



MEDICATION - STANDARD ORDERS

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. May repeat one (1) time.

Reference #s 7010, 7020, 11050

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

Albuterol nebulized, 2.5 mg, may repeat 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, 6110, Sheriff's Search and Rescue

Albuterol - Pediatric (LALS, ALS)

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

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

Aspirin, chewable (LALS, ALS)

Aspirin, 325 mg PO chewed (one (1) adult non-enteric coated aspirin) or four (4)
chewable 81 mg aspirin.

Reference #s 2020, 6090, 6110, 7010, 7020, 11060

Atropine (ALS)

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 6090, 6110, 7010, 7020, 11040, 12020, 13010

Calcium Chloride (ALS)*Calcium Channel Blocker Poisonings:*

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

Reference #s 2020, 7010, 7020, 13010

Dextrose - Adult (LALS)

Dextrose 50% 25 gm IV of 50%

Reference #s 2020, 6090, 6110, 7010, 7020, 8010, 11050, 11070, 11080, 13020, 13030

Dextrose - Adult (ALS)

Dextrose 50% 25 gm IV/IO of 50%

Reference #s 2020, 6090, 6110, 7010, 7020, 8010, 11050, 11070, 11080, 13020, 13030

Dextrose - Pediatric (LALS, ALS)

For neonates (0 - 4 weeks), if blood glucose < 35 mg/dL:

Dextrose 25% (0.25 gm/ml) Diluted 1:1, give 0.5 gm/kg (4 ml/kg) IV/IO

For patient < 10 kg and > 4 weeks, if blood glucose < 60 mg/dL:

Dextrose 25% (0.25 gm/ml), give 0.5 gm/kg (2 ml/kg) IV/IO

For patient > 10 kg and < 25kg, if glucose less than 60 mg/dL:

Dextrose 50% (0.5 gm/mL) Diluted 1:1, give 0.5 gm/kg (2 ml/kg) IV/IO

For patient > 25 kg, if glucose less than 80 mg/dL:

Dextrose 50% (0.5 gm/mL) Diluted 1:1, give 0.5 gm/kg (2 ml/kg) IV/IO

Reference #s 2020, 7010, 7020, 13020, 13030, 14040, 14050, 14060

Diphenhydramine - Adult (ALS)

Diphenhydramine, 25 mg IV/IO

Diphenhydramine, 50 mg IM

*Reference #s 6090, 6110, 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 #s 7010, 7020, 14030***Dopamine - Adult (ALS)**

Dopamine, infusion of 400 mg in 250 ml of NS, titrated between 5 - 20 mcg/kg/min to sustain a systolic blood pressure greater than 90 mmHG for signs of inadequate tissue perfusion/shock.

*Reference #s 7010, 7020, 8010, 8040, 10140, 11070, 11090, 14080***Dopamine - Pediatric (ALS)***Post resuscitation continued signs of inadequate tissue perfusion:*

9 to 14 years

Dopamine, 400 mg in 250 ml of NS to infuse at 5 - 20 mcg/kg/min IV titrated to maintain signs of adequate tissue perfusion.

*Reference #s 7010, 7020, 14040***Epinephrine (1:1000) - Adult (LALS, ALS)***Acute Asthma, Bronchospasm, Allergic reaction, Anaphylaxis:*Epinephrine, 0.3 mg **IMSC****Epinephrine (1:10,000) - Adult (ALS)***For Persistent severe anaphylactic shock:*Epinephrine (**1:10,000**), 0.1 mg (~~1:10,000~~)-slow IVP. May repeat as needed to total dosage of 0.5 mg.*Cardiac Arrest, Asystole, PEA:*

Epinephrine, 1 mg IV/IO

Reference #s 2020, 6090, 6110, 7010, 7020, 11010, 11070, 12020

Epinephrine (1:1000) - Pediatric (LALS, ALS)*Allergic Reactions:*

Epinephrine, 0.01 mg/kg **IMSC** not to exceed adult dosage of 0.3 mg.

Reference #s 2020, 6090, 7010, 7020, 11010, 14010, 14030

Epinephrine (1:10,000) - Pediatric (ALS)*Anaphylactic Shock (no palpable radial pulse and depressed level of consciousness):*

Epinephrine (1:10,000), 0.01 mg/kg IV/IO, no more than 0.1 mg per dose. May repeat to a maximum of 0.5 mg.

Cardiac Arrest:

1 day to 8 years Epinephrine (1:10,000), 0.01 mg/kg IV/IO (do not exceed adult dosage)

9 to 14 years Epinephrine (1:10,000), 1.0 mg IV/IO

Newborn Care:

Epinephrine (1: 10,000), -0.01mg/kg IV/IO (~~1: 10,000~~)-if heart rate is less than 60 after one (1) minute after evaluating airway for hypoxia and assessing body temperature for hypothermia.

Epinephrine (1:10,000), -0.005 mg/kg (~~1:10,000~~)-IV/IO every ten (10) minutes for persistent hypotension as a base hospital order or in radio communication failure.

Post resuscitation continued signs of inadequate tissue perfusion:

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

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 7010, 7020, 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 7010, 7020, 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 hospital order only)~~Base Station Only~~

Reference #s 6090, 6110, 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 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, 6110, 7010, 7020

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, King Airway, NG/OG, for suspected brain injury:

Lidocaine, 1.5 mg/kg IV

VT/VF:

Lidocaine, 1.5 mg/kg

Repeat 0.75 mg/kg every five (5) to ten (10) minutes; maximum total dose of 3 mg/kg.

Refractory VF:

Lidocaine, 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 2020, 6090, 7010, 7020, 8010, 8040, 10030, 10080, 11050, 11070, 15010

Lidocaine - Pediatric (ALS)*Intubation, King Airway, NG/OG, for suspected brain injury:*

Lidocaine, 1.5 mg/kg IV

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 2020, 7010, 7020, 14040

Lidocaine 2%*Pain associated with IO insertion:*

Lidocaine 2%, 0.5 mg/kg slow IO push not to exceed 50 mg total.

Reference #s 2020, 7010, 7020, 10140

Magnesium Sulfate (ALS)*Polymorphic Ventricular Tachycardia:*

Magnesium Sulfate, 2 gm in 100 ml of NS over five (5) minutes for polymorphic VT if prolonged QT is observed during sinus rhythm post-cardioversion.

Eclampsia (Seizure/Tonic/Clonic Activity):

Magnesium Sulfate, 4 gm diluted with 20 ml NS, IV/IO slow IV push over three (3) to four (4) minutes.

Magnesium Sulfate, 2 gm in 100 cc of NS at 30 cc per hour IV/IO to prevent continued seizures.

Reference #s 2020, 7010, 7020, 8010, 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 Hospital Station](#) for additional orders and to discuss further treatment options.

Pacing, synchronized cardioversion:

Midazolam, 2 mg slow IV push IV/IN

Reference #s 6090, 6110, 7010, 7020, 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 Hospital 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.

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, 6110, 7010, 7020, 7030, 9120, 10110 10120, 11060, 11100, 13030, 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 2020, 7010, 7020, 7030, 14070, 15020

Naloxone (Narcan) - Adult (LALS, ALS)*Resolution of respiratory depression related to suspected narcotic overdose:*

Naloxone, 0.5 mg IV/IM/IN may repeat Naloxone 0.5 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 6110, 7010, 7020, 11070, 11080

Naloxone (Narcan) - Pediatric (LALS)*Resolution of respiratory depression related to suspected narcotic overdose:*

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

9 to 14 years Naloxone, 0.5 mg IV

Do not exceed the adult dosage of 10 mg IV/IM/IN.

Reference #s 7010, 7020, 14040, 14050

Naloxone (Narcan) - Pediatric (ALS)

Resolution of respiratory depression related to suspected narcotic overdose:

1 day to 8 years Naloxone, 0.1 mg/kg IV/IO
9 to 14 years Naloxone, 0.5 mg IV/IO

Do not exceed the adult dosage of 10 mg IV/IM/IN.

Reference #s 7010, 7020, 14040, 14050

Nitroglycerin (LALS, ALS)

Nitroglycerin, 0.4 mg sublingual/transmucosal

One (1) 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 bBase hospitalStation contact.**

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 6090, 6110, 7010, 7020, 11010, 11060

Ondansetron (Zofran) - Patients four (4) years old to Adult (ALS)

Nausea/Vomiting:

Ondansetron, 4 mg slow IV/ODT

All patients four (4) to eight (8) years old: may give a total of 4 mgs of Ondansetron prior to bBase hospitalStation contact.

All patients nine (9) and older: may give Ondansetron 4 mg and may repeat twice, at ten (10) minute intervals, for a total of 12 mgs prior to bBase hospitalStation contact.

May be used as prophylactic treatment of nausea and vomiting associated with narcotic administration.

Reference #s 6110, 7010, 7020, 9120, 10100, 15010, 15020

Phenylephrine HCL (ALS)

Phenylephrine, 0.5 mg metered dose may be repeated once prior to additional attempt

Reference #s 7010, 7020, 10050

Procainamide (ALS)

SVT, V-Tach or Wide Complex Tachycardias:

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.

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

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



BURN DESTINATION AND CRITERIA POLICY

PURPOSE

To ensure the appropriate destination of patients sustaining burn injuries.

AUTHORITY

Health and Safety Code Sections 1797.220, 1797.222 & 1798. California Code of Regulations, Title 22, Division 9, Sections 100144, 100304, 100107, 100128, 100175A2.

DEFINITIONS

Adult Patients: A person appearing to be \geq fifteen (15) years of age.

Pediatric Patients: A person appearing to be $<$ fifteen (15) years of age.

Burn Patients: Patients meeting ICEMA's burn classifications, minor, moderate or major.

Critical Trauma Patients (CTP): Patients meeting ICEMA's Critical Trauma Patient Criteria

Trauma Hospital: A licensed general acute care hospital designated by ICEMA's Governing Board as a trauma hospital in accordance with State laws and regulations.

POLICY

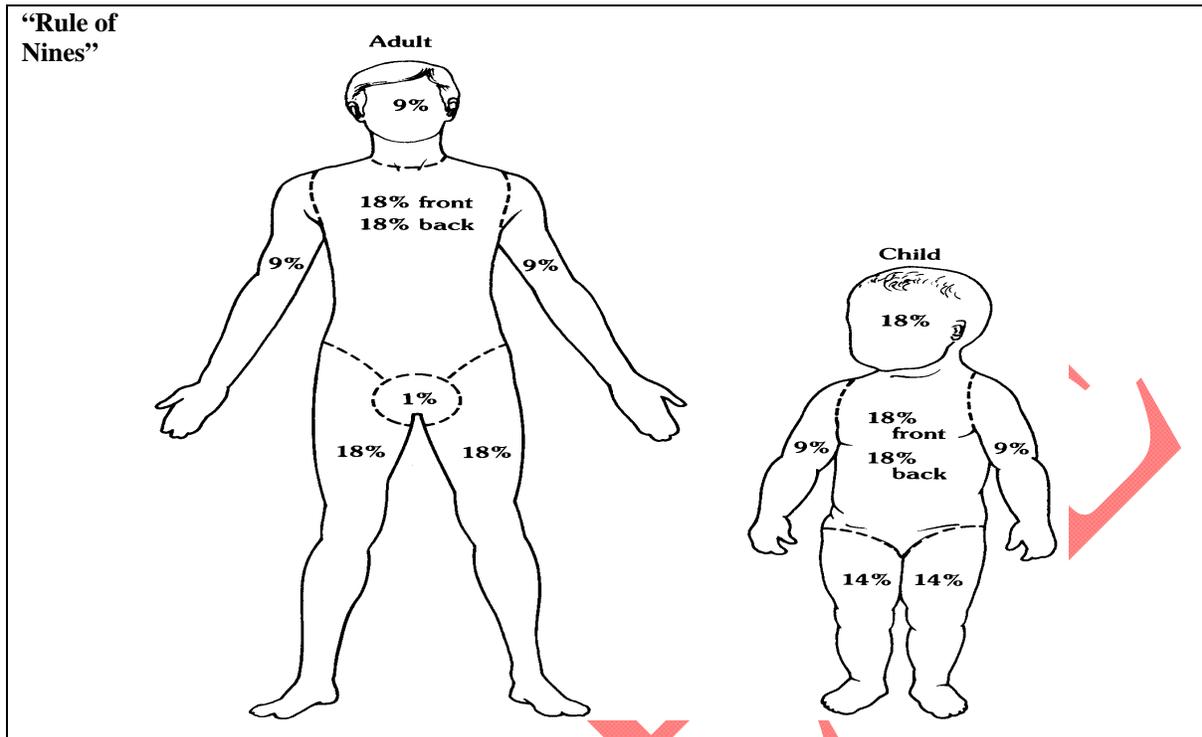
A. TRANSPORTATION

1. Burn patients meeting minor or moderate classifications will be transported to the closest receiving hospital.
2. Burn patients meeting major burn classification will be transported to the closest most appropriate burn center (in San Bernardino County contact ARMC).
3. Burn patients meeting the physiologic or anatomic criteria for CTP will be transported to the most appropriate trauma hospital, Refer to Protocol #15030, Trauma Triage Criteria and Destination Policy.

4. Pediatric burn patients identified as a CTP should always be transported to the closest trauma center with or without burn capabilities. When there is less than twenty (20) minutes difference in transport time, a pediatric trauma center is the preferred destination.
5. When estimated transport to the most appropriate trauma hospital (for patients identified as a CTP) is thirty (30) minutes or less, ground ambulance shall be the primary means of transport. EMS Aircraft transport shall not be used unless ground transport is expected to be greater than thirty (30) minutes and EMS Aircraft transport is expected to be significantly more expeditious than ground transport. If an EMS aircraft is dispatched, adherence to Protocol #8070 Aircraft Destination Policy (in San Bernardino County) is mandatory.
6. Burn patients with respiratory compromise, or potential for such, will be transported to the closest receiving hospital for airway stabilization.
7. Hospital trauma diversion status: Refer to Protocol #8060 San Bernardino County Requests for Hospital Diversion Policy.
8. Paramedics may contact the base station or trauma base station for destination consultation on any patient that does not meet any of the above criteria, but who, in the paramedic's opinion, would be more appropriately serviced by direct transport to a burn center.

B. BURN CLASSIFICATIONS

ADULT BURN CLASSIFICATION CHART	PEDIATRIC BURN CLASSIFICATION CHART	DESTINATION
<p><u>MINOR</u> – ADULT</p> <ul style="list-style-type: none"> • < 10% TBSA • < 2% Full Thickness 	<p><u>MINOR</u> - PEDIATRIC</p> <ul style="list-style-type: none"> • < 5% TBSA • < 2% Full Thickness 	<p>CLOSEST RECEIVING HOSPITAL</p>
<p><u>MODERATE</u> – ADULT</p> <ul style="list-style-type: none"> • 10 - 20% 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) 	<p><u>MODERATE</u> - PEDIATRIC</p> <ul style="list-style-type: none"> • 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) 	<p>CLOSEST RECEIVING HOSPITAL</p>
<p><u>MAJOR</u> – ADULT</p> <ul style="list-style-type: none"> • >20% TBSA burn in adults • > 5% Full Thickness • High Voltage Burn • Known Inhalation Injury • Any significant burn to face, eyes, ears, genitalia, or joints 	<p><u>MAJOR</u> - PEDIATRIC</p> <ul style="list-style-type: none"> • > 10% TBSA • > 5% Full Thickness • High Voltage Burn • Known Inhalation Injury • Any significant burn to face, eyes, ears, genitalia, or joints 	<p>CLOSEST BURN CENTER</p> <p>In San Bernardino County, contact: Arrowhead Regional Medical Center (ARMC)</p>



C. EXCEPTIONS

The burn patient who presents with the following:

<p>Airway Stabilization:</p> <p><u>Transport to the closest receiving hospital for airway stabilization when the patient:</u></p>	<ul style="list-style-type: none"> • has respiratory compromise, or potential for compromise
<p>Transport to the closest most appropriate receiving hospital when the patient:</p>	<ul style="list-style-type: none"> • has deteriorating vital signs • is pulseless and apneic
<p>EMS Aircraft Indications:</p> <p><u>An EMS aircraft may be dispatched for the following events:</u></p>	<ul style="list-style-type: none"> • MCI • Prolonged extrication time (> twenty (20) minutes) • Do Not Delay Patient Transport waiting for an enroute EMS aircraft
<p>EMS Aircraft Transport Contraindications:</p> <p><u>The following are contraindications for EMS aircraft patient transportation:</u></p>	<ul style="list-style-type: none"> • Patients contaminated with Hazardous Material who cannot be decontaminated and who pose a risk to the safe operations of the EMS aircraft and crew. • Violent patients with psychiatric behavioral problems and uncooperative patients under the influence of alcohol and/or mind altering substances who may interfere with the safe operations of an EMS aircraft during flight.

	<ul style="list-style-type: none">• Stable patients• Ground transport is < 30 minutes• Traumatic cardiac arrest• Other safety conditions as determined by pilot and/or crew
Remote Locations:	<ul style="list-style-type: none">• Remote locations may be exempted from specific criteria upon written permission from the EMS Medical Director.

D. CONSIDERATIONS

1. Scene time should be limited to ten (10) minutes under normal circumstances.
2. Burn patients with associated trauma, in which the burn injury poses the greatest risk of morbidity or mortality, should be **considered** for transport to the closest most appropriate Burn Center. Trauma base station contact shall be made.

E. RADIO CONTACT

1. If not contacted at scene, the receiving trauma hospital must be notified as soon as possible in order to activate the trauma team.
2. For patients meeting Trauma Triage Criteria (Physiologic, Anatomic, Mechanism of Injury, and/or Age and Co-Morbid Factors), a trauma base station shall be contacted in the event of patient refusal of assessment, care, and/or transportation.
3. In Inyo and Mono Counties, the assigned base station should be contacted for CTP consultation.



ADULT RESPIRATORY EMERGENCIES

I. CHRONIC OBSTRUCTIVE PULMONARY DISEASE

I. FIELD ASSESSMENT/TREATMENT INDICATORS

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

II. BLS INTERVENTIONS

- Reduce anxiety, allow patient to assume position of comfort.
- Administer oxygen as clinically indicated, obtain O₂ saturation on room air, or on home oxygen if possible.

III. LIMITED ALS (LALS) INTERVENTIONS

- Maintain airway with appropriate adjuncts, including advanced airway if indicated. Obtain O₂ saturation on room air or on home oxygen if possible.
- Nebulized Albuterol per ICEMA Reference #7040 - Medication - Standard Orders ~~2.5 mg, may repeat two (2) times.~~

IV. ALS INTERVENTIONS

- Maintain airway with appropriate adjuncts, including advanced airway if indicated. Obtain O₂ 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 per ICEMA Reference #7040 - Medication - Standard Orders.~~
- Place patient on Continuous Positive Airway Pressure (CPAP), refer to ICEMA Reference #1019070 - ICEMA Approved Skills ~~Continuous Positive Airway Pressure Device (CPAP) Adult.~~
- Consider advanced airway, refer to ICEMA Reference #10190050 - ICEMA Approved Skills. ~~Nasotracheal Intubation.~~
- Base hospital ~~Station~~ physician may order additional medications or interventions as indicated by patient condition.

V. REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
10190	ICEMA Approved Skills

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

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

II. BLS INTERVENTIONS

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

III. LIMITED ALS (LALS) INTERVENTIONS

- Maintain airway with appropriate adjuncts, obtain O₂ saturation on room air if possible.
- Nebulized Albuterol ~~2.5 mg, may repeat two (2) times~~ per ICEMA Reference #7040 - Medication - Standard Orders.
- 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, administer Epinephrine ~~0.3 mg (1:1,000) SC~~ per ICEMA Reference #7040 - Medication - Standard Orders. Contact ~~b~~ Base hospital 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~~ per ICEMA Reference #7040 - Medication - Standard Orders, after 15 minutes one (1) time.
- Base hospital Station physician may order additional medications or interventions as indicated by patient condition.

IV. ALS INTERVENTIONS

- Maintain airway with appropriate adjuncts, obtain O₂ saturation on room air if possible.

- ~~Nebulized~~Albuterol ~~2.5 mg~~, with Atrovent ~~0.5 mg~~ ~~may repeat two (2) times~~ ~~per ICEMA Reference #7040 - Medication - Standard Orders.~~
- 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), refer to ICEMA Reference #101~~9070~~ - ICEMA Approved Skills. Continuous Positive Airway Pressure Device (CPAP)—Adult.
- If no response to Albuterol, administer Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders 0.3 mg (1:1,000) SC. Contact ~~base~~ hospital ~~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 per ICEMA Reference #7040 - Medication - Standard Orders 0.3 mg (1:1,000) SC after 15 minutes one (1) time.
- For suspected allergic reaction, consider Diphenhydramine per ICEMA Reference #7040 - Medication - Standard Orders. 25 mg IV, or 50 mg IM.
- For persistent severe anaphylactic shock, administer Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders. 0.1 mg (1:10,000) slow IV push. May repeat as needed to total dosage of 0.5 mg.
- Consider advanced airway, refer ICEMA Reference #101~~90~~ - ICEMA Approved Skills. 050—Nasotracheal Intubation.
- Base hospital ~~station~~ physician may order additional medications or interventions as indicated by patient condition.

V. REFERENCES

<u>Number</u>	<u>Name</u>
<u>7040</u>	<u>Medication - Standard Orders</u>
<u>10190</u>	<u>ICEMA Approved Skills</u>

III. ACUTE PULMONARY EDEMA/CHF

I. FIELD ASSESSMENT/TREATMENT INDICATORS

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

II. 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.

III. LIMITED ALS (LALS) INTERVENTIONS

- Maintain airway with appropriate adjuncts, obtain O₂ 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.~~ per ICEMA Reference #7040 - Medication - Standard Orders. Do not use or discontinue NTG in presence of hypotension (SBP <100).
- ~~Nebulized Albuterol~~ Albuterol per ICEMA Reference #7040 - Medication - Standard Orders ~~2.5 mg, may repeat two (2) times,~~ if nitro is not working.

IV. ALS INTERVENTIONS

- Maintain airway with appropriate adjuncts, obtain O₂ saturation on room air if possible.
- Nitroglycerine per ICEMA Reference #7040 - Medication - Standard Orders. ~~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), refer to ICEMA Reference #1019070 - ICEMA Approved Skills. ~~Continuous Positive Airway Pressure Device (CPAP) - Adult.~~
- Consider advanced airway, refer to ICEMA Reference #10190 - ICEMA Approved Skills. ~~10050 - Nasotracheal Intubation.~~
- Base ~~hospital~~ 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 per ICEMA Reference #7040 - Medication - Standard Orders.~~
- ~~Nebulized Albuterol 2.5 mg with Atrovent 0.5 mg per ICEMA Reference #7040 - Medication - Standard Orders~~ after patient condition has stabilized.

V. REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
10050	Nasotracheal Intubation
101970	ICEMA Approved Skills Continuous Positive Airway Pressure Device (CPAP) Adult



AIRWAY OBSTRUCTION - ADULT

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Universal sign of distress.
- Alteration in respiratory effort and/or signs of obstruction.
- Altered level of consciousness.

II. BLS INTERVENTION—~~RESPONSIVE~~

RESPONSIVE

- Assess for ability to speak or cough (e.g., “Are you choking?”).
- If unable to speak, administer abdominal thrusts (if the rescuer is unable to encircle the victim’s abdomen or the patient is in the late stages of pregnancy, utilize chest thrusts) until the obstruction is relieved or patient becomes unconscious.
- After obstruction is relieved, reassess and maintain ABC’s.
- Administer oxygen therapy; ~~if capable~~ obtain O₂ saturation, ~~per ICEMA Reference #10170—Pulse Oximetry.~~
- If responsive, place in position of comfort. If uninjured but unresponsive with adequate respirations and pulse, place on side in recovery position.

BLS INTERVENTION—UNRESPONSIVE

- Position patient supine (for suspected trauma, maintain in-line axial spinal stabilization).
- Begin immediate CPR at a 30:2 ratio for two (2) minutes.
- Each time the airway is opened to ventilate, look for an object in the victim’s mouth and if found, remove it.
- If apneic and able to ventilate, provide one (1) breath every five (5) to six (6) seconds.

- ~~If available, place AED on patient per ICEMA Reference #10130 - Automatic External Defibrillation (AED) - BLS.~~

IV. LIMITED ALS (LALS) INTERVENTION ~~-UNRESPONSIVE~~

UNRESPONSIVE

- If apneic and able to ventilate, establish advanced airway.
- Establish vascular access as indicated.

V. ALS INTERVENTION ~~-UNRESPONSIVE~~

UNRESPONSIVE

- If apneic and able to ventilate, establish advanced airway.
- If obstruction persists, visualize with laryngoscope and remove visible foreign body with Magill forceps and attempt to ventilate.
- If obstruction persists and unable to ventilate, consider Needle Cricothyrotomy, refer ICEMA Reference #1019070 - ICEMA Approved Skills-Needle Cricothyrotomy.

VI. REFERENCE

<u>Number</u>	<u>Name</u>
10070	Needle Cricothyrotomy
10130	Automatic External Defibrillation (AED) - BLS
10170	Pulse Oximetry
10190	ICEMA Approved Skills



BRADYCARDIAS - ADULT

I. STABLE BRADYCARDIA

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Heart rate less than 60 bpm.
- Signs of adequate tissue perfusion.

II. BLS INTERVENTIONS

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

III. LIMITED ALS (LALS) INTERVENTIONS

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

IV. ALS INTERVENTIONS

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

V. REFERENCES

<u>Number</u>	<u>Name</u>
<u>7040</u>	<u>Medication - Standard Orders</u>
<u>10190</u>	<u>ICEMA Approved Skills</u>

H. UNSTABLE BRADYCARDIA

I. FIELD ASSESSMENT/TREATMENT INDICATORS

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

II. BLS INTERVENTIONS

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

III. LIMITED ALS (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 ~~b~~Base hospitalStation if need for further medical control.

IV. ALS INTERVENTIONS

- Administer IV bolus of 300 cc. Maintain IV rate at 300 cc per hour if lungs remain clear to auscultation.
- 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.
- Administer Atropine per ICEMA Reference #7040 - Medication -Standard Orders. ~~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 ICEMA Reference #10190 ICEMA Approved Skills. ~~40—Transecutaneous Cardiac Pacing.~~

- Consider Dopamine per ICEMA Reference #7040 - Medication - Standard Orders. 400 mg in 250 cc of NS to infuse at 5—20 mcg/kg/min, titrated to sustain a systolic BP greater than 90 mmHg for signs of inadequate tissue perfusion/shock.
- Contact bBase hospitalStation if interventions are unsuccessful.

V. REFERENCES

<u>Number</u>	<u>Name</u>
<u>7040</u>	<u>Medication - Standard Orders</u>
<u>10190</u>	<u>ICEMA Approved Skills</u>



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 administer 300 cc bolus to patient exhibiting inadequate tissue perfusion.
- Obtain blood glucose. If ~~indicated hypoglycemic~~ administer:
 - Dextrose ~~per ICEMA Reference #7040 - Medication - Standard Orders, or 25 gms (50 cc) IV/IO of 50% solution.~~ per ICEMA Reference #7040 - Medication - Standard Orders.
 - Glucagon ~~per ICEMA Reference #7040 - Medication - Standard Orders 1 mg IM/SC/IN, if unable to establish an IV. May give one (1) time only.~~ per ICEMA Reference #7040 - Medication - Standard Orders.
 - ~~May r~~Repeat blood glucose. ~~May R~~repeat ~~D~~dextrose per ICEMA Reference #7040 - Medication - Standard Orders if indicated. 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 ~~per ICEMA Reference #7040 - Medication - Standard Orders. 6 mg rapid IV push, followed by 20 ml NS rapid infusion. If no conversion, may repeat two (2) times at 12 mg followed by 20 ml NS rapid infusion.~~
- If adenosine is ineffective, consider Verapamil ~~per ICEMA Reference #7040 - Medication - Standard Orders. 5 mg slow IV over three (3) minutes. May repeat every fifteen (15) minutes to a total dose of 20 mg.~~
- Consider Procainamide ~~per ICEMA Reference #7040 - Medication - Standard Orders. 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 #101920 - ICEMA Approved Skills-Synchronized Cardioversion.
- Contact ~~b~~Base hospitalStation.

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

- Consider Adenosine, ~~per ICEMA Reference #7040 - Medication - Standard Orders, 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 ~~per ICEMA Reference #7040 - Medication - Standard Orders. 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 ~~per ICEMA Reference #7040 - Medication - Standard Orders. 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 ~~per ICEMA Reference #7040 - Medication - Standard Orders. 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 #101~~920~~ - ICEMA Approved Skills~~Synehronized Cardioversion.~~
- Contact ~~b~~Base hospital~~Station.~~

Atrial Fib/Flutter

- Transport to appropriate facility.
- For patients who are hemodynamically unstable, proceed to synchronized cardioversion, refer to ICEMA Reference #101~~920~~ - ICEMA Approved Skills.~~Synehronized Cardioversion.~~
- Contact ~~b~~Base hospital~~Station.~~

V. REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
10120	Synehronized Cardioversion
10190	ICEMA Approved Skills



SUSPECTED ACUTE MYOCARDIAL INFARCTION (AMI)

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Chest pain (typical or atypical).
- Syncope 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 O₂ saturation.
- May assist patient with self-administration of Nitroglycerin and/or Aspirin.

III. LIMITED ALS (LALS) INTERVENTIONS

- Aspirin ~~per ICEMA Reference #7040 - Medication - Standard Orders. 325 mg (one (1) 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 ~~per ICEMA Reference #7040 - Medication - Standard Orders. 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 ~~B~~base hospitalStation.

IV. ALS INTERVENTIONS

- Aspirin per ICEMA Reference #7040 - Medication - Standard Orders, 325 mg (one (1) 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 ~~b~~Base hospitalStation 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 ~~b~~Base hospitalStation for destination decision while preparing patient for expeditious transport, refer to ICEMA Reference #6070 - Cardiovascular "STEMI" Receiving Centers. In Inyo and Mono Counties, the assigned ~~b~~Base hospitalStation 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 per ICEMA Reference #7040 - Medication - Standard Orders. ~~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~~ per ICEMA Reference #7040 - Medication - Standard Orders. Consider concurrent administration of Nitroglycerin with Morphine Sulfate if there is no pain relief from the initial Nitroglycerin administration. Contact ~~b~~Base hospitalStation 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. REFERENCES

<u>Number</u>	<u>Name</u>
6070	Cardiovascular “STEMI” Receiving Centers
<u>7040</u>	<u>Medication - Standard Orders</u>



CARDIAC ARREST - ADULT

I. FIELD ASSESSMENT/TREATMENT INDICATORS

Cardiac arrest in a non-traumatic setting.

II. BLS INTERVENTIONS

- Assess patient, begin CPR according to current AHA Guidelines, and maintain appropriate airway.
 - Compression rate shall be 100 per minute utilizing 30:2 compression-to-ventilation ratio for synchronous CPR prior to placement of advanced airway.
 - Ventilatory volumes shall be sufficient to cause adequate chest rise.
- ~~If available, place patient on AED per ICEMA Reference #10130 - Automatic External Defibrillation (AED) - BLS.~~ CPR is **not** to be interrupted except briefly for rhythm assessment.

III. LIMITED ALS (LALS) INTERVENTIONS

- Initiate CPR while applying the AED.
- Establish advanced airway when resources are available, with minimal interruption to ~~CPR chest compressions~~. After advanced airway established, compressions would then be continued at 100 per minute without pauses during ventilations.
- Establish peripheral intravenous access and administer a 500 ml bolus of normal saline (NS).
- ~~Refer to~~See ICEMA Reference #12010 - Determination of Death on Scene.
- Obtain blood glucose level, if indicated administer:
 - Dextrose ~~50%~~ per ICEMA Reference #7040 - Medication - Standard Orders.
 - May repeat blood glucose level. Repeat Dextrose per ICEMA Reference #7040 - Medication - Standard Orders if indicated.

- If suspected narcotic overdose with severely decreased respiratory drive administer:
 - Naloxone per ICEMA Reference #7040 - Medication - Standard Orders.

NOTE: Base hospital contact is required to terminate resuscitative measures.

IV. ALS INTERVENTIONS

- Initiate CPR while applying the cardiac monitor.
- Determine cardiac rhythm and defibrillate if indicated. Begin a two (2) minute cycle of CPR.
- Obtain IV/IO access.
- Establish advanced airway when resources are available, with minimal interruption to ~~CPR~~ chest compressions. After advanced airway established, compressions would then be continued at 100 per minute 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, for confirmation and monitoring of endotracheal tube placement and for assessment of ROSC and perfusion status. Document the shape of the wave and the capnography number in mmHG.
- Insert NG/OG Tube to relieve gastric distension per ICEMA Reference #10190 - ICEMA Approved Skills ~~Insertion of Nasogastric/Orogastric Tube~~.
- Obtain blood glucose level. If indicated administer:
 - Dextrose per ICEMA Reference #7040 - Medication - Standard Orders.
 - May repeat blood glucose level. Repeat Dextrose per ICEMA Reference #7040 - Medication - Standard Orders if indicated.
- If suspected narcotic overdose with severely decreased respiratory drive administer:
 - Naloxone per ICEMA Reference #7040 - Medication - Standard Orders.

- If ROSC is achieved, obtain a 12-lead ECG and contact a STEMI base hospital for destination decision, refer to ICEMA Reference #8130 - Destination Policy.
- Utilize continuous waveform capnography, to identify loss of circulation.
- For continued signs of inadequate tissue perfusion after successful resuscitation, administer:
 - Dopamine per ICEMA Reference #7040 - Medication - Standard Orders to maintain signs of adequate tissue perfusion.
- Base hospital physician may order additional medications or interventions as indicated by patient condition.

Ventricular Fibrillation/Pulseless Ventricular Tachycardia

- Defibrillate at 360 joules for monophasic or biphasic equivalent per manufacture. If biphasic equivalent is unknown use maximum available.
- Perform CPR for two (2) minutes after each defibrillation, without delaying to assess the post-defibrillation rhythm.
- Administer Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders during each two (2) minute cycle of CPR after every defibrillation unless capnography indicates possible ROSC.
- Reassess rhythm after each two (2) minute cycle of CPR. If VF/VT persists, defibrillate as above.
- After two (2) cycles of CPR, consider administering:
 - Lidocaine per ICEMA Reference #7040 - Medication - Standard Orders.
- If patient remains in pulseless VF/VT after five (5) cycles of CPR, consult base hospital.

Pulseless Electrical Activity (PEA) or Asystole

- Assess for reversible causes and initiate treatment.
- Continue CPR with evaluation of rhythm every two (2) minutes.
- Administer fluid bolus of 300 ml NS IV, may repeat.

- Administer Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders during each two (2) minute cycle of CPR after each rhythm evaluation.

Termination of Efforts in the Prehospital Setting

- The decision to terminate efforts in the field should take into consideration, first, the safety of personnel on scene, and then family and cultural considerations.
- Consider terminating resuscitative efforts in the field if ALL of the following criteria are met:
 - No shocks were delivered.
 - No ROSC after a minimum of ten (10) minutes of advance cardiac life support (ACLS).
- Base hospital contact is required to terminate resuscitative measures. A copy of the ECG should be attached to the patient care report for documentation purposes.

V. REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
8130	Destination Policy
10190080	ICEMA Approved Skills Insertion of Nasogastric/Orogastric Tube
10130	Automatic External Defibrillation (AED) - BLS
12010	Determination of Death on Scene



ALTERED LEVEL OF CONSCIOUSNESS/SEIZURES - ADULT

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Patient exhibiting signs/symptoms of a possible altered level of consciousness.
- Suspected narcotic dependence, overdose, hypoglycemia, traumatic injury, shock and alcoholism.
- Tonic/clonic movements followed by a brief period of unconsciousness (post-ictal).
- Suspect status epilepticus for frequent or extended seizures.

II. BLS INTERVENTIONS

- Oxygen therapy as clinically indicated.
- Position patient as tolerated. If altered gag reflex in absence of traumatic injury, place in left lateral position.
- Place patient in axial spinal stabilization per ICEMA Reference #15010 - Trauma - Adult (15 years of age and older).
- If patient history includes insulin or oral hypoglycemic medications, administer Glucose sublingual.

III. LIMITED ALS (LALS) INTERVENTIONS

- Obtain vascular access.
- Obtain blood glucose level. If indicated administer:
 - Dextrose ~~50%~~ per ICEMA Reference #7040 - Medication - Standard Orders, **or**
 - Glucagon per ICEMA Reference #7040 - Medication - Standard Orders, if unable to establish IV. May give one (1) time only.
 - May repeat blood glucose level. Repeat Dextrose per ICEMA Reference #7040 - Medication - Standard Orders if indicated.

- If suspected narcotic overdose with severely decreased respiratory drive administer:
 - Naloxone per ICEMA Reference #7040 - Medication - Standard Orders.
- Assess and document response to therapy.
- Base hospital may order additional medication dosages and fluid bolus.

IV. ALS INTERVENTIONS

- Obtain vascular access and place on monitor.
- Obtain blood glucose level. If indicated administer:
 - Dextrose ~~50%~~ per ICEMA Reference #7040 - Medication - Standard Orders, **or**
 - Glucagon per ICEMA Reference #7040 - Medication - Standard Orders, if unable to establish IV. May give one (1) time only.
 - May repeat blood glucose level. Repeat Dextrose per ICEMA Reference #7040 - Medication - Standard Orders if indicated.
- For tonic/clonic type seizure activity, administer:
 - Midazolam per ICEMA Reference #7040 - Medication - Standard Orders.
 - Assess patient for medication related reduced respiratory rate or hypotension.
- If suspected narcotic overdose with severely decreased respiratory drive administer:
 - Naloxone per ICEMA Reference #7040 - Medication - Standard Orders.
- Assess and document response to therapy.
- Base hospital may order additional medication dosages and fluid bolus.

V. REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
15010	Trauma - Adult (15 years of age and older).



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. LIMITED ALS (LALS) INTERVENTIONS

- Maintain airway with appropriate adjuncts, including perilyngeal airway adjunct if indicated.
- Obtain O₂ 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:
 - ADULT
 - ~~In the adult give~~ Administer 500 ml IV bolus, may repeat one (1) time until tissue perfusion improves
 - PEDIATRIC
 - ~~In the pediatric patient give~~ Administer 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:
 - ADULT/PEDIATRIC
 - ~~In adults, M~~maintain IV ~~rate~~ at TKO.
 - ~~In pediatric patients, maintain IV at TKO.~~

III. ALS INTERVENTIONS

- Maintain airway with appropriate adjuncts, including advanced airway if indicated. Obtain O₂ 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:
 - ADULT
 - ~~In the adult give~~Administer 500 ml IV bolus, may repeat one (1) time to sustain a BP > 90 mmHg or until tissue perfusion improves.
 - PEDIATRIC
 - ~~In the pediatric patient give~~Administer 20 ml/kg IV bolus, may repeat one (1) time for tachycardia, change in central/peripheral pulses, limb temperature transition, or altered level of consciousness.
- For BP > 90 mmHg and no respiratory difficulties and adequate signs of tissue perfusion:
 - ADULT
 - ~~In adults, M~~maintain IV rate at 150 ml per hour.
 - PEDIATRIC
 - ~~In pediatric patients, M~~maintain IV at TKO.

Base Hospital Station May Order

- Establish 2nd large bore IV enroute.

- ~~Dopamine~~ Dopamine per ICEMA Reference #7040 - Medication - Standard Orders infusion at 5—20 mcg/kg /min if hypotension persists despite fluid administration.

IV. REFERENCE

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders



BURNS - ADULT (15 years of age and older)

Burn patient requires effective communication and rapid transportation to the closest receiving hospital.

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

I. FIELD ASSESSMENT/TREATMENT INDICATORS

Refer to ICEMA Reference #8~~130 - Destination Policy~~030—~~Burn Destination and Criteria Policy~~.

II. BLS INTERVENTIONS

- Break contact with causative agent (stop the burning process).
- Remove clothing and jewelry quickly, if indicated.
- Keep patient warm.
- Estimate % 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 ICEMA Reference #12010 - Determination of Death On Scene.

III. LIMITED ALS (LALS) INTERVENTIONS

- Advanced airway as indicated.
- King Airway contraindicated in airway burns.
- Airway Stabilization:

Burn patients with respiratory compromise or potential for such, will be transported to the closest most appropriate receiving hospital for airway stabilization.
- IV access (warm IV fluids when available).
 - *Unstable:* BP <90mmHG and/or signs of inadequate tissue perfusion, start 2nd IV access.

IV NS 250 ml boluses, may repeat to a maximum of 1000 ml.
 - *Stable:* BP >90mmHG and/or signs of adequate tissue perfusion.

IV NS 500 ml/hour.
 - Transport to appropriate facility.
 - *Minor Burn Classification:* Transport to the closest most appropriate receiving hospital.
 - *Moderate Burn Classification:* Transport to the closest most appropriate receiving hospital.
 - *Major Burn Classification:* Transport to the closest most appropriate Burn Center (San Bernardino County contact ARMC).
 - *Critical Trauma Patient (CTP) with Associated Burns:* Transport to the most appropriate Trauma Center.
- Burn patients with associated trauma, should be transported to the closest Trauma Center. Trauma ~~base~~ hospital ~~Station~~ contacted shall be made.

A. Manage Special Considerations

- **Electrical Burns:** Place AED ~~on patient according to ICEMA protocols.~~
 - Electrical injuries that result in cardiac arrest shall be treated as medical arrests.
- **Respiratory Distress:** Use BVM as needed and transport to the nearest facility for airway control. Contact receiving hospital ASAP. Nebulized Albuterol ~~2.5 mg~~ with Atrovent ~~0.5 mg, may repeat two (2) times per ICEMA Reference #7040 -Medication - Standard Orders.~~
- **Deteriorating Vital Signs:** Transport to the closest most appropriate receiving hospital. Contact ~~bBase~~ hospitalStation.
- **Pulseness and Apneic:** Transport to the closest most appropriate receiving hospital and treat according to ICEMA policies. Contact ~~bBase~~ hospitalStation.
- **Determination of Death on Scene:** Refer to ICEMA Reference #12010 - Determination of Death on Scene.
- **Precautions and Comments:**
 - High flow oxygen is essential with known or potential respiratory injury. Beware of possible smoke inhalation.
 - 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.
- **Base HospitalStation Orders:** May order additional fluid boluses.

IV. ALS INTERVENTIONS

- Advanced airway (as indicated).
- Airway Stabilization:

Burn patients with respiratory compromise or potential for such, will be transported to the closest most appropriate receiving hospital for airway stabilization.

- Monitor ECG.
- IV/IO Access (Warm IV fluids when available).
 - *Unstable:* BP <90mmHG and/or signs of inadequate tissue perfusion, start 2nd IV access.

IV/IO NS 250 ml boluses, may repeat to a maximum of 1000ml.
 - *Stable:* BP >90mmHG and/or signs of adequate tissue perfusion.

IV/IO NS 500 ml/hour.
- Treat pain as indicated.

~~**IV Pain Relief:** Morphine Sulfate per ICEMA Reference #7040 - Medication - Standard Orders. 5 mg IV slowly and may repeat every five (5) minutes to a maximum of 20 mg when the patient maintains a BP >90mmHG and signs of adequate tissue perfusion.~~ Document BPs every five (5) minutes while medicating for pain and reassess the patient.

~~**IM Pain Relief:** Morphine Sulfate 10 mg IM. Document vital signs and reassess patient.~~

- Transport to appropriate facility:
 - *CTP with associated burns*, transport to the closest Trauma Center.
 - Burn patients with associated trauma, should be transported to the closest Trauma Center. Trauma ~~B~~base hospitalStation contacted shall be made.
- Insert nasogastric/orogastric tube as indicated.
- Refer to Section V - Burn Classifications ~~table below~~.

A. Manage Special Considerations

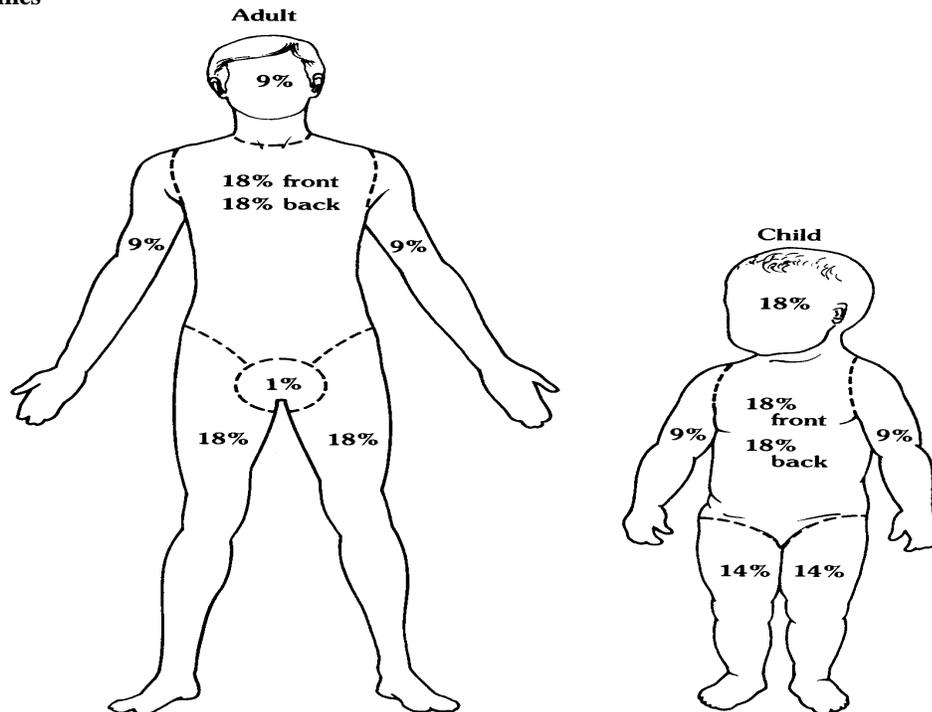
- **Electrical Burns:** Monitor for dysrhythmias, treat according to ICEMA protocols.
 - Electrical injuries that result in cardiac arrest shall be treated as medical arrests.
- **Respiratory Distress:** Intubate patient if facial/oral swelling are present or if respiratory depression or distress develops due to inhalation injury.

- ~~Nebulized~~ Albuterol ~~2.5 mg~~ with Atrovent per ICEMA Reference #7040 - Medication - Standard Orders ~~0.5 mg, may repeat two (2) times.~~
- Administer humidified oxygen, if available.
- ~~Consider~~ Apply capnography, ~~if available.~~
- Awake and breathing patients with potential for facial/inhalation burns are not candidates for nasal tracheal intubation. CPAP may be considered, if indicated, after consultation with bBase hospitalStation.
- **Deteriorating Vital Signs:** Transport to the closest receiving hospital. Contact bBase hospitalStation.
- **Pulseness and Apneic:** Transport to the closest receiving hospital and treat according to ICEMA policies. Contact bBase hospitalStation.
- **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.
- **Base HospitalStation Orders:** May order additional medications, fluid boluses and CPAP.

V. BURN CLASSIFICATIONS

ADULT BURN CLASSIFICATION CHART	DESTINATION	
<p>MINOR - ADULT</p> <ul style="list-style-type: none"> • < 10% TBSA • < 2% Full Thickness 	<p>CLOSEST MOST APPROPRIATE RECEIVING HOSPITAL</p>	
<p>MODERATE - ADULT</p> <ul style="list-style-type: none"> • 10 - 20% 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) 	<p>CLOSEST MOST APPROPRIATE RECEIVING HOSPITAL</p>	
<p>MAJOR - ADULT</p> <ul style="list-style-type: none"> • >20% TBSA burn in adults • > 5% Full Thickness • High Voltage Burn • Known Inhalation Injury • Any significant burn to face, eyes, ears, genitalia, or joints 	<p>CLOSEST MOST APPROPRIATE BURN CENTER</p> <p>In San Bernardino County, contact: Arrowhead Regional Medical Center (ARMC)</p>	

“Rule of Nines”



VI. REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
8030	Burn Destination and Criteria Policy
9010	General Patient Care Guidelines
10010/10020	King Airway Device
10030/10040	Oral Endotracheal Intubation
10050	Nasotracheal Intubation
10060	Needle Thoracostomy
10070	Needle Cricothyrotomy
10080	Insertion of Nasogastric/Orogastric Tube
10140	Intraosseous Infusion IO
10150	External Jugular Vein Access
10160	Axial Spinal Stabilization
10190	ICEMA Approved Skills
11070	Adult Cardiac Arrest
12010	Determination of Death on Scene
15030	Trauma Triage Criteria and Destination Policy



STROKE TREATMENT - ADULT

I. FIELD ASSESSMENT/TREATMENT INDICATORS

Patient exhibiting signs/symptoms of a possible stroke. These signs may include: speech disturbances, altered level of consciousness, parasthesias, new onset seizures, dizziness unilateral weakness and visual disturbances.

II. BLS INTERVENTIONS

- Oxygen therapy as clinically indicated.
- Position patient as tolerated. Consider left lateral position, if indicated.
- Place patient in axial spinal stabilization, if trauma is suspected.
- If patient history includes insulin or oral hypoglycemic medications, administer Glucose sublingual.

III. LIMITED ALS (LALS)/ALS INTERVENTIONS

- Obtain vascular access and place on monitor.
- Obtain blood glucose. If hypoglycemic, refer to [ICEMA Reference #11080 - Altered Level of Consciousness/Seizures - Adult Protocol Reference #11080](#).
- For tonic/clonic type seizure activity, refer to [ICEMA Reference #11080 - Altered Level of Consciousness/Seizures - Adult Protocol Reference #11080](#).

A. **Modified Los Angeles County Prehospital Stroke Screen (mLAPSS):** A screening tool used by prehospital care providers to assist in identifying patients who may be having a stroke.

- **mLAPSS CRITERIA**

- Ask when “last seen normal” or without stroke symptoms. Refer to [Section V - Stroke Patient Destination](#) Decision Tree [below](#).
- No history of seizures or epilepsy.
- Age greater than or equal to 40. If less than 40, with suspected stroke, continue mLAPSS assessment, make NSRC base [hospitalstation](#) contact for destination.

- At baseline, patient is not wheelchair bound or bedridden.
- Blood glucose between 60 - 400 mg/dl.
- Motor Exam: Examine for obvious asymmetry-unilateral weakness (exam is positive, if one (1) or more of the following are present).
 - Facial smile/Grimace asymmetry
 - Grip asymmetry
 - Arm strength asymmetry
- In San Bernardino County, if Stroke Scale is positive, initiate “Stroke Alert”, contact NSRC base hospital station and transport immediately.

~~If time is available, and the patient or family can provide the information, assess the patient using the criteria listed below and report to ED personnel:~~

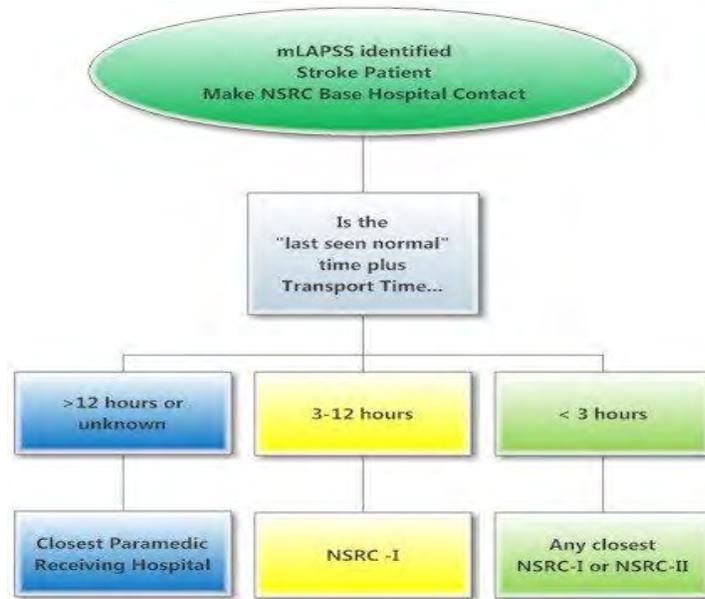
B. Thrombolytic Assessment

If time is available, and the patient or family can provide the information, assess the patient using the criteria listed below and report to ED personnel:

- ~~Onset greater than 4 hours? _____ Yes _____ No~~
- ~~History of recent bleeding? _____ Yes _____ No~~
- ~~Use of anticoagulant? _____ Yes _____ No~~
- ~~Major surgery or serious trauma in the previous fourteen (14) days? _____ Yes _____ No~~
- ~~Sustained systolic blood pressure above 185mm Hg.? _____ Yes _____ No~~
- ~~Recent stroke or intracranial hemorrhage? _____ Yes _____ No~~

Onset greater than 4 hours?	Yes	No
History of recent bleeding?	Yes	No
Use of anticoagulant?	Yes	No
Major surgery or serious trauma in the previous fourteen (14) days?	Yes	No
Sustained systolic blood pressure above 185 mm Hg?	Yes	No
Recent stroke or intracranial hemorrhage?	Yes	No

V. STROKE PATIENT DESTINATION DECISION TREE



IV. REFERENCE

<u>Number</u>	<u>Name</u>
11080	Altered Level of Consciousness/Seizures - Adult



DETERMINATION OF DEATH ON SCENE

I. PURPOSE

To identify situations when an EMT, AEMT or EMT-P may be called upon to determine death on scene.

II. POLICY

An EMT, AEMT or EMT-P may determine death on scene if **pulselessness and apnea** are present with any of the following criteria. The EMT-P is authorized to discontinue BLS CPR initiated at scene if a patient falls into the category of obvious death. If any ALS procedures are initiated, only the bBase hospitalStation physician/designee may determine death in the field. In any situation where there may be doubt as to the clinical findings of the patient, BLS CPR must be initiated and the bBase hospitalStation contacted, refer to ICEMA Reference #12020 - Withholding Resuscitate Measures. When death is determined, the County Coroner must be notified along with the appropriate law enforcement agency.

III. DETERMINATION OF DEATH CRITERIA

- Decomposition.
- Obvious signs of rigor mortis such as rigidity or stiffening of muscular tissues and joints in the body, which occurs any time after death and usually appears in the head, face and neck muscles first.
- Obvious signs of venous pooling in dependent body parts, lividity such as mottled bluish-tinged discoloration of the skin, often accompanied by cold extremities.
- Decapitation.
- Incineration of the torso and/or head.
- Massive crush injury.
- Penetrating injury with evisceration of the heart, and/or brain.
- Gross dismemberment of the trunk.

PROCEDURE

- If the patient does not meet the Determination of Death criteria, appropriate interventions must be initiated.
- Resuscitation efforts shall not be terminated en route per Government Code 27491. The patient will be transported to the closest facility where determination of death will be made by hospital staff.
- Most victims of electrocution, lightning and drowning should have resuscitative efforts begun and transported to the appropriate Hospital/Trauma Center.
- Hypothermic patients should be treated per ICEMA Reference #13030 - Cold Related Emergencies, under Severe Hypothermia.
- A DNR report form must be completed, if applicable, refer to ICEMA Reference #12020 - Withholding Resuscitative Measures.
- **San Bernardino County Only:**
A copy of the patient care report must be made available for the Coroner. This will be transmitted to them, when posted, if the disposition is marked "Dead on Scene" and the Destination is marked "Coroner, San Bernardino County" on the electronic patient care report (ePCR). If unable to post, a printed copy of the ePCR, O1A or a completed *Coroners Worksheet of Death* must be left at the scene. The completed ePCR or O1A must be posted or faxed to the Coroner before the end of the shift.

LIMITED ALS (LALS) PROCEDURE

- All terminated LALS resuscitation efforts must have an AED event record attached to the patient care report.
- All conversations with the **bBase hospitalStation** must be fully documented with the name of the **bBase hospitalStation** physician who determined death, times and instructions on the patient care report.

ALS PROCEDURE

- All patients in ventricular fibrillation should be resuscitated and transported unless otherwise determined by the **bBase hospitalStation** physician/designee.
- Severe blunt force trauma, pulseless, without signs of life (palpable pulses and/or spontaneous respirations) and cardiac electrical activity less than 40 bpm or during EMS encounter with the patient meets Determination of Death criteria.

- All terminated ALS resuscitation efforts must have an ECG attached to the patient care report.
- All conversations with the ~~bBase~~ hospitalStation must be fully documented with the name of the ~~bBase~~ hospitalStation physician who determined death, times and instructions on the patient care report.

IV. SUSPECTED SUDDEN INFANT DEATH SYNDROME (SIDS) INCIDENT

It is imperative that all EMS field personnel be able to assist the caregiver and local police agencies during a suspected SIDS incident.

PROCEDURE

- Follow individual department/agency policies at all times.
- Ask open-ended questions about incident.
- Explain what you are doing, the procedures you will follow, and the reasons for them.
- If you suspect a SIDS death, explain to the parent/caregiver what SIDS is and, if this is a SIDS related death nothing they did or did not do caused the death.
- Provide the parent/caregiver with the number of the California SIDS Information Line: **1-800-369-SIDS (7437)**
- Provide psychosocial support and explain the emergency treatment and transport of their child.
- Assure the parent/caregiver that your activities are standard procedures for the investigation of all death incidents and that there is no suspicion of wrongdoing.
- Document observations.

V. REFERENCES

<u>Number</u>	<u>Name</u>
12020	Withholding Resuscitative Measures
13030	Cold Related Emergencies



POISONINGS

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Altered level of consciousness.
- Signs and symptoms of substance ingestion, inhalation, injection or surface absorption.
- History of substance poisoning.

II. PRIORITIES

- Assure the safety of EMS field personnel.
- Assure and maintain ABCs.
- Determine degree of physiological distress.
- Obtain vital signs, history and complete physical assessment including the substance ingested, the amount, the time substance was ingested and the route.
- Bring ingested substance to the hospital with patient.
- Expeditious transport.

III. BLS INTERVENTIONS

- Assure and maintain ABCs.
- Place patient on high flow oxygen as clinically indicated.
- Contact poison control (1-800-222-1222).
- Obtain accurate history of incident:
 - Name of product or substance.
 - Quantity ingested, and/or duration of exposure.
 - Time elapsed since exposure.

- Pertinent medical history, chronic illness, and/or medical problems within the last twenty-four (24) hours.
- Patient medication history.
- Monitor vital signs.
- Expeditious transport.

IV. LIMITED ALS (LALS) INTERVENTIONS PRIOR TO BASE HOSPITAL STATION CONTACT

- Assure and maintain ABCs.
- Oxygen therapy as clinically indicated, obtain ~~oxygen~~ O₂ saturation on room air, unless detrimental to patient condition.
- Obtain vascular access at a TKO rate or if signs of inadequate tissue perfusion, administer 500 cc fluid challenge and repeat until perfusion improves.
- For pediatric patients with signs of inadequate tissue perfusion, administer/give 20 cc/kg IVP and repeat until perfusion improves.

V. ALS INTERVENTIONS PRIOR TO BASE HOSPITAL STATION CONTACT

- Assure and maintain ABCs.
- Oxygen therapy as clinically indicated, obtain O₂~~oxygen~~ saturation on room air, unless detrimental to patient condition.
- Monitor cardiac status.
- Obtain vascular access at a TKO rate or if signs of inadequate tissue perfusion, administer 500 cc fluid challenge and repeat until perfusion improves.
- For pediatric patients with signs of inadequate tissue perfusion, administer/give 20 cc/kg IVP and repeat until perfusion improves.
- For phenothiazine “poisoning”, administer Diphenhydramine per ICEMA Reference #7040 - Medication - Standard Orders 25 mg IVP or 50 mg IM for ataxia and/or muscle spasms.
- For known organophosphate poisoning, administer/give Atropine per ICEMA Reference #7040 - Medication - Standard Orders 2 mg IVP, repeat

~~at 2 mg increments if patient remains symptomatic (i.e., excessive salivation, lacrimation, urination, diarrhea, vomiting and/or constricted pupils).~~

VI. BASE HOSPITAL STATION MAY ORDER THE FOLLOWING

- 1.* For tricyclic poisonings, administer Sodium Bicarbonate per ICEMA Reference #7040 - Medication - Standard Orders. ~~1 mEq/kg IVP for tachycardia, widening QRS or ventricular arrhythmias.~~
- 2.* For calcium channel blocker poisonings, administer Calcium Chloride ~~-per ICEMA Reference #7040 - Medication - Standard Orders~~ 1gm (10 cc of a 10% solution), if hypotension or bradycardic arrhythmias persist.
- 3.* For beta blocker poisonings, administer ~~Glucagon~~ Glucagon per ICEMA Reference #7040 - Medication - Standard Orders 1 mg IVP.
- 4.* Repeat Atropine in 2 - 4 mg increments until symptoms are controlled.

* May be done during radio communication failure (RCF).

VII. REFERENCE

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders



HEAT RELATED EMERGENCIES

I. FIELD ASSESSMENT/TREATMENT INDICATORS MINOR HEAT ILLNESS SYNDROMES

MINOR HEAT ILLNESS SYNDROMES FIELD ASSESSMENT/TREATMENT INDICATORS

- Environmental conditions.
- Increased skin temperature.
- Increased body temperature.
- General weakness.
- Muscle cramps.

HEAT EXHAUSTION (Compensated)

- All or some of the symptoms above.
- Elevated temperature.
- Vomiting.
- Hypotension.
- Diaphoresis.
- Tachycardia.
- Tachypnea.

HEAT STROKE (Uncompensated)

- All or some of the symptoms above.
- Hyperthermia.
- ALOC or other signs of central nervous system dysfunction.
- Absence or decreased sweating.

- Tachycardia.
- Hypotension.

~~BLS INTERVENTIONS~~

- ~~1. Remove patient from heat source, place in a position of comfort and begin cooling measures.~~
- ~~2. Oxygen as clinically indicated.~~
- ~~3. Rehydrate with small amounts of appropriate liquids as tolerated.~~
- ~~4. Axial spinal stabilization if indicated.~~

HEAT EXHAUSTION/ HEAT STROKE

~~FIELD ASSESSMENT/ TREATMENT INDICATORS~~

- Dehydration.
- Elevated temperature, vomiting, hypotension, diaphoresis, tachycardia and tachypnea.
- No change in LOC.

II. BLS INTERVENTIONS

- Remove patient from heat source, position with legs elevated and begin cooling measures.
- Oxygen as clinically indicated.
- Rehydrate with small amounts of appropriate liquids as tolerated. Do not give liquids if altered level of consciousness.
- If patient has signs of Heat Stroke, begin rapid cooling measures including cold packs placed adjacent to large superficial vessels.
- Evaporative cooling measures.

III. LIMITED ALS INTERVENTIONS

- Obtain vascular access.

- ADULT
 - Fluid bolus with 500 cc NS. Reassess and repeat fluid bolus if continued signs of inadequate tissue perfusion.
- PEDIATRIC
 - Patients less than nine (9) years of age: Initial 20 cc/kg IV bolus; reassess and repeat fluid bolus if continued signs of inadequate tissue perfusion
- If clinically indicated, obtain blood glucose. If hypoglycemic administer:

➤ ADULT/PEDIATRIC

- Dextrose per ICEMA Reference #7040 - Medication - Standard Orders. 25-gms (50-cc) IV of 50% solution, or
- Glucagon per ICEMA Reference #7040 - Medication - Standard Orders.

PEDIATRIC

- a. ~~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~~
- b. ~~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~~
- c. ~~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~~
- d. ~~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~~
- e. ~~May repeat blood glucose. Repeat Dextrose if extended transport time.~~
- f. ~~Glucagon, if unable to start an IV. May be repeated one (1) time after twenty (20) minutes for a combined maximum dose of 1 mg.~~
- Seizure precautions, refer to ICEMA Reference #11080 - Altered Level of Consciousness/Seizures - Adult.
- Contact Bbase hospitalStation for destination and further treatment orders.

IV. **ALS INTERVENTIONS**

- Obtain vascular access.
- ADULT

- Fluid bolus with 500 cc NS. May repeat fluid bolus if continued signs of inadequate tissue perfusion.
 - PEDIATRIC
 - Patients less than nine (9) years of age: Initial 20 cc/kg IV/IO bolus; reassess and repeat fluid bolus if continued signs of inadequate tissue perfusion.
- If clinically indicated, obtain blood glucose. If hypoglycemic administer:

➤ ADULT/PEDIATRIC

- Dextrose per ICEMA Reference #7040 - Medication - Standard Orders. ~~25 gms (50 cc) IV of 50% solution, or~~
- Glucagon per ICEMA Reference #7040 - Medication - Standard Orders.

ADULT

- a. ~~Dextrose 25 gms (50 cc) IV/IO per ICEMA Reference #7040 - Medication - Standard Orders, or~~
- b. ~~Glucagon 1 mg IM/SC/IN per ICEMA Reference #7040 - Medication - Standard Orders, if unable to establish IV. May give one (1) time only.~~

PEDIATRIC

- a. ~~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~~
- b. ~~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~~
- c. ~~For patient > 10 kg and < 25 kg, 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~~
- d. ~~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~~
- e. ~~May repeat blood glucose. Repeat Dextrose if extended transport time.~~
- f. ~~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.~~

- Base hospital Station may order additional medication dosages and additional fluid boluses.
- Obtain rhythm strip for documentation with copy to receiving hospital.

- For tonic/clonic type seizure activity administer:
 - ADULT/PEDIATRIC
 - Midazolam per ICEMA Reference #7040 -Medication - Standard Orders.
- ~~a. Midazolam, 2.5 mg IN/IV/IO. May repeat in five (5) minutes for continued seizure activity, or~~
 - ~~b. Midazolam 5 mg IM. May repeat in ten (10) minutes for continued seizure activity.~~
 - ~~c. Assess patient for medication related reduced respiratory rate or hypotension.~~
 - ~~d. 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.~~

PEDIATRIC

- ~~a. Midazolam 0.1 mg/kg IV/IO with maximum dose 2.5 mg. May repeat Midazolam in five (5) minutes for continued seizure. Do not to exceed adult dosage, or~~
- ~~b. 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.~~
- ~~c. Assess patient for medication related reduced respiratory rate or hypotension.~~
- ~~d. 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.~~

V. REFERENCES

<u>Number</u>	<u>Name</u>
7040	<u>Medication - Standard Orders</u>
11080	Altered Level of Consciousness/Seizures - Adult



COLD RELATED EMERGENCIES

I. FIELD ASSESSMENT/TREATMENT INDICATORS

MILD HYPOTHERMIA

- Decreased core temperature.
- Cold, pale extremities.
- Shivering, reduction in fine motor skills.
- Loss of judgment and/or altered level of consciousness or simple problem solving skills.

SEVERE HYPOTHERMIA

- Severe cold exposure or any prolonged exposure to ambient temperatures below 36 degrees with the following indications:
 - Altered LOC with associated behavior changes.
 - Unconscious.
 - Lethargic.
- Shivering is generally absent.
- Blood pressure and heart sounds may be unobtainable.

SUSPECTED FROSTBITE

- Areas of skin ~~that are~~that is cold, white, and hard to touch.
- Capillary refill greater than two (2) seconds.
- Pain and/or numbness to affected extremity.

II. BLS INTERVENTIONS

- Remove from cold/wet environment; remove wet clothing and dry patient.
- Begin passive warming.

- Insulate and apply wrapped heat packs, if available, to groin, axilla and neck. This process should be continuous.
- Maintain appropriate airway with oxygen as clinically indicated (warm, humidified if possible).
- Assess carotid pulse for a minimum of one (1) to two (2) minutes. If no pulse palpable, place patient on AED ~~if available, per ICEMA Reference #10130 Automatic External Defibrillation (AED) BLS~~. If no shock advised, begin CPR.
- Insulate to prevent further heat loss.
- Elevate extremity if frostbite is suspected.
- Do not massage affected extremity.
- Wrap affected body part in dry sterile gauze to prevent further exposure and handle with extreme care.

III. LIMITED ALS INTERVENTIONS

- Advanced airway as clinically indicated.
- Obtain vascular access.
- ~~If clinically indicated, Obtain blood glucose level, if indicated administer: - If hypoglycemic administer:~~
 - ADULT/PEDIATRIC
 - ~~Dextrose per ICEMA Reference #7040 - Medication - Standard Orders. 25-gms (50-cc) IV, or~~
 - ~~May repeat blood glucose level. Repeat Dextrose per ICEMA Reference #7040 - Medication - Standard Orders.~~
 - ~~Glucagon per ICEMA Reference #7040 - Medication - Standard Orders 1-mg IM/SC/IN, if unable to establish IV. May give one (1) time only.~~

PEDIATRIC

- a. ~~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~~
- b. ~~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~~

- ~~e. 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~~
- ~~d. 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~~
- ~~e. May repeat blood glucose. Repeat Dextrose if extended transport time.~~
- ~~f. 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.~~

- Obtain vascular access and administer fluid bolus.
 - Nine (9) years and older: 300 ml warmed NS, may repeat.
 - Birth to eight (8) years: 20 ml/kg warmed NS, may repeat.
- Contact bBase hospitalStation.

IV. ALS INTERVENTIONS

- Obtain vascular access.
- Cardiac monitor.
- If clinically indicated, obtain blood glucose. If hypoglycemic administer:
 - ADULT/PEDIATRIC
 - Dextrose per ICEMA Reference #7040 -Medication - Standard Orders.
 - Glucagon per ICEMA Reference #7040 - Medication - Standard Orders-1mg IM/SC/IN, if unable to establish IV. May give one (1) time only.

PEDIATRIC

- ~~a. 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~~
- ~~b. 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~~
- ~~e. 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~~

- ~~d. 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~~
- ~~e. May repeat blood glucose. Repeat Dextrose if extended transport time.~~
- ~~f. 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 complaints of pain in affected body part:
 - ADULT/PEDIATRIC
 - Morphine Sulfate per ICEMA Reference #7040 -Medication - Standard Orders. 2 mg IV, may repeat in 2 mg increments, not to exceed 10 mg IV, or
 - ~~▪ Morphine Sulfate 10 mg IM may repeat IM dosage one (1) time for pain relief.~~

PEDIATRIC

- ~~a. Morphine Sulfate 0.1 mg/kg IV not to exceed 2 mg increments, for a total of 5 mg or~~
 - ~~b. Morphine Sulfate 0.2 mg/kg IM, for a total of 10 mg IM, titrated for pain relief.~~
- In Radio Communication Failure, may repeat above dosage of Morphine Sulfate.
 - Advanced airway as clinically indicated.
 - Obtain vascular access and administer fluid bolus.
 - Nine (9) years and older: 500 ml warmed NS, may repeat.
 - Birth to eight (8) years: 20 ml/kg warmed NS, may repeat.
 - Obtain rhythm strip for documentation.
 - For documented VF, Pulseless V-Tach:
 - Defibrillate one (1) time at manufacturer recommended dose. Do not defibrillate again until patient has begun to warm.

- For documented asystole:
 - Begin CPR.
 - May give additional fluid bolus.
- Contact ~~b~~Base hospitalStation.

V. REFERENCE

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
10130	Automatic External Defibrillation (AED) - BLS



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 remove patient from any suspected contaminant.
- Recognize signs and symptoms of respiratory distress for age.
- Reduce anxiety, assist patient to assume 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~~ Albuterol per ICEMA Reference #7040 - Medication - Standard Orders 2.5 mg may repeat two (2) times.
- If no response to Albuterol, consider Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders. (1:1,000) 0.01 mg/kg SC not to exceed adult dosage of 0.3 mg.
- Obtain vascular access at a TKO rate.
- If allergic reaction suspected, Consider refer to ICEMA Reference #14030 - Pediatric Allergic Reaction (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.

IV. ALS INTERVENTIONS

- Maintain airway with appropriate adjuncts, obtain O₂ ~~oxygen~~ saturation on room air if possible.
- ~~— Nebulized Albuterol with Atrovent, per ICEMA Reference #7040 - Medication - Standard Orders. 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 per ICEMA Reference #7040 - Medication - Standard Orders. (1:1,000) 0.01 mg/kg SC not to exceed adult dosage of 0.3 mg.~~
- Obtain vascular access at a TKO rate.
- ~~— If allergic reaction suspected, Consider refer to ICEMA Reference #14030 - 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

<u>Number</u>	<u>Name</u>
<u>7040</u>	<u>Medication - Standard Orders</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~~

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 O₂ saturation.
- Administer oxygen.
- 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.

IIIIV. LIMITED ALS (LALS) INTERVENTIONS

- If apneic and able to ventilate, consider King Airway placement per ICEMA Reference #10~~190 - ICEMA Approved Skills-020—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.

IV. ALS INTERVENTIONS

- If apneic and able to ventilate, consider intubation per ICEMA Reference #10~~190 - ICEMA Approved Skills.-#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 ICEMA Reference #10~~190 - ICEMA Approved Skills.-070—Needle Cricothyrotomy.~~

VI. REFERENCE

<u>Number</u>	<u>Name</u>
10020	King Airway Device (Perilaryngeal)—Pediatric
10040	Oral Endotracheal Intubation—Pediatric
10070	Needle Cricothyrotomy
10190	ICEMA Approved Skills



ALLERGIC REACTIONS - PEDIATRIC (Less than 15 years of age)

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Signs and Symptoms of an acute allergic reaction.
- History of Exposure to possible allergen.

II. BLS INTERVENTIONS

- Recognize signs/symptoms of respiratory distress for age.
- Reduce anxiety, assist patient to assume POC.
- Oxygen administration as clinically indicated, (humidified oxygen preferred).
- Assist patient with self-administration of prescribed Epinephrine device.
- Assist patient with self-administration of prescribed Diphenhydramine.

III. LIMITED ALS (LALS) INTERVENTIONS - PEDIATRIC (Less than 15 years of age)

- Maintain airway with appropriate adjuncts, obtain ~~O₂~~oxygen saturation on room air if possible.
- ~~Nebulized~~Albuterol per ICEMA Reference #7040 - Medication - Standard Orders2.5 mg may repeat twice.
- If no response to Albuterol, consider Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders.~~(1:1,000) 0.01 mg/kg SC not to exceed adult dosage of 0.3 mg. (with Base Station contact).~~
- For symptomatic hypotension with poor perfusion, consider fluid bolus of 20 ml/kg of NS not to exceed 300 ml NS and repeat as indicated.
- Establish additional IV access if indicated.
- Base ~~hospital~~Station may order additional medication dosages and additional fluid boluses.

IV. ALS INTERVENTIONS

- Maintain airway with appropriate adjuncts, obtain O₂oxygen saturation on room air if possible.
- ~~Nebulized~~ Albuterol ~~2.5 mg~~ with Atrovent per ICEMA Reference #7040 - Medication - Standard Orders ~~may repeat twice.~~
 - a. ~~1 day to 12 months~~ Atrovent ~~0.25 mg~~
 - b. ~~1 year to 14 years~~ Atrovent ~~0.5 mg~~
- If no response to Albuterol and Atrovent, consider Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders. ~~(1:1,000) 0.01 mg/kg SC not to exceed adult dosage of 0.3mg.~~
- For symptomatic hypotension with poor perfusion, consider fluid bolus of 20 ml/kg of NS not to exceed 300 ml NS and repeat as indicated.
- Diphenhydramine per ICEMA Reference #7040 - Medication - Standard Orders ~~1mg/kg slow IV or 2 mg/kg IM, not to exceed adult dose of 25 mg IV/IO or 50 mg IM.~~
- Establish additional IV access if indicated.
- For anaphylactic shock (e.g., no palpable radial pulse and a depressed level of consciousness), administer ~~epinephrine~~ Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders ~~dose 0.01 mg/kg (1:10,000) IV/IO, no more than 0.1 mg per dose. May repeat to a maximum of 0.5 mg.~~
- Base hospital ~~Station~~ may order additional medication dosages and additional fluid boluses.

V. REFERENCE

<u>Number</u>	<u>Name</u>
7040	<u>Medication - Standard Orders</u>



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 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 of NS. 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

- Obtain blood glucose level, if indicated administer;
 - Dextrose as per ICEMA Reference #7040 - Medication - Standard Orders.
 - May repeat blood glucose level. Repeat Dextrose per ICEMA Reference #7040 - Medication - Standard Orders if indicated.
 - Administer Glucagon per ICEMA Reference #7040 - Medication - Standard Orders, if unable to start an IV.
- If suspected narcotic overdose with severely decreased respiratory drive administer:
 - Naloxone per ICEMA Reference #7040 - Medication - Standard Orders.
- Base hospital physician 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 2 j/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.
- Insert NG/OG tube after advanced airway is established or if not placed with BLS airway.
- 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, for confirmation and monitoring of endotracheal tube placement and for assessment of ROSC and perfusion status.

Ventricular Fibrillation/Pulseless Ventricular Tachycardia

- Initial defibrillation is administered at 2 j/kg (or manufacturer's recommended equivalent). Second defibrillation is administered at 4 j/kg. Third and subsequent defibrillation attempts should be administered at 10 j/kg not to exceed the adult dose.
- Perform CPR for two (2) minutes after each defibrillation, without delaying to assess the post-defibrillation rhythm.
- Administer Epinephrine, per ICEMA Reference #7040 - Medication - Standard Orders, during each two (2) minute cycle of CPR after each defibrillation unless capnography indicates possible ROSC.
- 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 per ICEMA Reference #7040 - Medication - Standard Orders, may repeat.
- ~~Lidocaine per ICEMA Reference #7040 - Medication - Standard Orders.~~
- ~~May repeat Lidocaine per ICEMA Reference #7040 - Medication - Standard Orders.~~
- If patient remains in pulseless VF/VT after five (5) cycles of CPR, consult base hospital.

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 NS for all ages, may repeat at:
 - 1 day to 8 years: 20 ml/kg NS
 - 9 to 14 years: 300 ml NS
- Administer Epinephrine, per ICEMA Reference #7040 - Medication - Standard Orders, during each two (2) minute cycle of CPR after each rhythm evaluation.

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 hospital contact is required.

- Insert NG/OG tube to relieve gastric distention if the patient has been intubated with an advanced airway, or if the patient has a BLS airway, per ICEMA Reference #10190 - ICEMA Approved Skills Insertion of Nasogastric/Orogastric Tube.
- For continued signs of inadequate tissue perfusion, administer fluid bolus of NS. 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 level. If indicated administer:
 - Dextrose per ICEMA Reference #7040 - Medication - Standard Orders.
 - May repeat blood glucose level. Repeat Dextrose per ICEMA Reference #7040 - Medication - Standard Orders if indicated.
 - Naloxone for suspected opiate overdose per ICEMA Reference #7040 - Medication - Standard Orders.

If ROSC is achieved, obtain a 12-lead ECG.

- Utilize continuous waveform capnography, to identify loss of circulation.
- For continued signs of inadequate tissue perfusion **after** successful resuscitation:
 - Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders.
 - 9 to 14 years: Dopamine per ICEMA Reference #7040 - Medication - Standard Orders.
- Base hospital physician may order additional medications or interventions as indicated by patient condition.

V. REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medications - Standard Orders
10080	Insertion of Nasogastric/Orogastric Tube
10130	Automatic External Defibrillation (AED) - BLS
10190	ICEMA Approved Skills



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

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 patient temperature. Begin cooling measures if temperature is elevated or warming measures if temperature is decreased.

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.
- Obtain blood glucose level, if indicated administer:
 - Dextrose per ICEMA Reference #7040 - Medication - Standard Orders.
 - May repeat blood glucose level. Repeat Dextrose per ICEMA Reference #7040 - Medication - Standard Orders if indicated.
 - ~~Administer~~ Glucagon per ICEMA Reference #7040 - Medication - Standard Orders, if unable to start an IV.

- If suspected narcotic overdose with severely decreased respiratory drive administer:
 - Naloxone per ICEMA Reference #7040 - Medication - Standard Orders.
- Base hospital physician 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.
- Obtain blood glucose level, if indicated administer:
 - Dextrose per ICEMA Reference #7040 - Medication - Standard Orders.
 - May repeat blood glucose level. Repeat Dextrose per ICEMA Reference #7040 - Medication - Standard Orders, if indicated.
 - ~~Administer~~ Glucagon per ICEMA Reference #7040 - Medication - Standard Orders, if unable to start an IV.
- If suspected narcotic ingestion with severely decreased respiratory distress administer:
 - Naloxone per ICEMA Reference #7040 - Medication - Standard Orders
- Base hospital physician may order additional medication dosages and additional fluid boluses.

V. REFERENCE

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders



SEIZURE - PEDIATRIC (Less than 15 years of age)

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Tonic/clonic movements followed by a brief period of unconsciousness (post-ictal).
- Suspect status epilepticus for frequent or extended seizures.
- History of prior seizures, narcotic dependence or diabetes.
- Febrile seizures (patients under four (4) years of age).
- Traumatic injury.

II. BLS INTERVENTIONS

- Protect patient from further injury; axial-spinal stabilization if indicated.
- Assure and maintain airway patency after cessation of seizure, with oxygen therapy as indicated.
- Airway management as indicated (OPA/NPA, BVM Ventilation).
- Position patient in left lateral position in absence of traumatic injury; watch for absent gag reflex.
- Remove excess clothing and begin cooling measures if patient is febrile.
- Protect patient during transport by padding appropriately.

III. LIMITED ALS (LALS) INTERVENTIONS

- Advanced airway as clinically indicated.
- Obtain vascular access.
- ~~Obtain blood glucose level, if indicated administer: If clinically indicated, obtain blood glucose. If hypoglycemic administer:~~
 - Dextrose per ICEMA Reference #7040 - Medication - Standard Orders.

- May repeat blood glucose level. Repeat Dextrose per ICEMA Reference #7040 - Medication - Standard Orders if indicated.
- Glucagon per ICEMA Reference #7040 - Medication - Standard Orders, if unable to start an IV.

PEDIATRIC

- a. ~~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~~
- b. ~~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~~
- c. ~~For patient > 10 kg and < 25 kg, 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~~
- d. ~~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~~
- e. ~~May repeat blood glucose. Repeat Dextrose if extended transport time.~~
- f. ~~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.~~

IV. ALS INTERVENTIONS

- Establish advanced airway as needed.
- Obtain vascular access and place on cardiac monitor if indicated.
- Obtain blood glucose level, if indicated administer:~~If clinically indicated, obtain blood glucose. If hypoglycemic administer:~~
 - Dextrose per ICEMA Reference #7040 - Medication - Standard Orders.
 - May repeat blood glucose level. Repeat Dextrose per ICEMA Reference #7040 - Medication - Standard Orders if indicated.
 - Glucagon per ICEMA Reference #7040 - Medication - Standard Orders, if unable to start an IV.

PEDIATRIC

- a. ~~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~~

- ~~b. 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~~
- ~~c. For patient > 10 kg and < 25 kg, 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~~
- ~~d. 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~~
- ~~e. May repeat blood glucose. Repeat Dextrose if extended transport time.~~
- ~~f. 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 tonic/clonic type seizure activity administer:
 - Midazolam per ICEMA Reference #7040 - Medication - Standard Orders.
 - ~~a. 0.1 mg/kg IV/IO with maximum dose 2.5 mg. May repeat Midazolam in five (5) minutes for continued seizure. Do not to exceed adult dosage, or~~
 - ~~b. 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.~~
 - ~~c. Assess patient for medication related reduced respiratory rate or hypotension.~~
 - ~~d. 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.~~
 - Assess and document response to therapy.
 - Base hospitalStation may order additional medication dosages or a fluid bolus.

V. REFERENCE

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders



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 ~~b~~Base ~~hospital~~Station should be contacted for determination of appropriate destination.

I. FIELD ASSESSMENT/TREATMENT INDICATORS

Refer to ICEMA Reference #81030 - ~~Destination Policy~~~~Burn Destination and Criteria Policy~~.

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 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~~ hospital/Station contacted shall be made.
- Refer to Section V - Burn Classifications Table below.

A. Manage Special Considerations

- **Respiratory Distress:**
 - ~~1 day to 12 months old - Nebulized~~ Albuterol per ICEMA Reference #7040 - Medication - Standard Orders.
 - ~~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 ~~b~~Base hospitalStation.
- **Pulseness and Apneic:** Transport to the closest receiving hospital and treat according to ICEMA protocols. Contact base hospitalstation.
- **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 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

- Treat pain as indicated.
 - ~~IV Pain Relief:~~ Morphine Sulfate per ICEMA Reference #7040 - Medication - Standard Orders.
 - ~~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, 20 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, should be transported to the closest Trauma Center. Trauma ~~base~~ hospital ~~station~~ contacted shall be made.
 - Insert nasogastric/orogastric tube as indicated.
- Refer to Section V - Burn Classifications-Table below.

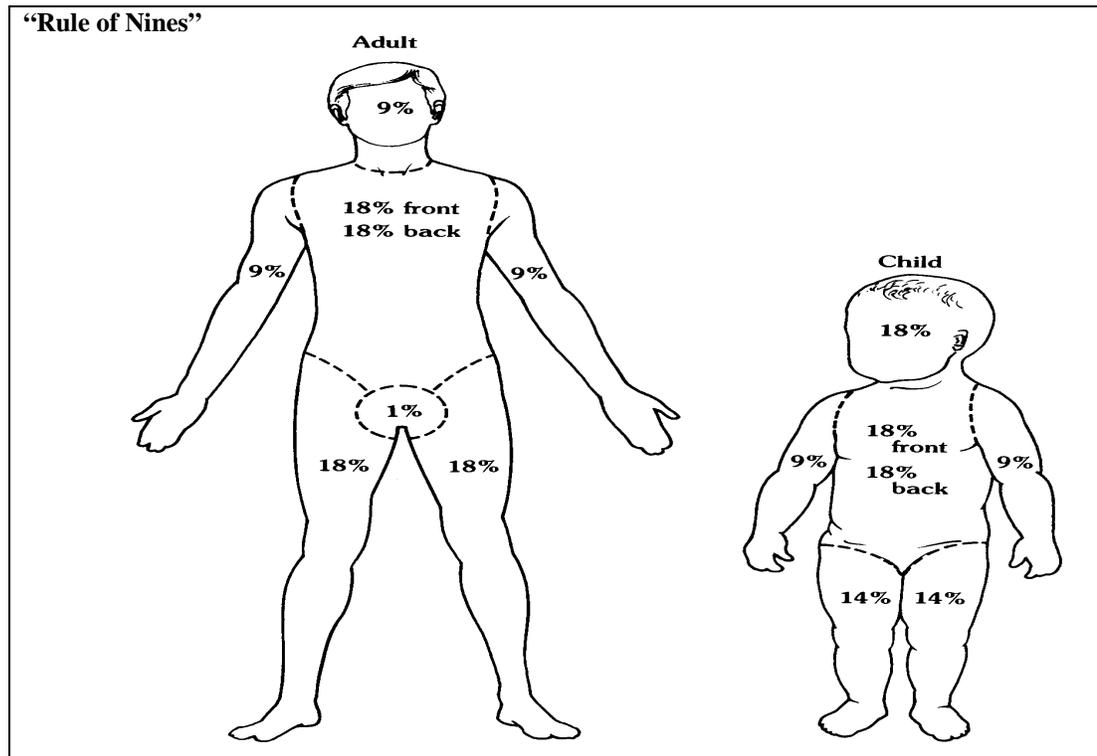
A. Manage Special Considerations

- ~~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 per ICEMA Reference #7040 - Medication - Standard Orders.
 - ~~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 hospital ~~station~~.

- **Pulseness and Apneic:** Transport to the closest receiving hospital and treat according to ICEMA protocols. Contact base [hospitalstation](#).
- **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.

V. BURN CLASSIFICATIONS

PEDIATRIC BURN CLASSIFICATION CHART	DESTINATION
<p><u>MINOR</u> - PEDIATRIC</p> <ul style="list-style-type: none"> • < 5% TBSA • < 2% Full Thickness 	<p>CLOSEST MOST APPROPRIATE RECEIVING HOSPITAL</p>
<p><u>MODERATE</u> - PEDIATRIC</p> <ul style="list-style-type: none"> • 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) 	<p>CLOSEST MOST APPROPRIATE RECEIVING HOSPITAL</p>
<p><u>MAJOR</u> - PEDIATRIC</p> <ul style="list-style-type: none"> • > 10% TBSA • > 5% Full Thickness • High Voltage Burn • Known Inhalation Injury • Any significant burn to face, eyes, ears, genitalia, or joints 	<p>CLOSEST MOST APPROPRIATE BURN CENTER</p> <p>In San Bernardino County, contact: Arrowhead Regional Medical Center (ARMC)</p>



VI. REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
8030	Burn Destination and Criteria Policy
8130	Destination Policy
12010	Determination of Death on Scene



OBSTETRICAL EMERGENCIES

I. FIELD ASSESSMENT/TREATMENT INDICATORS

- Obstetrical emergencies (field delivery) with or without complications.

UNCOMPLICATED DELIVERY

II. BLS INTERVENTIONS

UNCOMPLICATED DELIVERY

- 1. — Administer oxygen as clinically indicated.
- 2. — Prepare for delivery.
- 3. — Massage fundus if placenta delivered.

COMPLICATED DELIVERY

BLS INTERVENTIONS

- 1. — Excessive vaginal bleeding prior to delivery:
 - Attempt to control bleeding. Do not place anything into vagina.
 - Place in trendelenberg position.
- Prolapsed Cord:
 - Elevate hips.
 - Gently push presenting part of head away from cord.
 - Consider knee/chest position for mother.
- Postpartum Hemorrhage:
 - Massage fundus to control bleeding.
 - Encourage immediate breast feeding.
 - Place in trendelenburg position.

- Cord around infant's neck:
 - Attempt to slip cord over the head.
 - If unable to slip cord over the head, deliver the baby through the cord.
 - If unable to deliver the baby through the cord, double clamp cord, then cut cord between clamps.
- Breech presentation and head not delivered within three (3) to four (4) minutes:
 - Administer oxygen.
 - Place in trendelenburg position.
 - Transport Code 3 to closest appropriate facility.
- Pregnancy Induced Hypertension and/or Eclampsia:
 - Initiate and maintain seizure precautions.
 - Attempt to reduce stimuli.
 - Limit fluid intake.
 - Monitor and document blood pressure.
 - Consider left lateral position.

III. LIMITED ALS (LALS) INTERVENTIONS

COMPLICATED DELIVERY

- Obtain IV access, and maintain IV rate as appropriate.
- Excessive vaginal bleeding or post-partum hemorrhage:
 - Give fluid challenge of 500 ml, if signs of inadequate tissue perfusion persist may repeat fluid bolus.
 - Maintain IV rate at 150 ml per hour.
 - Establish second large bore IV enroute.

- Pregnancy Induced Hypertension and/or Eclampsia:
 - IV TKO, limit fluid intake.
 - Obtain O₂ saturation on room air, if possible.
 - Place in left lateral position, and obtain blood pressure after five (5) minutes.
- Consider immediate notification of ~~base~~ hospital ~~Station~~ physician.

IV. ALS INTERVENTIONS

COMPLICATED DELIVERY

- Obtain IV access, and maintain IV rate as appropriate.
- Excessive vaginal bleeding or post-partum hemorrhage:
 - Administer fluid challenge of 500 ml. If signs of inadequate tissue perfusion persist may repeat fluid bolus.
 - Maintain IV rate at 150 ml per hour.
 - Establish second large bore IV enroute.
- Pregnancy induced hypertension:
 - Administer IV TKO. Limit fluid intake.
 - Obtain O₂ saturation on room air, if possible.
 - Place in left lateral position, and obtain blood pressure after five (5) minutes.
 - Obtain rhythm strip with copy to receiving hospital.
- Eclampsia (Seizure/Tonic/Clonic Activity):
 - Magnesium Sulfate per ICEMA Reference #7040 - Medication - Standard Orders.
 - a. ~~4 gms diluted with 20 ml NS, IV/IO over three (3) to four (4) minutes, and~~
 - b. ~~Start infusion of Magnesium Sulfate 2 gms in 100 cc of NS at 30 cc per hour IV/IO to prevent continued seizures.~~

- Midazolam per ICEMA Reference #7040 - Medication - Standard Orders.
 - ~~i. Midazolam, 2.5 mg IN/IV/IO. May repeat in five (5) minutes for continued seizure activity, or~~
 - ~~ii. Midazolam 5 mg IM. May repeat in ten (10) minutes for continued seizure activity~~
 - ~~iii. Assess patient for medication related reduced respiratory rate or hypotension~~
 - ~~iv. 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.~~
- Consider immediate notification of ~~b~~Base ~~hospital~~Station physician.
- Base ~~hospital~~Station physician may order or in Radio Communication Failure:
 - Dopamine infusion per ICEMA Reference #7040 - Medication - Standard Orders. at 400 mg in 250 ml NS titrated between 5–20 mcg/kg/min to maintain adequate tissue perfusion.

V. REFERENCE

<u>Number</u>	<u>Name</u>
7040	<u>Medication - Standard Orders</u>



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) inches and ten (10) 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% 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).
- If central cyanosis is present, utilize supplemental 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, administer Dextrose per ICEMA Reference #7040 - Medication - Standard Orders. 25% (0.25 g/ml) Diluted 1:1 Give 0.5 g/kg (4 ml/kg) IV/IO.~~
- Contact ~~b~~Base ~~hospital~~Station if hypovolemia is suspected. Base ~~hospital~~Station may order 10 ml/kg IV NS over five (5) minutes. If unable to contact ~~b~~Base ~~hospital~~Station and transport time is extended, ~~administer~~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 ICEMA Reference #10190 - ~~ICEMA Approved Skills-040—Oral Endotracheal Intubation—Pediatric~~, if BVM is ineffective or tracheal suctioning is required. ~~If available, u~~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, administer Dextrose per ICEMA Reference #7040 - Medication - Standard Orders. 25% (0.25 g/ml) Diluted 1:1 Give 0.5 g/kg (4 ml/kg) IV/IO~~
- Evaluate airway for hypoxemia and assess body temperature for hypothermia then consider Epinephrine ~~per ICEMA Reference #7040 - Medication - Standard Orders 0.01 mg/kg IV/IO (1:10,000)~~, if heart rate < 60 after one (1) minute.

- Contact bBase hospitalStation if hypovolemia is suspected. Base hospitalStation may order 10 ml/kg IV NS over five (5) minutes. If unable to contact bBase hospitalStation and transport time is extended, administer/give 10 ml/kg IV NS over five (5) minutes, may repeat.
- For persistent hypotension despite adequate ventilation and fluid resuscitation, bBase hospitalStation may order Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders, 0.005 mg/kg (1:10,000) IV/IO every ten (10) minutes. If unable to contact bBase hospitalStation and transport time is extended, give indicated dosage and contact bBase hospitalStation as soon as possible.

V. REFERENCES

<u>Number</u>	<u>Name</u>
<u>7040</u>	<u>Medication - Standard Orders</u>
<u>10040</u>	<u>Oral Endotracheal Intubation - Pediatric</u>
<u>10190</u>	<u>ICEMA Approved Skills</u>



TRAUMA - ADULT (15 years of age and older)

Any critical trauma patient (CTP) requires effective communication and rapid transportation to the closest trauma center. If not contacted at scene, the receiving trauma center must be notified as soon as possible in order to activate the trauma team.

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

I. FIELD ASSESSMENT/TREATMENT INDICATORS

Refer to ICEMA Reference #15030 - Trauma Triage Criteria and Destination Policy.

II. BLS INTERVENTIONS

- Ensure thorough initial assessment.
- Ensure patent airway, protecting cervical spine.
- Oxygen and/or ventilate as needed, O₂ saturation (if BLS equipped).
- Keep patient warm.
- For a traumatic full arrest, an AED may be utilized, if indicated.
- Transport to ALS intercept or to the closest receiving hospital.

A. Manage Special Considerations

- **Axial Spinal Immobilization:** If the patient meet(s) any of the following indicators using the acronym (NSAID):

N-euro Deficit(s) present?
S-pinal Tenderness present?
A-ltered Mental Status?
I-ntoxication?
D-istracting Injury?

- Consider maintaining spinal alignment on the gurney, or using spinal axial immobilization on an awake, alert and cooperative patient, without the use of a rigid spine board.

- Penetrating trauma without any NSAID indicators are not candidates for spinal immobilization using long board.
- **Abdominal Trauma:** Cover eviscerated organs with saline dampened gauze. Do not attempt to replace organs into the abdominal cavity.
- **Amputations:** Control bleeding. Rinse amputated part gently with sterile irrigation saline to remove loose debris/gross contamination. Place amputated part in dry, sterile gauze and in a plastic bag surrounded by ice (if available). Prevent direct contact with ice. Document in the narrative who the amputated part was given to.

Partial Amputation: Splint in anatomic position and elevate the extremity.
- **Bleeding:**
 - Apply direct pressure and/or pressure dressing.
 - To control life-threatening bleeding of a severely injured extremity, consider application of tourniquet when direct pressure or pressure dressing fails.
- **Chest Trauma:** If a wound is present, cover it with an occlusive dressing. If the patient's ventilations are being assisted, dress wound loosely, (do not seal). Continuously reevaluate patient for the development of tension pneumothorax.
- **Flail Chest:** Stabilize chest, observe for tension pneumothorax. Consider assisted ventilations.
- **Fractures:** Immobilize above and below the injury. Apply splint to injury in position found except:
 - **Femur:** Apply traction splint if indicated.
 - **Grossly angulated long bone with distal neurovascular compromise:** Apply gentle unidirectional traction to improve circulation.
 - **Check and document distal pulse before and after positioning.**
- **Genital Injuries:** Cover genitalia with saline soaked gauze. If necessary, apply direct pressure to control bleeding. Treat amputations the same as extremity amputations.

- **Head and Neck Trauma:** Place brain injured patients in reverse Trendelenburg (elevate the head of the backboard 15 - 20 degrees), if the patient exhibits no signs of shock.
 - **Eye:** Whenever possible protect an injured eye with a rigid dressing, cup or eye shield. Do not attempt to replace a partially torn globe, stabilize it in place with sterile saline soaked gauze. Cover uninjured eye.
 - **Avulsed Tooth:** Collect teeth, place in moist, sterile saline gauze and place in a plastic bag.
- **Impaled Object:** Immobilize and leave in place. Remove object if it interferes with CPR, or if the object is impaled in the face, cheek or neck and is compromising ventilations.
- **Pregnancy:** Where axial spinal stabilization precaution is indicated, the board should be elevated at least 4 inches on the right side for those patients who have a large pregnant uterus, usually applies to pregnant females ≥ 24 weeks of gestation.
- **Traumatic Arrest:** CPR if indicated. May utilize an AED if indicated.
- **Determination of Death on Scene:** Refer to ICEMA Reference #12010 - Determination of Death on Scene.

III. LIMITED ALS (LALS) INTERVENTIONS

- Advanced airway (as indicated).
 - **Unmanageable Airway:** Transport to the closest most appropriate receiving hospital when the patient requires advanced airway and an adequate airway cannot be maintained with a BVM device.
- Apply AED.
- IV Access (warm IV fluids when available).
 - **Unstable:** BP<90mmHG and/or signs of inadequate perfusion, start 2nd IV access.
 - **Stable:** BP>90mmHG and/or signs of adequate tissue perfusion.

Blunt Trauma:

- *Unstable:* IV NS open until stable or 2000 ml maximum is infused.
- *Stable:* IV NS TKO

Penetrating Trauma:

- *Unstable:* IV NS 500 ml bolus one (1) time.
- *Stable:* IV NS TKO

Isolated Closed Head Injury:

- *Unstable:* IV NS 250 ml bolus, may repeat to a maximum of 500 ml.
- *Stable:* IV NS TKO

- Transport to appropriate hospital.

A. Manage Special Considerations

- **Axial Spinal Immobilization:** LALS personnel should remove axial spinal immobilization devices from patients placed in full axial spinal immobilization precautions by first responders and BLS personnel if the patient does not meet any of the following indicators using the acronym (NSAID):

N-euro Deficit(s) present?
S-pinal Tenderness present?
A-ltered Mental Status?
I-ntoxication?
D-istracting Injury?

- Consider maintaining spinal alignment on the gurney, or using spinal axial immobilization on an awake, alert and cooperative patient, without the use of a rigid spine board.
- Penetrating trauma without any NSAID indicators are not candidates for spinal immobilization using long board.

- **Fractures:**

- **Isolated Extremity Trauma:** Trauma without multisystem mechanism. Extremity trauma is defined as those cases of injury where the limb itself and/or the appendicular skeleton (shoulder or pelvic girdle) may be injured, e.g., dislocated shoulder, hip fracture or dislocation.

- Administer IV NS 250 ml bolus one (1) time.
- **Impaled Object:** Remove object upon Trauma ~~bBase~~ hospitalStation physician order, if indicated.
- **Traumatic Arrest:** Continue CPR as appropriate.
 - Apply AED and follow the voice prompts.
- B. Determination of Death on Scene:** Refer to ICEMA Reference #12010 - Determination of Death on Scene.
 - *Severe Blunt Force Trauma Arrest:* If indicated, transport to the closest receiving hospital.
 - *Penetrating Trauma Arrest:* If indicated, transport to the closest receiving hospital.
 - If the patient does not meet the “Obvious Death Criteria” in ICEMA Reference #12010 - Determination of Death on Scene, contact the Trauma ~~bBase~~ hospitalStation for determination of death on scene for those patients who suffer a traumatic cardiac arrest in the setting of penetrating trauma and no reported vital signs (palpable pulse and/or spontaneous respirations) during the EMS encounter with the patient.
 - Resuscitation efforts on a penetrating traumatic arrest victim are not to be terminated without Trauma ~~bBase~~ hospitalStation contact.
 - **Precautions and Comments:**
 - Electrical injuries that result in cardiac arrest shall be treated as medical arrests.
 - Consider cardiac etiology in older patients in cardiac arrest with low probability of mechanism of injury.
 - If the patient is not responsive to trauma-oriented resuscitation, consider medical etiology and treat accordingly.
 - **Unsafe scene may warrant transport despite low potential for survival.**
 - Whenever possible, consider minimal disturbance of a potential crime scene.

- **Base Hospital/Station Orders:** May order additional fluid boluses.

IV. ALS INTERVENTIONS

- Advanced Airway (as indicated):
 - **Unmanageable Airway:** If an adequate airway cannot be maintained with a BVM device; **and** the paramedic is unable to intubate or perform a successful needle cricothyrotomy (if indicated), **then** transport to the closest receiving hospital and follow ICEMA Reference #8120 - Continuation of Care.
- Monitor ECG.
- IV/IO Access (Warm IV fluids when available).
 - *Unstable:* BP <90mmHG and/or signs of inadequate perfusion, start 2nd IV access.
 - *Stable:* BP >90mmHG and/or signs of adequate tissue perfusion.

Blunt Trauma:

- *Unstable:* IV NS open until stable or 2000 ml maximum is infused.
- *Stable:* IV NS TKO

Penetrating Trauma:

- *Unstable:* IV NS 500 ml bolus one (1) time.
- *Stable:* IV NS TKO

Isolated Closed Head Injury:

- *Unstable:* IV NS 250 ml bolus, may repeat to a maximum of 500 ml
- *Stable:* IV NS TKO
- Transport to appropriate hospital.
- Insert nasogastric/orogastric tube as indicated.

A. **Manage Special Considerations**

- **Axial Spinal Immobilization:** ALS personnel should remove axial spinal immobilization devices from patients placed in full axial spinal immobilization precautions by first responders and BLS personnel if the patient does not meet any of the following indicators using the acronym (NSAID):

N-euro Deficit(s) present?
S-pinal Tenderness present?
A-ltered Mental Status?
I-ntoxication?
Distracting Injury?

- Consider maintaining spinal alignment on the gurney, or using spinal axial immobilization on an awake, alert and cooperative patient, without the use of a rigid spine board.
- Penetrating trauma without any NSAID indicators are not candidates for spinal immobilization using long board.
- **Chest Trauma:** Perform needle thoracostomy for chest trauma with symptomatic respiratory distress.
- **Fractures:**

- **Isolated Extremity Trauma:** Trauma without multisystem mechanism. Extremity trauma is defined as those cases of injury where the limb itself and/or the appendicular skeleton (shoulder or pelvic girdle) may be injured, e.g., dislocated shoulder, hip fracture or dislocation.

- **IV Pain Relief:**

- Morphine Sulfate per ICEMA Reference #7040 - Medication - Standard Orders. 5 mg IV slowly. May repeat every five (5) minutes to a maximum of 20 mg, if the patient maintains a BP >90mmHG and shows signs of adequate tissue perfusion. Document BPs every five (5) minutes while medicating for pain and reassess patient.
- Consider Ondansetron per ICEMA Reference #7040 - Medication - Standard Orders. 4 mg slow IVP/PO as prophylactic treatment of nausea and vomiting associated with narcotic administration.
- Patients in high altitudes should be hydrated with IV NS prior to IV pain relief to reduce the incidents of nausea, vomiting, and transient hypotension, which

are side effects associated with administering IV Morphine. Administer IV NS 250 ml bolus one (1) time.

➤ ~~IM Pain Relief:~~

~~Morphine Sulfate 10 mg IM. Document vital signs and reassess patient.~~

~~Consider Ondansetron 4 mg ODT as prophylactic treatment of nausea and vomiting associated with narcotic administration.~~

- **Head and Neck Trauma:** Immediately prior to intubation, consider prophylactic Lidocaine per ICEMA Reference #7040 - Medication - Standard Orders. 1.5 mg/kg IV for suspected head/brain injury.
- **Base hospitalStation Orders:** When considering Nasotracheal intubation (\geq 15 years of age) and significant facial trauma, trauma to the face or nose and/or possible basilar skull fracture are present, Trauma bBase hospitalStation contact is required.
- **Impaled Object:** Remove object upon Trauma bBase hospitalStation physician order, if indicated.
- **Traumatic Arrest:** Continue CPR as appropriate.
 - Treat per ICEMA Reference #11070 - Cardiac Arrest - Adult.

B. Determination of Death on Scene: Refer to ICEMA Reference #12010 - Determination of Death on Scene.

- *Severe Blunt Force Trauma Arrest:* If indicated, pronounce on scene.
- *Penetrating Trauma Arrest:* If indicated, transport to the closest receiving hospital.
- If the patient does not meet the “Obvious Death Criteria” per ICEMA Reference #12010 - Determination of Death on Scene, contact the Trauma bBase hospitalStation for determination of death on scene for those patients who suffer a traumatic cardiac arrest in the setting of penetrating trauma with documented asystole in at least two (2) leads, and no reported vital signs (palpable pulse and/or spontaneous respirations) during the EMS encounter with the patient.

- Resuscitation efforts on a penetrating traumatic arrest victim are not to be terminated without Trauma ~~b~~Base ~~hospita~~Station contact.
- **Precautions and Comments:**
 - Electrical injuries that result in cardiac arrest shall be treated as medical arrests.
 - Consider cardiac etiology in older patients in cardiac arrest with low probability of mechanism of injury.
 - **Unsafe scene may warrant transport despite low potential for survival.**
 - Whenever possible, consider minimal disturbance of a potential crime scene.
- **Base ~~Hospita~~Station Orders:** May order additional medications and/or fluid boluses.

V. REFERENCES

<u>Number</u>	<u>Name</u>
<u>7040</u>	<u>Medication - Standard Orders</u>
8120	Continuation of Care
11070	Cardiac Arrest - Adult
12010	Determination of Death on Scene



TRAUMA - PEDIATRIC (Less than 15 years of age)

Any critical trauma patient (CTP) requires effective communication and rapid transportation to the closest trauma center. If not contacted at scene, the receiving trauma center must be notified as soon as possible in order to activate the trauma team.

In Inyo and Mono Counties do not have trauma center designations and the assigned ~~b~~Base ~~hospital~~Station should be contacted for determination of appropriate destination.

I. FIELD ASSESSMENT/TREATMENT INDICATORS

Refer to ICEMA Reference #15030 - Trauma Triage Criteria and Destination Policy.

II. BLS INTERVENTIONS

- Ensure thorough initial assessment.
- Ensure patient airway, protecting cervical spine.
- Axial spinal stabilization as appropriate.
- Oxygen and/or ventilate as needed, O₂ saturation (if BLS equipped).
- Keep patient warm and reassure.
- For a traumatic full arrest, an AED may be utilized, if indicated.
- Transport to ALS intercept or to the closest receiving hospital.

A. Manage Special Considerations

- **Abdominal Trauma:** Cover eviscerated organs with saline dampened gauze. Do not attempt to replace organs into the abdominal cavity.
- **Amputations:** Control bleeding. Rinse amputated part gently with sterile irrigation saline to remove loose debris/gross contamination. Place amputated part in dry, sterile gauze and in a plastic bag surrounded by ice (if available). Prevent direct contact with ice. Document in the narrative who the amputated part was given to.

Partial amputation: Splint in anatomic position and elevate the extremity.

- **Blunt Chest Trauma:** If a wound is present, cover it with an occlusive dressing. If the patient's ventilations are being assisted, dress wound loosely, (do not seal). Continuously re-evaluate patient for the development of tension pneumothorax.
- **Flail Chest:** Stabilize chest, observe for tension pneumothorax. Consider assisted ventilations.
- **Fractures:** Immobilize above and below the injury. Apply splint to injury in position found except:
 - **Femur:** Apply traction splint if indicated.
 - **Grossly angulated long bone with distal neurovascular compromise:** Apply gentle unidirectional traction to improve circulation.
 - **Check and document distal pulse before and after positioning.**
- **Genital Injuries:** Cover genitalia with saline soaked gauze. If necessary, apply direct pressure to control bleeding. Treat amputations the same as extremity amputations.
- **Head and Neck Trauma:** Place brain injured patients in reverse Trendelenburg (elevate the head of the backboard 15 - 20 degrees), if the patient exhibits no signs of shock.
 - **Eye:** Whenever possible protect an injured eye with a rigid dressing, cup or eye shield. Do not attempt to replace a partially torn globe - stabilize it in place with sterile saline soaked gauze. Cover uninjured eye.
 - **Avulsed Tooth:** Collect teeth, place in moist, sterile saline gauze and place in a plastic bag.
- **Impaled Object:** Immobilize and leave in place. Remove object if it interferes with CPR, or if the object is impaled in the face, cheek or neck and is compromising ventilations.
- **Pediatric Patients:** If the level of the patient's head is greater than that of the torso, use approved pediatric spine board with a head drop or arrange padding on the board so that the ears line up with the shoulders and keep the entire lower spine and pelvis in line with the cervical spine and parallel to the board.

- **Traumatic Arrest:** CPR if indicated. May utilize an AED if indicated.
- **Determination of Death on Scene:** Refer to ICEMA Reference #12010 - Determination of Death on Scene.

III. LIMITED ALS (LALS) INTERVENTIONS

- Advanced airway (as indicated).
 - **Unmanageable Airway:** Transport to the closest most appropriate receiving hospital when the patient requires an advanced airway. An adequate airway cannot be maintained with a BVM device.
- Apply AED.
- IV Access (warm IV fluids when available).
 - *Unstable:* Vital signs (age appropriate) and/or signs of inadequate tissue perfusion, start 2nd IV access.

Administer 20ml/kg NS bolus IV. May repeat once.
 - *Stable:* Vital signs (age appropriate) and/or signs of adequate tissue perfusion.

Maintain IV NS rate at TKO.
- Transport to appropriate hospital. Pediatric patients identified as CTP will be transported to a pediatric trauma hospital when there is less than a 20 minute difference in transport time to the pediatric trauma hospital versus the closest trauma hospital.

A. Manage Special Considerations

- **Fractures**
 - **Isolated Extremity Trauma:** Trauma without multisystem mechanism. Extremity trauma is defined as those cases of injury where the limb itself and/or the appendicular skeleton (shoulder or pelvic girdle) may be injured, e.g., dislocated shoulder, hip fracture or dislocation.
 - Administer IV NS 250 ml bolus one (1) time.
- **Impaled Object:** Remove object upon trauma base hospital physician order, if indicated.

- **Traumatic Arrest:** Continue CPR as appropriate.
 - Apply AED and follow the instructions.
- **Determination of Death on Scene:** Refer to ICEMA Reference #12010 - Determination of Death on Scene.
 - *Severe Blunt Force Trauma Arrest:* If indicated, transport to the closest receiving hospital.
 - *Penetrating Trauma Arrest:* If indicated, transport to the closest receiving hospital.
- If the patient does not meet the “Obvious Death Criteria” in ICEMA Reference #12010 - “Determination of Death on Scene”, contact the Trauma Base hospitalStation for determination of death on scene for those patients who suffer a traumatic cardiac arrest in the setting of penetrating trauma, and no reported vital signs (palpable pulse and/or spontaneous respirations) during the EMS encounter with the patient.
- Resuscitation efforts on a penetrating traumatic arrest victim are not to be terminated without trauma base hospitalstation contact.
- **Precautions and Comments:**
 - Electrical injuries that result in cardiac arrest shall be treated as medical arrests.
 - Confirm low blood sugar in children and treat as indicated with altered level of consciousness.
 - Suspect child maltreatment when physical findings are inconsistent with the history. Remember reporting requirements for suspected child maltreatment.
 - **Unsafe scene may warrant transport despite low potential for survival.**
 - Whenever possible, consider minimal disturbance of a potential crime scene.
- Base HospitalStation Orders: May order additional fluid boluses.

IV. ALS INTERVENTIONS

- Advanced airway (as indicated).
 - **Unmanageable Airway:** If an adequate airway cannot be maintained with a BVM device; **and** the paramedic is unable to intubate or perform a successful needle cricothyrotomy (if indicated), **then** transport to the closest receiving hospital and follow ICEMA Reference #8100 - Continuation of Trauma Care.
- Monitor ECG.
- IV/IO Access (Warm IV fluids when available).
 - *Unstable:* Vital signs (age appropriate) and/or signs of inadequate tissue perfusion, start 2nd IV access.

Administer 20ml/kg NS bolus IV/IO, may repeat once.
 - *Stable:* Vital signs (age appropriate) and/or signs of adequate tissue perfusion.

Maintain IV NS rate at TKO.
- Transport to Trauma Center: Pediatric patients identified as CTP will be transported to a pediatric trauma hospital when there is less than a 20 minute difference in transport time to the pediatric trauma hospital versus the closest trauma hospital.
- Insert nasogastric/orogastric tube as indicated

A. Manage Special Considerations

- **Blunt Chest Trauma:** Perform needle thoracostomy for chest trauma with symptomatic respiratory distress.
- **Fractures**
 - **Isolated Extremity Trauma:** Trauma without multisystem mechanism. Extremity trauma is defined as those cases of injury where the limb itself and/or the appendicular skeleton (shoulder or pelvic girdle) may be injured - e.g. dislocated shoulder, hip fracture or dislocation.

➤ **IV Pain Relief:**

- ~~Morphine Sulfate per ICEMA Reference #7040 - Medication - Standard Orders. 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. Documents vital signs every five (5) minutes while medicating pain and reassess patient.~~
- For patients four (4) years old and older, consider Ondansetron per ICEMA Reference #7040 - Medication - Standard Orders. ~~4 mg slow IVP/PO as prophylactic treatment of nausea and vomiting associated with narcotic administration.~~
- *Note:* Patients in high altitudes should be hydrated with IV NS prior to IV pain relief to reduce the incidents of nausea, vomiting, and transient hypotension, which are side effects associated with administering IV Morphine. Administer 20ml/kg NS bolus IV/IO one time.

➤ ~~**IM Pain Relief:**~~

~~Morphine Sulfate 0.2mg/kg IM, 10mg IM maximum. Document vital signs and reassess the patient.~~

~~For patients four (4) years old and older, consider Ondansetron 4 mg slow IM/PO as prophylactic treatment of nausea and vomiting associated with narcotic administration.~~

- **Head and Neck Trauma:** Immediately prior to intubation, consider prophylactic Lidocaine per ICEMA Reference #7040 - Medication - Standard Orders ~~1.5 mg/kg IV~~ for suspected head/brain injury.
 - **Base HospitalStation Orders:** When considering Nasotracheal intubation (≥15 years of age) and significant facial trauma, trauma to the face or nose and/or possible basilar skull fracture are present, Trauma ~~b~~Base hospitalStation contact is required.
 - **Impaled Object:** Remove object upon Trauma base hospital physician order, if indicated.
 - **Traumatic Arrest:** Continue CPR as appropriate.
- Treat per ICEMA Reference #14040 - Cardiac Arrest - Pediatric.

- **Determination of Death on Scene:** Refer to ICEMA Reference #12010 - Determination of Death on Scene.
 - *Severe Blunt Force Trauma Arrest:* If indicated, transport to the closest receiving hospital.
 - *Penetrating Trauma Arrest:* If indicated, transport to the closest receiving hospital.
- If the patient does not meet the “Obvious Death Criteria” in ICEMA Reference #12010 - Determination of Death on Scene, contact the Trauma ~~bBase~~ hospitalStation for determination of death on scene for those patients who suffer a traumatic cardiac arrest in the setting of penetrating trauma with documented asystole in at least two (2) leads, and no reported vital signs (palpable pulse and/or spontaneous respirations) during the EMS encounter with the patient.
- Resuscitation efforts on a penetrating traumatic arrest victim are not to be terminated without Trauma ~~bBase~~ hospitalStation contact.
- **Precautions and Comments:**
 - Electrical injuries that result in cardiac arrest shall be treated as medical arrests.
 - Confirm low blood sugar in children and treat as indicated with altered level of consciousness.
 - Suspect child maltreatment when physical findings are inconsistent with the history. Remember reporting requirements for suspected child maltreatment.
 - **Unsafe scene may warrant transport despite low potential for survival.**
 - Whenever possible, consider minimal disturbance of a potential crime scene.
- **Base HospitalStation Orders:** May order additional medications and/or fluid boluses.

V. REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
8100	Continuation of Trauma Care
9010	General Patient Care Guidelines
10020	King Airway Device - Pediatric

10040	Oral Endotracheal Intubation - Pediatric
10050	Nasotracheal Intubation
10060	Needle Thoracostomy
10070	Needle Cricothyrotomy
10080	Insertion of Nasogastric/Orogastric Tube
10130	AED - BLS
10140	Intraosseous Infusion IO
10150	External Jugular Vein Access
10160	Axial Spinal Stabilization
12010	Determination of Death on Scene
14040	Cardiac Arrest - Pediatric
15030	Trauma Triage Criteria and Destination Policy



TRAUMA TRIAGE CRITERIA AND DESTINATION POLICY

I. PURPOSE

To establish Trauma Triage Criteria that is consistent with the American College of Surgeons standards that will help identify trauma patients in the field, and based upon their injuries, direct their transport to an appropriate Trauma Center.

~~II. AUTHORITY~~

~~California Health and Safety Code, Division 2.5
California Code of Regulations, Title 22 Chapter 7~~

III. DEFINITIONS

Adult Patients: A person appearing to be > 15 years of age.

Pediatric Patients: A person appearing to be < 15 years of age.

Critical Trauma Patients (CTP): Patients meeting ICEMA's Critical Trauma Patient Criteria.

Trauma Center: A licensed general acute care hospital designated by ICEMA's Governing Board as a trauma hospital in accordance with State laws and regulations.

Pediatric Trauma Center: A licensed acute care hospital which usually treats (but is not limited to) persons <15 years of age, designated by ICEMA's Governing Board, meets all relevant criteria, and has been designated as a pediatric trauma hospital, according to California Code of Regulations, Title 22, Division 9, Chapter 7, Section 100261.

Inadequate Tissue Perfusion: Evidenced by the presence of cold, pale, clammy, mottled skin, and/or capillary refill time > 2 seconds. Pulse rate will increase in an attempt to pump more blood. As the pulse gradually increases (tachycardia), it becomes weak and thready. Blood pressure is one of the last signs to change (hypotension). Altered level of consciousness may also be an indicator to inadequate tissue perfusion, especially in the very young.

III.V. POLICY

A. Transportation For Patients Identified as a CTP

- Adult patients will be transported to the closest Trauma Center.
- Pediatric patients will be transported to a Pediatric Trauma Center when there is less than a 20 minute difference in transport time to the Pediatric Trauma Center versus the closest Trauma Center.
- Helicopter transport shall not be used unless ground transport is expected to be greater than 30 minutes and EMS aircraft transport is expected to be significantly more expeditious than ground transport. If an EMS aircraft is dispatched, adherence to ~~the Aircraft Rotation~~ ICEMA Reference #8070 - Aircraft Rotation Policy (in San Bernardino County) is mandatory.
- Patients with an unmanageable airway shall be transported to the closest receiving hospital for airway stabilization. Trauma ~~bBase~~ hospitalStation contact shall be made.
- Hospital Trauma Diversion Status: Refer to ICEMA Reference #8060 - San Bernardino County Hospital Diversion Policy.
- Multi-Casualty Incident: Refer to ICEMA Reference #5050 - Medical Response to a Multi-Casualty Incident Policy.
- CTP meeting physiologic or anatomic criteria with associated burns will be transported to the closest Trauma Center.

B. Trauma Triage Criteria of the CTP

A patient shall be transported to the closest Trauma Center when any one of the following physiologic and/or anatomic criteria is present following a traumatic event (Trauma ~~bBase~~ hospitalStation contact shall be made):

1. Physiologic Indicators:

- **Glasgow Coma Scale (GCS)/Level of Consciousness (LOC)**
 - **Adult**
 - GCS \leq 13
 - LOC > 3 minutes
 - nausea/vomiting in the setting of significant head trauma

- **Pediatric**
 - GCS \leq 13
 - any LOC
 - nausea/vomiting in the setting of significant head trauma

- **Respiratory**

- **Adult**
 - requiring assistance with ventilation **or**
 - hypoxic = O₂ saturation that is consistently < 90% **and a**
 - RR < 10 or > 29
- **Pediatric**
 - requiring assistance with ventilation **or**
 - hypoxic = O₂ saturation that is consistently < 90% **and a**
 - < 10 years: RR < 12 or > 40
 - < 1 year: RR < 20 or > 60

- **Hypotension**

- **Adult**
 - exhibits inadequate tissue perfusion
 - BP < 90 mmHG
 - tachycardia
- **Pediatric**
 - exhibits inadequate tissue perfusion
 - abnormal vital signs (according to age)

2. **Anatomic Indicators:**

- **Penetrating injuries to:**

- head
- neck
- chest
- abdomen/pelvis extremity proximal to the knee or elbow

- **Blunt chest trauma resulting in:**

- ecchymosis
- unstable chest wall
- flail chest

- **Severe tenderness to:**
 - head
 - neck
 - torso
 - abdomen
 - pelvis
- **Paralysis:**
 - traumatic
 - loss of sensation
 - suspected spinal cord injury
- **Abdomen:**
 - tenderness with firm and rigid abdomen on examination
- **Amputations:**
 - above the wrist
 - above the ankle
- **Fractures:**
 - evidence of two or more proximal long bone fractures (femur, humerus)
 - open fractures
 - two or more long bone fractures
- **Skull Deformity**
- **Major Tissue Disruption**
- **Suspected Pelvic Fracture**

3. Mechanism of Injury:

If a patient has one or more of the following mechanisms of injury **with** any of the above physiologic or anatomic criteria transport to the closest Trauma Center.

If there are no associated physiologic or anatomic criteria and the potential CTP meets one or more of the following mechanisms of injury, contact a Trauma ~~base~~ **hospital** ~~Station~~ for physician consultation to determine the patient destination. In some cases, a

Trauma ~~Base~~ hospital~~Station~~ may direct a patient a non-trauma receiving hospital.

- **High Speed Crash:**
 - initial speed > 40 mph
 - major auto deformity > 18 inches
 - intrusion into passenger space compartment > 12 inches
 - unrestrained passenger
 - front axle rearward displaced
 - bent steering wheel/column
 - starred windshield

- **Vehicle Rollover:**
 - complete rollover
 - rollover multiple times
 - unrestrained
 - restrained with significant injuries or high rate of speed

- **Motorcycle Crash:**
 - 20 mph **and/or**
 - separation of rider from the bike with significant injury

- **Non-Motorized Transportation (e.g., bicycles, skate boards, skis, etc.):**
 - with significant impact > 20 mph and/or
 - pedestrian thrown >15 feet or run over

- **Pedestrian:**
 - auto-pedestrian with significant impact > 10mph
 - pedestrian thrown >15 feet or run over

- **Blunt Trauma to:**
 - head
 - neck
 - torso

- **Extrication:**
 - 20 minutes with associated injuries
- **Death of Occupant:**
 - in same passenger space
- **Ejection:**
 - partial or complete ejection of patient from vehicle
- **Falls:**
 - **Adult**
 - ≥ 15 feet
 - **Pediatric**
 - 3 times the child's height or > 10 feet
- **Submersion with Trauma**

4. Age and Co-Morbid Factors

If the patient does not meet any of the above criteria, make Trauma ~~Base~~ hospital Station contact to determine if a Trauma Center should be the destination for the following patients:

- pediatric < 9 years of age
- adult > 65 years of age
- history of respiratory, cardiac, liver disease, or diabetes
- history of hematologic or immunosuppressive conditions
- isolated extremity injury with neurovascular compromise (time sensitive injury)
- pregnant (> 20 weeks in gestation)
- inability to communicate, e.g., language, psychological and/or substance impairment

C. Exceptions

The patient is identified as a CTP or a potential CTP, but presents with the following:

- **Unmanageable Airway:**
 - Transport to the closest receiving hospital when the patient **requires intubation:**

- an adequate airway cannot be maintained with a BVM device; **and**
 - the paramedic is unable to intubate or if indicated, perform a successful needle cricothyrotomy.
- **Severe Blunt Force Trauma Arrest:**
 - Refer to ICEMA Reference #12010 - Determination of Death on Scene.
 - Severe blunt force trauma, pulseless, without signs of life and cardiac electrical activity less than 40 bpm)
 - If indicated, pronounce on scene.
 - If patient does not meet determination of death criteria, transport to closest receiving hospital.
 - **Penetrating Trauma Arrest:**
 - Refer to ICEMA Reference #12010 - Determination of Death on Scene.
 - If the patient does not meet the “*Obvious Death Criteria*” in the ICEMA Reference #12010 - Determination of Death on Scene, contact the Trauma ~~bBase~~ hospital Station for determination of death on scene for those patients who suffer a traumatic cardiac arrest in the setting of penetrating trauma with documented asystole in at least two (2) leads, and no reported vital signs (palpable pulse and/or spontaneous respirations) during the EMS encounter with the patient.
 - Resuscitation efforts on a penetrating traumatic arrest victim are not to be terminated without Trauma ~~bBase~~ hospital Station contact.
 - If indicated, transport to the closest receiving hospital.
 - **Burn Patients:**
 - Refer to ICEMA Reference #8030 - Burn Criteria and Destination Policy.
 - Burn patients meeting CTP, **transport to the closest Trauma Center.**
 - Burn patients not meeting CTP, **transport to the closest receiving hospital or a Burn Center.**

- **EMS Aircraft Indications:**
 - An EMS aircraft may be dispatched for the following events:
 - MCI
 - Prolonged extrication time (> 20 minutes)
 - **Do Not Delay Patient Transport** waiting for an en route EMS aircraft.

- **EMS Aircraft Transport Contraindications:**
 - The following are contraindications for EMS aircraft patient transportation:
 - Patients contaminated with Hazardous Material who cannot be decontaminated and who pose a risk to the safe operations of the EMS aircraft and crew.
 - Violent patients with psychiatric behavioral problems and uncooperative patients under the influence of alcohol and/or mind altering substances who may interfere with the safe operations of an EMS aircraft during flight.
 - Stable patients.
 - Ground transport is < 30 minutes.
 - Traumatic cardiac arrest.
 - Other safety conditions as determined by pilot and/or crew.

- **Remote Locations:**
 - Remote locations may be exempted from specific criteria upon written permission from the ICEMA Medical Director.

D. Considerations

- Scene time should be limited to 10 minutes under normal circumstances.
- Burn patients with associated trauma, should transported to the closest Trauma Center. Trauma ~~bBase~~ hospital ~~Station~~ contact shall be made.

E. Radio Contact

- If not contacted at scene, the receiving Trauma Center must be notified as soon as possible in order to activate the trauma team.
- CTP meeting all Trauma Triage Criteria (physiologic, anatomic, mechanism of injury, and/or age and co-morbid factors), a Trauma

~~b~~Base ~~hospital~~Station shall be contacted in the event of patient refusal of assessment, care and/or transportation.

- In Inyo and Mono Counties, the assigned ~~b~~Base ~~hospital~~Station should be contacted for CTP consultation and destination.

IV. REFERENCES

<u>Number</u>	<u>Name</u>
<u>5050</u>	<u>Medical Response to a Multi-Casualty Incident Policy</u>
<u>8030</u>	<u>Burn Criteria and Destination Policy</u>
<u>8060</u>	<u>San Bernardino County Hospital Diversion Policy</u>
<u>8070</u>	<u>Aircraft Rotation Policy (San Bernardino County Only)</u>
<u>12010</u>	<u>Determination of Death on Scene</u>