



Inland Counties Emergency Medical Agency

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Serving San Bernardino, Inyo, and Mono Counties
Tom Lynch, EMS Administrator
Reza Vaezazizi, MD, Medical Director

DATE: January 31, 2020

TO: EMS Providers - ALS, LALS, BLS, EMS Aircraft
Hospital CEOs, ED Directors, Nurse Managers and PLNs
EMS Training Institutions and Continuing Education Providers
Inyo, Mono and San Bernardino County EMCC Members
Medical Advisory Committee (MAC) Members
Systems Advisory Committee (SAC) Members

FROM: Tom Lynch
EMS Administrator

Reza Vaezazizi, MD
Medical Director

SUBJECT: IMPLEMENTATION OF PROTOCOLS/POLICIES EFFECTIVE MARCH 1, 2020

The protocols/policies listed below are effective March 1, 2020.

ICEMA Reference Number and Name

<u>Old #</u>	<u>New #</u>	
8070	NA	Aircraft Rotation (San Bernardino County Only) (DELETE)
NA	8110	EMS Aircraft Utilization (San Bernardino County Only) (NEW)
6060	4030	Specialty and Optional Scope Program Approval
7010	7010	BLS/LALS/ALS Standard Drug and Equipment List
7020	7020	EMS Aircraft Standard Drug and Equipment List
7040	11010	Medication - Standard Orders
10190	11020	Procedure - Standard Orders
11070	14050	Cardiac Arrest - Adult
13010	13010	Poisonings
14030	14140	Allergic Reactions - Pediatric
15030	9040	Trauma Triage Criteria

Please insert and replace the attached policies/protocols and the Table of Contents in the Policy, Procedure and Protocol Manual with the updated documents and ensure every station or facility has a reference copy. The ICEMA policies and protocols can also be found on ICEMA’s website at www.ICEMA.net under the Policy, Procedure and Protocol Manual section.

In addition, effective March 1, 2020, ICEMA will be implementing the new Policy and Protocol Manual replacing the current Policy, Procedure and Protocol Manual. Changes to the new manual include the latest revision of each policy/protocol and renumbering structure. The new Policy and Protocol Manual can be found on ICEMA’s website at ICEMA.net under the Home section then What’s New.

If you have any questions, please contact Loreen Gutierrez, Specialty Care Coordinator, at (909) 388-5803 or via e-mail at loreen.gutierrez@cao.sbcounty.gov.

TL/RV/jlm

Enclosures

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POLICIES/PROTOCOLS CHANGES EFFECTIVE MARCH 1, 2020

Reference #	Name	Changes
DELETIONS		
8070	Aircraft Rotation (San Bernardino County Only)	Deleted and replaced by new EMS aircraft utilization (San Bernardino County Only) policy.
NEW		
8110 (# for new manual)	EMS Aircraft Utilization (San Bernardino County Only)	New policy for EMS aircraft utilization and medical transportation.
CHANGES		
6060	Specialty and Optional Scope Program App	Removal of EMT King Airway Optional Skills Program.
7010	BLS/LALS/ALS Standard Drug and Equipment List	Removal of CPAP optional equipment for BLS and LALS. Removal of Lidocaine 2% (Viscous) dose. Removal of ammonia inhalants.
7020	EMS Aircraft Standard Drug and Equipment List	Removal of Lidocaine 2% (Viscous) dose. Removal of ammonia inhalants.
7040	Medication - Standard Orders	Update to Atropine - Pediatric (ALS). Update to Calcium Chloride - Adult (ALS). Update to Calcium Chloride - Pediatric (ALS). Update to Diphenhydramine - Pediatric (ALS). Update to Glucagon - Pediatric (LALS, ALS). Removal of Lidocaine 2% Gel (Viscous) - Pediatric and Adult (ALS). Update to Midazolam for second dosing time frame. Update to Sodium Bicarbonate - Adult (ALS). Update to Sodium Bicarbonate - Pediatric (ALS).
10190	Procedure - Standard Orders	Removal of King Airway for EMT Specialty Program. Removal of CPAP for EMT and AEMT. Removal of viscous Lidocaine gel under NG/OG. Removal of King Airway under Oral Endotracheal Intubation.
11070	Cardiac Arrest - Adult	Update to Pulseless Electrical Activity (PEA) or Asystole.
13010	Poisonings	Removal of reference to radio communication failure (RCF).
14030	Allergic Reactions - Pediatric (Less than 15 years of age)	Clarification to ALS Interventions for Diphenhydramine.
15030	Trauma Triage Criteria	Removal of EMS aircraft indications and EMS aircraft transport contraindications.

TABLE OF CONTENTS

SERIES	SYSTEM POLICIES AND PROCEDURES	EFFECTIVE DATE
1000	CERTIFICATION, ACCREDITATION and AUTHORIZATION	
1030	EMT Certification	08/15/17
1040	EMT-P Accreditation	06/18/19
1050	MICN Authorization - Base Hospital, Administrative, Flight Nurse, Critical Care Transport	04/01/16
1070	EMT/AEMT Incident Investigation, Determination of Action, Notification, and Administrative Hearing Process	08/15/14
1090	Criminal History Background Checks (Live Scan)	08/15/14
1100	AEMT Certification	07/01/15
1110	RCP Authorization	04/01/16
1120	EMT-P Student Field Internship Requirements	12/01/19
2000	DATA COLLECTION	
2020	ICEMA Abbreviation List	03/15/12
2030	Minimum Documentation Requirements for Transfer of Patient Care	03/15/12
2040	Requirements for Patient Care Reports	03/15/17
2050	Requirements for Collection and Submission of EMS Data	12/01/16
3000	EDUCATION	
3020	Continuing Education Provider Requirements	01/22/19
3030	EMT Continuing Education Requirements	01/22/19
3050	Public Safety First Aid And CPR Training Program Approval	01/22/19
3060	Public Safety Optional Skills Course Approval	01/22/19
3070	Tactical Casualty Care Course Approval	01/22/19
4000	QUALITY IMPROVEMENT	
4010	Continuous Quality Improvement Plan	02/28/11
5000	MISCELLANEOUS SYSTEM POLICIES	
5010	Licensure Changes 911 Receiving Hospitals	01/01/10
5020	Base Hospital Selection Criteria	07/15/00
5030	Review of Policies and Protocols	02/01/16
5040	Radio Communication Policy	02/01/16
5050	Medical Response to a Multi-Casualty Incident	04/01/13
5050 I/Mono Annex	Inyo and Mono Counties Medical Response to a Multi-Casualty Incident	05/01/11
5060	MCI Definitions/Key ICS Positions	01/01/10
5070	Medical Response to Hazardous Materials/Terrorism Incident	04/01/13
5080	ICEMA Ground Based Ambulance Rate Setting Policy-San Bernardino County	05/08/12
5100	Triage Tag Tuesday	04/10/18
6000	SPECIALTY PROGRAM/PROVIDER POLICIES	
6010	Paramedic Vaccination Policy	04/01/13
6060	Specialty and Optional Scope Program Approval	REVISED 03/01/20
6070	ST Elevation Myocardial Infarction Critical Care System Designation (San Bernardino County Only)	08/15/19
6080	Paramedic Blood Draw for Chemical Test at the Request of a Peace Officer	04/01/13
6090	Fireline Paramedic	12/01/19
6100	Stroke Critical Care System Designation (San Bernardino County Only)	08/15/19

TABLE OF CONTENTS

SERIES	SPECIALTY PROGRAM/PROVIDER POLICIES <i>continued</i>	EFFECTIVE DATE
6110	Tactical Medicine For Special Operations	12/01/19
6120	Emergency Medical Dispatch Center Requirements <i>(San Bernardino County Only)</i>	08/15/13
6130	Medical Priority Dispatch Minimum Response Assignments for Emergency Medical Dispatch (EMD) Categories	08/15/13
6150	Trial Study Participation	03/01/15
6170	ChemPack Deployment	04/15/18
7000	STANDARD DRUG & EQUIPMENT LISTS	
7010	BLS/LALS/ALS Standard Drug and Equipment List	REVISED 03/01/20
7020	EMS Aircraft Standard Drug and Equipment List	REVISED 03/01/20
7030	Controlled Substance Policy	07/15/19
7040	Medication - Standard Orders	REVISED 03/01/20
8000	TRANSPORT/TRANSFERS AND DESTINATION POLICIES	
8010	Interfacility Transfer Guidelines	10/15/16
8020	Specialty Care Transport	04/01/16
8050	Transport of Patients (BLS)	04/15/18
8060	Requests for Ambulance Redirection and Hospital Diversion <i>(San Bernardino County Only)</i>	08/15/19
8070	Aircraft Rotation Policy <i>(San Bernardino County Only)</i>	DELETE 03/01/20
8090	Fort Irwin Continuation of Care	10/15/16
8120	Continuation of Care <i>(San Bernardino County Only)</i>	08/15/19
8130	Destination Policy	08/15/19
8140	Transport Policy <i>(Inyo County Only)</i>	12/15/15
8150	Ambulance Patient Offload Delay	12/15/16
8160	Emergency Medical Transport of Police Dogs - Pilot Project <i>(San Bernardino County Only)</i>	01/01/19
	PATIENT CARE POLICIES	
9000	GENERAL PATIENT CARE POLICIES	
9010	General Patient Care Guidelines	11/01/18
9020	Physician on Scene	06/18/19
9030	Responsibility for Patient Management Policy	06/18/19
9040	Reporting Incidents of Suspected Abuse Policy (Revised)	08/15/19
9050	Organ Donor Information	06/18/19
9060	Local Medical Emergency Policy	02/01/14
9070	Applying Patient Restraints Guidelines	11/01/18
9080	Care of Minors in the Field	02/01/16
9090	Patient Refusal of Care - Adult	06/01/14
9110	Treatment of Patients with Airborne Infections and Transport Recommendations	06/18/19
9120	Nausea and Vomiting	12/01/14
9130	Shock (Non-Traumatic)	10/01/19
10000	SKILLS	
10190	Procedure - Standard Orders	REVISED 03/01/20
11000	ADULT EMERGENCIES (15 YEARS OF AGE AND OLDER)	
11010	Respiratory Emergencies - Adult	10/01/19
11020	Airway Obstruction - Adult	08/15/14
11040	Bradycardias - Adult	08/01/18

TABLE OF CONTENTS

SERIES	ADULT EMERGENCIES (15 YEARS OF AGE AND OLDER) <i>continued</i>	EFFECTIVE DATE
11050	Tachycardias - Adult	10/15/16
11060	Suspected Acute Myocardial Infarction (AMI)	08/15/19
11070	Cardiac Arrest - Adult REVISED	03/01/20
11080	Altered Level of Consciousness/Seizures - Adult	07/15/19
11100	Burns - Adult	07/15/19
11110	Stroke Treatment - Adult	08/15/19
11120	Ventricular Assist Device (VAD)	04/15/18
11130	Psychiatric/Behavioral Emergencies - Adult	11/01/18
11140	Pain Management - Adult	08/15/19
11150	Smoke Inhalation/CO Exposure/Suspected Cyanide Toxicity	07/15/19
12000	END OF LIFE CARE	
12010	Determination Of Death on Scene	08/15/19
12020	End of Life Care and Decisions	10/15/16
13000	ENVIRONMENTAL EMERGENCIES	
13010	Poisonings REVISED	03/01/20
13020	Heat Related Emergencies	08/15/14
13030	Cold Related Emergencies	06/01/15
13040	Nerve Agent Antidote Kit (Training, Storage and Administration)	04/15/18
14000	PEDIATRIC EMERGENCIES (LESS THAN 15 YEARS OF AGE)	
14010	Respiratory Emergencies - Pediatric	10/01/19
14020	Airway Obstruction - Pediatric	07/15/19
14030	Allergic Reactions - Pediatric REVISED	03/01/20
14040	Cardiac Arrest - Pediatric	08/15/19
14050	Altered Level of Consciousness - Pediatric	07/15/19
14060	Seizure - Pediatric	07/15/19
14070	Burns - Pediatric	04/15/18
14080	Obstetrical Emergencies	08/01/18
14090	Newborn Care	08/15/19
15000	TRAUMA	
15010	Trauma - Adult (15 years of age and older) (Revised)	07/15/19
15020	Trauma - Pediatric (Less than 15 years of age) (Revised)	07/15/19
15030	Trauma Triage Criteria REVISED	03/01/20
15040	Glasgow Coma Scale Operational Definitions	04/01/13
15050	Hospital Emergency Response Team (HERT) Policy	10/15/13
16000	PUBLIC SAFETY FIRST AID POLICIES	
16010	Allergic Reaction and Anaphylaxis (Authorized Public Safety Personnel)	04/15/18
16020	Nerve Agent Exposure (Authorized Public Safety Personnel)	04/15/18
16030	Opioid Overdose (Authorized Public Safety Personnel)	04/15/18
16040	Respiratory Distress (Authorized Public Safety Personnel)	04/15/18
16050	Optional Skills and Medications (Authorized Public Safety Personnel)	01/22/19
16060	Public Safety AED Service Provider	01/22/19



AIRCRAFT ROTATION POLICY (San Bernardino County Only)

PURPOSE

To establish EMS Aircraft dispatch rotation criteria for San Bernardino County Communication Center (COMM Center).

AUTHORITY

California Health and Safety Code Division 2.5, Chapter 4 and 5; California Code of Regulations.

POLICY

1. All EMS Aircraft requests from the field in San Bernardino County will be dispatched by the San Bernardino County COMM Center.
2. At time of dispatch, COMM Center will inform the EMS Aircraft of destination based on the following:
 - a. Destination will alternate between ARMC and LLUMC as determined by ICEMA.
 - b. The destination may be changed by the EMS providers based on patient requirements for specialty centers.
 - c. Cancellation or destination change of an EMS Aircraft will not alter the rotation of dispatched aircraft.
 - d. Approved Diversion will alter the rotation of EMS aircraft (ICEMA Reference #8060 - San Bernardino County Requests for Hospital Diversion Policy.)
3. An EMS Aircraft going to a destination other than the one assigned by Comm Center, will notify COMM Center and the receiving facility. Notification maybe made by ground or air crews, whichever is the most expeditious for information to be given to the receiving facility.
4. Changes to EMS Aircraft rotation may be reviewed for potential QI issues.



INLAND COUNTIES EMERGENCY MEDICAL AGENCY POLICY AND PROTOCOL MANUAL

Reference No. 8110
Effective Date: 03/01/20
Supersedes: NEW
Page 1 of 2

EMS AIRCRAFT UTILIZATION (SAN BERNARDINO COUNTY ONLY)

I. PURPOSE

To establish 9-1-1 EMS aircraft utilization and medical transportation criteria for San Bernardino County.

II. POLICY

- All EMS aircraft requests from the field in San Bernardino County will be coordinated by ICEMA's designated EMS Aircraft Dispatch Center (ADC).
- EMS aircraft may be requested by EMS providers when a patient's condition is of a time sensitive nature and where extended transport times may result in a poor patient outcome. EMS providers must contact ADC to request aircraft.
- At the time of dispatch, the ADC shall utilize the closest available EMS aircraft proximate to the scene of the incident using Automatic Flight Following (AFF) as the determining factor.
- If two (2) or more EMS aircraft are co-located and/or within close distance (less than a mile), the ADC shall institute a rotation system of all EMS aircraft.
- The ADC shall determine the closest EMS aircraft and inform the EMS provider which EMS aircraft will be utilized, this will include an accurate Estimated Time of Arrival (ETA). ETA will be determined by time of dispatch until EMS aircraft is over scene, and includes the total amount of time for crew preparation, flight planning, aircraft pre-flight, take-off, aircraft reconfiguration, and flight time to over scene.
- The destination decision will be made in accordance with established ICEMA policies and protocols, and may be changed by the flight crew in conjunction with the pilot in command based on patient or flight safety concerns including weather conditions.
- All air transports will undergo a Quality Improvement (QI) review following dispatch and transport.

III. EMS AIRCRAFT TRANSPORT INDICATIONS

- The determination to utilize a 9-1-1 dispatched EMS aircraft must be made with the use of a thorough and appropriate physical assessment by qualified EMS field personnel on scene, and must be made with careful consideration of the following elements:
 - The injury/illness is of a time-sensitive, critical nature requiring Specialty Care Center services.
 - The benefit of EMS aircraft transport is clearly greater than ground transportation. An acceptable standard is a 15 minute time differential in favor of air transportation.
 - The needs of the patient and scene management supersede all other considerations.

IV. EMS AIRCRAFT CANCELLATION INDICATIONS

- A dispatched EMS aircraft that responds to a scene, prior to ground transport contact with the patient, will be cancelled if the Incident Commander in consultation with the most medically-qualified first responder determines it is not needed.
 - If ground transport is the first to arrive on scene, and it is determined that air transport is not needed, ground transport may cancel a dispatched EMS aircraft.

V. SPECIAL CONSIDERATIONS

- Transport stable snakebite patients from the field by ground to the closest hospital.
- Mechanism of injury alone is not criteria for transport by air.
- Patients with unmanageable airways shall be transported to the closest hospital for airway stabilization and, on its own, does not constitute an indication for EMS aircraft utilization.
- If a request to transport is denied by the initial dispatched aircraft, the second aircraft shall be notified of the denial, and the reason for the denial.
- If the patient is combative due to suspected traumatic injury, communication with flight personnel is essential.
- Patients with exposure to hazardous materials must be decontaminated on scene before utilizing EMS aircraft.
- Medical transport by EMS aircraft may not be suitable in the following situations:
 - Cardiac arrest when the patient is not responding to prehospital therapy.
 - Patients who are violent or have behavioral emergencies.



SPECIALTY AND OPTIONAL SCOPE PROGRAM APPROVAL

I. PURPOSE

To provide guidelines for the application and renewal of advanced life support (ALS) or basic life support (BLS) specialty or optional scope of practice programs.

II. DEFINITIONS

Public Safety AED Service Provider: A specialty program for public safety personnel. (See ICEMA Reference #16060 - Public Safety AED Service Provider.)

Emergency Medical Dispatch (EMD) Program: The reception, evaluation, processing and provision of dispatch life support; management of requests for emergency medical assistance; ongoing evaluation and improvement of the emergency medical dispatch process. (See ICEMA Reference #6120 - Emergency Medical Dispatch Center Requirements.)

Mobile Medic Specialty Program: A specialty program that utilizes boats, bicycles, motorcycles, golf carts and/or powered all-terrain vehicles or for ALS or BLS response designed to deliver EMT, AEMT, and/or EMT-P to the scene of injury and/or transport a patient from the scene of injury to other awaiting EMS units.

Optional Scope Program: Any EMT/AEMT/EMT-P program that may require approval from the ICEMA Medical Director to function outside of the basic scope of practice that is not initiated region-wide.

Specialty Program: Any program that may require approval from the ICEMA Medical Director to function due to regulations or any variance from standard ICEMA policies or protocols either in equipment or procedures.

Tactical Medicine for Special Operations: A specialty program that meets all the prerequisites established by POST/EMSA for the delivery of emergency medical care during law enforcement special operations. (See ICEMA Reference #6110 - Tactical Medicine for Special Operations.)

III. POLICY

- All providers interested in providing ALS specialty or EMT optional scope programs shall submit an application that will undergo a review process to determine eligibility.

- All specialty programs must submit a new application and be approved every two (2) years.
- All local optional scope programs must submit a new application and be approved at least every three (3) years or concurrently with State approval of the ICEMA Local Optional Scope of Practice whichever is sooner.
- An electronic patient care report (ePCR) must be initiated whenever contact is made with a patient. Patients refusing care or declining further care after treatment must sign a refusal of care and/or Against Medical Advice form.
- If paper downtime forms are utilized, EMS providers are required to submit an approved ePCR by the end of shift or within 24 hours of the close of the event (whichever is less).
- Radio communication failure protocols will not be used. Prior to base contact protocols will be followed. If further treatment is needed, radio contact with the base hospital should be established as soon as possible.
- All ePCRS utilizing a specialty program will be reviewed by the EMS provider as part of its Continuous Quality Improvement program. Review or submission of additional criteria may be required.
- EMS field personnel must accompany the patient to the hospital if utilizing optional scope medications or devices that the transporting EMS field personnel are not authorized to use.

IV. PROCEDURE FOR SPECIALTY AND OPTIONAL SCOPE PROGRAM APPROVAL

- Submit an original application to ICEMA indicating the type of program. The Specialty and Optional Scope Program Approval Application is available on the ICEMA website at ICEMA.net.
- Submit a copy of the proposed or renewal program which shall include:
 - A statement demonstrating a need for the program.
 - A description of the geographic area within which the specialty program will be utilized.
 - A detailed description of the operation of the program, such as special events, 24/7 and how the program will be implemented.
 - A description of how the program will interface with the EMS system and 9-1-1.

- A detailed description of the training program. For optional scope programs, include provisions for written test and demonstration of skills competencies.
- A detailed list of employees participating in this program. If there are changes in employees, ICEMA must be notified in writing within 10 days.
- A detailed description of any deviations from the Standard Drug and Equipment List, how equipment and drugs will be stored and/or transported and a program for maintenance of the equipment.
- A process for the reporting of any deviations or adverse events.
- A quality improvement plan or an amendment to the EMS providers' Quality Improvement Plan that describes the quality improvement process for the specialty program. The plan must comply with all provisions of the ICEMA Quality Improvement Plan and include provisions for 100% review of all patient care reports in which the specialty or optional scope program was attempted or utilized.
- ICEMA may require the collection and submission of additional criteria as necessary.
- Additional procedures for Mobile Medic Specialty Programs:
 - A statement indicating compliance with Department of Motor Vehicles rules for personal safety equipment and/or vehicle registration if applicable.
 - A list of type of vehicles utilized (bicycles, motorcycles, ATV).
 - Type of interim patient care report utilized and process for transfer of patient care documents in the field.
 - Type of communication devices utilized and the interface with ALS provider and transport.
- Additional procedures for Impedance Threshold Device (ITD) Specialty Programs:
 - Prior to deployment and utilization of ITDs, providers must demonstrate high performance compression fraction of at least 80% without the use of an automatic compression device either through retrospective or concurrent audits for six (6) months.
 - ITD must be used in conjunction with high performance CPR and may be used with automatic compression devices.

- Submit initial/renewal course outline for approval to include:
 - Indications for use and when to remove the device for both basic and advanced airways.
 - Use of two-person bag-valve-mask ventilation when used in the absence of an advanced airway to ensure adequate seal to maintain the intended effect of the device.
 - Use in conjunction with high performance CPR, keeping compression rates between 100 - 120 per minute.
- Additional procedures for Local Optional Scope programs:
 - Authorization for EMTs or EMT-Ps to practice optional skills is limited to those whose certificate or license is active and who are employed by an ICEMA authorized EMS provider.
 - Initial training to include not less than five (5) hours with skills competency demonstration once every one (1) year.
 - Comply with State regulations for optional skills training and demonstration of competency.

V. DRUG AND EQUIPMENT LISTS

- Equipment and supplies carried and utilized by specialty program personnel shall be consistent and compatible with the drugs and equipment normally carried by ALS units.
- Equipment and supplies shall be based on the appropriate level of personnel utilized for the particular event.

VI. REFERENCES

<u>Number</u>	<u>Name</u>
6110	Tactical Medicine for Special Operations
6120	Emergency Medical Dispatch Center Requirements
16060	Public Safety AED Service Provider



BLS/LALS/ALS STANDARD DRUG AND EQUIPMENT LIST

Each ambulance and first responder unit shall be equipped with the following functional equipment and supplies. **This list represents mandatory items with minimum quantities** excluding narcotics, which must be kept within the range indicated. All expiration dates must be current. All packaging of drugs or equipment must be intact. No open products or torn packaging may be used.

All ALS (transport and non-transport) and BLS transport vehicles shall be inspected annually.

MEDICATIONS/SOLUTIONS

Exchanged Medications/Solutions	BLS	LALS	ALS Non-Transport	ALS Transport
Adenosine (Adenocard) 6 mg			1	1
Adenosine (Adenocard) 12 mg			2	2
Albuterol Aerosolized Solution (Proventil) - unit dose 2.5 mg		4 doses	4 doses	4 doses
Albuterol MDI with spacer		1 SPECIALTY PROGRAMS ONLY	1 SPECIALTY PROGRAMS ONLY	1 SPECIALTY PROGRAMS ONLY
Aspirin, chewable - 81 mg tablet		2	1 bottle	1 bottle
Atropine 1 mg preload			2	2
Calcium Chloride 1 gm preload			1	1
Dextrose 10% in 250 ml Water (D10W) *		2	2	2
Diphenhydramine (Benadryl) 50 mg			1	1
Epinephrine 1 mg/ml 1 mg		2	2	2
Epinephrine 0.1 mg/ml 1 mg preload			4	4
Glucagon 1 mg		1	1	1
Glucose paste	1 tube	1 tube	1 tube	1 tube
Ipratropium Bromide Inhalation Solution (Atrovent) unit dose 0.5 mg			4	4
Irrigating Saline and/or Sterile Water (1000 cc)	2	1	1	2
Lidocaine 100 mg			3	3
Lidocaine 2% Intravenous solution			1	1
Magnesium Sulfate 10 gm			1	1
Naloxone (Narcan) 2 mg preload	2	2	2	2
Nitroglycerine (NTG) - Spray 0.4 mg metered dose and/or tablets (tablets to be discarded 90 days after opening)		2	1	2
Normal Saline for Injection (10 cc)		2	2	2
Normal Saline 100 cc			1	2
Normal Saline 250 cc			1	1
Normal Saline 500 ml and/or 1000 ml		2000 ml	3000 ml	6000 ml

Exchanged Medications/Solutions	BLS	LALS	ALS Non-Transport	ALS Transport
Ondansetron (Zofran) 4 mg Oral Disintegrating Tablets (ODT)			4	4
Ondansetron (Zofran) 4 mg IM/ IV			4	4
Sodium Bicarbonate 50 mEq preload			2	2
Tranexamic Acid (TXA) 1 gm			2	2

Non-Exchange Controlled Substance Medications MUST BE DOUBLE LOCKED	BLS	LALS	ALS Non-Transport	ALS Transport
Fentanyl			200-400 mcg	200-400 mcg
Midazolam			20-40 mg	20-40 mg
Ketamine			120-1000 mg	120-1000 mg

AIRWAY/SUCTION EQUIPMENT

Exchanged Airway/Suction Equipment	BLS	LALS	ALS Non-Transport	ALS Transport
CPAP circuits - all manufacture's available sizes			1 each	2 each
End-tidal CO2 device - Pediatric and Adult (may be integrated into bag)			1 each	1 each
Endotracheal Tubes cuffed - 6.0 and/or 6.5, 7.0 and/or 7.5 and 8.0 and/or 8.5 with stylet			2 each	2 each
ET Tube holders - adult		1 each	1 each	2 each
King LTS-D Adult: Size 3 (yellow) Size 4 (red) Size 5 (purple)	2 each SPECIALTY PROGRAMS ONLY	1 each	1 each	2 each
Mask - Adult & Pediatric non-rebreather oxygen mask	2 each	2 each	2 each	2 each
Mask - Infant Simple Mask	1	1	1	1
Nasal cannulas - pediatric and adult	2 each	2 each	2 each	2 each
Naso/Orogastric feeding tubes - 5fr or 6fr, and 8fr			1 each	1 each
Naso/Orogastric tubes - 10fr or 12fr, 14fr, 16fr or 18fr			1 each	1 each
Nasopharyngeal Airways - (infant, child, and adult)	1 each	1 each	1 each	1 each
Needle Cricothyrotomy Device - Pediatric and adult or Needles for procedure 10, 12, 14 and/or 16 gauge			1 each 2 each	1 each 2 each
One way flutter valve with adapter or equivalent			1	1
Oropharyngeal Airways - (infant, child, and adult)	1 each	1 each	1 each	1 each
Rigid tonsil tip suction	1		1	1
Small volume nebulizer with universal cuff adaptor		2	2	2
Suction Canister	1		1	1
Suction catheters - 6fr, 8fr or 10fr, 12fr or 14fr	1 each		1 each	1 each

Ventilation Bags - Infant 250 ml	1 1		1 1	1 1
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Exchanged Airway/Suction Equipment	BLS	LALS	ALS Non-Transport	ALS Transport
Pediatric 500 ml (or equivalent) Adult	1	1 1	1	1
Water soluble lubricating jelly		1	1	1

Non-Exchange Airway/Suction Equipment	BLS	LALS	ALS Non-Transport	ALS Transport
Ambulance oxygen source -10 L /min for 20 minutes	1			1
Flashlight/penlight	1	1	1	1
Laryngoscope blades - #0, #1, #2, #3, #4 curved and/or straight			1 each	1 each
Laryngoscope handle with batteries - or 2 disposable handles			1	1
Magill Forceps - Pediatric and Adult			1 each	1 each
Manual powered suction device		1		
Portable oxygen with regulator - 10 L /min for 20 minutes	1	1	1	1
Portable suction device (battery operated)	1		1	1
Pulse Oximetry device	(SEE OPTIONAL EQUIPMENT SECTION, PG. 5)	1	1	1
Stethoscope	1	1	1	1
Wall mount suction device	1 (BLS TRANSPORT ONLY)			1

IV/NEEDLES/SYRINGES/MONITORING EQUIPMENT

Exchanged IV/Needles/Syringes/Monitor Equipment	BLS	LALS	ALS Non-Transport	ALS Transport
Conductive medium or Pacer/Defibrillation pads			2 each	2 each
Disposable Tourniquets		2	2	2
ECG electrodes			20	20
EZ-IO Driver			1 each	1 each
EZ-IO Needles: 25 mm 45 mm			2 each 1 each	2 each 1 each
Glucose monitoring device with compatible strips and OSHA approved single use lancets	1	1	1	1
3-way stopcock with extension tubing			2	2
IV Catheters - sizes 14, 16, 18, 20, 22, 24		2 each	2 each	2 each
Macro drip Administration Set		3	3	3
Micro drip Administration Set (60 drops /cc)		1	1	2
Mucosal Atomizer Device (MAD) for nasal administration of medication	2	2	2	4

Exchanged IV/Needles/Syringes/Monitor Equipment	BLS	LALS	ALS Non- Transport	ALS Transport
Pressure Infusion Bag (disposable)		1	1	1
Razors		1	2	2
Safety Needles - 20 or 21 gauge and 23 or 25 gauge	2 each	2 each	2 each	2 each
Saline Lock Large Bore Tubing Needleless		2	2	2
Sterile IV dressing		2	2	2
Syringes w/wo safety needles - 1 cc, 3 cc, 10 cc catheter tip		2 each		
Syringes w/wo safety needles - 1 cc, 3 cc, 10 cc, 20 cc, 60 cc catheter tip			2 each	2 each

Non-Exchange IV/Needles/Syringes/Monitor Equipment	BLS	LALS	ALS Non- Transport	ALS Transport
12-lead ECG Monitor and Defibrillator with TCP and printout			1	1
Blood pressure cuff - large adult or thigh cuff, adult, child and infant (one of each size)	1	1	1	1
Capnography monitor and supplies, may be integrated in the cardiac monitor			1	1
Needle disposal system (OSHA approved)	1	1	1	1
Thermometer - Mercury Free with covers	1	1	1	1

OPTIONAL EQUIPMENT/MEDICATIONS

Non-Exchange Optional Equipment/Medications	BLS	LALS	ALS Non- Transport	ALS Transport
AED/defib pads - Adult (1), Pediatric (1)	1 each	1 each		
Automatic CPR device (FDA approved)	1	1	1	1
Automatic transport ventilator (Specialty Program Only - ICEMA approved device)			1	1
Backboard padding	1	1	1	1
Buretrol			1	1
Chemistry profile tubes			3	3
CPAP - (must be capable of titrating pressure between 2 and 15 cm H ₂ O)			1	1
Nerve Agent Antidote Kit (NAAK) - DuoDote or Mark I	3	3	3	3
EMS Tourniquet	1		1	1
Gum Elastic intubation stylet			2	2
Hemostatic Dressings *	1	1	1	1
IO Needles - Manual, Adult and Pediatric, Optional		Pediatric sizes only or EZ-IO needles and drivers	1 each	1 each
IV infusion pump			1	1
IV warming device		1	1	1

Non-Exchange Optional Equipment/Medications	BLS	LALS	ALS Non-Transport	ALS Transport
Manual IV Flow Rate Control Device			1	1
Manual powered suction device	1	1	1	1
Multi-lumen peripheral catheter			2	2
Needle Thoracostomy Kit (prepackaged)			2	2
Pulse Oximetry device	1			
Translaryngeal Jet Ventilation Device			1	1
Vacutainer			1	1

* Hemostatic Dressings

- Quick Clot, Z-Medica
Quick Clot, Combat Gauze LE
Quick Clot, EMS Rolled Gauze, 4x4 Dressing, TraumaPad
- Celox
Celox Gauze, Z-Fold Hemostatic Gauze
Celox Rapid, Hemostatic Z-Fold Gauze
- HemCon ChitoFlex Pro Dressing

Note:

- The above products are “packaged” in various forms (i.e., Z-fold, rolled gauze, trauma pads, 4”x4”pads) and are authorized provided they are comprised of the approved product.
- Hemostatic Celox Granules, or granules delivered in an applicator, are not authorized.

DRESSING MATERIALS/OTHER EQUIPMENT/SUPPLIES

Exchanged Dressing Materials/Other Equipment/Supplies	BLS	LALS	ALS Non-Transport	ALS Transport
Adhesive tape - 1 inch	2	2	2	2
Air occlusive dressing	1	1	1	1
Ankle and wrist restraints, soft ties acceptable	1		1	1
Antiseptic swabs/wipes	10	10	10	10
Bedpan or fracture pan	1 (BLS TRANSPORT UNITS ONLY)			1
Urinal	1 (BLS TRANSPORT UNITS ONLY)			1
Cervical Collars - Rigid Pediatric and Adult all sizes or Cervical Collars - Adjustable Adult and Pediatric	2 each 2 each	2 each 2 each	2 each 2 each	2 each 2 each
Cold Packs	2	2	2	2
Emesis basin or disposable bags and covered waste container	1	1	1	1
Head immobilization device	2	2	2	2
OB Kit	1	1	1	1
Pneumatic or rigid splints capable of splinting all extremities	4	2	2	4
Provodine/Iodine swabs/wipes or antiseptic equivalent		4	10	10
Roller bandages - 4 inch	6	3	3	6
Sterile bandage compress or equivalent	6	2	2	6
Sterile gauze pads - 4x4 inch	4	4	4	4
Sterile sheet for Burns	2	2	2	2
Universal dressing 10x30 inches	2	2	2	2

Non-Exchange Dressing Materials/Other Equipment/Supplies	BLS	LALS	ALS Non-Transport	ALS Transport
800 MHz Radio		1	1	1
Ambulance gurney	1 (BLS TRANSPORT UNITS ONLY)			1
Bandage shears	1	1	1	1
Blood Borne Pathogen Protective Equipment - (nonporous gloves, goggles face masks and gowns meeting OSHA Standards)	2	1	2	2
Pediatric Emergency Measuring Tape (Broselow, etc.)		1	1	1
Drinkable water in secured plastic container or equivalent	1 gallon			1 gallon
Long board with restraint straps	1	1	1	1
Pediatric immobilization board	1	1	1	1

Non-Exchange Dressing Materials/Other Equipment/Supplies	BLS	LALS	ALS Non-Transport	ALS Transport
Pillow, pillow case, sheets and blanket	1 set (BLS TRANSPORT UNITS ONLY)			1 set
Short extrication device	1	1	1	1
Straps to secure patient to gurney	1 set (BLS TRANSPORT UNITS ONLY)			1 set
Traction splint	1	1	1	1
Triage Tags - ICEMA approved	20	20	20	20



EMS AIRCRAFT STANDARD DRUG AND EQUIPMENT LIST

Each Aircraft shall be equipped with the following functional equipment and supplies. This list represents mandatory items with minimum quantities, to exclude narcotics, which must be kept within the range indicated. All expiration dates must be current. All packaging of drugs or equipment must be intact. No open products or torn packaging may be used.

MEDICATIONS/SOLUTIONS	AMOUNT
Adenosine (Adenocard) 6 mg	1
Adenosine (Adenocard) 12 mg	2
Albuterol Aerosolized Solution (Proventil) - unit dose 2.5 mg	3 doses
Aspirin, chewable - 81 mg tablet	1 bottle
Atropine 1 mg preload	2
Calcium Chloride 1 gm preload	1
Dextrose 10% in 250 ml Water (D10W) *	2
Diphenhydramine (Benadryl) 50 mg	1
Epinephrine 1 mg/ml 1 mg	2
Epinephrine 0.1 mg/ml 1mg preload	3
Glucagon 1 mg	1
Glucopaste	1 tube
Ipratropium Bromide Inhalation Solution (Atrovent) unit dose 0.5 mg	3
Lidocaine 100 mg	3
Lidocaine 2% Intravenous solution	1
Magnesium Sulfate 10 gms	1
Naloxone (Narcan) 2 mg preload	2
Nitroglycerin (NTG) - Spray 0.4 mg metered dose and/or tablets (tablets to be discarded 90 days after opening.)	1
Normal Saline for Injection (10 cc)	2
Normal Saline 250 ml	1
Normal Saline 500 ml and/or 1000 ml	2000 ml
Ondansetron (Zofran) 4 mg Oral Disintegrating Tablets (ODT)	4
Ondansetron (Zofran) 4 mg IM/ IV	4
Sodium Bicarbonate 50 mEq preload	2
Tranexamic Acid (TXA) 1 gm	2

CONTROLLED SUBSTANCE MEDICATIONS-MUST BE DOUBLE LOCKED	AMOUNT
Fentanyl	200-400 mcg
Ketamine	120-1000 mg
Midazolam	20-40 mg

AIRWAY/SUCTION EQUIPMENT	AMOUNT
Aircraft Oxygen source -10 L /min for 20 minutes	1
C-PAP circuits - all manufacture's available sizes	1 each
End-tidal CO2 device - pediatric and adult (may be integrated into bag)	1 each
Endotracheal Tubes cuffed - 6.0 and/or 6.5, 7.0 and/or 7.5 and 8.0 and/or 8.5 with stylet	2 each
ET Tube holders - adult	1 each
Flashlight/penlight	1
King LTS-D Adult: Size 3 (yellow) Size 4 (red) Size 5 (purple)	1 each
Laryngoscope handle with batteries - or 2 disposable handles	1
Laryngoscope blades - #0, #1, #2, #3, #4 curved and/or straight	1 each
Magill Forceps - Pediatric and Adult	1 each
Nasal Cannulas - infant, pediatric and adult	2 each
Naso/Orogastric tubes - 10fr or 12fr, 14fr, 16fr or 18fr	1 each
Naso/Orogastric feeding tubes - 5fr or 6fr, and 8fr	1 each
Nasopharyngeal Airways - infant, child, and adult	1 each
Needle Cricothyrotomy Device (Approved) - Pediatric and adult <i>or</i>	1 each
Needles for procedure 10, 12, 14 and/or 16 gauge	2 each
Non Re-Breather O ₂ Mask - Pediatric and Adult, Infant Simple Mask	2 each
One way flutter valve with adapter or equivalent	1
Oropharyngeal Airways - infant, child, and adult	1 each
Portable Oxygen with regulator - 10 L /min for 20 minutes	1
Portable suction device (battery operated) <i>and/or</i> Wall mount suction device	1 each
Pulse Oximetry device	1
Small volume nebulizer with universal cuff adaptor	1
Stethoscope	1
Suction catheters - 6fr, 8fr or 10fr, 12fr or 14fr	1 each
Ventilation Bags - Infant 250 ml, Pediatric 500 ml and Adult 1 L	1 each
Water soluble lubricating jelly	1
Ridged tonsil tip suction	1

IV/NEEDLES/SYRINGES/MONITORING EQUIPMENT	AMOUNT
12-Lead ECG Monitor and Defibrillator with TCP and printout	1
800 MHz Radio	1
Blood pressure cuff - large adult or thigh cuff, adult, child and infant	1 set
Capnography monitor and supplies, may be integrated in the cardiac monitor	1
Conductive medium <i>or</i> Adult and Pediatric Pacer/Defibrillation pads	2 each
ECG - Pediatric and Adult	20 patches
EZ IO Needles and Driver 25 mm and 45 mm	2 each 1 each
3-way stopcock with extension tubing	2
IO Needles - Manual, Adult and Pediatric, <u>Optional</u>	1 each
IV Catheters - sizes 14, 16, 18, 20, 22, 24	2 each

IV/NEEDLES/SYRINGES/MONITORING EQUIPMENT	AMOUNT
Glucose monitoring device	1
Macro drip Administration Set	3
Microdrip Administration Set (60 drops/ml)	1
Mucosal Atomizer Device (MAD) for nasal administration of medication	4
Needle disposal system (OSHA approved)	1
Pressure infusion bag	1
Safety Needles - 20 or 21 gauge and 23 or 25 gauge	2 each
Saline Lock	2
Syringes w/wo safety needles - 1 ml, 3 ml, 10 ml, 20 ml	2 each
Syringe - 60 ml catheter tip	2
Thermometer - Mercury free with covers	1

DRESSING MATERIALS/OTHER EQUIPMENT SUPPLIES	AMOUNT
Adhesive tape - 1 inch	2
Air occlusive dressing	1
Aircraft stretcher or litter system with approved FAA straps that allows for Axial Spinal Immobilization	1
Ankle and wrist restraints, soft ties acceptable	1
Antiseptic swabs/wipes	
Bandage shears	1
Blanket or sheet	2
Blood Borne Pathogen Protective Equipment - (nonporous gloves, goggles face masks and gowns meeting OSHA Standards)	2
Cervical Collars - Rigid Pediatric & Adult all sizes <i>or</i>	1 each
Cervical Collars - Adjustable Adult and Pediatric	1 each
Emesis basin or disposable bags and covered waste container	1
Head immobilization device	1
OB Kit	1
Pediatric Emergency Measuring Tape (Broselow, etc.)	1
Pneumatic or rigid splints capable of splinting all extremities	4
Providence/Iodine swabs/wipes or antiseptic equivalent	
Roller bandages - 4 inch	3
Sterile bandage compress or equivalent	6
Sterile gauze pads - 4x4 inch	4
Sterile Sheet for Burns	2
Traction splint	1
Universal Dressing 10x30 inches	2

OPTIONAL EQUIPMENT/MEDICATIONS	Amount
Automatic ventilator (Approved)	1
Backboard padding	1
BLS AED/defib pads	1
Chemistry profile tubes	3
Nerve Agent Antidote Kit (NAAK) - DuoDote or Mark I	3

OPTIONAL EQUIPMENT/MEDICATIONS	Amount
D5W in bag	1
Hemostatic Dressing *	1
IV infusion pump	1
IV warming device	1
Manual powered suction device	1
Medical Tourniquet	1
Needle Thoracostomy Kit (prepackaged)	2
Pediatric immobilization board	1
Translaryngeal Jet Ventilation Device	1
Vacutainer	1

* Hemostatic Dressings

- Quick Clot, Z-Medica
 - Quick Clot, Combat Gauze LE
 - Quick Clot, EMS Rolled Gauze, 4x4 Dressing, TraumaPad
- Celox
 - Celox Gauze, Z-Fold Hemostatic Gauze
 - Celox Rapid, Hemostatic Z-Fold Gauze
- HemCon ChitoFlex Pro Dressing

Note:

- The above products are “packaged” in various forms (i.e., Z-fold, rolled gauze, trauma pads, and 4”x4” pads) and are authorized provided they are comprised of the approved product.
- Hemostatic Celox Granules, or granules delivered in an applicator, are not authorized.



MEDICATION - STANDARD ORDERS

Medications listed in this protocol may be used only for the purposes referenced by the associated ICEMA Treatment Protocol.

For Nerve Agent Antidote Kit (NAAK) or medications deployed with the ChemPack see Appendix I (Page 12).

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

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

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

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

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

Reference #s 6090, 6110, 7010, 7020, 14010, 14030, 14070

Albuterol (Proventil) - Pediatric (LALS, ALS)

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

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

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

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

Reference #s 6090, 6110, 7010, 7020, 14010, 14030, 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 IV/IO. May repeat every five (5) minutes up to a maximum of 3 mg or 0.04 mg/kg.

Organophosphate poisoning:

Atropine, 2 mg IV/IO, repeat at 2 mg increments every five (5) minutes if patient remains symptomatic.

Reference #s 6090, 6110, 7010, 7020, 11040, 12020, 13010

Atropine - Pediatric (ALS)

Organophosphate poisoning - Pediatrics less than 14 years of age:

Atropine, 0.05 mg/kg IV/IO not to exceed adult dose of 2 mg, repeat at 0.1 mg/kg increments every five (5) minutes if patient remains symptomatic

Reference #s 6090, 6110, 7010, 7020, 13010

Calcium Chloride - Adult (ALS)

Calcium Channel Blocker Poisonings (base hospital order only):

Calcium Chloride, 1 gm (10 ml of a 10% solution) IV/IO.

Reference #s 2020, 7010, 7020, 13010

For cardiac arrest with suspected hypocalcemia, hyperkalemia, hypermagnesemia or calcium channel blocker poisoning (base hospital order only):

Calcium Chloride, 1 gm (10 ml of a 10% solution) IV/IO

Reference #s 7010, 7020, 11070

Calcium Chloride - Pediatric (ALS)

Calcium Channel Blocker Poisonings (base hospital order only):

Calcium Chloride, 20 mg/kg IV/IO over five (5) minutes

Reference #s 7010, 7020, 13010

Dextrose - Adult (LALS, ALS)

Hypoglycemia - Adult with blood glucose less than 80 mg/dL:

Dextrose 10% /250 ml (D10W 25 gm) IV/IO Bolus

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

Dextrose - Pediatric (LALS, ALS)

Hypoglycemia - Neonates (0 - 4 weeks) with blood glucose less than 35 mg/dL or pediatric patients (more than 4 weeks) with glucose less than 60 mg/dL:

Dextrose 10%/250 ml (D10W 25 gm) 0.5 gm/kg (5 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)

Allergic reaction:

2 years to 14 years 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

Epinephrine (1 mg/ml) - Adult (LALS, ALS)

Severe Bronchospasm, Asthma Attack, Pending Respiratory Failure, Severe Allergic Reactions:

Epinephrine, 0.3 mg IM. May repeat after fifteen (15) minutes one (1) time if symptoms do not improve.

Reference # 11010

Epinephrine (0.1 mg/ml) - Adult (ALS)

For persistent severe anaphylactic reaction:

Epinephrine (0.1 mg/ml), 0.1 mg slow IVP/IO. May repeat every five (5) minutes as needed to total dosage of 0.5 mg.

Reference # 11010

Cardiac Arrest, Asystole, PEA:

Epinephrine (0.1 mg/ml), 1 mg IV/IO.

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

Epinephrine (0.01 mg/ml) - Adult (ALS)*Post resuscitation, persistent profound shock and hypotension (Push Dose Epinephrine):*

Prepare Epinephrine 0.01 mg/ml solution by mixing 9 ml of normal saline with 1 ml of Epinephrine 0.1 mg/ml in a 10 ml syringe. Administer 1 ml every one (1) to five (5) minutes titrated to maintain SBP more than 90 mm Hg.

Reference #s 2020, 6090, 6110, 7010, 7020, 7040, 9130, 11070

Epinephrine (1 mg/ml) - Pediatric (LALS, ALS)*Severe Bronchospasm, Asthma Attack, Pending Respiratory Failure, Severe Allergic Reactions:*

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

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

Epinephrine (0.1 mg/ml) - Pediatric (ALS)*Anaphylactic reaction (no palpable radial pulse and depressed level of consciousness):*

Epinephrine (0.1 mg/ml), 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 (0.1 mg/ml), 0.01 mg/kg IV/IO (do not exceed adult dosage)

9 to 14 years Epinephrine (0.1mg/ml), 1.0 mg IV/IO

Newborn Care:

Epinephrine (0.1 mg/ml), 0.01mg/kg IV/IO if heart rate is less than 60 after one (1) minute after evaluating airway for hypoxia and assessing body temperature for hypothermia.

Epinephrine (0.1 mg/ml), 0.005 mg/kg IV/IO every ten (10) minutes for persistent hypotension as a base hospital order or in radio communication failure.

Reference # 14090

Epinephrine (0.01 mg/ml) - Pediatric (ALS)

Post resuscitation, profound shock and hypotension (Push Dose Epinephrine):

Prepare Epinephrine 0.01 mg/ml solution by mixing 9 ml of normal saline with 1 ml of Epinephrine 0.1 mg/ml in a 10 ml syringe. Administer 0.1ml/kg (do not exceed adult dosage), every one (1) to five (5) minutes. Titrate to maintain a SBP more than 70 mm Hg.

Reference #s 2020, 7010, 7020, 7040, 9130, 14040

Fentanyl - Adult (ALS)

Chest Pain (Presumed Ischemic Origin):

Fentanyl, 50 mcg slow IV/IO over one (1) minute. May repeat every five (5) minutes titrated to pain, not to exceed 200 mcg.

Fentanyl, 100 mcg IM/IN. May repeat 50 mcg every ten (10) minutes titrated to pain, not to exceed 200 mcg.

Acute traumatic injuries, acute abdominal/flank pain, burn injuries, Cancer pain, Sickle Cell Crisis:

Fentanyl, 50 mcg slow IV/IO push over one (1) minute. May repeat every five (5) minutes titrated to pain, not to exceed 200 mcg IV/IO, **or**

Fentanyl, 100 mcg IM/IN. May repeat 50 mcg every ten (10) minutes titrated to pain, not to exceed 200 mcg.

Pacing, synchronized cardioversion:

Fentanyl, 50 mcg slow IV/IO over one (1) minute. May repeat in five (5) minutes titrated to pain, not to exceed 200 mcg.

Fentanyl, 100 mcg IN. May repeat 50 mcg every ten (10) minutes titrated to pain, not to exceed 200 mcg.

Reference #s 2020, 6090, 6110, 7010, 7020, 7030, 10190, 11060, 11100, 11140, 13030, 15010

Fentanyl - Pediatric (ALS)

Fentanyl, 0.5 mcg/kg slow IV/IO over one (1) minute. May repeat in five (5) minutes titrated to pain, not to exceed 100 mcg.

Fentanyl, 1 mcg/kg IM/IN, may repeat every ten (10) minutes titrated to pain not to exceed 200 mcg.

Reference #s 2020, 6110, 7010, 7020, 7030, 11060, 13030, 14070, 15020

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

Adult with blood glucose less than 80 mg/dL:

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)

Hypoglycemia - Neonates (0 - 4 weeks) with blood glucose less than 35 mg/dL or pediatric patients (more than 4 weeks) with glucose less than 60 mg/dL:

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 administer one (1) time only.

Beta blocker Poisoning (base hospital order only):

Glucagon, 1 mg IV/IO

Reference #s 6090, 6110, 7010, 7020, 11080, 13010, 13030

Glucagon - Pediatric (LALS, ALS)

Hypoglycemia, if unable to establish IV:

Glucagon, 0.03 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

Beta blocker poisoning (base hospital order only):

Glucagon, 0.03 mg/kg IV/IO

Reference #'s 6090, 6110, 7010, 7020, 13010

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

Atrovent, 0.5 mg nebulized. Administer one (1) dose only.

Reference #s 7010, 7020, 11010, 11100

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

When used in combination with Albuterol MDI use Albuterol MDI dosing.

Reference #s 6090, 6110, 7010, 7020, 11010, 11100

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

1 day to 12 months Atrovent, 0.25 mg nebulized. Administer one (1) dose only.

1 year to 14 years Atrovent, 0.5 mg nebulized. Administer one (1) dose only.

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

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

When used in combination with Albuterol MDI use Albuterol MDI dosing.

Reference #s 6090, 6110, 7010, 7020, 14010, 14030, 14070

Ketamine - Adult (ALS)

Acute traumatic injury, acute abdominal/flank pain, burn injuries, cancer related pain and sickle cell crisis:

Ketamine, 0.3 mg/kg to a max of 30 mg in a 50 - 100 ml of NS via IV over five (5) minutes. May repeat one (1) time, after 15 minutes, if pain score remains at five (5) or higher. Do not administer IVP, IO, IM, or IN.

This is the official pain scale to be used in patient assessment and documented on the PCR.



Reference #s 7010, 7020, 11140

Lidocaine - Adult (ALS)

VT (pulseless)/VF:

Initial Dose: Lidocaine, 1.5 mg/kg IV/IO

For refractory *VT (pulseless)/VF*, may administer an additional 0.75 mg/kg IV/IO, repeat one (1) time in five (5) to ten (10) minutes; maximum total dose of 3 mg/kg.

V-Tach, Wide Complex Tachycardia - with Pulses:

Lidocaine, 1.5 mg/kg slow IV/IO

May administer an additional 0.75 mg/kg slow IV/IO; maximum total dose of 3 mg/kg.
Reference #s 2020, 6090, 7010, 7020, 8010, 10190, 11050, 11070, 15010

Lidocaine - Pediatric (ALS)*Cardiac Arrest:*

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

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

May repeat Lidocaine at 0.5 mg/kg after five (5) minutes; maximum total dose of 3 mg/kg.

Reference #s 2020, 7010, 7020, 14040

Lidocaine 2% (Intravenous Solution) - Pediatric and Adult (ALS)*Pain associated with IO infusion:*

Lidocaine, 0.5 mg/kg slow IO push over two (2) minutes, not to exceed 40 mg total.

Reference #s 2020, 7010, 7020, 10140, 10190

Magnesium Sulfate (ALS)*Polymorphic Ventricular Tachycardia:*

Magnesium Sulfate, 2 gm IV/IO bolus 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 IV/IO slow IV push over three (3) to four (4) minutes.

Magnesium Sulfate, 10 mg/min IV/IO drip to prevent continued seizures.

Reference #s 2020, 7010, 7020, 8010, 14080

Severe Asthma/Respiratory Distress (ALS) (base hospital order only):

Magnesium Sulfate, 2 gm slow IV drip over 20 minutes. Do not repeat.

Reference# 11010

Magnesium Sulfate - Pediatric (ALS)*Severe Asthma/Respiratory Distress (base hospital order only):*

Magnesium Sulfate, 50mg/kg slow IV drip over 20 minutes. Do not exceed the adult dosage of 2 gm total. Do not repeat.

Reference # 14010

Midazolam (Versed) - Adult (ALS)

Behavioral Emergencies, with suspected excited delirium:

Midazolam, 2.5 mg IV/IO/IN. May repeat in five (5) minutes, **or**

Midazolam, 5 mg IM. May repeat in ten (10) minutes.

Maximum of three (3) doses using any combination of IV/IO/IM/IN may be administered. Contact base hospital for additional orders and to discuss further treatment options.

Reference # 11130

Seizure:

Midazolam, 2.5 mg IV/IO/IN. 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 IV/IO/IM/IN may be administered for continued seizure activity. Contact base hospital for additional orders and to discuss further treatment options.

Pacing, synchronized cardioversion:

Midazolam, 2 mg slow IV/IO push or IN

Reference #s 6090, 6110, 7010, 7020, 10190, 11080, 13020, 14080

Midazolam (Versed) - Pediatric (ALS)

Seizures:

Midazolam, 0.1 mg/kg IV/IO with maximum dose 2.5 mg. May repeat Midazolam in five (5) minutes, **or**

Midazolam, 0.2 mg/kg IM/IN with maximum dose of 5 mg. May repeat Midazolam in ten (10) minutes for continued seizure.

Assess patient for medication related reduced respiratory rate or hypotension.

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

Reference #s 7010, 7020, 14060

Naloxone (Narcan) - Adult (BLS)

For resolution of respiratory depression related to suspected opiate overdose:

Naloxone, 0.5 mg IM/IN, may repeat Naloxone 0.5 mg IM/IN every two (2) to three (3) minutes if needed.

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

Reference #s 7010, 7020, 8050 11080

Naloxone (Narcan) - Adult (LALS, ALS)

For resolution of respiratory depression related to suspected opiate overdose:

Naloxone, 0.5 mg IV/IO/IM/IN, may repeat Naloxone 0.5 mg IV/IO/IM/IN every two (2) to three (3) minutes if needed.

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

Reference #s 6110, 7010, 7020, 11080

Naloxone (Narcan) - Pediatric (BLS)

For resolution of respiratory depression related to suspected opiate overdose:

1 day to 8 years Naloxone, 0.1 mg/kg IM/IN (do not exceed the adult dose of 0.5 mg per administration)

9 to 14 years Naloxone, 0.5 mg IM/IN

May repeat every two (2) to three (3) minutes if needed. Do not exceed the adult dosage of 10 mg total IM/IN.

Reference #s 7010, 7020, 8050, 14040, 14050

Naloxone (Narcan) - Pediatric (LALS, ALS)

For resolution of respiratory depression related to suspected opiate overdose:

1 day to 8 years Naloxone, 0.1 mg/kg IV/IO/IM/IN (do not exceed the adult dose of 0.5 mg per administration)

9 to 14 years Naloxone, 0.5 mg IV/IO/IM/IN

May repeat every two (2) to three (3) minutes if needed. Do not exceed the adult dosage of 10 mg total IV/IO/IM/IN.

Reference #s 7010, 7020, 14040, 14050

Nitroglycerin (NTG) (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 base hospital 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/IO/ODT

All patients four (4) to eight (8) years old: May administer a total of 4 mgs of Ondansetron prior to base hospital contact.

All patients nine (9) and older: May administer Ondansetron 4 mg; may repeat two (2) times, at ten (10) minute intervals, for a total of 12 mgs prior to base hospital contact.

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

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

Oxygen (non-intubated patient per appropriate delivery device)

General Administration (Hypoxia):

Titrate Oxygen at lowest rate required to maintain SPO₂ at 94%. Do not administer supplemental oxygen for SPO₂ more than 95%.

Chronic Obstructive Pulmonary Disease (COPD):

Titrate Oxygen at lowest rate required to maintain SPO₂ at 90%. Do not administer supplemental oxygen for SPO₂ more than 91%.

Reference #s 9010, 9120, 11010, 11020, 11040, 11050, 11060, 11080, 11090, 11100, 11150, 13010, 13020, 13030, 14010, 14020, 14030, 14050, 14060, 14070, 14080, 14090, 15010, 15020

Sodium Bicarbonate - Adult (ALS)

Tricyclic Poisoning (base hospital order only):

Sodium Bicarbonate, 1 mEq/kg IV/IO

Reference #s 2020, 7010, 7020, 13010

For cardiac arrest with suspected metabolic acidosis, hyperkalemia or tricyclic poisoning (base hospital order only):

Sodium Bicarbonate, 50 mEq IV/IO

Reference #'s 7010, 7020, 11070

Sodium Bicarbonate - Pediatric (ALS)

Tricyclic Poisoning (base hospital order only)

Sodium Bicarbonate, 1 mEq/kg IV/IO

Reference #'s 7010, 7020, 13010

Tranexamic Acid (TXA) - Patients 15 years of age and older (ALS)

Signs of hemorrhagic shock meeting inclusion criteria:

Administer TXA 1 gm in 50 - 100 ml of NS via IV/IO over ten (10) minutes. Do not administer IVP as this will cause hypotension.

Reference #s 7010, 7020, 15010

APPENDIX I

Medications for self-administration or with deployment of the ChemPack.

Medications listed below may be used only for the purposes referenced by the associated ICEMA Treatment Protocol. Any other use, route or dose other than those listed, must be ordered in consultation with the base hospital physician.

Atropine - Pediatric (BLS, AEMT-Auto-injector only with training, ALS)

Known nerve agent/organophosphate poisoning with deployment of the ChemPack using:

Two (2) or more mild symptoms: Administer the weight-based dose listed below as soon as an exposure is known or strongly suspected. If severe symptoms develop after the first dose, two (2) additional doses should be repeated in rapid succession ten (10) minutes after the first dose; do not administer more than three (3) doses. If profound anticholinergic effects occur in the absence of excessive bronchial secretions, further doses of atropine should be withheld.

One (1) or more severe symptoms: Immediately administer (3) three weight-based doses listed below in rapid succession.

Weight-based dosing:

Less than 6.8 kg (less than 15 lbs):	0.25 mg, IM using multi-dose vial
6.8 to 18 kg (15 to 40 lbs):	0.5 mg, IM using AtroPen auto-injector
18 to 41 kg (40 to 90 lbs):	1 mg, IM using AtroPen auto-injector
More than 41 kg (more than 90 lbs):	2 mg, IM using multi-dose vial

Symptoms of insecticide or nerve agent poisoning, as provided by manufacturer in the AtroPen product labeling, to guide therapy:

Mild symptoms: Blurred vision, bradycardia, breathing difficulties, chest tightness, coughing, drooling, miosis, muscular twitching, nausea, runny nose, salivation increased, stomach cramps, tachycardia, teary eyes, tremor, vomiting, or wheezing.

Severe symptoms: Breathing difficulties (severe), confused/strange behavior, defecation (involuntary), muscular twitching/generalized weakness (severe), respiratory secretions (severe), seizure, unconsciousness, urination (involuntary).

NOTE: Infants may become drowsy or unconscious with muscle floppiness as opposed to muscle twitching.

Reference #s 7040, 13010, 13040

Diazepam (Valium) - Adult (ALS)

For seizures associated with nerve agent/organophosphate exposure ONLY with the deployment of the ChemPack:

Diazepam 10 mg (5 mg/ml) auto-injector IM (if IV is unavailable), **or**
Diazepam 2.5 mg IV

Reference # 13040

Diazepam (Valium) - Pediatric (ALS)

For seizures associated with nerve agent/organophosphate exposure ONLY with the deployment of the ChemPack:

Diazepam 0.05 mg/kg IV

Reference # 13040

Nerve Agent Antidote Kit (NAAK)/Mark I or DuoDote (containing Atropine/Pralidoxime Chloride for self-administration or with deployment of the ChemPack) - Adult

Nerve agent exposure with associated symptoms:

One (1) NAAK auto-injector IM into outer thigh. May repeat up to two (2) times every ten (10) to fifteen (15) minutes if symptoms persist.

Reference #s 7010, 7020, 13010, 13040



PROCEDURE - STANDARD ORDERS

12-lead Electrocardiography (EMT-P)

- ECG should be performed prior to medication administration.
- ECG should be performed on any patient whose medical history and/or presenting symptoms are consistent with acute coronary syndrome including typical or atypical chest pain, syncopal episode, prior AMI, heart disease, or other associated risk factors.

Axial Spinal Immobilization (EMT, AEMT and EMT-P)

- Should be placed if patient meets the indicators, per ICEMA Reference #15010 - Trauma - Adult (Neuro Deficits present, Spinal Tenderness present, Altered Mental status, Intoxication, or Distracting Injury).
- An AEMT and/or EMT-P may remove if placed by BLS crew and it does not meet indicators.

Capnography (EMT-P)

- Utilize capnography in patients with respiratory distress, respiratory failure, cardiac arrest, and critically ill patients
- Perform capnography prior to pain medication administration.
- Perform capnography after administration of Midazolam for behavioral emergencies.
- Monitor waveform, numerical value and document in ePCR.

Continuous Positive Airway Pressure Device (CPAP) - Adult (EMT-P)

- Start at lowest setting and increase slowly until patient experiences relief or until a maximum of 15 cm H₂O is reached.

External Jugular Vein Access (AEMT and EMT-P)

- Not indicated for patients eight (8) years of age and younger.
- Patient condition requires IV access and other peripheral venous access attempts are unsuccessful.

Blood Glucose Check (EMT, AEMT, and EMT-P)

- Should be assessed if the patient meets key indicators consistent with high or low blood sugar.

Intraosseous Insertion (AEMT pediatric patients only and EMT-P)

- EMT-Ps may administer Lidocaine slowly per ICEMA Reference #7040 - Medication - Standard Orders, to control infusion pain.
- Approved insertion sites:
 - Eight (8) years of age or younger (LALS and ALS):
 - Proximal Tibia - Anterior medial surface of tibia, 2 cm below tibial tuberosity.
 - Nine (9) years of age and older (ALS only):
 - Proximal Tibia - Anterior medial surface of tibia, 2 cm below tibial tuberosity.
 - Distal Tibia - Lower end of tibia, 2 cm above the medial malleolus.
 - Humeral Head (EZ IO only).
 - Anterior distal femur, 2 cm above the patella - Base hospital contact only.
- Leave site visible and monitor for extravasation.

King Airway Device (Perilaryngeal) - Adult (AEMT, and EMT-P)

- Use of King Airway device may be performed only on those patients who meet **all** of the following criteria:
 - Unresponsive, agonal respirations (less than six (6) breaths per minute) or apneic.
 - Patients 15 years or older.
 - Patients over four (4) feet in height.
- Additional considerations:
 - Medications may **not** be given via the King Airway device.
 - King Airway device should not be removed unless it becomes ineffective.

Nasogastric/Orogastric Tube (EMT-P)

- Use a water soluble lubricating jelly.
- Required for all full arrest patients.

Needle Cricothyrotomy (EMT-P)

- Absolute contraindication: Transection of the distal trachea.
- Monitor end-tidal CO₂ and wave form capnography.
- Monitor pulse oximetry.
- Contact base hospital if unable to ventilate adequately and transport immediately to the closest hospital for airway management.

Needle Thoracostomy (EMT-P)

- In blunt chest trauma consider bilateral tension pneumothorax if pulse oximetry (SpO₂) reading remains low with a patent airway or with poor respiratory compliance.

Oral Endotracheal Intubation - Adult (EMT-P)

- Oral endotracheal intubation is permitted only in patients who are taller than the maximum length of a pediatric emergency measuring tape (Broselow, etc.) or equivalent measuring from the top of the head to the heel of the foot.
- Monitor end-tidal CO₂ and wave form capnography.
- Monitor pulse oximetry.
- If unable to place ET after a maximum of three (3) intubation attempts (defined as placement of the laryngoscope in the mouth). If unsuccessful, continue with BLS airway management and transport to the nearest receiving hospital.
- Document verification of tube placement (auscultation, visualization, capnography).

Synchronized Cardioversion (EMT-P)

- For anxiety prior to cardioversion, consider Midazolam per ICEMA Reference #7040 - Medication - Standard Orders.
- For pain, consider Fentanyl per ICEMA Reference #7040 - Medication - Standard Orders.
- If rhythm deteriorates to v-fib, turn off the sync button and defibrillate.
- Select initial energy level setting at 100 joules or a clinically equivalent biphasic energy level per manufacture guidelines. Procedure may be repeated at 200, 300 and 360 joules or a clinically equivalent biphasic energy level per manufacture guidelines.
- In radio communication failure or with base hospital order, repeated cardioversion attempts at 360 joules or clinically equivalent biphasic energy level per manufacturer's guidelines may be attempted.

Transcutaneous Cardiac Pacing (EMT-P)

- Start at a rate of 60 and adjust output to the lowest setting to maintain capture. Assess peripheral pulses and confirm correlation with paced rhythm.
- Reassess peripheral pulses. Adjust output to compensate for loss of capture.
- Increase rate (**not to exceed 100**) to maintain adequate tissue perfusion.
- For anxiety, consider Midazolam per ICEMA Reference #7040 - Medication - Standard Orders.
- For pain, consider Fentanyl per ICEMA Reference #7040 - Medication - Standard Orders.
- Contact the base hospital if rhythm persists or for continued signs of inadequate tissue perfusion.

Vagal Maneuvers (EMT-P)

- Relative contraindications for patients with hypertension, suspected STEMI, or suspected head/brain injury.
- Reassess cardiac and hemodynamic status. Document rhythm before, during and after procedure.
- If rhythm does not covert within ten (10) seconds, follow ICEMA Reference #11050 - Tachycardias - Adult.



CARDIAC ARREST - ADULT

High performance (HP) CPR is an organized approach to significantly improve the chance of survival for patients who suffer an out-of-hospital cardiac arrest (OHCA). Return of spontaneous circulation (ROSC) is resumption of sustained perfusing cardiac activity associated with significant respiratory effort after cardiac arrest. Signs of ROSC include breathing, coughing, patient movement and a palpable pulse, or a measurable blood pressure without the use of an automatic compression device.

The principles for HP CPR include:

- Minimize interruptions of chest compressions.
- Ensure proper depth of chest compressions of 2” - 2.5” allowing full chest recoil (no leaning on chest).
- Proper chest compression rate at 100 - 120 per minute.
- Avoid compressor fatigue by rotating compressors every two (2) minutes. Ventilations shall be sufficient to cause minimal chest rise, avoiding hyperventilation as it can decrease survival.

Advanced airways can be safely delayed in OHCA patients until ROSC is achieved if the airway is effectively managed by BLS Interventions. BVM offers excellent oxygenation and ventilation without disrupting high quality compressions.

Base hospital contact is not required to terminate resuscitative measures, if the patient meets criteria set forth below in the Termination of Efforts in the Prehospital Setting.

I. FIELD ASSESSMENT/TREATMENT INDICATORS

Cardiac arrest in a non-traumatic setting.

II. BLS INTERVENTIONS

- Assess patient, begin HP CPR and maintain appropriate BLS airway measures.
- Place patient on AED, if available. To minimize the “hands off” interval before a rhythm analysis/shock, complete chest compression cycle without an added pause for ventilations or pulse check just before rhythm analysis.

- If shock is advised, perform HP CPR compressions while AED is charging. Remove hands from patient and deliver shock then immediately resume uninterrupted HP CPR for two (2) minutes.
- Do not delay HP CPR for post-shock pulse check or a rhythm analysis.
- After two (2) minutes of HP CPR, analyze rhythm using AED while checking for pulse.

III. LIMITED ALS (LALS) INTERVENTIONS

- Perform activities identified in the BLS interventions.
- Establish peripheral intravenous access and administer a 500 ml bolus of normal saline (NS).
- BLS airway with BVM is the airway of choice during active HP CPR.

IV. ALS INTERVENTIONS

- Initiate HP CPR and continue appropriate BLS Interventions while applying the cardiac monitor without interruption to chest compressions.
- Determine cardiac rhythm and defibrillate if indicated. After defibrillation, immediately began HP CPR. Begin a two (2) minute cycle of HP CPR.
- Obtain IV/IO access.
- BLS airways should be maintained during active CPR. Endotracheal intubation is the advanced airway of choice if BLS airway does not provide adequate ventilation. Establish advanced airway per ICEMA Reference #10190 - Procedure - Standard Orders without interruption to chest compressions.
- Utilize continuous quantitative waveform capnography, for the monitoring of patients airway, the effectiveness of chest compressions and for possible early identification of ROSC. Document the waveform and the capnography number in mm HG in the ePCR.

NOTE: Capnography **shall** be used for all cardiac arrest patients.

- Insert NG/OG tube to relieve gastric distension per ICEMA Reference #10190 - Procedure - Standard Orders.

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 HP CPR immediately after each defibrillation for two (2) minutes, without assessing the post-defibrillation rhythm.
- Administer Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders every five (5) minutes, without interruption of HP CPR unless capnography indicates possible ROSC.
- Reassess rhythm for no more than ten (10) seconds after each two (2) minute cycle of HP CPR. If VF/VT persists, defibrillate as above.
- After two (2) cycles of HP CPR, consider administering:
Lidocaine per ICEMA Reference #7040 - Medication - Standard Orders, may repeat.
- If patient remains in pulseless VF/VT after 20 minutes of CPR, consult base hospital.

Pulseless Electrical Activity (PEA) or Asystole

- Assess for reversible causes and initiate treatment.
- Continue HP CPR with evaluation of rhythm (no more than 10 seconds) every two (2) minutes.
- Administer fluid bolus of 300 ml NS IV, may repeat.
- Administer Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders every 5 (five) minutes without interruption of HP CPR.
- Base hospital may order the following:
 - Sodium Bicarbonate per ICEMA Reference #7040 - Medication Standard Orders.
 - Calcium Chloride per ICEMA Reference #7040 - Medication Standard Orders.

Stable ROSC

- Obtain a 12-lead ECG, regardless of 12-lead ECG reading, transport to the closest STEMI Receiving Center, per ICEMA Reference #8130 - Destination Policy.

- Monitor ventilation to a capnography value between 35 mm Hg and 45 mm Hg.
- Utilize continuous waveform capnography to identify loss of circulation.
- For persistent profound shock and hypotension, administer Push Dose Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders.

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 any of the following criteria are met after 20 minutes of HP CPR with ALS Interventions:
 - No shocks were delivered.
 - Arrest not witnessed by EMS field personnel.
 - No ROSC .
 - Capnography waveform reading less than 15 mm Hg.
 - Persistent asystole, agonal rhythm or pulseless electrical activity (PEA) at a rate of less than 40 bpm.
- If patient has any signs of pending ROSC (i.e., capnography waveform trending upwards, PEA greater than 40 bpm), then consider transportation to a STEMI Receiving Center.
- Contact local law enforcement to advise of prehospital determination of death.
- Provide comfort and care for survivors.

V. REFERENCES

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



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.
- For nerve agent, organophosphate or carbamate exposure in which the ChemPack has been deployed, refer to ICEMA Reference #13040 - Nerve Agent Antidote Kit (Training, Storage and Administration).

II. PRIORITIES

- Assure the safety of EMS field personnel, initiate decontamination and isolation procedures as indicated.
- 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.
- If appropriate and can be safely transported, bring ingested substance to the hospital with patient.
- Expeditious transport.

III. BLS INTERVENTIONS

- Assure and maintain ABCs.
- Obtain oxygen saturation on room air, unless detrimental to patient condition. Administer oxygen per ICEMA Reference #7040 - Medication - Standard Orders.
- 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.
- Obtain and monitor vital signs.
- Expeditious transport.

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

- Perform activities identified in the BLS Interventions.
- 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 20 ml/kg IV and repeat until perfusion improves.

V. ALS INTERVENTIONS PRIOR TO BASE HOSPITAL CONTACT

- Perform activities identified in the BLS and LALS Interventions.
- Monitor cardiac status.
- For phenothiazine “poisoning” with ataxia and/or muscle spasms, administer Diphenhydramine per ICEMA Reference #7040 - Medication - Standard Orders.
- For known organophosphate poisoning, administer Atropine per ICEMA Reference #7040 - Medication - Standard Orders.
- For seizures associated with nerve agent or organophosphate poisoning, administer Midazolam per ICEMA Reference #7040 - Medication - Standard Orders.

- For seizures associated with nerve agent or organophosphate poisoning, with deployment of the ChemPack, administer Diazepam per ICEMA Reference #7040 - Medication - Standard Orders.

VI. BASE HOSPITAL MAY ORDER THE FOLLOWING

- For tricyclic poisonings, administer Sodium Bicarbonate per ICEMA Reference #7040 - Medication - Standard Orders.
- For calcium channel blocker poisonings with persistent hypotension or bradycardic arrhythmias, administer Calcium Chloride per ICEMA Reference #7040 - Medication - Standard Orders.
- For beta blocker poisonings, administer Glucagon per ICEMA Reference #7040 - Medication - Standard Orders.

VII. REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
13040	Nerve Agent Antidote Kit (Training, Storage and Administration)



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)

- Perform activities identified in the BLS Interventions.
- Maintain airway with appropriate adjuncts, obtain oxygen saturation on room air if possible.
- Albuterol per ICEMA Reference #7040 - Medication - Standard Orders.
- If no response to Albuterol, consider Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders.
- 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 IV/IO access if indicated.
- For anaphylactic shock (e.g., no palpable radial pulse and a depressed level of consciousness), administer Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders.

IV. ALS INTERVENTIONS

- Perform activities identified in the BLS and LALS Interventions.
- Albuterol with Atrovent per ICEMA Reference #7040 - Medication - Standard Orders.
- If no response to Albuterol and Atrovent, consider Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders.
- Administer Diphenhydramine per ICEMA Reference #7040 - Medication - Standard Orders for patients two (2) years of age or older.
- If apneic and unable to ventilate, consider oral endotracheal intubation per ICEMA Reference #10190 - Procedure - Standard Orders for patients who are taller than the maximum length of a pediatric emergency measuring tape (Broselow, etc.) or equivalent measuring from the top of the head to the heel of the foot.
- Base hospital may order additional medication dosages and additional fluid boluses.

V. REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
10190	Procedure - Standard Orders



TRAUMA TRIAGE CRITERIA

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 (TC).

II. POLICY

A. Trauma Triage Criteria

Measure vitals and Level of Consciousness (LOC).

A patient shall be transported to the closest Trauma Center (TC) if any one physiologic criteria is present following a traumatic event. Trauma base hospital contact shall be made.

1. Physiologic Indicators:

- **Glasgow Coma Scale (GCS)/**
 - Adult and Pediatric
 - $GCS \leq 13$
- **Respiratory**
 - Adult and Pediatric
 - $RR < 10$ or > 29
 - ($RR < 20$ for infant < 1 year old) or need for ventilatory support
- **Hypotension**
 - Adult
 - $BP < 90$ mmHG
 - tachycardia
 - Pediatric
 - exhibits inadequate tissue perfusion
 - abnormal vital signs (according to age)

2. Anatomic Indicators:

- **Penetrating injuries to head, neck, torso and extremities proximal to the knee or elbow**
- **Blunt chest trauma resulting in chest wall instability or deformity (e.g., flail chest or ecchymosis)**
- **Two (2) or more proximal long bone fractures (femur, humerus)**
- **Crushed, degloved, mangled or pulseless extremity**
- **Amputation proximal to the wrist or ankle**
- **Pelvic fractures**
- **Open or depressed skull fracture**
- **Paralysis**

A patient shall be transported to the closest TC if any one (1) anatomic criteria is present following a traumatic event. Trauma base hospital contact shall be made.

If physiologic or anatomic criteria is not met, assess mechanism of injury and evidence of high-energy impact.

3. Mechanism of Injury:

- **Falls**
 - Adults: > 20 feet (one story is equal to 10 feet)
 - Pediatric: > 10 feet or two (2) to three (3) times the child's height
- **High-risk auto crash**
 - Intrusion, including roof: > 12 inches occupant site
 - Ejection (partial or complete) from automobile
 - Death in the same passenger compartment
 - Vehicle telemetry data consistent with a high-risk injury

- **Auto versus pedestrian/bicyclist thrown, run over, or with significant (> 20 mph) impact**
- **Motorcycle crash > 20 mph**

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 TC.

If there are no associated physiologic or anatomic criteria meets one or more of the following mechanisms of injury, contact a Trauma base hospital for physician consultation to determine the patient destination. In some cases, a Trauma base hospital may direct a patient a non-trauma receiving hospital.

4. **Age and Co-Morbid Factors**

Assess special patient or system considerations.

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

- **Older adults > 65 years of age**
 - Risk of Injury/death increases after age 65
 - SBP < 110 might represent shock after age 65
 - Low impact mechanism (e.g., ground level falls might result in severe injury)
- **Children**
 - Should be triaged preferentially to pediatric capable trauma centers
 - 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 TC
- **Anti-coagulants and bleeding disorders**
 - Patients are at high risk for rapid deterioration

- **Burns (Refer to ICEMA Reference #8030 - Burn Criteria Destination Policy)**
 - Without other trauma mechanism triage to closest receiving hospital or burn center.
 - With trauma mechanism, triage to TC. Make Trauma base hospital contact.
- **Pregnancy >20 weeks**
- **EMS Provider Judgement**

C. Exceptions

The patient meets Trauma Triage Criteria, but presents with the following:

- **Unmanageable Airway:**
 - If an adequate airway cannot be maintained with a BVM device and the paramedic (EMT-P) is unable to indicate or if indicated, perform a successful needle cricothyrotomy:
 - Transport to the closest receiving hospital. RSI should be performed in a hospital setting and not on scene
 - Refer to ICEMA Reference #8120 - Continuation of Care for rapid transport to the nearest TC
- **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 base hospital 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 base hospital contact.
- If indicated, transport to the closest receiving hospital.
- **Burn Patients:**
 - Refer to ICEMA Reference #8030 - Burn Criteria and Destination Policy.
 - Burn patients meeting Trauma Triage Criteria, **transport to the closest TC.**
 - Burn patients not meeting Trauma Triage Criteria, **transport to the closest receiving hospital or a Burn Center.**

D. Considerations

- Scene time should be limited to 10 minutes under normal circumstances.

E. Radio Contact

- If not contacted at scene, the receiving TC must be notified as soon as possible in order to activate the trauma team.
- Patients meeting all Trauma Triage Criteria (physiologic, anatomic, mechanism of injury, and/or age and co-morbid factors), a Trauma base hospital shall be contacted in the event of patient refusal of assessment, care and/or transportation.
- In Inyo and Mono Counties, the assigned base hospital should be contacted for consultation and destination.

F. Hospital Trauma Diversion Status

Refer to ICEMA Reference #8060 - San Bernardino County Hospital Diversion Policy.

G. Multi-Casualty Incident

Refer to ICEMA Reference #5050 - Medical Response to a Multi-Casualty Incident Policy.

III. REFERENCES

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



AIRCRAFT ROTATION POLICY (San Bernardino County Only)

PURPOSE

To establish EMS Aircraft dispatch rotation criteria for San Bernardino County Communication Center (COMM Center).

AUTHORITY

California Health and Safety Code Division 2.5, Chapter 4 and 5; California Code of Regulations.

POLICY

1. All EMS Aircraft requests from the field in San Bernardino County will be dispatched by the San Bernardino County COMM Center.
2. At time of dispatch, COMM Center will inform the EMS Aircraft of destination based on the following:
 - a. Destination will alternate between ARMC and LLUMC as determined by ICEMA.
 - b. The destination may be changed by the EMS providers based on patient requirements for specialty centers.
 - c. Cancellation or destination change of an EMS Aircraft will not alter the rotation of dispatched aircraft.
 - d. Approved Diversion will alter the rotation of EMS aircraft (ICEMA Reference #8060 - San Bernardino County Requests for Hospital Diversion Policy.)
3. An EMS Aircraft going to a destination other than the one assigned by Comm Center, will notify COMM Center and the receiving facility. Notification maybe made by ground or air crews, whichever is the most expeditious for information to be given to the receiving facility.
4. Changes to EMS Aircraft rotation may be reviewed for potential QI issues.



SPECIALTY AND OPTIONAL SCOPE PROGRAM APPROVAL

I. PURPOSE

To provide guidelines for the application and renewal of advanced life support (ALS) or basic life support (BLS) specialty or optional scope of practice programs.

II. DEFINITIONS

Public Safety AED Service Provider: A specialty program for public safety personnel. (See ICEMA Reference #16060 - Public Safety AED Service Provider.)

Emergency Medical Dispatch (EMD) Program: The reception, evaluation, processing and provision of dispatch life support; management of requests for emergency medical assistance; ongoing evaluation and improvement of the emergency medical dispatch process. (See ICEMA Reference #6120 - Emergency Medical Dispatch Center Requirements.)

Mobile Medic Specialty Program: A specialty program that utilizes boats, bicycles, motorcycles, golf carts and/or powered all-terrain vehicles or for ALS or BLS response designed to deliver EMT, AEMT, and/or EMT-P to the scene of injury and/or transport a patient from the scene of injury to other awaiting EMS units.

Optional Scope Program: Any EMT/AEMT/EMT-P program that may require approval from the ICEMA Medical Director to function outside of the basic scope of practice that is not initiated region-wide.

Specialty Program: Any program that may require approval from the ICEMA Medical Director to function due to regulations or any variance from standard ICEMA policies or protocols either in equipment or procedures.

Tactical Medicine for Special Operations: A specialty program that meets all the prerequisites established by POST/EMSA for the delivery of emergency medical care during law enforcement special operations. (See ICEMA Reference #6110 - Tactical Medicine for Special Operations.)

III. POLICY

- All providers interested in providing ALS specialty or EMT optional scope programs shall submit an application that will undergo a review process to determine eligibility.

- All specialty programs must submit a new application and be approved every two (2) years.
- All local optional scope programs must submit a new application and be approved at least every three (3) years or concurrently with State approval of the ICEMA Local Optional Scope of Practice whichever is sooner.
- An electronic patient care report (ePCR) must be initiated whenever contact is made with a patient. Patients refusing care or declining further care after treatment must sign a refusal of care and/or Against Medical Advice form.
- If paper downtime forms are utilized, EMS providers are required to submit an approved ePCR by the end of shift or within 24 hours of the close of the event (whichever is less).
- Radio communication failure protocols will not be used. Prior to base contact protocols will be followed. If further treatment is needed, radio contact with the base hospital should be established as soon as possible.
- All ePCRS utilizing a specialty program will be reviewed by the EMS provider as part of its Continuous Quality Improvement program. Review or submission of additional criteria may be required.
- EMS field personnel must accompany the patient to the hospital if utilizing optional scope medications or devices that the transporting EMS field personnel are not authorized to use.

IV. PROCEDURE FOR SPECIALTY AND OPTIONAL SCOPE PROGRAM APPROVAL

- Submit an original application to ICEMA indicating the type of program. The Specialty and Optional Scope Program Approval Application is available on the ICEMA website at ICEMA.net.
- Submit a copy of the proposed or renewal program which shall include:
 - A statement demonstrating a need for the program.
 - A description of the geographic area within which the specialty program will be utilized.
 - A detailed description of the operation of the program, such as special events, 24/7 and how the program will be implemented.
 - A description of how the program will interface with the EMS system and 9-1-1.

- A detailed description of the training program. For optional scope programs, include provisions for written test and demonstration of skills competencies.
- A detailed list of employees participating in this program. If there are changes in employees, ICEMA must be notified in writing within 10 days.
- A detailed description of any deviations from the Standard Drug and Equipment List, how equipment and drugs will be stored and/or transported and a program for maintenance of the equipment.
- A process for the reporting of any deviations or adverse events.
- A quality improvement plan or an amendment to the EMS providers' Quality Improvement Plan that describes the quality improvement process for the specialty program. The plan must comply with all provisions of the ICEMA Quality Improvement Plan and include provisions for 100% review of all patient care reports in which the specialty or optional scope program was attempted or utilized.
- ICEMA may require the collection and submission of additional criteria as necessary.
- Additional procedures for Mobile Medic Specialty Programs:
 - A statement indicating compliance with Department of Motor Vehicles rules for personal safety equipment and/or vehicle registration if applicable.
 - A list of type of vehicles utilized (bicycles, motorcycles, ATV).
 - Type of interim patient care report utilized and process for transfer of patient care documents in the field.
 - Type of communication devices utilized and the interface with ALS provider and transport.
- ~~Additional procedures for EMT King Airway Optional Skills Program:~~
 - ~~Authorization for EMTs to practice optional skills is limited to those whose certificate is active and who are employed by an ICEMA authorized EMS provider.~~
 - ~~Training in the use of perilaryngeal airway adjuncts must include not less than five (5) hours with skills competency demonstration every one (1) year for certified EMTs in approved optional skills programs.~~

- ~~➤ Comply with state regulations for EMT optional skills training and demonstration of competency.~~
- Additional procedures for Impedance Threshold Device (ITD) Specialty Programs:
 - Prior to deployment and utilization of ITDs, providers must demonstrate high performance compression fraction of at least 80% without the use of an automatic compression device either through retrospective or concurrent audits for six (6) months.
 - ITD must be used in conjunction with high performance CPR and may be used with automatic compression devices.
 - Submit initial/renewal course outline for approval to include:
 - Indications for use and when to remove the device for both basic and advanced airways.
 - Use of two-person bag-valve-mask ventilation when used in the absence of an advanced airway to ensure adequate seal to maintain the intended effect of the device.
 - Use in conjunction with high performance CPR, keeping compression rates between 100 - 120 per minute.
- Additional procedures for Local Optional Scope programs:
 - Authorization for EMTs or EMT-Ps to practice optional skills is limited to those whose certificate or license is active and who are employed by an ICEMA authorized EMS provider.
 - Initial training to include not less than five (5) hours with skills competency demonstration once every one (1) year.
 - Comply with State regulations for optional skills training and demonstration of competency.

V. DRUG AND EQUIPMENT LISTS

- Equipment and supplies carried and utilized by specialty program personnel shall be consistent and compatible with the drugs and equipment normally carried by ALS units.
- Equipment and supplies shall be based on the appropriate level of personnel utilized for the particular event.

VI. REFERENCES

<u>Number</u>	<u>Name</u>
6110	Tactical Medicine for Special Operations
6120	Emergency Medical Dispatch Center Requirements
16060	Public Safety AED Service Provider



BLS/LALS/ALS STANDARD DRUG AND EQUIPMENT LIST

Each ambulance and first responder unit shall be equipped with the following functional equipment and supplies. **This list represents mandatory items with minimum quantities** excluding narcotics, which must be kept within the range indicated. All expiration dates must be current. All packaging of drugs or equipment must be intact. No open products or torn packaging may be used.

All ALS (transport and non-transport) and BLS transport vehicles shall be inspected annually.

MEDICATIONS/SOLUTIONS

Exchanged Medications/Solutions	BLS	LALS	ALS Non-Transport	ALS Transport
Adenosine (Adenocard) 6 mg			1	1
Adenosine (Adenocard) 12 mg			2	2
Albuterol Aerosolized Solution (Proventil) - unit dose 2.5 mg		4 doses	4 doses	4 doses
Albuterol MDI with spacer		1 SPECIALTY PROGRAMS ONLY	1 SPECIALTY PROGRAMS ONLY	1 SPECIALTY PROGRAMS ONLY
Aspirin, chewable - 81 mg tablet		2	1 bottle	1 bottle
Atropine 1 mg preload			2	2
Calcium Chloride 1 gm preload			1	1
Dextrose 10% in 250 ml Water (D10W) *		2	2	2
Diphenhydramine (Benadryl) 50 mg			1	1
Epinephrine 1 mg/ml 1 mg		2	2	2
Epinephrine 0.1 mg/ml 1 mg preload			4	4
Glucagon 1 mg		1	1	1
Glucose paste	1 tube	1 tube	1 tube	1 tube
Ipratropium Bromide Inhalation Solution (Atrovent) unit dose 0.5 mg			4	4
Irrigating Saline and/or Sterile Water (1000 cc)	2	1	1	2
Lidocaine 100 mg			3	3
Lidocaine 2% Intravenous solution			1	1
Lidocaine 2% (Viscous) dose			1	1
Magnesium Sulfate 10 gm			1	1
Naloxone (Narcan) 2 mg preload	2	2	2	2
Nitroglycerine (NTG) - Spray 0.4 mg metered dose and/or tablets (tablets to be discarded 90 days after opening)		2	1	2
Normal Saline for Injection (10 cc)		2	2	2
Normal Saline 100 cc			1	2
Normal Saline 250 cc			1	1

Exchanged Medications/Solutions	BLS	LALS	ALS Non-Transport	ALS Transport
Normal Saline 500 ml and/or 1000 ml		2000 ml	3000 ml	6000 ml
Ondansetron (Zofran) 4 mg Oral Disintegrating Tablets (ODT)			4	4
Ondansetron (Zofran) 4 mg IM/ IV			4	4
Sodium Bicarbonate 50 mEq preload			2	2
Tranexamic Acid (TXA) 1 gm			2	2

Non-Exchange Controlled Substance Medications MUST BE DOUBLE LOCKED	BLS	LALS	ALS Non-Transport	ALS Transport
Fentanyl			200-400 mcg	200-400 mcg
Midazolam			20-40 mg	20-40 mg
Ketamine			120-1000 mg	120-1000 mg

AIRWAY/SUCTION EQUIPMENT

Exchanged Airway/Suction Equipment	BLS	LALS	ALS Non-Transport	ALS Transport
CPAP circuits - all manufacture's available sizes	1 (if CPAP is carried)	1 (if CPAP is carried)	1 each	2 each
End-tidal CO2 device - Pediatric and Adult (may be integrated into bag)			1 each	1 each
Endotracheal Tubes cuffed - 6.0 and/or 6.5, 7.0 and/or 7.5 and 8.0 and/or 8.5 with stylet			2 each	2 each
ET Tube holders - adult		1 each	1 each	2 each
King LTS-D Adult: Size 3 (yellow) Size 4 (red) Size 5 (purple)	2 each SPECIALTY PROGRAMS ONLY	1 each	1 each	2 each
Mask - Adult & Pediatric non-rebreather oxygen mask	2 each	2 each	2 each	2 each
Mask - Infant Simple Mask	1	1	1	1
Nasal cannulas - pediatric and adult	2 each	2 each	2 each	2 each
Naso/Orogastric feeding tubes - 5fr or 6fr, and 8fr			1 each	1 each
Naso/Orogastric tubes - 10fr or 12fr, 14fr, 16fr or 18fr			1 each	1 each
Nasopharyngeal Airways - (infant, child, and adult)	1 each	1 each	1 each	1 each
Needle Cricothyrotomy Device - Pediatric and adult or Needles for procedure 10, 12, 14 and/or 16 gauge			1 each 2 each	1 each 2 each
One way flutter valve with adapter or equivalent			1	1
Oropharyngeal Airways - (infant, child, and adult)	1 each	1 each	1 each	1 each
Rigid tonsil tip suction	1		1	1
Small volume nebulizer with universal cuff adaptor		2	2	2
Suction Canister	1		1	1
Suction catheters - 6fr, 8fr or 10fr, 12fr or 14fr	1 each		1 each	1 each

Exchanged Airway/Suction Equipment	BLS	LALS	ALS Non-Transport	ALS Transport
Ventilation Bags -				
Infant 250 ml	1	1	1	1
Pediatric 500 ml (or equivalent)	1	1	1	1
Adult	1	1	1	1
Water soluble lubricating jelly		1	1	1

Non-Exchange Airway/Suction Equipment	BLS	LALS	ALS Non-Transport	ALS Transport
Ambulance oxygen source -10 L /min for 20 minutes	1			1
Flashlight/penlight	1	1	1	1
Laryngoscope blades - #0, #1, #2, #3, #4 curved and/or straight			1 each	1 each
Laryngoscope handle with batteries - or 2 disposable handles			1	1
Magill Forceps - Pediatric and Adult			1 each	1 each
Manual powered suction device		1		
Portable oxygen with regulator - 10 L /min for 20 minutes	1	1	1	1
Portable suction device (battery operated)	1		1	1
Pulse Oximetry device		(SEE OPTIONAL EQUIPMENT SECTION, PG. 5) 1	1	1
Stethoscope	1	1	1	1
Wall mount suction device	1 (BLS TRANSPORT ONLY)			1

IV/NEEDLES/SYRINGES/MONITORING EQUIPMENT

Exchanged IV/Needles/Syringes/Monitor Equipment	BLS	LALS	ALS Non-Transport	ALS Transport
Conductive medium or Pacer/Defibrillation pads			2 each	2 each
Disposable Tourniquets		2	2	2
ECG electrodes			20	20
EZ-IO Driver			1 each	1 each
EZ-IO Needles:				
25 mm			2 each	2 each
45 mm			1 each	1 each
Glucose monitoring device with compatible strips and OSHA approved single use lancets	1	1	1	1
3-way stopcock with extension tubing			2	2
IV Catheters - sizes 14, 16, 18, 20, 22, 24		2 each	2 each	2 each
Macro drip Administration Set		3	3	3
Micro drip Administration Set (60 drops /cc)		1	1	2

Exchanged IV/Needles/Syringes/Monitor Equipment	BLS	LALS	ALS Non-Transport	ALS Transport
Mucosal Atomizer Device (MAD) for nasal administration of medication	2	2	2	4
Pressure Infusion Bag (disposable)		1	1	1
Razors		1	2	2
Safety Needles - 20 or 21 gauge and 23 or 25 gauge	2 each	2 each	2 each	2 each
Saline Lock Large Bore Tubing Needleless		2	2	2
Sterile IV dressing		2	2	2
Syringes w/wo safety needles - 1 cc, 3 cc, 10 cc catheter tip		2 each		
Syringes w/wo safety needles - 1 cc, 3 cc, 10 cc, 20 cc, 60 cc catheter tip			2 each	2 each

Non-Exchange IV/Needles/Syringes/Monitor Equipment	BLS	LALS	ALS Non-Transport	ALS Transport
12-lead ECG Monitor and Defibrillator with TCP and printout			1	1
Blood pressure cuff - large adult or thigh cuff, adult, child and infant (one of each size)	1	1	1	1
Capnography monitor and supplies, may be integrated in the cardiac monitor			1	1
Needle disposal system (OSHA approved)	1	1	1	1
Thermometer - Mercury Free with covers	1	1	1	1

OPTIONAL EQUIPMENT/MEDICATIONS

Non-Exchange Optional Equipment/Medications	BLS	LALS	ALS Non-Transport	ALS Transport
AED/defib pads - Adult (1), Pediatric (1)	1 each	1 each		
Ammonia Inhalants			2	2
Automatic CPR device (FDA approved)	1	1	1	1
Automatic transport ventilator (Specialty Program Only - ICEMA approved device)			1	1
Backboard padding	1	1	1	1
Buretrol			1	1
Chemistry profile tubes			3	3
CPAP - (must be capable of titrating pressure between 2 and 15 cm H ₂ O)	1 (optional)	1 (optional)	1	1
Nerve Agent Antidote Kit (NAAK) - DuoDote or Mark I	3	3	3	3
EMS Tourniquet	1		1	1
Gum Elastic intubation stylet			2	2
Hemostatic Dressings *	1	1	1	1
IO Needles - Manual, Adult and Pediatric, Optional		Pediatric sizes only or EZ-IO needles and	1 each	1 each

Non-Exchange Optional Equipment/Medications	BLS	LALS	ALS Non-Transport	ALS Transport
		drivers		
IV infusion pump			1	1
IV warming device		1	1	1
Manual IV Flow Rate Control Device			1	1
Manual powered suction device	1	1	1	1
Multi-lumen peripheral catheter			2	2
Needle Thoracostomy Kit (prepackaged)			2	2
Pulse Oximetry device	1			
Translaryngeal Jet Ventilation Device			1	1
Vacutainer			1	1

* Hemostatic Dressings

- Quick Clot, Z-Medica
 - Quick Clot, Combat Gauze LE
 - Quick Clot, EMS Rolled Gauze, 4x4 Dressing, TraumaPad
- Celox
 - Celox Gauze, Z-Fold Hemostatic Gauze
 - Celox Rapid, Hemostatic Z-Fold Gauze
- HemCon ChitoFlex Pro Dressing

Note:

- The above products are “packaged” in various forms (i.e., Z-fold, rolled gauze, trauma pads, 4”x4”pads) and are authorized provided they are comprised of the approved product.
- Hemostatic Celox Granules, or granules delivered in an applicator, are not authorized.

DRESSING MATERIALS/OTHER EQUIPMENT/SUPPLIES

Exchanged Dressing Materials/Other Equipment/Supplies	BLS	LALS	ALS Non-Transport	ALS Transport
Adhesive tape - 1 inch	2	2	2	2
Air occlusive dressing	1	1	1	1
Ankle and wrist restraints, soft ties acceptable	1		1	1
Antiseptic swabs/wipes	10	10	10	10
Bedpan or fracture pan	1 (BLS TRANSPORT UNITS ONLY			1
Urinal	1 (BLS TRANSPORT UNITS ONLY			1
Cervical Collars - Rigid Pediatric and Adult all sizes or Cervical Collars - Adjustable Adult and Pediatric	2 each 2 each	2 each 2 each	2 each 2 each	2 each 2 each
Cold Packs	2	2	2	2
Emesis basin or disposable bags and covered waste container	1	1	1	1
Head immobilization device	2	2	2	2
OB Kit	1	1	1	1
Pneumatic or rigid splints capable of splinting all extremities	4	2	2	4
Provodine/Iodine swabs/wipes or antiseptic equivalent		4	10	10
Roller bandages - 4 inch	6	3	3	6
Sterile bandage compress or equivalent	6	2	2	6
Sterile gauze pads - 4x4 inch	4	4	4	4
Sterile sheet for Burns	2	2	2	2
Universal dressing 10x30 inches	2	2	2	2

Non-Exchange Dressing Materials/Other Equipment/Supplies	BLS	LALS	ALS Non-Transport	ALS Transport
800 MHz Radio		1	1	1
Ambulance gurney	1 (BLS TRANSPORT UNITS ONLY			1
Bandage shears	1	1	1	1
Blood Borne Pathogen Protective Equipment - (nonporous gloves, goggles face masks and gowns meeting OSHA Standards)	2	1	2	2
Pediatric Emergency Measuring Tape (Broselow, etc.)		1	1	1
Drinkable water in secured plastic container or equivalent	1 gallon			1 gallon
Long board with restraint straps	1	1	1	1
Pediatric immobilization board	1	1	1	1

Non-Exchange Dressing Materials/Other Equipment/Supplies	BLS	LALS	ALS Non-Transport	ALS Transport
Pillow, pillow case, sheets and blanket	1 set (BLS TRANSPORT UNITS ONLY)			1 set
Short extrication device	1	1	1	1
Straps to secure patient to gurney	1 set (BLS TRANSPORT UNITS ONLY)			1 set
Traction splint	1	1	1	1
Triage Tags - ICEMA approved	20	20	20	20



EMS AIRCRAFT STANDARD DRUG AND EQUIPMENT LIST

Each Aircraft shall be equipped with the following functional equipment and supplies. This list represents mandatory items with minimum quantities, to exclude narcotics, which must be kept within the range indicated. All expiration dates must be current. All packaging of drugs or equipment must be intact. No open products or torn packaging may be used.

MEDICATIONS/SOLUTIONS	AMOUNT
Adenosine (Adenocard) 6 mg	1
Adenosine (Adenocard) 12 mg	2
Albuterol Aerosolized Solution (Proventil) - unit dose 2.5 mg	3 doses
Aspirin, chewable - 81 mg tablet	1 bottle
Atropine 1 mg preload	2
Calcium Chloride 1 gm preload	1
Dextrose 10% in 250 ml Water (D10W) *	2
Diphenhydramine (Benadryl) 50 mg	1
Epinephrine 1 mg/ml 1 mg	2
Epinephrine 0.1 mg/ml 1mg preload	3
Glucagon 1 mg	1
Glucopaste	1 tube
Ipratropium Bromide Inhalation Solution (Atrovent) unit dose 0.5 mg	3
Lidocaine 100 mg	3
Lidocaine 2% Intravenous solution	1
Lidocaine 2% (Viscous)	1 dose
Magnesium Sulfate 10 gms	1
Naloxone (Narcan) 2 mg preload	2
Nitroglycerin (NTG) - Spray 0.4 mg metered dose and/or tablets (tablets to be discarded 90 days after opening.)	1
Normal Saline for Injection (10 cc)	2
Normal Saline 250 ml	1
Normal Saline 500 ml and/or 1000 ml	2000 ml
Ondansetron (Zofran) 4 mg Oral Disintegrating Tablets (ODT)	4
Ondansetron (Zofran) 4 mg IM/ IV	4
Sodium Bicarbonate 50 mEq preload	2
Tranexamic Acid (TXA) 1 gm	2

CONTROLLED SUBSTANCE MEDICATIONS-MUST BE DOUBLE LOCKED	AMOUNT
Fentanyl	200-400 mcg
Ketamine	120-1000 mg
Midazolam	20-40 mg

AIRWAY/SUCTION EQUIPMENT	AMOUNT
Aircraft Oxygen source -10 L /min for 20 minutes	1
C-PAP circuits - all manufacture's available sizes	1 each
End-tidal CO2 device - pediatric and adult (may be integrated into bag)	1 each
Endotracheal Tubes cuffed - 6.0 and/or 6.5, 7.0 and/or 7.5 and 8.0 and/or 8.5 with stylet	2 each
ET Tube holders - adult	1 each
Flashlight/penlight	1
King LTS-D Adult: Size 3 (yellow) Size 4 (red) Size 5 (purple)	1 each
Laryngoscope handle with batteries - or 2 disposable handles	1
Laryngoscope blades - #0, #1, #2, #3, #4 curved and/or straight	1 each
Magill Forceps - Pediatric and Adult	1 each
Nasal Cannulas - infant, pediatric and adult	2 each
Naso/Orogastric tubes - 10fr or 12fr, 14fr, 16fr or 18fr	1 each
Naso/Orogastric feeding tubes - 5fr or 6fr, and 8fr	1 each
Nasopharyngeal Airways - infant, child, and adult	1 each
Needle Cricothyrotomy Device (Approved) - Pediatric and adult <i>or</i>	1 each
Needles for procedure 10, 12, 14 and/or 16 gauge	2 each
Non Re-Breather O ₂ Mask - Pediatric and Adult, Infant Simple Mask	2 each
One way flutter valve with adapter or equivalent	1
Oropharyngeal Airways - infant, child, and adult	1 each
Portable Oxygen with regulator - 10 L /min for 20 minutes	1
Portable suction device (battery operated) <i>and/or</i> Wall mount suction device	1 each
Pulse Oximetry device	1
Small volume nebulizer with universal cuff adaptor	1
Stethoscope	1
Suction catheters - 6fr, 8fr or 10fr, 12fr or 14fr	1 each
Ventilation Bags - Infant 250 ml, Pediatric 500 ml and Adult 1 L	1 each
Water soluble lubricating jelly	1
Ridged tonsil tip suction	1

IV/NEEDLES/SYRINGES/MONITORING EQUIPMENT	AMOUNT
12-Lead ECG Monitor and Defibrillator with TCP and printout	1
800 MHz Radio	1
Blood pressure cuff - large adult or thigh cuff, adult, child and infant	1 set
Capnography monitor and supplies, may be integrated in the cardiac monitor	1
Conductive medium <i>or</i> Adult and Pediatric Pacer/Defibrillation pads	2 each
ECG - Pediatric and Adult	20 patches
EZ IO Needles and Driver 25 mm and 45 mm	2 each 1 each
3-way stopcock with extension tubing	2
IO Needles - Manual, Adult and Pediatric, <u>Optional</u>	1 each
IV Catheters - sizes 14, 16, 18, 20, 22, 24	2 each

IV/NEEDLES/SYRINGES/MONITORING EQUIPMENT	AMOUNT
Glucose monitoring device	1
Macro drip Administration Set	3
Microdrip Administration Set (60 drops/ml)	1
Mucosal Atomizer Device (MAD) for nasal administration of medication	4
Needle disposal system (OSHA approved)	1
Pressure infusion bag	1
Safety Needles - 20 or 21 gauge and 23 or 25 gauge	2 each
Saline Lock	2
Syringes w/wo safety needles - 1 ml, 3 ml, 10 ml, 20 ml	2 each
Syringe - 60 ml catheter tip	2
Thermometer - Mercury free with covers	1

DRESSING MATERIALS/OTHER EQUIPMENT SUPPLIES	AMOUNT
Adhesive tape - 1 inch	2
Air occlusive dressing	1
Aircraft stretcher or litter system with approved FAA straps that allows for Axial Spinal Immobilization	1
Ankle and wrist restraints, soft ties acceptable	1
Antiseptic swabs/wipes	
Bandage shears	1
Blanket or sheet	2
Blood Borne Pathogen Protective Equipment - (nonporous gloves, goggles face masks and gowns meeting OSHA Standards)	2
Cervical Collars - Rigid Pediatric & Adult all sizes <i>or</i>	1 each
Cervical Collars - Adjustable Adult and Pediatric	1 each
Emesis basin or disposable bags and covered waste container	1
Head immobilization device	1
OB Kit	1
Pediatric Emergency Measuring Tape (Broselow, etc.)	1
Pneumatic or rigid splints capable of splinting all extremities	4
Providence/Iodine swabs/wipes or antiseptic equivalent	
Roller bandages - 4 inch	3
Sterile bandage compress or equivalent	6
Sterile gauze pads - 4x4 inch	4
Sterile Sheet for Burns	2
Traction splint	1
Universal Dressing 10x30 inches	2

OPTIONAL EQUIPMENT/MEDICATIONS	Amount
Ammonia Inhalants	2
Automatic ventilator (Approved)	1
Backboard padding	1
BLS AED/defib pads	1
Chemistry profile tubes	3

OPTIONAL EQUIPMENT/MEDICATIONS	Amount
Nerve Agent Antidote Kit (NAAK) - DuoDote or Mark I	3
D5W in bag	1
Hemostatic Dressing *	1
IV infusion pump	1
IV warming device	1
Manual powered suction device	1
Medical Tourniquet	1
Needle Thoracostomy Kit (prepackaged)	2
Pediatric immobilization board	1
Translaryngeal Jet Ventilation Device	1
Vacutainer	1

* Hemostatic Dressings

- Quick Clot, Z-Medica
 - Quick Clot, Combat Gauze LE
 - Quick Clot, EMS Rolled Gauze, 4x4 Dressing, TraumaPad
- Celox
 - Celox Gauze, Z-Fold Hemostatic Gauze
 - Celox Rapid, Hemostatic Z-Fold Gauze
- HemCon ChitoFlex Pro Dressing

Note:

- The above products are “packaged” in various forms (i.e., Z-fold, rolled gauze, trauma pads, and 4”x4” pads) and are authorized provided they are comprised of the approved product.
- Hemostatic Celox Granules, or granules delivered in an applicator, are not authorized.



MEDICATION - STANDARD ORDERS

Medications listed in this protocol may be used only for the purposes referenced by the associated ICEMA Treatment Protocol.

For Nerve Agent Antidote Kit (NAAK) or medications deployed with the ChemPack see Appendix I (Page 12).

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

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

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

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

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

Reference #s 6090, 6110, 7010, 7020, 14010, 14030, 14070

Albuterol (Proventil) - Pediatric (LALS, ALS)

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

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

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

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

Reference #s 6090, 6110, 7010, 7020, 14010, 14030, 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 IV/IO. May repeat every five (5) minutes up to a maximum of 3 mg or 0.04 mg/kg.

Organophosphate poisoning:

Atropine, 2 mg IV/IO, repeat at 2 mg increments every five (5) minutes if patient remains symptomatic.

Reference #s 6090, 6110, 7010, 7020, 11040, 12020, 13010

Atropine - Pediatric (ALS)

Organophosphate poisoning - Pediatrics less than 14 years of age:

Atropine, 0.05 mg/kg IV/IO not to exceed adult dose of 2 mg, repeat at 0.1 mg/kg increments every five (5) minutes if patient remains symptomatic

Reference #s 6090, 6110, 7010, 7020, 13010

Calcium Chloride - Adult (ALS)

Calcium Channel Blocker Poisonings (base hospital order only):

Calcium Chloride, 1 gm (10 ~~ml~~ of a 10% solution) IV/IO, ~~base hospital order only~~.

Reference #s 2020, 7010, 7020, 13010

For cardiac arrest with suspected hypocalcemia, hyperkalemia, hypermagnesemia or calcium channel blocker poisoning (base hospital order only):

Calcium Chloride, 1 gm (10 ml of a 10% solution) IV/IO

Reference #s 7010, 7020, 11070

Calcium Chloride - Pediatric (ALS)

Calcium Channel Blocker Poisonings (base hospital order only):

Calcium Chloride, 20 mg/kg IV/IO over five (5) minutes

Reference #s 7010, 7020, 13010

Dextrose - Adult (LALS, ALS)

Hypoglycemia - Adult with blood glucose less than 80 mg/dL:

Dextrose 10% /250 ml (D10W 25 gm) IV/IO Bolus

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

Dextrose - Pediatric (LALS, ALS)

Hypoglycemia - Neonates (0 - 4 weeks) with blood glucose less than 35 mg/dL or pediatric patients (more than 4 weeks) with glucose less than 60 mg/dL:

Dextrose 10%/250 ml (D10W 25 gm) 0.5 gm/kg (5 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)

Allergic reaction:

2 years to 14 years 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

Epinephrine (1 mg/ml) - Adult (LALS, ALS)

Severe Bronchospasm, Asthma Attack, Pending Respiratory Failure, Severe Allergic Reactions:

Epinephrine, 0.3 mg IM. May repeat after fifteen (15) minutes one (1) time if symptoms do not improve.

Reference # 11010

Epinephrine (0.1 mg/ml) - Adult (ALS)

For persistent severe anaphylactic reaction:

Epinephrine (0.1 mg/ml), 0.1 mg slow IVP/IO. May repeat every five (5) minutes as needed to total dosage of 0.5 mg.

Reference # 11010

Cardiac Arrest, Asystole, PEA:

Epinephrine (0.1 mg/ml), 1 mg IV/IO.

*Reference #s 2020, 6090, 6110, 7010, 7020, 11010, 11070, 12020***Epinephrine (0.01 mg/ml) - Adult (ALS)***Post resuscitation, persistent profound shock and hypotension (Push Dose Epinephrine):*

Prepare Epinephrine 0.01 mg/ml solution by mixing 9 ml of normal saline with 1 ml of Epinephrine 0.1 mg/ml in a 10 ml syringe. Administer 1 ml every one (1) to five (5) minutes titrated to maintain SBP more than 90 mm Hg.

*Reference #s 2020, 6090, 6110, 7010, 7020, 7040, ~~11090~~1130, 11070***Epinephrine (1 mg/ml) - Pediatric (LALS, ALS)***Severe Bronchospasm, Asthma Attack, Pending Respiratory Failure, Severe Allergic Reactions:*

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

*Reference #s 2020, 6090, 7010, 7020, 14010, 14030***Epinephrine (0.1 mg/ml) - Pediatric (ALS)***Anaphylactic reaction (no palpable radial pulse and depressed level of consciousness):*

Epinephrine (0.1 mg/ml), 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 (0.1 mg/ml), 0.01 mg/kg IV/IO (do not exceed adult dosage)

9 to 14 years Epinephrine (0.1mg/ml), 1.0 mg IV/IO

Newborn Care:

Epinephrine (0.1 mg/ml), 0.01mg/kg IV/IO if heart rate is less than 60 after one (1) minute after evaluating airway for hypoxia and assessing body temperature for hypothermia.

Epinephrine (0.1 mg/ml), 0.005 mg/kg IV/IO every ten (10) minutes for persistent hypotension as a base hospital order or in radio communication failure.

Reference # 14090

Epinephrine (0.01 mg/ml) - Pediatric (ALS)

Post resuscitation, profound shock and hypotension (Push Dose Epinephrine):

Prepare Epinephrine 0.01 mg/ml solution by mixing 9 ml of normal saline with 1 ml of Epinephrine 0.1 mg/ml in a 10 ml syringe. Administer 0.1ml/kg (do not exceed adult dosage), every one (1) to five (5) minutes. Titrate to maintain a SBP more than 70 mm Hg.

Reference #s 2020, 7010, 7020, 7040, ~~9130+1090~~, 14040

Fentanyl - Adult (ALS)

Chest Pain (Presumed Ischemic Origin):

Fentanyl, 50 mcg slow IV/IO over one (1) minute. May repeat every five (5) minutes titrated to pain, not to exceed 200 mcg.

Fentanyl, 100 mcg IM/IN. May repeat 50 mcg every ten (10) minutes titrated to pain, not to exceed 200 mcg.

Acute traumatic injuries, acute abdominal/flank pain, burn injuries, Cancer pain, Sickle Cell Crisis:

Fentanyl, 50 mcg slow IV/IO push over one (1) minute. May repeat every five (5) minutes titrated to pain, not to exceed 200 mcg IV/IO, **or**

Fentanyl, 100 mcg IM/IN. May repeat 50 mcg every ten (10) minutes titrated to pain, not to exceed 200 mcg.

Pacing, synchronized cardioversion:

Fentanyl, 50 mcg slow IV/IO over one (1) minute. May repeat in five (5) minutes titrated to pain, not to exceed 200 mcg.

Fentanyl, 100 mcg IN. May repeat 50 mcg every ten (10) minutes titrated to pain, not to exceed 200 mcg.

Reference #s 2020, 6090, 6110, 7010, 7020, 7030, 10190, 11060, 11100, 11140, 13030, 15010

Fentanyl - Pediatric (ALS)

Fentanyl, 0.5 mcg/kg slow IV/IO over one (1) minute. May repeat in five (5) minutes titrated to pain, not to exceed 100 mcg.

Fentanyl, 1 mcg/kg IM/IN, may repeat every ten (10) minutes titrated to pain not to exceed 200 mcg.

Reference #s 2020, 6110, 7010, 7020, 7030, 11060, 13030, 14070, 15020

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

Adult with blood glucose less than 80 mg/dL:

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)

Hypoglycemia - Neonates (0 - 4 weeks) with blood glucose less than 35 mg/dL or pediatric patients (more than 4 weeks) with glucose less than 60 mg/dL:

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 administer one (1) time only.

Beta blocker Poisoning (base hospital order only):

Glucagon, 1 mg IV/IO (~~base hospital order only~~)

Reference #s 6090, 6110, 7010, 7020, 11080, 13010, 13030

Glucagon - Pediatric (LALS, ALS)

Hypoglycemia, if unable to establish IV:

Glucagon, 0.0~~325~~ 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

Beta blocker poisoning (base hospital order only):

Glucagon, 0.03 mg/kg IV/IO

Reference #'s 6090, 6110, 7010, 7020, 13010

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

Atrovent, 0.5 mg nebulized. Administer one (1) dose only.

Reference #s 7010, 7020, 11010, 11100

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

When used in combination with Albuterol MDI use Albuterol MDI dosing.

Reference #s 6090, 6110, 7010, 7020, 11010, 11100

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

1 day to 12 months Atrovent, 0.25 mg nebulized. Administer one (1) dose only.

1 year to 14 years Atrovent, 0.5 mg nebulized. Administer one (1) dose only.

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

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

When used in combination with Albuterol MDI use Albuterol MDI dosing.

Reference #s 6090, 6110, 7010, 7020, 14010, 14030, 14070

Ketamine - Adult (ALS)

Acute traumatic injury, acute abdominal/flank pain, burn injuries, cancer related pain and sickle cell crisis:

Ketamine, 0.3 mg/kg to a max of 30 mg in a 50 - 100 ml of NS via IV over five (5) minutes. May repeat one (1) time, after 15 minutes, if pain score remains at five (5) or higher. Do not administer IVP, IO, IM, or IN.

This is the official pain scale to be used in patient assessment and documented on the PCR.



Reference #s 7010, 7020, 11140

Lidocaine - Adult (ALS)

VT (pulseless)/VF:

Initial Dose: Lidocaine, 1.5 mg/kg IV/IO

For refractory *VT (pulseless)/VF*, may administer an additional 0.75 mg/kg IV/IO, repeat one (1) time in five (5) to ten (10) minutes; maximum total dose of 3 mg/kg.

V-Tach, Wide Complex Tachycardia - with Pulses:

Lidocaine, 1.5 mg/kg slow IV/IO

May administer an additional 0.75 mg/kg slow IV/IO; maximum total dose of 3 mg/kg.

Reference #s 2020, 6090, 7010, 7020, 8010, 10190, 11050, 11070, 15010

Lidocaine - Pediatric (ALS)*Cardiac Arrest:*

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

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

May repeat Lidocaine at 0.5 mg/kg after five (5) minutes; maximum total dose of 3 mg/kg.

Reference #s 2020, 7010, 7020, 14040

Lidocaine 2% (Intravenous Solution) - Pediatric and Adult (ALS)*Pain associated with IO infusion:*

Lidocaine, 0.5 mg/kg slow IO push over two (2) minutes, not to exceed 40 mg total.

Reference #s 2020, 7010, 7020, 10140, 10190

~~Lidocaine 2% Gel (Viscous) - Pediatric and Adult (ALS)~~*~~Pain associated with Nasogastric/Orogastric Tube insertion.~~*

~~Reference # 10190~~

Magnesium Sulfate (ALS)*Polymorphic Ventricular Tachycardia:*

Magnesium Sulfate, 2 gm IV/IO bolus 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 IV/IO slow IV push over three (3) to four (4) minutes.

Magnesium Sulfate, 10 mg/min IV/IO drip to prevent continued seizures.

Reference #s 2020, 7010, 7020, 8010, 14080

Severe Asthma/Respiratory Distress (ALS) (base hospital order only):

Magnesium Sulfate, 2 gm slow IV drip over 20 minutes. Do not repeat.

Reference# 11010

Magnesium Sulfate - Pediatric (ALS)

Severe Asthma/Respiratory Distress (base hospital order only):

Magnesium Sulfate, 50mg/kg slow IV drip over 20 minutes. Do not exceed the adult dosage of 2 gm total. Do not repeat.

Reference # 14010

Midazolam (Versed) - Adult (ALS)

Behavioral Emergencies, with suspected excited delirium:

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

Midazolam, 5 mg IM/~~IN or IV/IO~~ push. May repeat in ten (10) minutes. once for a total dosage of 10 mg.

Maximum of three (3) doses using any combination of IV/IO/IM/IN may be administered. Contact base hospital for additional orders and to discuss further treatment options.

Reference # 11130

Seizure:

Midazolam, 2.5 mg IV/IO/IN. 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 IV/IO/IM/IN may be administered for continued seizure activity. Contact base hospital for additional orders and to discuss further treatment options.

Pacing, synchronized cardioversion:

Midazolam, 2 mg slow IV/IO push or IN

Reference #s 6090, 6110, 7010, 7020, 10190, 11080, 13020, 14080

Midazolam (Versed) - Pediatric (ALS)

Seizures:

Midazolam, 0.1 mg/kg IV/IO with maximum dose 2.5 mg. May repeat Midazolam in five (5) minutes, **or**

Midazolam, 0.2 mg/kg IM/IN with maximum dose of 5 mg. May repeat Midazolam in ten (10) minutes for continued seizure.

Assess patient for medication related reduced respiratory rate or hypotension.

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

Reference #s 7010, 7020, 14060

Naloxone (Narcan) - Adult (BLS)

For resolution of respiratory depression related to suspected opiate overdose:

Naloxone, 0.5 mg IM/IN, may repeat Naloxone 0.5 mg IM/IN every two (2) to three (3) minutes if needed.

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

Reference #s 7010, 7020, 8050 11080

Naloxone (Narcan) - Adult (LALS, ALS)

For resolution of respiratory depression related to suspected opiate overdose:

Naloxone, 0.5 mg IV/IO/IM/IN, may repeat Naloxone 0.5 mg IV/IO/IM/IN every two (2) to three (3) minutes if needed.

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

Reference #s 6110, 7010, 7020, 11080

Naloxone (Narcan) - Pediatric (BLS)

For resolution of respiratory depression related to suspected opiate overdose:

1 day to 8 years Naloxone, 0.1 mg/kg IM/IN (do not exceed the adult dose of 0.5 mg per administration)

9 to 14 years Naloxone, 0.5 mg IM/IN

May repeat every two (2) to three (3) minutes if needed. Do not exceed the adult dosage of 10 mg total IM/IN.

Reference #s 7010, 7020, 8050, 14040, 14050

Naloxone (Narcan) - Pediatric (LALS, ALS)

For resolution of respiratory depression related to suspected opiate overdose:

1 day to 8 years Naloxone, 0.1 mg/kg IV/IO/IM/IN (do not exceed the adult dose of 0.5 mg per administration)

9 to 14 years Naloxone, 0.5 mg IV/IO/IM/IN

May repeat every two (2) to three (3) minutes if needed. Do not exceed the adult dosage of 10 mg total IV/IO/IM/IN.

Reference #s 7010, 7020, 14040, 14050

Nitroglycerin (NTG) (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 base hospital 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/IO/ODT

All patients four (4) to eight (8) years old: May administer a total of 4 mgs of Ondansetron prior to base hospital contact.

All patients nine (9) and older: May administer Ondansetron 4 mg; may repeat two (2) times, at ten (10) minute intervals, for a total of 12 mgs prior to base hospital contact.

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

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

Oxygen (non-intubated patient per appropriate delivery device)

General Administration (Hypoxia):

Titrate Oxygen at lowest rate required to maintain SPO₂ at 94%. Do not administer supplemental oxygen for SPO₂ more than 95%.

Chronic Obstructive Pulmonary Disease (COPD):

Titrate Oxygen at lowest rate required to maintain SPO₂ at 90%. Do not administer supplemental oxygen for SPO₂ more than 91%.

Reference #s 9010, 9120, 11010, 11020, 11040, 11050, 11060, 11080, 11090, 11100, 11150, 13010, 13020, 13030, 14010, 14020, 14030, 14050, 14060, 14070, 14080, 14090, 15010, 15020

Sodium Bicarbonate - Adult (ALS) (~~base hospital order only~~)

Tricyclic Poisoning (base hospital order only):

Sodium Bicarbonate, 1 mEq/kg IV/IO

Reference #s 2020, 7010, 7020, 13010

For cardiac arrest with suspected metabolic acidosis, hyperkalemia or tricyclic poisoning (base hospital order only):

Sodium Bicarbonate, 50 mEq IV/IO

Reference #'s 7010, 7020, 11070

Sodium Bicarbonate - Pediatric (ALS)

Tricyclic Poisoning (base hospital order only)

Sodium Bicarbonate, 1 mEq/kg IV/IO

Reference #'s 7010, 7020, 13010

Tranexamic Acid (TXA) - Patients 15 years of age and older (ALS)

Signs of hemorrhagic shock meeting inclusion criteria:

Administer TXA 1 gm in 50 - 100 ml of NS via IV/IO over ten (10) minutes. Do not administer IVP as this will cause hypotension.

Reference #s 7010, 7020, 15010

APPENDIX I**Medications for self-administration or with deployment of the ChemPack.**

Medications listed below may be used only for the purposes referenced by the associated ICEMA Treatment Protocol. Any other use, route or dose other than those listed, must be ordered in consultation with the base hospital physician.

Atropine - Pediatric (BLS, AEMT-Auto-injector only with training, ALS)

Known nerve agent/organophosphate poisoning with deployment of the ChemPack using:

Two (2) or more mild symptoms: Administer the weight-based dose listed below as soon as an exposure is known or strongly suspected. If severe symptoms develop after the first dose, two (2) additional doses should be repeated in rapid succession ten (10) minutes after the first dose; do not administer more than three (3) doses. If profound anticholinergic effects occur in the absence of excessive bronchial secretions, further doses of atropine should be withheld.

One (1) or more severe symptoms: Immediately administer (3) three weight-based doses listed below in rapid succession.

Weight-based dosing:

Less than 6.8 kg (less than 15 lbs):	0.25 mg, IM using multi-dose vial
6.8 to 18 kg (15 to 40 lbs):	0.5 mg, IM using AtroPen auto-injector
18 to 41 kg (40 to 90 lbs):	1 mg, IM using AtroPen auto-injector
More than 41 kg (more than 90 lbs):	2 mg, IM using multi-dose vial

Symptoms of insecticide or nerve agent poisoning, as provided by manufacturer in the AtroPen product labeling, to guide therapy:

Mild symptoms: Blurred vision, bradycardia, breathing difficulties, chest tightness, coughing, drooling, miosis, muscular twitching, nausea, runny nose, salivation increased, stomach cramps, tachycardia, teary eyes, tremor, vomiting, or wheezing.

Severe symptoms: Breathing difficulties (severe), confused/strange behavior, defecation (involuntary), muscular twitching/generalized weakness (severe), respiratory secretions (severe), seizure, unconsciousness, urination (involuntary).

NOTE: Infants may become drowsy or unconscious with muscle floppiness as opposed to muscle twitching.

Reference #s 7040, 13010, 13040

Diazepam (Valium) - Adult (ALS)

For seizures associated with nerve agent/organophosphate exposure ONLY with the deployment of the ChemPack:

Diazepam 10 mg (5 mg/ml) auto-injector IM (if IV is unavailable), **or**
Diazepam 2.5 mg IV

Reference # 13040

Diazepam (Valium) - Pediatric (ALS)

For seizures associated with nerve agent/organophosphate exposure ONLY with the deployment of the ChemPack:

Diazepam 0.05 mg/kg IV

Reference # 13040

Nerve Agent Antidote Kit (NAAK)/Mark I or DuoDote (containing Atropine/Pralidoxime Chloride for self-administration or with deployment of the ChemPack) - Adult

Nerve agent exposure with associated symptoms:

One (1) NAAK auto-injector IM into outer thigh. May repeat up to two (2) times every ten (10) to fifteen (15) minutes if symptoms persist.

Reference #s 7010, 7020, 13010, 13040



PROCEDURE - STANDARD ORDERS

12-lead Electrocardiography (EMT-P)

- ECG should be performed prior to medication administration.
- ECG should be performed on any patient whose medical history and/or presenting symptoms are consistent with acute coronary syndrome including typical or atypical chest pain, syncopal episode, prior AMI, heart disease, or other associated risk factors.

Axial Spinal Immobilization (EMT, AEMT and EMT-P)

- Should be placed if patient meets the indicators, per ICEMA Reference #15010 - Trauma - Adult (Neuro Deficits present, Spinal Tenderness present, Altered Mental status, Intoxication, or Distracting Injury).
- An AEMT and/or EMT-P may remove if placed by BLS crew and it does not meet indicators.

Capnography (EMT-P)

- Utilize capnography in patients with respiratory distress, respiratory failure, cardiac arrest, and critically ill patients
- Perform capnography prior to pain medication administration.
- Perform capnography after administration of Midazolam for behavioral emergencies.
- Monitor waveform, numerical value and document in ePCR.

Continuous Positive Airway Pressure Device (CPAP) - Adult (~~EMT, AEMT and~~ EMT-P)

- Start at lowest setting and increase slowly until patient experiences relief or until a maximum of 15 cm H₂O is reached.

External Jugular Vein Access (AEMT and EMT-P)

- Not indicated for patients eight (8) years of age and younger.
- Patient condition requires IV access and other peripheral venous access attempts are unsuccessful.

Blood Glucose Check (EMT, AEMT, and EMT-P)

- Should be assessed if the patient meets key indicators consistent with high or low blood sugar.

Intraosseous Insertion (AEMT pediatric patients only and EMT-P)

- EMT-Ps may administer Lidocaine slowly per ICEMA Reference #7040 - Medication - Standard Orders, to control infusion pain.
- Approved insertion sites:
 - Eight (8) years of age or younger (LALS and ALS):
 - Proximal Tibia - Anterior medial surface of tibia, 2 cm below tibial tuberosity.
 - Nine (9) years of age and older (ALS only):
 - Proximal Tibia - Anterior medial surface of tibia, 2 cm below tibial tuberosity.
 - Distal Tibia - Lower end of tibia, 2 cm above the medial malleolus.
 - Humeral Head (EZ IO only).
 - Anterior distal femur, 2 cm above the patella - Base hospital contact only.
- Leave site visible and monitor for extravasation.

King Airway Device (Perilaryngeal) - Adult (~~EMT Specialty Program~~, AEMT, and EMT-P)

- Use of King Airway device may be performed only on those patients who meet **all** of the following criteria:
 - Unresponsive, agonal respirations (less than six (6) breaths per minute) or apneic.
 - Patients 15 years or older.
 - Patients over four (4) feet in height.
- Additional considerations:
 - Medications may **not** be given via the King Airway device.
 - King Airway device should not be removed unless it becomes ineffective.

Nasogastric/Orogastric Tube (EMT-P)

- Use ~~a water soluble lubricating jelly, viscous Lidocaine gel per ICEMA Reference #7040 Medication Standard Orders, for conscious patients.~~
- Required for all full arrest patients.

Needle Cricothyrotomy (EMT-P)

- Absolute contraindication: Transection of the distal trachea.
- Monitor end-tidal CO₂ and wave form capnography.
- Monitor pulse oximetry.
- Contact base hospital if unable to ventilate adequately and transport immediately to the closest hospital for airway management.

Needle Thoracostomy (EMT-P)

- In blunt chest trauma consider bilateral tension pneumothorax if pulse oximetry (SpO₂) reading remains low with a patent airway or with poor respiratory compliance.

Oral Endotracheal Intubation - Adult (EMT-P)

- Oral endotracheal intubation is permitted only in patients who are taller than the maximum length of a pediatric emergency measuring tape (Broselow, etc.) or equivalent measuring from the top of the head to the heel of the foot.
- Monitor end-tidal CO₂ and wave form capnography.
- Monitor pulse oximetry.
- If unable to place ET after a maximum of three (3) intubation attempts (defined as placement of the laryngoscope in the mouth), ~~then consider placing a King Airway device.~~ If unsuccessful, continue with BLS airway management and transport to the nearest receiving hospital.
- Document verification of tube placement (auscultation, visualization, capnography).

Synchronized Cardioversion (EMT-P)

- For anxiety prior to cardioversion, consider Midazolam per ICEMA Reference #7040 - Medication - Standard Orders.
- For pain, consider Fentanyl per ICEMA Reference #7040 - Medication - Standard Orders.
- If rhythm deteriorates to v-fib, turn off the sync button and defibrillate.
- Select initial energy level setting at 100 joules or a clinically equivalent biphasic energy level per manufacture guidelines. Procedure may be repeated at 200, 300 and 360 joules or a clinically equivalent biphasic energy level per manufacture guidelines.
- In radio communication failure or with base hospital order, repeated cardioversion attempts at 360 joules or clinically equivalent biphasic energy level per manufacturer's guidelines may be attempted.

Transcutaneous Cardiac Pacing (EMT-P)

- Start at a rate of 60 and adjust output to the lowest setting to maintain capture. Assess peripheral pulses and confirm correlation with paced rhythm.
- Reassess peripheral pulses. Adjust output to compensate for loss of capture.
- Increase rate (**not to exceed 100**) to maintain adequate tissue perfusion.
- For anxiety, consider Midazolam per ICEMA Reference #7040 - Medication - Standard Orders.
- For pain, consider Fentanyl per ICEMA Reference #7040 - Medication - Standard Orders.
- Contact the base hospital if rhythm persists or for continued signs of inadequate tissue perfusion.

Vagal Maneuvers (EMT-P)

- Relative contraindications for patients with hypertension, suspected STEMI, or suspected head/brain injury.
- Reassess cardiac and hemodynamic status. Document rhythm before, during and after procedure.
- If rhythm does not covert within ten (10) seconds, follow ICEMA Reference #11050 - Tachycardias - Adult.



CARDIAC ARREST - ADULT

High performance (HP) CPR is an organized approach to significantly improve the chance of survival for patients who suffer an out-of-hospital cardiac arrest (OHCA). Return of spontaneous circulation (ROSC) is resumption of sustained perfusing cardiac activity associated with significant respiratory effort after cardiac arrest. Signs of ROSC include breathing, coughing, patient movement and a palpable pulse, or a measurable blood pressure without the use of an automatic compression device.

The principles for HP CPR include:

- Minimize interruptions of chest compressions.
- Ensure proper depth of chest compressions of 2” - 2.5” allowing full chest recoil (no leaning on chest).
- Proper chest compression rate at 100 - 120 per minute.
- Avoid compressor fatigue by rotating compressors every two (2) minutes. Ventilations shall be sufficient to cause minimal chest rise, avoiding hyperventilation as it can decrease survival.

Advanced airways can be safely delayed in OHCA patients until ROSC is achieved if the airway is effectively managed by BLS Interventions. BVM offers excellent oxygenation and ventilation without disrupting high quality compressions.

Base hospital contact is not required to terminate resuscitative measures, if the patient meets criteria set forth below in the Termination of Efforts in the Prehospital Setting.

I. FIELD ASSESSMENT/TREATMENT INDICATORS

Cardiac arrest in a non-traumatic setting.

II. BLS INTERVENTIONS

- Assess patient, begin HP CPR and maintain appropriate BLS airway measures.
- Place patient on AED, if available. To minimize the “hands off” interval before a rhythm analysis/shock, complete chest compression cycle without an added pause for ventilations or pulse check just before rhythm analysis.

- If shock is advised, perform HP CPR compressions while AED is charging. Remove hands from patient and deliver shock then immediately resume uninterrupted HP CPR for two (2) minutes.
- Do not delay HP CPR for post-shock pulse check or a rhythm analysis.
- After two (2) minutes of HP CPR, analyze rhythm using AED while checking for pulse.

III. LIMITED ALS (LALS) INTERVENTIONS

- Perform activities identified in the BLS interventions.
- Establish peripheral intravenous access and administer a 500 ml bolus of normal saline (NS).
- BLS airway with BVM is the airway of choice during active HP CPR.

IV. ALS INTERVENTIONS

- Initiate HP CPR and continue appropriate BLS Interventions while applying the cardiac monitor without interruption to chest compressions.
- Determine cardiac rhythm and defibrillate if indicated. After defibrillation, immediately began HP CPR. Begin a two (2) minute cycle of HP CPR.
- Obtain IV/IO access.
- BLS airways should be maintained during active CPR. Endotracheal intubation is the advanced airway of choice if BLS airway does not provide adequate ventilation. Establish advanced airway per ICEMA Reference #10190 - Procedure - Standard Orders without interruption to chest compressions.
- Utilize continuous quantitative waveform capnography, for the monitoring of patients airway, the effectiveness of chest compressions and for possible early identification of ROSC. Document the waveform and the capnography number in mm HG in the ePCR.

NOTE: Capnography **shall** be used for all cardiac arrest patients.

- Insert NG/OG tube to relieve gastric distension per ICEMA Reference #10190 - Procedure - Standard Orders.

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 HP CPR immediately after each defibrillation for two (2) minutes, without assessing the post-defibrillation rhythm.
- Administer Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders every five (5) minutes, without interruption of HP CPR unless capnography indicates possible ROSC.
- Reassess rhythm for no more than ten (10) seconds after each two (2) minute cycle of HP CPR. If VF/VT persists, defibrillate as above.
- After two (2) cycles of HP CPR, consider administering:
Lidocaine per ICEMA Reference #7040 - Medication - Standard Orders, may repeat.
- If patient remains in pulseless VF/VT after 20 minutes of CPR, consult base hospital.

Pulseless Electrical Activity (PEA) or Asystole

- Assess for reversible causes and initiate treatment.
- Continue HP CPR with evaluation of rhythm (no more than 10 seconds) every two (2) minutes.
- Administer fluid bolus of 300 ml NS IV, may repeat.
- Administer Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders every 5 (five) minutes without interruption of HP CPR.
- Base hospital may order the following:
 - Sodium Bicarbonate per ICEMA Reference #7040 - Medication Standard Orders.
 - Calcium Chloride per ICEMA Reference #7040 - Medication Standard Orders.

Stable ROSC

- Obtain a 12-lead ECG, regardless of 12-lead ECG reading, transport to the closest STEMI Receiving Center, per ICEMA Reference #8130 - Destination Policy.

- Monitor ventilation to a capnography value between 35 mm Hg and 45 mm Hg.
- Utilize continuous waveform capnography to identify loss of circulation.
- For persistent profound shock and hypotension, administer Push Dose Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders.

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 any of the following criteria are met after 20 minutes of HP CPR with ALS Interventions:
 - No shocks were delivered.
 - Arrest not witnessed by EMS field personnel.
 - No ROSC .
 - Capnography waveform reading less than 15 mm Hg.
 - Persistent asystole, agonal rhythm or pulseless electrical activity (PEA) at a rate of less than 40 bpm.
- If patient has any signs of pending ROSC (i.e., capnography waveform trending upwards, PEA greater than 40 bpm), then consider transportation to a STEMI Receiving Center.
- Contact local law enforcement to advise of prehospital determination of death.
- Provide comfort and care for survivors.

V. REFERENCES

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



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.
- For nerve agent, organophosphate or carbamate exposure in which the ChemPack has been deployed, refer to ICEMA Reference #13040 - Nerve Agent Antidote Kit (Training, Storage and Administration).

II. PRIORITIES

- Assure the safety of EMS field personnel, initiate decontamination and isolation procedures as indicated.
- 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.
- If appropriate and can be safely transported, bring ingested substance to the hospital with patient.
- Expeditious transport.

III. BLS INTERVENTIONS

- Assure and maintain ABCs.
- Obtain oxygen saturation on room air, unless detrimental to patient condition. Administer oxygen per ICEMA Reference #7040 - Medication - Standard Orders.
- 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.
- Obtain and monitor vital signs.
- Expeditious transport.

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

- Perform activities identified in the BLS Interventions.
- 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 20 ml/kg IV and repeat until perfusion improves.

V. ALS INTERVENTIONS PRIOR TO BASE HOSPITAL CONTACT

- Perform activities identified in the BLS and LALS Interventions.
- Monitor cardiac status.
- For phenothiazine “poisoning” with ataxia and/or muscle spasms, administer Diphenhydramine per ICEMA Reference #7040 - Medication - Standard Orders.
- For known organophosphate poisoning, administer Atropine per ICEMA Reference #7040 - Medication - Standard Orders.
- For seizures associated with nerve agent or organophosphate poisoning, administer Midazolam per ICEMA Reference #7040 - Medication - Standard Orders.

- For seizures associated with nerve agent or organophosphate poisoning, with deployment of the ChemPack, administer Diazepam per ICEMA Reference #7040 - Medication - Standard Orders.

VI. BASE HOSPITAL MAY ORDER THE FOLLOWING

- ~~1.*~~ For tricyclic poisonings, administer Sodium Bicarbonate per ICEMA Reference #7040 - Medication - Standard Orders.
- ~~2.*~~ For calcium channel blocker poisonings with persistent hypotension or bradycardic arrhythmias, administer Calcium Chloride per ICEMA Reference #7040 - Medication - Standard Orders.
- ~~3.*~~ For beta blocker poisonings, administer Glucagon per ICEMA Reference #7040 - Medication - Standard Orders.

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

VII. REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
13040	Nerve Agent Antidote Kit (Training, Storage and Administration)



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)

- Perform activities identified in the BLS Interventions.
- Maintain airway with appropriate adjuncts, obtain oxygen saturation on room air if possible.
- Albuterol per ICEMA Reference #7040 - Medication - Standard Orders.
- If no response to Albuterol, consider Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders.
- 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 IV/IO access if indicated.
- For anaphylactic shock (e.g., no palpable radial pulse and a depressed level of consciousness), administer Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders.

IV. ALS INTERVENTIONS

- Perform activities identified in the BLS and LALS Interventions.
- Albuterol with Atrovent per ICEMA Reference #7040 - Medication - Standard Orders.
- If no response to Albuterol and Atrovent, consider Epinephrine per ICEMA Reference #7040 - Medication - Standard Orders.
- Administer Diphenhydramine per ICEMA Reference #7040 - Medication - Standard Orders for patients two (2) years of age or older.
- If apneic and unable to ventilate, consider oral endotracheal intubation per ICEMA Reference #10190 - Procedure - Standard Orders for patients who are taller than the maximum length of a pediatric emergency measuring tape (Broselow, etc.) or equivalent measuring from the top of the head to the heel of the foot.
- Base hospital may order additional medication dosages and additional fluid boluses.

V. REFERENCES

<u>Number</u>	<u>Name</u>
7040	Medication - Standard Orders
10190	Procedure - Standard Orders



TRAUMA TRIAGE CRITERIA

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 (TC).

II. POLICY

A. Trauma Triage Criteria

Measure vitals and Level of Consciousness (LOC).

A patient shall be transported to the closest Trauma Center (TC) if any one physiologic criteria is present following a traumatic event. Trauma base hospital contact shall be made.

1. Physiologic Indicators:

- **Glasgow Coma Scale (GCS)/**
 - Adult and Pediatric
 - $GCS \leq 13$
- **Respiratory**
 - Adult and Pediatric
 - $RR < 10$ or > 29
 - ($RR < 20$ for infant < 1 year old) or need for ventilatory support
- **Hypotension**
 - Adult
 - $BP < 90$ mmHG
 - tachycardia
 - Pediatric
 - exhibits inadequate tissue perfusion
 - abnormal vital signs (according to age)

2. Anatomic Indicators:

- **Penetrating injuries to head, neck, torso and extremities proximal to the knee or elbow**
- **Blunt chest trauma resulting in chest wall instability or deformity (e.g., flail chest or ecchymosis)**
- **Two (2) or more proximal long bone fractures (femur, humerus)**
- **Crushed, degloved, mangled or pulseless extremity**
- **Amputation proximal to the wrist or ankle**
- **Pelvic fractures**
- **Open or depressed skull fracture**
- **Paralysis**

A patient shall be transported to the closest TC if any one (1) anatomic criteria is present following a traumatic event. Trauma base hospital contact shall be made.

If physiologic or anatomic criteria is not met, assess mechanism of injury and evidence of high-energy impact.

3. Mechanism of Injury:

- **Falls**
 - Adults: > 20 feet (one story is equal to 10 feet)
 - Pediatric: > 10 feet or two (2) to three (3) times the child's height
- **High-risk auto crash**
 - Intrusion, including roof: > 12 inches occupant site
 - Ejection (partial or complete) from automobile
 - Death in the same passenger compartment
 - Vehicle telemetry data consistent with a high-risk injury

- **Auto versus pedestrian/bicyclist thrown, run over, or with significant (> 20 mph) impact**
- **Motorcycle crash > 20 mph**

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 TC.

If there are no associated physiologic or anatomic criteria meets one or more of the following mechanisms of injury, contact a Trauma base hospital for physician consultation to determine the patient destination. In some cases, a Trauma base hospital may direct a patient a non-trauma receiving hospital.

4. **Age and Co-Morbid Factors**

Assess special patient or system considerations.

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

- **Older adults > 65 years of age**
 - Risk of Injury/death increases after age 65
 - SBP < 110 might represent shock after age 65
 - Low impact mechanism (e.g., ground level falls might result in severe injury)
- **Children**
 - Should be triaged preferentially to pediatric capable trauma centers
 - 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 TC
- **Anti-coagulants and bleeding disorders**
 - Patients are at high risk for rapid deterioration

- **Burns (Refer to ICEMA Reference #8030 - Burn Criteria Destination Policy)**
 - Without other trauma mechanism triage to closest receiving hospital or burn center.
 - With trauma mechanism, triage to TC. Make Trauma base hospital contact.
- **Pregnancy >20 weeks**
- **EMS Provider Judgement**

C. Exceptions

The patient meets Trauma Triage Criteria, but presents with the following:

- **Unmanageable Airway:**
 - If an adequate airway cannot be maintained with a BVM device and the paramedic (EMT-P) is unable to indicate or if indicated, perform a successful needle cricothyrotomy:
 - Transport to the closest receiving hospital. RSI should be performed in a hospital setting and not on scene
 - Refer to ICEMA Reference #8120 - Continuation of Care for rapid transport to the nearest TC
- **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 base hospital 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 base hospital contact.
- If indicated, transport to the closest receiving hospital.
- **Burn Patients:**
 - Refer to ICEMA Reference #8030 - Burn Criteria and Destination Policy.
 - Burn patients meeting Trauma Triage Criteria, **transport to the closest TC.**
 - Burn patients not meeting Trauma Triage Criteria, **transport to the closest receiving hospital or a Burn Center.**

● ~~EMS Aircraft Indications:~~

~~If EMS aircraft is dispatched, adherence to ICEMA Reference #8070 —Aircraft Rotation Policy (San Bernardino County Only) is mandatory.~~

- ~~➤ 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~~
 - ~~▪ Utilize the hospital as the landing zone or rendezvous point~~

● ~~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.

E. Radio Contact

- If not contacted at scene, the receiving TC must be notified as soon as possible in order to activate the trauma team.
- Patients meeting all Trauma Triage Criteria (physiologic, anatomic, mechanism of injury, and/or age and co-morbid factors), a Trauma base hospital shall be contacted in the event of patient refusal of assessment, care and/or transportation.
- In Inyo and Mono Counties, the assigned base hospital should be contacted for consultation and destination.

F. Hospital Trauma Diversion Status

Refer to ICEMA Reference #8060 - San Bernardino County Hospital Diversion Policy.

G. Multi-Casualty Incident

Refer to ICEMA Reference #5050 - Medical Response to a Multi-Casualty Incident Policy.

III. REFERENCES

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