SANDOVAL COUNTY FIRE DEPARTMENT

PATIENT CARE GUIDELINES

2014-2016

PHILIP J. FROMAN, MD, FACEP

SANDOVAL COUNTY MEDICAL DIRECTOR

JENNA WHITE, MD

SANDOVAL COUNTY ASSISTANT MEDICAL DIRECTOR

REVIEWED & UPDATED BY

GREGG KOTILA, EMT-P, NCEE

EMS CHIEF

(This page intentionally left blank)

Application for Use of SCFD Patient Care Guidelines

The following Patient Care Guidelines are intended to be used by all personnel representing the Sandoval County Fire Department including but not limited to: all Command, career, part time and volunteer staff.

These Guidelines in their entirety are for the career staff to use in the course of their patient care.

Advanced EMS providers in the volunteer districts will be able to perform within these treatment guidelines based on 1) their level of activity outside of Sandoval County, 2) the Medical Director's approval to perform those skills/treatments and, 3) signed documentation from the Medical Director for the EMS provider to perform skills/treatments as outlined in the New Mexico Scope of Practice for the level of licensure for that provider.

If a district does not have the equipment that is identified in the treatment guidelines, then they will not be expected to perform those procedures. The same goes for the medications in the treatment guidelines, some of the controlled substances will not be made available to the volunteer districts.

Sandoval County Fire districts that wish to carry narcotics/controlled substances will have to obtain the Knox MedVault locking system prior to being able to store or use controlled substances.

In line with New Mexico EMS Regulations, any EMS provider wishing to perform skills identified as requiring "Service Medical Director Approval", will have a signed authorization form on file prior to performing any of those skills/treatments and will also have a signed acknowledgement of understanding of receiving a copy of the most current copy of the Sandoval County Fire Department treatment guidelines.

SCFD Approved Medications				
Medication	**FR**	**EMTB**	**EMTI**	**EMTP**
NAAK (Nerve Agent Antidote Kit)	X	X	X	X
Acetylsalicylic Acid (ASA, Aspirin)	X	X	X	X
Oxygen	X	X	X	X
Oral Glucose	X	X	X	X
Albuterol	X	X	X	X
Ipratropium	X	X	X	X
Epinephrine 1:1,000 (Adrenaline)	X	X	X	X
Acetaminophen		X	X	X
Naloxone		X	X	X
Dextrose (D50; D25; D10)			X	X
Epinephrine 1:10,000			X	X
Nitroglycerin			X	X
Morphine Sulfate			X	X
Fentanyl Citrate			X	X
Diphenhydramine			X	X
Glucagon			X	X
Ondansetron			X	X
0.9% Sodium Chloride			X	X
Lidocaine (For IO Administration Only)			X	X
Hydroxocobalamin			X	X
Adenosine				X
Atropine Sulfate				X
Calcium Chloride				X
Dexamethasone				X
Dopamine Hydrochloride				X
Furosemide				X
Lidocaine				X
Magnesium Sulfate				X
Oxytocin				X
Phenylephrine nasal spray				X
Sodium Bicarbonate				X
Tetracaine Opthalmic solution				X
Diazepam				X
Midazolam				X
Cordarone (Amiodarone)				X
Levophed (Norepineprine)				X

SECTION 1-SYSTEM GUIDELINES

STATEMENT OF PURPOSE

These Guidelines are designed to guide the practice of the on-duty career and volunteer emergency medical service personnel within the primary jurisdictions and districts of Sandoval County. These guidelines are to be used by all licensed EMS responders functioning within the Sandoval County Fire Department. An effort has been made to coordinate the EMS guidelines used throughout the County. When differences between guidelines arise in mutual aid situations, EMS personnel should function according to the guidelines of the EMT in charge of patient care. Although the Sandoval County EMS Guidelines define who is in charge of each patient encounter, it may sometimes be helpful to contact on-line medical control in order to resolve conflicts between providers or agencies. Every attempt must be made to provide the best patient care possible in spite of disagreements.

DISCLAIMER

Every attempt has been made to reflect sound medical guidelines and guidelines based on currently accepted standards of care for out-of-hospital emergency medicine. The working group urges the reader to speak to their respective service point of contact for any specific questions that may arise. The working group assumes no responsibility directly or indirectly for this document. It is the reader's responsibility to stay informed of any new changes or recommendations made at the state or service level.

Activities of EMS personnel must be in compliance with all applicable federal, state, county and local laws and regulations including as applicable: NM Dept. of Health 7.27.2 NMAC, Licensing of Emergency Medical Services Personnel, NM Dept. of Health 7.27.10 NMAC, Certification of Emergency Medical Services Agencies, PRC Regulation 18.3.14 NMAC, Ambulance Services and the Federal Controlled Substances Act.

This document was developed specifically for the Sandoval County area, and modified specifically for the Sandoval County Fire Department. As such, these guidelines may need to be modified if used in other EMS systems. Other EMS systems may obtain a disk copy of this guideline by written request from their Medical Director. Contact Sandoval County Fire Department - EMS Division for further information.

CONTINUOUS QUALITY IMPROVEMENT (CQI)

To maximize the quality of care in EMS, it is necessary to continually review all EMS activity and identify areas of excellence and potential sources of risk. This method allows for recognition of excellent care, development of needs-based continuing education, and mitigation of potentially dangerous medical practice..

- Departmental Guidelines
  - All EMS runs will be reviewed by senior department /district EMS personnel on a monthly basis and an appropriate Run Review form completed.
  - Any minor guideline discrepancies will be discussed within the department /district and will be brought to the attention of the medical director at the time the run forms are delivered for review.
  - Specific QA forms generated by the County will be forwarded to the County EMS Chief or Medical Director by the 5th of the month preceding your departmental case reviews.
  - Any significant discrepancies will be brought to the attention of the medical director as soon as they are discovered.
  - Each district will offer 4 hours of EMS continuing education each quarter.

- Medical Director Guidelines:
  - EMS runs will be reviewed in a timely manner and a record will be maintained of these runs. Records will be maintained in the respective departments/districts.
  - Department/District Case Reviews will be held a minimum of 2-3 times per year. During these sessions, interesting or problematic runs will be discussed and any potential teaching points will be made. These reviews may be combined with other in-service training.
  - EMS Run Reports and/or logbooks will not be falsified. Any changes can only be done when documented appropriately.
  - All Sandoval County EMS personnel **must** attend a minimum of 2 Medical Director case reviews annually in order to be considered “active” for eligibility to provide patient care where “Medical Director Approval” is required within these treatment guidelines and to be considered eligible for Medical Director signature for license renewal.

CONTROL OF PATIENT CARE (ALSO SEE THE INTERAGENCY INTERACTION GUIDELINES)

- The individual with the highest level of training is in control of patient care while awaiting a transport unit.
- In the event that caregivers have the same level of training, the person arriving first on the scene shall be in control of patient care until the SCFD Medic Unit with the transporting crew arrives on scene. At this point, the SCFD transport crew shall assume control of patient care and should receive a patient report from the most appropriate on scene caregiver.
- If another transport capable agency will be transporting a patient, they shall receive a patient report from the most appropriate on scene caregiver, and assume responsibility for the patient at the time the patient is placed onto their gurney.
- Providers from outside a given district will be subordinate to providers from the district in which a call originates UNLESS:
  - The patient has been turned over to an outside transport service.
  - A provider of higher training level arrives from a service or district with whom there is a mutual aid agreement.
  - A provider of a higher training level who is known to be licensed in New Mexico arrives on a scene and has permission to treat from the local medical director.
- The rank structure for medical care (ICS should still take place when necessary):
  - Local Medical Direction
  - EMT-P
  - EMT-I
  - EMT-B
  - Family Nurse Practitioner, Nurse, Physician Assistant (these providers may function at a rank equal to EMT-B, EMT-I, or EMT-P as designated by their local medical director(s))*
  - EMSFR

  *A person who is a recognized active EMS service member but not an EMT may assist in patient care up to and within that provider's scope of practice BUT only up to the level of the highest pre-hospital provider on scene**, subject to the direction, control and approval of the on-scene EMS provider.** The presence of other health care providers does not release an EMS service from the staffing requirements as outlined by the Public Regulatory Commission.

  Nurses and mid-level providers are valued members of the EMS team, and must commit to continuing education and refresher courses identical to licensed EMS providers. Nurses and mid-level providers are required to attend a formal EMS course and obtain an EMS license to become a functional provider in the EMS system. Current EMS, nursing, and mid-level provider regulations do not adequately address the issue of nurses and mid-level providers functioning in the field.

DOCUMENTATION OF PATIENT CARE

Designation of Condition: To clarify the need to do proper documentation on all patient encounters.

- An EMS run report will be generated for every patient encounter. The dCHARTe format will be used as a guideline for the narrative section of the report.
- The lead provider (the lead provider is defined as the provider attending to patient care) will be responsible for ensuring that a Department and Medical Director approved ePCR is generated.
- The names of all crewmembers or caregivers who participated in patient care should be included in the ePCR.
- When possible, the names of the providers (if known) from whom the transporting medic unit assumes care should also be noted.
- Any changes or additions to a report after it has been signed will be documented as an addendum.
  - This will include the term: “Addendum,” followed by Time and Date. Then the specific items can be added, followed by the writer’s initials.
- All non-patients and patients that are NOT transported will be documented on an EMS Liability Release Form as well as an EMS report form.
- All reports are confidential and all information will be treated as such and only released as applicable by local, state and federal law. All reports that contain patient information will be kept in a secure area to ensure confidentiality.
- As a general rule, a copy of the patient’s field notes should be left at the receiving facility with the patient.
- Patient reports for data entry will be completed within 24 hours of patient encounter for the volunteer districts and the completed transport report will be uploaded into the ePCR provider’s site for hospital access within 4 hours for units that transport to the hospital.
- All reporting shall be appropriately documented using approved ePCR software in accordance with State Law and Department guidelines.

DO NOT RESUSCITATE / ADVANCED DIRECTIVES

This guideline is designed to assist the medical personnel at the scene when a patient or patient's family states that a patient has a Living Will or is a hospice patient, but does not have the EMS – DNR.

- Initiate basic life support (CPR).
- Ask to review the documented Living Will or Physician Do Not Resuscitate (DNR) Order.
- If documents are present, proceed with basic life support measures only.
- Contact MCEP
- If written documentation is not available; treat to your appropriate level of care.
- Resuscitation should be done in cases of attempted suicide.
- Generally, a Living Will or other advance directive does not exclude palliative care / comfort measures.

EMS DNR

EMS providers may encounter EMS-DNR orders in the field setting. An EMS-DNR order is a legally recognized advance directive applicable to pre-hospital care providers (NMAC 7.27.6). Presence of an EMS-DNR order requires that EMS responders not perform certain resuscitation measures. Other advance directives such as hospital or nursing home DNR orders or personal living wills may be encountered in the pre-hospital setting, but should not be routinely followed without on-line Medical Control consultation.

The following guidelines will help when an EMS-DNR situation is encountered:

- If the care provider believes an EMS-DNR order may be present, attempt to locate the order while continuing with appropriate care.
- Identify the patient. This may be done with standard picture identification or by confirmation of identification by family members or others associated with the patient.
- If an EMS-DNR order is located, or the patient wears an EMS-DNR bracelet, and the identity has been verified, then the care provider must proceed as follows:
- If the patient is in respiratory and/or cardiac arrest, do not perform:

External chest compressions

Artificial ventilation

Intubation or other advanced airway adjuncts

Defibrillation or pacing

Cardiac medications

- If a written EMS-DNR or Living Will is provided and honored, attempt to maintain possession or obtain copy of said document for inclusion into the patient's medical record.
- If the patient is not in arrest, EMS care providers may administer the following, as long as the patient or authorized decision-maker does not refuse.

Oxygen

Suctioning

Basic Airway Management, excluding LMA/Laryngeal or Extraglottic Airway Devices

Control of bleeding

Paramedics and Intermediates may administer analgesics, as appropriate.

Other comfort care to assist the patient

Note: The patient may revoke the EMS-DNR at any time verbally or by defacing the written order or bracelet. Should this occur, every action consistent with the standard of care should immediately be taken.

EMS-DNR orders should not be followed in cases of suspected homicide or attempted suicide.

If a written DNR is not available and it seems appropriate not to resuscitate the patient; the crew may contact MCEP for guidance.

NEW MEXICO MOST

Medical Orders for Scope of Treatment

The MOST is an advance directive that is written in the form of a physician order. It is designed to be a statewide mechanism for an individual to communicate his or her wishes about a range of life-sustaining and resuscitative measures. Moreover, the MOST represents a means of transferring the known wishes of an individual from one care setting to another, using a uniform document in each setting. It is a portable, authoritative and immediately actionable physician order that is consistent with the individual's wishes and medical condition and should be honored across all treatment settings.

The New Mexico MOST is an advance healthcare directive or **healthcare decision** and must be honored in accordance with state law (NMSA 1978§24-7A-1 et seq.) If there is a conflict between this directive and an earlier directive, the most current choices made by the patient or the Healthcare Decision Maker shall control.

DEAD AT SCENE

Upon arrival at a scene in which the patient is obviously dead and resuscitation efforts would be to no avail. Resuscitation efforts of any kind may be withheld on the decedent. The following criteria should be used:

- Presence of Rigor Mortis
- Livormortis
- Obvious external exsanguination
- Decapitation
- Decomposition
- Visible brain contents
- Blunt traumatic arrests (after consideration of potentially reversible causes)
- Penetrating traumatic arrests with a transport time of more than ten minutes
- Sustained time down prior to arrival without CPR in progress with presenting rhythm of Asystole in warm adults

Note: Hypothermic arrests, drowning events, and most medical pediatric arrests deserve full resuscitative attempts. **CONTACT MEDICAL CONTROL** for direction.

DIVERSION OF EMS UNITS

Designation of Condition: To promote optimal patient care through the coordinated efforts of the EMS and hospital systems. To allow for proper patient destination based on patient request and facility status during times when the facility staff feels it is temporarily incapable of providing optimal care to further patients.

- All hospital systems must work to keep their facilities on an open status, however hospitals may divert within their own hospital system. Current guidelines for patient destination should be maintained including patient request and closest hospital.
- Cardiac arrest or unstable airway patients will still go to the closest appropriate facility, unless they are on "*totally closed".* MCI guidelines may alter the patient destination decisions.
- If a circumstance arises when a field paramedic feels it is mandatory to override a divert because of risk to the patient or provider, they should advise the receiving hospital that they are overriding and give a med report and ETA. These cases will prompt mandatory QI reporting to the appropriate medical director.
- If a unit is on the property of a hospital (cross the driveway), you should not leave the facility. Advise the facility you are already on the hospital grounds.

EMERGENCY DEPARTMENT PATIENT TURNOVER

Designation of Condition: Expedite appropriate and timely of turnover of pre-hospital patients to the Emergency Department staff.

- Expeditious and complete patient turnover will be the goals of all personnel involved.
- It is assumed that the responsibility for patient care reverts to the E.D. staff when the patient enters the E.D. rather than after a formal turnover report. EMS personnel will strive to do what is right for the patient and keep continuity of care until report is given.
- It is expected that ED staff will receive pre-hospital personnel in a timely manner on arrival to ED and direct them to the appropriate bed or ED area.
- Pre-hospital personnel will assist in moving patient to a safe place within the hospital and give a complete pre-hospital report.
- EMS field notes should be left at the hospital when the patient is turned over to the hospital staff.
- It is expected that complete turnover will be completed within 15 minutes of ED arrival or when the relevant EMS run report is complete, whichever is longer.
- If the above criteria is not met and the patient remains on the pre-hospital gurney greater than 15 minutes, pre-hospital personnel will seek a safe place to unload the patient and give a completed field notes report to the first available ED staff RN or MD and then return to service.
- There is no obligation for EMS personnel or equipment to be utilized once in the E.D. area.
- Completed ePCR reports shall be uploaded into the ePCR hosting site within 4 hours following patient turn over so that the receiving facility can access the completed report.

EMTALA RISK

Designation of Condition: To minimize EMTALA risk to hospitals by EMS transport units

- When circumstances arise and an EMS transport unit is on a hospital's property, the EMS unit will not divert to another hospital.
- If you get a divert order from the facility and you are on their property, you will advise the facility that you are on their property and will not be diverting.
- Upon arrival, advise the staff of the EMTALA risk and tell them that an internal quality assurance will be generated and will be reviewed by the medical director.
- Radio reports will be done as early as possible during transport to minimize EMTALA risk.

HELICOPTER USAGE

Designation of Condition: To optimize air medical services in Sandoval County.

- Critical or serious trauma or medical patients when ground transport will take longer than 30 - 45 minutes (excluding cardiac arrest patients from any cause-helicopter transport is not appropriate for these patients).
- Multiple trauma victims and inability of ground personnel to mange and transport adequately.
- Trauma patients in situations where ground transport is compromised (ex: mechanical failure, remote location or poor road conditions).
- Trauma victims with long extrication times.
- Disaster situations.
- Requests for helicopter transport should be made through Sandoval Regional Communications Center.

HOSPITALS

Contact Albuquerque Base on Med Channel 2 for clearance on med channels.

HOSPITAL	MED RADIO CHANNEL	TRAUMA DESIGNATION	PHONE NUMBER	CATH CAPABLE
Presbyterian Hospital - DT	7	0		Yes
Presbyterian – Kaseman Hospital	7	0		
Presbyterian - Rust Medical Center	7	0		
Lovelace Medical Center - DT	6	0		
Lovelace Westside Medical Center	6	0		
Lovelace Women's Hospital	6	0		
Lovelace Heart Hospital	6	0		Yes
University Hospital	1	1		Yes
Sandoval Regional Medical Center	8	0		
Veterans Administration Hospital	3	0		Yes
St. Vincent Hospital	5	3		Yes
Los Alamos Medical Center	5	0		
San Juan Regional Medical Center	4	3		Yes
Albuquerque SANE		0		
Crownpoint IHS	6	0		
Presbyterian Espanola Hospital	5	0		

INVOLUNTARY RESTRAINT & TRANSPORT

Designation of Condition: The patient exhibits violent, combative and/or uncooperative behavior that results from a medical or psychiatric condition and such behavior places the patient or others in imminent danger.

Indications for Use: The application of mechanical restraints is allowed only when all less restrictive measures of control have failed (e.g., verbal de-escalation), and the patient's behavior continues to pose a threat to him/herself or others. Involuntary restraint is also appropriate when an EMT makes a good faith judgment that a patient is incapable of making an informed decision about his own safety or need for medical attention and is reasonably likely to suffer disability or death in the absence of medical intervention. The application of restraints should always be done out of necessity, to ensure patient or provider safety and never as a matter of provider convenience.

Procedure:

- Establish Primary Management
- Request law enforcement at the earliest opportunity, and
- Ensure the presence of sufficient personnel to safely apply restraints.
- Explain to the patient and family why restraints are necessary.
- Apply restraints in a humane manner, affording the patient as much dignity as possible.
- Use the least restrictive method of restraint necessary to protect the patient and still insure provider safety during transport.
- **Devices:** Restraint devices that are appropriate for EMS utilization include: soft restraint, spine board, KED, vacuum splint, soft gauze, blankets and sheets. Prone or "hobble" restraints are not appropriate for EMS.
- Obtain vital signs at the earliest opportunity. Violent and combative behavior may be secondary to hypoxia, hypoglycemia, or CNS infection. Obtain O2 saturation and BGL as soon as it is feasible. Assess for fever. Treat trauma and seizure if applicable.
- All restrained patients require continuous monitoring of the airway, circulatory and respiratory status; as well as the need for continued restraint.

All cases of restraint will undergo EMS Chief quality assurance review. Appropriate cases will be forwarded to the Medical Director

Under State Law 24-10B1, EMS Systems ACT, Section 24-10B-13, any person may be transported to a health care facility by an EMT when the EMT makes a good-faith judgment that the person is incapable of making an informed decision about his own safety or need for medical attention and is reasonably likely to suffer disability or death in the absence of medical intervention available at such a facility.

- Contact MCEP on all involuntary restraint & transport cases. If MCEP contact is unavailable, the licensed caregiver on scene may make the decision to transport the patient against their will per the above guideline. If MCEP contact is made, explain your situation and the need to transport or restraint against patient's will. If the MCEP agrees, restrain the patient and transport with police assistance. It may be helpful to put the MCEP in communication with the police officers at the scene if they are hesitant to help. **If handcuffs are used or patient is judged dangerous despite restraint, police will accompany the patient in the back of the transport unit.** If a law officer refuses, this should be documented on the patient report. Consider a 2nd EMT in the back of the transport unit for added EMT protection and as a witness when the patient is physically or chemically restrained. Perform a brief mental status exam to include:
  - Level of consciousness, and orientation to person, place, time, situation
  - Intent to harm self or others
- Take a brief history, including drug / alcohol use, medications and mental illness.

ALS PROVIDERS

- Use of medications in agitated patients – this option is only available to the EMT-P and should be used only when physical restraint is impossible or insufficient. Keep in mind that use of medications may alter subsequent examination at the hospital. Monitor oxygen saturation levels and End Tidal CO2, and support the patient's oxygenation and ventilation status as indicated.
- ***If sedation is deemed necessary, refer to the Altered Mental Status: Agitation protocol (page 58) Contact Medical Control for higher doses if necessary. CAREFULLY DOCUMENT THE HISTORY, PHYSICAL EXAMINATION, AND REASON FOR RESTRAINT AND TREATMENT RENDERED. WHEN APPROPRIATE, OBTAIN NAMES OF OFFICERS, WITNESSES, AND THE MCEP.***

MENTAL HEALTH PICK-UP ORDERS

To provide for crew safety and in helping law enforcement carry out their duties in executing Court Ordered Pick-up Orders the following guidelines will be followed:

The follOWING PROCEDURE WILL APPLY WHEN LAW ENFORCEMENT RECEIVES A CERTIFICATE FOR EVALUATION (PICK UP ORDER):

THE POLICE/S.O. SUPERVISOR WILL REVIEW THE ORDER AND CONFIRM THE INFORmation on the order and the location of the subject to be transported to. If there is any missing information the Police/S.O. supervisor will confirm before attempting to serve the order.

Once all the information is verified the Police/S.O. supervisor along with at least one other officer will attempt to locate the individual. Upon contact with the individual the Police/S.O. supervisor will advise them of the order and advise them they will need to be transported to the location in the order. The individual will be handcuffed for their safety and the officers and placed in the back seat as per department procedures.

If the Police/S.O. supervisor observes any medical condition that would require EMS to respond the Police/S.O. supervisor will request EMS to respond and treat the individual prior to the officer transporting.

The Police/S.O. supervisor will determine based on the circumstances if a second officer needs to accompany the transport officer. The Officer transporting the individual will have dispatch notify the Hospital that they will be enroute.

Once at the hospital the officer will turn over the individual to the proper authorities along with a copy of the order and return to jurisdiction and prepare a report.

If the patient has a medical condition, EMS will treat and transport if necessary requesting that a Police/S.O. officer accompany in the patient compartment during the transport.

Under NO circumstances will EMS attempt to execute and/or respond to a Pick-Up order at the request of Dispatch only. Police/S.O. units must be on scene and requesting EMS.

MEDICAL CONTROL

EMS providers in Sandoval County provide care under their own license. Their relationship with physicians may take the form of Direct or Indirect Medical Control. Indirect medical control is represented by these guidelines or the guidelines specific to the service in which the provider functions. A physician who is in direct communication with the prehospital provider at the time care is being given provides the direct Medical Control. This is ideally done by a Medical Control Emergency Physician (MCEP). For situations not covered by these guidelines, or when physician contact is required by these guidelines, Direct Medical Control must be established according to the following guidelines:

Guidelines for Direct Medical Control

- If pre-established physician-patient relationship exists and this physician is on scene, it shall take precedence over these guidelines, and said physician shall have direct medical control until he/she expressly relinquishes it to the MCEP. The EMS providers are not bound to follow the orders of this physician but instead are governed by these guidelines. Every reasonable effort should be made to assist in patient care.
- A physician physically present at the scene who offers to assist in the patient's care may be allowed to do so if the following conditions are met:
    - The physician identifies them self to the EMS provider in charge of patient care as a currently licensed physician in the State of New Mexico.
    - The physician agrees to accompany the patient to the hospital and to provide care until care can be appropriately transferred to an MCEP.
    - The physician agrees to sign the EMS Run Form in the "Medical Control" space.
    - If the on-scene medical intervention orders conflict with these guidelines, they shall be placed in contact with the MCEP. If a conflict remains, the EMS personnel shall be obligated to carry out the orders of the MCEP.
    - Emergent Direct Medical Control is available by contacting the MCEP at any one of the hospitals listed prior. It is preferable to make contact with the MCEP at the hospital to which the patient is being transported, but this is not always possible. Direct medical control is also available through the Service Medical Director or the County Medical Director although this is typically not appropriate in emergency situations.

MCEP CONSULT

EMS providers are encouraged to request a physician consult for patients that they feel might merit the immediate attention of the receiving Emergency Department Physician, or for on scene decisions such as patient refusals. When requested, a direct report from the EMS provider to the Physician should be accomplished soon after the patient arrival in the ED. This guideline is intended for both medical and trauma related events. Document all MCEP encounters on run form. Always document the MCEP's name.

USE OF EMS CONSORTIUM EMERGENCY PHYSICIANS

Use of the EMS Consortium Emergency Physicians should be for challenging clinical situations or complex refusals. Routine physician consultations should be through your local Emergency Department Physician.
On-scene orders received by field providers from a Consortium Physician should be signed for BY THAT PHYSICIAN prior to transport to patient's receiving hospital, unless the Physician is going along to the hospital or meeting the crew at the hospital.
Involvement of Consortium Physicians in on-scene patient care in no way mandates transport of a patient to UNM facilities.
Consortium Physicians will respond to scenes based on automatic dispatch criteria with Partner Agencies, requests from field providers or from monitoring radio traffic. Providers from any Partner Agency may request a field response for complicated situations. Once on-scene, the Consortium Physician will interact equally with all providers from any agency.

EMS Consortium physicians can be reached through Albuquerque Ambulance Dispatch 505-449-5710.

MINOR (UNDER 18 YEARS) TRANSPORT GUIDELINES

Designation of Condition: These guidelines are designed to help crews with the difficult job of handling minor patients and the situation when a minor patient has a child.

- For a minor to make a decision regarding healthcare, they must be emancipated. To be legally emancipated, they must be at least 16 years of age and…
  - Married
  - Divorced
  - Active military
  - Legally declared emancipated in a court of law
- Pregnancy in and of itself does not emancipate a minor
- An emancipated minor can make decisions for her minor child.
- When in doubt, use EMS Act, Section 24-10B. -9.1, to transport the patient against their will. Err on the side of transport versus refusal.
- When in doubt, contact an MCEP.
- In discussion with several attorneys, it is clear that an un-emancipated minor mother cannot make decisions for her minor child. No consensus was obtained as to who has legal control over the minor's child unless guardianship has been established. This would be an area to utilize the EMS Act noted above, an MCEP, or law enforcement if necessary.

Notes: When dealing with the emancipation issues, document statements made by the parties involved when the appropriate documentation (marriage certificate, court order, etc.) is not readily available. Remember to err on the side of patient care.

THE LAWS SURROUNDING EMANCIPATED MINORS RECENTLY CHANGED IN NEW MEXICO.

24-7A-6.2. Consent to health care for certain minors fourteen years of age or older.

A. An unemancipated minor fourteen years of age or older who has capacity to consent may give consent for medically necessary health care; provided that the minor is:

(1) living apart from the minor's parents or legal guardian; or

(2) the parent of a child.

B. For purposes of this section, "medically necessary health care" means clinical and rehabilitative, physical, mental or behavioral health services that are:

(1) essential to prevent, diagnose or treat medical conditions or that are essential to enable an unemancipated minor to attain, maintain or regain functional capacity;

(2) delivered in the amount and setting with the duration and scope that is clinically appropriate to the specific physical, mental and behavioral health-care needs of the minor;

(3) provided within professionally accepted standards of practice and national guidelines; and

(4) required to meet the physical, mental and behavioral health needs of the minor, but not primarily required for convenience of the minor, health-care provider or payer.

C. The consent of the unemancipated minor to examination or treatment pursuant to this section shall not be disaffirmed because of minority.

D. The parent or legal guardian of an unemancipated minor who receives medically necessary health care is not liable for payment for those services unless the parent or legal guardian has consented to such medically necessary health care; provided that the provisions of this subsection do not relieve a parent or legal guardian of liability for payment for emergency health care provided to an unemancipated minor.

E. A health-care provider or a health-care institution shall not be liable for reasonably relying on statements made by an unemancipated minor that the minor is eligible to give consent pursuant to Subsection A of this section.

F. Nothing in this section shall otherwise limit the rights of an unemancipated minor to consent to treatment, nor shall this section be read to conflict with the rights of parents and children pursuant to the Children's Mental Health and Developmental Disabilities Act [32A-6A-1 NMSA 1978].

History: 1978 Comp., § 24-7A-6.2, as enacted by Laws 2009, ch. 220, § 3.

OFFICE OF THE MEDICAL INVESTIGATOR

The Unattended Home Death

- When a death occurs outside of a licensed nursing home or hospital facility and the private personal physician of the decedent does not attend the death, that death is considered an unattended death. By law, all unattended deaths fall under the jurisdiction of the OMI and it is necessary for the OMI to conduct a full investigation.
- In all cases of unattended death law enforcement must be contacted. EMS personnel will request law enforcement on all deaths. The scene will then be turned over to law enforcement and it will then be up to law enforcement to request OMI.
- All unattended deaths are to be considered a crime scene by EMS until told otherwise by law enforcement on scene. For this reason, extreme care must be exercised for preservation of the crime scene. Any medical equipment that is used on the patient should be left with the patient (example: IV lines, airway devices, etc.). If external blood loss is caused by EMS (example IV attempts) it should be noted in the EMS run report as well as verbalized to the first arriving law enforcement officer.
- The body of the deceased should not be moved until law enforcement is on scene. No one should be allowed to remain in the room of the deceased alone until law enforcement is on scene.
- An EMS field report/notes should be filled out on scene and a copy left with law enforcement for OMI.

Death of Potential Violent Origin

- In addition to all of the elements outlined in the Unattended Home Death guideline, extra awareness of crime scene preservation must be exercised.
- For motor vehicle accidents, this includes: skid marks, debris scattering patterns, clothing location, etc. EMS personnel should realize that on occasion simple placement of units (unmarked vehicles or private owned vehicles) might place them into the crime scene and subject to the control and authority of law enforcement on scene.
- Weapons or sources of injury should not be touched, moved or altered in any way. The only exception to this is when EMS personnel on scene feel that there is a legitimate threat of harm for themselves or additional personnel on scene. In most cases, this means that the scene was not secure and probably should not have ever been entered. If the scene is not safe and you do not have the resources to make it safe, leave the scene. EMS safety always takes precedence over patient safety.

Death on Native American Lands

- When a death occurs on Native American Land, assure that Tribal Officials, the police from the specific pueblo (if available), and/or BIA Police are notified and on the scene. The death will be handled by these officials in accordance to the laws and traditions of the specific pueblo, and may or may not involve the Office of the Medical Investigator. Please document the circumstances as appropriate, and leave a copy of the EMS field report/notes for the law enforcement officials present.

REFUSAL OF TREATMENT/LIABILITY RELEASE

- An EMS Liability Release must be completed on all refusals/non-transports.
  - All blanks in the top section should be completed on all patients; the top three fill-ins should be completed on all non-patients.
  - Appropriate initials and signatures, including witnesses, are necessary to make this a legal document.
- Documentation for refusal of treatment should include:
  - LOC: Patient is awake, oriented and able to comprehend the seriousness of his/her injury or illness.
  - Vital signs: Should be within normal limits if the patient allows you to take them. If they are not, DO NOT check the box. Advise the patient of the abnormality and document it in your narrative.
  - Careful explanation to the patient and/or family of the possible implications of the injury/illness including possibility of death if applicable. Ascertain understanding of these consequences by the patient/family, and document this
  - Ask the patient or legal guardian to sign a refusal of treatment form (the patient cannot be forced to do this).
  - Witness signature for refusal, even if patient did not sign. It is preferable to obtain this from a family member, law enforcement, or another department member, but EMS personnel are adequate if necessary.
  - Clear documentation that patient is not impaired by drugs or alcohol.
  - Advise that EMS can be called back to the scene if patient condition deteriorates or if patient reconsiders transport
- If the patient is awake, oriented and able to comprehend the seriousness of the injury or illness and refuses treatment of a potentially life-threatening process, an attempt should be made to put the patient and/or family in contact with an MCEP.
- If the patient is ill/injured but is not awake, not oriented, or not able to comprehend his/her illness (impaired from alcohol, drugs, head injury, chronic disease, etc.):
  - Law Enforcement should be summoned to assist and the patient should be transported based on the Involuntary Restraint and Transport guideline.
  - Consider contacting an appropriate MCEP to discuss the case with the Police and/or the patient.
  - After MCEP/Police intervention, transport the patient if there is a reasonable possibility of danger to life or limb or the patient may not have access to care.
- Patients that have not sustained an injury, are awake, alert and oriented and do not feel a need for EMS treatment or transport, with no obvious signs of trauma or distress, and no significant mechanism of injury, may be allowed to sign the non-patient portion of release. All demographical information, signatures, and witnesses must still be completed.
- No person shall be refused treatment or transport because of inability to pay, race, color, creed, religion, or type of illness.

REPONSE IN PRIVATELY OWNED VEHICLES (POV)

Use of a privately owned vehicle (POV) is encouraged when it can:

- Shorten response times, and/or
- Permit EMT's of higher level training to arrive at a scene sooner.

Providers should obey all traffic laws and not exceed the speed limit. There should be no use of emergency lights or sirens in personal vehicles.

POVs should not be used for patient transport.

Recommended jump kit equipment at each level is as follows:

First Responder

- Gloves, goggles and other protective equipment are necessary
- Two-way radio communication
- Gauze
- Kerlix
- Tape
- Pocket Mask and Manual Suction
- Oral Airway
- Nasal Pharyngeal airway
- Stethoscope
- BP Cuff
- Bag-Valve Mask
- Suction
- ASA
- Oral glucose

EMT-B (all of the above plus)

- Extraglottic Airways
- Epinephrine 1:1000 and two 0.3 cc syringes
- Naloxone and appropriate delivery devices
- Albuterol/Atrovent

EMT-I (all of the above plus)

- One bag NS
- IV tubing
- D5OW
- Epinephrine 1:1,000
- Epinephrine 1:10,000
- Nitroglycerine
- Syringes
- Needles

EMT-P (all of the above plus)

- Laryngoscope
- Endotracheal tubes

<u>Optional equipment for all levels of providers</u>

Oxygen cylinder with regulator

Oxygen tubing

Glucometer

Automatic or semi-automatic external defibrillator

(Continued on next page)

All contents of jump kits shall be properly maintained to ensure that all equipment is in working order and that all drugs and fluids are not outdated and are kept within environmental norms. The pharmacy inspection process shall inspect all kits on its routine schedule.

Any member requesting equipment for a POV jump kit must clear the request through their appropriate Chain of Command.

TRANSFER OF CARE RESPONSIBILITY & DELEGATION

- Generally, an EMS provider will remain with the patient and remain responsible for patient care until another licensed EMS provider of equal or higher training and capability receives an oral report and assumes responsibility for patient care.
- It will be the expectation that anytime a request for a SCFD Medic Unit intercept occurs, the SCFD unit will become the transporting unit and will release the requesting unit back into service upon transfer of patient care.
    - An exception to this guideline would be in the case of an MCI, even if a higher level of care is desirable, to ensure the greatest benefit for the greatest number of patients.
    - Inappropriate intercept requests will have a negative effect on the overall emergency system. If a Medic Unit is concerned regarding inappropriate requests for intercepts, a written QI request should be generated.
- EMT-Paramedics are not required to remain with a patient if ALS care has not been initiated, and is not warranted or required.
- An EMT-Paramedic may transfer care to an EMT-Intermediate level of care, if there is no reasonable expectation that the patient will require a higher level of care following a full patient assessment and examination. However, the EMT-Paramedic must realize they are ultimately responsible for overall patient care after their visual assessment.
- Transfer to a lower level of care is acceptable in a MCI, even if a higher level of care is desirable, to ensure the greatest benefit for the greatest number of patients.
- Law enforcement has NO AUTHORITY in transport decisions unless a law enforcement officer elects to take a patient into custody. The law enforcement officer is then responsible for ALL actions and decisions occurring as a result of their direct orders. Liability and system consequences should be clearly relayed to law enforcement officers and documented in the patient narrative. Whenever a conflict exists, contact Medical Control.
- EMS transport personnel will maintain in charge and control of the patient after arrival at the hospital until:
    - Proper unloading has occurred. EMS personnel are solely responsible for unloading. Hospital personnel should stay outside the ambulance unless assistance is required.
    - A full patient report is provided to the appropriate receiving personnel.

TRANSPORT GUIDELINES

- For most calls, scene times should be kept to a minimum. It is understood that extrication, weather conditions, safety factors or other on-scene problems may unavoidably delay transport. The best judgment of the senior EMS personnel present must be used to minimize delays without endangering any caregivers. On-scene law enforcement and fire suppression should be consulted if there is a concern for the safety of the caregivers.

Trauma Patients (see trauma designation guideline for definitions of Category 1, 2, and 3)

Category 1 – Transport as soon as possible via the most expeditious and safe method. If ground transport from time of initial patient contact will take more than 30 – 40 minutes, then contact Dispatch and request aeromedical support from one of the helicopter services.

- Attempt to limit the scene time to less than 10 minutes (exception is cases of prolonged extrication).
- Critical airway procedures should be performed at the scene if necessary.
- Spinal immobilization should not delay transport, unless there is no one to assist the primary caregiver once enroute.
- Less critical airway and IV procedures should be performed enroute unless awaiting transport.
- Early intercept for non-paramedic units.
- Transport to UNMH (Consider SRMC for locations north of MM 7 on Hwy 550 for complicated airway support) unless MCI guidelines are being followed.

Category 2 – Transport as soon as possible via the most expeditious and safe method. If ground transport from time of initial patient contact will take more than 30 – 40 minutes, then consider contacting Dispatch to request aeromedical support from one of the helicopter services.

Critical airway procedures should be performed at the scene if necessary.

- Spinal immobilization should be performed enroute unless awaiting transport.
- Less critical airway and IV procedures should be performed enroute unless awaiting transport.
- Early intercept for non-paramedic units.
- Transport to UNMH (Consider SRMC for locations north of MM 7 on Hwy 550 for complicated airway support) unless MCI guidelines are being followed.

Category 3 – Generally transport by ground unless multiple casualties or ground transport unavailable.

- Spinal immobilization should be performed at the scene.
- Airway procedures and IV's should be initiated enroute when possible.
- Transport to UNMH (Consider SRMC for locations north of MM 7 on Hwy 550 for complicated airway support) unless MCI guidelines are being followed.

Medical Patients – scene times should be kept to a minimum at all times.

- Procedures which are deemed critical should be initiated at the scene.
- Less critical procedures should be performed enroute when possible.

Medical patients may be transported via a helicopter service if the patient is critical and ground transport may take more than 30 – 40 minutes.

Air Transport - If it appears that ground transport will take more than 30 – 40 minutes, then consider air transport of serious and critical patients. Air transport may be of benefit in MCI situations as well. Do consider the local weather conditions when contemplating using the air services.

Rescue Unit Transport – on occasion it is necessary that registered medical rescue units transport patients. This is permissible and encouraged if in the best interests of the patients. The transporting vehicle must be configured as an ambulance with an enclosed patient compartment. There must be a minimum of one EMT-B in the patient compartment. Request ALS intercept anytime if the patient's condition warrants.

(Continued on next page)

ALS intercept – an Advanced Life Support intercept is necessary when a patient is transported by a rescue or ambulance needs care from a provider of a higher training level. The benefit should outweigh the risk of time delay and roadside danger.

- This should be arranged as far in advance as possible.
- A safe rendezvous location and time should be arranged over the radio directly or through dispatch.

Choice of Hospital

- Sandoval County, being primarily a rural setting, lends itself to long transport times. The patient's choice of hospitals will often take the transport unit out of service for a longer period of time without adequate coverage for its district. All efforts should be made to reasonably shorten the time at the hospital and return to district.
- Trauma patients should be categorized according to the trauma guideline and transported to appropriate facility as outlined.
- In cases of medical cardiac arrest, the patient should be transported to the closest facility capable of caring for the patient.
- Patients without a preference should be transported to the closest facility capable of treating the patient.

TRAUMA DESIGNATION ALGORITHM-

Category 1 Trauma Transport to a Level 1 or 2 Trauma center

Assess physiologic status

- Hemodynamic compromise - SBP <90 mmHg (Hypotension, pallor, tachycardia, or diaphoresis)
- Respiratory compromise(1) - Resp Rate of <10 or >29 breaths per minute (<20 in infant aged <1 year), or need for ventilator support.
- Unconscious or deteriorating mental status – GCS ≤ 13

Category 2 Trauma Transport to a Level 1 or 2 Trauma center

Assess anatomical injury

- All penetrating injuries to head, neck, torso, or extremities proximal to elbow or knee(2)
- Chest wall instability or deformity (i.e. flail chest)
- Trauma with burns of 10% or > or inhalation injuries
- 2 or more proximal long-bone fractures
- Crushed, degloved, mangled, or pulseless extremity
- Paralysis
- Amputation proximal to wrist or ankle
- Open or depressed skull fractures
- Pelvic fractures
- Altered mental status(3)

Category 3 Trauma Transport to any level Trauma center if NONE of the above criteria are present

- Assess mechanism of injury and risk for occult injury
  - Falls: Adults: >20 feet (one story =10 feet)
    Children: >10 feet or two to three times the height of the child
- High-risk auto crash
  - Intrusion, including roof: >12 inches occupant site; >18 inches any site
  - Ejection (partial or complete) from automobile
  - Death in same passenger compartment
  - Vehicle telemetry data consistent with a high risk for injury;
- Automobile versus pedestrian/bicyclist thrown, run over, or with significant (>20 mph) impact;
- Motorcycle crash >20 mph
- High-energy event of clinical significance(4,5)

Special Considerations – Consider transport to appropriate Trauma center if ANY of the following are present:

- Older Adults
  - Risk for injury/death increases after age 55 years
  - SBP <110 might represent shock after age 65 years
  - Low impact mechanisms (e.g., ground-level falls) might result in severe injury
- Children
  - Should be triaged preferentially to pediatric capable trauma centers
- Anticoagulants and bleeding disorders
  - Patients with head injury are at high risk for rapid deterioration
- Burns
  - Without other trauma mechanism: triage to burn facility
  - With trauma mechanism: triage to trauma center

(Continued on next page)

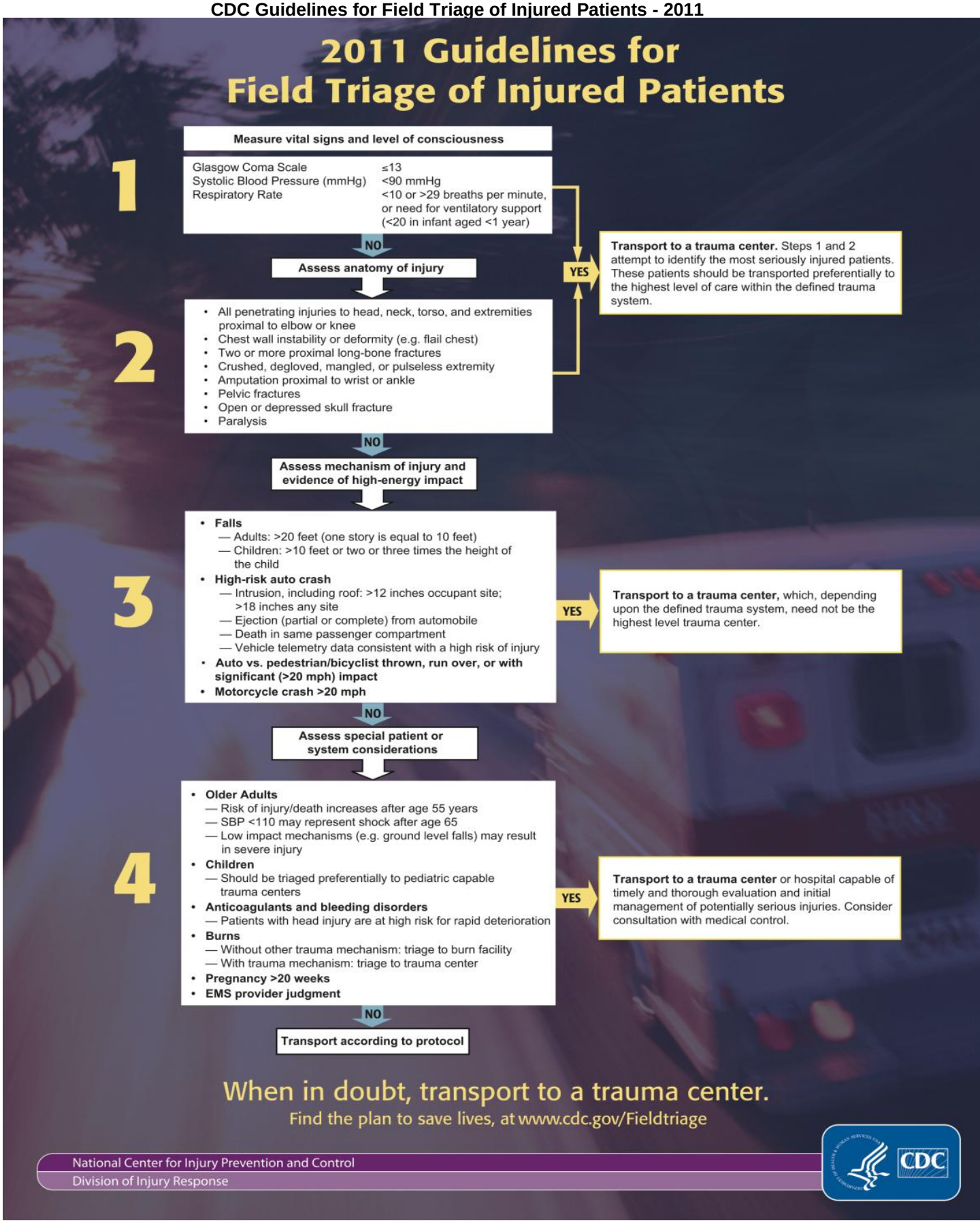
- Pregnancy >20 weeks

- EMS provider judgment

If the patient has none of the indicators listed for Category 1, 2, or 3, then the patient meets "non-category" trauma criteria and may be transported to the requested or closest facility

Footnotes

1. Tachypnea (hyperventilation) alone will not necessarily initiate this level of response
2. Non-life threatening, minor injuries excluded
3. Altered mental status (secondary to sedative or hypnotic will not necessarily initiate this level of response)
4. High-energy event of clinical significance = large release of uncontrolled energy to patient. These events may include rollover crashes, motorcycle, ATV or bicycle crashes, auto versus pedestrian impacts, significant assaults or altercations, or extrication times > 20 minutes. Assume patient is injured until proven otherwise (multi-system injuries may be present) and exercise clinical judgment considering direction and velocity of impact, patient kinematics, physical size and vehicle damage. Age and co-morbid factors/conditions should be considered in triage level decisions.
5. IF a patient with evidence of a high energy event of clinical significance but without any clinical signs or symptoms of injury refuses transport to the trauma center and requests another facility, the paramedic will contact the MCEP at the requested facility and follow their guidance.


2011 Guidelines for Field Triage of Injured Patients
1
Measure vital signs and level of consciousness
Glasgow Coma Scale ≤13
Systolic Blood Pressure (mmHg) <90 mmHg
Respiratory Rate <10 or >29 breaths per minute, or need for ventilatory support (<20 in infant aged <1 year)
NO
YES
Transport to a trauma center. Steps 1 and 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of care within the defined trauma system.
2
Assess anatomy of injury
All penetrating injuries to head, neck, torso, and extremities proximal to elbow or knee
Chest wall instability or deformity (e.g. flail chest)
Two or more proximal long-bone fractures
Crushed, degloved, mangled, or pulseless extremity
Amputation proximal to wrist or ankle
Pelvic fractures
Open or depressed skull fracture
Paralysis
NO
3
Assess mechanism of injury and evidence of high-energy impact
Falls
— Adults: >20 feet (one story is equal to 10 feet)
— Children: >10 feet or two or three times the height of the child
High-risk auto crash
— Intrusion, including roof: >12 inches occupant site; >18 inches any site
— Ejection (partial or complete) from automobile
— Death in same passenger compartment
— Vehicle telemetry data consistent with a high risk of injury
Auto vs. pedestrian/bicyclist thrown, run over, or with significant (>20 mph) impact
Motorcycle crash >20 mph
YES
Transport to a trauma center, which, depending upon the defined trauma system, need not be the highest level trauma center.
NO
4
Assess special patient or system considerations
Older Adults
— Risk of injury/death increases after age 55 years
— SBP <110 may represent shock after age 65
— Low impact mechanisms (e.g. ground level falls) may result in severe injury
Children
— Should be triaged preferentially to pediatric capable trauma centers
Anticoagulants and bleeding disorders
— Patients with head injury are at high risk for rapid deterioration
Burns
— Without other trauma mechanism: triage to burn facility
— With trauma mechanism: triage to trauma center
Pregnancy >20 weeks
EMS provider judgment
YES
Transport to a trauma center or hospital capable of timely and thorough evaluation and initial management of potentially serious injuries. Consider consultation with medical control.
NO
Transport according to protocol
When in doubt, transport to a trauma center.
Find the plan to save lives, at www.cdc.gov/Fieldtriage
National Center for Injury Prevention and Control
Division of Injury Response
CDC

Trauma & Medical designation – Christus St. Vincent's Hospital

Christus St. Vincent's Hospital in Santa Fe does not utilize the Category I, 2, 3 system. Instead, they simply refer to their trauma <u>and</u> medical patient's as Stable, Serious, or Critical as per below. Additionally, crews should refer to the Trauma Stat activation guideline in the Appendix for further direction on transporting trauma to Christus St. Vincent's Hospital

Medical and Trauma Designation Criteria

Stable - Patient is stable, with no apparent risk of developing a life-threatening or disabling condition. Non-emergent transport is appropriate.

Serious - Patient is at moderate risk of developing a life-threatening or disabling condition. Most circumstances will merit non-emergent transport.

Critical - Patient has a severe and acute life threatening or disabling condition. Immediate intervention is required. Emergency transport is at the EMS provider's discretion. Examples include penetrating and/or blunt trauma injuries to chest and/or abdominopelvic cavity with unstable vitals, or if patient presents with vitals indicating s/he is likely to deteriorate.

TRANSPORT-CAPABLE MEDICAL RESCUES

Designation of Condition: Emergency transport of a critically ill/injured patient to the nearest appropriate PRC certified ambulance service may be appropriate in the following conditions and only after all appropriate assessment and treatment modalities have been initiated.

- The nearest appropriate PRC certified ambulance provider must be greater than 15 minutes away in order to initiate transport. In no case should the ambulance be delayed for a rendezvous point.
- Indications for Use: The Medical Rescue vehicle must comply with the intent of Regulation 18.3.14 NMAC regarding minimum equipment requirements.
- Designation of Condition: Life threatening patient presentation including but not limited to:
    - Medical Cardiac Arrest*
    - Respiratory Arrest
    - Acute respiratory distress
    - Overdoses resulting in unconsciousness
    - Critical burns, as defined within the guidelines.
    - Multi-Systems Trauma with hemodynamic instability.
    - Penetrating Trauma to the head, neck, chest, abdomen
- A PRC certified ambulance service may elect to terminate resuscitation while the patient is still in the medical rescue. This could take the rescue out of service for the duration of any law enforcement/OMI investigation.
- Transporting a critical patient to a helicopter landing zone may be appropriate if the patient has one or more of the above conditions.(*exception)
- It is recognized that there may be an occasion during a high level MCI to have a medical rescue transport stable patients directly to a hospital.

SECTION 2 - TREATMENT GUIDELINES

ASSESSMENT GUIDELINES

A complete assessment up to the responder's capability includes the following, as appropriate:

- Level of consciousness
- Mental Status exam
- History of present injury or illness
- Pertinent past medical history
- Physical exam
- Lung sounds
- Cardiac monitor including 12 lead EKG (if available)
- Neurological exam, including pupillary reaction, coordination and general movement
- Vital Signs, including:
  - Respiratory effort, rate and depth
  - Pulse rate, strength, regularity, and site
  - Blood Pressure
  - Oxygen Saturation
  - BGL
  - CO
  - Temperature
  - Skin color / temperature
  - If available, capnometry/capnography
- Full documentation on appropriate EMS response form

PRIMARY MANAGEMENT

PERFORM COMPLETE ASSESSMENT TO LEVEL OF TRAINING

For all patients, ensure or establish AIRWAY PATENCY

ALL EMS PROVIDERS

- Positioning maneuvers
- Suction (oropharyngeal, nasopharyngeal, stoma)
- Nasopharyngeal airway
- Oropharyngeal airway
- Pertinent medical history

BLS AND ABOVE PROVIDERS

- Multi-Lumen Airway
- Extraglottic Airway Device insertion after appropriate training and sign-off

ALS PROVIDERS

- Suction (endotracheal)
- Laryngoscopic visualization
- Magill forceps manipulation
- Nasotracheal intubation (blind or visualized)
- Endotracheal intubation
- Stoma intubation
- Surgical Cricothyrotomy

For all patients, ensure and establish ADEQUATE VENTILATION & OXYGENATION

ALL EMS PROVIDERS

- Pulse Oximetry
- Administer Oxygen commensurate with level of respiratory distress
- Bag Valve Mask
- Time cycled Oxygen-powered ventilator
- Capnometry/Capnography

BLS AND ABOVE PROVIDERS

CPAP

ALS PROVIDERS

- Needle chest decompression

For all patients, ensure and establish ADEQUATE CIRCULATION

ALL EMS PROVIDERS

- Supine positioning
- Trendelenburg positioning
- CPR
- SAED
- Perform glucometry

BLS AND ABOVE PROVIDERS

- Initiate cardiac monitoring

(Continued on next page)

ILS AND ABOVE PROVIDERS

- Peripheral IV access, for fluid and/or medication administration
- Establishment of pediatric intraosseous (IO) vascular access as defined by State Regulations and current PALS
- Establishment of adult intraosseous (IO) vascular access

ALS PROVIDERS

- Utilize pre-existing vascular access as primary site, as necessary: ACLS as per specific guidelines, defined herein or per current ACLS.

ADMINISTERING A PATIENT'S OWN MEDICATIONS

BLS AND ABOVE PROVIDERS

Treatment indications: When it is deemed necessary that a patient is in need of their own specific medication. The medications allowed are: bronchodilators (such as albuterol inhalers) for acute bronchoconstriction, Epi-Pen for life threatening bronchoconstrictive conditions, and nitroglycerin for pain from suspected acute coronary syndrome. The only situation this guideline should be put to use is when (1) a caregiver arrives on scene and does not have these medications in their response pack, (2) the additional personnel who do have these medications are delayed, and (3) the delay is deemed detrimental to the patient.

Administering a patient's own medication may be performed only when the caregiver:

- Establishes that medications are the patient's, are not expired and that they are for the current appropriate complaint.
- Asks the patient if they have taken these or any other medication as of yet and if so, how much.
- Obtains a list of the medications that the patient is prescribed
- Obtains a complete set of vital signs
- CONTACT MEDICAL CONTROL. If the physician agrees, the EMTB may appropriately administer the medication.
    - If Medical Control contact is impossible, and the patient is suffering from a life threatening allergic or bronchial constriction process, and will benefit from the administration of the patient's Epi-Pen or bronchodilator, then the EMT may administer these drugs per the prescription instructions.
    - If the EMTB is considering the administration of nitroglycerin, the EMTB must have Medical Control contact. If this contact is impossible, nitroglycerin may not be administered.

EASY IO Guidelines

Treatment Indications: Patients where rapid, regular IV access is unavailable in the following situations:

- Cardiac arrest
- Respiratory failure and/or arrest
- Multi-system trauma with severe hypovolemia
- Severe dehydration with vascular collapse and/or loss of consciousness

Contraindications for use include:

- Fracture proximal to the proposed insertion site
- History of Osteogenesis Imperfecta (brittle bone disease)
- Current or recent infection at proposed insertion site
- Previous joint replacement at proposed insertion site
- Previous IO insertion/attempt within past 24 hours at proposed insertion site
- Inability to locate landmarks or excessive tissue

ILS AND ABOVE PROVIDERS

- The Easy IO should be your IO of choice in most patients for the services that have them. The Jamshidi IO Needle will be the primary device for those services that do not carry the Easy IO as well as being the back-up needle for those who carry the Easy IO.
- Providers may provide an initial flush of 1cc (20 mg) of 2% Lidocaine to the adult patient, infuse over 15-30 seconds, this is especially important in any conscious patient prior to infusing IV fluids; this will be followed by a 10 cc NS flush which may loosen up additional pain receptor sites; an additional 1 cc (20 mg) of 2% Lidocaine may be administered following the NS flush to help with any additional pain.
- Follow the treatment guidelines for when to use the IO's.

Adult patients – acceptable sites include:

- Humeral head
- Proximal Tibia
- Distal Tibia

Pediatric patients – acceptable sites include:

- Same as above for ALS Providers
- ILS providers may only use the proximal tibia in the pediatric patient as per current New Mexico Scope of Practice (2014 ver.)

AIRWAY MANAGEMENT

AIRWAY MANAGEMENT - INTUBATION

Treatment Indications: Paramedics should intubate patients who are apneic or severely hypoxic, and unresponsive to oxygen and basic airway maneuvers (jaw thrust, foreign body removal, etc.), who may have impending airway problems (facial burns, severe asthma, impending respiratory arrest, etc), or who cannot protect their airway (profound obtundation).

ALS PROVIDERS

- If the patient is extremely agitated for any reason (hypoxia, head trauma, etc), please refer to the Altered Mental Status – Agitation guideline (Page 56).
- The use of a Bougie is encouraged for all intubation to assist with successful initial placement.
- Immediately following intubation, the ET tube must be confirmed by at least three indicators and appropriately documented.

  Indicators include, but are not limited to the following:
  - Visualize tube passing through the cords, misting in the tube, bilateral equal breath sounds, absence of breath sounds over the epigastrium, use of bulb-syringe and/or Toomey syringe, pulse oximetry, equal chest rise, improving/stabilizing vital signs and skin condition.
  - EMS providers may use a Toomey/suction tip syringe or bulb syringe to verify tracheal placement of an ET tube or a MLA. If free air is easily drawn into the syringe, the ET tube is almost certainly in the trachea. Since the majority of MLA placements are in the esophagus, the esophagus will collapse around the tube preventing drawing of free air.
  - Continuous end-tidal CO_2 capnography must be initiated immediately following intubation (ET, MLA/LAD) of all patients. Numerical values and waveforms must be recorded on the EMS run report. Ventilation rate and depth should be adjusted to reflect optimal $ETCO_2$ values for each specific patient complaint.
- Once intubated, the patient should be ventilated with the Transport Ventilators available in the Medic Units.

  Set initial ventilator tidal volume based on 6-8 ml x weight in kilograms and initial rate of ventilations based on patient age (10-16 per minute for adult,) or look for gentle chest rise.
- Prior to releasing an intubated patient to a receiving hospital physician or respiratory therapist, the EMT-P must confirm & document tube placement and patency with receiving personnel and obtain signatures verifying from the receiving personnel.

AIRWAY MANAGEMENT (TRAUMA PATIENT)

Treatment Indications: The patient is unable to adequately maintain an airway in the presence of trauma.

ALL EMS PROVIDERS

- Establish Primary Management
- In-line manual spinal stabilization as appropriate

BLS AND ABOVE PROVIDERS

- Basic airway maneuvers to include the use of suction, bag-valve-mask ventilation, and the use of oropharyngeal and nasopharyngeal airways as appropriate.
- If the patient is not breathing and endotracheal intubation capability is not soon available, the neck should be stabilized with axial motion (in-line) restriction, and an Extraglottic airway inserted.

ALS PROVIDERS

- If the patient is not breathing adequately or is in respiratory arrest, the neck should be stabilized with axial motion restriction (in-line) and the trachea orally intubated without extension or flexion of the head.
- if the patient is agitated, refer to the Altered Mental Status – Agitation guideline (Page 56).
- In the unresponsive breathing patient, consider nasotracheal intubation if facial bones appear intact.
- If the attempt at an axially immobilized oral intubation is not successful, consider:
  - Nasotracheal Intubation (if breathing)
  - Extraglottic Airway
  - Surgical Cricothyrotomy

CRICOTHYROTOMY – VERTICAL APPROACH

Treatment Indications: Cricothyrotomy may be attempted on an unconscious adult patient with immediate life threatening airway compromise and when other modalities of airway management are ineffective or contraindicated. Cricothyrotomy may be the fastest, most efficient, and most effective way to secure the airway of a patient with severe burns to the airway or massive facial trauma. It is included in the Trauma – Airway Guideline as this procedure is most used in the presence of trauma. However, there are also medical situations where it may be appropriate.

ALS PROVIDERS

- Establish Primary Management
- Locate and identify cricothyroid membrane and prep with chlorascrub.
- Identify the thyroid cartilage and palpate the inferior border. The cricoid cartilage is the hard cartilaginous ring inferior to the thyroid cartilage. The cricothyroid membrane is situated between the two structures.
- Make a vertical incision through the skin over the cricothyroid membrane 2 - 3 cm in length with sufficient depth to expose the cricothyroid membrane.
- **Horizontally** puncture the membrane with the scalpel to facilitate access to the trachea.

Insert and maintain airway with a cuffed Endotracheal tube (in most adults, a 6 mm tube will suffice). Advance cuff 2 cm past the opening. Check for chest excursion and auscultate lung fields. Inflate cuff. Reassess (visualize, palpate, auscultate, check compliance).

Consider utilizing a bougie to facilitate ETT placement.

Confirm tube placement by required methods, including Capnography, and document.

Verify correct placement of tube by visualizing oropharynx to ensure tube is not misdirected.

Secure the tube and ventilate with high-flow Oxygen.

The EMS Chief and Medical Director will review all cricothyrotomy cases as soon as possible.

CONTINUOUS POSITIVE AIRWAY PRESSURE USE

Definition:

CPAP provides a non -invasive adjunct between the oxygen supply and the patient which helps to improve lung mechanics by improving pulmonary compliance and increasing pressure within the airway, assisting patient to reduce the work of breathing. CPAP also alleviates the need for intubation and the associated oropharyngeal trauma. CPAP associated with aggressive treatment has been shown to increase patient outcomes, decrease length of stay and decrease cost of care.

Indications:

- CHF with associated signs and symptoms of severe cardiogenic pulmonary edema with systolic blood pressures >90
- Drowning patients who are conscious and able to follow directions
- Severe dyspnea secondary to asthma, chronic obstructive pulmonary disease, and patients with severe pulmonary compromise who are awake and oriented, (GCS>10) and have the ability to maintain an open airway.

Contraindications:

- Severe Facial Trauma
- Respiratory or cardiac arrest
- Head trauma with SxS of increased intracranial pressure
- Profoundly diminished Level of Response
- Decreased Cardiac output and gastric distention
- Hypotension secondary to hypovolemia
- Vomiting or active G.I. bleed
- Penetrating chest trauma and Pneumothorax
- Explosive Barotrauma
- Suspected Pneumonia is a relative contraindication

Procedure:

- Follow the appropriate Respiratory Emergency guideline.
- Decrease work of breathing by placing patient in an upright & seated position.
- Continually assess vital signs, respirations and SPO_2,
- Set up the CPAP and lay out essential equipment
- Connect the oxygen supply and check system for leaks.
- Explain procedure to patient and reassure them as much as possible
- Assess patient and obtain correctly sized facemask and attach mask to tubing.
- Turn unit on and place mask on face of patient and secure in place. Readjust as needed to maintain a tight seal without leaks.
    - Start with device at lowest setting and titrate upward.
    - 0-2 cm/H_2O titrated up to 10cm/H_2O MAX for CHF, or 5cm/H_2O MAX for COPD, drowning, and respiratory failure from other causes.
- Continually assess patient for changes and needs for additional interventions, medications. Be prepared to intubate as required
- Patients with severe hypoxia and hypersensitivity to the mask may not tolerate CPAP procedure, and may require low dose sedation per the agitation guideline (Page 56).
- Monitor patient at all times. Do not leave patient unattended while CPAP is in place.

MEDICAL EMERGENCIES

PAIN MANAGEMENT

Treatment Indications: The patient will present with severe pain/discomfort from any of the following and have a minimum GCS of 11:

- Extremity injury
- Multisystem Trauma
- Burn(s)
- Chest Pain
- Recurrent or pain indicative of renal colic (kidney stone)
- Abdominal / flank pain

The patient must be thoroughly re-assessed after all doses and display adequate vital signs prior to re-administration. Generally speaking, Fentanyl and Morphine will not be given concurrently.

NOTE – All narcotic analgesic medications (morphine and fentanyl) shall be diluted with 0.9% Normal Saline in a 12cc syringe to make a 10cc solution prior to any administration to a patient IVP.

Field Treatment:

ILS PROVIDERS

- Fentanyl Hydrochloride for the following:
  - Extremity fractures and other extremity injuries as indicated in the specific guidelines (amputation, penetrating injury, etc).
  - Burns
  - Chest Pain
  - Recurrent or pain indicative of renal colic (kidney stone)
  - Abdominal / flank pain
  - Blunt, Penetrating, or Multi-system Trauma patients per the specific guidelines
  - Pediatric for isolated extremity injuries and burns:

- Fentanyl Dosing - Adult Dose: Titrate 0.5 – 1.0 mcg/kg increments slow IV push over 2 minutes, every 10 minutes to a maximum dose of 2.0 mcg/kg.

  Pediatric dose: Children 2 years of age and older may receive Fentanyl. The dosing is the same as adults: Titrate 0.5 – 1.0 mcg/kg increments slow IV push over 2 minutes, every 10 minutes to a maximum of 2.0 mcg/kg.

  Consider repeat dosing after 10 minutes at half the initial dose if needed to maintain therapeutic levels (MCEP approval is required if dosing beyond 2 mcg/kg).

- Special Consideration:
  - Fentanyl MA dosing – Fentanyl may be administered intranasally at a dose of 1-2 mcg/kg, without dilution, equally divided between each nare.

Fentanyl dosing in excess of 300 mcg will necessitate the use of capnography on the patient.

Or,

If the patient has a documented hypersensitivity to Fentanyl, Morphine Sulfate may be administered per the following guidelines:

- Morphine Sulfate 2 – 20 mg in 2 – 4 mg increments every 3 – 5 minutes for the following:
  - Extremity fractures and other extremity injuries as indicated in the specific guidelines (amputation, penetrating injury, etc).
  - Burns
  - Chest Pain

(Continued on next page)

- Recurrent or pain indicative of renal colic (kidney stone)
- Pediatric (less than 10 years of age) dosages for isolated extremity injuries and burns: 0.1 mg/kg, maximum incremental dosage of 2 - 4 mg to total maximum dose of 10 mg.
- Use caution with morphine in settings of potential hemodynamic instability as morphine will drop blood pressure. Always maintain vital signs and continually reassess.

- **If a SCFD paramedic is not on scene, the ILS caregiver must contact a MCEP for orders for Fentanyl or Morphine Sulfate, and administer as previously described.**

ALS PROVIDERS

- Fentanyl Dosing - Adult Dose: Titrate 0.5 – 2.0 mcg/kg increments slow IV push over 2 minutes, every 10 minutes as needed.

  Pediatric dose: Children 2 years of age and older may receive Fentanyl. The dosing is the same as adults: Titrate 1.0 – 2.0 mcg/kg increments slow IV push over 2 minutes, every 10 minutes.

  Consider repeat dosing after 10 minutes at half the initial dose if needed to maintain therapeutic levels

- Special Consideration:
  - Fentanyl MA dosing – Fentanyl may be administered intranasally at a dose of 1-2 mcg/kg, without dilution, equally divided between each nare.

  Fentanyl dosing in excess of 300 mcg will necessitate the use of capnography on the patient.

Or,

If the patient has a documented hypersensitivity to Fentanyl, Morphine Sulfate may be administered per the following guidelines:

- Morphine Sulfate: 2 – 20 mg in 2 – 4 mg increments every 3 – 5 minutes.

Special Consideration at the Paramedic level:

- Midazolam 1-2 mg, may be considered for patient comfort in the isolated trauma patient if you suspect muscle spasm is playing a role in the patients discomfort.

- Special Considerations for Midazolam administration:
  - Patient must be under age 65
  - Patient must be placed on capnography
  - 2 mg is the maximum dose without MCEP consult
  - Be prepared to provide ventilatory support to the patient

ABDOMINAL / FLANK PAIN

Treatment indications: Sudden onset of pain, demanding immediate medical or surgical treatment. Causes can include appendicitis, food poisoning, abdominal aortic aneurysm, gastritis, gall bladder problems, kidney stone, intestinal obstruction, ectopic pregnancy, ulcers, and ovarian cyst.

ALL EMS PROVIDERS

- Primary Management
- Maintain airway, O2 via nasal cannula if practical, especially if nausea and vomiting is present. Suction as necessary. If higher O2 flow is indicated, use as needed, keeping airway clear and watch for vomiting. Nothing by mouth.
- Place patient in POC, transport, ILS/ALS if needed.
- Gather patient history carefully. If woman is of childbearing age, suspect ectopic pregnancy.
- Watch for shock, treat and transport expeditiously.

ILS PROVIDERS

- 1 to 2 large bore IV's NS, titrate to maintain LOC, HR & end organ perfusion.
- For pain control, see pain management guideline (Page 47).

ALS PROVIDERS

- For pain control, see pain management guideline (Page 47).

ACUTE MOUNTAIN SICKNESS (AMS)

Treatment Indication: A condition due to hypobaric hypoxia. Acute Mountain Sickness may appear at altitudes as low as 6500 ft, and is characterized by headache, fatigue, nausea, dyspnea, sleep disturbance, and rapid, forceful heartbeat. Exertion aggravates the symptoms. Unless dehydration is severe or hyperventilation is excessive, AMS will often subside within a few days without treatment, and will certainly respond to basic level EMS care and descent from the higher altitude. However, altitude illness is a continuum, and can include the following complications.

Complications of AMS include the following life threatening conditions:

- High Altitude Pulmonary Edema (HAPE) – Caused by extracellular fluid shifts within the lungs. Signs and symptoms include: SOB, hypoxia, cyanosis, wet cough (rales/rhonchi), and possibly blood tinged sputum.
- High Altitude Cerebral Edema (HACE) – Caused by fluid redistribution resulting in cerebral edema, thought to be vasogenic, may be multi-factoral. Signs and symptoms include headache, nausea/vomiting, altered LOC, and syncope.

ALL EMS PROVIDERS

- Establish Primary Management
- Descend to a lower altitude
- Position of comfort
- Pulse Oximetry
- Oxygenation

- BLS AND ABOVE PROVIDERS
- CPAP if appropriate

ILS AND ABOVE PROVIDERS

- Advanced airway management as necessary, initiate IV NS, support vital signs as appropriate.
- CONTACT MEDICAL CONTROL. For patients with HAPE, Morphine may be effective, but is considered controversial due to the potential for respiratory depression.
- Consider transporting to a facility with a hyperbaric chamber. Hyperbaric chambers are located in both Albuquerque and Santa Fe.

  Hyperbaric chambers are available through Presbyterian DT and Christus St. Vincent's Hospital.

AIRWAY OBSTRUCTION

Treatment Indications: The patient is unable to maintain an airway due to a foreign body or other obstruction.

ALL EMS PROVIDERS

- Establish Primary Management
- Follow current CPR guidelines

ALS PROVIDERS

- If patient is unconscious, proceed to direct laryngoscope and remove the foreign body with Magill forceps.
- In adult patients, the provider may attempt to place an endotracheal tube in an attempt to push the object into a mainstem bronchus which may allow for some ventilation and oxygenation. In pediatric patients, only removal of the foreign body may be attempted on direct laryngoscopy.
- If unsuccessful and still unable to clear airway, Surgical Cricothyrotomy may be used as a last resort (Page 44).
- Medical control should be contacted as soon as possible but should not delay initiation of the procedure.
- In a patient with a tracheostomy whose tracheostomy tube has become dislodged, attempt to replace the tracheostomy tube immediately. If unsuccessful, place an appropriately-sized ETT through the tracheotomy.

ALLERGIC REACTIONS & ANAPHYLAXIS

Treatment Indication may include any or all of the following: Decreased blood pressure, weak rapid pulse accompanied by shortness of breath, upper airway swelling and/or wheezing triggered by an allergic reaction. Large (Urticarial) rash is usually present.

ALL EMS PROVIDERS

- Primary Management
- Initiate rapid transport
- Secure airway and administer oxygen per respiratory distress guideline (Page 72)
- Remove offending agent (e.g. – stinger) in appropriate manner (scrape, not tweezers)
- Do brief history and physical and check vital signs and lung sounds.

BLS AND ABOVE PROVIDERS

Remember that not all patients who are having an allergic reaction need Epinephrine therapy. Epinephrine should be administered only to those patients exhibiting the respiratory and/or cardiovascular effects of a severe allergic reaction and/or anaphylaxis.

- If the patient is in respiratory distress and/or cardiovascular compromise with SxS of shock:
  - Adult Epinephrine dose 1:1000 – 0.3 mg using the below guidelines.
  - Pedi (less than 30kg) Epinephrine dose 1:1000 – 0.15 mg using the below guidelines.
    - Administration of Epinephrine, 1:1000, no single dose greater than 0.3 ml, subcutaneous or intramuscular injection with a pre-measured syringe or 0.3 ml TB syringe for anaphylaxis or status asthmatics refractory to other treatments under on-line medical control. When on-line medical control is unavailable, administration is allowed under off-line medical control if the licensed provider is working under medical direction using approved written medical guidelines.
  - Repeat doses require online medical control.
  - Albuterol 2.5 – 5.0 mg nebulizer if wheezing present
  - CPAP as appropriate

<u>Cardiac monitoring is required for all patients receiving >0.6 mg Epinephrine and all patients receiving at least 10 mg of Albuterol meeting the above criteria.</u>

ILS PROVIDERS

Anaphylaxis/Severe Allergic Reaction with SxS of respiratory and/or cardiovascular compromise

- For significant respiratory distress or hypotension, administer Epinephrine 1:1000
- Adult: 0.3 mg 1:1000 SQ or IM
- Pediatric: 0.01 mg/kg SQ or IM (maximum 0.3mg).
- May repeat Epinephrine as needed q 3 - 5 minutes up to a maximum of three doses. Contact an MCEP if additional doses are needed.
- Establish an IV of NS and titrate to maintain systolic BP at least 90. This commonly requires 1 – 2 liters
- Benadryl 25 – 50 mg IV or IM may be given
  - Pediatric dosage – 1 - 2 mg/kg (maximum dose of 50 mg)
- Cardiac Monitor for rhythm documentation

If <u>only</u> wheezing is present with no complaint or evidence of upper airway involvement, go to Asthma Guideline (Page 72).

(Continued on next page)

For patients with SxS of a mild to moderate allergic reaction (hives, itching), with NO indications of respiratory compromise and/or cardiovascular compromise:

- Establish an IV of NS and titrate to the patient's vital signs
- Administer diphenhydramine 25 – 50 mg IV, IO or IM to the adult, or 1-2 mg/kg (maximum of 50 mg) to the pediatric patient.

ALS PROVIDERS

- Secure airway per airway management guideline, as needed (Page 42).
- For patients refractory to the above treatments, consider dexamethasone.
    - Dexamethasone:
        - Adults 10mg IV, IM, or PO
        - Peds 0.6 mg/kg IV, IM or PO
- Cardiac Monitor

If adult patient is perfusing too poorly to absorb the Epinephrine via SQ or IM, and/or continues to deteriorate with unresolved airway compromise or hypotension, administer Epinephrine 1:100,000 mg SIVP. To obtain Epi 1:100,000 discard 9 cc of Epinephrine 1:10,000 then replace this with 9 cc of NS. Titrate over 5 - 10 minutes SIVP, repeating once if necessary.

- For extended transports with a patient that is in severe respiratory distress refractory to above medications and who is approaching hypoxic respiratory failure, an Epinephrine infusion may be administered by mixing 1 mg of Epinephrine into 1L of Normal Saline (which creates a 1mcg/ml solution) and titrate at 5-30 ml/min to a systolic BP of 90. Dopamine (Intropin) can be administered concurrently with Epinephrine, as necessary for refractory hypotension, starting at 10 mcg/kg/min.
- If UNABLE to initiate isotonic IV, consider other appropriate routes of administration including Epinephrine IM or ET and/or Diphenhydramine (Benadryl) IM/IO.

ALTERED MENTAL STATUS – DEPRESSED LEVEL OF RESPONSE

Treatment indication: A depressed level of consciousness that may be due to head injury, drugs, hypoxia, stroke, or other metabolic problems.

ALL EMS PROVIDERS

- Establish Primary Management
- For inadequate respiration, proceed according to respiratory distress guideline (Page 72), initiating oxygen at the most appropriate rate and delivery method.
- Brief history and vital signs – May not be possible with patient who is actively seizing.
- DO NOT GIVE ANYTHING BY MOUTH UNLESS PATIENT IS CAPABLE OF SELF-ADMINISTRATION.
- Perform glucometry. If hypoglycemia is confirmed and patient is alert enough to self-administer, administer simple sugar – honey, orange juice with added sugar or oral glucose preparation.
- If the patient has altered mental status or is unstable in any way, maintain an airway, administer oxygen, begin transport and arrange ALS / ILS intercept.
- Restrain as necessary according to restraint guideline, and consider police involvement (Page 19).

BLS PROVIDERS

- Check blood glucose level.
- Administer Naloxone:
  - Adult:
    - IM / SQ: increments of 0.4 mg as needed to a total of 2 mg.
    - MA: 1 mg in each nare for a total of 2 mg. (A concentration of 2mg in 2cc of naloxone must be used for this route of administration)
    - Pediatric: Initial dose of 0.01 mg/kg, if ineffective then subsequent dosing at 0.1 mg/kg slow IV/IM/SQ/IO/MA (one half dose administered in each nare for MA) up to 2 mg.
  - Contact MCEP if a larger dose is required.
  - Naloxone is titrated to **adequate spontaneous respirations.**

ILS/ALS PROVIDERS

- Initiate IV of NS; titrate to maintain LOC, HR and end organ perfusion.
- If hypoglycemia is confirmed, administer Dextrose;
  - Adult Dose (for patients over the age of 8 y/o): 25 grams of Dextrose 50% SIVP if the patient's BGL is <60 mg/dl and associated signs of hypoglycemia exist. Titrate to the patient's mental status.
  - Pediatric: 1 gram/kg of D25% solution SIVP or IO if BGL is <70 mg/dl and other SxS of hypoglycemia exist.
    - To make D25%: discard 25 cc of the preloaded ampule of D50%, and replace it with 25 cc of normal saline, giving you 12.5 grams in 50 cc, or D25%. This should be used on patients 2 months to 8 years of age.
  - Neonate: 1 gram/kg of D10% SIVP or IO over twenty minutes.
    - To create D10%, discard 40 cc of the preloaded ampule of D50%, and replace with 40 cc of normal saline. This gives you 5 grams of dextrose in 50cc, or D10%.

Administer naloxone:

- Adult:
  - IM / SQ: increments of 0.4 mg as needed to a total of 2 mg.
  - MA: 1 mg in each nare for a total of 2 mg. (A concentration of 2mg in 2 cc of naloxone must be used for this route of administration)
  - Pediatric: Initial dose of 0.01 mg/kg, if ineffective then subsequent dosing at 0.1 mg/kg slow IV/IM/SQ/IO/MA (one half dose administered in each nare for MA) up to 2 mg.
- An additional 2.0 mg may be given if no response and propoxyphene (Darvon) overdose is suspected. (high doses may be required for synthetic narcotics).

(Continued on next page)

- In cases of suspected multi-substance abuse, consider administration of sufficient amount of medication to restore consciousness, following appropriate restraint/safety measures.
- Patient may awaken quickly and be combative. Consider law enforcement involvement; be prepared to restrain if needed.
- If still unresponsive, secure with a definitive airway (Extraglottic Airway).

ALS PROVIDERS

- Advanced airway management if needed (no gag reflex and not responding to medication).
- Monitor for cardiac changes.

NOTES:

- If the patient is known or suspected to have overdosed on narcotics, it is appropriate to try naloxone prior to ruling out hypoglycemia.
- The action of naloxone is shorter than most narcotics, so you may have to repeat naloxone enroute.
- Addicts may go into acute withdrawal when given naloxone, be prepared for nausea/vomiting and agitation.
- A dose (or two) of glucose will not harm diabetics in ketoacidosis.
- Patients in shock or diabetic ketoacidosis need volume support. Titrate fluids to the patient's vital signs.

ALTERED MENTAL STATUS – AGITATION

Treatment indication: A confused, agitated, and potentially harmful state resulting from any reason, which may include hypoxia, head injury, alcohol and other drug use, delirium secondary to another illness, metabolic disturbances, etc.

ALL EMS PROVIDERS

- Establish Primary Management
- For inadequate respiratory effort, proceed according to respiratory distress guideline (Page 72), initiating oxygen at the most appropriate rate and delivery method.
- Brief history and vital signs – May not be possible with patient who is agitated.
- DO NOT GIVE ANYTHING BY MOUTH UNLESS PATIENT IS CAPABLE OF SELF-ADMINISTRATION.
- Perform glucometry. If hypoglycemia is confirmed and patient is alert enough to self-administer, administer simple sugar – honey, orange juice with added sugar or oral glucose preparation.
- Maintain an airway, administer oxygen, begin transport and arrange ALS / ILS intercept.
- Restrain as necessary according to restraint guideline (Page 19), and consider police involvement.

BLS PROVIDERS

- Check blood glucose level if not done earlier.
- If respiratory effort is depressed, consider naloxone administration per the Depressed Altered Mental Status guideline (Page 54).
- If the patient's agitation appears to be due to hypoxia or head trauma, attempt to ventilate the patient with a BVM and 100% oxygen.

ILS PROVIDERS

- Initiate IV of NS; titrate to maintain LOC, HR and end organ perfusion.
- If hypoglycemia is confirmed, administer Dextrose per the Depressed Altered Mental Status guideline (Page 54).
- If the patient's respiratory status is diminished, administer naloxone and per the Depressed Altered Mental Status guideline (Page 54).

ALS PROVIDERS

- If the patient's agitation appears to be due to hypoxia, acidosis, head trauma, etc. and the agitation is thwarting efforts to assist the patient (i.e.: patient has non-purposeful movements, fighting oxygenation and ventilation, is at risk for attempting or attempting to pull IV lines, is combative and violent), then:
- Midazolam may be used if the Paramedic determines that sedation is crucial to adequately care for the patient.
- Adult: SIVP or IM up to 10 mg.
- Children: 0.05 mg/kg SIVP up to 5 mg
- If IV access is unavailable, or for crew safety utilize a mucosal atomization device to administer 10 mg of midazolam intranasally (MA)
  - Adult patient – 5 mg in each nare
  - Pediatric patient – 0.2 mg/kg split between each nare
    - Prepare to manage the airway and ventilation status of the patient, to include BVM or intubation with an ET or Extraglottic airway as needed with the benzodiazepine administration
- In the event of a national shortage of Midazolam, SCFD Medical Direction may approve the use of additional benzodiazepines for use in this Guideline.
  - Any implementation of additional medication usage will be issued and approved in written format by Medical Direction
- Contact MCEP for higher doses if needed
- Monitor for cardiac changes.

APPARENT LIFE-THREATENING EVENTS (ALTE) IN INFANTS

Designation of Condition: An episode that is frightening to the parent or caregiver and that is characterized by some combination of the following observations:

- Apnea (absence of breathing for at least 3 breaths and not simple gasping).
- Skin color change (Cyanosis or recognized paleness).
- Marked change in muscle tone (Unexplained rigidity or flaccidity).
- Unexplained choking or gagging (i.e., **Not** choking or gagging episodes that commonly occur with feeding or rhinorrhea). In some cases the observer has feared the infant had died, and initiated CPR.

An apparent life-threatening event (ALTE) describes a set of symptoms and is associated with a wide variety of illnesses, including: gastroesophageal reflux, pertussis, RSV infection, UTI, metabolic disorders, cardiac dysrhythmias, seizures, sepsis and child abuse.

The Majority of Infants with an ALTE will appear to be in no acute distress when evaluated by EMS personnel. Therefore the signs and symptoms noted by the caregiver should be considered credible, even when they do not match the observations of EMS providers.

ALL EMS PROVIDERS

- Field Assessment & Treatment:
  - Airway: Ensure it is clear and patent
  - Breathing: Evaluate Lung sounds. Record the respiratory rate. Evaluate work of breathing (Use of accessory muscles, Nasal flaring, Grunting). Obtain O2 sat. Apply O2 as indicated.
  - Circulation: Note skin color and capillary refill. Record pulse quality and rate. Initiate IV crystalloid if necessary. Apply monitor as indicated.
  - Neurological Status: Is the infant alert and appropriately interactive? If not check, blood glucose. Check pupils. Note abnormal muscle tone or movements.
  - Expose: Expose the infant. Look carefully for signs of trauma or rash.
  - Carefully record the signs and symptoms observed by caregivers
  - Parents / Guardians shall be strongly encouraged to allow EMS to transport the patient to an appropriate facility due to the high risk of other underlying factors

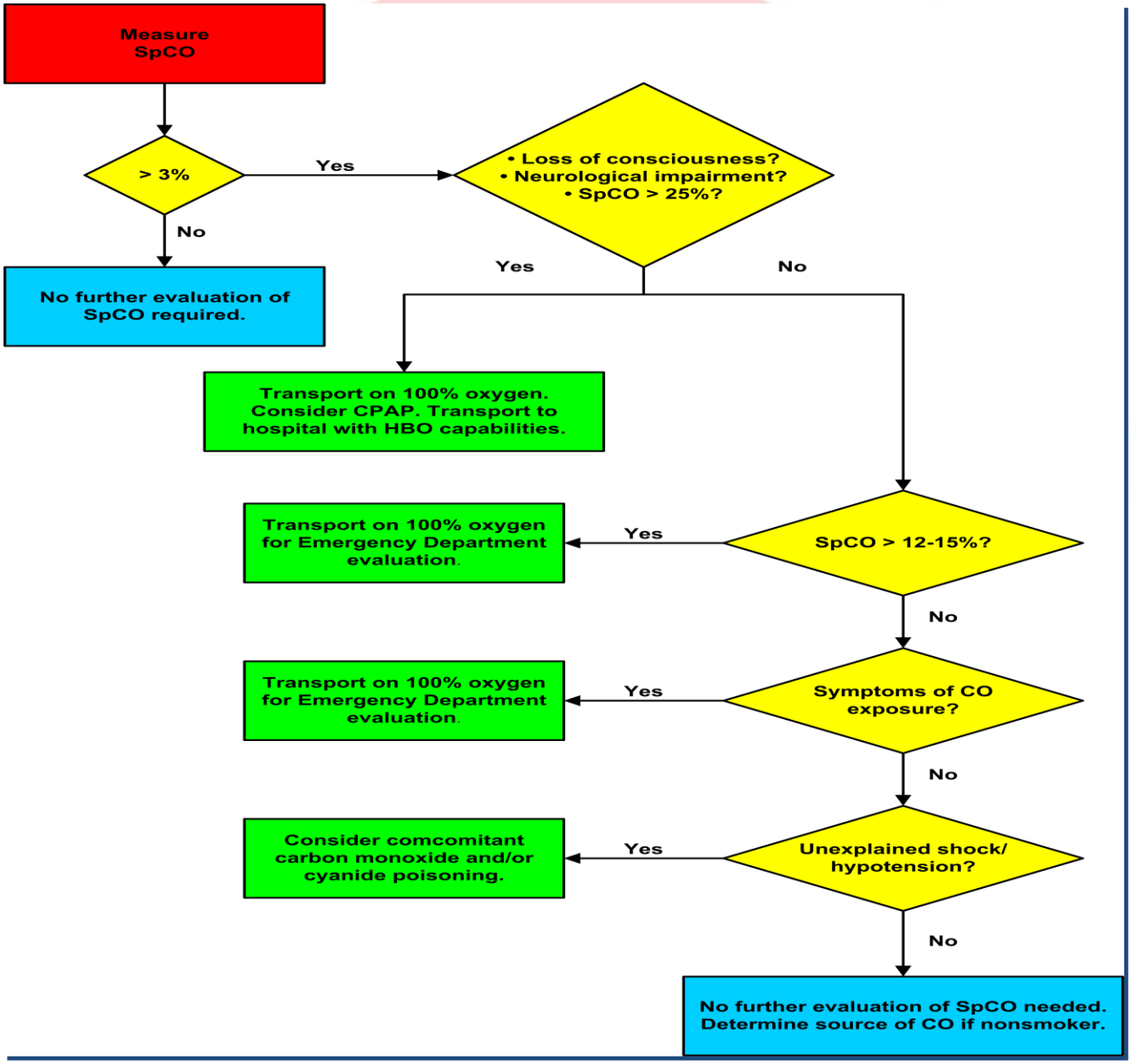
- **If parent / guardian refuses EMS transport, MCEP consult is required**

CARBON MONOXIDE INHALATION POISONING

Treatment Indications: Exposure to CO, headache, nausea, vomiting, cherry red skin (late sign), and flu like symptoms, may appear intoxicated. Pulse oximetry will not provide accurate readings for true oxygen saturation.

ALL EMS PROVIDERS

- Ensure scene safety (SCBA for responders if necessary), ventilate scene.
- Request a gas monitor and/or notify the appropriate utility company.
- Establish Primary Management, after patient removal.
- Monitor patient CO level with CO-oximetry and treat per algorithm below:



- Administer oxygen 15 lpm by non-rebreather mask or assist ventilations with 100% Oxygen via bag valve mask if any level of respiratory distress.
- Assure the safety of asymptomatic people at the scene prior to transport.
- All patients should be evaluated in the emergency department.

(Continued on next page)

ILS AND ABOVE PROVIDERS

- Initiate an IV NS, and titrate to the patient's hemodynamic and perfusion status.
- If wheezing is detected, consider:
  - Albuterol (Proventil) nebulizer for adults and children >8 yrs., 5.0-10.0 mg as needed, and 2.5 mg for children who appear to be <8 yrs. Some patients may need continuous nebulizer treatment during entire transport.
- Cardiac monitor

Consider transporting to a facility with a hyperbaric chamber. Hyperbaric chambers are available in both Albuquerque and Santa Fe.

- Patients known or who suspect to be pregnant shall be transported to a facility with Hyperbaric Chamber facilities as there is a much lower threshold to initiate treatment at that level
- Hyperbaric Chambers are available through Presbyterian DT and Christus St. Vincent's Hospital.

CROUP

Condition Information & Treatment Indications: Croup is a viral infection of the upper airway, most commonly occurring in pediatric patients 6 months to 4 years of age and is more prevalent in the fall and winter. Often, the child will have a mild cold or other infection, and do well until evening. Then the child will often develop the classic harsh, barking cough. Another form of croup called spasmodic croup occurs mostly in the middle of the night without any prior upper respiratory infection. Aside from the seal-like barking cough, the patient will often exhibit a low-grade (usually not more than 100 – 101°F or 37.8 – 38.3°C) fever, inspiratory stridor, nasal flaring, tracheal tugging, and retractions. If the croup is severe and progressive, the child may develop restlessness, tachycardia, and cyanosis. It is sometimes difficult to differentiate between croup and epiglottitis, so an exam of the oropharynx is prohibited. While croup can result in complete airway obstruction and respiratory arrest, this is extremely rare.

ALL EMS PROVIDERS

- Establish Primary Management
- Keep the child as comfortable as possible, which generally means in the arms of a parent.
- No invasive procedures unless lifesaving intervention is required.
- Humidify oxygen using a nebulizer set-up and a few milliliters of normal saline, and administer “blow-by” oxygen at about 6 lpm. If at all possible, the parents should assist.
- Allow child to assume position of comfort.
- Notify receiving facility ASAP.

BLS/ILS PROVIDERS

- If the attack is moderate to severe and there is wheezing present, initiate a “blow-by” 2.5 mg albuterol nebulizer.
- Wheezing can be distinguished from referred upper airway noise by placing stethoscope in front of the child’s mouth and assessing whether or not the sound heard when doing this is the same sound heard when auscultating the chest

ALS PROVIDERS

- If the nebulized NS and/or albuterol are not effective and patient is in significant respiratory distress, mix 1 mg (1cc) of Epinephrine 1:1000 in 3 cc of normal saline, and administer via nebulizer. The caregiver may repeat this once after twenty minutes if the patient is severe and did not significantly improve after the first administration.
- If ventilating the patient becomes necessary, a gentle two-person ventilation technique may be effective.

DIABETIC EMERGENCIES

Treatment indication: Patient with signs & symptoms or history of hypoglycemia or hyperglycemia, which may include diabetics on insulin and/or oral agents, and patients with a history of chronic alcohol use. A complete assessment including past medical history, history of present illness, a primary and secondary physical exam, and particularly blood glucometry with documentation of hypoglycemia should be completed prior to administration of Dextrose. If a glucometer is not available and there is a strong suspicion of a hypoglycemic episode, proceed with the Hypoglycemia guideline. All attempts should be made to transport any patient that requires EMS intervention.

ALL EMS PROVIDERS

- Establish Primary Management
- History and physical assessment, to include blood glucometry.
- DO NOT GIVE ANYTHING BY MOUTH UNLESS PATIENT IS CAPABLE OF SELF- ADMINISTRATION.
- If hypoglycemic, administer simple sugar – honey, orange juice with added sugar or 15 gram oral glucose preparation.
- If the patient has altered mental status or is unstable in any way, maintain an airway, administer oxygen, begin transport and arrange for ALS/ILS intercept.

BLS AND ABOVE PROVIDERS

- Assess blood glucose level if not done by previous providers.

ILS/ALS PROVIDERS

- Initiate IV/IO of NS, titrate to maintain LOC, HR & end organ perfusion.
- **IF HYPOGLYCEMIC**, Administer Dextrose:
  - It is highly important for the provider to ensure the IV is patent so as to not cause necrosis of the tissues with administration of dextrose.
  - Adult Dose (for patients over the age of 8 y/o): 25 grams of Dextrose 50% SIVP if the patient's BGL is <60 mg/dl and associated signs of hypoglycemia exist. Titrate to the patient's mental status.
  - Pediatric: 1 gram/kg of D25% solution SIVP or IO if BGL is <70 mg/dl and other SxS of hypoglycemia exist.
    - To make D25%: discard 25 cc of the preloaded syringe of D50%, and replace it with 25 cc of normal saline, giving you 12.5 grams in 50 cc, or D25%. This should be used on patients 2 months to 8 years of age.
  - Neonate: 1 gram/kg of D10% SIVP or IO of over twenty minutes.
    - To create D10%, discard 40 cc of the preloaded syringe of D50%, and replace with 40 cc of normal saline. This gives you 5 grams of dextrose in 50cc, or D10%.
- If the patient regains consciousness and can maintain their airway, give oral carbohydrates.
- Continue with IV or IO attempts if patient does not regain consciousness.
- Watch for nausea, vomiting, hypotension and/or anaphylaxis.
- Follow dextrose administration with oral carbohydrates as soon as the patient is capable

- **IF HYPERGLYCEMIC**
  - If glucometry reading is greater than 300 mg/dl, lung fields are clear and patient does not have a history of pulmonary edema or congestive heart failure:

ALL EMS PROVIDERS

- Establish Primary Management

ILS PROVIDERS

- IV bolus as necessary to support vital signs. Bolus in 250 cc increments, for adults and 20cc/kg increments for pediatric patients, re-evaluate LOC, VS, and lung sounds between boluses.

ALS PROVIDERS

- Advanced airway management as needed.

NOTE: Contact MCEP when dextrose is given and patient refuses transport. All efforts must be made to transport when EMS interventions have been initiated.

EPIGLOTTITIS

Condition Information and Treatment Indications: Epiglottitis is an acute infection and inflammation of the epiglottis and surrounding tissue & structures. It is usually caused by a bacterial infection, predominantly H. Influenza type B. Because of the availability of a vaccination for this bacterium, incidence in children has become rather unusual in the United States. In fact, epiglottitis is now seen more in adults than children, by a margin of over 2:1. Patients with epiglottitis will generally present with an extremely sore throat, difficulty swallowing, and drooling. Fever often accompanies these symptoms, and in children, there is usually no history of a previous upper respiratory infection. When severe, the patient will be stridulous and in respiratory distress. Particularly with children, consider foreign body aspiration in your differential diagnosis.

ALL EMS PROVIDERS

- Establish Primary Management
- If the patient is a child, make all attempts to keep the child with a parent.
- Perform NO invasive procedures unless lifesaving intervention is required.
- Administer humidified oxygen, using a nebulizer and 3 – 5 cc's of normal saline; for children, do this only if it does not upset the child.
- Allow the patient to assume their position of comfort.
- Notify receiving facility ASAP.
- Bronchodilators are not indicated, unless wheezes (not stridor) are auscultated.

ALS PROVIDERS

- If the patient is deteriorating, administer Epinephrine 1:1000 1 cc in 3 cc of normal saline via nebulizer for pediatrics and adults up to age 35. CONTACT MEDICAL CONTROL for adults >35 years old.
  - This treatment, while effective for croup, has not proven to be as effective for epiglottitis. Do not expect dramatic improvement, and if the patient is deteriorating, prepare to provide airway and ventilatory support.
- If ventilating the patient becomes necessary, a gentle two-person ventilation technique has proven to be effective.
  - If complete occlusion occurs, it may be necessary to proceed to surgical cricothyrotomy for patients who are at least 13 years of age.

EXTRA-PYRAMIDAL REACTIONS

Treatment Indication: A response to a particular medication, typically a phenothiazine (Phenergan, Thorazine) or a butyrophenone (Haldol, droperidol) marked by acute dystonia (muscle spasms) or akathisia (motor restlessness).

ALL EMS PROVIDERS

- Establish Primary Management

ILS AND ABOVE PROVIDERS

- Enroute, initiate an isotonic IV. Titrate to maintain LOC, HR, and end organ perfusion.
- If altered LOC, assess Blood Glucose Level

ALS PROVIDERS

- Administer Diphenhydramine 25 – 50 mg IVP or IM
    - Pediatric dose is 1 - 2 mg/kg IVP or IM

FAINTING / SYNCOPE

Treatment Indications: Patient experiences a sudden loss of consciousness. A thorough history is vital as it may lead the EMS care provider to the source of the problem. Syncope is almost always a result of another medical emergency, and should be considered a cardiac event until ruled out through thorough assessment. Look for the underlying complaint or signs.

ALL EMS PROVIDERS

- Establish Primary Management
- Detailed past medical history and history of present illness is required.
- Obtain base line vital signs, including orthostatics, if possible.
    - The American Autonomic Society (AAS) and the American Academy of Neurology (AAN) define orthostatic hypotension as a systolic blood pressure decrease of at least 20 mm Hg or a diastolic blood pressure decrease of at least 10 mm Hg within three minutes of standing up. Clinical decisions should be guided more by symptoms of decreased cerebral perfusion than by absolute blood pressure or heart rate measurements.
- Consider cardiac monitoring.

BLS AND ABOVE PROVIDERS

- Assess blood glucose level

ILS/ALS PROVIDERS

- Initiate isotonic IV, titrate to maintain LOC, HR & end organ perfusion.
- Complete all appropriate ALS level assessments (12 Lead, etc).

FEVER

Treatment Indication: Fever is a natural body response primarily to infection, but should last a relatively short period of time. Rapid temperature elevation in children may cause febrile seizures.

It is important to distinguish fever from an infection versus hyperthermia from environmental exposure, or even malignant hyperthermia from certain medications or illicit drugs. In fever caused by infection, the hypothalamus is telling the body to produce heat, a defense mechanism used to defeat the infectious agent. Acetaminophen resets the body's thermostat, thus lowering the fever. In environmental or malignant hyperthermia, or in extreme fever associated with infection (>105 degrees Fahrenheit), proceed with aggressive cooling measures.

ALL EMS PROVIDERS

- Establish Primary Management
- If temperature > 101.5 degrees Fahrenheit (38.6 Celsius) or if patient feels extremely hot, responders may apply cool moist towels to the body to slowly lower the temperature. Do not make the patient shiver.
- If conscious and alert, patient may drink fluids.

BLS PROVIDERS AND ABOVE PROVIDERS

- ALS intercept required only if decreased LOC or history of seizure.
- For pediatric patients with fever due to a suspected infectious cause, acetaminophen (Tylenol and other commercial preparations) in liquid form may be administered per the label's instructions, especially for transport times over 20 minutes. Patient must be alert, have a gag reflex and not be allergic to acetaminophen.
    - Acetaminophen dose: 15 mg/kg.

ILS AND ABOVE PROVDERS

- If signs of dehydration or shock potential are present: enroute, initiate IV of NS, titrate to maintain LOC, HR and end organ perfusion.
- If febrile seizures occur, follow seizure guideline (page 75) and gently cool patient by whatever reasonable means possible, but do not use cold IV fluid.

ALS PROVIDERS

- Treat recurrent seizures per the seizure guideline (page 75).

HYPERVENTILATION SYNDROME

Treatment Indications: Patient with rapid, deep respiration, anxiety, dyspnea and sometimes numbness or cramping of hands and around mouth. Although this may result from severe anxiety, other life-threatening conditions cannot be excluded.

ALL EMS PROVIDERS

- Establish Primary Management
- DO NOT use rebreathing therapy (e.g. breathing into a paper bag).
- Maintain high index of suspicion for true hypoxia and do a thorough history and physical exam. Apply a pulse oximeter.
- Administer at least 2 – 4 lpm of oxygen by nasal cannula initially, and then increase to a partial or non-rebreather mask at 10 - 15 lpm if necessary.
- Reassure patient and attempt to coach patient to breathe slower.
- A decision to not transport should be made only after consultation with MCEP.
- Consider ALS intercept.

ALS PROVIDERS

- Consider applying the nasal cannula ETCO2.
- Upon thorough ALS provider assessment and evaluation, a refusal by a conscious, alert and appropriately responding patient may be accepted without MCEP consultation. All parameters of the standard refusal process must be followed (patient understands consequences after having the refusal statement read to them, etc).

NARCOTIC OVERDOSE (KNOWN OR SUSPECTED)

ALL EMS PROVIDERS

- Establish Primary Management
- Consider scene safety/law enforcement
- This patient requires, as a minimum, ILS Provider level of care
- Take samples of suspected agent to hospital if available

BLS AND ABOVE PROVIDERS

- Assess blood glucose level
- Naloxone (Narcan)
  - Adult:
    - IM / SQ: increments of 0.4 mg as needed to a total of 2 mg.
    - MA: 1 mg in each nare for a total of 2 mg.
    - Pediatric: Initial dose of 0.01 mg/kg, if ineffective then subsequent dosing at 0.1 mg/kg slow IV/IM/SQ/IO/MA (one half dose administered in each nare for MA) up to 2 mg.
- Contact MCEP if a larger dose is required.
- Naloxone is titrated to adequate spontaneous respirations, not necessarily to the patient's level of response
- If patient's respiratory rate and volume do not improve despite naloxone administration, secure the airway with the most appropriate definitive airway (Extraglottic Airway).

ILS AND ALS PROVIDERS

- Initiate IV of NS & titrate to maintain LOC, HR and end organ perfusion.
- Naloxone
  - Adult:
    - IV/IM/IO/SQ: increments of 0.4 mg as needed to a total of 2 mg.
      or
    - IM: 2 mg may be given as an initial loading dose.
    - An additional 2.0 mg may be given if no response and propoxyphene (Darvon) or other synthetic opiate overdose is suspected.
    - MA: 1 mg in each nare for a total of 2 mg.
  - Pediatric:
    - Initial dose of 0.01 mg/kg, if ineffective then subsequent dosing at 0.1 mg/kg slow IV/IM/SQ/IO/MA (one half dose administered in each nare for MA) up to 2 mg.
  - Contact MCEP if a larger dose is required.
- **Patients receiving Naloxone must be transported, even if they would otherwise meet the mental status criteria for refusal once they have regained consciousness.**
- In cases of suspected multi-substance abuse, consider administration of sufficient amount of medication to restore consciousness, following appropriate restraint/safety measures.
- Patient may awaken quickly and be combative. Consider law enforcement involvement; be prepared to restrain if needed (Page 19).
- If still unresponsive, secure with a definitive airway, Extraglottic or for ALS providers, ETT.
- If prompt improvement does not occur, see guideline for Unconscious/Unresponsive (Page 80).
- Cardiac monitoring, treat as appropriate.

NAUSEA

Treatment Indications: The patient will complain of significant nausea and/or vomiting due to a number of different potential causes.

- Establish Primary Management

ILS AND ABOVE PROVIDERS

- Initiate isotonic IV and titrate to maintain LOC, HR, and end organ perfusion.
- Administer:

  Zofran (Ondansetron HCl)

  Adult dose - 8 mg oral tablet(s) or IVP

  - IV Ondansetron may be used if the vomiting patient is unable to accept the tablet
  - Pediatric dose (Age 4-11): 4 mg
  - Avoid administration if patient on apomorphine

Any administration outside of this guideline, including administration for pediatric patients, requires on-line medical direction (MCEP).

ORGANOPHOSPHATE EXPOSURE

Treatment Indication: Evidence of ingestion, inhalation or injection of an organophosphate substance.

- **S** = Excessive Salivation
- **L** = Excessive Lacrimation (tearing)
- **U** = Urination
- **D** = Defecation
- **G** = Gastric irritability
- **E** = Emesis
- **M =** Miosis

ALL EMS PROVIDERS

- Use caution not to expose self to substance
- If decon is needed, ensure appropriately trained personnel are performing
  - Some instances only require the patient to remove clothing or brush materials from the body
- Ensure early notification of receiving facility
- Establish Primary Management

ILS AND ABOVE PROVIDERS

- Initiate isotonic IV; titrate to maintain LOC, HR and end organ perfusion.

ALS PROVIDERS

- If patient presents with signs and symptoms indicative of an organophosphate ingestion/overdose (SLUDGEM), administer Atropine Sulfate 1 mg q 1 - 3 minutes up to 6 mg; Titrate to drying of secretions.
- Consider scene safety. Assess for the possibility of bioterrorism
- Consider contacting additional EMS units for potential additional doses of Atropine.
- **CONTACT MCEP** for additional Atropine Sulfate orders.

POISONING / OVERDOSE / TOXIC INGESTION

Treatment Indication: Patient presents with signs, symptoms and history suggesting exposure to poisons or overdose. Take any drugs (Prescription and OTC) or containers to hospital with the patient.

ALL EMS PROVIDERS

- Identify substance and estimate amount and time ingested, inhaled or injected
- Identify if the patient has vomited
- Identify when the patient last ate (if able)
- If altered LOC, assess Blood Glucose Level
- Cardiac monitoring, if available
- See Narcotic Overdose if suspected, (Page 67).
- If Tricyclic Antidepressants are suspected, ALS intercept is required

Note: New Mexico Poison Control is NOT recognized as ON-LINE Medical Control. Poison Control does have a value in identifying certain medications/substances and providing treatment guidelines to the receiving facility.

ILS AND ABOVE PROVIDERS

- Initiate isotonic IV; titrate to maintain LOC, HR and end organ perfusion.
- See TCA guideline if suspected (Page 79).

ALS PROVIDERS

- Additionally, in symptomatic Calcium Channel Blocker overdose exhibiting hypotension (unresponsive to fluid bolus) and/or dysrhythmias may benefit from an administration of Calcium Chloride 10% 10 ml SIVP over 10 minutes (if transport time still exceeds 15 minutes). **(Not for patients on Digoxin)**
- **Treat vital sign abnormalities symptomatically. Consider transcutaneous pacing for severe bradycardia, or the initiation of vasopressor therapy for profound hypotension if unresponsive to fluid boluses**

PSYCHIATRIC EMERGENCIES

Treatment Indication: The patient will be alert, but may have other mental status alterations, such as: disorders of perception and thought, inappropriate situational behavior, appearance and attitude, abnormal affect or mood, poor insight and poor judgment, and disordered speech or speech content. Signs and symptoms may include: depression and suicidal behavior/ideation, hallucinations, pressured speech, loose associations, racing thoughts, grandiose or paranoid ideation, delusions, hysteria, extreme anxiety, or any other aggressive actions that could cause harm to the patient or others.

Field Treatment:

- Establish Primary Management
- Make sure the scene is safe
- Approach the patient in a calm, slow, reassuring and honest manner. Multiple people attempting to intervene may increase the patient's confusion and agitation.
- Protect the patient from injury. Involuntary restraint should be considered if indicated by patient behavior and if necessary to render care and protect rescuers. Refer to "Involuntary Emergency Transport" (Page 19) & the "Agitation" guidelines (Page 56).
- Remove patient from stressful environment if possible. Remember psychiatric episodes can be extremely difficult for the patient and their families.
- Be sure to consider and treat all possible trauma/medical causes for aberrant behavior per guidelines. Be aware that medical illnesses including hypoglycemia, hypoxia, stroke, head injury, CNS infection, etc. may mimic psychiatric illness. Do not assume the patient's condition is purely psychiatric.
- All patients will be assessed and evaluated by EMS regardless of transport status.
- Patient Exam: ABC's, Vital signs, and a thorough medical and psychiatric history. (Including all current medications), O2, IV and monitor as necessary. Do not agitate or irritate the patient with a prolonged exam.

Consider transporting directly to a mental health facility if the following conditions apply:

- Patient has no signs or symptoms of a concomitant acute or chronic medical illness or injury, and has a history of a psychiatric illness which is consistent with current presentation, and/or:
  - Prior acceptance of patient has been arranged by a mental health facility.
  - After consultation with MCEP of the receiving facility a joint decision is made that the patient does not require an ED evaluation and that the patient is appropriate for transport to a mental health facility.
  - Law Enforcement officers may transport directly to a mental health facility if vital signs fall within stated parameters and the paramedic does not suspect any other underlying traumatic or medical causes.

    Vital signs parameters

    - HR of 60-90
    - RR of 12-25
    - O2 SAT. >90%
    - Systolic BP 90-150
    - BGL 70-200
    - In all other situations, providers will transport psychiatric/mental patients directly to the emergency department for evaluation.

RESPIRATORY DISTRESS – ASTHMA

Treatment Indication: Constriction of the small airways of the lungs, increased mucus secretions, dehydration and wheezing. The patient almost always has a history of asthma and is suffering some degree of dyspnea. Physical exam reveals respiratory distress, decreased air movement and wheezing. Wheezing may not be present. Lack of wheezing with decreased breath sounds is often a sign of impending respiratory arrest.

ALL EMS PROVIDERS

- Establish Primary Management
- If the patient does not appear to be improving after simple treatment or condition appears severe enough to warrant a more advanced procedure, initiate Continuous Positive Airway Pressure at a target pressure of about 5 cmH_2O for adult patients. This may be combined with an in-line nebulizer of Albuterol.

BLS PROVIDERS

- For the patient with wheezes and SOB:
  - Adult - Albuterol 2.5 – 5.0 mg; Pediatric (< 40 kg), 2.5 mg. Repeat doses require MCEP approval,
    - Or

    Adult – (>12 y.o.) Ipratropium (Atrovent) 0.5 mg with prediluted Albuterol 2.5 mg – 5.0 mg. Repeat doses require MCEP approval.
  - Providers are encouraged to deliver nebulized Albuterol via assisted ventilation for patients who are unable to provide effective respiratory exchange.
  - Do not delay on-scene care waiting for the medication to take effect.

If asthma attack is severe and life threatening (e.g. cyanosis, inability to speak, impending respiratory arrest, unresponsive to Albuterol, silent chest, poor SaO_2):

Administer Epinephrine 1:1000 per the following:

- Adult Epinephrine dose 1:1000 – 0.3 mg using the below guidelines.
- Pedi (less than 30kg) Epinephrine dose 1:1000 – 0.15 mg using the below guidelines.
  - Administration of Epinephrine, 1:1000, no single dose greater than 0.3 ml, subcutaneous or intramuscular injection with a pre-measured syringe or 0.3 ml TB syringe for anaphylaxis or status asthmaticus refractory to other treatments under on-line medical control. When on-line medical control is unavailable, administration is allowed under off-line medical control if the licensed provider is working under medical direction using approved written medical guidelines.
  - Repeat doses require online medical control.
- CPAP as appropriate

Cardiac monitoring is required for all patients receiving >0.6 mg Epinephrine and all patients receiving at least 10 mg of Albuterol meeting the above criteria.

ILS AND ABOVE PROVIDERS

- Consider initiating isotonic IV at a rate of 250 – 500 cc per hour; titrate to maintain LOC, HR and end organ perfusion. Dehydration is often a component of asthma, contributing to the mucus plugging that occurs, and fluid administration may be helpful.
- Albuterol nebulizer:
  - Children who appear to be < 8 years, 5.0 mg
  - Adults and children > 8 years, 5.0 - 10.0 mg, as needed. Repeat 5.0 mg per nebulizer treatment as necessary, with cardiac and vital sign monitoring for toxicity. Some patients may need continuous nebulizer treatment during entire transport.
  - Or
  - Adult – (>12 y.o.) Ipratropium (Atrovent) 0.5 mg with prediluted Albuterol 2.5 mg – 5.0 mg. Repeat doses require MCEP approval.
- If not done before, and the patient is in extreme distress/status asthmaticus, administer 0.3 mg Epinephrine 1:1000 IM to the adult patient, and 0.01 mg/kg Epinephrine 1:1000 IM to the pediatric patient (less than 40 kg). This may be repeated as needed q 3 - 5 minutes up to a maximum of three doses. Contact an MCEP if additional doses are needed.

(Continued on next page)

ALS PROVIDERS

- Mix prediluted 0.5 mg Ipratropium with prediluted Albuterol 5.0mg for first ALS administered nebulizer.
- Follow Epinephrine 1:1000 IM administration as above.
- $ETCO_2$ monitoring should be initiated.
- For patients refractory to the above treatments, consider dexamethasone and magnesium sulfate.
  - Dexamethasone:
    - Adults 10mg IV, IM, or PO
    - Peds 0.6 mg/kg IV, IM or PO

    and
  - Magnesium Sulfate:
    - Administer 2 Gm $MgSO_4$ diluted in 50 – 100 cc slow IV push over several minutes.
  - For extended transports with a patient that is in severe respiratory distress refractory to above medications and who is approaching hypoxic respiratory failure, an Epinephrine infusion may be administered by mixing 1 mg of Epinephrine into 1L of Normal Saline (which creates a 1mcg/ml solution) and titrate at 5-30 ml/min to a systolic BP of 90.

- If patient agitation is interfering with treatments, refer to the Altered Mental Status-agitation guideline (Page 56).

- Additionally, if patient is intubated, asthmatics should not be hyperventilated, and SaO_2 should be maintained at 92% or greater with controlled ventilation.

RESPIRATORY DISTRESS – COPD/PNEUMONIA

Treatment Indications:

- COPD – shortness of breath, often accompanied by wheezing, rales, and rhonchi. This patient usually has a long history of smoking and may be on home oxygen.
- Pneumonia, CHF, pulmonary contusion, and partial airway obstruction are other causes of respiratory distress. It may be difficult to distinguish between these in the field but their treatment is similar.

ALL EMS PROVIDERS

- Establish Primary Management
- Position of Comfort
- Apply Oxygen at 2 – 4 LPM and apply a pulse oximeter. The level of oxygen should be increased to 10 – 15 LPM as necessary using partial rebreather mask.
- Brief history and physical with emphasis on breath sounds.
- Oxygen should not be withheld in the severely ill patient out of fear of respiratory arrest if high oxygen requirements are necessary. Be prepared to assist ventilations with a bag valve mask if respirations are >30 or <10 or if the patient is in moderate to severe distress. Administer supplemental oxygen to a goal spO2 of >90%
- Initiate rapid transport and ILS/ALS intercept.

BLS PROVIDERS AND ABOVE

- For the patient with wheezes and SOB:
  - Adult - Albuterol 2.5 mg – 5 mg; Pediatric (< 40 kg), 2.5 mg. Repeat doses require MCEP approval, Or
  - Ipratropium 0.5 mg with prediluted Albuterol 2.5 mg. Repeat doses require MCEP approval.
  - Providers are encouraged to deliver nebulized Albuterol via assisted ventilation for patients who are unable to provide effective respiratory exchange.
  - Do not delay on-scene care waiting for the medication to take effect.

    Consider initiating Continuous Positive Airway Pressure at a target pressure of 5 – 10cmH_2O for adult patients. This may be combined with an in-line nebulizer of Albuterol. Consider contacting MCEP in suspected Pneumonia as this is considered a relative contraindication.

ILS PROVIDERS AND ABOVE

- Enroute, start an IV of NS. Titrate to maintain LOC, HR and end organ perfusion, and consider bolus if dehydrated, especially with pneumonia patients.
- Cardiac monitoring is required for all patients receiving > 10 mg of Albuterol.

ALS PROVIDERS

- If the patient is suspected to be septic from pneumonia, consider treating per the Hypotension Guideline (Page 128), including fluid administration and Levophed administration if appropriate.
- $ETCO_2$ monitoring should be initiated.

SEIZURES / CONVULSIONS

Treatment Indications: Uncontrolled, disorganized impulses in the CNS resulting in uncontrolled contraction of skeletal musculature. Most seizures spontaneously end within 5 minutes with a postictal state of varying length with unconsciousness or altered LOC. Seizures do not usually require a paramedic level response and intervention if there is a history of seizures, and the patient has a normal, single seizure. Status Epilepticus exists when witnessed seizure activity continues for > 10 minutes or multiple seizures recur without a return to full mental capacity. These require paramedic level intervention.

ALL EMS PROVIDERS

- Establish Primary Management
- Protect patient and provider from injury. Maintain airway and place nothing in the mouth.
- Oxygen at 10-15 lpm via Partial rebreather mask
- Have suction available
- Obtain history of seizure activity including onset, duration, type, medication taken and prior seizure history

BLS AND ABOVE PROVIDERS

- Assess blood glucose level, treat if < 60 mg/dl.

ILS AND ABOVE PROVIDERS

- Initiate IV of NS, titrate to maintain LOC, HR & end organ perfusion

ALS PROVIDERS

- If seizure is prolonged (greater than 5 minutes) or if more than two seizures reoccur without an intervening lucid period, administer Midazolam:
  - Adult: 2.5 to 5 mg SIVP/IO/IM. Up to 10mg
  - MA dose – 10mg split between each nare
-
  - Children: 0.2 mg/kg SIVP, MA up to 5 mg
  - IN dose 0.2 mg/kg split between each nare

As with any benzodiazepine administration, prepare to support the patient's ventilations.

For seizures unresponsive to the above, notify Medical Control early of an incoming Status Epilepticus patient, and consult for any additional medications.

See Eclampsia guideline for treatment of pregnancy or recently pregnant related seizures (Page 114).

Note: Eclamptic seizures can occur up to two months post partum.

Sepsis / Septic Shock

Designation of Condition: Facilitate rapid identification and management in patients with suspected or confirmed sepsis in patients 18 years of age or older. The patient may be hypotensive (with a widened pulse pressure), tachycardic, and tachypneic. Mental status changes may be present, ranging from mild disorientation to coma. Fever is typical, but hypothermia is possible. Refer to the “Infection Control” protocol when treating patients with suspected or confirmed sepsis.

Modified SIRS Criteria
Suspicion of Infection plus 2 of the following…
• Temperature > 38.3°C or < 36°C (>100.1°F or <96.8°F)
• Heart Rate > 90
• Respiratory Rate >20

Other considerations
• History or suspicion of fever
• Altered mental status
• Hypoxia (Saturation < 90%)
• EtCO2 < 20 mmHg or > 60 mmHg (if available)
• Hypotension with SBP < 90 mmHg or 40 mmHg known drop in patients with hypertensive history
• Evidence of abnormal bleeding
• Decreased urine output
• Hypergylcemia > 140 mg/dL without history of diabetes
• Peripheral edema (end organ failure)
• Absent bowel sounds (Ileus)
• Jaundice (Hyperbilirubinemia)
• Capillary refill > 2 seconds
• Documented serum lactate > 4 mmol/L (if available)
ALL EMS PROVIDERS
• ABC’s, high flow oxygen
• BGL
• Serum Lactate if available
• Rapid transport
• Early notification of receiving ED (“Sepsis Alert”) if patient meets modified SIRS criteria, and has one of the following: hypotension, is in respiratory distress, has a serum lactate > 4 mmol/L (if available) or there is a high index of suspicion
ILS AND ABOVE PROVIDERS
• IV/IO NS
• Adults: One to two liter bolus (unless contraindicated)
• If no response, bolus one more liter and then run initial fluid therapy at 250cc/hr. Consider repeat lactate if available
• Titrate fluids to obtain stabilization of patient’s mentation, blood pressure, respiration, heart rate, and skin perfusion.
ALS PROVIDERS
• Consider vasopressor agents if the patient’s SBP is < 80 with altered mental status or their MAP is <60 and after 1 - 2 liters of NS, or if pulmonary edema is present:

- Norepinephrine (Levophed) with MCEP order. Maintain fluids at 500cc/hr unless contraindicated and mix 4 mg Levophed in 500 cc NS.
  Start dosing at 4 mcg/ min. May increase dose 2 mcg/ min every 5 minutes as needed, to a maximum rate of 10 mcg/min.

• Or

- Epinephrine drip therapy with MCEP order. Maintain fluids at 500 cc/hr unless contraindicated and mix 1 mg Epinephrine in 500 cc NS.
  Start dosing 2-10 mcg/min.

• Or

- Epinephrine mini-bolus therapy with MCEP order. Maintain fluids at 500cc/hr unless contraindicated and empty 9 cc from 10 cc ampule of 1:10,000 Epinephrine and replace with saline (leaves 0.1 mg). Administer 0.5 to 1 cc of 1; 100,000 IV/IO every minute as needed.

STROKE – CEREBROVASCULAR ACCIDENT

Designation of Condition: Patient presentation with signs, symptoms and history consistent with a cerebrovascular insult/accident.

ALL EMS PROVIDERS

- Establish Primary Management
- Perform pre-hospital stroke assessment (Los Angeles)
- A detailed history and time of onset is critical, however, you may be able to obtain this information enroute. Do not delay transport.
- Initiate rapid transport to a facility with a CT Scanner
- Notify the E.D. of stroke patient early.
- Administer high flow oxygen at 10 – 15 lpm via non-rebreather, and closely monitor and maintain the patient's airway if necessary.
- If BVM ventilation is needed, most patients will be ventilated at a rate of about 12 ventilations per minute. If the patient exhibits signs of significantly increasing intracranial pressure and impending herniation (e.g. development of unilateral/asymmetrical pupil dilation, nonreactive pupils, or extensor posturing), then ventilate at a rate of 16 – 20 ventilations per minute.

ILS AND ABOVE PROVIDERS

- Initiate IV of NS, titrate to maintain LOC, HR & end organ perfusion, including a BP of at least 90 mmHg.
- Assess the blood glucose level. If <60, administer D50% 12.5 Grams; recheck the BGL, and if still <60, administer another 12.5 grams

ALS PROVIDERS

- If patient is being ventilated, and there is concern of herniation, ensure that $ETCO_2$ is maintained at 30 – 35 mmHg.
    - Clinical Signs of imminent herniation include bradycardia, hypertension, irregular respirations (Cheyne Stoke pattern), posturing, depressed GCS, and potentially one to two fixed and dilated pupils
- Follow airway management guidelines (Page 42) as appropriate and Altered Mental Status – Agitation guideline if necessary (Page 56).

If a patient appears to be having an obvious stroke, it should be strongly recommended to the patient/family that the patient be transported to a certified stroke center; when a stroke is suspected but may not be as easily detected or symptoms may have another intrinsic cause, patient should be informed of the location of the stroke center and then choose a destination based on their best judgment.

Los Angeles Prehospital Stroke Screen (LAPSS)

Screening Criteria	Yes	No
1. Age over 45 years	___	___
2. No prior history of seizure disorder	___	___
3. New onset of neurologic symptoms in last 24 hours	___	___
4. Patient was ambulatory at baseline (prior to event)	___	___
5. Blood glucose between 60 and 400	___	___

Exam: look for obvious assymetry

	Normal	Right	Left
Facial smile / grimace:	__	__ Droop	__ Droop
Grip:	__	__ Weak Grip __ No Grip	__ Weak Grip __ No Grip
Arm weakness:	__	__ Drifts Down __ Falls Rapidly	__ Drifts Down __ Falls Rapidly

	Yes	No
6. Based on exam, patient has only unilateral weakness:	___	___

If Yes (or unknown) to all items above LAPSS screening criteria met:
If LAPSS criteria for stroke met, call receiving hospital with “code stroke”, if not then return to the appropriate treatment guideline. (Note: the patient may still be experiencing a stroke if even if LAPSS criteria are not met.)

TRICYLIC ANTIDEPRESSANT OVERDOSE

Treatment Indication: Patient will have ingested a known or suspected tricyclic substance (Elavil, Thorazine, Mellaril, Prolixin, Navane, Amitriptyline, Flexeril and many more).

ALL EMS PROVIDERS

- Establish Primary Management

ILS AND ABOVE PROVIDERS

- Initiate at least one IV of NS, and titrate the IV to the patient's blood pressure if hypotensive, otherwise administer 500 cc bolus, then TKO. Multiple IV lines are encouraged.

ALS PROVIDERS

- If the patient has any one of the following,
  - Heart rate > 110
  - QRS widening > 1.2 mm
  - Decreased LOC or unresponsive
  - Ventricular arrhythmias
  - Seizures
  - Hypotension
- Then administer:
  - Sodium Bicarbonate 1 mEq/kg IVP, followed by:
  - Sodium Bicarbonate infusion mixed 1 mEq/kg in 500 cc (1.5 amps of Sodium Bicarbonate in 500cc of NS) and running at 300 – 400 cc/hr.
- A Terminal R wave in lead AVR on the 12 lead may be an early sign of TCA use & abuse.
- CONTACT MEDICAL CONTROL EARLY

UNCONSCIOUS / UNRESPONSIVE

Designation of Condition: The patient will have a pulse, but will be unconscious from an undetermined cause.

ALL EMS PROVIDERS

- Establish Primary Management
- Consider the possibility of trauma
- Assess and ensure a patent airway, rate and depth of respirations, and circulation. Extraglottic Airway insertion should not be considered until hypoglycemia and/or the possibility of a narcotic overdose has been ruled out.
- If you believe the patient was traumatically injured, consider spinal motion restriction.
- Assess Blood Glucose Level
- Cardiac monitoring

BLS AND ABOVE PROVIDERS

- If narcotic overdose is suspected and hypoglycemia has been ruled out as a cause of the unresponsiveness, administer naloxone per Narcotic Overdose Guideline (Page 67).

ILS AND ABOVE PROVIDERS

- Initiate isotonic IV, titrate to maintain LOC, HR and end organ perfusion
- If Blood Glucose Level is < 60 mg/dl with signs and symptoms consistent with hypoglycemia, administer Dextrose per Diabetic Emergencies guideline (page 61).
- Dextrose should not be administered to an unconscious patient who has a normal glucose level, and no history of present illness (HPI) or past medical history (PMH) consistent with hypoglycemia.
- Never withhold Dextrose from any hypoglycemic patient.
- Aggressive Airway management required:
    - If the patient fails to respond to any of the above treatments and the patient is in a deep state of unconsciousness (no gag reflex), an Extraglottic Airway should be considered.
- Consider ALS intercept

ALS PROVIDERS

- Consider intubation as appropriate
- Perform all appropriate ALS assessments and care.

VACCINATIONS

- Treatment Condition: To optimize the ability for County EMS personnel to administer immunologic agents within their own or surrounding departments based on New Mexico State Scope of Practice.
  - Administration of Immunizations, Vaccines, Biologicals, and TB skin testing is authorized under the following circumstances:
    (a) To the general public as part of a Department of Health initiative or emergency response, utilizing Department of Health guidelines. The administration of immunizations is to be under the supervision of a public health physician, nurse, or other authorized public health provider.
    (b) Administer vaccines to EMS and public safety personnel
    (c) TB skin tests may be applied and interpreted if the licensed provider has successfully completed required Department of Health training.
    (d) In the event of a disaster or emergency, the State EMS Medical Director or Chief Medical Officer of the Department of Health may temporarily authorize the administration of other immunizations, vaccines, biologicals, or *tests* not listed above.
  - Administration of Hepatitis B vaccine will follow all appropriate manufacture guidelines and the County SOG's.
  - Any question regarding the administration of the vaccine should be referred to the EMS Chief or Medical Director.

CARDIAC EMERGENCIES

GENERAL GUIDELINES

The cardiac patient must be assessed and reassessed frequently, especially prior to each therapeutic intervention. All cardiac patients will be given Oxygen at a flow rate sufficient to treat any component of shortness of breath. If the patient is not short of breath, a flow rate of 2 - 4 liters per minute via nasal cannula is recommended. Cardiac patients should be allowed to seek a position of comfort, unless they are in shock, in which case supine positioning is preferred. Cardiac emergencies in pediatric patients are very unusual, and necessitate some modifications, but the goal should remain to assure the patients oxygenation, ventilation, and circulatory status.

- EMT Basics and EMT Intermediates should obtain cardiac monitoring of any patient with a complaint chest pain if available. A ten-second EKG tracing strip should be recorded on all cardiac patients if possible. This strip should be turned over to the receiving facility or paramedic intercept, as appropriate. Bizarre rhythm changes should be recorded via EKG tracing strip.
- Paramedic level response / intercept is highly recommended for all patients in cardiac arrest or with active or recent history of pain/discomfort suggestive of an AMI (dependent on location and ALS availability). For patients with recent vague chest pain complaint that may be indicative of cardiac chest pain it is also highly recommended to request ALS intercept. A thorough assessment and detailed history as well as a differential diagnosis technique should be accomplished on every cardiac patient. Team assessments and team decision are encouraged when attempting to define the cause of the complaint.
- In the case of a cardiac arrest when resuscitation attempts appears to be futile, EMT – B's and EMT- I's, must CONTACT MEDICAL CONTROL to solicit orders for field termination of resuscitation. Generally, these are patients presenting in Asystole, and for whom paramedic level care is greater than 20 minutes away. While a specific downtime is not required, patients who have been in cardiac arrest greater than thirty minutes and are in asystole generally do not survive.

ALS PROVIDERS

- CODE SUMMARY documentation is mandatory for all unstable cardiac patients. Code Summary strips should be obtained for the receiving facility (if applicable) and one shall also be attached to the internal copy of the EMS Run Report for Quality Assurance purposes (downloaded to ePCR). When defibrillation is indicated, it should be performed as quickly as possible. Patients should be reassessed after any rhythm change or intervention.
- All patients in cardiac arrest for whom resuscitation is initiated require immediate advanced airway, intravenous / intraosseous line, rhythm appropriate medications and cardiac monitoring, although defibrillation may take precedence. Patients in cardiac arrest may be managed in the field, as appropriate. All other cardiac patients require transport at the earliest reasonable opportunity.
- **Termination of unsuccessful resuscitation via standing orders may be made by SCFD career Paramedics only.** These Paramedics are encouraged to involve Medical Control as appropriate. Paramedics who are volunteers for any of the districts for Sandoval County Fire Department must contact Medical Control to solicit orders for field termination of resuscitation. Consider field termination of resuscitation efforts on all adult cardiac arrest patients who are unresponsive to appropriate defibrillation, successful airway control, ventilation and rhythm appropriate medications*.

*Excluding hypothermic and/or pediatric patients. MCEP contact should be contacted on hypothermic and / or pediatric patients prior to termination of resuscitation.

CHEST PAIN /SUSPECTED MYOCARDIAL INFARCTION

Treatment Indications: Signs and symptoms may include all, some or none of the following: severe substernal chest pain/discomfort that may radiate to the neck, jaw, or down arm; shortness of breath, sweats (diaphoresis), apprehension, nausea, and vomiting. When in doubt, treat as AMI

ALL EMS PROVIDERS

- Primary Management
- Start oxygen, a minimum of 4 LPM via nasal cannula, increasing for increased distress.
- Give four (4) chewable aspirin (324 mg) if not allergic, no history of current bleeding disorders and suspect the chest pain is cardiac related.
- Transport as soon as feasible.
- Allow patient to assume most comfortable position. In most cases, no exertion should be permitted, with the caregivers assisting the patient as much as possible.
- Arrange early ALS intercept for all chest pain patients.

BLS PROVIDERS

- Begin cardiac monitoring for intercept unit, enroute (if available).
- Without delaying transport, consider obtaining 12-lead EKG (if available).
- If patient has their own prescription nitroglycerin with a systolic BP greater than 100 mmHg and a HR greater than 60 bpm, contact MCEP for potential administration at 0.4mg increments as directed by MCEP

ILS PROVIDERS

- Enroute, initiate IV NS at keep open rate with 18 - 20 gauge catheter. Place IV proximal to the forearm (antecubital or proximal) Titrate to LOC, HR and end organ perfusion.
- If SBP >100/HR>60 give NTG 0.4 mg SL every 5 minutes to a maximum of 3 doses. You must have an IV started prior to giving NTG. (NTG contraindicated if patient has taken Viagra, Cialis, Levitra, or any other medication for erectile dysfunction in prior 48 hours.)
- If SBP >100/HR>60 is maintained and 3 NTG have been given, and a SCFD paramedic is on scene and agrees with the decision, ILS caregivers may administer pain medications as outlined in the Pain Control Guideline (Page 47).
- If time permits, a second IV NS should be started at a keep open rate.

ALS PROVIDERS

- Obtain 12 Lead ECG.
    - If S – T changes are noted in Leads II, III, and aVF, suspect an inferior MI. Approximately 40% of inferior MI's are a right ventricular infarction (RVI). If there are indications of an inferior MI, accompanied by hypotension, distended neck veins, and generally clear lung sounds, you must have a high index of suspicion of RVI. RVI makes the administration of nitroglycerin potentially detrimental to the patient by reducing the preload and cardiac output.
    - If RVI is suspected, obtain a standard 12 lead, then obtain an additional 12 lead utilizing V4R, and ideally V5R & V6R. If there are S-T elevations, the RVI is basically confirmed, and nitroglycerin therapy should ideally not be utilized for these patients. Proceed to Fentanyl therapy for pain relief for patients with RVI.
    - If chest pain is unrelieved after 2 or 3 NTG doses and the patient is hemodynamically stable, administer appropriate pain medications as outline in the Pain Management Guideline (Page 47).

ATRIAL FIBRILLATION/FLUTTER, SYMPTOMATIC

Treatment Indications: The patient appears unstable with a heart rate > 150 bpm with Atrial Flutter or Atrial Fibrillation on the rhythm strip with the patient complaining of SOB, chest pain or hypotension and has decreased mental status. Patients with chronic A-fib or A-flutter manifest A-fib or A-flutter with RVR when they have a reason to be tachycardic (infection, fever, sepsis, agitation, dehydration, etc.) In these patients, the cause of their tachycardia should be treated preferentially over treating their atrial tachydysrhythmia.

ALL EMS PROVIDERS

- Establish Primary Management

ILS AND ABOVE PROVIDERS

- Initiate IV of NS, titrate to maintain LOC, HR & end organ perfusion with frequent assessing of the patient's breath sounds

ALS PROVIDERS

Field cardioversion is associated with a risk of embolic complications, especially in patients with atrial fibrillation that is longer in duration than 48 hours. It should be reserved for the severely symptomatic patients with any combination of chest pain, SOB, hypotension, or an altered mental status. Additionally, adenosine should NOT be used for patients in atrial fibrillation or atrial flutter, especially if a history of pre-excitation syndrome exists (ie, a delta wave, characteristic of Wolf Parkinson White syndrome). Adenosine can cause a paradoxical increase in the ventricular response to the rapid atrial impulses of atrial fibrillation.

- Contact MCEP if feasible for consultation and orders for treatment. However, if this will delay appropriate treatment for a critical patient, proceed with the following treatment guidelines.
- Sedate with Midazolam 1 – 5 mg SIVP as appropriate
- Cardioversion
  - Atrial Fibrillation requires higher joule settings for successful cardioversion; initial settings shall be 200 Joules followed by 300 and 360 joules.
  - Atrial Flutter normally requires a significantly lower setting; initial setting shall be 50 joules followed by 100, and 200 Joules.
- Transport
- Contact MCEP as needed

BRADYCARDIA, SYMPTOMATIC

Treatment Indications: The patient will present with a hemodynamically unstable Bradycardia (blood pressure < 90 mmHg systolic, decreased LOC, and a heart rate of < 60 bpm with associated signs and symptoms including: chest pain, shortness of breath, etc.)

ALL EMS PROVIDERS

- Establish Primary Management
- High flow oxygen via non-rebreather mask
- ALS intercept required

ILS AND ABOVE PROVIDERS

- Initiate IV of NS, titrate to maintain LOC, HR & end organ perfusion

ALS PROVIDERS

- For patients with signs of poor perfusion begin transcutaneous pacing at a rate of 60 bpm. Begin increasing by 20 mA increments until electrical capture obtained, then increase by 5 mA increments until mechanical capture is obtained.
- If pacing, is required: consider sedation/analgesia with Midazolam 1 – 5 mg and/or 0.5 – 2 mcg/kg of Fentanyl Citrate. However, noninvasive pacing should not be delayed in order to initiate a peripheral IV. Ideally, both procedures should be performed simultaneously. Titrate slowly secondary to additional decreased blood pressure, and diligently monitor the airway.
- Vital signs, especially blood pressure and LOC, should be reevaluated after each intervention
  - If initial pacing attempts fail to improve vital signs, administer 250cc fluid bolus while increasing the pacing rate to 70 bpm – Reassess, advance as outlined below, do not increase rate above 70 bpm.
- Atropine may be considered first line for patients with no SxS of myocardial ischemia or high degree block (2^{nd} Degree Type II or 3^{rd} Degree AV blocks). Additionally, Atropine is preferred over pacing for vagal induced bradycardias.
  - If Atropine therapy is administered, give Atropine Sulfate IV or ET 0.5 mg every 3 – 5 minutes or up to a maximum of 3 mg. The goal is a heart rate of at least 60 bpm and a blood pressure >90mm/Hg systolic.
  - In the setting of an acute MI or with a third degree heart block or Mobitz type II second degree heart block, TCP is the treatment of choice in the prehospital setting. AHA has shown that atropine rarely works in these settings and providers should not withhold TCP to administer Atropine in an unstable patient. However, atropine may be considered if there is a delay in TCP initiation or if TCP is ineffective.
- If above treatment is not effective or no pacer available:
  - Epinephrine drip, 2-10 mcg/min titrated to patient response.

    Or

  - Dopamine Drip at 2-10 mcg/kg/min., titrate to heart rate and BP.
  - If rate improves but BP does not, refer to Cardiogenic Shock guideline (Page 88).

NOTE: Never treat third degree heart block or ventricular escape beats with Lidocaine.

SUPRAVENTRICULAR TACHYCARDIA

Treatment Indications: The patient will have a heart rate >150 beats per minute with a Supraventricular focus by history or a QRS complex < 0.12 seconds and EKG consistent with SVT (QRS may be greater than 0.12 seconds in the case of known aberrancy or a bundle branch block). EKG tracings are to be made during any of the following ALS procedures. Patients often have a history of recent episodes. Exclude other causes (i.e.: increased HR secondary to GI bleed, fever, sepsis, etc).

Consider compensation Tachycardia and global clinical picture before treating rhythm.

ALL EMS PROVIDERS

- Establish Primary Management
- ALS intercept required

ILS AND ABOVE PROVIDERS

- Initiate IV of NS (in the AC if possible), titrate to maintain LOC, HR and end organ perfusion, with frequent assessment of the patient's breath sounds.

ALS PROVIDERS

- Stable
  - Initiate continuous cardiac monitoring and recording prior to conversion efforts.
  - Use the Valsalva Maneuver and/or the Valsalva Maneuver in combination with Trendelenberg position
  - Adenosine 6 mg rapid IVP (1-2 seconds) followed by 20 cc NS flush
  - If unchanged, repeat Adenosine at 12 mg rapid followed by 20 cc NS flush
- Unstable

  If the patient is unstable with a diagnosed SVT, you may administer adenosine while preparations are being made for cardioversion. However, if this necessitates the initiation of an IV or other significant delays, and the patient appears critically unstable, proceed directly to cardioversion. Critically unstable patients will demonstrate severe chest pain, severe SOB, profound hypotension, or a significantly altered mental status.
  - Consider Sedation with Midazolam 2.5 – 5 mg (Max 10mg) while preparing to cardiovert
  - Synchronized Biphasic cardioversion at 50 Joules, if ineffective;
  - Synchronized Biphasic cardioversion at 100 Joules, if ineffective;
  - Synchronized Biphasic cardioversion at 200 Joules, if ineffective;
  - Consider additional attempts at higher joule settings in a stepwise fashion while consulting with MCEP.

CARDIOGENIC SHOCK

Treatment Indications: Cardiogenic shock can be due to failure of heart muscle, valvular insufficiency or heart rhythm disturbances (too fast or too slow). The most common cause is an acute myocardial infarction with subsequent loss of ventricular output. The SxS associated with any of the causes will usually be similar, with the patient usually presenting with a decreased level of response, hypotension, pale, cool, diaphoretic skin and other general SxS of shock. Additionally, the classic cardiogenic shock patient will develop pulmonary edema, with accompanying shortness of breath, wet, noisy respirations (rales/crackles/rhonchi), possibly pink frothy sputum and cyanosis. These patients require expeditious transport.

ALL EMS PROVIDERS

- Establish Primary Management
- High Flow oxygen via non-breather
- If necessary, assist the patient's ventilations with a BVM
- ALS intercept required

ILS AND ABOVE PROVIDERS

- Initiate IV of NS, titrate to maintain LOC, HR and end organ perfusion. If BP < 80 mmHg and lungs are clear, administer a fluid challenge of 250 ml and reassess the patient's status, especially lung sounds.

ALS PROVIDERS

- If rate related, correction of the rate problem is a priority
  - For bradycardia, treat according to the Bradycardia Guideline (Page 86).
  - For tachycardia, treat according to the Tachycardia Guideline (Page 87).
- If the cardiogenic shock is not rate related, initiate an Epinephrine drip at 0.1-0.5 mcg/kg/min. The goal is increased perfusion (increasing systolic BP to >90 mm Hg and improved mental status) without significantly increasing the heart rate.
  - Epinephrine drip – mix 4 mg Epinephrine into 1 L NS, yielding a 4 mcg/ml concentration and infuse at 0.1-0.5 mcg/kg/min using a 10 drop set.
  - If the the Epinephrine drip is ineffective, intiate a norepinephirine (Levophed) drip at 0.1-0.5 mcg/kg/min to achieve a systolic BP of a least 90 mm Hg.

    Levophed drip – mix 4 mg Levophed into 1 L NS, yielding a 4 mcg/ml concentration and infuse at 0.1-0.5 mcg/kg/min using a 10 drop set.
- For continued respiratory distress or respiratory failure, treat with the most appropriate of the following:
  - If the patient's perfusion status/blood pressure adequately improves, treat the pulmonary edema according to Pulmonary Edema Guideline (Page 89), including Airway Management (Page 42).

PULMONARY EDEMA & CONGESTIVE HEART FAILURE

Treatment Indications: Patient presenting with signs, symptoms and history of moderate / severe SOB and /or hypotension. The patient will usually present with shortness of breath (wet noisy respirations/crackles) and possibly pink frothy sputum (pulmonary edema). It should be noted that a fever suggests an infectious cause (i.e. pneumonia) rather than cardiac origin.

ALL EMS PROVIDERS

- Establish Primary Management, and position the patient in an upright sitting position.
- High Flow oxygen via non-rebreather
- If necessary, assist the patient's ventilations with a BVM
- ALS intercept required

ILS PROVIDERS

- Initiate IV of NS, titrate to maintain LOC, HR and end organ perfusion

ALS PROVIDERS

- Initiate Continuous Positive Airway Pressure at a pressure of 10cmH_2O.
- If the systolic blood pressure is > 100 mmHg, assure that a patent IV is in place, then administer:
  - Nitroglycerin 0.4 mg sublingual q 3 – 5 minutes, until the shortness of breath is relieved or the systolic blood pressure drops below 90 mmHg.
  - NTG contraindicated if patient has taken Viagra, Cialis, or Levitra in prior 48 hours.
- Morphine Sulfate 2-20 mg titrated to effect
  - Morphine Sulfate dosages above 20 mg require Medical Control consult
  - Morphine is typically most helpful in low dosages of 2 mg increments
- Lasix 40-80 IVP (with extended transport times, >60 minutes)
  - Consider higher dose (double the patient's normal oral dosage) for the patient already prescribed Lasix
  - Contact Medical Control if the patient does not have any history of CHF, and/or is not already on oral diuretics
- If the patient becomes obtunded and/or is in danger of complete respiratory arrest, perform Airway Management (Page 42).

VENTRICULAR TACHYCARDIA, STABLE

Treatment Indications: The patient will have demonstrated Sustained Ventricular Tachycardia (QRS > 0.12 second) on the monitor and must be conscious and alert, have a blood pressure > 90 mm Hg, and will be free of significant SOB, chest pain and diaphoresis.

ALL EMS PROVIDERS

- Establish Primary Management
- ALS intercept required

ILS AND ABOVE PROVIDERS

- Initiate IV of NS, titrate to maintain LOC, HR and end organ perfusion

ALS PROVIDERS

- Obtain 12 lead ECG
- If rhythm is REGULAR AND MONOMORPHIC: Consider Adenosine (See SVT Protocol page 87.)
- Consider Lidocaine 1.5 mg/kg IVP.
- Repeat Lidocaine 0.75 mg/kg every 5 minutes until a total dose of 3 mg/kg has been given
    - Lidocaine maintenance drip and dose should be reduced by one-half for patients over 70 years old, and in those with liver failure or congestive heart failure
- After suppression of the dysrhythmia, or when the full loading dose has been given, initiate IVPB Lidocaine drip at 2 – 4 mg/min.
- If rhythm is thought to be torsades de pointes (polymorphic ventricular tachycardia), draw up 2 grams Magnesium Sulfate 50% with a 12 cc syringe, then add enough normal saline to have a total of 10 cc of volume, and administer this over 5-20 minutes.

    - In the event of a national shortage of Lidocaine or change in recommendations, SCFD Medical Direction may approve the use of additional anti-dysrhythmics for use in this Guideline.
        - Any implementation of additional medication usage will be issued and approved in written format by Medical Direction

VENTRICULAR TACHYCARDIA, UNSTABLE

Treatment Indications: Sustained ventricular tachycardia (wide QRS Tachycardia) will be present on the monitor. The patient will have a pulse, but the rate will generally be >150 bpm and the patient will be hypotensive with decreased mental status, significant SOB, severe chest pain or diaphoresis.

ALL EMS PROVIDERS

- Establish Primary Management
- ALS intercept

ILS AND ABOVE PROVIDERS

- Initiate IV of NS, titrate to maintain LOC, HR & end organ perfusion

ALS PROVIDERS

- Sedate with Midazolam 2.5 – 5 mg (Max 10 mg) SIVP if time and patient condition allows, but if critical, do not delay electrical therapy
- If monomorphic:
  - Synchronized Cardioversion at 100 Joules; if ineffective then:
  - Synchronized Cardioversion at 200 Joules; if ineffective then:
- If after the 2 synchronized cardioversions the patient remains in V-Tach and unstable, administer Lidocaine 1.5 mg/kg IVP or ET
- Synchronized Cardioversion at 300 Joules
- Repeat Lidocaine (with intervening cardioversion at 360 joules) 0.75 mg/kg x 2 (up to 3 mg/kg max dose)
- Synchronized Cardioversion * at 360 Joules after each bolus of Lidocaine
- After suppression of the dysrhythmia, or when the full loading dose has been given, initiate IVPB Lidocaine drip at 2 – 4 mg/min.
- If polymorphic:
  - If rhythm is thought to be torsades de pointes (polymorphic ventricular tachycardia), draw up 2 grams Magnesium Sulfate 50% with a 12 cc syringe, then add enough normal saline to have a total of 10cc of volume, and administer this over 5-20 minutes.
  - Obtain a 12 Lead ECG as early as is safely possible
  - DO NOT delay immediate cardioversion if the patient is unstable.
  - In the event of a national shortage of Lidocaine or change in recommendations, SCFD Medical Direction may approve the use of additional anti-dysrhythmics for use in this Guideline.
    - Any implementation of additional medication usage will be issued and approved in written format by Medical Direction

CARDIAC ARREST (NON TRAUMATIC) – ADULT & PEDIATRIC

Treatment Indication: Unconscious and unresponsive patient with agonal or absent respiratory effort and no palpable pulses.

ALL EMS PROVIDERS

- A paramedic level of response may be dispatched simultaneously to all cardiac arrest responses (refer to dispatch guidelines). If there is any doubt, the EMS response team should insure that an ALS unit is enroute at the first opportunity. EMS personnel should never wait for paramedic assistance before utilizing semi-automatic defibrillation. Early access to EMS and early defibrillation are critical to successful cardiac resuscitation.

Does patient meet Dead at Scene criteria? If not, proceed:

- Determine cardiopulmonary arrest and time last seen conscious.
- Consider moving the patient to where safe and effective resuscitation can occur, and establish Primary Management
- Start CPR at the current AHA recommended compression-to-ventilation ratio until defibrillator attached.
  - If no BVM available, perform hands only CPR at a rate of at least 100 compressions per minute.
- Attach defibrillation pads; Utilize pediatric pads for children 1 – 8 years old, if available. Analyze rhythm; if defibrillation is indicated, call out "CLEAR!" and then defibrillate.
  - Deliver one shock and initiate chest compressions, assuring adequate quality of the compressions. AHA recommends not checking a pulse until 2 minutes of compressions have been performed after a defibrillation attempt. The rescuer performing chest compressions should be relieved every two minutes by another rescuer.
  - Perform two minutes of CPR at the current AHA recommended compression-to-ventilation ratio. At the end of the two minute period, check a pulse, re-analyze the cardiac rhythm, and defibrillate again if the AED advises. Continue this "shock –2 minutes of CPR – shock" sequence as needed.
    - Never take longer than 10 seconds to feel for a pulse, if unsure about status at the 10 second mark, assume patient is pulseless and continue as outlined
  - If two rescuers are available during a pediatric resuscitation, a compression to ventilation ratio of 15:2 may be used. There are no changes for two rescuer CPR in the adult.
- If the AED advises that no shock is needed, initiate CPR at the current AHA recommended ratio. Defibrillate at any time the AED advises to do so, following the above guideline.
- Place a nasopharyngeal and/or an oropharyngeal airway as soon as feasible. Nasopharyngeal airways are not appropriate for small children. Utilize a BVM or ATV with mask and high flow oxygen for the two ventilations at the appropriate time during the chest compressions. Deliver enough tidal volume to observe chest rise on the patient (if using an ATV, this will usually be about 600 - 800 cc for adults, or approx. 10cc/kg).
- Secure the airway with the appropriate Extraglottic airway device, or other approved device as soon as possible. Once the airway is placed, initiate ventilations at a rate of 10 ventilations per minute for both adult and pediatric patients. There is no pause in chest compressions for ventilations after this type of airway is placed.
  - Once the airway is secured, placement/use of the Res Q Pod should occur and ventilations delivered accordingly.
  - If pulses return, but breathing is inadequate or absent, the adult patient should be ventilated at a rate of about 12 ventilations per minute, and the pediatric patient should be ventilated at a rate of 12 – 20.
- Consider placing the patient onto a long spine board and transport when feasible if ILS/ALS not on scene. Hostile scenes, emotional bystanders, hypothermic victims and pediatric cardiac arrest victims are unique situations that may merit early transportation of the patient while continuing resuscitation.

(Continued on next page)

ILS PROVIDERS

- Initiate isotonic IV or possibly an IO for pediatric patients; if the patient was defibrillated and remains pulseless, venous access will ideally be initiated during the two minutes of chest compressions following the first shock. If arrest may be due to hypovolemia, initiate a second large bore IV at the first opportunity, and run them wide-open, frequently checking breath sounds.
- Administer Epinephrine 1:10,000; if the patient was defibrillated, administer the Epi 1:10,000 as soon as possible after the 2 minutes of compressions following the first shock; if the patient was not defibrillated, but is pulseless, administer the Epi 1:10,000 as soon as possible.
    - Adult: 1 mg Epi.1:10,000 followed by a 20 cc saline flush every 3 minutes IVP up to 6 milligrams. If there has been no change in the patient's status after 6 milligrams and ALS is not on scene, contact an MCEP for advice and possible termination of resuscitation orders.
- Pediatric: Obtain IV/IO, and administer 0.01 mg/kg of Epi 1:10,000. Repeat this dosage every 3 minutes, until pulses return, the resuscitation efforts cease, or the patient is handed off to ALS providers or a hospital.
- Initiate transport in most situations involving pediatric codes. If transport has not been initiated, and the resuscitation has progressed for 30 minutes, contact an MCEP for possible termination of resuscitation.
- For all cardiac arrests, consider other reversible causes, i.e. hypoglycemia (BGL), drug overdose, etc.

ALS PROVIDERS

SCFD Paramedics will generally adhere to accepted ACLS & PALS Guidelines, with some exceptions. The treatments for specific rhythms and conditions can be found by finding the specific dysrhythmia in this document.

VENTRICULAR FIBRILLATION & PULSELESS VENTRICULAR TACHYCARDIA

Treatment Indications: The patient is unconscious, unresponsive, apneic, pulseless and shows ventricular fibrillation on the monitor. This guideline assumes that the patient is remaining in V-Fib/Pulseless V-Tach

ALL EMS PROVIDERS

- Establish Primary Management, and continue per the Cardiac Arrest Guideline (Page 92).

ILS AND ABOVE PROVIDERS

- Initiate IV of NS, titrate to maintain LOC, HR & end organ perfusion
- Epinephrine and other treatment modalities per the Cardiac Arrest Guideline (Page 92).

ALS PROVIDERS

- If the onset of V-Fib was personally witnessed and monitored, a precordial thump may be administered though AHA is continuing to deemphasize this procedure.
- Defibrillate once at 200 Joules
- Immediately initiate CPR at current AHA recommended compression to ventilation ratio, continuing for 2 minutes (AHA guidelines advise to perform 2 minutes of CPR following a defibrillation without performing a rhythm or pulse check until this 2 minute period of CPR is completed).
  - During this 2 minutes of CPR, assure IV access and intubation of patient if possible
  - Once patient is intubated, compressions and ventilations are no longer synchronized. Ventilate the patient at a rate of 8 – 10 breaths with enough volume to cause gentle chest rise (about 600 – 800 cc of tidal volume for most patients) and perform chest compressions at a rate of 100 per minute.
- Defibrillate at 300 joules if indicated, and immediately initiate compressions for two minutes.
- Administer Epinephrine 1:10,000 x 1.0 mg IVP followed by a 10 – 20 cc flush, and repeat this every 3 – 5 minutes as long as the patient remains pulseless during the resuscitation. Venous access is preferable to the ET route. If ET is your only option, give 2 milligrams of Epi 1:1000 diluted in 5 cc's via the ET route, repeating this at the same dosage every 3 – 5 minutes until venous access is achieved.
  - AHA standards indicate that the Epinephrine may be given before or after the second and subsequent defibrillations (i.e: while the defibrillator is charging). However, it should not be given until the rhythm is determined and a pulse is checked, as it is a possibility that Epi will not be indicated.
  - High dose (3 – 5 mg) Epinephrine should be utilized <u>only</u> for calcium channel or beta blocker overdose
- After two minutes of compressions, check for a pulse and determine the patient's rhythm.
- Defibrillate at 360 Joules if indicated, and immediately initiate compressions for two minutes
- Administer Lidocaine 2% 1.5 mg/kg IVP (or ET if necessary). Repeat doses of 0.75 mg/kg may be given every 5 minutes to a maximum of 3 mg/kg.
- After two minutes of compressions, check the rhythm and pulse, and defibrillate at 360 Joules if indicated. Continue this "2 minutes of Compressions – Rhythm Check – Defibrillation", administering the appropriate medications at the appropriate times for the duration of the resuscitation.
- In cases of known or suspected hyperkalemia, renal failure, or hypocalcemia, administer 10 cc of Calcium Chloride 10% SIVP, flush the line, then administer Sodium Bicarbonate 1mEq/kg SIVP. If the patient history merits, this may be done early on in the resuscitation, i.e. after the first or second defibrillation. Additionally, Calcium Chloride may be administered for an arrest preceded by a Calcium Channel Blocker (verapramil, nifedipine, etc) overdose, and Sodium Bicarbonate may be administered in an arrest preceded by a tricyclic antidepressant overdose. If an opiate OD preceded the arrest, administer 0.4 – 2.0 mg naloxone. If hypoglycemia is found, administer D50%.
- If rhythm is thought to be torsades de pointes (polymorphic ventricular tachycardia), draw up 2 grams Magnesium Sulfate 50% with a 12 cc syringe, then add enough normal saline to have a total of 10cc of volume, and administer this over 5-20 minutes.
- For persistent Ventricular Fibrillation or Pulseless Ventricular Tachycardia after medications and without conversion at any point after 30 minutes, resuscitation may be terminated per the General Guidelines for Cardiac Emergencies after MCEP consult.
  - In the event of a national shortage of Lidocaine or change in recommendations, SCFD Medical Direction may approve the use of additional anti-dysrhythmics for use in this Guideline.
    - Any implementation of additional medication usage will be issued and approved in written format by Medical Direction

ASYSTOLE

Treatment Indications: The patient will be unconscious, unresponsive, pulseless and apneic and show asystole on the monitor (confirmed with ten second strips in at least two leads).

ALL EMS PROVIDERS

- Establish Primary Management
- If the adult patient presents in asystole and the down time was unclear or unknown, look for other signs of obvious death and consider not initiating resuscitation per the Dead at Scene Guideline (Page 14).
- If the adult patient was a witnessed deterioration into asystole, or was defibrillated into asystole, continue with the asystole treatment guideline.

ILS AND ABOVE PROVIDERS

- Initiate IV of NS, titrate to maintain LOC, HR & end organ perfusion
- Epinephrine 1:10,000 per Cardiac Arrest Guideline (Page 92).

ALS PROVIDERS

- Confirmation of condition, in multiple leads, initiate or continue CPR, and assure at least one patent IV and proceed with securing an advanced airway, preferably an ET tube.
- Administer Epinephrine 1:10,000 x 1.0 mg IVP, and repeat this every 3 – 5 minutes as long as the patient remains pulseless during the resuscitation. Venous access is preferable to the ET route. If ET is your only option, give 2 milligrams of Epi 1:1000 diluted in 5 cc's via the ET route, repeating this at the same dosage every 3 – 5 minutes until venous access is achieved.
  - High dose (3 – 5 mg) IVP Epinephrine should be utilized only in the event of a calcium channel or beta blocker overdose
- In cases of known or suspected hyperkalemia, renal failure, or hypocalcemia, administer 10 cc of Calcium Chloride 10% SIVP, flush the line, then administer Sodium Bicarbonate 1mEq/kg SIVP. If the patient history merits, this may be done early on in the resuscitation, i.e. after the Epinephrine. Additionally, Calcium Chloride may be administered for an arrest preceded by a Calcium Channel Blocker (verapramil, nifedipine, etc) overdose, and Sodium Bicarbonate may be administered in an arrest preceded by a tricyclic antidepressant overdose. If an opiate OD preceded the arrest, administer 0.4 – 2.0 mg naloxone. If hypoglycemia is found, administer D50%.
- Consider field termination of resuscitation efforts after MCEP consult on all adult cardiac arrest patients who are unresponsive to appropriate defibrillation, successful airway control, ventilation and rhythm appropriate medications * or at any point after CPR has been in progress for 30 minutes.

PULSELESS ELECTRICAL ACTIVITY

Treatment Indications: The patient will be unconscious, unresponsive, pulseless, apneic and shows organized electrical activity on the monitor.

In addition to severe cardiac disease, potentially treatable causes of PEA include hypovolemia, tension pneumothorax, hypoxemia, acidosis, pulmonary embolism, pericardial tamponade, vagotonia, drug overdoses, hypothermia and cardiac perfusion problems. If a Bradycardia exists concurrently, attempts to increase the heart rate are appropriate.

ALL EMS PROVIDERS

- Establish Primary Management
- Treat underlying cause

ILS AND ABOVE PROVIDERS

- Establish at least one large bore IV line of NS and begin fluid bolus of 20 ml/kg.
- Assure proper ventilation and oxygenation.
- Administer Epinephrine 1:10,000 per the Cardiac Arrest Guideline (Page 92).

ALS PROVIDERS

- Continue or initiate CPR
- Administer Epinephrine 1:10,000 x 1.0 mg IVP, and repeat this every 3 – 5 minutes as long as the patient remains pulseless during the resuscitation. Venous access is preferable to the ET route. If ET is your only option, give 2 milligrams of Epi 1:1000 diluted in 5 cc's via the ET route, repeating this at the same dosage every 3 – 5 minutes until venous access is achieved.
    - High dose (3 – 5 mg) IVP Epinephrine should be utilized only in the event of a calcium channel or beta blocker overdose
- In cases of known or suspected hyperkalemia, renal failure, or hypocalcemia, administer 10 cc of Calcium Chloride 10% SIVP, flush the line, then administer Sodium Bicarbonate 1mEq/kg SIVP. If the patient history merits, this may be done early on in the resuscitation, i.e. after the first Epinephrine. Additionally, Calcium Chloride may be administered for an arrest preceded by a Calcium Channel Blocker (verapramil, nifedipine, etc) overdose, and Sodium Bicarbonate may be administered in an arrest preceded by a tricyclic antidepressant overdose. If an opiate OD preceded the arrest, administer 0.4 – 2.0 mg naloxone. If hypoglycemia is found, administer D50%.
- Consider field termination of resuscitation efforts after MCEP consult on all adult cardiac arrest patients who are unresponsive to appropriate defibrillation, successful airway control, ventilation and rhythm appropriate medications * or at any point after CPR has been in progress for 30 minutes.

*Excluding hypothermic cardiac arrests.

CARDIAC ARREST – HYPOTHERMIA

Treatment Indications: Cardiac arrest with the presence of a suspected or confirmed depressed core temperature <95 degrees Fahrenheit.

ALL EMS PROVIDERS

- Establish Primary Management. Ventilate with warm humidified oxygen, if available, at a maximum rate of 10 per minute.
- Check pulse for 30 - 45 seconds. If ANY pulse is detected, DO NOT perform chest compressions.
- If the patient is in cardiac arrest, begin CPR. Defibrillate if indicated.
- If the patient's core temperature is below 86°F, additional defibrillation should be deferred until the temperature is above 86°F. If core temperature is not obtainable, then proceed per the Cardiac Arrest Guideline, with modifications as noted below.

BLS PROVIDERS AND ABOVE

Secure airway with an Extraglottic Airway

ILS AND ABOVE PROVIDERS

- Initiate IV of warmed NS, titrate to maintain LOC, HR & end organ perfusion
- Administer 1 mg of Epinephrine 1:10,000.
- If the patient's core temperature is below 86°F, additional Epinephrine should be deferred until the temperature is above 86°F. If core temperature is not obtainable, then proceed per the Cardiac Arrest Guideline, except doubling the time interval between repeated Epinephrine administrations to 6 – 10 minutes instead of 3 – 5 minutes.

ALS PROVIDERS

- Assure the securing of the airway, placing an ETT if necessary, and assure venous access.
- Defibrillate once if indicated and administer the first round of Epinephrine, Lidocaine, and Atropine as indicated.
- If the patient's core temperature is below 86°F, additional medications should be deferred until the temperature is above 86°F. If core temperature is not obtainable, then proceed per the appropriate Guideline depending on the patient's ECG rhythm, except doubling the recommended time interval between repeated medication administrations.
- Attempt rewarming by any means possible (removal of patient's wet clothes, significantly heat the patient care compartment, warm blankets, warmed IV solution, etc)
- If pulse is obtained, but is ventricular tachycardia with a pulse, treat per the Ventricular Tachycardia Guideline if the patient's temperature is 86°F or above. If the temperature is not obtainable, treat per the Ventricular Tachycardia Guideline.
- If pulse is obtained, but bradycardic, do not treat bradycardia or atrial fibrillation unless you are <u>certain</u> the patient's temperature is above 86°F.
- CONTACT MEDICAL CONTROL

PEDIATRIC ASYSTOLE

Treatment Indications: The patient will be at least 3 months of age and up to approx. 16 y.o., unconscious, unresponsive, pulseless, apneic and demonstrate asystole on the monitor (confirmed in at least 2 leads).

ALL EMS PROVIDERS

- Establish Primary Management, being particularly vigilant in oxygenation and ventilation.
- Follow the Cardiac Arrest Guidelines found in this document.

ILS PROVIDERS

Establish IV of NS

- IO access should be considered after 2-3 failed IV attempts
- Epinephrine 1:10,000, IVP or IO, 0.01 mg/kg, repeating every 3 - 5 minutes as long as the patient remains pulseless during the resuscitation.

ALS PROVIDERS

- Epinephrine, IVP or IO (1:10,000) 0.01 mg/kg (0.1 cc/kg) to a maximum of 1 mg. Repeat at same dose every 3 – 5 minutes for remainder of resuscitation.
- Pacing is not recommended for asystolic arrest.
- As with an adult cardiac arrest, treat appropriately with the following medications if there are specific conditions or potential causes that warrant their administration:
  - Known or suspected hyperkalemia, renal failure, or hypocalcemia:
    - Calcium Chloride 10% - 20 mg/kg IV/IO Slow IVP
  - Calcium channel blocker overdose:
    - High Dose Epinephrine (0.1 mg/kg 1:1000) every 5 minutes IV/IO
    - Calcium Chloride 10% - 20 mg/kg IV/IO Slow IVP
  - Opiate OD
    - Naloxone Initial dose of 0.01mg/kg, if ineffective then subsequent dosing at 0.1 mg/kg slow IV/IM/SQ/IO/MA (one half dose administered in each nare for MA) up to 2 mg.
  - Tricyclic Overdose:
    - 1 mEq/kg Sodium Bicarbonate followed by an infusion of 1 mEq/kg in 1 liter of NS at 500 cc/hr
  - Hypoglycemia
    - Dextrose 25%, 1 Gm/kg
- Generally, pediatric cardiac arrest patients should be transported. However, in cases of obvious death, contact an MCEP for consultation regarding cessation of the resuscitation.

PEDIATRIC BRADYCARDIA

Treatment Indications: The patient will be at least 3 months of age and up to approx. 16 y.o., and will present with a hemodynamically unstable Bradycardia and decreased LOC.

ALL EMS PROVIDERS

- Establish Primary Management
- If HR <60 with signs of poor perfusion (decreased LOC, etc) despite oxygenation & ventilation, begin compressions at 30 compressions to 2 ventilation, or if two rescuers are providing CPR, 15 compressions to 2 ventilations.
- If patient's HR is >60, but the respiratory effort is inadequate, initiate ventilations with a BVM at 12 – 20 ventilations per minute. Ventilate gently, with enough volume to cause gentle chest rise.

ILS PROVIDERS

- Establish IV/IO of NS
- Secure airway, utilizing an advanced airway if needed (Extraglottic Airway)

ALS PROVIDERS

- Assess for symptoms of hypotension or poor perfusion
- Secure airway, utilizing an advanced airway if needed.
  - Ventilate at 12 – 20
  - If CPR is in progress, ventilate at 10 times per minute
- Epinephrine, IVP or IO (1:10,000) 0.01 mg/kg (0.1 cc/kg) to a maximum of 1 mg. Repeat at same dose every 3 – 5 minutes for remainder of resuscitation.
- Rapid transport
- If Epinephrine is administered three times without improvement, or increased vagal tone or AV block is suspected, administer Atropine Sulfate 0.02 mg/kg IV/IO. Repeat this once if needed after 3 – 5 minutes.
  - Minimum single dose for each administration: 0.1 mg; Maximum single dose for each administration 0.5 mg (1.0 mg for an adolescent).
- If the Epinephrine is transiently effective, but bradycardia recurs, consider the initiation of an Epinephrine infusion if time allows.
  - Mix 1.5 mg in 250 cc of NS on a microdrip infuser (Buretrol, Volutrol, etc). Initiate at 5 microdrops per kilogram per minute (equivalent to 0.5 micrograms per kilogram per minute). Titrate to a HR of 100.
- Consider pacing at 100 beats per minute if pacer and pediatric pads available
- As with an adult cardiac arrest, treat appropriately with the following medications if there are specific conditions or potential causes that warrant their administration:
  - Known or suspected hyperkalemia, renal failure, or hypocalcemia: Calcium Chloride - 20 mg/kg IV/IO SIVP
  - Calcium channel blocker overdose: High Dose Epinephrine (3 mg 1:1000) every 5 minutes IV/IO and Calcium Chloride 10% - 20 mg/kg IV/IO Slow IVP
    - Opiate OD: Naloxone Initial dose of 0.01mg/kg, if ineffective then subsequent dosing at 0.1 mg/kg slow IV/IM/SQ/IO/MA (one half dose administered in each nare for MA) up to 2 mg.
  - Tricyclic Overdose: 1 mEq/kg Sodium Bicarbonate followed by an infusion of 1 mEq/kg in 1 liter of NS at 500 cc/hr
  - Hypoglycemia: Dextrose 25%, 1 Gm/kg

PEDIATRIC PULSELESS ELECTRICAL ACTIVITY

Treatment Indications: The patient will be at least 3 months of age and up to approx. 16 y.o., pulseless and apneic with an organized rhythm on the ECG monitor. Consider, and expeditiously treat, underlying causes such as hypovolemia, hypoxemia, acidosis, tension pneumothorax, cardiac tamponade, drug overdose, etc.

ALL EMS PROVIDERS

- Establish Primary Management, being particularly vigilant in oxygenation and ventilation.
- Follow the Cardiac Arrest Guidelines found under Pediatric Asystole (Page 96).

PEDIATRIC SUPRAVENTRICULAR TACHYCARDIA

Treatment Indications: The patient will usually have a heart rate >220. The monitor will show a rhythm with a Supraventricular origin and a QRS of <0.08 seconds.

ALL EMS PROVIDERS

- Establish Primary Management
- Expeditious transport

ILS PROVIDERS

- IV of NS, as needed, enroute.

ALS PROVIDERS

- Assure oxygenation, ventilation and venous access.
- Obtain 12 Lead ECG
- Diagnostic Clues
  - Sinus Tachycardia: Compatible history with known cause; p waves present/normal; R-R interval may be variable, but P – R interval is constant; Infant HR usually < 220, child HR usually < 180
  - SVT – History is vague, non-specific, and non-explanatory of reason for tachycardia; Patient may have hx of abrupt rate changes; P waves absent or abnormal; HR is not variable; Infant HR usually > 220, child usually > 180
- STABLE
  - Assure treatment of possible causes: hypovolemia, hypoxia, acidosis, hypoglycemia, etc.
  - Transport
- UNSTABLE – Patient showing signs and symptoms of hypoperfusion (diminished LOC, etc)
  - If venous access is in place:
    - Adenosine 0.1 mg/kg, maximum dose of 6 mg, follow with a rapid NS 5 - 10 ml bolus
    - Adenosine can be doubled and repeated once if SVT persists. Max dose is 12 mg, followed by a rapid NS 5-10ml bolus.
    - If no response, sedate if needed and/or if time allows with 0.2 mg/kg midazolam (max dose of 5mg) and proceed with synchronized cardioversion at 1 joule/kg; repeat at 2 joules/kg
  - If venous access is unavailable or delayed go directly to synchronized cardioversion
  - Rapid Transport

PEDIATRIC VENTRICULAR FIBRILLATION & PULSELESS VENTRICULAR TACHYCARDIA

Treatment Indications: The patient will be unconscious, unresponsive, pulseless, and apneic. The monitor will show ventricular fibrillation.

ALL EMS PROVIDERS

- Establish Primary Management with particular vigilance in securing and maintaining oxygenation and ventilation
- Follow the Cardiac Arrest Guideline for Defibrillation and CPR guidelines.

ILS PROVIDERS

- Establish IV of NS
  - IO access should be considered after 1-2 failed IV attempts
- Administer Epinephrine 1:10,000 IVP or IO, 0.01 mg/kg (0.1 cc/kg), repeating that dose every 3 – 5 minutes as long as the patient remains pulseless.

ALS PROVIDERS

- If defibrillation has not been performed, defibrillate once at 2 Joules/kg, followed by 2 minutes of CPR.
  - During the 2 minutes of CPR, assure the airway is secured with the most appropriate advanced airway (Extraglottic Airway), and assure venous access (IV/IO).
- After 2 minutes of CPR, check a pulse and determine the patient's rhythm. If indicated, defibrillate at 4 Joules/kg, and initiate CPR for 2 minutes.
- Administer Epinephrine 1:10,000 0.01 mg/kg (0.1cc/kg), and repeat this dose every 3 – 5 minutes if indicated.
- After 2 minutes of CPR, check a pulse and determine the patient's rhythm. If indicated, defibrillate at 4 Joules/kg, and initiate CPR for 2 minutes. Continue this pattern of "Defib - 2 minutes of CPR – Pulse/Rhythm Check – Defib" as indicated for the duration of the resuscitation.
- Administer Lidocaine 1 mg/kg IVP/IO, repeating every 5 minutes to a maximum total dose of 100 mg.
- If rhythm is thought to be torsades de pointes (polymorphic ventricular tachycardia), draw up 50 mg/kg grams Magnesium Sulfate 50% with a 12 cc syringe, then add enough normal saline to have a total of 10cc of volume, and administer this over 5-20 minutes.
- As with an adult cardiac arrest, treat appropriately with the following medications if there are specific conditions or potential causes that warrant their administration:
  - Known or suspected hyperkalemia, renal failure, or hypocalcemia:
    - Calcium Chloride - 20 mg/kg IV/IO Slow IVP
  - Calcium channel blocker overdose:
    - High Dose Epinephrine (0.1 mg/kg 1:1000) every 5 minutes IV/IO
    - Calcium Chloride - 20 mg/kg IV/IO Slow IVP
  - Opiate OD
    - Naloxone - Initial dose of 0.01 mg/kg, if ineffective then subsequent dosing at 0.1 mg/kg slow IV/IM/SQ/IO/MA (one half dose administered in each nare for MA) up to 2 mg.
  - Tricyclic Overdose:
    - 1 mEq/kg Sodium Bicarbonate followed by an infusion of 1mEq/kg in 1 liter of NS at 500 cc/hr
  - Hypoglycemia
    - Dextrose 25%, 1 Gm/kg
- Generally, pediatric cardiac arrest patients should be transported. However, in cases of obvious death, contact an MCEP for consultation regarding cessation of the resuscitation.

PEDIATRIC VENTRICULAR TACHYCARDIA

Treatment Indications: The patient will have a pulse and show sustained ventricular Tachycardia (wide complex QRS greater than 0.08 seconds) on the ECG monitor

ALL EMS PROVIDERS

- Establish Primary Management
- Explore treatment of possible causes: hypovolemia, hypoxia, acidosis, hypoglycemia, etc.
- Expeditious Transport

ILS PROVIDERS

- IV of NS, as needed for unstable patient, enroute

ALS PROVIDERS

- STABLE
  - Lidocaine: 1:0 mg/kg IVP
  - If no response, rebolus Lidocaine 0.5 mg/kg every 5 minutes to a maximum total dose of 100 mg.
  - It rhythm converts, initiate a Lidocaine drip at 1 mg/min.
  - Assess efficacy of ventilation/perfusion at regular intervals
  - If rhythm is not responsive to Lidocaine, CONTACT MEDICAL CONTROL for potential orders to proceed with administration of Adenosine
    - Adenosine 0.1 mg/kg, maximum dose of 6 mg, follow with a rapid NS 5 - 10 ml bolus
    - Adenosine can be doubled and repeated once if SVT persists. Max dose is 12 mgs, follow with a rapid NS 5 -10 ml bolus.
  - If no response, consider proceeding to the Unstable V-Tach Guideline. (See below)
- UNSTABLE – Patient showing signs and symptoms of hypoperfusion (diminished LOC, etc)
  - If venous access is in place, sedate if needed and/or if time allows with midazolam 0.2 mg/kg (max dose of 5 mg) IVP/IO
  - Perform synchronized cardioversion at 1.0 Joule/kg; if unsuccessful, repeat synchronized cardioversion at 2.0 joules/kg
  - If unsuccessful, administer 1mg/kg Lidocaine if venous access is available; wait approximately 1 minute, then perform the third synchronized cardioversion at 2 joules/kg.
    - If venous access is not yet available, proceed with the third synchronized cardioversion. After this third synchronized cardioversion, secure venous access, and initiate Lidocaine therapy.
  - If the third cardioversion is unsuccessful, wait 5 minutes and repeat the Lidocaine at 1 mg/kg (max total dose of 100mg), wait approximately 1 minute, and perform synchronized cardioversion at 2 joules/kg.
    - If rhythm converts after any defibrillation, administer a Lidocaine drip at 0.5 mg per minute (about 8 microdrops per minute).
  - If after four synchronized cardioversions, the patient is still in an unstable V-Tach, CONTACT AN MCEP for consultation and orders to continue electrical therapy.

NEONATAL RESUSCITATION

Treatment Indications: The patient is a newborn who requires resuscitative intervention. Extent and level of intervention is patient condition dependent.

ALL EMS PROVIDERS

- Establish Primary Management
- DO NOT delay delivery if birth appears imminent.
- After delivery of head:
  - If meconium is present and the baby is vigorous after delivery (APGAR = >8), quickly suction meconium and any other secretions only by mouth as completely and quickly as possible Warm and dry the baby.
  - If the baby is not vigorous (APGAR <7), place in supine position in slight Trendelenburg position, and open/maintain airway. Consider finger sweep and/or bulb suction attempt. Warm and dry the baby.
  - Initiate blow-by high flow oxygen if the baby has adequate respiratory effort, but do not chill the baby.
  - If respiratory rate is less than 30 breaths per minute, or the baby is apneic, gasping, or has persistent central cyanosis despite high flow blow-by oxygen AND/OR the baby's HR< 100, begin ventilations with the appropriate bag valve mask and 100% oxygen at a rate of 40 to 60 ventilations per minute, and provide tactile stimulation.
  - Palpate the brachial or femoral pulse, the umbilical cord, or if necessary, use a stethoscope to auscultate at the apical area of the heart. If the heart rate is less than 60 or absent, begin compressions.
    - Encircle the newborn's chest and place both thumbs on the lower one-third of the sternum. Compress at a rate of 120 times per minute. A compression to ventilation ratio of 3:1 at 120 events/min rate is preferred; otherwise a compression to ventilation ratio of 15:2 is acceptable.
  - If the heart rate increases to above 60 bpm, discontinue compressions, but do not hesitate to begin compressions if the HR drops below 60 at any time. Continue ventilations at a rate of 40 – 60 per minute.
  - Rapid Transport / Request ALS.

ILS AND ABOVE PROVIDERS

- Establish IV (IO after 2 failed attempts) of NS
- Perform glucometry utilizing heel stick blood or venous blood & if BGL is < 60 mg/dl, administer 1 gram per kilogram SIVP of D10% over twenty minutes
- If non-addict mother has used narcotics within the past four hours, consider naloxone initial dose of 0.01 mg/kg IV or IO for the infant with respiratory depression unresponsive to conventional resuscitation, subsequent doses at 0.1 mg/kg (max 0.4 mg/dose) to a maximum of 2 mg.
- DO NOT administer naloxone to infants of addicted mothers.

ALS PROVIDERS

- If meconium is present and the baby's APGAR is < 7 after delivery, quickly cut the cord, and without over-stimulating the baby consider finger sweep and/or bulb suction attempt. Once the airway is clear, ventilate with a bag valve mask and 100% oxygen.
- If IV or IO access has been obtained, and there is reason to suspect hypovolemia due to dehydration, hemorrhage, or third-spacing, bolus the neonate with 10cc per kg of NS over 5 – 10 minutes. Repeat if necessary.
- Administer medications ONLY if compressions and positive pressure ventilation with 100% oxygen do not raise the HR >60.
  - If all of the above treatments have not increased the baby's HR to >60, then administer Epinephrine 1:10,000 IVP, 0.01-0.03 mg/kg (0.1-0.3 ml/kg). Repeat every 3-5 minutes.

OBSTETRIC/GYNECOLOGICAL EMERGENCIES

CHILDBIRTH – ASSISTING WITH A FIELD DELIVERY

Treatment Indications: An imminent delivery indicated by one or more of the following: the mom reporting that the baby is coming; reported rectal pressure (urge for bowel movement) from the mother; crowning of the baby's head; a strong urge to push with contractions; etc. Obtaining the mother's history of previous pregnancies and the length of labor during those pregnancies may provide additional insight. If a decision is made to assist with a delivery at a residence or anywhere other than the back of a transporting unit, there should be no factors that indicate the need for immediate transport, such as a prolonged rupture of membranes (> 24 hours), abnormal presentation, prolapsed cord, known multiple fetuses, a known maternal drug abuse history, or other known potential fetal or maternal complications. ALS should be considered for all imminent delivery calls as the risk for resuscitation and airway compromise with the baby as well as excessive hemorrhage of the mother is always of potential concern.

ALL EMS PROVIDERS

- Position the mother appropriately. While the supine position might seem the best for the caregivers assisting the mother, it often contributes to decreased maternal cardiac output, an increase in the mother's back pain, and less effective contractions. Consider a semi-sitting or left lateral recumbent maternal position. Don't be surprised if the mother would rather attempt to deliver the baby in a squatting or "hands and knees" position.
- Prepare yourself for assisting the delivery. Open the OB kit before you need its contents. Don the appropriate personal protective equipment.
- Create a clean field for delivery, with a towel or drape under the mother's buttocks, another below the vaginal opening, and one across her lower abdomen.
- Place oxygen on the mother at an appropriate flow rate
- As the baby's head emerges, if the amniotic sac has ruptured, look for signs of meconium staining and prepare to treat appropriately. If the sac has not ruptured, tear the sac to release the fluid. Assure the sac is removed from the baby's face prior to a first breath.
- Apply gentle counter – pressure to the baby's head with the palm of a hand to prevent an unexpected precipitous delivery. As soon as possible during delivery of the head, check for a nuchal umbilical cord (wrapped around the baby's neck), and if present, slip it over the head. If it is too tight to do this, quickly but carefully place two umbilical clamps about 2 inches apart and, ideally with bandage or umbilical scissors (rather than a scalpel), cut the cord between the clamps.

  If the rather drastic action of cutting a nuchal cord is taken, the baby's only supply of oxygen is cut off. The remainder of the delivery should take place as quickly as possible to facilitate stimulation of the baby's respiratory effort.

  - **After delivery of the head,** past recommendations were that in the presence of meconium, the baby's mouth and nose were suctioned before the shoulders delivered. This has shown no benefit, and is no longer recommended.
  - If meconium is present and the baby is vigorous after delivery (APGAR = >8), consider finger sweep and/or bulb suction attempt if necessary. Warm and dry the baby.
- The head should turn towards the mother's left or right; with the mother's next contraction, gently guide the baby's head downward (toward the mother's buttocks) to allow delivery of the upper shoulder, and then guide the baby's body upward (toward the mother's abdomen) to deliver the lower shoulder. At this point, the rest of the baby will deliver quickly. The caregiver must be prepared to support the infant's body as it emerges.
- Once fully delivered, note the time of birth, and initiate drying, warming, positioning, appropriate suctioning and, if necessary, stimulation of the infant. Place the baby on the mother's abdomen, with the head below the body to facilitate drainage of fluid from the airway. Administer oxygen blow-by (without cooling the baby) as needed. Clean, dry and wrap baby in clean sheet, towel, or blanket. Cover the baby's head, and put the baby to the mother's breast, if she intends to breast feed. Perform the APGAR assessment on the baby (detailed on the next page).
  - **If the baby's respirations and movement are depressed or abnormal despite above, refer to the Neonatal Resuscitation guideline (Page 104).**
  - Cutting the cord is not necessarily a priority, and in fact, delaying the cord cutting until at least it stops pulsating is beneficial to the baby. Transport should not be delayed to cut the cord. If cutting the cord during transport is indicated, then once the cord stops pulsating (about 4 – 7 minutes after delivery) clamp

(Continued on next page)

- the umbilical cord about 6 - 7 inches from the baby, and again about 9 - 10 inches from the baby, and cut the cord between the clamps.
- The placenta may take up to 30 minutes to deliver. After it delivers, gently massage the uterine fundus to help decrease maternal hemorrhage.

ILS AND ABOVE PROVIDERS

- Initiate large bore IV of NS to mother, titrate to maintain LOC, HR & end organ perfusion.

Evaluation at Birth: The APGAR scoring system:

- Obtain APGAR assessment score at earliest reasonable opportunity (1 & 5 minutes)

Evaluation Factor	0	1	2
Appearance (Skin Color)	Body and Extremities blue, pale	Body pink, extremities blue	Completely pink
Pulse rate	Absent	Below 100 per minute	100 per minute or above
Grimace (Irritability)	No Response	Grimace	Cough, sneeze, or cry
Activity (Muscle Tone)	Limp	Some flexion of extremities	Active motion
Respiratory effort	Absent	Slow and irregular	Strong Cry

CHILDBIRTH, ABNORMAL

Treatment Indications: Breech birth, Limb presentation or Prolapsed cord.

- ALS response is **required for all the following abnormal or critical situations**. Consider a helicopter response if available.
- Initiate emergent transport at the earliest opportunity, and meet the ALS transport unit enroute.
- Ensure maternal primary management including high flow oxygenation 12 – 15 lpm via NRB (regardless of respiratory distress).
- Contact the receiving hospital ASAP in order for obstetrical care to be available immediately upon arrival of the patient.
- Specific care for particular abnormal presentations is found in the following guidelines.

CHILDBIRTH, FULL BREECH DELIVERY

Condition Information: Breech presentations are most commonly associated with preterm birth, placenta previa, multiple births, and uterine and fetal anomalies. Approximately 4 percent of all live births are breech births.

ALL EMS PROVIDERS

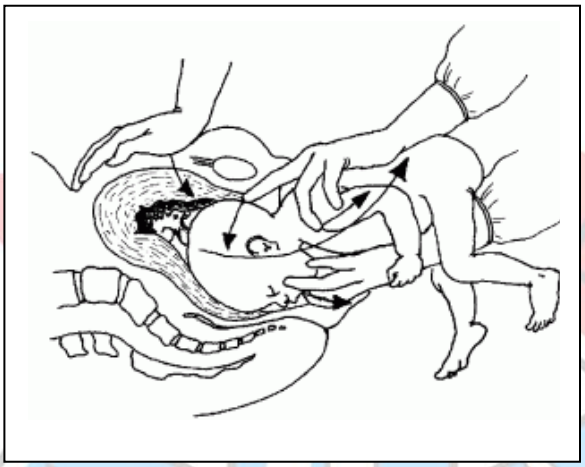
- Prepare for delivery as described for a normal delivery (draping, etc)
- Breech deliveries are better dealt with in a hospital. Positioning the mother on her left side, and asking her if she can avoid pushing and breathe through contractions, may delay birth until she can be transported to an appropriate facility. But with the long transports in Sandoval County, delivery may be imminent and unavoidable.
- Since some breech births are preterm, the infant may deliver without significant difficulties, and in fact, could deliver rather rapidly, depending on gestational age.
- Once the breech delivery begins, the lower extremities will often quickly deliver. Support the infant's body, and if the baby's head delivers spontaneously, proceed with suctioning airway (mouth and nose), then dry and wrap baby as you would with a normal delivery.
- If the gestational age and size is more advanced, some assistance may be required for the delivery of the hips. The breech baby is often facing the mother's right or left side. Usually, the baby's anterior (closest to mother's abdomen) hip will deliver first, and as you support the baby's body gently upward, the posterior (closest to mom's back) hip will deliver. If the legs have not delivered by now, they will usually come free at this point, and the baby will emerge up to the umbilicus.
- Once the umbilical cord is visualized, if it is pulled taut, it should be pulled gently down and out of the vagina to create slack for the remainder of the delivery. To reduce the risk of asphyxia, the head should be born within 5 minutes of this point. Encourage the mom to push HARD with contractions.
- The shoulders are usually not a problem to deliver, but if there is any difficulty, they are usually delivered by depression of the buttocks and extracting the anterior shoulder with a gloved finger. The baby's body is then raised gently, and the posterior shoulder should deliver.
- The baby will now usually rotate into a face down/bottom up position. Support the body as necessary.
- Do NOT pull on the baby, despite the temptation. Lift the body slightly, just to where the body is parallel to the floor, but NOT extending the baby's neck.
- Have a caregiver apply gentle pressure directly above the pubic bone (<u>below the fundus</u>), to flex the baby's head down. When the mother pushes, the head will usually deliver. (This is NOT the Mauriceau maneuver).
- If the head does not deliver, continue rapid transport and assure ALS intercept. Create an airspace for which the baby to breath by inserting two gloved fingers in a "V" shape into the vagina. Keep the baby's body warm by draping with towels, etc, and keep the umbilical cord warm and moist if it is still pulsating.

BLS PROVIDERS

- If the head does not deliver within 4 – 6 minutes, perform the MAURICEAU Maneuver as defined below:
  - Having a caregiver support the body, insert your gloved hand with two gloved fingers in a "V" shape, much as described previous for creating an airway for the baby.

(Continued on next page)

- Place your fingers on the fetal maxilla, applying enough pressure to tuck and flex the child's head. The maneuver is to tuck, NOT PULL, the head.
- Place your other hand gently over the occiput to aid in flexion.
- During the mother's next contraction, have her push hard, during which another caregiver should apply suprapubic pressure to assist with the flexion of the head and assist with the delivery.



- Be prepared for maternal hemorrhage, with or without successful delivery of the baby. Establish IV access and treat appropriately'

CHILDBIRTH - LIMB PRESENTATION

Condition Information: Limb presentations occur when the fetus is in a transverse lie in the uterus, and the arm or leg protrudes from the vagina. This is seen in less than 1% of deliveries, and is most often associated with preterm birth and multiple gestation situations. This is a life-threatening situation for the fetus.

ALL EMS PROVIDERS

- Place mother in knee-chest position (prone, resting on her knees and upper chest), and secure her as well as possible for transport. Deliver high flow oxygen to the mother and discourage pushing.
- Transport immediately to a hospital with caesarian section capability (Women's Hospital, Presbyterian Medical Center, and UNMH). Air support is certainly a consideration if your transport time will be more than 30 – 40 minutes. Advise the receiving hospital of the situation as soon as possible.

ILS/ALS PROVIDERS

- Initiate an IV of NS, titrating to the mother's blood pressure.

CHILDBIRTH - PROLAPSED CORD

Condition Information: Umbilical cord prolapse occurs when the umbilical cord precedes the fetal presenting part, causing the cord to be compressed between the fetus and the bony pelvis. This shuts off fetal circulation, potentially a fatal event for the fetus. This occurs once in every 250 deliveries. Cord prolapse is associated with premature rupture of the amniotic membranes, prematurity, multiple gestation, and abnormal fetal presentation (breech, transverse, etc).

ALL EMS PROVIDERS

- Place mother in knee-chest position (prone, resting on her knees and upper chest), and secure her as well as possible for transport. Administer high flow oxygen to the mother.
- Insert a gloved hand into the vagina and gently but effectively push the presenting part that is compressing the cord.

(Continued on next page)

- Uterine contractions will be forcing the baby down toward you at regular intervals.

- Once your hand is in the vagina, the caregiver will often remain in that situation until the baby is delivered by caesarian section at the hospital.

- Once this maneuver is completed, a pulsating cord is reassuring if the caregiver feels it against their hand. However, do NOT compress on the cord to see if it is pulsating, as it could cause a vasospasm of the cord vessels.

- If the cord protrudes outside of the vagina, keep it moist and warm as possible with saline and dressings.
- The fetus' best hope for survival is rapid transport and early caesarian section, so transport expeditiously but safely to a facility capable of providing the necessary care (Women's Hospital, Presbyterian Medical Center, and UNMH). Air support is certainly a consideration if your transport time will be more than 30 – 40 minutes. Advise the receiving hospital of the situation as soon as possible.

CHILDBIRTH - WRAPPED (NUCHAL) CORD

Condition Information: This occurs when the umbilical cord wraps around the fetal neck. When found during an otherwise normal delivery, intervention is required. This is a fairly common condition.

ALL EMS PROVIDERS

- As soon as possible during delivery of the head, check for a nuchal umbilical cord. If present, slip it over the head.
- If it is too tight to do this, quickly but carefully place two umbilical clamps about 2 inches apart and, ideally with bandage or umbilical scissors (rather than a scalpel), cut the cord between the clamps.
    - If the rather drastic action of cutting a nuchal cord is taken, the baby's only supply of oxygen is cut off. The remainder of the delivery should take place as quickly as possible to facilitate stimulation of the baby's respiratory effort.

CHILDBIRTH – SHOULDER DYSTOCIA

Condition Information: Shoulder dystocia is one of the most frequently occurring complications of labor and delivery. Shoulder dystocia occurs after delivery of the head, when the width of the fetal shoulders is wider than the maternal pelvic inlet, and the anterior fetal shoulder becomes impacted against the maternal symphysis pubis. While it makes sense that this would occur with a very large fetus, about half of all cases occur with average sized fetuses. Risk factors include gestational diabetes, prior shoulder dystocia, post-term pregnancy, a short maternal stature, and abnormal pelvic structure.

Condition Description: Labor may appear to be progressing normally, although slowly. The head may emerge after a long & slow crowning process. Once emerged, the head will either rotate very slowly, or not at all. The fetal head then appears to pull back against the perineum. At this point, if you check for a nuchal cord, you will find the head tightly applied to the perineum and it will be difficult to actually reach the neck. The fetal head will begin to change color – purple to black, and if you try to assist in the delivery of the shoulder, you will feel resistance and be unable to do so. True shoulder dystocia is a bone – on – bone impaction, and is a true threat to the fetus' life.

ALL EMS PROVIDERS

- If the mother is on the gurney (or the floor), create space beneath her bottom by placing pillows or a bedpan under her buttocks. This will allow for more room for the head later in the delivery.
- Assure ALS response, initiate transport, and utilize air transport if appropriate.
- Do NOT pull on the baby's head.
- Initiate high flow oxygen for the mother.

(Continued on next page)

ILS/ALS PROVIDERS

- McRobert's Maneuver
    - Have the mother grasp her knees and pull her thighs back onto or alongside her abdomen, as if she was trying to put her knees into her armpits. Her shoulders should be flat on the surface of which she is lying.
    - While the mother is in the McRobert's position, have another caregiver stand on the mom's side that the baby is facing away from, and apply deep pressure straight down just above the mother's pubic bone (NOT pressure on the fundus). This will hopefully adduct the anterior shoulder, reducing the diameter of the shoulder girdle, and allow the anterior shoulder to deliver. The caregiver should use a steady pressure initially, but if unsuccessful, should apply the pressure in a rocking motion.
    - With both of these maneuvers applied, have the mother push with a focused effort. Guide the head downward with a gentle pressure, but DO NOT STRESS THE NECK.
    - If the shoulder is released, be prepared for a quick delivery of a slippery infant.

The McRobert's maneuver will resolve most cases of shoulder dystocia. However, if they do not, proceed to the:

- Gaskin Maneuver
    - Have the mother flip herself over to her hands and knees.
    - Grasp the fetal head, and gently guide it downward attempting to deliver the posterior shoulder (which is now uppermost).
    - The turning from the mother's back to her hands and knees changes the angle of the pelvis, enlarges the pelvic diameter, and often shifts the fetal position to allow for delivery.
    - Again, if the shoulder releases, the baby will deliver quickly
- If none of these are successful, rapidly transport the mother, repeating the above maneuvers enroute.
- If delivery is accomplished, the baby will often need aggressive resuscitation.
- Prepare for significant postpartum bleeding, and treat appropriately.

CHILDBIRTH – HEAVY VAGINAL BLEEDING (POSTPARTUM HEMORRHAGE) FOLLOWING DELIVERY

Condition Information: Postpartum hemorrhage is the loss of more than 500 cc of blood immediately following delivery, occurring in about 5% of deliveries. The most common cause is uterine atony, or lack of uterine muscle tone. There can be many other causes, including placenta previa, abruptio placentae, retained placental parts, clotting disorders, and vaginal or cervical tears.

ALL EMS PROVIDERS

- Place the patient in Trendelenburg position.
- Firmly massage the fundus after the delivery of the placenta.
  - This will be uncomfortable for the mother, but is important in stimulating the uterus to contract.
- Place dressings against the vaginal area. DO NOT place anything inside the vagina.
- Cold packs may help in the stopping of bleeding, if the mother can tolerate it.
- Put baby to breast as suckling may assist in stopping bleeding.
- Initiate high flow oxygen, and treat her for shock.

ILS AND ABOVE PROVIDERS

- Enroute, initiate 1-2 large bore IVs of NS, titrate to maintain LOC, HR & end organ perfusion. Aggressive fluid resuscitation is encouraged.

ALS

- If bleeding cannot be controlled, mix 10 units of pitocin/oxytocin in 500 cc's of NS and administer this at 125cc/hr, titrating to bleeding cessation (using 60 drip tubing the drip rate is 125 mgtts/min).

PREECLAMPSIA – MILD AND SEVERE

Condition Information: Preeclampsia is a hypertensive disorder of pregnancy, and is a complication seen in approximately 6% of pregnancies. Hypertensive emergencies of pregnancy account for 15% of all maternal deaths during pregnancy, so early recognition is imperative. Preeclampsia is categorized as either mild preeclampsia or severe preeclampsia. These designations are further explained below. When preeclampsia progresses to seizures or coma, the condition is termed eclampsia. The eclampsia treatment guideline can be found immediately after this preeclampsia treatment guideline. Note: Preeclampsia can occur up to six weeks after delivery.

MILD PREECLAMPSIA

Treatment Indications: Mild preeclampsia is defined as a sustained blood pressure of 140/90 or above. Edema is often listed as a signature sign of preeclampsia, but edema is fairly commonplace in pregnancy, and about a third of mild preeclampsia patients present with no edema at all, so it is a rather unreliable sign for mild preeclampsia. Patients with mild preeclampsia are often managed at home on bed rest, but it is conceivable to be called to assist and transport a patient with this condition.

ALL EMS PROVIDERS

- Establish and maintain an airway and appropriate oxygenation.
- Position the patient on her left side in the left lateral recumbent position to avoid supine hypotension syndrome.
- Maintain low stimulus environment with low level lighting and minimizing extraneous noise.

ILS AND ABOVE PROVIDERS

- Establish venous access with an isotonic solution at a TKO rate.
- Perform field glucose determination. If < 60 mg/dl, administer Dextrose 50% per the hypoglycemia guideline.
- ECG Monitoring

SEVERE PREECLAMPSIA

Treatment Indications: Severe preeclampsia may develop suddenly and present with any of the following: a systolic pressure of 160mm Hg or greater and/or a diastolic pressure of 110mm Hg or greater; generalized edema apparent in the face, hands, sacral area, lower extremities, and the abdominal wall; headache, blurred vision and other visual disturbances (visual disturbances can indicate an impending seizure); nausea, vomiting, and anxiety; Abdominal pain (especially RUQ) and epigastric pain caused by liver edema and swelling (another sign of impending seizure); hyperactive reflexes and clonus.

ALL EMS PROVIDERS

- Same as for Mild Eclampsia

ILS AND ABOVE PROVIDERS

- Same as for Mild Eclampsia

ALS PROVIDERS

- Consider administration of Magnesium Sulfate per the following:
  - Patient's systolic BP > 160 and/or diastolic BP > 110, contact MCEP for an order of 2 Gm $MgSO_4$ IV diluted in 50 – 100 cc and administer slow IVP/IO, over several minutes.
  - Patient's systolic BP > 150 and/or diastolic BP > 100 and the patient exhibits at least 2 signs and symptoms of severe pre-eclampsia (severe headache, blurred vision, or abdominal pain) contact MCEP for an order of 2 Gm $MgSO_4$ diluted in 50 – 100 cc and administer slow IVP/IO, over several minutes.

ECLAMPSIA

Condition Information: When preeclampsia progresses to seizures or coma, the condition is termed eclampsia. The usual presentation is tonic-clonic seizures lasting less than a minute following signs of severe preeclampsia. Partial seizures (various SxS of focal type seizure with consciousness maintained) or complex partial seizures (various SxS of focal type seizure with alteration of level of response) also can occur. Some patients will progress directly into coma without an observed seizure. Most patients who develop eclampsia show marked edema, increased BP and other SxS of severe preeclampsia (see previous guideline), but up to 30% of eclamptic patients do not have these classic SxS.

Note: Preeclampsia can occur up to six weeks after delivery.

ALL EMS PROVIDERS

- Establish and maintain an airway with suction, and administer high flow oxygen.
- Protect the patient from injury, as with any seizure.
- Ventilate the patient as necessary.
- Rapid Transport / ALS intercept

ILS AND ABOVE PROVIDERS

- Establish venous access with an isotonic solution at a TKO rate.
- Perform field glucose determination. If < 60 mg/dl, administer Dextrose 50% per the hypoglycemia guideline.
- ECG Monitoring

ALS PROVIDERS

- Consider Magnesium Sulfate and/or Midazolam per the following:
- Dilute 4 Gm $MgSO_4$ in 50 – 100 cc and administer slow IV push, over 5 – 10 minutes.
- Initiate a $MgSO_4$ drip at 30 mg/min (Mix 4 Gm of $MgSO_4$ in 250 cc NS, and run it at 120 cc/hr with minidrip tubing).
    - Magnesium is contraindicated in patients with renal failure.
    - If magnesium is administered too rapidly (i.e., faster than parameters listed above) or the patient receives an overdose, severe hypotension, arrhythmia, respiratory and/or cardiac arrest may occur. In this event, and if your transport time is greater than 15 minutes, contact MCEP for possible order of:
        - 10 ml Calcium Chloride 10% over 10 minutes.
- If seizure continues after $MgSO_4$ administration, proceed to midazolam administration, preparing as well to actively manage the patient's airway due to respiratory depression. (See Seizure guideline Page 75)
- Transport ASAP

ECTOPIC PREGNANCY

Condition Information and Treatment Indications: This condition should be suspected in any woman of childbearing age complaining of abdominal pain, mild or severe. Additionally, the patient may have signs and symptoms of shock, syncope, and possibly vaginal bleeding, (30% of patients have no external bleeding). Ectopic pregnancy occurs in nearly 1 of every 45 reported pregnancies, and accounts for 10% of all maternal deaths. Field diagnosis is difficult, with a high index of suspicion appropriate treatment and transport being the most critical actions for the patient. Final diagnosis will be made in the E.D.

ALL EMS PROVIDERS

- Establish primary management
- Rapid transport

ILS AND ABOVE

- Initiate 2 large bore IV of NS; titrate to maintain LOC, HR and end organ perfusion.

Consider Pain Management (Page 47).

TRAUMA EMERGENCIES

TOURNIQUET

Designation of Condition:

Tourniquets can be an effective means of mitigating uncontrolled exsanguination from a limb or extremity caused by a traumatic injury. This tool should be considered in the event of a life threatening extremity hemorrhage that cannot be controlled by other means.

ALL PROVIDERS

CONTRAINDICATIONS:

- Non-extremity hemorrhage
- Proximal extremity location where tourniquet application is not practical

Procedure:

- Place tourniquet proximal to wound, the best points of application are high on the upper arm under the armpits for brachial arteries and high on the upper thigh within the groin area for femoral arteries.
- Tighten per manufacturer instructions until hemorrhage stops and/or distal pulses in affected extremity disappear.
- Secure tourniquet per manufacturer instructions
- Note time of tourniquet application and communicate this to receiving care providers
- Dress wounds per standard wound care protocols
- If one tourniquet is not sufficient or not functional to control hemorrhage, consider the application of a second tourniquet more proximal to the first.
- Consider pain control
- Application of tourniquets will mandate the Quality Assurance review process.

ASSAULT / RAPE (CRIMINAL SEXUAL PENETRATION AND/OR ASSAULT)

Documentation is essential. Assure that Law enforcement activation and response has occurred or is at least in progress. Protect and preserve evidence and the scene. Comfort and reassure the victim. Advise the patient against, eating, drinking, bathing, smoking and urinating if possible. Encourage the patient to wear or at least bring the clothing he or she was wearing at the time of the assault, if possible. Any victim of sexual assault should be encouraged to receive a Sexual Assault Exam at an Emergency Department or at the Sexual Assault Nurse Examiner (SANE) Facility. NM State law mandates reporting of all suspected child abuse cases, and Child Protective Services should be contacted if appropriate.

ALL EMS PROVIDERS

- Establish Primary Management
- Treat injuries as appropriate.
- Transport any patient to the appropriate Emergency Department presenting with any of the following conditions:
    - Any history of loss of consciousness or other sign of head injury; incoherent or combative behavior; an altered mental status, or suspected intoxication/overdose
    - An oxygen saturation <90%, or a pulse >110, or a systolic BP <90 mmHg or >180 mmHg, or any dysrhythmia
    - Any history of compromised airway, or the potential for such based on a history of attempted strangulation or ligature restraint
    - Significant trauma and/or uncontrolled bleeding
    - Any indication of suicidal behavior or ideation
- Unless the patient's injuries warrant transport to a trauma center, the patient should be transported to their hospital of choice, hospital of insurance or the closest hospital. This patient will be transported later to SANE for evaluation when cleared by the emergency department.
- Minimize the number of caregivers having contact with the patient.
- Unless significant uncontrolled bleeding is suspected, vaginal and perianal exposure and examination is not appropriate.
- If the patient is otherwise uninjured and does not want or need transport to an Emergency Department, but wants the Sexual Assault Exam and further counseling and information, you may contact the SANE (Sexual Assault Nurse Examiner) Facility at 883-8720. You will speak with a SANE nurse, and will inform them that you have an individual that is appropriate for transport to meet with the SANE personnel at the Family Advocacy Center, 625 Silver, SW. It is preferable that the patient be transported via privately owned vehicle or law enforcement. However, if SCFD is the only alternative, the patient should be offered transport. It is prudent to advise the patient that this is a billable transport, but that it might be paid for by the Facility.
    - In the instance that SCFD transports a patient to SANE, the SCFD caregiver should give a report to the SANE nurse via phone or through Regional Dispatch. There is no Med Radio communication possible.
    - Verify that Facility staff will be there to receive the patient. If Facility staff is not there to receive the patient, then transport the patient to the E.D. per guideline.

BITES: ANIMAL/INSECT/SNAKE/HUMAN

ANIMAL/INSECT: Animal bites, except in rare instances, are not life or limb threatening. More limbs are endangered because of inappropriate treatment than from the bite itself.

ALL EMS PROVIDERS

- Establish Primary Management
- Remove constrictive clothing and jewelry.
- Gently irrigate wound with sterile saline and dress.
- Notify Animal Control / Law Enforcement in the event of an animal bite.

ILS AND ABOVE PROVIDERS

- If fluid replacement is needed while enroute to the hospital, initiate an IV of NS and titrate to maintain LOC, HR & end organ perfusion.
- In the event of isolated extremity involvement, pain relief may be appropriate according to the pain management guideline (Page 47). If in doubt, contact a MCEP for advice.

ALS Providers

- If the patient was bitten by a Black Widow and severe signs and symptoms are present, consider pain management guideline (Page 47).

HUMAN: All human bites should be evaluated in an emergency department because of the high risk for infection. Primary field care as above is indicated.

SNAKE BITE: More limbs are lost because of inappropriate treatment with ice, tourniquets and "cut and suck" than from the bites. Try to determine type of snake. Bring the dead snake to the hospital if possible. Do not delay transport. If the snake is alive and in the vicinity, do not attempt to secure or kill snake.

ALL EMS PROVIDERS

- Establish Primary Management
- Remove constricting clothing or jewelry.
- Flush with sterile saline. Immobilize affected area below heart level. Keep patient calm.
- Mark inflammation boundaries, if present.
- Notify the hospital to assure anti-venom resources.
- Maintain extremity in neutral position.
- If patient has anaphylactic type response, treat appropriately per anaphylaxis/allergic reaction guideline.
- If the snake is an elapid (coral snake) or of an exotic variety (cobra, mamba, adder, etc. found at pet stores, or private owners), obtain what type of snake it is if it does not delay transport. Additionally, <u>for coral and exotic bites only</u>, apply an ace type or kerlix type wrap, starting above the bite and extending below the bite. It should be done similarly to how you would wrap a sprained ankle (approximately 50 mmHg of pressure), which is enough to occlude lymphatic flow, but not venous or arterial flow. Do NOT use this technique with the more common Pit Vipers (rattlesnakes, etc).

ILS AND ABOVE PROVIDERS

- Enroute, initiate IV of NS and titrated to maintain LOC, HR and & end organ perfusion.
- For pain control, see pain management guideline (Page 47).
    - If a SCFD paramedic is not on scene, the ILS caregiver must contact a MCEP for orders for Fentanyl or Morphine Sulfate, and administer as previously described in the Pain Management guideline (Page 47).

ALS PROVIDERS

- For pain control, see pain management guideline (Page 47).

BURNS

Superficial – red skin (like sunburn)

Superficial Partial Thickness – red skin, often with blisters

Deep Partial Thickness – blistering (very painful) often difficult to distinguish from full thickness.

Full Thickness – all skin layers & possibly deeper structures involved (may be pain free), often lacks blanching and tenderness, dry leathery, often charred appearance.

Rules of Nines: (Table represents anterior & posterior)

	ADULT	CHILD
HEAD	9%	18%
CHEST-BACK	18%	18%
ARM	9%	9%
LEG	18%	13.5%
PUBIC-PERINUEM	1%	1%

- The palm of a patient's hand represents 1% body surface area.
- Be alert for patients with respiratory problems from smoke or chemical inhalation, respiratory tract burns or burns involving the face, head or chest.
- Major burns should be transported to the Regional Burn Center (University Hospital) as soon as possible.
- Local stabilization may be required before transport to University Hospital.
- Major burns are categorized as:
  - Partial thickness burns > 10% in adults and > 5% in children.
  - Full Thickness injuries > 5% body surface area
  - All severe full-thickness burns involving hands, face, eyes, ears, feet and perineum.
  - Circumferential burns.
  - All burns that compromise circulation.
  - All burns with evidence of respiratory involvement or inhalation.
  - All high voltage electrical injuries.
  - Burns with associated multi-system trauma.
  - All high-risk patients (underlying medical problems, especially respiratory).
- Moderate Burns should be transported to a facility that is capable of treating them.
- Moderate burns include:
  - All Partial thickness burns of <10% in adults and <10% in children
  - Full thickness injuries of <5% body surface area.

ALL EMS PROVIDERS

- Establish Primary Management
- Chemical Burns – identify contaminant, flush with water for a minimum of 10 minutes.
- Brush off dry chemicals before irrigation.
- Gently wash with water for a minimum of 10 minutes if burning process has started.
- Estimate depth and percent of area injured.
- Partial Thickness burns <10% of adult and <5% of child, may be cooled with water for 10 – 15 minutes and covered.
- Cover with sterile burn sheets and keep warm.
- When burns are associated with severe trauma, trauma guidelines will supersede burn guidelines.
- Burns with suspected airway involvement (facial burn, singed nasal hair, carbonaceous sputum, change in voice or wheezing), and burns >20% body surface area require paramedic intervention.

(Continued on next page)

- All major and moderate burns deserve paramedic assessment and intervention.
- Immediate stabilization should take place at closest hospital facility with early activation of aeromedical transport.
- In the absence of available aeromedical support, ground transport should consider transportation of any serious burns directly to University Hospital in Albuquerque.
- CONTACT MEDICAL CONTROL to discuss patient destination decisions, as appropriate.

ILS AND ABOVE PROVIDERS

- Enroute initiate IV, and titrate to maintain LOC, HR & end organ perfusion. If burned surface area >20% bolus patient with 20cc/kg.
- Consider repeating bolus of 20cc/kg as necessary.
- DO NOT place IV in burned skin region unless absolutely necessary.
- 2" catheters are preferred.
- For pain control, see pain management guideline (Page 47).

ALS PROVIDERS

- For pain control and anxiety, depending on hemodynamic and airway stability, see pain management guideline (Page 47).
- For airway control in the presence of a respiratory burn with signs of airway compromise, refer to ALS Provider Airway Guideline (Page 42).

BURNS with DELAYED RESPONSE AND OR TRANSPORT

Designation of condition**:** For patients who have sustained burns more than one hour prior to first contact by EMS.

ILS AND ABOVE PROVIDERS

- Fluid resuscitation at 4 cc/kg/%Total Body Surface Area (TBSA), the first half of that amount in the first eight hours since the burn, the remainder of that amount in the following 16 hours. If the patient is already > one hour from the time of the burn, modify accordingly.

Example: 4 cc x 70 kg x 30 percent TBSA = 8400 cc with 4200 cc in the first 8 hours, the remaining 4200 cc over the next 16 hours. If the patient is 3 hours post-burn, the first 4200 cc would be administered over 5 hours.

- Ensure the airway is secured appropriately prior to transfer. Contact an MCEP for advice if needed.
- Monitor all vital signs q 15 min or more frequently in severe burns, especially lung sounds & SPO_2
- Ensure that the patient is dry and kept warm.

FRACTURES - EXTREMITY

Designation of Condition: Treat significant dislocations, strains and sprains as a fracture until proven otherwise.

All EMS Providers

- Establish Primary Management
- If a distracting injury exists, consider providing spinal motion restriction (if appropriate) and transport.
- If patient is stable or if isolated injury exists, check distal pulses and sensation before and after splinting, and reassess frequently.
- Splint injuries in position found. If limb must be moved for extrication or transport, gently straighten and splint. Immobilize the joints proximal and distal to the injury.
- If extremity or joint is severely angulated with absent pulses, or loss of sensation or strength distally, gently straighten to anatomically correct positioning. Reassess circulation.
- Most isolated hip, acetabular and high femur fractures are best managed WITHOUT the use of a rigid device such as a backboard and/or vacuum splint. Carefully placing the patient on a soft gurney will dramatically increase comfort and minimize pain during transport.
- PELVIC BINDERS for patients with major trauma and unexplained hypotension

ILS and Above Providers

- Enroute, initiate isotonic IV, on unaffected side, to maintain LOC, HR, and end organ perfusion.
- For patients exhibiting significant pain, with only isolated extremity trauma and hemodynamic stability,

See pain management guideline on Page 46.

- If a SCFD paramedic is not on scene, the ILS caregiver must contact a MCEP for orders for Fentanyl or Morphine Sulfate, and administer as previously described (Page 47).

ALS Providers

- For pain control, see pain management guideline (Page 47).

FROSTBITE

Treatment Indications: Localized cold injury may be superficial or deep.

ALL EMS PROVIDERS

- Establish Primary Management
- Remove victim from cold environment, & protect areas from further injury.
- Remove any wet/cold clothing.
- Cover with dry sterile dressings.
- Superficial frostbite can be warmed with ambient heat.
- Deep frozen areas must be protected from further injury – do not attempt field re-warming.
- Do not massage, apply ointments, break blisters or engage in aggressive warming of injured area.

ILS AND ABOVE PROVIDERS

- Consider IV initiation, titrating to the patient's condition.
    - If the frostbite is localized to fingers and/or toes, and the patient is complaining of severe pain, see Pain management guideline (Page 47).

EYE INJURIES

Designation of Condition: The patient will present with signs and symptoms of eye pain due to superficial corneal abrasions, mace or pepper spray exposure or welders burns (UV keratitis).

All EMS Providers

- Establish Primary Management

For Chemicals or Foreign Objects

- Assess for obvious trauma to globe or cornea. If found, do not irrigate, cover both eyes with a loose dry dressing.
- Where there is no obvious trauma to the globe, gently flush eyes with NS for at least 15 minutes, or until 1 L of NS has been used. Do not be concerned with removal of contact lenses in the field unless broken. Treat by irrigation, like any foreign body.
- In the case of exposure to law enforcement type chemical agents such as Pepper Spray, transport may not be required following eye flushing if symptoms of eye irritation are resolved.
- Consider covering both eyes to help decrease eye movement.
- Do not patch any penetrating or open eye injury. May cover without any pressure on the globe (e.g., with a cup).

ALS Providers

- Instill two drops of anesthetic solution Tetracaine Hydrochloride before irrigation. Tetracaine is contraindicated in the presence of penetrating eye injuries. When in doubt, **CONTACT MEDICAL CONTROL**.

HEAD INJURY – INCREASING INTRACRANIAL PRESSURE

Designation of Condition: The patient will be suspected of having increased intracranial pressure due to traumatic injury. A history of trauma associated with any or all of the following: slowing pulse rate, increasing blood pressure, increasingly irregular respiratory pattern, altered level of consciousness, unequal pupils, repetitive speech patterns, seizures, or presence of Cerebral Spinal Fluid (CSF) leak.

ALL EMS PROVIDERS:

- Establish Primary Management
- Monitor serial GCS and document q 5 minutes for patients who present with GCS < 8
- Ensure adequate oxygenation - SaO_2 > 90%
- Ensure adequate perfusion - Systolic BP > 90 - 100 mmHg
- If BVM ventilation is needed, most patients will be ventilated at a rate of about 12 ventilations per minute. If the patient exhibits signs of significantly increasing intracranial pressure and impending herniation (e.g. development of unilateral/asymmetrical pupil dilation, unreactive pupils, or extensor posturing), then ventilate at a rate of 16 – 20 ventilations per minute. For pediatric patients, the ventilation rate should be about 20 ventilations per minute, unless there are SxS of herniation, at which time ventilate up to 30 times per minute. Continue to monitor and document serial GCS every 5 minutes and if pupils improve (become symmetric), return to normal ventilation.
- Request ALS intercept for patients with GCS < 8 and prolonged transport if not already enroute.
- BGL, if altered mentation

ILS AND ABOVE PROVIDERS:

- If BGL < 60 mg/dl, administer 12.5 Gm D50W, recheck blood glucose, if < 60, administer additional 12.5 Gm D50W and recheck.
- Titrate IV NS to keep systolic BP > 90 mmHg
- **Do not administer nitroglycerine or otherwise attempt to lower the blood pressure for ANY patient with hypertension from head injury.**

ALS PROVIDERS:

- If patient is being ventilated, ensure that $ETC0_2$ is maintained at 30 – 35 mmHg.
- Follow airway management guidelines (Page 42) as appropriate and Altered Mental Status – Agitation guideline (Page 56) if necessary.

HYPERTHERMIA

Treatment Indications: A group of disorders brought on by exposures to excessive heat where body temperatures may be normal or elevated. These disorders are usually associated with some degree of dehydration.

Definitions:

- Febrile Seizures – Sudden increase in body temperatures may cause seizures particularly in infants and children.
- Heat Cramps - Large muscle group cramping, usually after prolonged or heavy exertion. There should be no changes in the patient's level of response.
- Heat Exhaustion – Often a progression from Heat Cramps. Symptoms include: moist, pale and clammy skin, dilated pupils, normal temperature, weakness, dizziness, headache, or nausea. There should be no changes in the patient's level of response.
- Heat Stroke – A progression from Heat Exhaustion. This condition is defined by mental status changes, ie: confusion, coma, etc. The patient may have reddened, flushed skin, which may or may not be sweaty. Often, there are constricted pupils, high temperature, a strong and rapid pulse, deep and rapid respirations, decreased blood pressure, dry mouth, and/or possible seizures.

ALL EMS PROVIDERS

- Establish Primary Management
- Remove patient from warm environment
- Rapidly cool patient by whatever reasonable means possible (minimize shivering).
- If patient is alert without nausea, encourage oral hydration, using an electrolyte solution when available.
- If LOC deteriorates further, place cold packs under patient's arms, and at neck, ankles and head. Consider cooling with cold, wet dressings.

ILS PROVIDERS

Heat Cramps:

- IV of NS as necessary to support LOC, HR and end organ perfusion. Bolus in 250 - 500 cc increments, re-evaluate LOC, VS, and lung sounds between boluses.

Heat Exhaustion:

- IV of NS as necessary to support LOC, HR and end organ perfusion. Bolus in 250 - 500 cc increments, re-evaluate LOC, VS, and lung sounds between boluses.

Heat Stroke:

- IV of NS as necessary to support LOC, HR and end organ perfusion. Bolus in 250 - 500 cc increments, re-evaluate LOC, VS, and lung sounds between boluses.
- If there is a question about the source of the patient's diminished level of response, refer to altered mental status guideline as needed (Page 54).

ALS PROVIDERS

- Consider ALS airway guidelines (Page 42) if the patient's level of response deteriorates significantly. Should intubation be necessary, treat as a patient with increasing intracranial pressure.

HYPOTENSION AND SHOCK

Treatment Indications: SBP <90mmHG. May be accompanied by elevated HR, sweating and shortness of breath. May be due to blood loss, anaphylaxis, sepsis, central nervous system trauma, or fluid loss.

ALL EMS PROVIDERS

- Establish Primary Management
- Rapid Transport
- Oxygen at 10-15 lpm by non-rebreather mask
- Modified Trendelenburg, keep patient warm and give nothing by mouth (NPO).
- If possible, treat the specific cause of the hypotension, i.e.: anaphylaxis

ILS PROVIDERS

- Initiate 2 large bore IVs of NS, titrate to maintain LOC, HR & end organ perfusion.
- Cardiac Monitor

ALS PROVIDERS

- Advanced airway as needed.
- After appropriate fluid resuscitation, and if the source of the hypotension is non-hemorrhagic in nature, consider:
  - See the specific clinical guideline

HYPOTHERMIA EMERGIENCIES

Treatment Indications: Depressed core temperature < 95 degrees Fahrenheit. Handle the hypothermic patient gently. Rough handling may cause Ventricular Fibrillation. Conditions, medications and substances that may predispose a patient to develop hypothermia include: exhaustion, diabetes, hypothyroidism, iron deficiency, anorexia, renal failure, tricyclic antidepressants, anti-psychotics, narcotics, benzodiazepines, steroids, caffeine, alcohol and nicotine.

ALL EMS PROVIDERS

- Establish Primary Management
- Remove victim from cold environment
- Remove any wet/cold clothing
- Monitor vital signs for one full minute at the carotid or by auscultation of heart sounds.
- If any pulse is detected, do not perform CPR
- If no pulse is detected, refer to the Hypothermia Cardiac Arrest guideline
- Assist respirations with warm humidified Oxygen, if available, at a rate of 8 – 10 per minute.
- Cover torso with warm blankets
- Consider wrapping heat packs and placing them under the patient's arms, groin, and posterior neck.

ILS AND ABOVE PROVIDERS

- Cardiac Monitor
- Enroute, initiate warm IV of NS

SPINAL MOTION RESTRICTION

Designation of Condition: Spinal Motion Restriction (SMR) is indicated for trauma patients when there is a suspicion of spinal injury based on mechanism of injury or patient complaining of pain in the area of the spinal cord.

ALL EMS PROVIDERS

- EMS First Responders should consider SMR based on training.
- When in doubt, limit patient movement and provide in-line stabilization until arrival of higher trained personnel.

BLS AND ABOVE PROVIDERS

IF MECHANISM EXISTS FOR SPINAL INJURY;

- Perform Spinal Assessment
- Declare **positive spinal assessment** if any of the following exist:
    - Pain, tenderness, or deformity in posterior midline over any vertebra
    - Unexplained focal neurologic deficit
    - Unreliable spinal exam:
        - Altered mental status
        - Alcohol/drug intoxication
        - Painful distracting injury
        - Age < 3

  If **positive spinal assessment:**
    - Place C-Collar
    - **If patient is ambulatory** on scene or if they can safely self-extricate:
        - Assist to cot
    - **If patient is not ambulatory**, or if extrication is required:
        - Use rigid extrication device as needed to move patient to cot
        - Remove rigid extrication device once patient on cot if possible
    - Head may be supported with headblock or similar device to prevent rotation
    - Secure patient with seatbelts in supine position (or in position of comfort if supine position not tolerated)

  If **negative spinal assessment:**

    - Transport in position of comfort
    - Place C-Collar if patient age > 65

- Consider IV/IO access
- Consider Pain Control (Page 47).

NOTE:

- No patient shall be transported on a backboard or other rigid extrication device **unless** removing patient from the device interferes with critical treatments or interventions
    - **Exception**: patient may be transported with vacuum splint in place

- C-Collar may be removed if interfering with airway or airway placement, or if causing extreme distress

TRAUMA – AMPUTATIONS

Designation of Condition: The patient presents with an extremity (e.g., hand, foot, leg, toe, finger) that has been completely or partially amputated. Extremity parts are potentially salvageable. Optimal results occur when re-implantation occurs within a few hours (less than six hours post injury).

ALL EMS PROVIDERS

- Establish Primary Management
- Enroute, consider rinsing the amputated parts with NS to remove loose debris. DO NOT scrub.
- Apply a tourniquet to the remaining limb portion if significant bleeding
- Wrap loosely in dry gauze.
- Place into plastic bag.
- DO NOT pour water into bag and do not cool directly with ice. Place sealed bag in ice water bath, when possible.
- Notify Medical Control of possible surgical candidate, and seek direction to appropriate Medical Facility.

ILS AND ABOVE PROVIDERS

- Enroute, Initiate 1 - 2 large bore isotonic IVs. Titrate to maintain LOC, HR, and end organ perfusion.
    - For patients exhibiting significant pain, with only isolated extremity trauma and hemodynamic stability, consider:
    - See pain management guideline (Page 47).
    - If a SCFD paramedic is not on scene, the ILS caregiver must contact a MCEP for orders for Fentanyl or Morphine Sulfate, and administer as previously described.

ALS PROVIDERS

- For pain control, see pain management guideline (Page 47).
- **Morphine is not appropriate for potential multi-systems trauma patients, or patients who present with unstable vitals.**
- **CONTACT MCEP** for additional orders, if necessary

TRAUMA – BLUNT & MULTI-SYSTEMS

Transport should be initiated AS SOON AS POSSIBLE. Longer scene times should occur only in rare situations, (e.g. the scene is unsafe, the patient is not accessible, and the patient has a precarious airway requiring prompt invasive intervention, multiple patients, or a belligerent and combative patient who requires arrival of extra personnel).

- Prolongation of scene time is **unacceptable** for the following:

To await the arrival of a helicopter - may rendezvous enroute when necessary if ground transport is going to take longer than 30 – 40 minutes.

To begin IVs at the scene, when ground transport is available

ALL EMS PROVIDERS

- Establish Primary Management, See Spinal Motion Restrictions
- Begin immediate transport to appropriate facility

ILS AND ABOVE PROVIDERS

- Initiate large bore isotonic IVs. Titrate to maintain LOC, HR, and end organ perfusion.
- If hypotensive, bolus 20 cc/kg as needed and reassess.
- Critically unstable presentation - rapid transport and ALS required
- For pain control, see pain management guideline (Page 47).

ALS PROVIDERS

- Advanced Airway procedures as necessary
- If patient is verbalizing pain, is exhibiting other SxS consistent with pain (grimace on palpation, etc) and:
- Patient has palpable radial pulses
- For pain control, see pain management guideline (Page 47).

TRAUMA – PENETRATING

Designation of Condition: All penetrating trauma to the chest, abdomen, back or groin, penetrating neck wounds, proximal penetrating extremity injuries, penetrating head trauma with unconsciousness or deteriorating neurological signs.

Transport should be initiated AS SOON AS POSSIBLE. Longer scene times should occur only in rare situations, (e.g. the scene is unsafe, the patient is not accessible, the patient has a precarious airway requiring prompt invasive intervention, multiple patients, or a belligerent and combative patient who requires arrival of extra personnel).

- Prolongation of scene time is **unacceptable** for the following:

To await the arrival of a helicopter - may rendezvous enroute when necessary if ground transport is going to take longer than 30 – 40 minutes.

To begin IVs at the scene when ground transport is available

ALL EMS PROVIDERS

- Establish Primary Management, including the appropriate dressing of wounds if time allows.
- Begin immediate transport to appropriate facility, which in most cases will be the University of New Mexico Hospital
- Occasionally, in the northern portion of our county, St. Vincent Hospital in Santa Fe may be a destination. If so, advise them you have a "Trauma Stat", which is their in-house code for a serious trauma, if indeed your patient is serious or critical.
- Spinal motion restriction (backboarding) is very seldom necessary for patients with penetrating trauma. Refer to the Spinal Motion Restriction Guideline (Page 130).

ILS AND ABOVE PROVIDERS

- Initiate large bore isotonic IVs. Titrate to maintain LOC, HR, and end organ perfusion.
- Bolus 20 cc/kg as needed and reassess. Generally, if a systolic blood pressure of about 90 mmHg is obtained, the IV can be set at a rate of about 500/hr.
- Critically unstable presentation - rapid transport and ALS required
- For pain control, see pain management guideline (Page 47).

ALS PROVIDERS

- Advanced Airway procedures as necessary
- If the wound is an isolated extremity injury, consider pain management (Page 47).

APPENDIX A – SPECIAL SITUATIONS

The “No Guideline” Guideline

It is understood that no set of guidelines could ever be “all inclusive.” With that understanding, occasionally EMS providers will be faced with situations that do not fit a certain guideline, or no guideline exists addressing the situation. In these circumstances the paramedic on scene may consider all allowable treatment options within the Sandoval County Fire Department Treatment Guidelines and the New Mexico Scope of Practice and discuss appropriate management options with an MCEP, if he or she believes that such interventions are necessary and in the best interests of the patient.

The paramedic must inform that MCEP that no guideline exists to cover this particular situation, and the MCEP will then advise the paramedic as to how to proceed with the treatment of that patient.

There are also times when communications with an MCEP is not possible due to remote locations throughout the County and where access through radio or cell phones is not available. In these circumstances the paramedic on scene may consider all allowable treatment options within the Sandoval County Fire Department Treatment Guidelines and the New Mexico Scope of Practice, if he or she believes that interventions are necessary and in the best interest of the patient he or she may perform those interventions without the actual contact of the MCEP as may be required by the Treatment Guidelines or New Mexico Scope of Practice.

If the “No Guideline” Guideline is used in delivering patient care, it will be the responsibility of that Paramedic to notify the receiving MCEP of the care that was done under this Guideline as soon as communications can be established, and to also immediately notify both the EMS Chief and Service Medical Director of the situation that had occurred as soon as the call is complete. A Run QA/QI form will be generated by the Paramedic upon completion of the call so that the circumstances of the call can be reviewed as soon as practical.

EMERGENCY INCIDENT REHABILITATION

Designation of Condition: Firefighters die of stress and overexertion illnesses more often than burns/injuries from structural events. Key principles of Emergency Incident Rehabilitation (EIR) include the following:

- Adequate hydration and rest should be maintained at all times while on shift
- Provide continuous medical monitoring to allow early identification of stress and heat related illness
- Immediately ID and treat any potentially serious medical condition detected during an emergency incident
- Treat traumatic injuries

Baseline VS should be recorded for all FF prior to their involvement in an incident. Keep resting and post-aerobic VS for each member confidential but accessible to the rehab sector. Pay special attention to members on beta-blockers, calcium channel blockers, or diuretics as those drugs alter one's response to heat and cardiovascular stress.

In Coordination with Individual Department SOGs:

EMS personnel shall

- Gather vital signs, HR, BP, Pulse Oximetry, CO-oximetry. If HR > 120, obtain temperature and record it.
- Question personnel and evaluate for medical history and current symptoms.
- Based on the assessments and re-assessments of the personnel, there can be several dispositions as follows:

Triaged to Rest and Rehabilitation:

- Reassess VS after 20 minutes, if within normal limits, may return to duty
- If cannot take or keep down oral re-hydration, reassign to treatment area.

Triaged to Medical Evaluation and Treatment Area:

- If FF has injuries, HR > 120 at entry, BP > 200 systolic or between 100 - 120 diastolic, or < 90 systolic, re-assess VS after 10 - 20 minutes and log VS. If after 20 minutes with oral re-hydration and rest, VS have not returned to normal, remove from duty.
- If HR > 140 after approximately 20 minutes, or cannot take or keep down oral fluids. Initiate IV, LR 1 L bolus, and re-assess. May repeat twice prior to MCEP consultation. If HR, BP, temp return to normal and FF is able to take oral fluids and keep them down, may return to duty.

Immediate Transport to Hospital Required:

- If temperature is > 101, HR is > 140 after 20 minutes, or any of the following signs or symptoms of heat exhaustion/stroke or other serious illness are present:
- Headache
- Vomiting
- Chest Pain
- SOB
- Altered Mental Status
- Irregular pulse
- Pulse > 150 at any time, pulse > 140 after cool down
- Systolic BP > 200 after cool-down, and diastolic > 130 at any time
- Follow above IV fluid administration guidelines and transport to hospital. Ensure adequate cooling. Follow appropriate guidelines for Chest Pain, SOB, Heat Exhaustion, etc.
    - General Guidelines for Rehab:
    - Unusual symptoms such as excessive salivation, runny nose, and diarrhea may indicate organophosphate exposure/poisoning. Burning eyes could indicate exposure to chemicals or metal gases. These and any other unusual symptoms should be reported to IC immediately.
    - Adequate water, electrolyte containing fluid and energy containing carbohydrates should be available. Do not provide products that contain caffeine. Cool fluids and shade in warm weather should be a goal, as should warm fluids, warm rehab area in cold weather.
    - Notify IC of disposition of personnel, per Department SOG.

TASER PROBE REMOVAL

Designation of Condition: When the Taser is deployed on a person, EMS personnel may be requested to remove Air Taser probes lodged in a subject's skin. Be aware that secondary injuries may result from falls sustained after the device has been deployed. They may be dazed/confused for several minutes post device deployment. The patient may require additional restraint as defined in guidelines.

PROCEDURE

- Confirm that the Taser has been shut off and is no longer connected to the TASER.
- Obtain vital signs at the earliest opportunity. Violent and combative behavior may be secondary to hypoxia, hypoglycemia, or CNS abnormalities. Obtain O2 sat and BGL as soon as it is feasible. Treat trauma and seizure if applicable. Run a cardiac rhythm strip and ensure that the patient is in normal sinus rhythm with a normal QRS morphology. Document this and attach strip to chart.
- If patient is not alert, oriented to person, place, time, situation, with normal vital signs, including 02 sat and BGL(if appropriate) and a normal rhythm strip, **transport to hospital will be required.**
- Evaluate the anatomical location of the probe (s) puncture zones. High-risk/sensitive zones will require transport to a medical facility for removal. They include:

Head region including eyes and ears (If eyes, stabilize probe to minimize movement/pressure on probe during transport)
Neck region
Breast
Groin region
Hands or Feet
Joints

- Make sure that the EMS Provider (utilizing PPE) stabilizes the hand against the body of the subject during probe removal is at least eight inches away from the probe in order to avoid "raking" the barbed tip across the hand.
- Prior to probe removal (utilize PPE) inform all caregivers that you are about to remove the contaminated sharp.
- When removing a probe, it is important to make sure that the probe remains intact and that the barbed tip did not pull out and remain in the body of the subject. The barbed tip of the probe can break off during probe removal, leaving part of the barb in the subject.
- Examine the probe and the patient closely in an effort to make sure the probe tips did not break off during removal. Accordingly, it is important that the person removing the barb visually inspect it to make sure that the tip is fully intact.
- Thoroughly clean the puncture site. If the barb remains in the subject, the patient will transported to a medical facility for removal.
- Be careful to avoid accidental needle sticks when removing probes. There have been several reported cases where a caregiver removing a probe has sustained an accidental puncture with the contaminated probe.
- Promptly release the probe to Law Enforcement personnel for storage as evidence.
- Provide wound care by cleansing the affected area with sterile saline.
- Inform patient of basic wound care and the need to seek additional care in event that signs of infection (redness-fever-drainage-swelling-etc.) occur.
- Clear and thorough documentation is required in the body of the report narrative whether or not EMS transports the patient.
- MCEP may be contacted to discuss any of the above.

CRITERIA FOR TRAUMA TEAM ACTIVATION
TRAUMA ALERT PROTOCOL

PURPOSE:

To provide an immediate trauma system response for the trauma patient meeting the following criteria:

AIRWAY	1. Field intubations/Surgical Airway
LIFE THREATENING	2. REQUIRES IMMEDIATE INTUBATIONS
COMPROMISE	3. REQUIRES SURGICAL AIRWAY
BREATHING	1. Respiratory rate>30 or <10 Pediatric>40 or <15 2. Blunt chest trauma affecting oxygenation/ventilation
CIRCULATION	1. BP <90 systolic Pediatric for age 2 or less, <80 systolic 2. Tachycardia≥ 130 Pediatric: for age 2 or less> 150 3. Pt requiring blood transfusion en-route
DISABILITY Hemodynamic Instability	1. Unconsciousness, posturing, paralysis, seizure, paresthesias 2. GCS ≤ 11 Pediatric: GCS ≤ 12 (altered responsiveness)
EXPOSURE	1. Penetrating Injuries to neck, trunk or head 2. Major amputations 3. Crush to torso or upper thighs 4. >20% burns or any burn involving airway
PHYSIOLOGIC	1. Any viable pregnancy with significant MOI (e.g: ejection, rollover, fatality, etc) 2. Extremes of age<5 or >65 with significant MOI (ejection, rollover, fatality, intrusion) And/or co-morbid conditions (e.g: coagul)

♦Lifeguard Dispatch activates Trauma Alert per Criteria

♦Emergency Dept. MD/RN can activate upon presentation if not done PTA

272-3115 = TAP

University Hospitals♦UNM Health Sciences Center

TRAUMA CENTER PROTOCOL Dev 7/15/95, Rev 4/1/97, 1/5/98, 2/13/04, 8/15/2007

TRAUMA STAT ACTIVATION FOR CHRISTUS ST. VINCENT HOSPITAL SANTA FE

Trauma-Stat is the term used to request the activation of the Trauma Team at Christus St. Vincent Hospital (SVH). This activation allows for the highest state of readiness and preparation prior to the trauma patient's arrival at SVH. Trauma-Stat provides a mechanism for EMS to request the activation of the Trauma Team when indicated by the appropriate triage criteria of the trauma patient at the scene.

Trauma-Stat Activation Criteria

- Systolic Blood Pressure < 90 mmHg and clearly indicating hemodynamic instability
- Decreased Level of Consciousness with GCS < 9 secondary to trauma
- Obvious penetrating injury to head, neck, torso or extremity proximal to elbow or knee
- Failed airway
- Obvious flail chest
- Obvious pelvic fracture resulting from a significant mechanism of injury
- Any partial or full thickness burn involving face or airway
- Any partial or full thickness burns > 20% of body surface in an adult
- Any partial or full thickness burns > 10% of body surface in a child
- Two or more obvious proximal long bone fractures
- Also consider activating **Trauma-Stat** for a trauma patient < 5 or > 55 years old or obviously pregnant, and/or significant pre-existing illness with a significant mechanism of injury.

MULTICASUALTY INCIDENT – MCI

This guideline provides organization and structure for managing emergencies that result in multiple patient injuries, illnesses, or deaths, regardless of the cause. Implementation of the procedures detailed here are directed toward the goal of producing the largest number of survivors while providing for responder and community safety, accountability, welfare and environmental concerns.

This document provides specific guidance for an MCI and uses the NIMS Incident Command System (ICS) as required by the State of New Mexico.

Definitions:

System Level MCI:

An incident that taxes the **immediate area EMS system**.

Low Level MCI:

An incident with 5 patients of which 2 or more are Red Tag (critical) patients.

High Level MCI:

An incident with more than 5 patients, or more than 2 Red Tag (critical) patients.

Procedures:

Scene Size Up:

- The first unit on scene will commit to the following actions (DO NOT BEGIN TREATMENT):

Confirm that an MCI exists

Have Regional Dispatch notify and dispatch the SCFD EMS Chief (or other Command Staff if the EMS Chief is unavailable).

Rapidly assess the incident

Estimate the number of patients

Determine the need for additional EMS resources

Determine the need for additional outside agencies, resources or specialized equipment (e.g., law enforcement, HazMat, heavy equipment)

Notification of Hospitals:

The appropriate notification to area hospitals concerning the existence of a MCI should occur as soon as possible by the Incident Commander or designated officer. Specific information (e.g., unit, patient numbers, criticality, etc.) should be conveyed directly to these hospitals as the incident progresses.

- Contact Sandoval Regional Communications Center, and advise them of the incident (County Command page for MCI). They can then utilize the EMResource to notify the hospitals of the situation. If Christus St. Vincent Hospital will be getting patients, have Sandoval Regional Communications Center contact and advise them of the situation.
- Coordinate transport destination(s) with AAS Dispatch (If no SCFD Command staff on scene for transportation officer) based on Sandoval County MCI Distribution Plan. Advise them of tag color and number of patients on board.
- Transporting units should <u>not</u> be making individual radio reports in a large scale MCI unless there is a significant change in patient condition.

Assignment of Officers:

The Incident Commander (IC) may assign the following positions as needed:

Triage Officer

Staging Officer

Public Information Officer (PIO)

Treatment Officer

Transportation Officer (if required)

Extrication Officer (if required)

Rehabilitation Officer (if required)

(Continued on next page)

Role of EMS Medical Director:

The EMS Medical Director shall be notified of all High Level MCIs at the earliest opportunity. If the EMS Medical Director arrives on scene, s/he shall be briefed upon arrival by the IC, and then sent to the EMS Sector for assignment and further briefing.

- Medical Control when the Medical Director is not present will take place via the written guidelines. See also Medical Control Guidelines (Page 20)
- Personnel are NOT required to CONTACT MEDICAL CONTROL, even to perform life threatening procedures if they are deemed appropriate by field personnel in these situations.

START TRIAGE

Each SCFD Medic Unit is equipped with the commercially available START Triage Kit, and each member of the crew should be familiar with the START Triage system.

RED (IMMEDIATE/CRITICAL): These are the patients of the highest priority, which, in most circumstances, are removed and treated first. This category EXCLUDES patients that are in cardiopulmonary arrest, or are near death and have, in the judgment of the Triage Officer, fatal injuries.

YELLOW (DELAYED/SERIOUS): Patients whose injury/illness is serious and needs attention. However, treatment and transport may be delayed until viable RED patients have been treated and transported.

GREEN (MINOR/STABLE): Patients who may have treatment and/or transport delayed.

BLACK (DECEASED): Patients who are already dead or so severely injured that death is certain within a short timeframe, regardless of treatment given.

CONTAMINATED: These patients may be from any triage category but need to be grossly decontaminated prior to transport.

Colors should be used with Triage Tags, tape, ribbons, tarps, flags, etc.

MCI Distribution Matrix

(Modified from the Bernalillo County/Region 1 distribution plan)

Distribution Matrix

Acuity	Hospital	Trauma	Medical
IMMEDIATE	University Hospital	Up to 3 red Or 3 yellow Or 3 green (or any combination, not to exceed 3 per wave)	2 patients/wave
DELAYED	Presbyterian Lovelace DT Sandoval Reg Rust Medical	1 red Or 2 yellow Or 3 green (or any combination, not to exceed 3 per wave)	2 patients/wave
	Lovelace WS	1 red Or 2 yellow Or 3 green (or any combination, not to exceed 3 per wave)	2 patients/wave
MINOR	Kaseman Heart Hospital Women's VA	Up to 2 green Heart Hospital will accept 1 red or 1 yellow isolated cx trauma patient if necessary	2 patients/wave

Some hospitals may choose to increase their patient allotment, or accept patients with a higher level of acuity. During a “declared” MCI any closed facility will automatically be put on open status (unless on black closure), no facilities will be allowed to close, and no facilities will divert patients brought to them based on the guidelines.

NOTE: For incidents occurring west of Rio Grande River, the use of the West side hospitals in the early stages should be utilized.

For incidents occurring east of the Rio Grande River, the above distribution plan may be utilized as needed.

SANDOVAL COUNTY - INTERAGENCY INTERACTION GUIDELINES

Introduction: Emergency Medical Services in Sandoval County is provided by a combination of dedicated Career and Volunteer EMS Providers from the nine County Fire Districts, EMS Providers from two Pueblo EMS Entities (Jemez Pueblo and Santo Domingo Pueblo), and Volunteer and Paid EMS Providers from the incorporated entities of the Town of Bernalillo Fire Department, Cochiti Lake Fire Department, Jemez Springs Fire Department, the Cuba Fire Department and possibly Corrales Fire Department. The primary Transport Units are the Sandoval County Fire Department Medic Units. There will be times that PHI Medical Helicopter, CareFlight Medical Helicopter, Rio Rancho Fire, Santa Fe County Fire, Bernalillo County Fire, and Albuquerque Area Transport Units will be involved in EMS incidents in Sandoval County. In order to achieve the goal of Quality Patient Care, it is critical that interactions between the services be predictable and consistently professional. These guidelines were developed with the intent of facilitating optimal patient care, transfer, and scene flow, and so that all field providers can approach scenes with the same expectations and cooperation.

1. Responders and Caregivers (First Responder, EMT-B, EMT-I, EMT-P) from the County or Municipal Fire District from where the request for service originated are responsible for initially assuming command of the scene and directing patient care and assessment if they arrive on scene prior to SCFD Medic Unit arrival. This may include:
   - Obtaining patient consent for further treatment and transport if necessary.
   - Requesting a transport unit if not already dispatched, or requesting additional personnel, specific fire and/or rescue equipment, and ground and/or air transport units.
   - Upgrading, downgrading, or canceling incoming personnel. When downgrading incoming transport units, the incoming unit should generally heed the downgrade. However, there may be times and situations where the transport unit may elect to remain in an emergency response mode despite the on scene personnel's request.
   - Obtaining a fully documented and signed liability release on any patient who is refusing treatment and or transport and meets the refusal criteria explained in the Sandoval County EMS Guidelines.
2. The first arriving unit will relay any necessary information regarding the scene and incident (scene safety, scene access, equipment needs, staging, etc) to subsequent arriving units utilizing the county radio system.
3. The first arriving caregiver with the highest level of EMS training will assume charge of and direct patient care while awaiting the transport unit.
4. Upon arrival of the transporting unit, they shall receive at least an oral report from the most appropriate on scene caregiver. The transporting unit shall assume patient care responsibility after the patient report from the on scene caregiver.
5. First arriving and primary care providers will continue to assist in patient care under the direction of the transporting caregivers.
6. All agencies will assist each other in every possible way (i.e. moving/gathering of equipment and stretcher); however, due to risk management considerations, any time there is a patient on a stretcher, employees from that agency will facilitate/supervise proper loading and unloading operations of the stretcher providing for patient safety at all times. Other personnel on scene will be utilized to help lift in the interest of patient safety and comfort.
7. If a patient has been loaded into the transport unit prior to the County district volunteer providers' arrival, it is appropriate for the arriving personnel to inquire if they can be of any assistance. If the transport provider deems assistance unnecessary, the County Volunteer Fire personnel may cancel. Transport will generally not be delayed in order for information gathering and/or report writing if the patient is loaded and ready for transport.
8. If in the judgment of the transport provider that the transport situation will require additional caregivers, Sandoval County Fire Department and/or other personnel may be asked to accompany the patient to the hospital in the transporting unit, and should comply for optimal patient care.
9. The Sandoval County EMS system follows the Incident Command System structure. Be familiar with the ICS and be able to execute it when called for. In these situations, the Incident Commander is in command of all personnel, and will ensure that only properly protected and/or trained responders will be in the "hot" zones. The Incident Commander will direct all incoming personnel to an appropriate staging area for duty assignments.

CRUSH INJURY / CRUSH SYNDROME

ALL EMS PROVIDERS

- If patient is actively trapped and extrication is going to be prolonged, consider activating EMS Consortium Physician for scene response.
- Basic Airway management
- Spinal Motion Restriction as needed
- Control Bleeding as needed
- Cardiac monitor (if available)
- Oxygen

ILS AND ABOVE PROVIDERS

- IV/IO access
- Fluid resuscitate, hydrate prior to release of compressive force to minimize hypovolemia and to dilute cellular toxins
- 20 ml/kg bolus
- 500 ml/hr maintenance fluid
- Pediatric maintenance fluid:
    - Weight up to 10 kg – 4 ml/kg/hr
    - Weight 1-20 kg – 40 ml/hr plus2 ml/kg/hr for each kg between 10 and 20 kg
    - Weight greater than 20 kg – 60 ml/hr plus 1 ml/kg/hr for each kg above 20 kg
- Consider Pain Management
- Consider advanced airway

ALS PROVIDERS

Pain Management

Release compression and extricate patient

- If unable to release compression and the situation progresses to CRUSH SYNDROME (entrapment lasting longer than 4 hrs) or suspicion of hyperkalemia (peaked T-waves, absent P-waves and/or widened QRS complex) administer:
    - Albuterol
        - Adult 5mg via continuous mask nebulization
        - Pediatric 1 yr or older – 5 mg
        - Pediatric less than 1 yr – 2.5 mg
    - Calcium Chloride
        - Adult 1 Gm SIVP over 60 sec
        - Pediatrics follow Broselow tape 20 mg/kg SIVP over 60 sec, Max single dose 500 mg

    Flush IV tubing with NS prior to administering sodium bicarbonate to prevent precipitation

    - Sodium Bicarbonate
        - Adult 1mEq/kg added to 1L NS, run IV wide open just prior to extrication
        - Pediatric 1mEq/kg added to 1L of NS, administer 20 ml/kg IV
    - Release compression and extricate

Special Considerations:

Treatment may be compromised by confined space or MCI situation. Ideally start treatment prior to release of compression. Evaluate for early notification of EMS Consortium Physician for utilization in situations where life-saving procedure such as an amputation, is required due to the inability to extricate the patient.

Cyanide Poisoning Guideline

Designation of Condition: Inhalation of cyanide gas or ingestion of cyanide crystals prevents the cells of the body from utilizing oxygen. A bitter almond smell may be present. Symptoms are non-specific and rapid in onset. They include: Headache, weakness, nausea, vomiting and confusion. Signs of significant toxicity include: Tachypnea, tachycardia, hypotension, cyanosis, agitation, seizure, and coma. These may progress to cardio-pulmonary arrest if not treated.

NOTE: Multiple patients with similar signs and symptoms should increase your index of suspicion for a chemical event.
NOTE: If suspected exposure has occurred in an enclosed space, do not enter until HAZMAT team determines the scene is safe.

HISTORY: Cyanides are present in the products of combustion of many natural and synthetic materials. Cyanide toxicity should be suspected in victims of smoke inhalation exhibiting concerning signs and symptoms. There are also many industrial uses of cyanide from which exposure may occur, including removal of gold from ore, photography development, electroplating, and cleaning of various industrial metals. In addition, cyanide is a potential agent of chemical terrorism.

ALL PROVIDERS
• Decontaminate patient.
• ABC's. Ensure airway patency.
• Provide suction as needed.
• Provide supplemental oxygen.
• Perform a thorough assessment.
• Rapid transport to Core Facility.

ALS PROVIDERS
• IV/IO NS. Treat hypotension with saline boluses. Frequently re-assess blood pressure and lung sounds.
• Hydroxocobalamin (Cyanokit) The decision to administer hydroxycobalamine is empirical and must be based on clinical characteristics. These include hypotension and altered mental status in the context of a known or suspected cyanide exposure. In cases where exposure is suspected, but no significant signs or symptoms are present, contact MCEP prior to treatment.
• Adult: Administer 5 grams IV/IO over 15 minutes (If available). Re-assess blood pressure during and after infusion.
• Child: 70 mg/kg IV/IO over 15 minutes (If available). Re-assess blood pressure during and after infusion.

Each 2.5 gm vial must be reconstituted with 100 mL of normal saline using the supplied sterile transfer spike. The line on each vial represents 100 mL volume. Following reconstitution the vial should be repeatedly inverted or rocked for at least 30 seconds prior to infusion. DO NOT SHAKE. If reconstituted solution is not dark red or if particulate matter is seen after the solution has been appropriately mixed, the solution should be discarded.
If seizures occur, treat appropriately (Page 75)
If there are associated thermal burns, treat appropriately (Page 120)

NOTE: The extent of cyanide toxicity is dependent on the amount of exposure, route of exposure and length of time exposed. Inhalation of cyanide gas is most rapidly harmful, but ingestion can be severely toxic. Cyanide gas disperses quickly in open spaces and is most dangerous in enclosed areas. It is less dense than air, so it will rise.

Dopamine Drip Rates

Dopamine drip at 5-10 mcg/kg/min (Mix 400 mg dopamine in 250 cc NS solution to make 1600mcg/cc). If need to titrate >10 mcg/kg/min, contact MCEP. May titrate to 20 mcg/kg/min with MCEP order to keep systolic BP >80 mmHg.

Dopamine Drip Rates: Based on concentration of 1600mcg/cc using 60gtts tubing.

	5mcg	10mcg	15mcg	20mcg
Weight/Kg	**gtts/min**	**gtts/min**	**gtts/min**	**gtts/min**
40	8	16	24	36
50	10	20	30	40
60	12	24	36	48
70	14	28	42	56
80	16	32	48	64
90	18	36	54	72
100	20	40	60	80
110	22	44	66	88
120	24	48	72	96
130	26	52	78	104
140	28	56	84	112
150	30	60	90	120
160	32	64	96	128
170	34	68	102	136
180	36	72	108	144
190	38	76	114	152
200	40	80	120	160

SCFD DRUG FORMULARY

0.9% NORMAL SALINE
ACETAMINOPHEN
ACETYLSALICYLIC ACID (ASA, ASPIRIN)
ADENOSINE
ALBUTEROL
AMIODARONE (CORDARONE)
ANTI-EMETIC AGENTS (ONDANSETRON)
ATROPINE SULFATE
BENZODIAZEPINES (DIAZEPAM, MIDAZOLAM)
DEXAMETHASONE
DEXTROSE
DIPHENHYDRAMINE
DOPAMINE HYDROCHLORIDE
EPINEPHRINE (ADRENALINE)
FUROSEMIDE
HYDROXOCOBALAMIN
IPRATROPRIUM
LIDOCAINE HYDROCHLORIDE
MAGNESIUM SULFATE
NALOXONE (NARCAN)
NARCOTIC ANALGESICS (FENTANYL, MORPHINE SULFATE)
NITROGLYCERIN
NOREPINEPHRINE (LEVOPHED)
OXYGEN
OXYTOCIN
PHENYLEPHRINE
PRALIDOXIME (2PAM)
SODIUM BICARBONATE
TOPICAL OPHTHALMIC ANESTHETIC

0.9% NORMAL SALINE

CLASS OF DRUG

Isotonic Crystalloid Solution

SCOPE OF PRACTICE

EMS First Responder, EMT-Basic, EMT-Intermediate, EMT-Paramedic

INDICATIONS

1. IV Fluid administration (Fluid replenishment, Medication route)
2. Topical Irrigation fluid

CONTRAINDICATIONS

The use of 0.9% NaCl should be administered with caution in patients with congestive heart failure because circulatory overload can easily be induced.

DRUG INTERACTION

When large amounts of Normal Saline are administered, it is quite possible for other physiological electrolytes to become depleted.

ADMINISTRATION

1. IV – As needed per patient needs
2. Topical – as needed for irrigation

ACETAMINOPHEN

CLASS OF DRUG

Analgesic, Antipyretic

SCOPE OF PRACTICE

EMT-Basic, EMT-Intermediate and EMT-Paramedic

INDICATIONS

1. Fever in pediatric patients during long transports

CONTRAINDICATIONS

1. Hypersensitivity to the drug
2. Hepatic failure or impairment

DRUG INTERACTION

1. Phenothiazines - may produce hypothermia
2. Phenobarbital - increase hepatic toxicity

ADMINISTRATION

Pediatric: [15 mg/kg] orally
Not to exceed 50 mg/kg/24 hours

SPECIAL NOTES

1. Acetaminophen use in the scope of practice is intended for fever control in pediatric patients during long transports to prevent febrile seizures.

ACETYLSALICYLIC ACID (ASA, ASPIRIN)

CLASS OF DRUG

Anti-inflammatory, analgesic, antipyretic, anticoagulant

SCOPE OF PRACTICE

First Responder, EMT-Basic, EMT-Intermediate and EMT-Paramedic

INDICATIONS

1. Myocardial infarction patients, including suspected AMI patients.

CONTRAINDICATIONS

1. Hypersensitivity
2. Bleeding disorders
3. Asthma (Relative)

ADMINISTRATION

1. Adult: [324 mg] orally for AMI (prefer chewable).
2. Pediatric: Should not to be given to pediatric patients.

SPECIAL NOTES

1. All patients with suspected AMI and without contraindications should receive aspirin.

ADENOSINE (ADENOCARD®)

CLASS OF DRUG

Endogenous nucleoside; antidysrhythmic

SCOPE OF PRACTICE

EMT-Paramedic

INDICATIONS

1. Paroxysmal supraventricular tachycardia (PSVT), including PSVT associated with Wolff-Parkinson-White syndrome.

CONTRAINDICATIONS

1. Hypersensitivity
2. High degree A-V block and sick sinus syndrome, unless a pacemaker is in place

DRUG INTERACTION

1. Carbamazepine - increased likelihood of progressive heart blocks.
2. Dipyridamole - potentiates the effect of adenosine (reduce the dosage).
3. Xanthines - reduces effectiveness (a larger dosage may be required).
4. Nicotine - may increase risk of tachycardia.

ADMINISTRATION

1. Adult: [6 mg] rapid IV/IO (1-2 seconds) followed with a 20 cc flush. May be repeated in 1-2 minutes with a second dose of [12 mg] rapid IV/IO followed by a 20 cc flush.
2. Pediatric: Initial: [0.1 mg/kg] rapid IV/IO. Repeat in 2-3 minutes if no change. Second and third dose at [0.2 mg/kg] rapid IV/IO.

SPECIAL NOTES

1. Use on patients with asthma, may induce bronchospasms.
2. Safety in pregnancy is unknown.
3. Transient dysrhythmias, such as periods of asystole, are common and self-limiting, requiring no treatment unless they persist.
4. Side effects may include: facial flushing, headache, chest pain, dyspnea, lightheadedness, and nausea.
5. Must be given in the IV port most proximal to the patient.
6. Be aware that **ADENOSINE** may not be effective in WPW with atrial fibrillation/flutter.

ALBUTEROL (PROVENTIL®, VENTOLIN®)

CLASS OF DRUG

Sympathomimetic, Beta 2 selective adrenergic bronchodilator

SCOPE OF PRACTICE

First Responder, EMT-Basic, EMT-Intermediate and EMT-Paramedic

INDICATIONS

1. Albuterol is used to treat reversible airway obstruction caused by:
    a. Wheezing associated with asthma
    b. COPD (emphysema)
    c. Chronic bronchitis

CONTRAINDICATIONS

1. Hypersensitivity

DRUG INTERACTION

1. Beta adrenergic agents - potentiates the effects.
2. MAO inhibitors - may lead to hypertensive crisis.
3. Beta adrenergic blockers - decreases the effectiveness.

ADMINISTRATION

1. Adult: [2.5-5.0 mg] (up to 10 mg) in 3 ml of sterile NS given as nebulized inhalation therapy over 5-15 minutes, may be repeated as necessary.
2. Pediatric: [1.25-2.5 mg] (up to 5 mg) in 3 ml of sterile NS given as nebulized inhalation therapy over 5-15 minutes, may be repeated as necessary.

SPECIAL NOTES

1. Most side effects are dosage related.
2. May decrease arterial oxygen tension acutely by causing bronchodilation in areas of lung with poor blood perfusion.
3. Care should be taken if patient is already using an inhalant due to possible development of severe paradoxical airway resistance with repeated excessive use.

AMIODARONE (CORDARONE®)

CLASS OF DRUG

Antiarrhythmic

SCOPE OF PRACTICE

EMT-Paramedic

INDICATIONS

1. Pulseless VF/VT refractory to initial electrical therapy
2. Unstable VT refractory to lidocaine and/or electrical therapy

CONTRAINDICATIONS

1. None, if the patient is in cardiac arrest with VF or VT.
2. High degree AV blocks or sinus node dysfunction with marked bradycardia unless a functional pacemaker is in place.
3. Congestive heart failure.

DRUG INTERACTION

1. Enhanced bradycardia and hypotension when given with other beta-blockers or calcium channel blockers.

ADMINISTRATION

1. Adult:
    a. Pulseless VT/VF: 300 mg initial bolus IV/IO after epinephrine. May re-bolus with 150mg once.

    b. Sustained VT: 150 mg over 10 minutes. May re-bolus every 10 minutes as needed up to a maximum dose of 15 mg/kg/day.

    c. Maintenance infusion:[1.0 mg/min] over first 6 hours; [0.5 mg/min], 540 mg IV/IO over 18 hours. Maximum dose is 2.2g in 24 hours.
2. Pediatric:
    a. Pulseless VT/VF [5mg/kg] IV/IO. May re-bolus every 3-5 minutes to a maximum of 15 mg/kg/24 hours

    b. Sustained VT [5 mg/kg] IV/IO over 20-60 minutes. May repeat twice, up to 15 mg/kg /24 hours; maximum single dose 300mg.

Note: Expert consultation advised prior to administration in pediatrics.

SPECIAL NOTES

1. Must be drawn up slowly to avoid 'bubbles" do not shake the ampule for the same reason.
2. Must be given concurrently with epinephrine in the pulseless patient.
3. Can not be administered via ET tube.
4. Hypotension and bradycardia can occur on patients with a pulse.

ANTI-EMETIC AGENTS *Ondansetron (Zofran®)*

CLASS OF DRUG

Anti-emetic , Selective serotonin blocking agent

SCOPE OF PRACTICE

EMT-Intermediate, EMT-Paramedic

INDICATIONS

Treatment and prevention of nausea and vomiting.

CONTRAINDICATIONS

1. Known sensitivity to Ondasetron or related agents.

DRUG INTERACTION

1. None

ADMINISTRATION

1. Adult: [4mg] IV/IO slow IVP, IM. May repeat in 30 minutes.
   *[8mg] Oral Dissolving Tablets (ODT). Place ODT in patient's mouth and instruct the patient to allow it to dissolve. The tablet dissolves in seconds and any residue may then be swallowed.

2. Pediatric: [0.1 mg/kg] IV/IO slow IVP, IM.
   *[4mg] ODT (12-17 years of age)

*** Note:** Providers may not administer a second dose of Zofran. ODT, or exceed the adult or pediatric doses listed above. Lower dosing in the elderly is not necessary.

SPECIAL NOTES

1. Do not use in patients with known prolonged QT syndrome.

ATROPINE SULFATE

CLASS OF DRUG

Anticholinergic (parasympatholytic)

SCOPE OF PRACTICE

EMT-Basic[1], EMT-Intermediate[1] and EMT-Paramedic

[1] *IM injection for treatment of chemical and/or nerve agent exposure, via auto injector only*

INDICATIONS

1. Symptomatic sinus bradycardia or A-V Blocks
2. Anticholinesterase poisonings - organophosphate, mushrooms (certain types), and nerve gases
3. Adjunct in the treatment of bronchial asthma

CONTRAINDICATIONS

1. None, when indicated.

DRUG INTERACTION

1. Antihistamines, tricyclic antidepressants - additive affect.

ADMINISTRATION

1. Cardiac Indications:
    a. Adult: [0.5 mg] IV/IO, every 3-5 minutes: (0.04 mg/kg) for bradycardia.
    b. Pediatric: [0.02 mg/kg] IV/IO for 1 dose. Minimum of 0.1 mg and maximum of 0.5 mg. [0.03 mg/kg] ET.
2. Anticholinesterase poisoning:
    a. Adult: 2.0 mg IV, ET, or IO repeated until symptoms abate.
    b. Pediatric: [0.05 mg/kg] IV, ET, or IO, repeated until symptoms abate.
3. Mushroom Poisoning:
    a. Adult: 2 mg IV, repeated to doses sufficient enough to control parasympathomimetic signs.

SPECIAL NOTES

1. Available evidence suggests that the routine use of Atropine during asystole is unlikely to have a therapeutic benefit. Atropine is no longer recommended for use in asystole or PEA.
2. May be not be effective with high degree AV block (2nd degree type II, 3rd degree) - do not delay pacing.

(Continued on next page)

ATROPINE SULFATE (cont.)

3. Bradycardia in the setting of an acute MI is common and probably beneficial. Don't treat the rate unless there are signs of poor perfusion (i.e. low blood pressure, mental confusion). Chest pain could be due to an AMI or to poor perfusion caused by the bradycardia itself.

4. Atropine increases the workload and myocardial 02 consumption of heart. Beware of patients who have an ischemic myocardium. Administer supplemental oxygen.

BENZODIAZEPINES
(DIAZEPAM - VALIUM®, MIDAZOLAM -VERSED®, - LORAZEPAM - ATIVAN®)

CLASS OF DRUG

Anticonvulsant, anti-anxiety, sedative, muscle relaxant

SCOPE OF PRACTICE

EMT-Paramedic

INDICATIONS

1. Control of seizures.
2. Sedation for cardioversion.
3. Used in conjunction with paralytics to facilitate intubation as part of a rapid sequence intubation (RSI) protocol. **With special skills approval only**.
4. Reduction of anxiety.
5. Skeletal muscle relaxant.

CONTRAINDICATIONS

1. Hypersensitivity
2. CNS depression

DRUG INTERACTION

1. Additive effect to other CNS depressants such as alcohol, narcotics, etc

ADMINISTRATION

1. Adults

a. Diazepam (Valium®): [2-20 mg] IV/IO, slow with IV running open

b. Lorazepam (Ativan®): [2 - 4 mg] (0.05 mg/kg) IV/IO, slow with IV running open

c. Midazolam (Versed®): [1-5 mg] IVP, slow (over 2 minutes) with IV running open

Note: HIGHER DOSES MAY BE REQUIRED

2. Pediatric:

a. Diazepam Valium®: [0.05 – 0.1 mg/kg] IV/IO

i. Rectal dosage [0.5 mg/kg] may be warranted in seizure patients if no venous access is available. Onset of action by this route may be delayed.

ii Apnea in children after diazepam administration may occur.

(Continued on next page)

BENZODIAZEPINES (cont.)

b. Lorazepam: [0.05-0.1 mg/kg to a maximum 4 mg]. Onset 2-3 minutes. Duration 12-24 hours.

c. Midazolam (Versed®): [0.05 – 0.1 mg/kg] IV/IO

SPECIAL NOTES

1. Should not be mixed with other agents, or diluted with intravenous solutions. Give through the proximal end of IV tubing, then flush well.

2. Most likely to produce respiratory depression in patients who have taken other depressant drugs, especially alcohol and barbiturates.

3. It can cause local venous irritation. Use relatively large veins.

4. Versed has short half- life. Additional doses may be necessary.

5. Utilization of pharmacological agents for the primary purpose of sedation, induction, or muscle relaxation to facilitate placement of an advanced airway requires Medical Direction Committee Special Skills approval.

CALCIUM PREPARATIONS (CALCIUM GLUCONATE, CALCIUM CHLORIDE)

CLASS OF DRUG

Electrolyte

SCOPE OF PRACTICE

EMT-Paramedic

INDICATIONS

1. Used as antidote for calcium channel blocker overdoses
2. Magnesium sulfate overdoses
3. Black Widow spider bite

CONTRAINDICATIONS

1. Hypercalcemia
2. Absence of indications

DRUG INTERACTION

1. Increase toxicity of cardiac glycoside.
2. Calcium should be given in a dedicated IV line.
3. DO NOT mix with Sodium Bicarbonate.

ADMINISTRATION

1. Calcium Gluconate
    a. Adult: [5 - 10 ml] SLOW IVP (Do Not Exceed 2 ml/minute) repeat if necessary after 5 - 10 min.
    b. Pediatric: [0.6 ml/kg] SLOW IVP of 10% solution.
2. Calcium Chloride:
    a. Adult: [5-10ml] by SLOW IVP. Repeat every 10 minutes as needed (1 ml of 10% = 100 mg of calcium chloride).
    b. Pediatric: [0.2 ml/kg] (10% solution) by SLOW IVP. Repeat once in 10 minutes if needed.

NOTE: RAPID INJECTION CAN CAUSE HYPOTENSION, BRADYCARDIA AND DEATH.

SPECIAL NOTES

1. It is best to warm the drug to body temperature prior to administration.
2. If heart is beating, rapid administration of calcium salts can produce bradycardia and/or arrest.
3. May increase cardiac irritability, i.e., PVC's, particularly in the presence of digitalis.
4. Local infiltration will cause tissue necrosis.

CORTICOSTEROIDS *Dexamethasone (Decadron®)*

CLASS OF DRUG

Anti-Inflammatory; immunosuppressant

SCOPE OF PRACTICE

EMT-Paramedic

INDICATIONS

1. Brain injury associated with trauma – **CONTACT MEDICAL CONTROL**
2. Reactive airway disease with no response to Albuterol and other treatments

CONTRAINDICATIONS

1 Absolute – Hypersensitivity

2. Relative – Hypothyroidism; thromboembolic disorders; active infection

DRUG INTERACTION

1. None

ADMINISTRATION

1. Adults – 4-10 mg PO/IV/IM
2. Pediatrics – 0.6 mg/kg (range 0.15-1.0 mg/kg) PO/IV/IM

SPECIAL NOTES

1. Compatible in D5W/NS

DEXTROSE (ORAL/IV/IO – 10%, 25% AND 50%)

CLASS OF DRUG

Carbohydrate, nutrient, short acting osmotic diuretic

SCOPE OF PRACTICE

First Responder[1], EMT-Basic[1], EMT-Intermediate and EMT-Paramedic

[1] *Oral Glucose Preparations only*

INDICATIONS

1. Symptomatic hypoglycemia
2. Unconsciousness of unknown origin
3. Seizures (*associated with decreased BGL*) of:
    a. Unknown etiology
    b. New onset of seizures
    c. Known diabetic actively seizing
4. Refractory medical cardiac arrest (especially in neonates)

CONTRAINDICATIONS

1. Intra-cranial bleeds
2. Delirium tremens with dehydration
3. Administration through the same infusion set as blood.
4. Unconscious (for oral dextrose)
5. Suspected CVA

DRUG INTERACTION

1. None

ADMINISTRATION

1. Oral: [12-25 Gm] of paste, may be spread with a tongue depressor.
2. IV:
    a. Adult: [12.5 to 25 Gm] slow IV/IO push into patent line, if patient is unable to protect airway or tolerate oral fluids. May be repeated as needed. Be prepared to restrain. May be given rectally (paramedic only).
    b. Pediatric: Dilute 1:1 with sterile saline to make 25% solution (0.25 mg/ml) Give [0.5 - 1.0 g/kg] slow IV push. May be given rectally (paramedic only).
    c. Neonates: Use a 10% Dextrose solution (dilute 50ml D50 in 500ml bag of D5W) at [0.2 Gm/kg].

(Continued on next page)

DEXTROSE (cont.)

SPECIAL NOTES

1. Attempts at documenting hypoglycemia via automatic glucometry should be made before administration.

2. Must insure patent IV line, and recheck patency during administration.

DIPHENHYDRAMINE HCL (BENADRYL®)

CLASS OF DRUG

Antihistamine, H1 blocker

SCOPE OF PRACTICE

EMT-Intermediate and EMT-Paramedic

INDICATIONS

1. Allergic reactions
2. Anaphylaxis
3. Dystonic reaction to phenothiazines
4. Motion sickness (Paramedic only)
5. Anti-emetic (Paramedic only)

CONTRAINDICATIONS

1. Acute asthma

DRUG INTERACTION

1. Additive CNS depression with alcohol, sedatives, narcotics

ADMINISTRATION

1. Adults: [12.5-50 mg], slow IV/IO at a rate of 1ml/min or deep IM injection
2. Pediatric: [1 mg/kg], slow IV/IO; deep IM injection with a maximum dose of 50 mg

SPECIAL NOTES

1. May have an immediate effect in dystonic reactions.
2. No early benefit in allergic reactions.

DOPAMINE HYDROCHLORIDE (DOPASTAT®, INTROPIN®)

CLASS OF DRUG

Potent sympathomimetic, dopaminergic

SCOPE OF PRACTICE

EMT-Paramedic

INDICATIONS

1. Primary indication is cardiogenic shock.
2. May be useful for other forms of shock.
3. May be useful, at low doses, in renal failure.
4. Used for refractory bradycardia unresponsive to atropine, and when pacing is unavailable.

CONTRAINDICATIONS

1. Tachydysrhythmias
2. Pheochromocytoma

DRUG INTERACTION

1. Hypotension and/or bradycardia with phenytoin
2. Reduced effects with Beta-adrenergic blocker

ADMINISTRATION

1. Adult: IV infusion ONLY – Standard mix 400 mg in 250 ml D5W or NS to produce a concentration of 1600 mcg/ml. Infusion rates [2.0-20.0 mcg/kg/min] titrated to desired effect. (Other concentrations are used, so know what you are using). Use microdrip chamber or an infusion pump.
2. Pediatric: [1.0 mcg/kg per minute] (6 x body weight (kg) equals milligrams to add to D5W to create a total volume of 100ml). Infuse at 1mL/h.

SPECIAL NOTES

1. Higher doses can cause central vasoconstriction limiting renal blood flow.
2. Doses less than 5mcg/kg can lower B/P.

EPINEPHRINE (ADRENALINE®) (1:1,000 AND 1:10,000 SOLUTIONS)

CLASS OF DRUG

Sympathomimetic

SCOPE OF PRACTICE

First Responder[1], EMT-Basic[1], EMT-Intermediate and EMT-Paramedic

[1] *1: 1,000 solution only, by auto injection device, pre-measured syringe or 0.3 ml TB syringe for anaphylaxis or status asthmaticus refractory to other treatments under on-line medical control or written medical protocols.*

INDICATIONS

1. Severe Bronchospasm
2. Bronchospasms unresponsive to albuterol
3. Anaphylaxis
4. Cardiac Arrest
5. Symptomatic bradycardia after other treatments

CONTRAINDICATIONS

1. None when indicated.

DRUG INTERACTION

1. Reduced effects with Beta-adrenergic blocker

ADMINISTRATION

1. Cardiac Arrest
    a. Adult: [1 mg](1:10,000) every 3 - 5 minutes IV/IO preferred, may be given ET (2 - 2 1/2 times IV dose)
    b. Pediatric: IV/IO 0.01 mg/kg (1:10,000) every 3-5 minutes. ET 0.1 mg/kg (1:1000)
2. Bradycardia
    a. Adult: [1 mg/ 1:1,000] in 250 cc NS or D5W administered at 2 - 10 mcg/min
    b. Pediatric: [0.01 mcg/kg] IV/IO every 3-5 minutes or; [0.1-0.2 mcg/kg/minute] (0.6 x body weight (kg) equals milligrams to add to D5W to create a total volume of 100 m). Infuse at 1mL/h
3. Bronchospasm/Anaphylaxis
    a. Adult: [0.3 mg] (1:1,000) SQ or IM using a 0.3 ml syringe or pre-filled device. [0.1 mg] (1:10,000) IV/IO over 5 minutes. Infusion of [1-4 mcg/min].
    b. Pediatric: [0.01 mg/kg (1:1000)], SQ or IM To a maximum dose of 0.3 mg/dose

(Continued on next page)

EPINEPHRINE (cont.)

SPECIAL NOTES

1. When used for allergic reactions, increased cardiac workload can precipitate angina and/or AMI in susceptible individuals.

2. Due to peripheral vasoconstriction, it should be used with caution on patients with peripheral vascular insufficiency.

3. Consider pulmonary edema or pulmonary embolus in wheezing patients with a history of RAD.

4. EMT-Intermediates and EMT-Paramedics are not required to use a pre-filled device or 0.3 cc syringe.

FUROSEMIDE (LASIX®)

CLASS OF DRUG

Potent loop diuretic

SCOPE OF PRACTICE

EMT-Paramedic

INDICATIONS

1. Pulmonary edema
2. Hypertensive emergencies (AMI, APE, or encephalopathy)

CONTRAINDICATIONS

1. Hypovolemia
2. Hypokalemia
3. Hypotension

DRUG INTERACTION

1. Severe hypotension with antihypertensives and nitrates

ADMINISTRATION

1. Adult: For patients not currently taking furosemide, [20 - 40 mg] slow IVP or [0.5 - 1.0 mg/kg] slow IV/IO. If the patient is currently taking furosemide, double their current dose and administer IV/IO. For use in patient transports of greater than 60 minutes.
2. Pediatric: [1.0 mg/kg] slow IVP. It may be repeated in 6 - 8 hours.

SPECIAL NOTES

1. It can lead to profound diuresis with resultant shock and electrolyte depletion (particularly K+). Therefore, do not use in hypovolemic states and monitor closely, particularly after IV administration.
2. It should be used cautiously in children or pregnant women.
3. If patient unconscious, must have Foley catheter in place and unobstructed urine outflow. Advise the physician if urine is bloody. Trauma to kidneys and urinary system makes the use of furosemide more hazardous.

HYDROXOCOBALAMIN

CLASS OF DRUG

Antidote

SCOPE OF PRACTICE

EMT-Intermediate and EMT-Paramedic

INDICATIONS

1. Treatment of cyanide poisoning

CONTRAINDICATIONS

1. Rare anaphylactic reactions

DRUG INTERACTION

1. Used in combination with sodium thiosulfates to treat methemoglobinemia. No more effective than sodium nitrite.

ADMINISTRATION

1. Adult: [5 grams] IV/IO over 30 minutes
2. Pediatrics (<70kg): [70 mg/kg] IV/IO

SPECIAL NOTES

1. Transient hypertension.
2. Reddish discoloration of skin and mucous membranes.

IPRATROPRIUM (ATROVENT®)

CLASS OF DRUG

Anticholinergic

SCOPE OF PRACTICE

First Responder, EMT-Basic, EMT-Intermediate and EMT-Paramedic

INDICATIONS

1. Bronchial asthma

2. Reversible bronchospasm associated with chronic bronchitis and emphysema.

CONTRAINDICATIONS

1. Hypersensitivity to the drug, especially with Atropine products, soy and peanuts

2. Acute treatment of bronchospasm where rapid response is required.

DRUG INTERACTION

1. Oxivent and Spiriva

ADMINISTRATION

1. Should be administered in conjunction with beta agonist therapy.

Adult: [1 – 2 inhalations] via metered dose inhaler
[250 – 500mcg (.25 - .5 mg)] via nebulization

SPECIAL NOTES

1. The vital signs must be monitored during therapy.

5. Caution should be used when administering it to elderly patients and those with cardiovascular disease or hypertension.

LIDOCAINE HYDROCHLORIDE (XYLOCAINE®)

CLASS OF DRUG:

Antidysrhythmic, local anesthetic

SCOPE OF PRACTICE

EMT-Intermediate[1], EMT-Paramedic

[1]*Lidocaine 2% for administration into the intraosseous space on pain responsive patients prior to receiving intraosseous fluids or medications.*

INDICATIONS

1. Symptomatic ventricular dysrhythmias
2. Sustained ventricular tachycardia
3. Ventricular fibrillation/pulseless ventricular tachycardia
4. Local anesthetic for nasal intubation

CONTRAINDICATIONS

1. Hypersensitivity
2. High AV Blocks

DRUG INTERACTION

1. Additive cardiac depression with phenytoin, quinidine, procainamide, and propranolol

ADMINISTRATION

1. IV/IO Bolus technique
    a. Adult:

    i. Ventricular tachycardia: [1 -1.5 mg/kg] IV/IO. If VT persists, [0.5-0.75 mg/kg] every 3 to 5 minutes, up to 3.0 mg/kg total. Start lidocaine infusion if VT converts (see below).

    ii Ventricular fibrillation and pulseless VT: [1-1.5 mg/kg] IV/IO (2-2 1/2 times normal dose, ET) followed by defibrillation. If VF or VT persists - repeat [0.5- 0.75mg/kg] (up to 3.0 mg/kg total) followed by defibrillation. Start lidocaine infusion if VF converts (see below).

    b. Pediatric: [1 mg/kg] IV/IO

2. IV Drip technique
    a. Adult:

    i. Mix 1Gm of lidocaine in 250 ml D5W or NS for a concentration of 4 mg/ml.

        a). If up to 2 mg/kg has been administered Set drip at 2 mg/min

        b). If 2 mg/kg has been administered Set drip at 3 mg/min

(Continued on next page)

LIDOCAINE HYDROCHLORIDE (cont.)

c). If 3 mg/kg has been administered Set drip at 4 mg/min

ii A second bolus after 10 minutes may be given per physician order.

b. Pediatric:

i. Mix 120 mg of lidocaine in 100 ml D5W

a). Set drip at 20-50 µg/kg per min. (1-2.5 cc/kg/hr at above dilution)

3. ET 2 - 2 /12 times the bolus dose

SPECIAL NOTES

1. For patients over 70 years of age, or with hepatic or renal failure, the loading dose remains the same, but maintenance infusion is run at half the normal rate.

MAGNESIUM SULFATE

CLASS OF DRUG

CNS depressant; antidysrhythmic; electrolyte; smooth muscle relaxant

SCOPE OF PRACTICE

EMT-Paramedic

INDICATIONS

1. Initial treatment of seizures associated with eclampsia, and seizures, refractory to benzodiazepines.
2. Second-line antidysrhythmic in the treatment of ventricular fibrillation/pulseless ventricular tachycardia, refractory to lidocaine.
3. First-line antidysrhythmic in the treatment of Torsades de Pointes.
4. To control contractions in pre-term labor.
5. Acute asthma refractory to other more conventional treatment, or when the effects of betaadrenergic medications contraindicate their use.

CONTRAINDICATIONS

1. Hypermagnesemia
2. Hypocalcemia
3. Anuria
4. Heart blocks

DRUG INTERACTION

1. Potentiates neuromuscular blocking agents

ADMINISTRATION

1. Ventricular ectopy refractory to lidocaine: [2 Gm] slow IVP.
2. Pulseless ventricular fibrillation and ventricular tachycardia refractory to lidocaine and bretylium: [2 Gm] IVP followed by defibrillation at 360 to 400 joules.
3. Ventricular tachycardia, or wide complex tachycardia, unresponsive to lidocaine: [2 Gm] slow IVP or IO.
4. To control contractions in pre-term labor: [2 Gm] slow IVP or IO, followed by maintenance infusion of 1 - 2 Gm per hour.
5. Treatment of pre-eclampsia and/or seizures associated with eclampsia: [2 - 4 Gm] slow IVP or IO followed by maintenance infusion of 1- 2 Gm per hour.
6. Acute asthma: [1 - 2 Gm] slow IVP or IO, or IV/IO infusion over 10 minutes.
7. Torsades de Pointes: [1 - 2 Gm] diluted in 10ml of D5W IV/IO push.

(Continued on next page)

MAGNESIUM SULFATE (Cont.)

SPECIAL NOTES

1. Monitor deep tendon reflexes often, especially those patients receiving a maintenance infusion.

2. Calcium gluconate will reverse the toxic effects of magnesium sulfate.

3. Monitor for hypotension.

NALOXONE (NARCAN®)

CLASS OF DRUG

Narcotic antagonist

SCOPE OF PRACTICE

EMT-Basic, EMT-Intermediate and EMT-Paramedic

INDICATIONS

1. Reversal of narcotic effects, particularly respiratory depression, due to narcotic drugs, whether ingested, injected, or administered in the course of treatment. Narcotic drugs include agents such as morphine, Demerol®, heroin, Dilaudid®, Percodan®, codeine, Lomotil®, propoxyphene (Darvon®), pentazocine (Talwin®).

2. For unconsciousness of unknown etiology to rule out (or reverse) narcotic depression of CNS.

CONTRAINDICATIONS

1. Hypersensitivity

2. Absences of indication

DRUG INTERACTION

1. May induce narcotic withdrawal

ADMINISTRATION

1. Adult: [0.4 mg – 2.0 mg] IV/IO (2.0 mg total dose) - [0.4 – 2.0 mg] if IM, SQ, ET Titrate to respiratory effort/rate. May be repeated at 2 - 3 minutes, if needed. [MA dosing 2mg (1mg per nares) Must use 2mg/2ml concentration].

2. Pediatric: [0.1 mg/kg]< 5 yrs or ≤ 20 kg, [2 mg] ≥5 yr or > 20kg IV, IM, SQ, IO, May be repeated at 0.1 mg/kg if no response.

3. Neonate: [0.1 mg/kg] slow IVP, IM, SQ, IO; repeat in 2-3 minutes, if needed (mix 1 ml of naloxone, 0.4 mg in 9 ml of D5W, which gives 0.04 mg/ml).

Note: Much higher doses should be given to patients with suspected propoxyphene (Darvon®), pentazocine (Talwin®), and fentanyl overdoses.

SPECIAL NOTES

1. The patient may quickly become conscious and combative.

NARCOTIC ANALGESICS (Fentanyl, Morphine Sulfate)

Fentanyl (Sublimaze®)

CLASS OF DRUG

Opiate analgesic

SCOPE OF PRACTICE

EMT-Intermediate[1] and EMT-Paramedic

[1] *With approval of online medical control*

INDICATIONS

1. Analgesia for patients with moderate to severe pain
2. Short term sedation (Paramedic only)
3. Anesthesia (Paramedic only)

CONTRAINDICATIONS

1. Hypersensitivity/known intolerance
2. Patients particularly sensitive to respiratory depression
3. Myasthenia gravis
4. Pregnancy

DRUG INTERACTION

1. Benzodiazepines Diazepam - increased risk of CV depression.
2. Sedatives/Hypnotics, other opioids, CNS depressants and alcohol - increased risk of hypotension.
3. Avoid use in patients who have received MAO inhibitors within the previous 14 days - may produce unpredictable, potentially fatal reactions.

ADMINISTRATION

1. Adult: ILS - 0.5 - 1.0 mcg/kg SIVP/IO, 1.0 – 2.0 mcg/kg MA, to max. dose of 2.0 mcg/kg with Medical Control.
   ALS – 0.5 – 2.0 mcg/kg SIVP/IO, 1.0 – 2.0 mcg/kg MA, as needed every 10 minutes.
2. Pediatric: 2-12 yrs of age – ILS – Same dosing as above. ALS – Same dosing as above.

SPECIAL NOTES

1. Doses for SIVP/IO shall be diluted with enough NS to create a 10cc volume in a 12cc syringe prior to administration.
2. Mucosal Atomization (MA) doses do not require dilution prior to patient administration.

(Continued on next page)

NARCOTIC ANALGESICS (cont.)

3. Use cautiously in geriatric or debilitated patient (use lower doses), diabetics, patients with pulmonary or hepatic disease, head trauma, increased ICP, undiagnosed abdominal pain and cardiac disease.

Morphine Sulfate

CLASS OF DRUG

Opiate analgesic

SCOPE OF PRACTICE

EMT-Intermediate[1] and EMT-Paramedic

[1] *With approval of online medical control*

INDICATIONS

1. Analgesia for patients with moderate to severe pain
2. Treatment of acute pulmonary edema (Paramedic only)
3. Sedation for procedures (Paramedic only)

CONTRAINDICATIONS

1. Hypersensitivity.
2. Hypotension is a relative contraindication to use. Remember that some people will be hypotensive in response to pain itself. Be cautious.
3. Head or abdominal injuries also contraindicated, since the analgesic effect removes the clinical signs that need to be watched.
4. Do not use in persons with respiratory difficulties because their respiratory drive might be depressed, except in pulmonary edema.
5. In the presence of major blood loss, the body's compensatory mechanisms may be suppressed by the use of morphine, and the hypotensive effect will become very prominent. Do not use it in these circumstances.

DRUG INTERACTION

1. Additive effects with other CNS depressants
2. MAO inhibitors can cause unpredictable and severe reactions, reduce dose to 25% of a usual dose.

ADMINISTRATION

1. Adult: [2 - 10 mg] slow IV/IO push until desired effect achieved (Use lowest effective dose to avoid complications).
2. Pediatric: [0.05 - 0.1 mg/kg] slow IV/IO titrated to effect.

(Continued on next page)

NARCOTIC ANALGESICS (cont.)

SPECIAL NOTES

1. Doses for SIVP/IO shall be diluted with enough NS to create a 10cc volume in a 12cc syringe prior to administration.

2. Take vital signs before and 2 minutes after administration.

3. IV/IO only (unless you cannot start an IV/IO and/or are directly ordered to administer IM).

4. Often causes vomiting; administer slowly.

5. On-line medical control should be contacted before administering to the non-cardiac patient.

NITROGLYCERIN

CLASS OF DRUG

Anti-anginal agent/vascular dilating agent

SCOPE OF PRACTICE

EMT-Basic[1], EMT-Intermediate[2] and EMT-Paramedic

[1]*Patients own medication with on line medical control only.*

[2] *Must have intravenous access established prior to administration or approval of online medical control if IV/IO access is unavailable.*

INDICATIONS

1. Chest pain, anginal pain
2. Congestive heart failure with severe pulmonary edema

CONTRAINDICATIONS

1. Hypersensitivity
2. Severe hypotension
3. Pericardial tamponade
4. Increased intra-cranial pressure
5. Hypovolemia/severe anemia

DRUG INTERACTION

1. Additive hypotension with beta-adrenergic blockers, antihypertensives, calcium channel blockers, and phenothiazines.
2. Tricyclic antidepressants and antihistamines may interfere with buccal absorption.
3. Can cause a lethal drop in blood pressure in patients taking Sildenafil citrate (Viagra) within 48 hours of ingestion.

ADMINISTRATION

1. Adult:
    a. Sublingual: [0.3 - 0.4 mg] tablet. Repeat at 3 - 5 minutes as needed to a total of three tabs (or more by MCEP order).
    b. Infusion: [5 - 20 mcg/min] the infusion may be increased by 5 mcg/min every 3 - 5 minutes to 50 - 200 mcg/min. The infusion dose is leveled off when desired effect is reached or a decrease in blood pressure of more than 10 mm Hg over baseline or less than 90 mm Hg systolic is observed. (Infusions may be initiated or monitored by Paramedics Only)

(Continued on next page)

NITROGLYCERIN (Cont.)

Note: The most common method for mixing Nitroglycerin is 50 mg Nitroglycerin in 250 ml of normal saline. This yields a concentration of 200 mcg/ml (0.2 mg/ml) in glass or non-absorbable container and non-PVC tubing.

2. Pediatric: Not recommended for pre-hospital use.

SPECIAL NOTES

1. Common side effects may include: throbbing headache, flushing, dizziness, and burning under the tongue (if these side effects are noted, the pills may be assumed potent, not outdated).

2. Less common effect: marked hypotension, particularly orthostatic.

3. Paramedics should use their supply of nitroglycerin, not the patient's.

4. Use with caution with patient not previously receiving nitroglycerin.

5. Generalized vasodilation may cause profound hypotension and reflex tachycardia.

6. NTG tablets loose potency easily, should be stored in a dark glass container with a tight lid, and not exposed to heat. NTG spray does not have this problem.

7. Use only with Medical Control on patients with systolic BP below 100 mm Hg.

NOREPINEPHRINE (LEVOPHED®)

CLASS OF DRUG

Sympathomimetic amine

SCOPE OF PRACTICE

EMT-Paramedic

INDICATIONS

For blood pressure control in certain acute hypotensive states (e.g., myocardial infarction, septicemia)

CONTRAINDICATIONS

1. Should not be given to patients who are hypotensive from blood volume deficits

DRUG INTERACTION

1. Should be used with extreme caution in patients receiving MAOI therapies.

ADMINISTRATION

1. Adult

Dosage Indications

1. In the treatment of sepsis, mix 4 mg in 500 cc NS, start dosing at 4mcg/min, may increase doe 2 mcg/min every 5 minutes to a maximum dose of 10 mcg/min.

2. In cardiogenic shock, mix 4 mg in 1L NS, yielding a 4 mcg/ml concentration and infuse at 0.1-0.5 mcg/kg/min using a 10 gtt set.

SPECIAL NOTES

1. Whenever possible, infusions of Levophed should be given into a large vein, preferably the antecubital vein so the risk of necrosis from prolonged vasoconstriction is reduced.

2. The infusion site should be checked frequently for free flow. Care should be taken to avoid extravasation of Levophed into the tissues as local necrosis might ensue due to the vasoconstrictive action of the drug.

OXYGEN

CLASS OF DRUG

Class III Gas, Oxidizer

SCOPE OF PRACTICE

First Responder, EMT-Basic, EMT-Intermediate and EMT-Paramedic

INDICATIONS

1. Suspected hypoxia or respiratory distress from any cause
2. Acute chest pain in which myocardial infarction is suspected
3. Shock (decreased oxygenation of tissue) from any cause
4. Trauma
5. Carbon monoxide poisoning

CONTRAINDICATIONS

1. None

DRUG INTERACTION

1. None

ADMINISTRATION

1. Adult & Pediatric:

Dosage Indications

Low Flow (NC 1 -2 L/Min Patients with chronic lung disease with unusual dyspnea or other problems

Moderate Flow (NC 4 6 L/Min) Precautionary use for trauma, chest pain, etc.

High Flow (NRB 10 – 15 L/Min) Severe respiratory distress, either medical or traumatic, shock, or a t providers discretion.

SPECIAL NOTES

1. If the patient is not breathing adequately on his/her own, the treatment of choice is assisted ventilation, not just supplemental 02.
2. A very small percentage of patients with chronic lung disease lack sensitivity to carbon dioxide levels and breathe only because of their hypoxic drive. Administration of 02 **MAY** depress their respiratory drive. **DO NOT WITHHOLD OXYGEN IN CRITICALLY ILL PATIENTS BECAUSE OF THIS POSSIBILITY. BE PREPARED TO ASSIST VENTILATION, IF NEEDED**.
3. Oxygen toxicity (overdose) is not a hazard from acute administration.
4. Nasal prongs work equally well on nose and mouth breathers.

OXYTOCIN (PITOCIN®)

CLASS OF DRUG

Pituitary hormone - uterine vasoconstrictor

SCOPE OF PRACTICE

EMT-Paramedic

INDICATIONS

1. Control of post-partum hemorrhage, when other methods fail

CONTRAINDICATIONS

1. Potential of a remaining fetus

DRUG INTERACTION

1. Hypertension with vasopressors

ADMINISTRATION

Note: Injectable oxytocin (PITOCIN®) contains 10 USP units (20 mg) per ml

1. Adult

    a. Intravenous dose: [10 - 20 USP units] in 500 ml volume expander (NS or LR). Flow rate of [10 - 15 drops/min] titrated to severity of hemorrhage and uterine response.

    b. Intramuscular dose: [10 USP units] (1 ml) IM only if unable to start IV/IO

PHENYLEPHRINE (NEO-SYNEPHRINE®) NASAL SPRAY

CLASS OF DRUG

Alpha-adrenergic agent

Vasoconstrictor (nasal)

SCOPE OF PRACTICE

EMT-Paramedic

INDICATIONS

Used as an agent to reduce bleeding during nasal intubation.

CONTRAINDICATIONS

1. Known hypersensitivity
2. Severe hypertension
3. Ventricular tachycardia

DRUG INTERACTION

1. May decrease effectiveness of insulin, and oral hypoglycemic agents.
2. Use with beta blockers may result in initial hypertension followed by bradycardia.
3. MAO inhibitors – hypertension.

ADMINISTRATION

1. Adults: [2 "squirts"] intranasal, in the selected nostril, prior to insertion of nasal tube.

SPECIAL NOTES

1. Use with extreme caution in geriatric patients, severe arteriosclerosis, bradycardia, partial heart block, pregnancy and lactation.

PRALIDOXIME (2PAM®)

CLASS OF DRUG

Cholinesterase re-activator

SCOPE OF PRACTICE

First Responder[1], EMT-Basic[1], EMT-Intermediate[1] and EMT-Paramedic[1]

[1]*IM injection for treatment of chemical and/or nerve agent exposure, via auto injector only.*

INDICATIONS

1. Organophosphate pesticide or nerve agent poisoning after Atropine has been administered.
2. Unknown cholinesterase inhibitor poisoning.

CONTRAINDICATIONS

1. Relative
    a. Myasthenia gravis
    b. Renal Failure

2. Absolute
    a. Inability to perform endotracheal intubation, if neuromuscular blockade were to occur (a rare, dose and rate related complication).

DRUG INTERACTION

1. None

ADMINISTRATION

1. Adult
    a. [600mg] IM by auto injector such as the “Mark I” antidote kit. May be repeated in 3 to 5 minutes after the first dose, if weakness or fasciculations have not been resolved.

SPECIAL NOTES

1. Neuromuscular blockade, laryngospasm, muscular rigidity, and tachycardia have occurred with rapid IV administration, or with doses much higher than those usually administered.

2. Will not work for pesticides of the carbamate class.

3. Morphine, aminophylline, succinylcholine and phenothiazine-type tranquilizers should be avoided in patients with organophosphate poisoning.

4. Must be given concurrent with Atropine.

SODIUM BICARBONATE

CLASS OF DRUG

Alkalinizing agent

SCOPE OF PRACTICE

EMT-Paramedic

INDICATIONS

1. To correct metabolic acidosis found during prolonged cardiac arrest, after initial interventions.
2. May be used as an adjunct in other causes of metabolic acidosis.
3. Overdoses of tricyclic antidepressants or phenobarbital.

CONTRAINDICATIONS

1. Suspected metabolic or respiratory alkalosis

DRUG INTERACTION

1. Inactivates most drugs, and must not be given in the same IV at the same time.
2. Causes calcium preparations to precipitate.

ADMINISTRATION

1. Cardiac Arrest
    a. Adult & Pediatric: [1 mEq/kg] IV/IO initially, then [0.5 mEq/kg] no more than 50 mEq every 10 minutes until a pulse is restored or as indicated by ABGs.
2. Other special circumstances, such as tricyclic antidepressant overdose
    a. Adult & Pediatric [1 mEq/kg] IV/IO single dose per physician order.

SPECIAL NOTES

1. This agent is no longer a first-line drug for cardiac arrest as per ACLS algorithms.
2. Each amp of bicarbonate contains 44 or 50 mEq of Na++. In persons with cardiac disease this will increase intra-vascular volume and further stress the heart.
3. Hyperosmolarity of the blood can occur because the NaHCO3 is concentrated. This results in cerebral impairment.
4. These dosages are a very rough guide. Blood gasses should be obtained as soon as possible to direct further therapy.
5. Correct CPR, hyperventilation, defibrillation and drug therapy are more important than bicarbonate.

SPECIAL CIRCUMSTANCES

Situations may arise involving patients with uncommon conditions requiring specific out of hospital administered medications or procedures; family members or the designated caregiver trained and knowledgeable of the special needs of the patient should be recognized as the expert regarding the care of the patient; EMS can offer assistance in airway management appropriate to their level of licensure, and administer the patient's prescribed medications where appropriate only if the medication is in the EMS provider's scope of practice; EMS services are not expected to provide the prescribed medications for these special needs patient.

TOPICAL OPHTHALMIC ANESTHETIC (PROPARACAINE® - OPHTHAINE®, ALACAINE ®)

CLASS OF DRUG

Topical/local ophthalmic anesthetic

SCOPE OF PRACTICE

EMT-Paramedic

INDICATIONS

1. Ocular pain relief prior to irrigation of the eyes

CONTRAINDICATIONS

1. Hypersensitivity
2. Known or suspected trauma that may have produced intraocular injury.

DRUG INTERACTION

1. None

ADMINISTRATION

1. [1 - 2 drops] of 0.5% solution in each eye. May repeat one time at 15 minutes.

SPECIAL NOTES

1. Assess visual acuity as soon as possible.

VACCINES

DPT (Diptheria, Tetanus (Acellular), Pertussis),
TT (Tetanus Toxoid), DT (Diptheria, Tetanus)
DTP/DTaP
Hepatitis B Vaccine (RECOMBIVAX HB®, ENGERIX-B®)
Hepatitis A Vaccine (HAVRIX®, VAQTA®)
Measles, Mumps, Rubella (MMR)
Poliovirus Vaccine - live, Orimune (OPV)
Poliomyelitis Vaccine, Inactivated, IPV, Salk
Pneumococcal Vaccine (PNEUMOVAX®)
Varicella (chicken pox) vaccine

SCOPE OF PRACTICE

EMT-Basic[1], EMT-Intermediate[2] and EMT-Paramedic[2]

[1]Administration of Immunizations, Vaccines, Biologicals, and TB skin testing is authorized under the following circumstances:

a. In the event of a disaster or emergency, the State EMS Medical Director or Chief Medical Officer of the Department of Health may temporarily authorize the administration of pharmaceuticals or tests.

[2]Administration of Immunizations, Vaccines, Biologicals, and TB skin testing is authorized under the following circumstances:

a. To the general public as part of a Department of Health initiative or emergency response, utilizing Department of Health protocols. The administration of immunizations is to be under the supervision of a physician, nurse, or other authorized health provider.

b. Administer vaccines to EMS and public safety personnel.

c. TB skin tests may be applied and interpreted if the licensed provider has successfully completed required Department of Health training.

d. In the event of a disaster or emergency, the State EMS Medical Director or Chief Medical Officer of the Department of Health may temporarily authorize the administration of pharmaceuticals or tests not listed above.

ADMINISTRATION

1. Follow physician's orders.

7.27.11 NMAC – Effective 8/15/2014

EMS first responders (EMSFR)

(1) The following allowed drugs may be administered and skills and procedures may be performed without medical direction:

(a) basic airway management;
(b) use of basic adjunctive airway equipment;
(c) suctioning;
(d) cardiopulmonary resuscitation, according to current ECC guidelines;
(e) obstructed airway management;
(f) bleeding control via direct pressure and appropriate tourniquet use;
(g) spine immobilization;
(h) splinting (does not include femoral traction splinting);
(i) scene assessment, triage, scene safety;
(j) use of statewide EMS communications system;
(k) emergency childbirth;
(l) glucometry;
(m) oxygen;
(n) other non-invasive procedures as taught in first responder courses adhering to DOT curricula.

(2) The following require service medical director approval:

(a) allowable skills:
- **(i)** mechanical positive pressure ventilation utilizing a device that may have controls for rate, tidal volume, FiO2, and pressure relief/alarm and does not have multiple automatic ventilation modes;
- **(ii)** application and use of semi-automatic defibrillators, including cardiac rhythm acquisition for ALS caregiver interpretation or transmission to a care facility; this includes multi-lead documentation;
- **(iii)** hemostatic dressings for control of bleeding;
- **(iv)** insertion of laryngeal and supraglottic airway devices (examples: king airway, LMA), excluding multi-lumen airways);

(b) administration of approved medications via the following routes:
- **(i)** nebulized inhalation;
- **(ii)** nasal mucosal atomization (MA);
- **(iii)** intramuscular;
- **(iv)** oral (PO);

c) allowable drugs:
- **(i)** oral glucose preparations;
- **(ii)** aspirin PO for adults with suspected cardiac chest pain;
- **(iii)** atropine and pralidoxime via IM auto-injection for treatment of chemical or nerve agent exposure;
- **(iv)** albuterol (including isomers) via inhaled administration;
- **(v)** naloxone via nasal mucosal atomizer;
- **(vi)** epinephrine via auto-injection device;

(d) patient's own medication that may be administered:
- **(i)** bronchodilators using pre-measured or metered dose inhalation device;
- **(ii)** naloxone, if provided with a nasal MA or IM delivery system.

EMT-BASIC (EMT-B)

(1) The following allowed drugs may be administered and skills and procedures may be performed without medical direction:

(a) basic airway management;
(b) use of basic adjunctive airway equipment;
(c) suctioning;
(d) cardiopulmonary resuscitation, according to current ECC guidelines;
(e) obstructed airway management;
(f) bleeding control to include appropriate tourniquet usage;
(g) spine immobilization;
(h) splinting;
(i) scene assessment, triage, scene safety;
(j) use of statewide EMS communications system;
(k) childbirth (imminent delivery);
(l) glucometry;
(m) oxygen;
(n) other non-invasive procedures as taught in EMT-B courses adhering to DOT curricula;
(o) wound management.

(2) The following require service medical director approval:

(a) allowable skills:
(i) mechanical positive pressure ventilation utilizing a device that may have controls for rate, tidal volume, FiO_2, and pressure relief/alarm and does not have multiple automatic ventilation modes; this skill includes devices that provide non-invasive positive pressure ventilation via continuous positive airway pressure (CPAP);
(ii) use of multi-lumen, supraglottic, and laryngeal airway devices (examples: PTLA, combi-tube, king airway, LMA) to include gastric suctioning;
(iii) application and use of semi-automatic defibrillators, including cardiac rhythm acquisition for ALS caregiver interpretation or transmission to a care facility; this includes multi-lead documentation;
(iv) acupressure;
(v) transport of patients with nasogastric tubes, urinary catheters, heparin/saline locks, PEG tubes, or vascular access devices intended for outpatient use;
(vi) performing point of care testing; examples include serum lactate values, cardiac enzymes, electrolytes, and other diagnostic values;
(vii) hemostatic dressings for control of bleeding;
(b) administration of approved medications via the following routes:
(i) nebulized inhalation;
(ii) subcutaneous;
(iii) intramuscular;
(iv) nasal mucosal atomization (MA);
(v) oral (PO);
(vi) intradermal;
(c) allowable drugs:
(i) oral glucose preparations;
(ii) aspirin PO for adults with suspected cardiac chest pain;
(iii) activated charcoal PO;
(iv) acetaminophen PO in pediatric patients with fever;
(v) atropine and pralidoxime via IM autoinjection for treatment of chemical and/or nerve agent exposure;
(vi) albuterol (including isomers), via inhaled administration;
(vii) ipratropium, via inhaled administration, in combination with or after albuterol administration;
(viii) naloxone by SQ, IM, or IN route;
(ix) epinephrine, 1:1000, no single dose greater than 0.3 ml, subcutaneous or intramuscular injection with a pre-measured syringe (including autoinjector) or 0.3 ml TB syringe for anaphylaxis or status asthmaticus refractory to other treatments;

(Continued on next page)

(d) patient's own medication that may be administered:

(i) bronchodilators using pre-measured or metered dose inhalation device;

(ii) sublingual nitroglycerin for unrelieved chest pain, with on line medical control only;

(iii) situations may arise involving patients with uncommon conditions requiring specific out of hospital administered medications or procedures; family members or the designated caregiver trained and knowledgeable of the special needs of the patient should be recognized as the expert regarding the care of the patient; EMS can offer assistance in airway management appropriate to their level of licensure, and administer the patient's prescribed medications where appropriate only if the medication is in the EMS provider's scope of practice; EMS services are not expected to provide the prescribed medications for these special needs patients;

(3) Immunizations and biologicals: Administration of immunizations, vaccines, biologicals, and TB skin testing is authorized under the following circumstances:

(a) to the general public as part of a department of health initiative or emergency response, utilizing department of health protocols; the administration of immunizations is to be under the supervision of a physician, nurse, or other authorized health provider;

(b) TB skin tests may be applied and interpreted if the licensed provider has successfully completed required department of health training;

(c) in the event of a disaster or emergency, the state EMS medical director or chief medical officer of the department of health may temporarily authorize the administration of pharmaceuticals or tests not listed above.

EMT-INTERMEDIATE (EMT-I)

(1) The following allowed drugs may be administered and skills and procedures may be performed without medical direction:

(a) basic airway management;
(b) use of basic adjunctive airway equipment;
(c) suctioning;
(d) cardiopulmonary resuscitation, according to ECC guidelines;
(e) obstructed airway management;
(f) bleeding control including appropriate use of tourniquet;
(g) spine immobilization;
(h) splinting;
(i) scene assessment, triage, scene safety;
(j) use of statewide EMS communications system;
(k) childbirth (imminent delivery);
(l) glucometry;
(m) oxygen;
(n) wound management.

(2) The following require service medical director approval:

(a) allowable skills:

(i) mechanical positive pressure ventilation utilizing a device that may have controls for rate, tidal volume, FiO_2, and pressure relief/alarm and does not have multiple automatic ventilation modes; this skill includes devices that provide non-invasive positive pressure ventilation via continuous positive airway pressure (CPAP);
(ii) use of multi-lumen, supraglottic, and laryngeal airway devices (examples: PTLA, combi-tube, king airway, LMA) to include gastric suctioning;
(iii) application and use of semi-automatic defibrillators, including cardiac rhythm acquisition for ALS caregiver interpretation or transmission to a care facility; this includes multi-lead documentation;
(iv) acupressure;
(v) transport of patients with nasogastric tubes, urinary catheters, heparin/saline locks, PEG tubes, or vascular access devices intended for outpatient use;
(vi) peripheral venous puncture/access;
(vii) blood drawing;
(viii) pediatric intraosseous tibial access;
(ix) adult intraosseous access;
(x) point of care testing; examples include serum lactate values, cardiac enzymes, electrolytes, and other diagnostic values;
(xi) hemostatic dressings for control of bleeding;

(b) administration of approved medications via the following routes:

(i) intravenous;
(ii) nasal mucosal atomization (MA);
(iii) nebulized inhalation;
(iv) sublingual;
(v) intradermal;
(vi) intraosseous;
(vii) endotracheal (for administration of epinephrine only, under the direct supervision of an EMT-paramedic, or if the EMS service has an approved special skill for endotracheal intubation);
(viii) oral (PO)
(ix) intramuscular;
(x) subcutaneous;

(c) allowable drugs:

(i) oral glucose preparations;
(ii) aspirin PO for adults with suspected cardiac chest pain;
(iii) activated charcoal PO;
(iv) acetaminophen PO in pediatric patients with fever;

(Continued on next page)

(v) IM autoinjection of the following agents for treatment of chemical or nerve agent exposure: atropine, pralidoxime;
(vi) albuterol (including isomers) via inhaled administration;
(vii) ipratropium, via inhaled administration in combination with or after albuterol administration;
(viii) naloxone;
(ix) I.V. fluid therapy (except blood or blood products);
(x) dextrose;
(xi) epinephrine (1:1000), SQ or IM (including autoinjector) for anaphylaxis and known asthmatics in severe respiratory distress (no single dose greater than 0.3 cc);
(xii) epinephrine (1:10,000) in pulseless cardiac arrest for both adult and pediatric patients; epinephrine may be administered via the endotracheal tube in accordance with most current ACLS and PALS guidelines;
(xiii) nitroglycerin (sublingual) for chest pain associated with suspected acute coronary syndromes; must have intravenous access established prior to administration or approval of online medical control if IV access is unavailable;
(xiv) morphine, fentanyl, or dilaudid for use in pain control with approval of on-line medical control;
(xv) diphenhydramine for allergic reactions or dystonic reactions;
(xvi) glucagon, to treat hypoglycemia in diabetic patients when intravenous access is not obtainable;
(xvii) anti-emetic agents, for use as an anti-emetic only;
(xviii) methylprednisolone for reactive airway disease/acute asthma exacerbation;
(xix) Hydroxycobalamine;
(xx) lidocaine (2%, preservative and epinephrine free for IV use) for administration into the intraosseous space on pain responsive adult patients while receiving intraosseous fluids or medications;

(d) patient's own medication that may be administered:
(i) bronchodilators using pre-measured or metered dose inhalation device;
(ii) sublingual nitroglycerin for unrelieved chest pain; must have intravenous access established prior to administration or approval of online medical control if IV access is unavailable;
(iii) glucagon;
(iv) situations may arise involving patients with uncommon conditions requiring specific out of hospital administered medications or procedures; family members or the designated caregiver trained and knowledgeable of the special needs of the patient should be recognized as the expert regarding the care of the patient; EMS can offer assistance in airway management appropriate to their level of licensure, IV access, and the administration of the patient's prescribed medications where appropriate only if the medication is in the EMS provider's scope of practice; online (direct contact) medical control communication must be established with the medical control physician approving the intervention; EMS services are not expected to provide the prescribed medications for these special needs patients;

(e) drugs allowed for monitoring during interfacility transport:
(i) potassium; intermediate EMT's may monitor IV solutions that contain potassium during transport (not to exceed 20 mEq/1000cc or more than 10 mEq/hour);
(ii) antibiotics and other anti-infectives utilizing an infusion pump; intermediate EMT's may monitor antibiotic or other anti-infective agents, provided a hospital initiated infusion has been running for a minimum of 30 minutes prior to the intermediate initiating the transfer, and the intermediate EMT is aware of reactions for which to monitor and the appropriate action to take before assuming responsibility for patient care;

(f) immunizations and biologicals: administration of immunizations, vaccines, biologicals, and TB skin testing is authorized under the following circumstances:
(i) to the general public as part of a department of health initiative or emergency response, utilizing department of health protocols; the administration of immunizations is to be under the supervision of a physician, nurse, or other authorized health provider;
(ii) administer vaccines to EMS and public safety personnel;

(Continued on next page)

EMT-INTERMEDIATE (EMT-I) (Cont.)

(iii) TB skin tests may be applied and interpreted if the licensed provider has successfully completed required department of health training;

(iv) in the event of a disaster or emergency, the state EMS medical director or chief medical officer of the department of health may temporarily authorize the administration of pharmaceuticals or tests not listed above.

EMT-PARAMEDIC (EMT-P)

(1) The following allowed drugs may be administered and skills and procedures may be performed without medical direction:

(a) basic airway management;
(b) use of basic adjunctive airway equipment;
(c) suctioning;
(d) cardiopulmonary resuscitation, according to current ECC guidelines;
(e) obstructed airway management;
(f) bleeding control including the appropriate use of tourniquet;
(g) spine immobilization;
(h) splinting;
(i) scene assessment, triage, scene safety;
(j) use of statewide EMS communications system;
(k) childbirth (imminent delivery);
(l) glucometry;
(m) oxygen;
(n) wound management.

(2) The following require service medical director approval:

(a) allowable skills:

(i) mechanical positive pressure ventilation utilizing a device that may have controls for rate, tidal volume, FiO_2, and pressure relief/alarm and has multiple automatic ventilation modes; this skill includes devices that provide non-invasive positive pressure ventilation (including continuous positive airway pressure (CPAP) and bi-level positive airway pressure (BPAP);
(ii) use of multi-lumen, supraglottic, and laryngeal airway devices (examples: PTLA, combi-tube, king airway, LMA) to include gastric suctioning;
(iii) transport of patients with nasogastric tubes, urinary catheters, heparin/saline locks, PEG tubes, or vascular access devices intended for outpatient use;
(iv) application and use of semi-automatic defibrillators;
(v) acupressure;
(vi) peripheral venous puncture/access;
(vii) blood drawing;
(viii) I.V. fluid therapy;
(ix) direct laryngoscopy for endotracheal intubation and removal of foreign body in patients 13 and older; for patients 12 and under, for removal of foreign body only;
(x) endotracheal intubation for patients over the age of 12;
(xi) thoracic decompression (needle thoracostomy);
(xii) surgical cricothyroidotomy;
(xiii) insertion of nasogastric tubes;
(xiv) cardioversion and manual defibrillation;
(xv) external cardiac pacing;
(xvi) cardiac monitoring;
(xvii) use of infusion pumps;
(xviii) initiation of blood and blood products with on-line medical control;
(xix) intraosseous access;
(xx) performing point of care testing; examples include serum lactate values, cardiac enzymes, electrolytes, and other diagnostic values;
(xxi) hemostatic dressings for control of bleeding;
(xxii) vagal maneuvers.

(b) administration of approved medications via the following routes:

(i) intravenous;
(ii) nasal mucosal atomization (MA);
(iii) nebulized inhalation;
(iv) sublingual;
(v) intradermal;
(vi) intraosseous;

(Continued on next page)

(vii) endotracheal;
(viii) oral (PO);
(ix) intramuscular;
(x) topical;
(xi) rectal;
(xii) IV drip;
(xiii) subcutaneous;

(c) allowable drugs:

(i) acetaminophen;
(ii) activated charcoal;
(iii) adenosine;
(iv) albuterol (including isomers);
(v) amiodarone;
(vi) aspirin;
(vii) atropine sulfate;
(viii) benzodiazepines;
(ix) calcium preparations;
(x) corticosteroids;
(xi) dextrose;
(xiii) diphenhydramine;
(xiv) epinephrine;
(xv) furosemide;
(xvi) glucagon;
(xvii) hydroxycobalamine;
(xviii) ipratropium;
(xix) lidocaine;
(xx) magnesium sulfate;
(xxi) naloxone;
(xxii) narcotic analgesics;
(xxiii) nitroglycerin;
(xxiv) oral glucose preparations;
(xxv) oxytocin;
(xxvi) phenylephrine nasal spray;
(xxvii) pralidoxime, IM auto-injection for treatment of chemical and nerve agent exposure;
(xxviii) anti-emetic agents, for use as an anti-emetic only;
(xxix) sodium bicarbonate;
(xxx) thiamine;
(xxxi) topical anesthetic ophthalmic solutions;
(xxxii) vasopressor agents;
(xxxiii) intravenous fluids

(3) Drugs allowed for monitoring during inter-facility transports (initiated and administered by the sending facility with defined dosing parameters and requiring an infusion pump when given by continuous infusion unless otherwise specified); the infusion may be terminated by the paramedic if appropriate, but if further adjustments are anticipated, appropriate hospital personnel should accompany the patient, or a critical care transport unit should be utilized:

(a) potassium (no infusion pump needed if concentration not greater than 20mEq/1000cc;
(b) anticoagulation type blood modifying agents (such as fibrolytic drugs, heparin, glycoprotein IIb-IIIa inhibitors/antagonists);
(c) procainamide;
(d) mannitol;
(e) blood and blood products (no pump required);
(f) aminophylline;
(g) antibiotics and other anti-infective agents;
(h) dobutamine;

(Continued on next page)

(i) sodium nitroprusside;
(j) insulin;
(k) terbutaline;
(l) norepinephrine;
(m) octreotide;
(n) nutritional supplements;
(o) beta blockers;
(p) calcium channel blockers;
(q) nesiritide;
(r) propofol in patients that are intubated prior to transport;
(s) proton pump inhibitors and H2 antagonists;
(t) crotalidae polyvalent immune fab (ovine) ("crofab") crofab may be monitored during inter-facility transport provided the physician initiated crofab infusion has been running for a minimum of 30 minutes prior to the paramedic initiating the transfer and assuming responsibility for patient care.

(4) Immunizations and biologicals: administration of immunizations, vaccines, biologicals, and TB skin testing is authorized under the following circumstances:

(a) to the general public as part of a department of health initiative or emergency response, utilizing department of health protocols; the administration of immunizations is to be under the supervision of a physician, nurse, or other authorized health provider;
(b) administer vaccines to EMS and public safety personnel;
(c) TB skin tests may be applied and interpreted if the licensed provider has successfully completed required department of health training;
(d) in the event of a disaster or emergency, the state EMS medical director or chief medical officer of the department of health may temporarily authorize the administration of other pharmaceuticals or tests not listed above.

(5) Skills approved for monitoring in transport:

(a) internal cardiac pacing;
(b) chest tubes.

(6) Medications for administration during patient transfer:

(a) retavase (second dose only);
(b) protamine sulfate;
(c) non-depolarizing neuromuscular blocking agents in patients that are intubated prior to transport;
(d) acetylcysteine;

(7) Patient's own medication that may be administered:

(a) epoprostenol sodium, treprostinil sodium, or other medications utilized for certain types of pulmonary hypertension;
(b) bronchodilators using pre-measured or metered dose inhalation device;
(c) sublingual nitroglycerin for unrelieved chest pain; must have intravenous access established prior to administration;
(d) glucagon;
(e) situations may arise involving patients with uncommon conditions requiring specific out of hospital administered medications or procedures; family members or the designated caregiver trained and knowledgeable of the special needs of the patient should be recognized as the expert regarding the care of the patient; EMS can offer assistance in airway management appropriate to their level of licensure, IV access, and the administration of the patient's prescribed medications where appropriate only if the medication is in the EMS provider's scope of practice; online (direct contact) medical control communication must be established with the medical control physician approving the intervention; EMS services are not expected to provide the prescribed medications for these special needs patients.