Inland Counties Emergency Medical Agency

Serving San Bernardino, Inyo, and Mono Counties

Tom Lynch, EMS Administrator
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DATE: June 13, 2013

TO: EMS Providers - ALS, BLS, EMS Aircraft
Hospital CEOs, ED Directors, Nurse Managers and PLNs
EMS Training Institutions and Continuing Education Providers
Inyo, Mono and San Bernardino County EMCC Members
Other Interested Parties

FROM: Tom Lynch, EMS Administrator; Reza Vaezazizi, MD, Medical Director

SUBJECT: **PROTOCOLS FOR 30-DAY COMMENT**

The following protocols have been reviewed and revised by the Protocol Education Committee (PEC) and the Medical Advisory Committee (MAC) and are now available for public comment and recommendations.

ICEMA Reference #:

8010 - Interfacility Transfer Guidelines
10010 - King Airway Device (Perilaryngeal) - Adult (LALS, ALS and Approved BLS Specialty Program Providers)
10140 - Intraosseous Infusion (IO) (LALS - Pediatric only and ALS)
11040 - Bradycardias - Adult
11050 - Tachycardias - Adult
11090 - Shock (Non-Traumatic)
12020 - Withholding Resuscitative Measures
14010 - Respiratory Emergencies - Pediatric (Less than 15 years of age)
14020 - Airway Obstruction - Pediatric (Less than 15 years of age)
14040 - Cardiac Arrest - Pediatric (Less than 15 years of age)
14070 - Burns - Pediatric (Less than 15 years of age)

ICEMA encourages all system participants to submit recommendations, in writing, to ICEMA during the comment period. **Written comments will be accepted until Saturday, July 13, 2013, at 5:00 pm.** Comments may be sent via hardcopy, faxed to (909) 388-5850 or via e-mail to SShimshy@cao.sbcounty.gov. Comments submitted and any revisions made will be presented at the July 18, 2013, Emergency Medical Care Committee (EMCC) meeting. The protocols will also be presented at the Inyo and Mono Counties EMCC meetings.

TL/RV/SS/jlm

Enclosures

c: File Copy

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Protocol Changes for Public Comment
LALS Procedures Added

Policy #	Title	Changes/Comments
New		
None		
1000 ACCREDITATION AND CERTIFICATION		
None		
2000 DATA COLLECTION		
None		
3000 EDUCATION		
None		
4000 QUALITY IMPROVEMENT		
None		
5000 MISCELLANEOUS SYSTEM POLICIES		
None		
6000 SPECIALTY PROGRAM/ PROVIDER POLICIES		
None		
7000 STANDARD DRUG & EQUIPMENT LISTS		
None		
8000 TRANSPORT/TRANSFERS AND DESTINATION POLICIES		
8010	Interfacility Transfer Guidelines	LALS Added
9000 GENERAL PATIENT CARE POLICIES		
None		
10000 SKILLS		
10010	King Airway Device (Perilaryngeal) - Adult (LALS, ALS and Approved BLS Specialty Program Providers)	LALS Added
10140	Intraosseous Infusion (IO) (LALS - Pediatric only and ALS)	LALS Added
11000 ADULT EMERGENCIES		
11040	Bradycardias - Adult	LALS Added
11050	Tachycardias - Adult	LALS Added
11090	Shock (Non-Traumatic)	LALS Added

Protocol Changes for Public Comment
LALS Procedures Added

Policy #	Title	Changes/Comments
12000 END OF LIFE CARE		
12020	Withholding Resuscitative Measures	LALS Added
13000 ENVIRONMENTAL EMERGENCIES		
None		
14000 PEDIATRIC EMERGENCIES		
14010	Resiratory Emergencies - Pediatric	LALS Added
14020	Airway Obstructions - Pediatric	LALS Added
14040	Cardiac Arrest - Pediatric	LALS Added
14070	Burns - Pediatric	LALS Added
15000 TRAUMA		
None		
POLICY DELETIONS		
None		
Below are some of the protocols/policies designated for review in the next few months. If there are		
None		

INTERFACILITY TRANSFER GUIDELINES

I. PURPOSE

To identify patient care responsibilities for emergency medical technicians (EMTs), advanced EMTs (AEMTs) and paramedics (EMT-Ps) during interfacility transports.

II. AUTHORITY

California Health and Safety Code ~~Title 22,~~ Division 2.5, Sections 1797.214, 1798.170 and 1798.172 ~~of the California Health and Safety Code~~.

III. BLS INTERVENTIONS ~~POLICY~~

During an interfacility transport, an EMT may monitor the following ~~during an interfacility transport~~ if the patient is non-critical and deemed stable by the transferring physician and the physician has approved transport via BLS ambulance:

Appropriate transfer paperwork and medical records must accompany the patient to their destination.

- Monitor a saline lock or peripheral lines delivering fluids in any combination/concentration of Normal Saline, Lactated Ringers or Dextrose and Water provided the following conditions are met:
  - No medications have been added to the IV fluid.
  - Maintain the IV at a pre-set rate.
  - Check tubing for kinks and reposition arm if necessary.
  - Turn off IV fluid if signs/symptoms of infiltration occur.
  - Control any bleeding at insertion site.
- Transport a patient with a ~~Foley~~ urinary catheter provided the following:
  - The catheter is able to drain freely.
  - No action is taken to impede flow or contents of drainage collection bag.
- Transport a patient with a nasogastric or gastrostomy tube provided the tube is clamped.

- If the patient's condition deteriorates, the patient should be transported to the closest receiving hospital.

IV. LIMITED ALS (LALS) INTERVENTIONS~~POLICY~~

During an interfacility transport, if the patient is non-critical and deemed stable by the transferring physician and the physician has approved transport via LALS ambulance, an AEMT may monitor or perform the following:

- Peripheral lines delivering fluids in any combination/concentration of normal saline, lactated ringers or dextrose and water.
- Saline locks.
- Tracheo-bronchial suction of an intubated patient.
- Initiate prior to contact protocols if the patient's condition deteriorates, then must contact the Base Station per ICEMA Reference #5040 - Radio Communication Policy.

Appropriate transfer paperwork and medical records must accompany the patient to their destination.

AEMTs may not transport a patient with IV drips that are not in the AEMT scope of practice.

AEMTs may not transport patients with blood or blood products.

V. ALS INTERVENTIONS~~POLICY~~

Appropriate transfer paperwork and medical records must accompany the patient to their destination.

If the transfer is a STEMI patient, refer to ICEMA Reference~~Policy~~ #8040 - Continuation of Care of a STEMI Patient (San Bernardino Only).

~~Paramedics~~ EMT-Ps may not transport a patient with IV drips that are not in the EMT-P scope of practice.

~~Paramedics~~ EMT-Ps may not transport patients with blood or blood products.

During an interfacility transport, an ICEMA ~~A~~accredited EMT-P may:

- Monitor peripheral lines delivering fluids in any combination/concentration of normal saline, lactated ringers or dextrose and water.
- Transport intravenous solutions with added medication(s) as follows:
  - Lidocaine
  - Dopamine
  - Procainamide
  - Magnesium Sulfate
  - Pitocin
- Monitor and administer medications through a pre-existing vascular access.
- Monitor heparin lock or saline lock.
- Monitor IV solutions containing potassium ≤40mEq/L.
- Monitor thoracostomy tubes to water or dry sealed drainage.
- Monitor nasogastric tubes.
- ~~Paramedics~~ EMT-Ps may initiate prior to contact protocols if the patient's condition deteriorates, then must contact the Base Station per ~~protocol~~ ICEMA Reference #5040~~,~~ - ~~"~~Radio Communication Policy~~"~~.

VI. NURSE ASSISTED ALS TRANSPORT

In the event of a critical patient that needs transport with medication or IV drips that are outside of the ~~paramedic~~ EMT-P scope of practice and CCT transport is not possible, a Registered Nurse (RN) from the transferring hospital may accompany the patient. The RN will be responsible for orders from the transferring physician. In the event the patient condition deteriorates, the ~~paramedic~~ EMT-P will contact the Base Station for orders and destination change. The RN will continue to provide care consistent with the transferring physician's orders. The Base Station physician may consider discontinuing or continuing the prior orders based on patient condition. The RN will document the Base Station physician orders on the transferring facility's patient care record. The ~~medic~~ EMT-P will document on the ePCR or O1A.

VII. REFERENCES

Number	Name
5040	Radio Communication Policy
8040	Continuation of Care of a STEMI Patient (San Bernardino Only)

KING AIRWAY DEVICE (PERILARYNGEAL) - ADULT

(Limited ALS (LALS), ALS and Approved BLS Speciality Program Providers)

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Use of the King Airway adjunct may be performed only on those patients who meet **ALL** of the following criteria:
  - Unresponsive, agonal respirations (less than six (6) breaths per minute) or apneic.
  - No gag reflex.
  - Anyone over four (4) feet in height:
    - 4 - 5 feet: Size 3 (connector color - yellow)
    - 5 - 6 feet: Size 4 (connector color - red)
    - 6 feet and over: Size 5 (connector color - purple)

II. ADDITIONAL CONSIDERATIONS

- BVM management not adequate or effective.
- A King Airway adjunct should not be removed unless it becomes ineffective.
- Medications may **NOT** be given via the King Airway.

III. CONTRAINDICATIONS

- Conscious patients with an intact gag reflex.
- Known ingestion of caustic substances.
- Suspected foreign body airway obstruction (FBAO).
- Facial and/or esophageal trauma.
- Patients with known esophageal disease (cancer, varices, surgery, etc.).
- Epiglottitis.
- Airway burns.

IV. PROCEDURE

1. Using the information provided, choose the correct KING LTS-D size based on patient height.

2. Test cuff inflation system by injecting the maximum recommended volume of air into the cuffs (size 3 - 60 ml; size 4 - 80 ml; size 5 - 90 ml). Prior to insertion, disconnect valve actuator from inflation valve and remove all air from both cuffs.

3. Apply a water-based lubricant to the beveled distal tip and posterior aspect of the tube taking care to avoid introduction of lubricant in or near the ventilatory openings.

4. Have a spare KING LTS-D ready and prepared for immediate use.

5. Pre-oxygenate.

6. Position the head. (The ideal head position for insertion of the KING LTS-D is the "sniffing position".)

7. Hold the KING LTS-D at the connector with dominant hand. With non-dominant hand, hold mouth open and apply chin lift.

8. With the KING LTS-D rotated laterally 45 - 90°, introduce tip into mouth and advance behind base of tongue.

9. Rotate the tube back to the midline as the tip reaches the posterior wall of the pharynx.

10. Without exerting excessive force, advance KING LTS-D until base of connector is aligned with teeth or gums.

11. Holding the KLT 900 Cuff Pressure Gauge in non-dominant hand, inflate cuffs of the KING LTS-D to 60 cm H20. If a cuff pressure gauge is not available and a syringe is being used to inflate the KING LTS-D, inflate cuffs with the minimum volume necessary to seal the airway at the peak ventilatory pressure employed (just seal volume).

12. Attach the breathing circuit to the 15 mm connector of the KING LTS-D. While gently bagging the patient to assess ventilation, simultaneously withdraw the airway until ventilation is easy and free flowing (large tidal volume with minimal airway pressure).

13. Reference marks are provided at the proximal end of the KING LTS-D which when aligned with the upper teeth give an indication of the depth of insertion.

14. Confirm proper position by auscultation, chest movement and/or verification of CO_2 by capnography.

15. Re-adjust cuff inflation to 60 cm H_2O (or to just seal volume).

16. Secure KING LTS-D to patient.

V. DOCUMENTATION

In the event the receiving physician discovers the device is improperly placed, an Incident Report must be completed by the receiving hospital and forwarded to ICEMA within twenty-four (24) hours of the incident. Forms are available as part of the protocol manual and on the ICEMA website.

INTRAOSSEOUS INFUSION (IO)
(LALS - Pediatric only and ALS)

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Primary vascular access in cardiac arrest patients eight (8) years of age and younger.
- Any patient where venous access is unavailable by any other means.

II. CONTRAINDICATIONS

- Fracture of target bone.
- Previous IO attempt and marrow entry at target site.

III. PROCEDURE

- Select and prep the following preferred sites for appropriate patient age.
  - Eight (8) years of age and younger~~:~~ (LALS and ALS):
    - Anterior medial surface of tibia, 2cm below tibial tuberosity.
  - Nine (9) years of age and older~~:~~ (ALS only):
    - Lower end of tibia, 2cm above the medial malleolus
    - Proximal humerus.
  - Base Station contact - Anterior distal femur, 2cm above the patella.
- Confirmation of placement is verified by the following:
  - Needle stands upright without support.
  - Aspiration of blood/marrow.
  - Ability to infuse IV solution without s/s of extravasation.
  - Leave site visible.

3. To control infusion pain on a conscious patient, use 2% Lidocaine.

- Prime the extension tubing with 0.5mg/kg of 2% Lidocaine and infuse *slowly* (over 30 to 60 seconds), not to exceed 50mg total. Allow one (1) minute for anesthetic effect before infusing fluids.

4. Infusion may need to be pressurized using syringe or pressure bag device.

5. Monitor site closely when administering dopamine for signs of extravasation

IV. DOCUMENTATION

In the event the receiving physician discovers the device is improperly placed, an Incident Report must be completed by the receiving hospital and forwarded to ICEMA within twenty-four (24) hours of the incident. Forms are available as part of the protocol manual and on the ICEMA website.

BRADYCARDIAS - ADULT

I. STABLE BRADYCARDIA

FIELD ASSESSMENT/TREATMENT INDICATORS

- Heart rate less than 50 bpm.
- Signs of adequate tissue perfusion.

BLS INTERVENTIONS

- Recognition of heart rate less than 60 bpm.
- Reduce anxiety, allow patient to assume position of comfort.
- Administer oxygen as clinically indicated.

LALS INTERVENTIONS

- Establish vascular access if indicated.
  - If lungs are clear consider bolus of 300cc NS, may repeat.
- Monitor and observe for changes in patient condition.

ALS INTERVENTIONS

1. Establish vascular access if indicated. If lung sounds clear, consider bolus of 300 cc NS, may repeat.
2. Place on cardiac monitor and obtain rhythm strip for documentation with copy to receiving hospital. If possible, obtain a 12-lead ECG to better define the rhythm.
3. Monitor and observe for change in patient condition.

II. UNSTABLE BRADYCARDIA

FIELD ASSESSMENT/TREATMENT INDICATORS

- Signs of inadequate tissue perfusion/shock, ALOC, or ischemic chest discomfort.

BLS INTERVENTIONS

- Recognition of heart rate less than 60 bpm.
- Reduce anxiety, allow patient to assume position of comfort.
- Administer oxygen as clinically indicated.

LALS INTERVENTIONS

- Establish vascular access if indicated by inadequate tissue perfusion.
  - Administer IV bolus of 300 cc NS may repeat one (1) time.
  - Maintain IV rate at TKO after bolus.
- Monitor and observe for changes in patient condition.
- Contact Base Station if need for further medical control.

ALS INTERVENTIONS

1. Administer IV bolus of 300 cc. Maintain IV rate at 300 cc /hr if lungs remain clear to auscultation.
2. Place on cardiac monitor and obtain rhythm strip for documentation. If possible, obtain a 12-lead ECG to better define the rhythm. Provide copy to receiving hospital.
3. Administer Atropine 0.5 mg IVP. May repeat every five (5) minutes up to a maximum of 3 mg or 0.04 mg/kg.

- If Atropine is ineffective or, for documented MI, 3rd degree AV Block with wide complex and 2nd degree Type II AV Block, utilize Transcutaneous Cardiac Pacing, per ~~Protocol~~ICEMA Reference #10110 - Transcutaneous Cardiac Pacing.
- Consider Dopamine 400 mg in 250 cc of NS to infuse at 5 - 20 mcg/kg/min, titrated to sustain a systolic BP greater than 90mmHg for signs of inadequate tissue perfusion/shock.
- Contact Base Station if interventions are unsuccessful.

TACHYCARDIAS - ADULT

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Signs and symptoms of poor perfusion.
- Heart rate greater than 150 (beats per minute) bpm.

II. BLS INTERVENTIONS

- Recognition of heart rate greater than 150 bpm.
- Reduce anxiety; allow patient to assume position of comfort.
- Administer oxygen as clinically indicated.
- Consider transport to closest hospital or ALS intercept.

III. LIMITED ALS (LALS) INTERVENTIONS

- Recognition of heart rate greater than 150 bpm.
- Place AED pads on patient as a precaution in the event patient has sudden cardiac arrest.
- Initiate an IV with normal saline and give 300 cc bolus to patient exhibiting inadequate tissue perfusion.
- Obtain blood glucose. If hypoglycemic administer:
  - Dextrose 25 gms (50 cc) IV/IO of 50% solution.
  - Glucagon 1 mg IM/SC/IN, if unable to establish an IV. May give one time only.
  - Repeat blood glucose. May repeat dextrose if patient remains hypoglycemic.

IV. ALS INTERVENTIONS

Determine cardiac rhythm, obtain a 12-lead ECG to better define rhythm if patient condition allows, establish vascular access and proceed to appropriate intervention(s).

Narrow Complex Supraventricular Tachycardia (SVT)

- Initiate NS bolus of 300 ml IV.
- Valsalva/vagal maneuvers.
- Adenosine 6 mg rapid IV push, followed by 20 ml NS rapid infusion. If no conversion, may repeat ~~twice~~ two (2) times at 12 mg followed by 20 ml NS rapid infusion.
- If adenosine is ineffective, consider Verapamil 5 mg slow IV over three (3) minutes. May repeat every fifteen (15) minutes to a total dose of 20 mg.
- Consider Procainamide 20 mg/min IV for suspected Wolf-Parkinsons White; may repeat until arrhythmia suppressed, symptomatic hypotension, QRS widens by more than 50% or maximum dose of 17 mg/kg given. If arrhythmia suppressed, begin infusion of 2 mg/min.
- Synchronized cardioversion, refer to ICEMA Reference #10120 - Synchronized Cardioversion.
- Contact Base Station.

V-Tach or Wide Complex Tachycardias (Intermittent or Sustained)

- Consider Adenosine administration if the rate is regular and the QRS is monomorphic. Adenosine is contraindicated for unstable rhythms or if the rhythm is an irregular or polymorphic wide complex tachycardia.
- Procainamide 20 mg/min IV; may repeat until arrhythmia suppressed, symptomatic hypotension, QRS widens by more than 50% or maximum dose of 17 mg/kg given. If arrhythmia suppressed, begin infusion of 2 mg /min.
- If Procainamide administration is contraindicated or fails to convert the rhythm, consider Lidocaine 1 mg/kg slow IV. May repeat at 0.5 mg/kg every ten (10) minutes until maximum dose of 3 mg/kg given and initiate infusion of 2 mg/min.
- Polymorphic VT should receive immediate unsynchronized cardioversion (defibrillation). Consider infusing Magnesium 2 gms in 100 ml of NS over five (5) minutes if prolonged QT is observed during sinus rhythm post-cardioversion.

- Precordial thump for witnessed spontaneous VT, if defibrillator is not immediately available for use.
- Synchronized cardioversion, refer to ICEMA Reference #10120 - Synchronized Cardioversion.
- Contact Base Station.

Atrial Fib/Flutter

- Transport to appropriate facility.
- For patients who are hemodynamically unstable, proceed to Synchronized cardioversion; refer to ICEMA Reference #10120 - Synchronized Cardioversion.
- Contact Base Station.

V. REFERENCE

Number	Name
10120	Synchronized Cardioversion

SHOCK (NON-TRAUMATIC)

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Patient exhibits signs/symptoms of shock.
- Determine mechanism of illness.
- History of GI bleeding, vomiting, diarrhea.
- Consider hypoglycemia or narcotic overdose.

II. BLS INTERVENTIONS

III. LIMITED ALS (LALS) INTERVENTIONS

- Maintain airway with appropriate adjuncts, including perilaryngeal airway adjunct if indicated.
- Obtain O_2 saturation on room air or on home oxygen if possible.
- Place AED pads on patient as precaution in event patient goes into sudden cardiac arrest.
- Place in trendelenburg position if tolerated.
- Obtain vascular access.
- If hypotensive or have signs or symptoms of inadequate tissue perfusion give fluid challenges:
  - In the adult give 500 ml IV bolus, may repeat one (1) time- until tissue perfusion improves
  - In the pediatric patient give 20 ml/kg IV bolus, may repeat one (1) time for tachycardia, change in central/peripheral pulses, limb temperature transition, altered level of consciousness.
- For patients -with no respiratory difficulties and adequate signs of tissue perfusion:
  - In adults, maintain IV rate at TKO-.

- In pediatric patients, maintain IV at TKO.

IV. ALS INTERVENTIONS

- Maintain airway with appropriate adjuncts, including advanced airway if indicated. Obtain O_2 saturation on room air or on home oxygen if possible.
- Place on cardiac monitor.
- Place in trendelenburg if tolerated.
- Obtain vascular access.
- If hypotensive or has signs or symptoms of inadequate tissue perfusion give fluid challenges:
  - In the adult give 500ml IV bolus, may repeat ~~once~~ one (1) time to sustain a BP >90mmHg or until tissue perfusion improves
  - In the pediatric patient give 20 ml/kg IV bolus, may repeat ~~once~~ one (1) time for tachycardia, change in central/peripheral pulses, limb temperature transition, altered level of consciousness.
- For BP >90mmHg and no respiratory difficulties and adequate signs of tissue perfusion:
  - In adults, maintain IV rate at 150 ml/hour.
  - In pediatric patients, maintain IV at TKO.

Base Station May Order

- **~~*1.~~ Establish 2nd large bore IV enroute.**
- **~~*2.~~ Dopamine infusion at 5 - 20 mcg/kg/min if hypotension persists despite fluid administration.**

~~***May be done during radio communication failure.***~~

WITHHOLDING RESUSCITATIVE MEASURES

I. PURPOSE

To establish criteria for withholding resuscitative measures from person(s) who do not otherwise meet the "Determination of Death" criteria in the prehospital setting and/or during interfacility transport.

II. AUTHORITY

California Health and Safety Code Division 2.5, Sections 1797.220 and 1798~~ of the California Health and Safety Code~~.

III. POLICY

The Do Not Resuscitate **(**DNR) only applies to cardiopulmonary resuscitative measures. An order not to resuscitate is not an order to withhold other necessary medical treatment or nutrition. The treatment given to a patient with a DNR agreement should in all respects be the same as that provided to a patient without such an agreement.

IV. DEFINITIONS

Do Not Resuscitate (DNR): A written order by a physician or the presence of a DNR medallion/bracelet or necklace indicating that an agreement has been reached between the physician and patient/or surrogate that in the event of cardiac or respiratory arrest the following medical interventions will **NOT** be initiated:

- Chest compressions,
- Defibrillation,
- Endotracheal intubation,
- Assisted ventilation,
- Cardiotonic drugs, e.g., Epinephrine, Atropine or other medications intended to treat a non-perfusing rhythm.

Absent vital signs: Absence of respiration and absence of carotid pulse.

DNR Medallion/Bracelet/Necklace: A medallion/bracelet/necklace worn by a patient, which has been approved for distribution by the California Emergency Medical Services Authority (EMSA).

Prehospital DNR Form: Form developed by the California Medical Association (CMA) for use statewide for prehospital DNR requests. This form has been approved by EMSA and ICEMA. This form should be available to EMS field personnel in the form of the white original DNR form or as a photocopy. The original or copy of the DNR form will be taken with the patient during transport. **The DNR form shall not be accepted if amended or altered in any way.**

EMS Field Personnel: Any EMS field responder currently certified and/or accredited in San Bernardino, Inyo or Mono Counties.

Physician Orders for Life-Sustaining Treatment (POLST): A physician's order that outlines a plan of care reflecting the patient's wishes concerning care at life's end. The POLST form is voluntary and is intended to assist the patient and their family with planning and developing a plan to reflect the patient's end of life wishes. It is also intended to assist physicians, nurses, health care facilities and EMS field personnel in honoring a person's wishes for life-sustaining treatment.

V. VALIDATION CRITERIA

- Statewide Prehospital DNR form should include the following to be considered valid:
  - Patient's name.
  - Signature of the patient or a legal representative if the patient is unable to make or communicate informed health care decisions.
  - Signature of patients' physician, affirming that the patient/legal representative has given informed consent to the DNR instruction.
  - All signatures are to be dated.
  - Correct identification of the patient is crucial. If the patient is unable to be identified after a good faith attempt to identify the patient, a reliable witness may be used to identify the patient.
- ~~**DNR medallion/bracelet/necklace:**~~ The DNR medallion/bracelet/necklace is made of metal with a permanently imprinted medical insignia. For the medallion or bracelet/necklace to be valid the following applies:
  - Patient must be physically wearing the DNR medallion/bracelet/necklace.
  - Medallion/bracelet/necklace must be engraved with the words "Do Not Resuscitate EMS", along with a toll free emergency information telephone number and a patient identification number.

- ~~**Physician DNR orders:**~~ In licensed health care facilities a DNR order written by a physician shall be honored. The staff must have the patient's chart with the DNR order immediately available for EMS field personnel upon their arrival.

- ~~**POLST:**~~ The POLST form must be signed and dated by a physician. **Without this signature, the form is invalid.** Verbal or telephone orders are valid if allowed by the institution or facility. There should be a box checked indicating who the physician discussed the POLST orders with. By signing the form, the physician acknowledges that these orders reflect the wishes of the patient or designated decision maker.

- **Advanced Directives that include a signed DNR or POLST form**

VI. PROCEDURE

- EMS field personnel shall validate the DNR request or POLST form.

- BLS field personnel shall continue resuscitative measures if a DNR or POLST cannot be validated.

- LALS and ALS field personnel shall contact a Base Station for direction if a DNR or POLST cannot be validated. While ALS field personnel are contacting the Base Station for direction, BLS treatment must be initiated. If contact cannot be made, resuscitative efforts shall continue.

- If a patient states ~~he/she~~that they wish~~es~~ resuscitative measures, the request shall be honored.

- If a family member requests resuscitative measures despite a valid DNR or POLST, continue resuscitative measures until Base Station contact is made.

- If patient is not in cardiac arrest and has a valid POLST form, EMS field personnel may provide comfort measures as described in Section B of the form.

- The patient shall be transported to the hospital if comfort measures are started by EMS field personnel.

- Any questions about transporting the patient will be directed to the Base Station.

- If a patient expires at home, law enforcement must be notified.

- If a patient expires in a licensed health care facility, the facility has the responsibility to make the appropriate notification.

- All circumstances surrounding the incident ~~shall~~ must be documented on the patient care ~~record~~ report. If ~~prehospital personnel~~EMS field personnel are unable to copy the DNR or POLST form, the following shall be documented on the patient care ~~record~~ report:
  - Presence of DNR or POLST form.
  - Date of order.
  - Name of physician who signed form.

VII. SUPPORTIVE MEASURES

- Medical interventions that may provide for the comfort, safety and dignity of the patient should be utilized.
- The patient should receive palliative treatment for pain, dyspnea, major hemorrhage or other medical conditions.
- Allow any family members/significant others to express their concerns and begin their grieving process.
- Unless a patient is actively dying, medical treatment for other conditions should not be withheld.

RESPIRATORY EMERGENCIES - PEDIATRIC
(Less than 15 years of age)

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Asthma
- Toxic Inhalation
- Difficult Breathing

II. BLS INTERVENTIONS

- Assess environment and determine possible causes.
- If safe r~~R~~emove patient from any suspected contaminant ~~source and decontaminate as indicated~~.
- Recognize ~~s/s~~ signs and symptoms of respiratory distress for age.
- Reduce anxiety, assist patient to assume ~~POC~~ position of comfort.
- Oxygen administration as clinically indicated, (humidified oxygen preferred).

III. LIMITED ALS (LALS) INTERVENTIONS

- Maintain airway with appropriate adjuncts, obtain oxygen saturation on room air if possible.
- Nebulized Albuterol 2.5 mg may repeat two (2) times.
- If no response to Albuterol, consider Epinephrine (1:1,000) 0.01 mg/kg SC not to exceed adult dosage of 0.3 mg.
- Obtain vascular access at a TKO rate.
- Consider ~~Protocol~~ ICEMA Reference #14030 - Pediatric Allergic Reaction if allergic reaction suspected.
- Base ~~hospital~~ Station physician may order additional medications or interventions as indicated by patient condition.

IV. ALS INTERVENTIONS

- Maintain airway with appropriate adjuncts, obtain oxygen saturation on room air if possible.
- Nebulized Albuterol 2.5 mg with Atrovent may repeat two (2) times.
  - 1 day to 12 months - Atrovent 0.25 mg.
  - 1 year to 14 years - Atrovent 0.5 mg.
- If no response to Albuterol and Atrovent, consider Epinephrine (1:1,000) 0.01 mg/kg SC not to exceed adult dosage of 0.3 mg.
- Obtain vascular access at a TKO rate.
- Consider ~~Protocol~~ ICEMA Reference #14030 ~~Pediatric Allergic Reaction~~ - Allergic Reactions - Pediatric (Less than 15 years of age), if allergic reaction suspected.
- Base ~~hospital~~ Station physician may order additional medications or interventions as indicated by patient condition.

V. REFERENCES

Number	Name
14030	Allergic Reactions - Pediatric (Less than 15 years of age)

AIRWAY OBSTRUCTION - PEDIATRIC
(Less than 15 years of age)

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Universal sign of distress.
- Sudden alteration in respiratory effort or signs of obstruction - coughing, gagging, stridor, wheezing, or apnea.
- Altered level of consciousness (for younger children this is measured by the inability to recognize caregiver, no aversion to being cared for by EMS field personnel, limp and/or ineffective cry).

II. BLS INTERVENTIONS - RESPONSIVE

- Assess for ability to cry, speak or cough (e.g., “are you choking?”).
- Administer abdominal thrusts (repeated cycles of five (5) back slaps and five (5) chest thrusts for infant less than one (1) year), until the foreign body obstruction is relieved or until patient becomes unresponsive.
- After obstruction is relieved, reassess and maintain ABCs.
- Obtain O_2 saturation.
- Administer oxygen; ~~if approved, obtain O2 saturation, per Protocol ICEMA Reference #10170 -, Pulse Oximetry.~~
- If responsive, place in position of comfort, enlisting help of child’s caregiver if needed. If child is uninjured but unresponsive with adequate breathing and a pulse, place in recovery position.

III. BLS INTERVENTIONS - UNRESPONSIVE

- Position patient supine (for suspected trauma maintain in-line axial stabilization). Place under-shoulder support to achieve neutral cervical spinal position if indicated.
- Begin CPR, starting with thirty (30) compressions.
- Open airway using the head tilt-chin lift method (for suspected trauma, use jaw thrust). Remove object if visible.

- If apneic, attempt two (2) ventilations with bag-valve mask. If no chest rise or unable to ventilate, continue cycles of thirty (30) compressions to two (2) ventilations until obstruction is relieved or able to ventilate.

- If apneic and able to ventilate, provide one (1) breath every three (3) to five (5) seconds. Confirm that pulses are present and reassess every two (2) minutes.

- ~~If available, place AED per ProtocolReference #10130,AED.~~

IV. LIMITED ALS (LALS) INTERVENTIONS

- If apneic and able to ventilate, consider King Airway placement, per ICEMA Reference #10020- King Airway Device (Perilaryngeal) - Pediatric.

- If obstruction persists continue with compressions until obstruction is relieved or arrival at hospital.

- Transport to closest receiving hospital for airway management

V. ALS INTERVENTIONS

- If apneic and able to ventilate, consider intubation per ~~Protocol~~ ICEMA Reference #10040~~,~~ - Oral Endotracheal Intubation - Pediatric.

- If obstruction persists and unable to ventilate, visualize with laryngoscope and remove visible foreign body with Magill forceps and attempt to ventilate.

- If obstruction persists, consider Needle Cricothyrotomy per ~~Protocol~~ ICEMA Reference #10070~~,~~ - Needle Cricothyrotomy.

IV. REFERENCES

Number	Name
10020	King Airway Device (Perilaryngeal) - Pediatric
10040	Oral Endotracheal Intubation - Pediatric
10070	Needle Cricothyrotomy
~~10170~~	~~Pulse Oximetry~~

CARDIAC ARREST -PEDIATRIC
(Less than 15 years of age)

I. FIELD ASSESSMENT/TREATMENT INDICATORS

Cardiac arrest in a non-traumatic setting. Consider the potential causes of arrest for age.

II. BLS INTERVENTIONS

- Assess patient, maintain appropriate airway, begin CPR according to current AHA Guidelines.
  - Ventilate at rate of 12 to 20 per minute. Ventilatory rate will decrease as patient age increases. Ventilatory volumes shall be the minimum necessary to cause chest rise.
  - Compression rate shall be a minimum of 100 per minute.
- If patient one (1) year of age or older, utilize AED per ~~Protocol~~ ICEMA Reference #10130 - Automatic External Defibrillation (AED) - BLS.

III. LIMITED ALS (LALS) INTERVENTIONS

- Initiate CPR while applying the AED.
- Follow the instructions from the AED to determine if shock is needed.
- Obtain IO/IV access (IO is preferred for under nine (9) years of age).
- Establish advanced airway when resources are available, with minimal interruption to CPR.
- For continued signs of inadequate tissue perfusion, administer fluid bolus. Reassess after each bolus. May repeat two (2) times for continued signs of inadequate tissue perfusion. In RCF, may give two (2) additional fluid boluses if indicated.
  - 1 day to 8 years: 20 ml/kg NS
  - 9 to 14 years: 300 ml NS
- Check blood glucose level.
  - For neonates (0 - 4 weeks), if blood glucose < 35 mg/dL:
    Dextrose 25% (0.25 g/ml) Diluted 1:1 Give 0.5 g/kg (4 ml/kg) IV/IO.

- For patient < 10 kg and > 4 weeks, if blood glucose < 60 mg/dL: Dextrose 25% (0.25 g/ml) Give 0.5 g/kg (2 ml/kg) IV/IO.
- For patient > 10 kg and < 25kg, if glucose less than 60 mg/dL: Dextrose 50% (0.5 g/mL) Diluted 1:1 Give 0.5 g/kg (2 ml/kg) IV/IO.
- For patient > 25 kg, if glucose less than 80 mg/dL: Dextrose 50% (0.5 g/mL) Diluted 1:1 Give 0.5 g/kg (2 ml/kg) IV/IO.
- May repeat blood glucose. Repeat Dextrose if extended transport time.
- Glucagon 0.025 mg/kg IM/IN, if unable to start an IV. May be repeated one (1) time after twenty (20) minutes for a combined maximum dose of 1 mg.

- For suspected narcotic ingestion, may give Narcan 0.1 mg/kg IV/IM/IN/IO. Do not exceed the adult dosage of 10 mg IV/IM/IN.
- Base Station may order additional medication dosages and additional fluid boluses.

IV. ALS INTERVENTIONS

- Initiate CPR while applying the cardiac monitor.
- Determine the cardiac rhythm and defibrillate at 2J/kg (or manufacturer's recommended equivalent) if indicated. Begin a two (2) minute cycle of CPR.
- Obtain IO/IV access (IO is preferred).
- Establish advanced airway when resources are available, with minimal interruption to CPR. After advanced airway established, insert NG/OG tube. Continue CPR with compressions at a minimum of 100/min without pauses during ventilations. Ventilations should be given at a rate of one (1) breath every six (6) to eight (8) seconds.
- Utilize continuous quantitative waveform capnography, if available, for confirmation and monitoring of endotracheal tube placement and for assessment of ROSC.

Ventricular Fibrillation/Pulseless Ventricular Tachycardia

- Initial defibrillation is administered at 2j/kg (or manufacturer's recommended equivalent). Second defibrillation is administered at 4J/kg. Third and subsequent defibrillation attempts should be administered at 10J/kg.

- Perform CPR for two (2) minutes after each defibrillation, without delaying to assess the post-defibrillation rhythm.
- Administer Epinephrine (1:10,000) during each two (2) minute cycle of CPR after each defibrillation unless capnography indicates possible ROSC.
  - 1 day to 8 years: 0.01mg/kg IO/IV (do not exceed adult dosage).
  - 9 to 14 years: 1.0mg IV/IO.
- Reassess rhythm after each two (2) minute cycle of CPR. If VF/VT persists, defibrillate as indicated above.
- After two (2) cycles of CPR, consider administering Lidocaine;
  - 1 day to 8 years: 1mg/kg IO/IV.
  - 9 to 14 years: 1mg/kg IV/IO.
- May repeat Lidocaine at 0.5mg/kg after five (5) minutes up to total of 3.0 mg/kg.
- If patient remains in pulseless VF/VT after five (5) cycles of CPR, consult Base Station.

Pulseless Electrical Activity/Asystole

- Assess for reversible causes and initiate treatment.
- Continue CPR with evaluation of rhythm every two (2) minutes.
- Administer initial fluid bolus of 20 ml/kg for all ages, may repeat at:
  - 1 day to 8 years: 20 ml/kg.
  - 9 to 14 years: 300 ml.
- Administer Epinephrine (1:10,000) during each two (2) minute cycle of CPR after each rhythm evaluation.
  - 1 day to 8 years: 0.01mg/kg IO/IV.
  - 9 to 14 years: 1.0mg IV/IO.

Treatment Modalities For Managing Pediatric Cardiac Arrest Patient

Whenever possible, provide family members with the option of being present during the resuscitation of an infant or a child. For any termination of efforts, Base Station contact is required.

- Insert NG/OG tube to relieve gastric distention if the patient has been intubated with an advanced airway, per ~~Protocol~~ ICEMA Reference #10080 - Insertion of Nasogastric/Orogastric Tube.

- For continued signs of inadequate tissue perfusion, administer fluid ~~bolus.,~~bolus. Reassess after each bolus. May repeat twice for continued signs of inadequate tissue perfusion. In RCF, may give two (2) additional fluid boluses if indicated.

  - 1 day to 8 years: 20 ml/kg NS
  - 9 to 14 years: 300 ml NS

- Obtain blood glucose. If indicated administer Dextrose according to ~~Protocol~~ ICEMA Reference #14050 - Pediatric Altered Level of Consciousness.

- Naloxone for suspected opiate overdose; may repeat once as clinically indicated.

  - 1 day to 8 years: 0.1 mg/kg IO/IV. Do not exceed adult dosage.
  - 9 to 14 years: 2mg IV/IO.

If ROSC is achieved, obtain a 12 Lead ECG.

- Utilize continuous waveform capnography, if available, to identify loss of circulation.

- For continued signs of inadequate tissue perfusion **after** successful resuscitation;

  - 1 day to 8 years: Epinephrine (1:10,000) 0.5 mcg/kg/min IO/IV push
  - 9 to 14 years: Dopamine 400mg in 250ml of NS to infuse at 5-20 mcg/kg/min IV titrated to maintain signs of adequate tissue perfusion.

- Base Station physician may order additional medications or interventions as indicated by patient condition.

V. REFERENCES

Number	Name
10080	Insertion of Nasogastric/Orogastric Tube
10130	Automatic External Defibrillation (AED) - BLS
14050	Pediatric Altered Level of Consciousness

BURNS - PEDIATRIC
(Less Than 15 Years of Age)

Any burn patient requires effective~~,~~ communication and rapid transportation to the closest receiving hospital.

In Inyo and Mono Counties, the assigned Base Station should be contacted for determination of appropriate destination.

I. FIELD ASSESSMENT/TREATMENT INDICATORS

Refer to ICEMA Reference #8030 - Burn Destination and Criteria~~Criteria and Destination~~ Policy. ~~# 8030~~

II. BLS INTERVENTIONS

- Break contact with causative agent (stop the burning process).
- Remove clothing and jewelry quickly, if indicated.
- Keep patient warm.
- Estimate % total body surface area (TBSA) burned and depth using the "Rule of Nines". An individual's palm represents 1% of TBSA and can be used to estimate scattered, irregular burns.
- Transport to ALS intercept or to the closest receiving hospital

A. Manage Special Considerations

- **Thermal Burns**: Stop the burning process. Do not break blisters. Cover the affected body surface with dry, sterile dressing or sheet.
- **Chemical Burns**: Brush off dry powder, if present. Remove any contaminated or wet clothing. Irrigate with copious amounts of saline or water.
- **Tar Burns**: Cool with water, do not remove tar.
- **Electrical Burns**: Remove from electrical source (without endangering self) with a nonconductive material. Cover the affected body surface with dry, sterile dressing or sheet.

- **Eye Involvement**: Continuous flushing with NS during transport. Allow patient to remove contact lenses if possible.

- **Determination of Death on Scene**: Refer to ~~Protocol~~ ICEMA Reference #12010 - Determination of Death on Scene.

III. LIMITED ALS (LALS) INTERVENTIONS

- ~~Advanced airway (as indicated).~~

- Airway Stabilization~~:~~ (as indicated). Burn patients with respiratory compromise or potential for such, will be transported to the closest receiving hospital for airway stabilization.

- IV/IO Access (warm IV fluids when available).

  - *Unstable:* Vital signs (age appropriate) and/or signs of inadequate tissue ~~perfusion,~~perfusion consider starting a ~~2nd~~ second IV or saline lock~~access~~. Administer 20 ml/kg NS bolus IV/IO, may repeat once.

  - *Stable*: Vital signs (age appropriate) and/or signs of adequate tissue perfusion.

  - < 5 years of age: IV NS 150 ml/hour

  - >5 years of age - < 15 years of age: IV NS 250 ml/hour

- Transport to appropriate facility:

  - ~~If critical trauma patient (CTP) with associated burns, transport to the closest Trauma Center.~~

  - Critical trauma patients with associated burns or burn patients sustaining critical trauma, ~~Burn patients with associated trauma,~~ should be transported to the closest Trauma Center. Trauma Base Station contacted shall be made.

- ~~Insert nasogastric/orogastric tube as indicated.~~

- Refer to Burn Classifications Table.

A. Manage Special Considerations

- **Respiratory Distress**: ~~Intubate patient if facial/oral swelling are present or if respiratory depression or distress develops due to inhalation injury.~~

- ~~1 day to 12 months old - Nebulized Albuterol 2.5 mg, may repeat two (2) times.~~
- 1 day~~year~~ to < 15 years old - Albuterol 2.5 mg, may repeat two (2) times.
- Administer humidified ~~O2~~ oxygen, if available.

- **Deteriorating Vital Signs**: Transport to the closest receiving hospital. Contact Base Station.
- **Pulseness and Apneic**: Transport to the closest receiving hospital and treat according to ICEMA protocols. Contact base station.
- **Determination of Death on Scene**: Refer to ICEMA Reference ~~Protocol~~ #12010 - Determination of Death on Scene.
- **Precautions and Comments**:
  - Contact with appropriate advisory agency may be necessary for hazardous materials, before decontamination or patient contact.
  - Do not apply ice or ice water directly to skin surfaces as additional injury will result.
  - Do not apply cool dressings or allow environmental exposure, since hypothermia will result in a young child.

IV. ALS INTERVENTIONS

- Advanced airway (as indicated).
  - Airway Stabilization: Burn patients with respiratory compromise or potential for such, will be transported to the closest receiving hospital for airway stabilization.
- Monitor ECG.
- IV/IO Access (Warm IV fluids when available).
  - *Unstable:* Vital signs (age appropriate) and/or signs of inadequate tissue ~~perfusion,~~perfusion consider starting a ~~2nd~~ second IV or saline lock.~~access.~~ *Administer* 20 ml/kg NS bolus IV/IO, may repeat once.

- *Stable*: Vital signs (age appropriate) and/or signs of adequate tissue perfusion.
- < 5 years of age: IV NS 150 ml/hour
- >5 years of age - < 15 years of age: IV NS 250 ml/hour

- Treat pain as indicated.
  - **IV Pain Relief**: Morphine Sulfate 0.1 mg/kg IV/IO slowly, do not exceed 5 mg increments, may repeat every five (5) minutes to a maximum of 20 mg IV/IO when the patient maintains age appropriate vital signs and adequate tissue perfusion. Document vital signs every five (5) minutes while medicating for pain, and reassess the patient.
  - **IM Pain Relief**: Morphine Sulfate 0.2 mg/kg IM, 10 mg IM maximum. Document vital signs and reassess the patient.

- Transport to appropriate facility:
  - ~~➢~~ Critical trauma patients with associated burns or burn patients sustaining critical trauma, ~~If CTP with associated burns, transport to the closest Trauma Center.~~
  - ~~Burn patients with associated trauma,~~ should be transported to the closest Trauma Center. Trauma Base Station contacted shall be made.
  - Insert nasogastric/orogastric tube as indicated.

- Refer to Burn Classification Table.

A. <u>Manage Special Considerations</u>

- **Respiratory Distress**: Intubate patient if facial/oral swelling are present or if respiratory depression or distress develops due to inhalation injury.
  - 1 day to 12 months old - Nebulized Albuterol 2.5 mg with Atrovent 0.25 mg, may repeat two (2) times.
  - 1 year to < 15 years old - Albuterol 2.5 mg with Atrovent 0.5 mg, may repeat two (2) times.
  - Administer humidified ~~O2~~ oxygen, if available.

- **Deteriorating Vital Signs**: Transport to the closest receiving hospital. Contact base station.

- **Pulseness and Apneic**: Transport to the closest receiving hospital and treat according to ICEMA protocols. Contact base station.

- **Determination of Death on Scene**: Refer to ICEMA Reference ~~Protocol~~ #12010 - Determination of Death on Scene.

- **Precautions and Comments**:

  - Contact with appropriate advisory agency may be necessary for hazardous materials, before decontamination or patient contact.

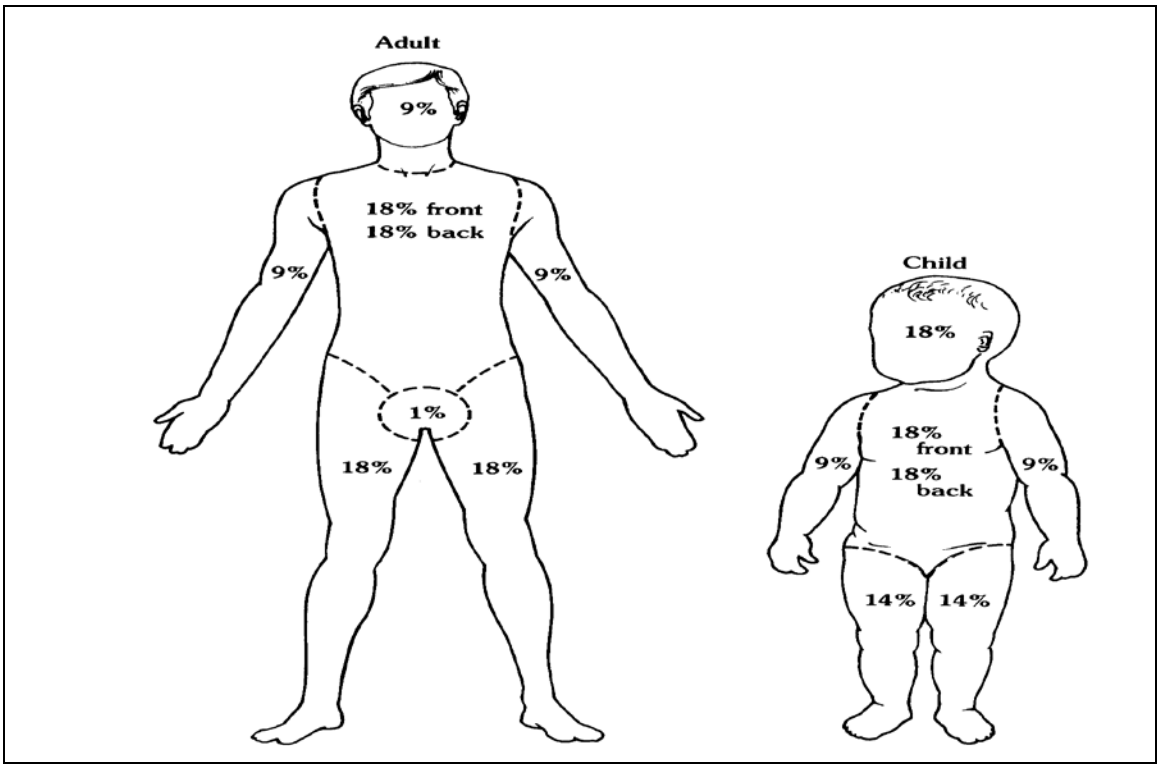
  - Do not apply ice or ice water directly to skin surfaces as additional injury will result.

  - Do not apply cool dressings or allow environmental exposure, since hypothermia will result in a young child.

V. BURN CLASSIFICATIONS

PEDIATRIC BURN CLASSIFICATION CHART	DESTINATION
MINOR - PEDIATRIC • < 5% TBSA • < 2% Full Thickness	**CLOSEST MOST APPROPRIATE RECEIVING HOSPITAL**
MODERATE - PEDIATRIC • 5 - 10% TBSA • 2 - 5% Full Thickness • High Voltage Injury • Suspected Inhalation Injury • Circumferential Burn • Medical problem predisposing to infection (e.g., diabetes mellitus, sickle cell disease)	**CLOSEST MOST APPROPRIATE RECEIVING HOSPITAL**
MAJOR - PEDIATRIC • > 10% TBSA • > 5% Full Thickness • High Voltage Burn • Known Inhalation Injury • Any significant burn to face, eyes, ears, genitalia, or joints	**CLOSEST MOST APPROPRIATE BURN CENTER** In San Bernardino County, contact: Arrowhead Regional Medical Center (ARMC)

VI. "RULE OF NINES"



VII. REFERENCES

Number	Name
8030	Burn Destination and Criteria Policy
12010	Determination of Death on Scene