



AGENDA

ICEMA MEDICAL ADVISORY COMMITTEE

February 26, 2015

1300

Purpose: Information Sharing

Meeting Facilitator: Phong Nguyen

Timekeeper: Danielle Ogaz

Record Keeper: Danielle Ogaz

	AGENDA ITEM	PERSON(S)	DISCUSSION/ACTION	TIME
I.	Welcome/Introductions	Phong Nguyen		1300 - 1301
II.	Approval of Minutes	All	Discussion	1301 - 1303
III.	Discussion/Action Items			1303 - 1330
	A. Standing EMS System Updates			
	1. Review of Action Items 2. Trauma Program 3. STEMI Program: STEMI Data a. Chest Pain Society Accreditation 4. Stroke Program: Stroke Data 5. CQI Report Update 6. SAC Update	1. Phong Nguyen 2. Chris Yoshida-McMath 3. Chris Yoshida-McMath 4. Chris Yoshida-McMath 5. Phong Nguyen 6. Phone Nguyen	1. Discussion/Action 2. Discussion 3. Discussion 4. Discussion 5. Discussion 6. Discussion	
	B. EMS Trends			1330 - 1345
	1. TXA Study Update 2. Paramedicine Step I Research Update 3. Cardiac Arrest Survival Enhancement Project (CARES/ART)	1. Reza Vaezazizi/Michael Neeki 2. Michael Neeki 3. Reza Vaezazizi	1. Discussion 2. Discussion 3. Discussion	
	C. Community Paramedicine	Reza Vaezazizi	Discussion	1345 -1350
	D. Amiodarone for IFTs	Reza Vaezazizi	Discussion/Action	1350 -1355
	E. Condensed Treatment Protocols	Ron Holk	Discussion	1355 - 1410
V.	Public Comment	All	Discussion	1410 - 1420
VI.	Round Table/Announcements	All	Discussion	1420 - 1425
VII.	Future Agenda Items	All	Discussion	1425 - 1428
VIII.	Next Meeting Date: February 26, 2015	All	Discussion	1428 - 1429
IX.	Adjournment	Todd Sallenbach	Action	1429 - 1430



MINUTES

MEDICAL ADVISORY COMMITTEE

December 18, 2014

1300 to 1500

AGENDA ITEM		DISCUSSION/FOLLOW UP	RESPONSIBLE PERSON(S)
I.	WELCOME/INTRODUCTIONS	Meeting called to order at 1304.	Todd Sallenbach
II.	APPROVAL OF MINUTES	<p>The October 23, 2014, minutes were approved.</p> <p>Motion to approve. MSC: Michael Neeki/Joy Peters APPROVED Ayes: Debbie Bervel, Sam Chua, Michael Guirguis, Susie Moss, Michael Neeki, Phong Nguyen, Leslie Parham, Kevin Parkes, Stephen Patterson, Joy Peters, Joe Powell, Aaron Rubin, Todd Sallenbach, Andrew Stevens, Andrea Thorp, Joanna Yang</p>	
III.	DISCUSSION ITEMS		
	A. Standing EMS System Updates		
	1. Review of Action Items	Action items incorporated into the agenda.	Todd Sallenbach
	2. Trauma Program	<p>TSAC/TAC will meet on February 25, 2015, at ICEMA.</p> <p>ICEMA and REMS are working on developing continuation of Care education for referral hospitals.</p> <p>TXA has been approved by EMSA.</p>	Chris Yoshida-McMath
	3. STEMI Program: STEMI Data	<p>Eight (8) hospitals have committed to participate in CARES.</p> <p>The 2015 goals include increasing ECG capture and over-read, improve continuation of care transfer times and door to balloon times.</p> <p>There was an increase in the physician attendance at the last STEMI meeting.</p>	Chris Yoshida-McMath

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	4. Stroke Program: Stroke Data	Kaiser Ontario and Fontana are close to becoming ICEMA designated NSRCs. The 2015 goals include improving continuation of care transfer and door to intervention times.	Chris Yoshida-McMath
	5. STEMI/Stroke Center Regulations	Nothing to report.	Reza Vaezazizi
	6. CQI Report Update	Motion to endorse Susie Moss to participate in the review of the CQI plan, along with Lisa Higuchi and Sandy Carnes. MSC: Michael Neeki/Joy Peters APPROVED Ayes: Debbie Bervel, Sam Chua, Michael Guirguis, Susie Moss, Michael Neeki, Phong Nguyen, Leslie Parham, Kevin Parkes, Stephen Patterson, Joy Peters, Joe Powell, Aaron Rubin, Todd Sallenbach, Andrew Stevens, Andrea Thorp, Joanna Yang	Todd Sallenbach
	7. SAC Update	Nothing to report	Todd Sallenbach
	8. Literature Review		Reza Vaezazizi
	<ul style="list-style-type: none"> Recent Trends in Survival from Out-of-Hospital Cardiac Arrest in the United States 	Synopsis of article presented by Dr. Vaezazizi. Full article distributed in agenda packet.	
	<ul style="list-style-type: none"> Out-of-hospital cardiac arrest: manual or mechanical CPR? 	Synopsis of article presented by Dr. Vaezazizi. Full article distributed in agenda packet.	
	<ul style="list-style-type: none"> Mechanical versus manual chest compression for out-of-hospital cardiac arrest (PARAMEDIC): a pragmatic, cluster randomized controlled trial 	Synopsis of article presented by Dr. Vaezazizi. Full article distributed in agenda packet.	
	B. EMS Trends		
	1. TXA Study Update	TXA has been approved by EMSA. An educational video is currently being developed and the trial study is on track to begin in early 2015.	Reza Vaezazizi/ Michael Neeki
	2. Paramedicine Step I Research Update	Research is scheduled to begin on February 1, 2015, with the goal of a 2,000 patient sample size.	Michael Neeki
	3. Art of Resuscitation	Pilot project expected mid to late 2015.	Reza Vaezazizi
	C. ARMC Strike	An overview of the events that occurred secondary to the ARMC strike were presented.	Ron Holk
	D. Procainamide	Request for ICEMA to find out the number of times Procainamide was administered.	Kevin Parkes

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	E. Membership Review	Attendance tracking was distributed in agenda packet. Membership will be discussed again at the February 2015 meeting.	Todd Sallenbach
	F. 2015 Dates	2015 dates were distributed to members.	Reza Vaezazizi
IV.	PUBLIC COMMENT	None	All
V.	ROUND TABLE/ ANNOUNCEMENTS	None	All
VI.	FUTURE AGENDA ITEMS	None	Danielle Ogaz
VII.	NEXT MEETING:	February 26, 2015	
VIII.	ADJOURNMENT	The meeting adjourned at 1423.	Todd Sallenbach

Attendees:

NAME	MAC POSITION	EMS AGENCY STAFF	POSITION
<input type="checkbox"/> VACANT	Trauma Hospital Physicians (2)	<input checked="" type="checkbox"/> Reza Vaezazizi, MD	Medical Director
<input type="checkbox"/> Jeff Grange - LLUMC			
<input checked="" type="checkbox"/> Phong Nyugen - RDCH <input checked="" type="checkbox"/> Todd Sallenbach - HDMC (Chair)	Non-Trauma Base Physicians (2)	<input type="checkbox"/> Tom Lynch	EMS Administrator
<input checked="" type="checkbox"/> Aaron Rubin - Kaiser	Non-Base Hospital Physician	<input type="checkbox"/> Denice Wicker-Stiles	Assist. Administrator
<input checked="" type="checkbox"/> Michael Neeki - Rialto FD	Public Transport Medical Director	<input type="checkbox"/> George Stone	Program Coordinator
<input checked="" type="checkbox"/> Sam Chua - AMR	Private Transport Medical Director	<input checked="" type="checkbox"/> Ron Holk	EMS Nurse Specialist
<input checked="" type="checkbox"/> Debbie Bervel - SB City FD	Fire Department Medical Director	<input checked="" type="checkbox"/> Chris Yoshida-McMath	EMS Nurse Specialist
<input checked="" type="checkbox"/> Joy Peters - ARMC	EMS Nurses	<input checked="" type="checkbox"/> Danielle Ogaz	EMS Specialist
<input checked="" type="checkbox"/> Joe Powell - Rialto FD	EMS Officers		
<input checked="" type="checkbox"/> Leslie Parham	Public Transport Medical Rep (Paramedic/RN)		
<input checked="" type="checkbox"/> Susie Moss	Private Transport Medical Rep (Paramedic/RN)		
<input type="checkbox"/> Lance Brown	Specialty Center Medical Director		
<input checked="" type="checkbox"/> Joanna Yang - LLUMC	Specialty Center Coordinator		
<input type="checkbox"/> Troy Pennington	Private Air Transport Medical Director		
<input checked="" type="checkbox"/> Stephen Patterson - Sheriff's Air Rescue	Public Air Transport Medical Director		
<input checked="" type="checkbox"/> Micheal Guirguis - SB Comm Center	PSAP Medical Director		
<input checked="" type="checkbox"/> Andrew Stevens	Inyo County Representative		
<input type="checkbox"/> Rosemary Sachs	Mono County Representative		
<input checked="" type="checkbox"/> Kevin Parkes	SAC Liaison		
<input checked="" type="checkbox"/> Andrea Thorp	Pediatric Critical Care Physician		

GUESTS	AGENCY
Patti Eickholt	SACH
Terence Flores	AMR
Chris Linke	AMR
Sara Morning	RCH
Shane Panto	CHP
Shawn Reynolds	LLUMC
Bob Tyson	Redlands Fire



ADULT RESPIRATORY EMERGENCIES

CHRONIC OBSTRUCTIVE PULMONARY DISEASE

FIELD ASSESSMENT/TREATMENT INDICATORS

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

LIMITED ALS (LALS) INTERVENTIONS

- BLS Interventions
- Albuterol
- CPAP
- Airway management within scope

ALS INTERVENTIONS

- LALS Interventions
- Albuterol with Atrovent
- Endotracheal Intubation

ACUTE ASTHMA/BRONCHOSPASM/ALLERGIC REACTION/ANAPHYLAXIS

FIELD ASSESSMENT/TREATMENT INDICATORS

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

LIMITED ALS (LALS) INTERVENTIONS

- BLS Interventions
- Albuterol
- Inadequate tissue perfusion: NS 300 cc IV, may repeat once
- If no response to Albuterol: Epinephrine, may repeat
- CPAP

ALS INTERVENTIONS

- LALS Interventions
- Albuterol with Atrovent
- Possible allergic reaction: Diphenhydramine
- Severe anaphylactic shock: Epinephrine IV

ACUTE PULMONARY EDEMA/CHF

FIELD ASSESSMENT/TREATMENT INDICATORS

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

LIMITED ALS (LALS) INTERVENTIONS

- BLS Interventions
- Nitroglycerine
- Albuterol
- CPAP

ALS INTERVENTIONS

- LALS Interventions
- Albuterol with Atrovent
- Radio communication failure (RCF): Dopamine

REFERENCES

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



AIRWAY OBSTRUCTION - ADULT

FIELD ASSESSMENT/TREATMENT INDICATORS

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

LIMITED ALS (LALS)

UNRESPONSIVE

- BLS Interventions
- If apneic and able to ventilate, establish King Airway
- Establish vascular access as indicated.

ALS INTERVENTION

UNRESPONSIVE

- LALS Interventions
- If obstruction persists, visualize with laryngoscope and remove
- Endotracheal Intubation as indicated
- Needle Cricothyrotomy

REFERENCE

<u>Number</u>	<u>Name</u>
10190	ICEMA Approved Skills



BRADYCARDIAS - ADULT

STABLE BRADYCARDIA

FIELD ASSESSMENT/TREATMENT INDICATORS

- Heart rate less than 60 beats per minute (bpm)
- Signs of adequate tissue perfusion

LIMITED ALS (LALS)/ALS INTERVENTIONS

- BLS Interventions
- Vascular access if indicated.
- Lungs sound clear: NS 300 cc IV, may repeat

ALS INTERVENTIONS

- LALS Interventions
- ECG

UNSTABLE BRADYCARDIA

FIELD ASSESSMENT/TREATMENT INDICATORS

- Signs of inadequate tissue perfusion/shock
- ALOC
- Ischemic chest discomfort

LIMITED ALS (LALS) INTERVENTIONS

- BLS Interventions
- NS 300 cc IV; repeat one (1) time
 - NS TKO IV after bolus

ALS INTERVENTIONS

- LALS Interventions
- NS 300 cc per hour IV
- ECG
- Atropine
- TCP if indicated for MI, 3rd degree AV Block with wide complex and 2nd degree Type II AV Block
- Consider Dopamine

REFERENCES

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



TACHYCARDIAS - ADULT

FIELD ASSESSMENT/TREATMENT INDICATORS

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

LIMITED ALS (LALS) INTERVENTIONS

- BLS Interventions
- AED
- NS 300 cc IV
- Blood glucose.
 - Dextrose
 - Glucagon
 - Repeat blood glucose, repeat Dextrose

ALS INTERVENTIONS

- LALS Interventions
- ECG

Narrow Complex Supraventricular Tachycardia (SVT)

- Vagal maneuvers
- Adenosine
- Verapamil
- Procainamide
- Synchronized cardioversion, with pain management

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

- Adenosine
- Procainamide
- If Procainamide contraindicated or fails, consider Lidocaine
- Polymorphic VT, immediate unsynchronized cardioversion (defibrillation)
- Magnesium
- Precordial thump
- Synchronized cardioversion
- Contact base hospital

Atrial Fib/Flutter

- Transport to appropriate facility
- Hemodynamically unstable, proceed to synchronized cardioversion

REFERENCES

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



SUSPECTED ACUTE MYOCARDIAL INFARCTION (AMI)

FIELD ASSESSMENT/TREATMENT INDICATORS

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

LIMITED ALS (LALS) INTERVENTIONS

- BLS Intervention
- Aspirin
- Vascular access
- NS 300 ml bolus for inadequate tissue perfusion, may repeat
- Nitroglycerin
- Establish a saline lock
- Thrombolytic checklist
- Notify STEMI Receiving Center

ALS INTERVENTIONS

- LALS Interventions
- ECG
 - Repeat 12-lead
- Morphine or Fentanyl for pain management
- In Radio Communication Failure (RCF), may administer additional Morphine or Fentanyl

REFERENCES

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



CARDIAC ARREST - ADULT

FIELD ASSESSMENT/TREATMENT INDICATORS

- Cardiac arrest in a non-traumatic setting

LIMITED ALS (LALS) INTERVENTIONS

- BLS Interventions
- AED
- King Airway
- IV
- NS 500 ml IV
- Refer to ICEMA Reference #12010 - Determination of Death on Scene
- Blood glucose:
 - Dextrose
 - Repeat blood glucose
 - Repeat Dextrose
- Suspected narcotic overdose with decreased respiration: Naloxone

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

ALS INTERVENTIONS

- LALS Interventions
- Defibrillate if indicated
- IO access
- Endotracheal intubation
- Waveform capnography
- NG/OG tube
- ROSC achieved
- ECG and contact a STEMI base hospital
- Continued signs of inadequate tissue perfusion after successful resuscitation:
Dopamine

Ventricular Fibrillation/Pulseless Ventricular Tachycardia

- Defibrillate
- CPR
- Epinephrine
- After two (2) cycles of CPR: Lidocaine
- After five (5) cycles of CPR, consult base hospital

Pulseless Electrical Activity (PEA) or Asystole

- NS 300 ml IV
- Epinephrine

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.

REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
8130	Destination Policy
10190	ICEMA Approved Skills
12010	Determination of Death on Scene



ALTERED LEVEL OF CONSCIOUSNESS/SEIZURES - ADULT

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

LIMITED ALS (LALS)/ INTERVENTIONS

- BLS Interventions
- Vascular access
- Blood glucose level:
 - Dextrose
 - Glucagon
 - Repeat blood glucose level, repeat Dextrose
 - Narcotic overdose decreased respirations: Naloxone

ALS INTERVENTIONS

- LALS Interventions
 - Tonic/clonic seizure activity: Midazolam

REFERENCES

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



SHOCK (NON-TRAUMATIC)

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

LIMITED ALS (LALS) INTERVENTIONS

- BLS Interventions
- Place AED pads
- Trendelenburg position
- Vascular access
- Hypotension or inadequate tissue perfusion:
 - ADULT - NS 500 ml IV, may repeat one (1) time
 - PEDIATRIC - NS 20 ml/kg IV, may repeat one (1) time
- For patients with no respiratory difficulties and adequate signs of tissue perfusion:
 - ADULT/PEDIATRIC - NS TKO IV

ALS INTERVENTIONS

- LALS Interventions
- For BP > 90 mmHg:
 - ADULT - NS 150 ml per hour IV
 - PEDIATRIC - NS TKO IV

Base Hospital May Order and RCF

- Establish 2nd large bore IV enroute
- Dopamine

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 base hospital should be contacted for determination of appropriate destination.

Refer to ICEMA Reference #8130 - Destination Policy.

LIMITED ALS (LALS) INTERVENTIONS

- BLS Interventions
- Basic Airway management - King Airway contraindicated in airway burns
- Albuterol
- Humidified oxygen, if available
- IV access (warm IV fluids when available)
 - *Unstable:* BP <90mmHG and/or signs of inadequate tissue perfusion, start 2nd IV access
 - NS 250 ml IV, may repeat to a maximum of 1000 ml
 - *Stable:* BP >90mmHG and/or signs of adequate tissue perfusion
 - NS 500 ml /hour IV
 - Transport to appropriate facility

ALS INTERVENTIONS

- LALS Interventions
- Endotracheal intubation (as indicated)
- Capnography
- Albuterol with Atrovent
- IO Access (warm IV fluids when available)
- Morphine or Fentanyl
- NG/OG
- Refer to Burn Classifications below

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.
 - 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 base hospital.

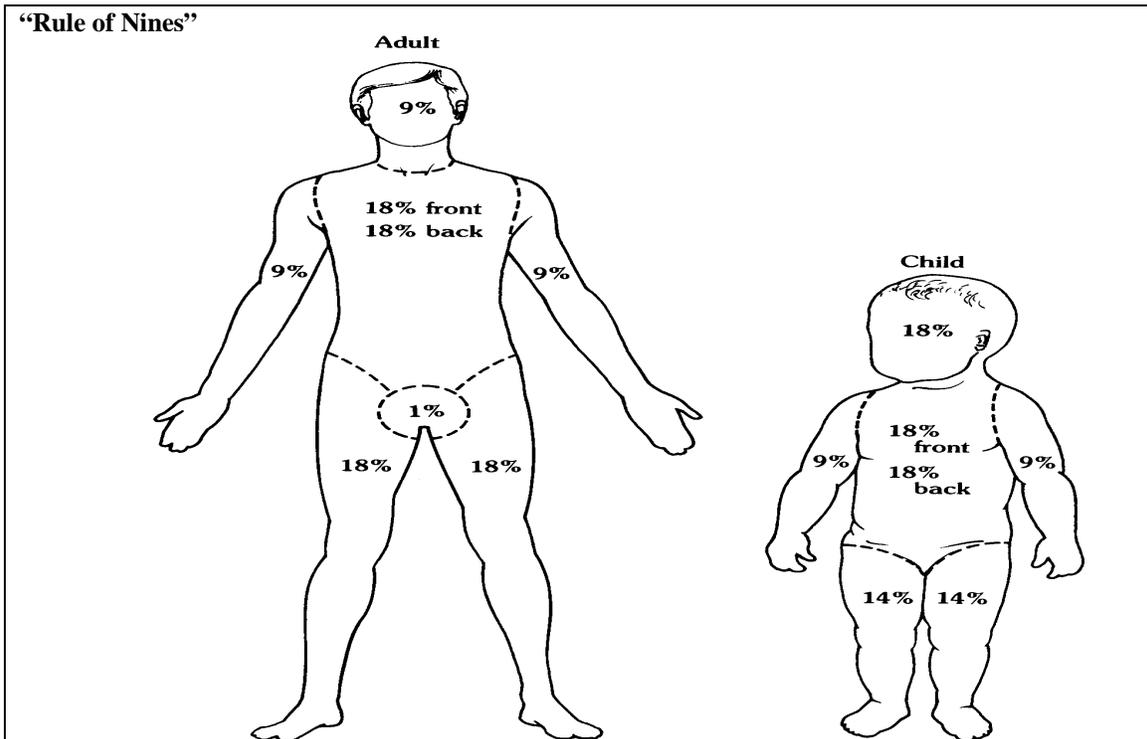
- **Deteriorating Vital Signs:** Transport to the closest receiving hospital. Contact base hospital.
- **Pulseless and Apneic:** Transport to the closest receiving hospital and treat according to ICEMA policies. Contact base hospital.
- **Determination of Death on Scene:** Refer to ICEMA Reference #12010 - Determination of Death on Scene.

REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
9010	General Patient Care Guidelines
10190	ICEMA Approved Skills
11070	Adult Cardiac Arrest
12010	Determination of Death on Scene
15030	Trauma Triage Criteria and Destination Policy

BURN CLASSIFICATIONS

ADULT BURN CLASSIFICATION CHART	DESTINATION	
<p><u>MINOR</u> - ADULT</p> <ul style="list-style-type: none"> • < 10% TBSA • < 2% Full Thickness 	CLOSEST MOST APPROPRIATE RECEIVING HOSPITAL	
<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) 	CLOSEST MOST APPROPRIATE RECEIVING HOSPITAL	
<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>CLOSEST MOST APPROPRIATE BURN CENTER</p> <p>In San Bernardino County, contact: Arrowhead Regional Medical Center (ARMC)</p>	





POISONINGS

FIELD ASSESSMENT/TREATMENT INDICATORS

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

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
- Contact poison control (1-800-222-1222)
- Bring ingested substance to the hospital with patient
- Expedient transport

LIMITED ALS (LALS) INTERVENTIONS PRIOR TO BASE HOSPITAL CONTACT

- BLS Interventions
- Vascular access at a TKO rate
- If signs of inadequate tissue perfusion, 500 cc fluid challenge and repeat as needed
- For pediatric patients with signs of inadequate tissue perfusion, administer 20 cc/kg IVP and repeat

ALS INTERVENTIONS PRIOR TO BASE HOSPITAL CONTACT

- LALS Interventions
- Phenothiazine poisoning: Diphenhydramine
- Organophosphate poisoning: Atropine

BASE HOSPITAL MAY ORDER THE FOLLOWING

- 1.* Tricyclic poisonings: Sodium Bicarbonate
- 2.* Calcium channel blocker poisonings: Calcium Chloride
- 3.* Beta blocker poisonings: Glucagon
- 4.* Repeat Atropine in 2 - 4 mg increments until symptoms are controlled

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

REFERENCE

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



HEAT RELATED EMERGENCIES

FIELD ASSESSMENT/TREATMENT INDICATORS

- **Heat Exhaustion:** Symptoms of weakness, nausea, dizziness and profuse sweating that result from overexposure to a hot environment.
- **Heat Stroke:** Symptoms marked by cessation of sweating, extremely high body temperature, and collapse that result from prolonged exposure to high temperature.

LIMITED ALS INTERVENTIONS

- BLS Interventions
- Obtain vascular access:
 - ADULT - Fluid bolus with 500 cc NS. Repeat as needed
 - PEDIATRIC 0-8 years - Initial 20 cc/kg IV bolus; reassess and repeat
 - Blood glucose:
 - Dextrose
 - Glucagon
- Seizure precautions

ALS INTERVENTIONS

- LALS Interventions
- Tonic/clonic type seizure activity:
 - ADULT/PEDIATRIC - Midazolam.

REFERENCES

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



COLD RELATED EMERGENCIES

FIELD ASSESSMENT/TREATMENT INDICATORS

Hypothermia: A dangerous drop in body temperature due to exposure to the elements, illnesses or medications. Core temperature falls below 95 degrees. In sever Hypothermia the core temperature falls below 86 degrees.

LIMITED ALS INTERVENTIONS

- BLS Interventions
- King Airway as indicated
- Blood glucose:
 - ADULT/PEDIATRIC
 - Dextrose
 - May repeat blood glucose level. Repeat Dextrose
 - Glucagon
- Vascular access:
 - Nine (9) years and older: 300 ml warmed NS, may repeat
 - Birth to eight (8) years: 20 ml/kg warmed NS, may repeat

ALS INTERVENTIONS

- LALS Interventions
- Cardiac monitor
- For complaints of pain in affected body part:
 - ADULT/PEDIATRIC - Morphine or Fentanyl
- Endotracheal intubation
- Obtain rhythm strip for documentation.
- For documented VF, Pulseless V-Tach:
 - Defibrillate one (1) time. Do not defibrillate again until patient has begun to warm.
- For documented asystole:
 - Begin CPR
 - May administer additional fluid bolus
- Contact base hospital.

REFERENCE

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



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

FIELD ASSESSMENT/TREATMENT INDICATORS

- Asthma
- Toxic Inhalation
- Difficult Breathing

LIMITED ALS (LALS) INTERVENTIONS

- BLS Interventions
- Albuterol
- If no response to Albuterol, consider Epinephrine
- Vascular access
- If allergic reaction suspected, refer to ICEMA Reference #14030 - Pediatric Allergic Reaction (Less than 15 years of age)

ALS INTERVENTIONS

- LALS Interventions
- Albuterol with Atrovent
- If no response to Albuterol and Atrovent, consider Epinephrine

REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
14030	Allergic Reactions - Pediatric (Less than 15 years of age)



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

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)

LIMITED ALS (LALS) INTERVENTIONS

- BLS Interventions
- Basic airway management with BVM if Apneic and able to ventilate
- King Airway only if necessary to maintain airway or ventilate
- If obstruction persists continue with compressions until obstruction is relieved or arrival at hospital
- Transport to closest receiving hospital

ALS INTERVENTIONS

- LALS Interventions
- Endotracheal intubation only is necessary to maintain airway and ventilate
- If obstruction is visible, remove with Magill forceps.
- If obstruction persists, Needle Cricothyrotomy

REFERENCE

<u>Number</u>	<u>Name</u>
10190	ICEMA Approved Skills



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

FIELD ASSESSMENT/TREATMENT INDICATORS

- Signs and symptoms of an acute allergic reaction
- History of exposure to possible allergen

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

- BLS Interventions
- Maintain airway
- Nebulized Albuterol
- If no response to Albuterol, consider Epinephrine
- Vascular access
- 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

ALS INTERVENTIONS

- LALS Interventions
- Maintain airway
- Albuterol with Atrovent
- If no response to Albuterol and Atrovent, consider Epinephrine
- Diphenhydramine
- For anaphylactic shock (e.g., no palpable radial pulse and a depressed level of consciousness), administer Epinephrine IV

REFERENCE

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



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

FIELD ASSESSMENT/TREATMENT INDICATORS

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

LIMITED ALS (LALS) INTERVENTIONS

- BLS Interventions
- CPR/AED
- Vascular access
- King airway
- Continued signs of inadequate tissue perfusion, fluid bolus of NS. 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: NS 20 ml/kg
 - 9 to 14 years: NS 300 ml
- Blood glucose:
 - Dextrose
 - Repeat blood glucose, repeat Dextrose
 - Glucagon
- Suspected narcotic overdose with decreased respirations: Naloxone.

ALS INTERVENTIONS

- LALS Interventions
- CPR/ cardiac monitor
- Defibrillate if appropriate at 2 j/kg
- Endotracheal intubation
- NG/OG tube
- Capnography

Ventricular Fibrillation/Pulseless Ventricular Tachycardia

- Defibrillate at 2 j/kg, 4 j/kg, and 10 j/kg not to exceed the adult dose
- Epinephrine
- Reassess each two (2) minute cycle of CPR
- After two (2) cycles of CPR, consider Lidocaine
- If patient remains in pulseless VF/VT after five (5) cycles of CPR, consult base hospital

Pulseless Electrical Activity/Asystole

- Epinephrine

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.

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

- Continued signs of inadequate tissue perfusion **after** successful resuscitation:
 - 1 day to 8 years: Epinephrine drip
 - 9 to 14 years: Dopamine

REFERENCES

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



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

FIELD ASSESSMENT/TREATMENT INDICATORS

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

LIMITED ALS (LALS) INTERVENTIONS

- BLS Interventions
- King airway only as necessary to maintain the airway and ventilate
- Vascular access
- Symptomatic hypotension with poor perfusion: NS 20 ml/kg IV not to exceed NS 300 ml
- Blood glucose:
 - Dextrose
 - Repeat blood glucose
 - Glucagon
- If suspected narcotic overdose with decreased respirations: Naloxone

ALS INTERVENTIONS

- LALS Interventions
- Endotracheal intubation only as necessary to maintain the airway and ventilate
- Cardiac monitor
- Fluid bolus, may repeat twice for continued signs of inadequate tissue perfusion

REFERENCE

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



SEIZURE - PEDIATRIC (Less than 15 years of age)

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

LIMITED ALS (LALS) INTERVENTIONS

- BLS Interventions
- King Airway only as necessary to maintain the airway and ventilate
- Vascular access
- Blood glucose level:
 - Dextrose
 - May repeat blood glucose level. Repeat Dextrose
 - Glucagon

ALS INTERVENTIONS

- LALS Interventions
- Endotracheal intubation only as necessary to maintain the airway and ventilate
- Cardiac monitor
- For tonic/clonic type seizure activity administer: Midazolam

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 base hospital should be contacted for determination of appropriate destination.

FIELD ASSESSMENT/TREATMENT INDICATORS

Refer to ICEMA Reference #8130 - Destination Policy.

LIMITED ALS (LALS) INTERVENTIONS

- BLS Interventions
- Basic Airway management: King Airway contraindicated in airway burns
- Albuterol
- Humidified oxygen, if available
- IV/IO Access
 - *Unstable*, second IV or saline lock. NS 20 ml/kg IV/IO, may repeat one (1) time
 - *Stable*: Vital signs (age appropriate) and/or signs of adequate tissue perfusion.
 - < 5 years of age: NS 150 ml /hour IV
 - > 5 years of age - < 15 years of age: NS 250 ml /hour IV
- Transport to appropriate facility

ALS INTERVENTIONS

- LALS Interventions
- Endotracheal intubation only as necessary to maintain the airway and ventilate
- Airway Stabilization: At the closest receiving hospital
- ECG
- Pain Control: Morphine or Fentanyl
- 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 contacted shall be made.
 - NG/OG
- Refer to Burn Classifications below.

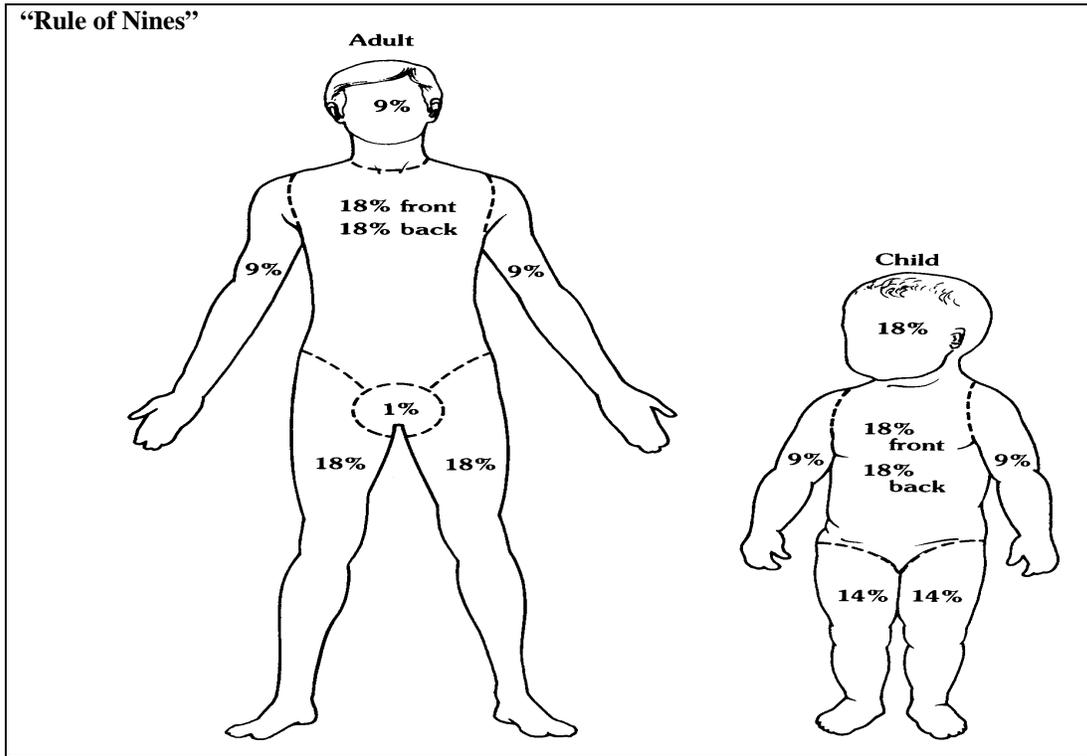
- **Deteriorating Vital Signs:** Transport to the closest receiving hospital. Contact base hospital.
- **Pulseless and Apneic:** Transport to the closest receiving hospital and treat according to ICEMA protocols. Contact base hospital.
- **Determination of Death on Scene:** Refer to ICEMA Reference #12010 - Determination of Death on Scene.

REFERENCES

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

BURN CLASSIFICATIONS

PEDIATRIC BURN CLASSIFICATION CHART	DESTINATION
<p><u>MINOR - PEDIATRIC</u></p> <ul style="list-style-type: none"> • < 5% TBSA • < 2% Full Thickness 	<p>CLOSEST MOST APPROPRIATE RECEIVING HOSPITAL</p>
<p><u>MODERATE - PEDIATRIC</u></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 - PEDIATRIC</u></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>





OBSTETRICAL EMERGENCIES

FIELD ASSESSMENT/TREATMENT INDICATORS

- Obstetrical emergencies (field delivery) with or without complications

LIMITED ALS (LALS) INTERVENTIONS

COMPLICATED DELIVERY

- BLS Interventions
- IV access
- Excessive vaginal bleeding or post-partum hemorrhage:
 - NS 500 ml IV, may repeat
 - Then NS 150 ml per hour IV
 - Second large bore IV enroute
- Pregnancy Induced Hypertension and/or Eclampsia:
 - NS TKO IV, limit fluid intake
 - Place in left lateral position, and obtain blood pressure after five (5) minutes
- Consider immediate notification of base hospital physician

ALS INTERVENTIONS

COMPLICATED DELIVERY

- LALS Interventions
 - Obtain rhythm strip with copy to receiving hospital
- Eclampsia (Seizure/Tonic/Clonic Activity): Magnesium Sulfate; Midazolam
- Consider immediate notification of base hospital physician
 - Base hospital physician may order or in Radio Communication Failure: Dopamine

REFERENCE

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



NEWBORN CARE

FIELD ASSESSMENT/TREATMENT INDICATORS

- Field delivery with or without complications

LIMITED ALS (LALS) INTERVENTIONS

- BLS Interventions
- Vascular access
- Blood glucose by heel stick:
 - If blood glucose < 35 mg/dL, administer Dextrose
- Contact base hospital if hypovolemia is suspected. Base hospital may order NS 10 ml/kg IV over five (5) minutes. May also do if there is Radio Communication Failure (RCF)

ALS INTERVENTIONS

- LALS Interventions
- Endotracheal intubation as indicated only as necessary to maintain the airway and ventilate
- Epinephrine
- For persistent hypotension despite adequate ventilation and fluid resuscitation, base hospital may order Epinephrine and if there is RCF

REFERENCES

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



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 base hospital should be contacted for determination of appropriate destination.

FIELD ASSESSMENT/TREATMENT INDICATORS

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

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 NS 250 ml IV 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 voice prompts.

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 hospital 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 hospital 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 Orders:** May order additional fluid boluses.

LIMITED ALS (LALS) INTERVENTIONS

- BLS Interventions
- King only as necessary to maintain the airway and ventilate
- AED
- Vascular 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:* NS IV open until stable or 2000 ml maximum is infused.
- *Stable:* NS TKO IV

Penetrating Trauma:

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

Isolated Closed Head Injury:

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

- Transport to appropriate hospital.

ALS INTERVENTIONS

- LALS Interventions
- Endotracheal only as necessary to maintain the airway and ventilate
 - 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
- IO
- NG/OG
- Transport to appropriate hospital

Special Considerations*

- **Chest Trauma:** Perform needle thoracostomy for chest trauma with symptomatic respiratory distress.
- **Fractures:**
 - **Pain Relief:**
 - Morphine or Fentanyl
 - Ondansetron.
 - 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 NS 250 ml IV, one (1) time.
- **Head and Neck Trauma:** Immediately prior to intubation, consider prophylactic Lidocaine
- **Base Hospital 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 base hospital contact is required.

REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
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 base hospital should be contacted for determination of appropriate destination.

FIELD ASSESSMENT/TREATMENT INDICATORS

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

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 NS 250 ml IV, 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 hospital 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 hospital 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 Hospital Orders:** May order additional fluid boluses.

LIMITED ALS (LALS) INTERVENTIONS

- BLS Interventions
- King airway only as necessary to maintain the airway and ventilate
 - Unmanageable Airway: Transport to the closest most appropriate receiving hospital when the patient requires an advance airway. An adequate airway cannot be maintained with a BVM device.
- AED
- 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 NS 20 ml/kg IV, may repeat one (1) time
 - *Stable:* Vital signs (age appropriate) and/or signs of adequate tissue perfusion.
Maintain NS TKO IV
- 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 closes trauma hospital.

ALS INTERVENTIONS

- LALS Interventions
- Endotracheal Intubation (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.
- 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.
- NG/OG

Special Considerations*

- **Blunt Chest Trauma:** Perform needle thoracostomy for chest trauma with symptomatic respiratory distress.
 - **Pain Relief:**
 - Morphine or Fentanyl
 - Ondansetron
 - Patients in high altitudes should be hydrated with NS IV
Administer NS 20ml/kg IV/IO one (1) time
- **Head and Neck Trauma:** Immediately prior to intubation, consider prophylactic Lidocaine
- **Base Hospital 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 base hospital contact is required.

REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
10160	Axial Spinal Stabilization
12010	Determination of Death on Scene
14040	Cardiac Arrest - Pediatric
15030	Trauma Triage Criteria and Destination Policy