



# Inland Counties Emergency Medical Agency

Serving San Bernardino, Inyo, and Mono Counties

Tom Lynch, EMS Administrator  
Reza Vaezazizi, MD, Medical Director

**DATE:** September 30, 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 #:

7040 - Medication Standing Orders  
9060 - Local Medical Emergency Policy  
10040 - Oral Endotracheal Intubation - Pediatric  
10110 - Transcutaneous Cardiac Pacing  
10180 - Continuous Positive Airway Pressure Device (CPAP) - Adult  
11010 - Adult Respiratory Emergencies  
11060 - Suspected Acute Myocardial Infarction (AMI)  
14010 - Respiratory Emergencies - Pediatric  
14020 - Airway Obstruction - Pediatric  
14050 - Altered Level of Consciousness - Pediatric  
14070 - Burns - Pediatric  
14090 - Newborn Care

ICEMA encourages all system participants to submit recommendations, in writing, to ICEMA during the comment period. **Written comments will be accepted until Thursday, October 31, 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 November 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

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## PROTOCOLS CHANGES FOR 30-Day Public Comment

Reference #	Title	Changes/Comments
<b>NEW</b>		
XXXX	Medication Standard Orders	New protocol consolidates all medications from the protocols into one protocol. When medication doses or routes change will make it easier to change one protocol instead of multiple protocols and helping to prevent missing changes necessary to make protocols consistent.
<b>1000 ACCREDITATION AND CERTIFICATION</b>		
None		
<b>2000 DATA COLLECTION</b>		
None		
<b>3000 EDUCATION</b>		
None		
<b>4000 QUALITY IMPROVEMENT</b>		
None		
<b>5000 MISCELLANEOUS SYSTEM POLICIES</b>		
None		
<b>6000 SPECIALTY PROGRAM/ PROVIDER POLICIES</b>		
None		
<b>7000 STANDARD DRUG &amp; EQUIPMENT LISTS</b>		
None		
<b>8000 TRANSPORT/TRANSFERS AND DESTINATION POLICIES</b>		
None		
<b>9000 GENERAL PATIENT CARE POLICIES</b>		
9060	Local Medical Emergency Policy	Updated protocol language and clarification of terms. Added reference to ICEMA Duty Officers and the MHOAC. No change to content.
<b>10000 SKILLS</b>		
10040	Oral Endotracheal Intubation - Pediatric	Addition of Field Assessment/Treatment Indicators, "Unable to maintain BLS airway". Added to procedures; utilize Capnography if available, Reassess tube placement frequently and with movement, Insert NG/OG immediately after intubation to relieve gastric distention.
10110	Transcutaneous Cardiac Pacing	Removal of Pacing in Asystole.

**PROTOCOLS CHANGES FOR 30-Day Public Comment**

<b>Reference #</b>	<b>Title</b>	<b>Changes/Comments</b>
10180	Continuous Positive Airway Pressure Device (CPAP) - Adult	Approval of protocol for permanent status.
<b>11000 ADULT EMERGENCIES</b>		
11010	Adult Respiratory Emergencies	Added reference to CPAP protocol. Added Allergic Reaction/Anaphylaxis to the title of Acute Asthma/Bronchospasm.
11060	Suspected Acute Myocardial Infarction (AMI)	Changed dose of Aspirin and added caveat regarding submitting STEMI ECGs to ICEMA.
<b>12000 END OF LIFE CARE</b>		
None		
<b>13000 ENVIRONMENTAL EMERGENCIES</b>		
None		
<b>14000 PEDIATRIC EMERGENCIES</b>		
14010	Respiratory Emergencies - Pediatric	Formatting and clarifying language.
14020	Airway Obstruction - Pediatric	Formatting and clarifying language.
14050	Altered level of consciousness - Pediatric	Formatting and clarifying language.
14070	Burns - Pediatric	Formatting and clarifying language.
14090	Newborn Care	Removal of waveform capnography. Formatting and clarifying language.
<b>15000 TRAUMA</b>		
None		
<b>DELETIONS</b>		
None		
<b>Below are some of the protocols/policies designated for review in the next few months. If there are specific protocols/policies recommended for review, please contact ICEMA.</b>		



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## Medication - Standard Orders

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### Adenosine (Adenocard) - Adult (ALS)

*Stable narrow-complex SVT or Wide complex tachycardia:*

Adenosine, 6 mg rapid IVP followed immediately by 20 cc NS bolus, and  
Adenosine, 12 mg rapid IVP followed immediately by 20 cc NS bolus if patient  
does not convert.

*Reference #s 7010, 7020, 11050*

### Albuterol Aerosolized Solution (Proventil) - Adult (LALS, ALS)

Albuterol nebulized, 2.5 mg, may repeat ~~twice~~ two (2) times.

*Reference #s 6090, 7010, 7020, 11010, 11100, 14030*

### Albuterol Metered-Dose Inhaler (MDI) (Proventil) - Specialty Programs Only Adult (LALS, ALS)

Albuterol MDI, four (4) puffs every ten (10) minutes for continued shortness of breath and wheezing.

*Reference #'s 6090, 6770, Sheriff's Search and Rescue*

### Albuterol - Pediatric (LALS, ALS)

Albuterol nebulized, 2.5 mg, may repeat twice

*Reference #s 7010, 7020, 14010, 14030, and 14070*

### Aspirin, chewable (LALS, ALS)

Aspirin, ~~162~~ 325 mg PO (one adult non-enteric coated aspirin or four (4) chewable children's aspirin)

*Reference #s 2020, 11060*

### Atropine, 1 mg preload

Atropine, 0.5 mg IVP. May repeat every five (5) minutes up to a maximum of 3 mg or 0.04 mg/kg

*Organophosphate poisoning:*

Atropine, 2 mg IVP, repeat at 2 mg increments if patient remains symptomatic

*Reference #s 2120, 6090, 7010, 7020, 11040, 12020, 13010*

### **Calcium Chloride (ALS)**

*Calcium Channel Blocker Poisonings:*

Calcium Chloride, 1 gm (10 cc of a 10% solution) Base Station Only

*Reference #s 2020, 7010, 7020, 13010*

### **Dextrose - Adult (LALS, ALS)**

Dextrose 50% 25 g IV/IO of 50%

*Reference #s 2020, 6090, 7010, 7020, 8010, 11070, 11080, 13020, 13030*

### **Dextrose - Pediatric (LALS, ALS)**

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

*Reference #s 7010, 7020, 13020, 13030, 14040, 14050, 14060*

### **Diphenhydramine - Adult (ALS)**

Diphenhydramine, 25 mg IV/IO, not to exceed adult dose of 25 mg, or

Diphenhydramine, 50 mg IM not to exceed adult dose of 50 mg IM

*Reference #s 6090, 7010, 7020, 11010, 13010*

### **Diphenhydramine - Pediatric (ALS)**

Diphenhydramine, 1 mg/kg slow IV/IO, not to exceed adult dose of 25 mg, or

Diphenhydramine, 2 mg/kg IM not to exceed adult dose of 50 mg IM

*Reference # 14030*



*Post resuscitation continued signs of inadequate tissue perfusion:*

1 day to 8 years      Epinephrine (1:10,000), 0.5 mcg/kg/min IO/IV push

*Reference #s 2020, 7010, 7020, 14030, 14040, 14090*

**Glucose - Oral - Adult (BLS, LALS, ALS)**

Glucose - Oral, one (1) tube for patients with an intact gag reflex and hypoglycemia.

*Reference #s 11080, 11090, 11110, 13020*

**Glucose - Oral - Pediatric (BLS, LALS, ALS)**

Glucose - Oral, one (1) tube for patients with an intact gag reflex and hypoglycemia.

*Reference #s 14050, 14060*

**Glucagon - Adult (LALS, ALS)**

Glucagon, 1 mg IM/SC/IN, if unable to establish IV. May give one (1) time only.

*Betablocker Poisoning:*

Glucagon, 1 mg IVP Base Station Only

*Reference #s 6090, 7010, 7020, 11080, 13010, 13030*

**Glucagon - Pediatric (LALS, ALS)**

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.

*Reference #s 6090, 7010, 7020, 13030, 14050, 14060*

**Ipratropium Bromide Inhalation Solution (Atrovent) - Adult (ALS) use with Albuterol**

Atrovent, 0.5 mg

*Reference #s 7010, 7020, 11010, 11100*

**Ipratropium Bromide Metered-Dose Inhaler (MDI) (Atrovent) - Specialty Programs Only Adult (ALS) use with Albuterol**

Atrovent MDI, four (4) puffs every ten (10) minutes for continued shortness of breath and wheezing.

[Reference #s 6090, 6770](#)

### **Ipratropium Bromide Inhalation Solution (Atrovent) - Pediatric (ALS) use with Albuterol**

1 day to 12 months    Atrovent, 0.25 mg  
1 year to 14 years    Atrovent, 0.5 mg

*Reference #s 7010, 7020, 14010, 14030, 14070*

### **Lidocaine - Adult (ALS)**

*Intubation, NG/OG, possible brain injury:*

Lidocaine, 1.5 mg/kg IV

*VT/VF:*

Lidocaine, 1 - 1.5 mg/kg up to 1 - 1.5 mg/kg, and  
Repeat 0.5 to 0.75 mg/kg every five (5) to ten (10) minutes; maximum total dose of 3 mg/kg

*Refractory VF:*

Lidocaine, 0.5 to 0.75 mg/kg IV, repeat in five (5) to ten (10) minutes; maximum three (3) doses or total of 3 mg/kg

*VT/VF Infusion:*

Lidocaine, 1 - 4 mg /min (30 - 50 mcg/kg /min)

*V-Tach, Wide Complex Tachycardias:*

Lidocaine, 1 mg/kg slow IV, repeat at 0.5 mg/kg every ten (10) minutes until maximum dose of 3 mg/kg given  
Initiate infusion of Lidocaine 2 mg /min.

*Reference #s 6090, 7010, 7020, 8010, 8040, 10030, 10080, 11050, 11070, 15010*

### **Lidocaine - Pediatric (ALS)**

*Cardiac Arrest:*

1 day to 8 years    Lidocaine, 1.0 mg/kg IV/IO  
9 to 14 years    Lidocaine, 1.0 mg/kg IV/IO

May repeat Lidocaine at 0.5 mg/kg after five (5) minutes up to total of 3.0 mg/kg.

*Reference #s 7010, 7020, 1004, 14040*

**Lidocaine 2%**

*Pain associated with IO insertion:*

Lidocaine 2%, 0.5 mg/kg

*Reference #s 7010, 7020, 10140*

**Magnesium Sulfate (ALS)**

Magnesium Sulfate, 4 g diluted with 20 ml NS, IV/IO over three (3) to four (4) minutes, and  
Infusion of Magnesium Sulfate 2 g in 100 cc of NS at 30 cc per hour IV/IO to prevent continued seizures.

*Reference #s 2020, 2120, 7010, 7020, 8010, 13030, 14080*

**Midazolam - Adult (ALS)**

*Seizure:*

Midazolam, 2.5 mg IN/IV/IO. May repeat in five (5) minutes for continued seizure activity, or

Midazolam, 5 mg IM. May repeat in ten (10) minutes for continued seizure activity.

Assess patient for medication related reduced respiratory rate or hypotension.

Maximum of three (3) doses using any combination of IM/IN/IV/IO may be given for continued seizure activity. Contact Base Station for additional orders and to discuss further treatment options.

*Pacing, synchronized cardioversion:*

Midazolam ~~1~~ 2 mg slow IV push IV/IN

*Reference #s 6090, 7010, 7020, 9120, 10110, 10120, 11080, 13020, 14080*

**Midazolam - Pediatric (ALS)**

*Seizures:*

Midazolam 0.1 mg/kg IV/IO with maximum dose 2.5 mg. May repeat Midazolam in five (5) minutes. Do not to exceed adult dosage, or

Midazolam 0.2 mg/kg IM/IN with maximum dose of 5 mg. May repeat Midazolam in ten (10) minutes for continued seizure. Do not to exceed adult dosage. IN dosage of Midazolam is doubled due to decreased surface area of nasal mucosa resulting in decreased absorption of medication.

Assess patient for medication related reduced respiratory rate or hypotension.

Maximum of three (3) doses using any combination of IM/IN/IV/IO may be given for continued seizure activity. Contact Base Station for additional orders and to discuss further treatment options.

*Reference #s 7010, 7020, 14060*

### **Morphine Sulfate - Adult (ALS)**

Morphine Sulfate, 2 mg IV. May repeat in 2 mg increments every three (3) minutes, not to exceed 10 mg IV.

#### *Isolated Extremity Trauma, Burns:*

Morphine Sulfate, 5 mg IV. May repeat every five (5) minutes to a maximum of 20 mg for adequate tissue perfusion, or

Morphine Sulfate, 10 mg IM. May repeat IM, titrated for pain relief

#### *Pacing, synchronized cardioversion:*

Morphine Sulfate, 2 mg IV. May repeat in 2 mg increments every three (3) minutes, titrated to pain, not to exceed 10 mg IV.

*Reference #s 2020, 6090, 7010, 7020, 7030, 9120, 10110 10120, 11100, 13030, 15010, 11060, 15010*

### **Morphine Sulfate - Pediatric (ALS)**

Morphine Sulfate, 0.1 mg/kg IV not to exceed 2 mg increments, for a total of 5 mg, or

Morphine Sulfate, 0.2 mg/kg IM for a total of 10 mg IM, titrated for pain relief

#### *Burns:*

Morphine Sulfate, 0.1 mg/kg IV not to exceed 5 mg increments, for a total of 20 mg, or

Morphine Sulfate, 0.2 mg/kg IM for a total of 10 mg IM, titrated for pain relief

*Reference #s 7010, 7020, 7030, 14070, 15020*

### **Naloxone (Narcan) - Adult (LALS, ALS)**

#### *Resolution of respiratory depression related to suspected narcotic overdose:*

Naloxone. 0.54 mg IV/IM/IN, may repeat Naloxone 0.54 mg IV/IM/IN every two (2) to three (3) minutes if needed.

Do not exceed 10 mg of Naloxone total regardless of route given.

*Reference #s 7010, 7020, 11070, 11080*

**Naloxone - Pediatric (LALS, ALS)**

*Resolution of respiratory depression related to suspected narcotic overdose:*

1 day to 8 years      Naloxone, 0.1 mg/kg IO/IV  
9 to 14 years        Naloxone, 0.54 mg IV/IO

Do not exceed the adult dosage of 102 mg IV/IM/IN.

*Reference #s 7010, 7020, 14040, 14050*

**Nitroglycerin (LALS, ALS)**

Nitroglycerin, 0.4 mg sublingual/transmucosal

Nitroglycerin is contraindicated if there are signs of inadequate tissue perfusion or if sexual enhancement medications have been utilized within the past forty-eight (48) hours.

*Reference #s 2020, 7010, 7020, 11010, 11060*

**Ondansetron (Zofran) - Adult (ALS)**

*Nausea/Vomiting:*

Ondansetron, 4 mg slow IV/ODT

Ondansetron, 4 mg slow IV/ODT as prophylactic treatment of nausea and vomiting associated with narcotic administration

*Reference #s 7010, 7020, 9120, 10100, 15010, 15020*

**Phenylephrine HCL (ALS)**

Phenylephrine, 0.5 mg metered dose

*Reference #s 7010, 7020, 10050*

**Procainamide (ALS)**

*SVT, V-Tach or Wide Complex Tachycardias:*

Procainamide, 20 mg/min IV up to a maximum dose of 17 mg/kg  
Procainamide, infuse 2 mg/min once arrhythmia is suppressed

*Reference #s 7010, 7020, 8010, 8040, 11050, 13010*

### **Sodium Bicarbonate (ALS)**

*Tricyclic Poisoning:*

Sodium Bicarbonate, 1 mEq/kg IVP

*Reference #s 2020, 7010, 7020, 13010*

### **Verapamil (ALS)**

*SVT if adenosine is ineffective:*

Verapamil, 5 mg slow IV over three (3) minutes, may repeat every fifteen (15) minutes to a total dose of 20 mg

*Reference #s 7010, 7020, 11050*

**NOTE:** [Auto-injectors with nerve agent antidotes \(Duodote®, Mark 1 and Diazepam\): See ICEMA Reference #XXXX - Nerve Agent/Organophosphate Poisoning Antidote - Training/Storage Standards and ICEMA Reference XXXX - ChemPak Utilization.](#)



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## LOCAL MEDICAL EMERGENCY POLICY

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### I. PURPOSE

To provide guidelines to ~~prehospital care providers and~~ EMS field personnel regarding the treatment and transportation of patients during a declared Local Medical Emergency.

### II. POLICY

~~Prehospital care providers and~~ EMS field personnel shall follow the procedures and guidelines outlined below regarding the treatment and transportation of patients during a declared Local Medical Emergency.

### III. DEFINITION

**Local Medical Emergency:** For the purposes of this policy, a Local Medical Emergency shall exist when a “local emergency”, as that term is used in Government Code, Section 8630, has been proclaimed by the governing body of a city or the county, or by an official so designated by ordinance.

### IV. ENACTMENT OF PROTOCOL PROCEDURES

The following procedures shall apply during a Local Medical Emergency:

- A. A public safety agency of the affected jurisdiction shall notify the County Communications Center of the proclamation of a local emergency, and shall provide information specifying the geographical area that the proclamation affects.
- B. The Communications Center shall notify:
  - The County Health Officer/Designee.
  - ICEMA Duty Officer.
  - The County Sheriff’s Department.
  - Area ~~prehospital-EMS~~ providers ~~agencies~~.
  - Area hospitals.

- C. This ~~policy/protocol~~ shall remain in effect for the duration of the declared Local Medical Emergency or until rescinded by the County Health Officer (Medical and Health Operational Area Medical Coordinator) (MHOAC) which can be the County Health Officer and/or the EMS Agency Administrator or his/her designee.

## V. MEDICAL CONTROL

- A. BLS, Limited ALS, and ALS EMS field personnel may function within their Scope of Practice as established in the ICEMA Policy, Procedure, and Protocol Manual ~~standard Practice Protocols~~ without Base Station contact.

- B. No care will be given unless the scene is secured and safe for EMS field personnel.

- ~~C. An MCI will be initiated by either County Communications Center or ICEMA. Patient destination will be determined as part of the MCI.~~

- ~~D.C.~~ Transporting EMS providers agencies may utilize BLS units for patient transport as dictated by transport resource availability. In cases where no ambulance units are available, EMS field personnel will utilize the most appropriate method of transportation at their disposal.

- ~~E.D.~~ Patients too unstable to be transported outside the affected area should be transferred to the closest secured appropriate facility.

- ~~F.E.~~ County Communications Center should be contacted on the 700/800 MHz MED-NET frequency system for patient destination by the transporting unit.

- ~~G.F.~~ Base Station contact criteria outlined in ~~protocol~~ ICEMA Reference #5040 - Radio Communication Policy, may be suspended by the ICEMA Medical Director. EMS providers agencies will be notified. Receiving facilities should be contacted with following information once en route:

- ETA.
- Number of patients.
- Patient status: Immediate, delayed or minor.
- Brief description of injury.
- Treatment initiated.

## VI. DOCUMENTATION

First responder and transporting agencies may utilize Cal Chiefs' approved triage tags as the minimum documentation requirement. The following conditions will apply:

- One ~~corner~~-section to be kept by the jurisdictional public safety agency. A patient transport log will also be kept indicating time, incident number, patient number (triage tag), and receiving facility.
- One ~~corner~~-section to be retained by the transporting ~~agency~~EMS provider. A patient log will also be maintained indicating time, incident number, patient number (triage tag) and receiving facility.
- Remaining portion of triage tag to accompany patient to receiving facility which is to be entered into the patient's medical record.
- All Radio Communication Failure reports may be suspended for duration of the Local Medical Emergency.

All refusals of treatment and/or transport will be documented as scene safety allows.

## VII. COUNTY COMMUNICATIONS CENTER

County Communications Center will initiate a Multi-Casualty Incident (MCI) according to ICEMA ~~polices~~ Reference #5050 - Medical Response to a Multi-Casualty Incident. This information will be coordinated with appropriate fire/rescue zone dispatch centers and medical unit leaders in the field as needed.

## VIII. RESPONSIBILITIES OF THE RECEIVING FACILITIES

1. Receiving facilities upon notification by the County Communications Center of a declared Local Medical Emergency will provide hospital bed availability and Emergency Department capabilities for immediate and delayed patients.
2. Receiving facilities will utilize ReddiNet to provide the County Communications Center and ICEMA with hospital bed capacity status minimally every four (4) hours, upon request, or when capacities are reached.
3. It is strongly recommended that receiving facilities establish a triage area in order to evaluate incoming emergency patients.

4. In the event that incoming patients overload the service delivery capacity of the receiving hospital, it is recommended that the hospital consider implementing their disaster surge plan.
5. Saturated hospitals may request evacuation of stable in-patients. Movement of these patients should be coordinated by County Communications Emergency Operations Center (EOC) and in accordance with local disaster response plans and if necessary, ~~Armed Services Medical Regulation Office (ASMRO) National Disaster Medical System system~~ categories.

## IX. REFERENCES

<u>Number</u>	<u>Name</u>
5040	Radio Communication Policy
5050	Medical Response to a Multi-Casualty Incident



## ORAL ENDOTRACHEAL INTUBATION - PEDIATRIC (Less than 15 years of age)

### I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Non-responsive and apneic patients.
- Patients with agonal or failing respirations, and/or no gag reflex.
- Unable to maintain BLS airway.

Procedure may **initially** be contraindicated with suspected ALOC per ~~Protocol~~ ICEMA Reference #14050 - Pediatric Altered Level of Consciousness.

### II. PROCEDURE

- ~~Support ventilations with appropriate basic airway adjuncts.~~ Use in-line cervical stabilization.
- Immediately prior to intubation, consider prophylactic Lidocaine 1.5 mg/kg IVP for suspected head/brain injury.
- Select sStylet with appropriate tube size.  
~~(Uncuffed tubes should be used on patients less than eight (8) years of age)~~
  - Visualize the vocal cords with the laryngoscope. Watch as the tube passes through the vocal cords. Advance the tube until the vocal cord marker is situated beyond the vocal cords. Placement efforts must stop after twenty (20) seconds for ventilation.
  - Listen for breath sounds, resume ventilation with 100% oxygen and secure the airway. Place all patients under the age of eight (8) years in full axial-spinal stabilization.
  - Monitor end-tidal CO<sub>2</sub> and/or pulse oximetry. If available, utilize Waveform Capnography to assess efficacy of compressions and ventilations.
  - Reassess tube placement, lung sounds, pulse ox, and capnography frequently and every time patient is moved.

- Document verification of tube placement. [Run a continuous strip of capnography readings during movement of patient to verify tube placement.](#)
- [Insert NG/OG immediately after intubation to relieve gastric distention](#)
- After two (2) intubation attempts, Base Station contact is required. (An attempt is considered made when the tube passes the gum line.)
- If all procedures to establish an adequate airway fail, consider ICEMA Reference #10070 - Needle Cricothyrotomy. ~~Protocol Reference #10070 if patient is at least two (2) years of age.~~

### III. 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 24 hours of the incident. Forms are available as part of the protocol manual and on the ICEMA website.

### IV. REFERENCES

<u>Number</u>	<u>Name</u>
10070	Needle Cricothyrotomy
14050	Pediatric Altered Level of Consciousness.



## TRANSCUTANEOUS CARDIAC PACING

### I. FIELD ASSESSMENT/TREATMENT INDICATORS

- ~~1.~~ Unstable Bradycardia, ~~refer to~~ see ~~Protocol~~ ICEMA Reference #11040 - Bradycardias - Adult.
- ~~2.~~ Patient eight (8) years of age and younger - not indicated.

### II. PROCEDURE IN SYMPTOMATIC BRADYCARDIA

1. Start at rate of sixty (60) and adjust the output control starting at lowest setting available on the monitor 0 milli amperes until capture is noted. Assess peripheral pulses and confirm correlation with paced rhythm.
2. Determine lowest threshold response by turning the output control down, until capture is lost, and then turn it back up slightly until capture is noted again. Maintain the output control at this level.
3. Assess peripheral pulses and confirm correlation with paced rhythm. Reassess patient for signs of adequate perfusion
4. Any movement of patient may increase the capture threshold response; the output may have to be adjusted to compensate for loss of capture.
5. With signs of inadequate tissue perfusion, increase rate (**not to exceed 100**) and contact Base Station.
6. Consider Midazolam ~~1~~ 2 mg slow IV push or ~~1~~ 2 mg IN if patient is awake and alert with signs of adequate tissue perfusion.
7. Consider Morphine Sulfate titrate in ~~1~~ 2 mg increments up to 10 mg for patient complaint of pain with signs of adequate tissue perfusion.
8. Contact Base Station to advise of patient condition.

### III. PROCEDURE IN ASYSTOLE

- ~~Start at maximum energy output on the pacing device.~~
- ~~Follow above procedures #2 to #4.~~
- ~~If pacing is ineffective, contact Base Station and consider termination of resuscitative efforts.~~

**III. 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.

**IV. REFERENCE**

<u>Number</u>	<u>Name</u>
<u>11040</u>	<u>Bradycardias - Adult</u>



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## CONTINUOUS POSITIVE AIRWAY PRESSURE DEVICE (CPAP) - ADULT

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### I. FIELD ASSESSMENT/TREATMENT INDICATORS

Symptomatic relief of acute respiratory distress and increased work of breathing associated with adult respiratory emergencies in a conscious patient who is cooperative and able to follow instructions.

### II. CONTRAINDICATIONS

- Apneic
- Unconscious
- Pediatric (appearing to be less than 15 years of age)
- Suspected Pneumothorax
- Vomiting
- Systolic blood pressure 90 mmHg or less ([relative contraindication consult with Base Station](#))

### III. PROCEDURE

1. Provide supplemental oxygen as clinically indicated.
2. Provide clinically indicated treatment following ICEMA Reference #11010 - Adult Respiratory Emergencies.
3. Obtain and document O<sub>2</sub> saturation levels every five (5) minutes.
4. Apply and begin CPAP at 0 - 2 cm H<sub>2</sub>O (or lowest level allowed by the device). Instruct patient to inhale through nose and exhale through mouth.
5. Slowly titrate pressure in 3 cm increments up to a maximum of 15 cm H<sub>2</sub>O according to patient tolerance while instructing patient to continue exhaling against increasing pressure.
6. CPAP should be continued until patient is placed on CPAP device at the receiving hospital Emergency Department (ED).

**IV. DOCUMENTATION**

Document CPAP level, O<sub>2</sub> saturation, vitals, patient response and adverse reactions on electronic or paper patient care report (PCR).

**V. REFERENCE**

<u>Number</u>	<u>Name</u>
11010	Adult Respiratory Emergencies



## ADULT RESPIRATORY EMERGENCIES

### I. CHRONIC OBSTRUCTIVE PULMONARY DISEASE

#### FIELD ASSESSMENT/TREATMENT INDICATORS

Symptoms of chronic pulmonary disease, wheezing, cough, pursed lip breathing, decreased breath sounds, accessory muscle use, anxiety, ALOC or cyanosis.

#### BLS INTERVENTIONS

- Reduce anxiety, allow patient to assume position of comfort.
- Administer oxygen as clinically indicated, obtain O<sub>2</sub> saturation on room air, or on home oxygen if possible.

#### LIMITED ALS (LALS) INTERVENTIONS

- Maintain airway with appropriate adjuncts, including advanced airway if indicated. Obtain O<sub>2</sub> saturation on room air or on home oxygen if possible.
- Nebulized Albuterol 2.5 mg, may repeat two (2) times.

#### ALS INTERVENTIONS

- Maintain airway with appropriate adjuncts, including advanced airway if indicated. Obtain O<sub>2</sub> saturation on room air or on home oxygen if possible.
- Nebulized Albuterol 2.5 mg, with Atrovent 0.5 mg may repeat two (2) times.
- Place patient on Continuous Positive Airway Pressure (CPAP) as per protocol ICEMA Reference #10170 - Continuous Positive Airway Pressure Device (CPAP) - Adult.
- Consider advanced airway, per ICEMA Reference #10050 - Nasotracheal Intubation.
- Base Station physician may order additional medications or interventions as indicated by patient condition.

**II. ACUTE ASTHMA/BRONCHOSPASM/ALLERGIC REACTION/ANAPHYLAXIS****FIELD ASSESSMENT/TREATMENT INDICATORS**

History of prior attacks, possible toxic inhalation or allergic reaction, associated with wheezing, diminished breath sounds or cough.

**BLS INTERVENTIONS**

- Reduce anxiety, allow patient to assume position of comfort.
- Administer oxygen as clinically indicated, humidified oxygen preferred.

**LIMITED ALS (LALS) INTERVENTIONS**

- Maintain airway with appropriate adjuncts, obtain O<sub>2</sub> saturation on room air if possible.
- Nebulized Albuterol 2.5 mg, may repeat two (2) times.
- For signs of inadequate tissue perfusion, initiate IV bolus of 300 cc NS. If signs of inadequate tissue perfusion persist may repeat fluid bolus one (1) time.
- If no response to Albuterol, give Epinephrine 0.3 mg (1:1,000) SC. Contact Base Station for patients with a history of coronary artery disease, history of hypertension or over 40 years of age prior to administration of Epinephrine.
- May repeat Epinephrine 0.3 mg (1:1,000) SC after 15 minutes one (1) time.
- Base Station physician may order additional medications or interventions as indicated by patient condition.

**ALS INTERVENTIONS**

- Maintain airway with appropriate adjuncts, obtain O<sub>2</sub> saturation on room air if possible.
- Nebulized Albuterol 2.5 mg, with Atrovent 0.5 mg may repeat two (2) times.
- For signs of inadequate tissue perfusion, initiate IV bolus of 300 cc NS. If signs of inadequate tissue perfusion persist may repeat fluid bolus until signs of improved tissue perfusion.
- Place patient on Continuous Positive Airway Pressure (CPAP) ~~as~~ per [protocol ICEMA Reference #10170 - Continuous Positive Airway Pressure Device \(CPAP\) - Adult](#).

- If no response to Albuterol, give Epinephrine 0.3 mg (1:1,000) SC. Contact Base Station for patients with a history of coronary artery disease, history of hypertension or over 40 years of age prior to administration of Epinephrine.
- May repeat Epinephrine 0.3 mg (1:1,000) SC after 15 minutes one (1) time.
- For suspected allergic reaction, consider Diphenhydramine 25 mg IV, or 50 mg IM.
- For persistent severe anaphylactic shock, administer Epinephrine 0.1 mg (1:10,000) slow IV push. May repeat as needed to total dosage of 0.5 mg.
- Consider advanced airway per ICEMA Reference #10050 - Nasotracheal Intubation.
- Base Station physician may order additional medications or interventions as indicated by patient condition.

### **III. ACUTE PULMONARY EDEMA/CHF**

#### **FIELD ASSESSMENT/TREATMENT INDICATORS**

History of cardiac disease, including CHF, and may present with rales, occasional wheezes, jugular venous distention and/or peripheral edema.

#### **BLS INTERVENTIONS**

- Reduce anxiety, allow patient to assume position of comfort.
- Administer oxygen as clinically indicated. For pulmonary edema with high altitude as a suspected etiology, descend to a lower altitude and administer high flow oxygen with a non re-breather mask.
- Be prepared to support ventilations as clinically indicated.

#### **LIMITED ALS (LALS) INTERVENTIONS**

- Maintain airway with appropriate adjuncts, obtain O<sub>2</sub> saturation on room air if possible.
- Nitroglycerine 0.4 mg sublingual/transmucosal with signs of adequate tissue perfusion. May be repeated as long as patient continues to have signs of adequate tissue perfusion. Do not use or discontinue NTG in presence of hypotension (SBP <100).
- Nebulized Albuterol 2.5 mg, may repeat two (2) times, if nitro is not working.

## ALS INTERVENTIONS

- Maintain airway with appropriate adjuncts, obtain O<sub>2</sub> saturation on room air if possible.
- Nitroglycerine 0.4mg sublingual/transmucosal one every three (3) minutes as needed. May be repeated as long as patient continues to have signs of adequate tissue perfusion. **If a Right Ventricular Infarction is suspected, the use of nitrates requires Base Station contact.**
- Place patient on Continuous Positive Airway Pressure (CPAP) ~~as per protocol~~ as per protocol ICEMA Reference #10170 - Continuous Positive Airway Pressure Device (CPAP) - Adult.
- Consider advanced airway, per ICEMA Reference #10050 - Nasotracheal Intubation.
- Base station physician may order additional medications or interventions as indicated by patient condition.
- In radio communication failure (RCF), the following medications may be utilized:
  - Dopamine 400 mg in 250 cc NS titrated between 5 - 20 mcg/min to maintain adequate tissue perfusion.
  - Nebulized Albuterol 2.5 mg with Atrovent 0.5 mg after patient condition has stabilized.

## IV. REFERENCES

<u>Number</u>	<u>Name</u>
10050	Nasotracheal Intubation
<u>10170</u>	<u>Continuous Positive Airway Pressure Device (CPAP) - Adult</u>



## SUSPECTED ACUTE MYOCARDIAL INFARCTION (AMI)

### I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Chest pain (typical or atypical).
- Syncopal episode.
- History of previous AMI, Angina, heart disease, or other associated risk factors.

### II. BLS INTERVENTIONS

- Recognition of signs/symptoms of suspected AMI.
- Reduce anxiety, allow patient to assume position of comfort.
- Oxygen as clinically indicated.
- Obtain O<sub>2</sub> saturation.
- May assist patient with self-administration of Nitroglycerin and/or Aspirin.

### III. LIMITED ALS (LALS) INTERVENTIONS

- Aspirin ~~162~~ 325 mg- (one adult non-enteric coated aspirin or four (4) chewable children's aspirin.
- Consider early vascular access.
- For patients with chest pain, signs of inadequate tissue perfusion and clear breath sounds, give 300 ml NS bolus, may repeat.
- Nitroglycerin 0.4 mg sublingual/transmucosal, may repeat in three (3) minute intervals if signs of adequate tissue perfusion are present. Nitroglycerin is contraindicated (signs of inadequate tissue perfusion or recent use of sexual enhancement medications).
- Consider establishing a saline lock enroute on same side as initial IV.
- Complete thrombolytic checklist, if time permits.

- Contact Base Station.

#### **IV. ALS INTERVENTIONS**

- Aspirin ~~162~~ 325 mg- (one adult non-enteric coated aspirin or four (4) chewable children's aspirin.
- Consider early vascular access.
- For patients with chest pain, signs of inadequate tissue perfusion and clear breath sounds, give 300 ml NS bolus, may repeat.
- 12-Lead Technology:
  - Obtain 12-lead ECG. Do not disconnect 12-lead cables until necessary for transport.
  - If signs of inadequate tissue perfusion or if inferior wall infarct is suspected, obtain a right-sided 12-lead (V4R).
  - If right ventricular infarct (RVI) is suspected with signs of inadequate tissue perfusion, consider 300ml NS bolus, may repeat. Early consultation with Base Station or receiving hospital in rural areas is recommended. (Nitrates are contraindicated in the presence of RVI or hypotension.)
  - With documented ST segment elevation in two (2) or more contiguous leads, contact STEMI Base Station for destination decision while preparing patient for expeditious transport, per ICEMA Reference #6070 - Cardiovascular "STEMI" Receiving Centers. In Inyo and Mono Counties, the assigned Base Station should be contacted for STEMI consultation.
  - Repeat 12-lead at regular intervals, but do not delay transport of patient. If patient is placed on a different cardiac monitor for transport, transporting provider should obtain an initial 12-lead on their cardiac monitor and leave 12-lead cables in place throughout transport.
  - EMS field personnel shall ensure that a copy of the 12-lead ECG is scanned or attached as a permanent part of the patient's ePCR or O1A and submit to ICEMA if patient is going to a SRC as a suspected STEMI.
- Nitroglycerin 0.4 mg sublingual/transmucosal, may repeat in three (3) minute intervals if signs of adequate tissue perfusion are present. Nitroglycerin is contraindicated if there are signs of inadequate tissue

perfusion or if sexual enhancement medications have been utilized within the past forty-eight (48) hours. Utilize Morphine Sulfate for pain control when Nitroglycerin is contraindicated.

- Morphine Sulfate 2 mg IV, may repeat every three (3) minutes to total 10 mg. Consider concurrent administration of Nitroglycerin with Morphine Sulfate if there is no pain relief from the initial Nitroglycerin administration. Contact Base Station for further Morphine Sulfate orders.
- Consider establishing a saline lock as a secondary IV site.
- Make early STEMI notification to the STEMI Receiving Center.
- In Radio Communication Failure (RCF), may give up to an additional 10 mg Morphine Sulfate in 2 mg increments with signs of adequate tissue perfusion.

#### **V. REFERENCE**

<b><u>Number</u></b>	<b><u>Name</u></b>
6070	Cardiovascular “STEMI” Receiving Centers



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

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### I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Asthma
- Toxic Inhalation
- Difficult Breathing

### II. BLS INTERVENTIONS

- Assess environment and determine possible causes.
- If safe rRemove patient from any suspected contaminantsource ~~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 ICEMA Reference #14030 - Pediatric Allergic Reaction if allergic reaction suspected.
- Base 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. REFERENCE

<u>Number</u>	<u>Name</u>
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<sub>2</sub> saturation.
- Administer oxygen. ~~if approved, obtain O<sub>2</sub> 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 Protocol Reference #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.

#### VI. REFERENCES

<u>Number</u>	<u>Name</u>
<u>10020</u>	<u>King Airway Device (Perilaryngeal) - Pediatric</u>
10040	Oral Endotracheal Intubation - Pediatric
10070	Needle Cricothyrotomy
<del>10170</del>	<del>Pulse Oximetry</del>



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## ALTERED LEVEL OF CONSCIOUSNESS - PEDIATRIC (Less than 15 years of age)

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### **I. FIELD ASSESSMENT/TREATMENT INDICATORS**

- Patient exhibits inappropriate behavior for age.
- History or observation of an Apparent Life Threatening Event (ALTE).

### **II. BLS INTERVENTIONS**

- Assess environment and determine possible causes for illness.
- Axial-spinal stabilization, if clinically indicated.
- Oxygen therapy, if clinically indicated.
- Airway management, as indicated (OPA/NPA, BVM Ventilation).
- Obtain core temperature, if elevated begin passive cooling measures.

### **III. LIMITED ALS (LALS) INTERVENTIONS**

- Establish advanced airway as needed.
- Obtain vascular access.
- For symptomatic hypotension with poor perfusion, consider fluid bolus of 20 ml/kg of NS not to exceed 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. 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**

- Establish advanced airway as needed.
- Obtain vascular access and place on cardiac monitor
- For symptomatic hypotension with poor perfusion, consider fluid bolus of 20 ml/kg of NS not to exceed 300 ml NS. [May repeat twice for continued signs of inadequate tissue perfusion.](#)
- 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 (4ml/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. Do not exceed the adult dosage of [102](#) mg IV/IM/IN.

- Base Station may order additional medication dosages and additional fluid boluses.



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## BURNS - PEDIATRIC (Less Than 15 Years of Age)

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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 % percentage of 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**

- 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 consider starting a second IV or saline lock. Administer 20 ml/kg NS bolus IV/IO, may repeat one (1) time.
  - *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:
  - Critical trauma patients with associated burns or burn patients sustaining critical trauma, should be transported to the closest Trauma Center. Trauma Base Station contacted shall be made.
- Refer to Burn Classifications Table.

#### **A. Manage Special Considerations**

- **Respiratory Distress:**
  - 1 day to 12 months old - Nebulized Albuterol 2.5 mg, may repeat two (2) times.
  - 1 year to < 15 years old - Albuterol 2.5 mg, may repeat two (2) times.
  - Administer humidified 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 #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 ~~ee~~ (1) time.
  - *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, ~~2010~~ 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. Manage Special Considerations**

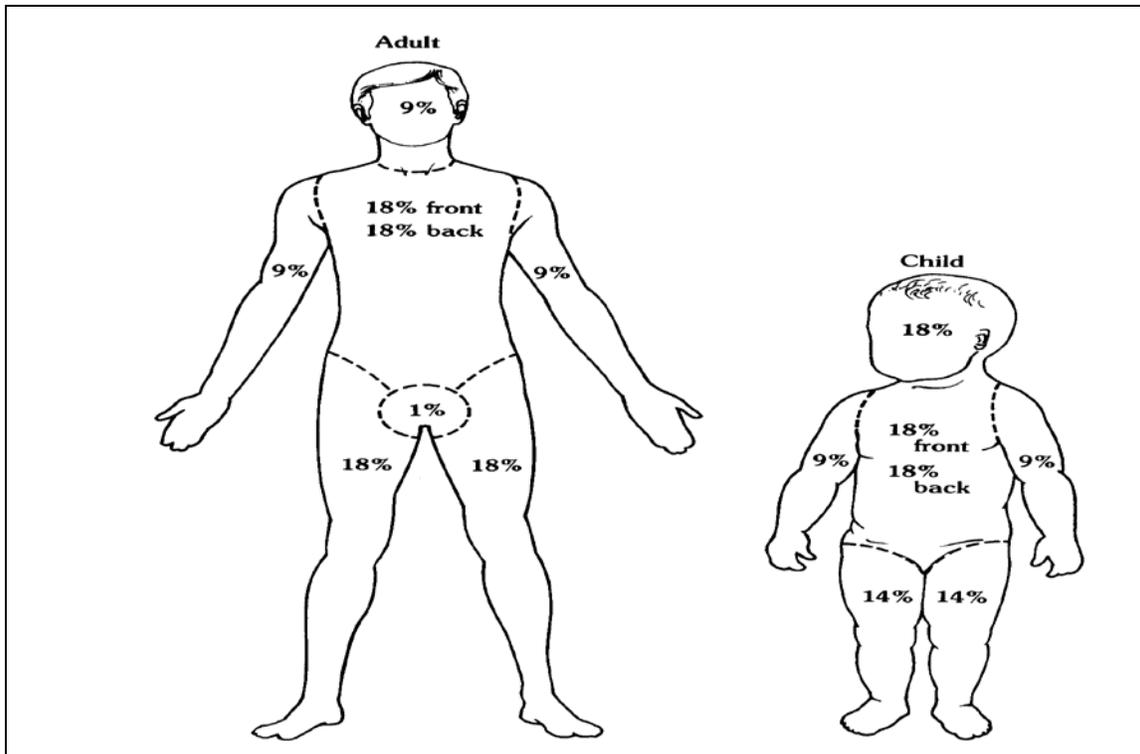
- **Respiratory Distress:** Intubate patient if facial/oral swelling are present or if respiratory depression or distress develops due to inhalation injury.
  - 1 day to 12 months old - Nebulized Albuterol 2.5 mg, may repeat two (2) times.
  - 1 year to < 15 years old - Albuterol 2.5 mg, may repeat two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

<b>PEDIATRIC BURN CLASSIFICATION CHART</b>	<b>DESTINATION</b>
<p><b><u>MINOR</u> - PEDIATRIC</b></p> <ul style="list-style-type: none"> <li>• &lt; 5% TBSA</li> <li>• &lt; 2% Full Thickness</li> </ul>	<p><b>CLOSEST MOST APPROPRIATE RECEIVING HOSPITAL</b></p>
<p><b><u>MODERATE</u> - PEDIATRIC</b></p> <ul style="list-style-type: none"> <li>• 5 - 10% TBSA</li> <li>• 2 - 5% Full Thickness</li> <li>• High Voltage Injury</li> <li>• Suspected Inhalation Injury</li> <li>• Circumferential Burn</li> <li>• Medical problem predisposing to infection (e.g., diabetes mellitus, sickle cell disease)</li> </ul>	<p><b>CLOSEST MOST APPROPRIATE RECEIVING HOSPITAL</b></p>
<p><b><u>MAJOR</u> - PEDIATRIC</b></p> <ul style="list-style-type: none"> <li>• &gt; 10% TBSA</li> <li>• &gt; 5% Full Thickness</li> <li>• High Voltage Burn</li> <li>• Known Inhalation Injury</li> <li>• Any significant burn to face, eyes, ears, genitalia, or joints</li> </ul>	<p><b>CLOSEST MOST APPROPRIATE BURN CENTER</b></p> <p>In San Bernardino County, contact:                      Arrowhead Regional Medical Center (ARMC)</p>

**VI. “RULE OF NINES”**



**VII. REFERENCES**

<u>Number</u>	<u>Name</u>
8030	Burn Destination and Criteria Policy
12010	Determination of Death on Scene



## NEWBORN CARE

### I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Field delivery with or without complications.

### II. BLS INTERVENTIONS

- When head is delivered, suction mouth then the nose, and check to see that cord is not around baby's neck.
- Dry infant and provide warm environment. Prevent heat loss (remove wet towel).
- Place baby in supine position at or near the level of the mother's vagina. After pulsation of cord has ceased double clamp cord at approximately seven (7)–<sup>22</sup> inches and ten (10)–<sup>22</sup> inches from baby and cut between clamps.
- Maintain airway, suction mouth and nose.
- Provide tactile stimulation to facilitate respiratory effort.
- Assess breathing if respirations < 20 or gasping, provide tactile stimulation and assisted ventilation if indicated.
- Circulation:
  - Heart Rate < 100 ventilate BVM with 100% ~~O<sub>2</sub>~~ oxygen for thirty (30) seconds and reassess. If heart rate is still < 100 /min, begin CPR with ventilations at a 3:1 ratio of compressions to ventilations (approximately 100 compressions and 30 ventilations /min).
- b. ~~If available, utilize Waveform Capnography to assess efficacy of compressions and ventilations.~~
- If central cyanosis is present, utilize supplemental ~~O<sub>2</sub>~~ oxygen at 10 to 15 L/min using oxygen tubing close to infant's nose and reassess. If no improvement is noted after thirty (30) seconds assist ventilation with BVM.
- Obtain Apgar scoring at one (1) and five (5) minutes. Do not use Apgar to determine need to resuscitate.

## APGAR SCORE

SIGN	0	1	2
Heart Rate	Absent	< 100 /minute	> 100 /minute
Respirations	Absent	< 20 /irregular	>20 /crying
Muscle Tone	Limp	Some Flexion	Active Motion
Reflex Irritability	No Response	Grimace	Cough or Sneeze
Color	Blue or pale	Blue Extremities	Completely Pink

III. LIMITED ALS (LALS) INTERVENTIONS

- Obtain vascular access via IV if indicated.
- Obtain Blood Glucose by heel stick:
  - 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.
- Contact Base Station if hypovolemia is suspected. Base Station may order 10 ml/kg IV NS over five (5) minutes. If unable to contact Base Station and transport time is extended give 10 ml/kg IV NS over five (5) minutes, may repeat one (1) time.

## IV. ALS INTERVENTIONS

- Obtain vascular access via IV/IO if indicated.
- Consider advanced airway, per Protocol-ICEMA Reference #10040 - Oral Endotracheal Intubation - Pediatric, if BVM is ineffective or tracheal suctioning is required. If available, utilize Waveform Capnography to assess efficacy of compressions and ventilations. Place orogastric tube after advanced airway is in place. Reassess placement after every intervention.
- Obtain Blood Glucose by heel stick.
  - If blood glucose < 35 mg/dL:  
Dextrose 25% (0.25 g/ml) Diluted 1:1 gGive 0.5 g/kg (4 ml/kg) IV/IO ~~Obtain Blood Glucose by heel stick, if <35 hypoglycemic, give D25 0.5gms/kg IV.~~
- Evaluate airway for hypoxemia and assess body temperature for hypothermia then consider Epinephrine 0.01 mg/kg IV/IO (1:10,000) if heart rate < 60 after one (1) minute.

- Contact Base Station if hypovolemia is suspected. Base Station may order 10 ml/kg IV NS over five (5) minutes. If unable to contact Base Station and transport time is extended give 10 ml/kg IV NS over five (5) minutes, may repeat.
- For persistent hypotension despite adequate ventilation and fluid resuscitation, Base Station may order Epinephrine 0.005 mg/kg (1:10,000) IV/IO every ten (10) minutes. If unable to contact Base Station and transport time is extended give indicated dosage and contact Base Station as soon as possible. ~~\_(PALS dose is >0.003 mg/kg (1:10,000) IV/IO for pressor dosage. No change to above dosage.)~~

## V. REFERENCE

<u>Number</u>	<u>Name</u>
10040	Oral Endotracheal Intubation - Pediatric