status, Specialty Capability, and Bypass

I. PURPOSE

A. To establish criteria for hospital bypass, specialty capability notifications, hospital status reporting, and ambulance destination decisions within the LEMSA System.

II. SPECIALTY CENTER CAPABILITY NOTIFICATIONS AND DESTINATION REQUESTS

A. Designated specialty receiving center may directly communicate with an incoming ambulance unit regarding temporary specialty capability limitations.

1. Under these circumstances only:
   a. Trauma surgeon or operating room temporarily unavailable.
   b. Cardiac catheterization laboratory occupied.
   c. Neurointerventional resources unavailable.
   d. Specialty personnel or equipment temporarily committed.
   e. Reduced specialty capability during simultaneous critical cases.
   f. The specialty center may request transport to the next most appropriate specialty center when specialty resources are temporarily unavailable, and formal bypass has not yet been implemented.
2. Specialty capability limitation requests apply only to the affected specialty service, do not constitute medical direction, do not constitute formal bypass, and are limited to designated specialty receiving centers.

III. BASE HOSPITAL AUTHORITY

A. Only physicians authorized by a designated Base Hospital may provide online medical direction to EMS personnel.

B. Receiving hospitals shall not issue treatment orders or direct patient care interventions unless functioning as an authorized Base Hospital.

C. All destination disputes or disagreements shall be resolved through Base Hospital consultation.

IV. TRAUMA BYPASS ELIGIBILITY

A. A Trauma Center may be considered eligible for Trauma Bypass when any one of the following conditions exists:

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

V. STEMI BYPASS ELIGIBILITY

A. A STEMI Center may be considered eligible for STEMI Bypass when any one of the following conditions exists:

1. The Cardiac Catheterization Lab is inoperable due to internal disaster i.e. fire, flood, structural damage, contamination, etc.
2. All Cardiac Catheterization Labs are involved in emergency cases.
3. Facility does not have the capability or capacity to provide certain specialized treatment interventions.

VI. STROKE BYPASS ELIGIBILITY

A. A hospital may be considered eligible for Stroke Bypass when any one of the following conditions exists.

1. The hospital does not have an operational CT scanner.
2. Facility does not have the capability or capacity to provide certain specialized treatment interventions.

VII. TOTAL BYPASS ELIGIBILITY

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

VIII. BYPASS INELIGIBILITY

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

IX. BYPASS PROCEDURE

A. Trauma, STEMI, and Stroke Bypass in accordance with this policy may be initiated by the emergency department supervisor or designee.
B. The on-call hospital administrator or designee must be notified and must approve the bypass status change prior to actual bypass of patients.
C. The emergency department supervisor or designee shall contact the Emergency Medical Communications Center and advise the Communications Supervisor of the initiation of Trauma (Inundation), STEMI, or Stroke Bypass.
D. Trauma Bypass for reason other than Trauma Center Inundated and/or Total Bypass must be approved on a case-by-case basis. The emergency department supervisor or designee shall contact the Emergency Medical Communications Center and request the initiation of Total Bypass or Trauma Bypass for reasons other than Trauma Center Inundated. The Communications Supervisor shall contact the EMS Duty Officer for approval prior to initiating Bypass. In extremity, the Communications Supervisor may initiate the requested Bypass subject to EMS Duty Officer confirmation.
E. The Emergency Medical Communication Center shall notify EMS system field providers of the change in hospital status.
F. The emergency department supervisor or designee shall make the Bypass status change in the ImageTrend Resource Bridge hospital notification system.

X. IMAGETREND RESOURCE BRIDGE STATUS DEFINITIONS

A. Total Bypass: Not operational – unable to receive patients
B. Normal Operations: Operational
C. Trauma Bypass:
   1. Trauma Center must enter a Comment when choosing “Trauma Bypass” status and select one or more from this list when choosing “Trauma Bypass” status:
      a. Trauma Center Inundated – In house Trauma staff and backups (OR, Surgeon, Anesthesia) are involved in emergency resuscitation or operative cases. Hospital Administrator’s name approving the bypass must be entered in the comment box.
      b. Trauma Center Bypass – Other – Unusual circumstances approved by the On-Call EMS Duty Officer. Not to be used for “Trauma Center Inundation.” Contact EMS Duty Officer through REDCOM dispatch center at 707- 568-5992
   2. Comment: Include the name of the Hospital Administrator approving the bypass.
   3. Any ambulance transport initiated to the compromised Trauma Center prior to the status being changed

shall continue to that facility and will not be redirected.

D. STEMI Bypass: Unable to receive STEMI patients.

E. Stroke Bypass: Unable to receive stroke patients due to lack of CT scan capability.

IX. AMBULANCE DIRECTION FOR TRAUMA PATIENTS DURING BYPASS EVENT

A. Ambulance providers shall call their assigned base hospital for direction during any Trauma Center bypass event and consider the following:

1. Transportation to the next closest Trauma Center by either ground or air. Ground ambulance providers should consider utilization of an EMS aircraft and/or transportation to an off scene landing zone.
2. Patients may be transported to the nearest Emergency Department if timely access to an alternative Trauma Center is not possible.

X. OFF BYPASS

A. To re-establish normal ambulance traffic and acceptance of all patients, the supervisor or designee shall:

1. Update their status in ImageTrend Resource Bridge. In the event of an ImageTrend outage, please contact the EMS Duty Officer through REDCOM dispatch center at (707) 568-5992.
2. Contact the Emergency Medical Communications Center and advise that the bypass event is terminated.

XI. LEMSA NOTIFICATIONS

A. Hospitals will monitor and review all bypass incidents and will submit reports to the LEMSA when requested.

XII. BYPASS ADDENDUM

A. In circumstances of appropriate hospital bypass, the LEMSA, the base hospital, the requesting hospital, and pre-hospital personnel shall not be considered in violation of the LEMSA Point of Entry Policy.

B. Base hospitals and/or the LEMSA may check with a hospital on bypass at any time to determine the prognosis for continuance of bypass. The LEMSA may at any time send LEMSA staff to the facility on bypass to verify the reasons given for bypass.

C. Whenever a Trauma Center in the EMS system is on bypass, base hospitals shall keep an update of surrounding Trauma Center availability for their service area and applicable adjacent areas.

XIII. INTERFACILITY TRAUMA TRANSFER – SPECIAL CONSIDERATIONS FOR LEVEL II OR Level III TRAUMA CENTER

A. The trauma center shall not redirect interfacility trauma patients from the LEMSA Region when:

1. Patients are candidates for immediate surgical/operative intervention and when such services are available, and the trauma center is not on Trauma Bypass regardless of bed availability.

B. The trauma center may redirect interfacility trauma patient transfers when not on Trauma Bypass in the following circumstances:

1. Patients requiring surgical specialty care services when such services are not available, e.g., cardiothoracic.

C. In the event a sending facility is redirected by the Trauma Center, the sending facility shall contact the nearest Level I or II Trauma Center for consultation and direction.

XIV. LEMSA RIGHT TO DENY BYPASS

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

8301 Physician / RN / Midwife at the Scene

I. POLICY

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

II. PROCEDURE FOR PHYSICIAN AT THE SCENE

A. When a bystander at an emergency scene identifies himself/herself as a physician, the EMT-P will give the individual a "Note to Physician on Involvement with EMT-Ps (Paramedic)." (See the example on the Page 2).

B. Thank the physician for his/her offer of assistance and always remain courteous.

C. If the physician on the scene desires option 1:

1. The Base Hospital will retain medical control if Base contact was established.
2. The Paramedics will utilize the physician as an "assistant" in patient care activities.

D. If the physician on the scene desires option 2 or 3, the Paramedics will:

1. Ask to see the physician's medical license, unless they know the physician.
2. Immediately contact the Base and speak to the Base Hospital Physician.

E. The EMT-Ps should instruct the physician on scene in radio/phone operation and have that physician speak directly with the Base Hospital Physician. The Base Hospital Physician may:

1. Request that the physician on scene function in an observer capacity only. (Option 1)
2. Retain medical control but consider suggestions offered by the physician on the scene. (Option 2)
3. Delegate medical control to the physician on the scene. (Option 3)

F. Paramedics will make ALS equipment and supplies available to the physician and offer assistance.

G. Ensure that the physician accompanies the patient to the Receiving Hospital in the ambulance.

H. Ensure that the physician signs for all instructions and medical care given on the EMS Response report.

I. Keep the Base Hospital advised.

J. Complete an ALS service provider incident report and forward a copy to the EMS agency within seventy-two (72) hours.

III. PROCEDURE FOR R.N. AT THE SCENE

A. Identification

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

B. An R.N. may perform BLS procedures at the discretion of the paramedic.

IV. PROCEDURE FOR LICENCED MIDWIFE ONSCENE

A. Identification

1. Recognition by Paramedic; -OR-
2. Valid California midwifery license

B. A licensed midwife may perform BLS procedures at the discretion of the paramedic

V. Present to physician on scene prior to allowing assumption of patient care.

STATE OF CALIFORNIA

CMA -California Medical

Association NOTE TO PHYSICIAN ON INVOLVEMENT WITH EMT-Ps

(PARAMEDIC)

A life support team [AEMT or EMT-P (Paramedic)] operates under standard policies and procedures developed by the local EMS agency and approved by their Medical Director under the Authority of Division

2.5 of the California Health and Safety Code. The drugs they carry and procedures they can do are restricted by law and local policy.

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

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

(over)

ENDORSED ALTERNATIVES FOR PHYSICIAN INVOLVEMENT

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

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

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

8302 Crime Scene Management

I. Purpose

A. To provide a standardized, safety-forward approach for EMS personnel operating at confirmed or suspected crime scenes, balancing patient care, responder safety, evidence preservation, and lawful reporting.

II. Definitions

A. **Suspected crime scene**: Any location where a reasonable person would suspect a criminal act or where circumstances are unclear and could evolve into a criminal investigation.
B. **Hot zone (Direct Threat)**: Area with an active, uncontrolled threat (e.g., ongoing violence).
C. **Warm zone (Indirect Threat)**: Threat suppressed or contained but could re-emerge; access is controlled and requires force protection/escort
D. **Cold zone:** Area reasonably secured for routine EMS operations and patient packaging/transport.
E. **Evidence**: Any material, object, pattern, or record (including clothing, weapons, drugs/paraphernalia, shell casings, blood patterns, and digital evidence) that may be relevant to investigation.
F. **Scope**: Applies to all EMS personnel and EMS response vehicles operating under this EMS system when responding to incidents that are or may become crime scenes (including assaults, shootings, stabbings, sexual assault, domestic violence, child/elder abuse, overdose with suspicious circumstances, traffic collisions with suspected impairment, and deaths that are unattended, unexpected, or suspicious).
G. **Tactical EMS (TEMS**): Personnel certified and assigned to law enforcement tactical teams or other specially trained EMS resources operating under separate operational guidelines, agency policies, and incident-specific command structures.

III. Guiding Principles

A. Responder safety is the priority; EMS shall not enter or remain in an unsafe area.
B. Early coordination with law enforcement (LE) and incident command improves patient outcomes and scene integrity.
C. Time-sensitive, life-saving care (airway, breathing, hemorrhage control, rapid extrication) may require limited evidence disturbance; minimize impact and document what was moved and why.
D. Follow the Incident Command System (ICS)/Unified Command when established; use plain language and shared terminology for scene zones.

IV. Scene Access Categories

A. Closed access (unsecured / hazard exists)
   1. Examples: active assailant, hostage/barricaded suspect, shots fired with unknown suspect location, uncontrolled crowd violence, hazardous materials, structural instability, downed wires, active fire.
   2. EMS actions: stage in a safe location; request LE; establish or join ICS; prepare for rapid triage/treatment in cold zone.
B. Limited access (controlled entry with escort / evidence-sensitive)
   1. Examples: suspect not in custody but contained; scene under active investigation with sensitive evidence; environment hazards partially mitigated.
   2. EMS actions: enter only with LE direction/escort; use designated routes; limit personnel and equipment to what is needed; identify casualty collection point (CCP) and extraction lane when applicable. Open access (secured but evidence collection ongoing)
   1. Examples: LE indicates scene is secure; evidence remains but operations can occur throughout the area.
   2. EMS actions: proceed with care; avoid unnecessary movement of items; consult LE before moving potential evidence when clinically feasible.

C. Cold Scene (no continuing threat / minimal evidentiary concern)
   1. Examples: cleared scenes where LE and/or coroner has assumed custody; no safety hazard and no need to preserve scene integrity beyond routine care.
   2. EMS actions: routine operations; maintain professional documentation and reporting.

E. Tactical Operations Exception
   1. Certified Tactical EMS (TEMS) personnel assigned to law enforcement tactical teams or contracted to a law enforcement team may operate within hot, warm, or cold zones as determined by the tactical incident commander. Operational decisions regarding movement, casualty care, evacuation, and force protection shall be governed by applicable tactical medical protocols and law enforcement operational procedures.

V. Dispatch, Response, and Staging

A. If dispatched to a potential crime scene, consider staging until LE confirms an appropriate access category.
B. Use a staged response when information is limited (e.g., 'unknown trouble', 'assault in progress', 'shots fired').
C. Park to allow rapid egress; avoid driving through the suspected scene; minimize headlights/spotlights at night when directed by LE.
D. Establish communications plan: primary/secondary radio channel, point of contact, and location of CCP/medical group when applicable.

VI. Operations and Scene

A. Patient Care Priorities
   1. Life threats take precedence. Provide rapid hemorrhage control, airway management, and expedited extrication when indicated.
   2. For active violence or hostile events, EMS personnel shall utilize Tactical Emergency Casualty Care (TECC) principles appropriate to their level of training. EMS personnel shall not independently enter a hot or warm zone. Entry into a warm zone may occur only under Unified Command, with law enforcement force protection, after the threat has been sufficiently mitigated, and in accordance with agency training, local operational procedures, and medical direction.
   3. Do not delay transport for forensic activities (e.g., photographing injuries) unless it does not compromise care and would be beneficial for the receiving facility and /or LE.

B. Evidence Preservation (Minimize, Document, Communicate)
   1. Limit personnel movement; use the same path in/out when directed.
   2. Do not handle weapons, shell casings, needles, or suspected evidence unless required for immediate safety; if moved for safety, note original location and how/where it was secured.
   3. Avoid cleaning hands/face of suspected shooting victims unless medically necessary; if requested by LE and clinically appropriate, cover hands with paper bags to preserve potential trace evidence
   4. Preserve patient clothing when possible: cut around holes/tears; avoid cutting through bullet/knife holes; place each clothing item in a separate paper bag when feasible; label with patient identifiers, date/time, and your unit.
   5. If items (e.g., drugs, weapons, wallets) are discovered during care, keep with patient if clinically required, otherwise secure and immediately notify LE; avoid unnecessary sorting/handling.

C. Documentation
   1. Document scene status as communicated by LE
   2. Document safety threats, staging location, and any delays due to scene security.
   3. Document any disturbance of the environment/evidence
   4 Use objective language; avoid speculation about events or intent.

VII. Interaction with Law Enforcement, Coroner, and Hospitals

A. Coordinate with the officer in charge/Unified Command regarding access routes, CCP location, and patient destination considerations (trauma system, specialty centers).

B. For deaths that are unattended, unexpected, or suspicious, follow local coroner/medical examiner procedures. Do not disturb the body or surrounding area unless necessary for scene safety or as directed by LE/coroner.

C. If resuscitation is initiated and later terminated per protocol, leave all invasive devices/tubes in place unless otherwise directed by local policy; notify LE/coroner.

D. Provide hospitals with pertinent safety and forensic considerations (e.g., presence of LE escort, custody status, suspected assault).

VIII. Mandatory Reporting and Notifications

A. Mandatory Reporting
   1. EMS personnel shall comply with applicable California mandatory reporting requirements for injuries or circumstances involving:
      a. Firearm-related injuries
      b. Assaultive or abusive conduct
      c. Domestic violence
      d. Child abuse or neglect
      e. Elder or dependent adult abuse
      f. Sexual assault
      g. Other injuries or circumstances requiring notification by law

B. Law Enforcement Notification
   1. When EMS personnel reasonably suspect that a patient has sustained injuries resulting from assaultive or abusive conduct, appropriate law enforcement notification shall be made as soon as practical in accordance with applicable law and local procedures.

C. Documentation
   1. Documentation should include:
      a. Objective findings and observed injuries.
      b. Clinically relevant statements made by the patient.
      c. Any law enforcement notification or reporting performed.
      d. The receiving law enforcement agency or representative, when available.
   2. Providers shall avoid speculation regarding events, intent, or causation.

D. Reporting Responsibilities
   1. Nothing in this policy shall prohibit or discourage any EMS provider from fulfilling mandatory reporting obligations required by law.

E. Patient Care Priority
   1. Patient care and scene safety remain the priorities. Mandatory reporting, evidence preservation, and investigative activities shall not delay medically necessary treatment or transport.

IX. Training and Quality Improvement

A. Agencies should provide training on, scene safety, ICS/Unified Command, TECC concepts, warm zone/RTF operations (where adopted), evidence preservation basics, and mandated reporting.

B. After significant incidents (e.g., shootings, mass casualty, officer-involved incidents), conduct a structured hotwash/debrief and offer peer support/critical incident stress resources.

C. Track and review safety-related delays and near-misses for system improvement.

8303 Suspected Child Abuse Reporting Guidelines

I. PURPOSE

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

II. DEFINITIONS

A. Agencies authorized to accept mandated reports: Police Department, Sheriff 's Department, Child Protective Services (CPS). School District police and security departments are not included.

B. Child: Any person under the age of eighteen.

C. Mandated reporter: Any healthcare practitioner, childcare custodian, or employee of a child protective agency. This includes EMTs and paramedics.

D. Neglect: The negligent failure of a parent or caretaker to provide adequate food, clothing, shelter, medical/dental care, or supervision.

E. Physical abuse: A physical injury, including death, to a child that appears to have been inflicted by other than accidental means.

F. Sexual abuse: Sexual assault on or the exploitation of a minor. Sexual assault includes: rape, rape in concert (aiding or abetting or acting in concert with any person in the commission of a rape), incest, sodomy, oral copulation, penetration of genital or anal opening by a foreign object, and child molestation. It also includes lewd or lascivious conduct with a child under the age of fourteen years, which may apply to any lewd touching if done with the intention of arousing or gratifying the sexual desire of either the person involved or the child. Sexual exploitation includes conduct or activities related to pornography depicting minors and promoting prostitution by minors.

III. PRINCIPLES

A. The purpose of reporting suspected child abuse/neglect is to protect the child, prevent further abuse of the child and other children in the home, and begin treatment of the entire family. The infliction of injury, rather than the degree of that injury, is the determinant for intervention by the CPS and law enforcement.

B. California Penal Code, Sections 11166 and 11168, requires that mandated reporters promptly report all suspected non-accidental injuries, sexual abuse, or neglect of children to local law enforcement and/or to the CPS.

C. It is the job of law enforcement, CPS and the Courts to determine whether or not child abuse/neglect has, in fact, occurred. It is not necessary for the mandated reporter to determine child abuse, but only to suspect that it may have occurred. Children under the age of four, especially less than six months, are at highest risk.

D. Under current law, all healthcare professional, are mandated to report suspected child abuse/neglect that they have knowledge of or observe in their professional capacity. They are required to sign a statement acknowledging their understanding of this requirement. Any person who fails to report as required may be punished by six months in jail and/or a $1,000 fine.

E. When a mandated reporter has knowledge of or has observed child abuse or neglect, that individual is required to report to the local law enforcement and/or to the CPS immediately or as soon as practically possible by telephone and shall complete the suspected child abuse report form within 36 hours.

F. When two or more mandated reporters are present at scene and jointly have knowledge of a known or suspected instance of child abuse/neglect, the telephone report can be made by a selected member and a single written report may be made and signed by the selected member of the reporting team. Any member who has knowledge that the designated reporter failed to uphold their agreement, shall thereafter make the report. If the paramedics are not selected as the designated reporter, they shall document the name and agency of the appointed team member on the Patient Care Report to indicate that the reporting obligation has been met.

G. Those persons legally required to report suspected child abuse have immunity from criminal or civil liability for

reporting as required.

IV. POLICY REPORTING PROCEDURES

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

B. To make a verbal report to CPS, call the 24-hour Child Abuse Hotline.

Sonoma County	Mendocino County
707-565-4604	707-463-7990
800-870-7064	

C. This should be done as soon as possible. It is recommended that the Child Abuse Report form be completed prior to making verbal notification. Prehospital care providers should be aware of their local law enforcement reporting procedures and telephone numbers for notification.

D. The suspected child abuse/neglect report is to be completed according to the instructions on the back of the form. The completed form shall be sent to local law enforcement and CPS within 36 hours.

Sonoma County CPS	Mendocino County CPS
PO Box 1539	126 North Orchard Ave
Santa Rosa Ca 95402	Ukiah, CA 95482

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

V. REPORTING INSTRUCTIONS

A. Complete DOJ Suspected Child Abuse Report form SS 8572 for all suspected cases of child abuse/neglect reported. The report shall be filled out as completely and clearly as possible using lay terminology.

B. Section A - Case Identification:
   1. To be completed by investigating agency authorized to receive the report.

C. Section B - Reporting Party:
   1. To be completed by the person who initiated the report. Include name, title, address, phone number (include area code), date of report and signature.

D. Section C - Report Sent To:
   1. Check the appropriate box that identifies the agency designated to receive the report.
   2. Enter the name and address of the agency to which the report is being sent.
   3. Enter the name and phone number of the official at the designated agency and the date and time that contact occurred.
   4. The date and time are extremely important as they provide legal proof of verbal report.

E. Section D - Involved Parties:
   1. Victim: Enter the name, address, physical data, present location and phone number where victim is located (attach additional sheets if multiple victims). If the birth date is not known, enter the approximate age.
   2. Siblings: Enter the name and physical data of siblings living in the same household as the victim. It is important to indicate when there are other children in the home even if no definitive information is available.

3. Parents: Enter the names, physical data, addresses and phone numbers of father/stepfather and mother/stepmother. If information is unavailable, document "information not available."

F. Section E - Incident Information:

1. Enter the date, time and place where the incident occurred or was observed and check the appropriate boxes.
2. Check the type of abuse (there may be more than one type of abuse).
3. Write objectively; carefully describe all injuries and evidence of sexual assault, if applicable.
4. When obtaining information from the individual who is witness to the alleged abuse/neglect, attempt to use direct quotes when describing the incident.
5. If the parent, guardian or person accompanying the child changes his/her description of the occurrence, document both versions (use extra paper if needed).
6. If known, document prior incidents involving the victim.
7. When documenting neglect situations, stress the endangerment of the child. Endangerment is a key factor in the timely investigation of these cases.
8. Indicate circumstances that may contribute to an abusive/neglectful situation (e.g. handicapped child or parent, substance abuse, spousal abuse, lack of resources, etc.).

VI. DISTRIBUTION

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

8304 Suspected Elder and Dependent Adult Abuse Reporting Guidelines

I. PURPOSE

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

II. PRINCIPLES

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

III. POLICY

A. EMT's and EMT-P's, as health care practitioners, are mandated reporters and have a legal obligation to report known or suspected elder or dependent adult abuse under the following circumstances:
   1. When the reporter has observed an incident that reasonably appears to be physical abuse
   2. When the reporter has observed a physical injury where the nature of the injury, its location on the body or the repetition of the injury clearly indicates that physical abuse has occurred
   3. When an elder or a dependent adult tells the reporter that he or she has experienced behavior constituting physical abuse.

B. The law encourages mandated reporters to voluntarily report known or suspected instances of other types of abuse of an elder or of a dependent adult including neglect, mental abuse, financial abuse, isolation and abandonment.

C. Reports made under this law are confidential. The identity of all persons making reports of elder or dependent abuse is also confidential. This information will be shared only between the investigating and licensing agencies, with the district attorney in a criminal prosecution resulting from the report, by court order, or when the reporter waives the right to remain anonymous.

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

E. Reporting is the individual responsibility of the mandated reporter. No supervisor or administrator may prohibit the filing of a required report.

F. Mandated reporters who report suspected cases of elder or dependent adult abuse in good faith, have absolute immunity, both civilly and criminally, for making a report of physical abuse of an elder or dependent adult. This includes taking of photographs of the victim and surroundings to submit with the report.

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

IV. REPORTING PROCEDURES

A. Reports of physical abuse are to be made immediately, or as soon as possible, by telephone.

B. When reporting abuse that allegedly occurred in a long -term care facility or Adult Day Health Care Center, contact either the local law enforcement agency or the Long-term Care Ombudsman Program:

Sonoma	**Mendocino**
707-565-5940	**707-463-7900**

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

Sonoma	**Mendocino**
707-565-5940	**707-463-7900**

V. VERBAL REPORT

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

VI. WRITTEN REPORT

A. The Report of Suspected Dependent Adult/Elder Abuse must be completed and submitted to the agency initially contacted within two (2) working days of the verbal report.

VII. VOLUNTARY REPORTS

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

VIII. REPORT INSTRUCTIONS

A. Complete a form for each incident and each victim of suspected elder physical abuse.
B. Fill out the form as completely and clearly as possible using lay terminology.
C. If any item of information is unknown, write 'unknown' beside the item.
D. Section A - Reporting Party:
   1. The person initiating the report must complete this section. It must include the reporting person's name, place of employment, and employment phone number.
   2. For legal purposes, the date of the written report must be completed.
   3. The signature of the reporting party is required in this section.
E. Section B - Report Made To:
   1. Record the name of the person and agency to whom a verbal report was first made. This person will be receiving the written reports.
   2. When the report was made to more than one agency, the contact person(s) for the additional agencies should be listed in the comment section.
   3. The date and time of the verbal report must be recorded to provide legal proof of the verbal report.
F. Section C - Victim:
   1. Enter as much information as possible.
   2. If the birth date is unknown, enter the approximate age.
G. Section D - Incident Information:
   1. Record the date, time, and place of incident.

2. Check the appropriate box indicating how the person filing the report became aware of the incident.
3. If the incident occurred in an out-of-home-care setting, check the appropriate box.
4. When more than one type of abuse is suspected, check all that apply.

H. Section E - Comments:

1. Write objectively.
2. Quote statements made by the victim or guardian.
3. Document the incident as it was told by each person (use extra paper if necessary).
4. Indicate circumstances that may have contributed to the abusive/neglectful situation (i.e. handicapped, bedridden, lack of resources).

IX. DISTRIBUTION INSTRUCTION

A. Send the original report to the elder protective agency previously contacted by phone.

B. Send a copy of the report to:

Sonoma County APS	Mendocino County APS
P O Box 1539	126 North Orchard Avenue
Santa Rosa CA 95402	Ukiah, CA 95482

C. The reporting party should retain one copy of the original.

8305 Organ/Tissue Donor Information Policy

I. PURPOSE

A. To establish guidelines for Emergency Medical Services (EMS) personnel regarding the identification and communication of potential donor information for transported patients when death appears likely or severe illness or injury may result in death.

B. This policy is intended to support compliance with California law while ensuring that patient care, scene safety, and timely transport remain the highest priorities.

II. APPLICABILITY

A. This policy applies to emergency response EMS provider personnel operating within the LEMSA jurisdiction.

B. This policy does not apply to:

1. Obvious death in the field
2. Coroner cases
3. Interfacility transport operations.

III. DEFINITIONS

A. Organ/Tissue Donor- A person who agrees to the donation of organs, tissues, or eyes for transplantation, therapy, research, or education as recognized under California law.

B. Reasonable Awareness- Recognition by EMS personnel of readily available information indicating an individual's status regarding organ, eye, or tissue donation. This may include information voluntarily provided by family members or documentation that is immediately apparent during the normal course of patient identification and care activities. EMS personnel are not expected to conduct extensive searches of personal belongings solely for the purpose of determining donor status.

C. Severe Illness or Injury- A condition in which EMS personnel reasonably believe the patient has sustained illness or injury with a significant likelihood of death despite ongoing treatment and transport.

IV. POLICY

A. When EMS personnel encounter an unconscious patient with severe illness or injury where death appears possible or likely, EMS personnel should maintain awareness of any readily available organ donation information encountered during routine patient care activities.

B. Patient care, scene safety, and timely transport shall always remain the highest priorities. Identification of organ donor information shall not delay or interfere with patient assessment, treatment, or transport.

C. If organ donor information becomes known, EMS personnel should communicate this information to the receiving facility as part of the patient handoff report.

D. Any organ donor documentation that is readily available should accompany the patient to the receiving facility when practical and appropriate.

E. EMS personnel shall not independently initiate discussions with family members regarding organ, eye, or tissue donation except as necessary to clarify readily available donor information relevant to the receiving facility.

F. EMS personnel are not responsible for determining donor eligibility or coordinating organ procurement activities in the field.

G. Documentation regarding organ donor information in the patient care report should remain brief and limited to information identified and communicated to the receiving facility.

V SPECIAL CONSIDERATIONS

A. Nothing in this policy shall supersede patient care priorities, applicable laws, coroner authority, or crime scene preservation requirements.

B. This policy shall not be interpreted as requiring EMS personnel to conduct intrusive searches of personal belongings for donor information.

C. Questions regarding organ, eye, or tissue donation suitability, authorization, or procurement shall be managed by the receiving facility and appropriate organ procurement organization personnel.

8401 Interfacility Transfers

I. PURPOSE

A. The purpose of this policy is to serve as the utilization standard for all patient transfers between acute care facilities within the Local EMS Agency (LEMSA).

II. 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.

B. This policy applies to transfers originating within the LEMSA 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 LEMSA. LEMSA 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.

III. 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).

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.

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 *treatment guideline 7003 Patient Destination/Point of Entry*)

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 *treatment guidelines* *7102 Suspected Acute Coronary Syndrome*, may be immediately transferred to a STEMI Center, refer to *treatment guideline* *7003 Patient Destination/Point of Entry*

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.

IV. 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.

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

V. 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* *8403 Intravenous infusion of Heparin and Nitroglycerin.*
4. Potassium per *treatment guideline* *8405 Transport of Potassium Chloride*.

B. Paramedics may treat patients per LEMSA Treatment Guidelines as indicated enroute.

C. Paramedics may transport patients with an indwelling temporary pacemaker in place if determined appropriate by the transferring Physician, the transport paramedic, and the receiving physician.

D. Paramedics may transport patients 28 days or less (neonates) if determined appropriate by the transferring Physician, the transport paramedic, and the receiving physician.

E. Paramedics may transport patients on Continuous Positive Airway Pressure (CPAP) on a case-by-case basis based upon the comfort level of the transferring physician, paramedic, and receiving physician.

1. If patient is previously on BiPAP, it is recommended that patient be monitored on CPAP device for 5-15

minutes prior to transport to ensure stability.

F. Paramedics may transport diagnosed LVO patients who have stable vital signs and do not require ventilatory support if determined appropriate by the transferring Physician, the transport paramedics, and the receiving Physician.

VI. 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.

VII. 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.

VIII. 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.

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.

IX. 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.

X. 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.

XI. 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.

XII. QUALITY IMPROVEMENT

A. ALS interfacility transfer calls will be reviewed as per the *6002 Quality Improvement* policy of the LEMSA policy manual.

8402 Monitoring Transfusion of Blood Products

I. Purpose

A. To provide a mechanism for paramedics to monitor the transfusion of blood products during interfacility transports.

II. Policy

A. Paramedics - Only those paramedics who have successfully completed a training program(s) approved by the LEMSA Medical Director on monitoring infusion of blood products will be permitted to monitor them during interfacility transports.

B. ALS Ambulance Providers - Only those ALS Ambulance providers approved by the LEMSA Medical Director will be permitted to provide the service of monitoring infusion of blood products during interfacility transports from hospital(s) within their service area.

C. Patients - Patients that are candidates for paramedic transport will have pre-existing blood product transfusions in peripheral lines already infusion. LEMSA does not authorize EMS personnel to start, hang or otherwise initiate the transfusion of blood products.

III. Principles

A. Patients in hemorrhagic shock may need to be transferred to a tertiary care or trauma center with blood/blood product transfusions in process as part of emergency resuscitation.

B. Blood products include packed red blood cells (PRBCs), whole blood, fresh frozen plasma (FFP), platelets, cryoprecipitate, and prothrombin complex concentrates.

C. Transfusion reactions are defined as follows:

1. Allergic reaction: hives or itching only, without signs of anaphylaxis.
2. Anaphylaxis: allergic reaction with angioedema, wheezing, respiratory distress, vascular instability, vomiting, diarrhea and/or shock. Rash may or may not be present.
3. Hemolytic transfusion reaction: life threatening reaction that may present with fever, headache, back pain, nausea, hypotension, and pain at the transfusion site.
4. Volume overload: may develop pulmonary edema and respiratory distress.

IV. **Guidelines**

A. Before accepting responsibility for the patient:

1. Confirm with a nurse or physician from the sending facility, that the name on the patient's arm band and blood bank number on the blood transfusion form is the same as the name and blood bank number on the unit(s) of blood product which is (are) infusing.
2. For uncross matched blood products (which will not have a patient name) confirm the uncross matched blood product transfusion is for the patient being transferred. A patient identification band must be present prior to transfer.

B. Document in the ePCR the physician order for the blood product(s) to be transfused, which shall include the following:

1. Type of blood product being transfused.
2. Rate of the transfusion
3. Name of the transferring/ordering physician
4. Any adverse reactions and treatments provided to the patient during transport.

C. Monitor all patients continuously during transport with a cardiac monitor and a noninvasive blood pressure monitor, documenting vital signs every 15 minutes.

D. For patients with suspected transfusion reactions (including hemolytic reactions, allergic reactions, anaphylactic reactions, and volume overload):
   1. Stop the blood product transfusion.
   2. Disconnect the IV tubing (do not flush tubing) and flush the port.
   3. Initiate care per applicable Treatment Guideline
   4. Provide the remaining blood product and tubing to the receiving hospital.

E Document volume of blood product transfused and any suspected transfusion reaction on the ePCR. Communicate any reaction and interventions taken to the receiving facility staff.

F. All cases for which this policy is implemented will be audited by the EMS provider agency and reports sent to the LEMSA.

G. The receiving emergency department staff will be responsible for communicating any transfusion related adverse events to the sending facility.

H. During transfer of care from the sending facility to the transport paramedic, blood products shall be disconnected from infusion pumps and manual drip rate(s) set by sending medical team. Use of portable infusion pumps during transport is permissible if the paramedic has documentation of training and proof of competency in the use of the equipment on file with the ALS ambulance provider. In this case, the use of an infusion pump during transport must be included in the sending physician orders.

8403 Intravenous Infusions of Heparin & Nitroglycerin

I. PURPOSE

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

II. **POLICY**

A. Paramedics

1. Only those paramedics who have successfully completed a training program(s) approved by the LEMSA 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 LEMSA 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 already infusing. Pre-hospital personnel will not initiate heparin and nitroglycerin drips.

III. 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.

D. NITROGLYCERIN DRIPS

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

E. HEPARIN DRIPS

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

IV. 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 LEMSA as requested

8404 Monitoring Thoracostomy Tubes

I. PURPOSE

A. To monitor thoracostomy tubes previously established.

II. EQUIPMENT

A. Firm plastic thoracostomy tube.

B. Negative pressure drainage receptacle attached to the thoracostomy tube to form a closed drainage system.

C. Rubber-tipped clamp.

III. PRECAUTIONS

A. Keep drainage receptacle below level of chest to prevent drained fluid from re-entering pleural space.

B. Keep drainage tubing in view.

C. Do not permit dependent loops of kinks to form, as this will increase pleural pressure, formation of clots or interference with the flow of drainage.

D. Keep dressing at insertion site secure to prevent air entering the pleural space.

E. Maintain aseptic technique.

F. Do not disconnect drainage system or puncture tubing.

G. Tape all connections securely to prevent violation of sterility and loss of negative drainage pressure.

H. Avoid pulling on thoracostomy tube to prevent accidental dislodging of the tube.

IV. COMPLICATIONS

A. Complications require immediate intervention. Contact the base hospital to report the problem, the intervention taken and to request further assistance.

B. Tube dislodgement or withdrawal.

1. If accidental withdrawal of tube occurs, place occlusive dressing over insertion site.
2. If the tube becomes dislodged or a malfunction with air leak occurs in the system, clamp the tube close to the chest wall and observe for signs and symptoms of tension pneumothorax.

C. Drained fluid re-enters pleural space.

1. If drained fluid re-enters the pleural space place receptacle below level of chest to facilitate gravity drainage.

D. Hemorrhage through tube

1. If hemorrhage occurs through chest tube, observe for signs and symptoms of shock and treat according to protocol.

E. Receptacle fills in transit.

1. Keep in position.
2. Do not remove or elevate.

8405 Transport of Potassium Chloride (KCL)

I. PURPOSE

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

II. POLICY

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

III. PROCEDURE

A. Prehospital care providers are not allowed to start or add KCL to the I.V. solution.

B. Infusions containing KCL that have been established may be monitored only.

C. Monitor EKG rhythm to detect dysrhythmias

D. Usual dose is 10-20 mEq added to 1 liter of I.V. solution and administered at a mechanically controlled rate not to exceed 10 mEq/hour (restrictions in scope of practice limits dose to 20 mEq/L).

E. Monitor I.V. site as infiltration may cause necrosis. If patient complains of burning or irritation at the insertion site, the I.V. should be checked for patency and the infusion rate slowed.

F. If fluid bolus or I.V. medications are needed, the KCL infusion shall be discontinued and a new I.V. solution without KCL and administration device shall be used as replacement.

IV. ADVERSE EFFECTS

A. Observe for:

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