

**Bosque School**

**Emergency Response Team  
Protocols**

**2008**

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# TABLE OF CONTENTS

Table of Contents.....	2
SECTION 1-SYSTEM GUIDELINES .....	4
CONTINUOUS QUALITY IMPROVEMENT (CQI).....	5
CONTROL OF PATIENT CARE .....	6
DOCUMENTATION OF PATIENT CARE.....	7
DO NOT RESUSCITATe / ADVANCED DIRECTIVES .....	8
EMS DNR.....	8
DEAD AT SCENE .....	9
HELICOPTER USAGE .....	9
INVOLUNTARY RESTRAINT & TRANSPORT .....	10
MEDICAL CONTROL .....	11
MCEP CONSULT .....	11
LICENSED MEDICAL PHYSICIAN AT SCENE .....	11
MINOR (under 18 years) Transport Guidelines.....	12
TRAUMA DESIGNATION ALGORHITM- Albuquerque Metro .....	13
SECTION 2 - TREATMENT GUIDELINES.....	15
ASSESSMENT GUIDELINES.....	16
PRIMARY MANAGEMENT.....	17
ADMINISTERING A PATIENT's own Medications .....	18
AIRWAY MANAGEMENT (TRAUMA PATIENT).....	20
AIRWAY MANAGEMENT (TRAUMA PATIENT).....	20
ABDOMINAL PAIN .....	22
ACUTE MOUNTAIN SICKNESS (AMS).....	23
AIRWAY OBSTRUCTION.....	24
ALLERGIC REACTIONS & ANAPHYLAXIS.....	25
ALTERED MENTAL STATUS – Depressed level of response.....	26
ALTERED MENTAL STATUS – agitation.....	27
CARBON MONOXIDE INHALaTION POISONING .....	28
CROUP .....	29
DIABETIC EMERGENCIES.....	30
EPIGLOTTITIS.....	31
FAINTING / SYNCOPE.....	32
HYPERVENTILATION SYNDROME .....	33
NARCOTIC OVERDOSE (KNOWN OR SUSPECTED).....	34
POISONING / OVERDOSE / TOXIC INGESTION .....	35
PSYCHIATRIC EMERGENCIES .....	36
RESPIRATORY DISTRESS – Asthma.....	37
RESPIRATORY DISTRESS – COPD/Pneumonia .....	38
SEIZURES / CONVULSIONS.....	39
STROKE – Cerebrovascular Accident.....	40
UNCONSCIOUS / UNRESPONSIVE .....	41
CARDIAC EMERGENCIES .....	43

B. CHEST PAIN /SUSPECTED MYOCARDIAL INFARCTION.....	44
C. CARDIOGENIC SHOCK .....	45
D. PULMONARY EDEMA & CONGESTIVE HEART FAILURE .....	46
E. CARDIAC ARREST (NON TRAUMATIC) – Adult & Pediatric .....	47
F. CARDIAC ARREST – HYPOTHERMIA .....	48
G. NEONATAL RESUSCITATION .....	49
CHILDBIRTH – Assisting with a Field Delivery.....	51
CHILDBIRTH, ABNORMAL .....	53
CHILDBIRTH, FULL BREECH DELIVERY .....	53
CHILDBIRTH - LIMB PRESENTATION.....	54
CHILDBIRTH - PROLAPSED CORD .....	55
CHILDBIRTH - WRAPPED (NUCHAL) CORD .....	55
CHILDBIRTH – HEAVY VAGINAL BLEEDING (Postpartum hemorrhage) FOLLOWING DELIVERY .....	56
PREECLAMPSIA – Mild and severe .....	57
ECTOPIC PREGNANCY .....	59
ASSAULT / RAPE (CRIMINAL SEXUAL PENETRATION and/or Assault).....	61
BITES: ANIMAL/INSECT/SNAKE/HUMAN .....	62
BURNS.....	63
FRACTURES - Isolated .....	64
FROSTBITE .....	65
EYE INJURIES .....	66
HEAD INJURY – Increasing intracranial pressure.....	67
HYPERTHERMIA .....	68
HYPOTENSION AND SHOCK .....	69
HYPOTHERMIA EMERGENCIAS.....	70
SPINAL motion restriction – Long Spine board .....	71
SPINAL IMMOBILIZATION ALGORITHM .....	72
TRAUMA - AMPUTATIONS.....	73
TRAUMA - BLUNT .....	74
TRAUMA - PENETRATING .....	75

# SECTION 1-SYSTEM GUIDELINES

## **STATEMENT OF PURPOSE**

These Protocols are designed to guide the practice of the volunteer emergency medical service personnel at Bosque School. An effort has been made to coordinate these ERT protocols with responding EMS and Fire units. These ERT protocols are for first response care only and 911 will be activated on many ERT activations based on the responder's clinical evaluation and in coordination with the Bosque School Faculty/Staff. Bosque School Faculty/Staff will be advised and have an oversight role on all ERT activations. All patient assessment, treatment and care will be done in the presence of Bosque School Faculty/Staff. All parental contact will be made by Bosque School Faculty/Staff.

Bosque School is a unique emergency response environment because of the relationship between the student and school. Included in this is the written permission of the school to treat the student under certain circumstances. In circumstances requiring parent-permitted treatment of a student at Bosque, (either a student's own medication or pre-approved over-the-counter medication), medicine administration will be rendered by Bosque School Faculty/Staff and not the ERT members.

## **DISCLAIMER**

Every attempt has been made to reflect sound medical guidelines and protocols 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 ERT personnel must be in compliance with all applicable federal, state, county and local laws and regulations including: PRC Regulation 18 NMAC 4.2 "Ambulance and Medical Rescue Services."

This document was developed specifically for the Bosque School campus. As such, these protocols may need to be modified if used in other EMS systems. Other EMS systems may obtain a disk copy of this protocol by written request from their Medical Director. Contact the Bosque School ERT advisors for further information.

## CONTINUOUS QUALITY IMPROVEMENT (CQI)

**Designation of Condition:** 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 optimal and continuous improvement.

- Team Guidelines
  - All ERT runs will be reviewed by the medical administrative advisor on a weekly basis and an appropriate Run Review form completed.
  - Any minor protocol discrepancies will be discussed within the team and will be brought to the attention of the medical director at the time the run forms are delivered for review.
  - Any significant discrepancies will be brought to the attention of the medical director as soon as they are discovered.
  - Monthly department EMS training will be held on various EMS related topics.
- 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 at Bosque School.
  - Team Case Reviews will be held a minimum of every other month. 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.
  - NO EMS Run Reports or logbooks will be falsified. Any changes can only be done when documented appropriately.

## CONTROL OF PATIENT CARE

**Designation of Condition:** To facilitate the transition of patient care between the various ERT responders and on-scene personnel.

- The individual with the highest level of training is in control of patient care while awaiting a transport unit. Bosque facility will respond and be on-site for all ERT activations.
- 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 EMS or Fire arrival. At this point, the EMS or Fire staff shall assume control of patient care and should receive a patient report from the most appropriate on scene caregiver.
- The rank structure for medical care (ICS should still take place when necessary):
  - Local Medical Director
  - 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)\*
  - First Responder

\*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.

## 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 senior ERT personnel will generally be responsible for ensuring that a Department and Medical Director approved run report is generated
- The names of all crewmembers or caregivers who participated in patient care should be included on the report.
- Any changes or additions to a report after a copy has been given to the transport agency or 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 report form. It is recommended that a liability release be completed and signed by Bosque School Faculty/Staff after parental contact per Bosque School policy. If Bosque School Faculty/Staff deem the injury or illness minor and do not contact the parents per their policy, a run form is still generated and documentation should include that Bosque School Faculty/Staff were on-site and parental notification was deemed not necessary by Faculty/Staff.
- 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.

## DO NOT RESUSCITATE / ADVANCED DIRECTIVES

**Designation of Condition:** 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. (See appendix)
- If documents are present, proceed with basic life support measures only.
- 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.
- Continue care until EMS Fire arrival

## EMS DNR

**Designation of Condition:** 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. 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 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 Combitube
  - 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 should consider basic care and await EMS/Fire arrival.

## DEAD AT SCENE

**Designation of Condition:** 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 (Consider MCEP Contact)

**Note:** Hypothermic arrests, near-drowning events, and most medical pediatric arrests deserve full resuscitative attempts.

## HELICOPTER USAGE

**Designation of Condition:** To better facilitate appropriate usage of helicopter resources

- 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 manage 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 will be made EMS/Fire staff through Regional Dispatch.

# 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/her or others. Every effort should be made to await EMS/Fire personnel and Bosque Faculty/Staff must be on site and involved in the verbal de-escalation. Involuntary restraint is also appropriate when an ERT member 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 absent 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

1. Request law enforcement at the earliest opportunity, and
2. Ensure the presence of sufficient personnel to safely apply restraints.
3. Explain to the patient and family why restraints are necessary.
4. Apply restraints in a humane manner, affording the patient as much dignity as possible.
5. Use the least restrictive method of restraint necessary to protect the patient and still insure provider safety during transport.
6. **Devices:** Restraint devices that are appropriate for ERT utilization include: spine board, KED, vacuum splint, soft gauze, blankets and sheets. Prone or "hobble" restraints are not appropriate for EMS.
7. 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.
8. 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 medical director quality assurance review.**

Under State Law 24-10B1, EMS Systems ACT, Section 24-10B-13, any person may be transported to 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 reasonable likely to suffer disability or death absent the medical intervention available at such a facility.

- EMS/Fire will contact the MCEP on all involuntary restraint & transport cases
- 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.

ALL PROVIDERS

- Monitor oxygen saturation levels and support the patient's oxygenation and ventilation status as indicated.

## MEDICAL CONTROL

ERT providers provide care under their own State license. Indirect medical control is represented by these protocols or the protocols specific to the service in which the provider functions.

## 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. These should be done by EMS/Fire personnel and not the ERT. When requested, a direct report from the EMS provider to the Physician should be accomplished soon after the patient arrival in the ED. This protocol is intended for both medical and trauma related events.

## LICENSED MEDICAL PHYSICIAN AT SCENE

**Designation of Condition:** This guideline will be in the form of a card or sheet of paper that can be presented to a physician at the scene of a medical emergency.

An EMS standard of care and comprehensive written protocol has been established and are monitored by the Bosque School ERT Medical Director. By showing proof that you are a licensed New Mexico Medical Physician, you may take responsibility for the patient's care if you accept full responsibility for maintaining the established EMS Standard of Care. This includes patient management and the issuing of orders conforming to the established protocols, riding to the hospital, and signing the EMS run form.

Bosque School is a unique environment with many licensed medical staff either on campus or at Bosque events. ERT members may have physicians, nurses or paramedics on many response scenes. EMT's can listen and take advice of medical professionals within their scope but at no time can they exceed their New Mexico Scope of Practice. If a bystander medical professional intervenes and goes beyond the scope of the ERT members, advise the medical professional that he assume care of that patient.

## 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. On the Bosque School campus, students can be treated because of the pre-established role and permissions completed by the student's parents.

- 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 cancellation.
- When in doubt, EMS/Fire will 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: Refusal of care at Bosque School will often be done via phone with parental interaction. This will be done by Bosque School Faculty/Staff per current practice with advice by the ERT member when necessary. 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.

# TRAUMA DESIGNATION ALGORITHM- ALBUQUERQUE METRO

## Category 1 Trauma

Assess physiologic status

- Hemodynamic compromise <sup>1</sup>
- Respiratory compromise <sup>2</sup>
- Unconscious or deteriorating mental status

If yes to any of the above, transport to Level 1 Trauma Center (University Hospital) unless MCI procedures are in place.

*If no, continue trauma triage*

## Category 2 Trauma

Assess anatomical injury

- All penetrating injuries to head, neck, torso, or proximal extremities<sup>3</sup>
- Flail chest
- Trauma with burns of 10% or > or inhalation injuries
- 2 or more suspected proximal long bone fractures
- Potential multi-system trauma
- Limb paralysis
- Amputation proximal to distal phalangeal joint
- Open or suspected depressed skull fracture
- Unstable pelvis or suspected pelvic fracture
- Altered mental status <sup>4</sup>

If yes to any of the above, transport to Level 1 Trauma Center (University Hospital) unless MCI procedures are in place.

*If no, continue trauma triage*

## Category 3 Trauma

Assess mechanism of injury and risk for occult injury

- Ejection from vehicle
- Death in same vehicle
- Falls > 15 feet
- Pregnant > 20 weeks
- Evidence of high energy event of clinical significance <sup>5,6</sup>

If yes to any of the above, transport to Level 1 Trauma Center (University Hospital) unless MCI procedures are in place.

*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 a:*

- Level 1 trauma center (University Hospital) or
- Presbyterian, Albuquerque Regional Medical Center or Lovelace Medical Center or
- Requested facility or
- Closest facility by proximity or access or Capacity status
- If the patient or paramedic requests a non-listed facility, contact MCEP at requested facility and follow their guidance prior to transport

## **Footnotes**

1. Hypotension, pallor, tachycardia, or diaphoresis
2. Tachypnea (hyperventilation) alone will not necessarily initiate this level of response

**Continued on next page**

3. Non-life threatening, minor injuries excluded
4. Altered mental status (secondary to sedative or hypnotic will not necessarily initiate this level of response)
5. 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 judgement 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.
6. 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.

## SECTION 2 - TREATMENT GUIDELINES

## ASSESSMENT GUIDELINES

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

- Level of consciousness
- History of chief complaint
- Pertinent past medical history
- Physical exam
- Skin color / temperature
- Lung sounds
- Neurological exam, including papillary reaction, coordination and general movement
- Vital Signs, including:
  - Respiratory effort, rate and depth
  - Pulse rate, strength, regularity, and site
  - Blood Pressure
  - Oxygen saturation and/or capnometry/capnography if available
- Mental Status exam
- 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 (oropharangeal, nasopharangeal, stomal) (if available)
- Nasopharangeal airway
- Oropharangeal airway
- Pertinent medical history

BLS PROVIDERS

- Combitube airway (if available)

For all patients, ensure and establish ADEQUATE VENTILATION & OXYGENATION

ALL EMS PROVIDERS

- Pulse Oximetry (if available)
- Administer Oxygen commensurate with level of respiratory distress (if available)
- Bag Valve Mask

For all patients, ensure and establish ADEQUATE CIRCULATION

ALL EMS PROVIDERS

- Supine positioning
- Trendelenburg positioning
- CPR
- SAED (if available)

BLS PROVIDERS

- Perform glucometry (if available)

# ADMINISTERING A PATIENT'S OWN MEDICATIONS

## BLS 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 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 EMT 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 EMT is considering the administration of nitroglycerin, the EMT must have Medical Control contact. If this contact is impossible, nitroglycerin may not be administered.

# AIRWAY MANAGEMENT

## 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 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 a Combitube, Combitube SA, or Laryngeal Mask Airway (LMA) inserted (assuming the caregiver has received appropriate training and sign-off).

# MEDICAL EMERGENCIES

## ABDOMINAL 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, O<sub>2</sub> via nasal cannula if practical, especially if nausea and vomiting is present. Suction as necessary. If higher O<sub>2</sub> 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.

## ACUTE MOUNTAIN SICKNESS (AMS)

**Treatment Indication:** A condition due to hypobaric hypoxia with unclear pathophysiology. 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
- Glucometry

## 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

## ALLERGIC REACTIONS & ANAPHYLAXIS

Treatment Indication: Signs and symptoms 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 protocol
- 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 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
  - Epinephrine 1:1000, 0.3 cc SC in pre-filled epi-pen.
    - The Epi-Pen Jr. may be utilized for Pediatric patients
- Maximum allowable single dose is 0.3cc. Further dosing will be by EMS/Fire.

## ALTERED MENTAL STATUS – DEPRESSED LEVEL OF RESPONSE

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

### ALL EMS PROVIDERS

- Establish Primary Management
- For inadequate respiration, proceed according to respiratory distress protocol, 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 protocol, and consider police involvement.

### BLS PROVIDERS

- Check blood glucose level.
- Administer Naloxone:
  - Adult: IN: 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: 0.01 mg/kg IN (one half dose administered in each nare) up to 1.2 mg.

### NOTES:

- If the patient is known or suspected to have overdosed on narcotics, it is appropriate to try Naloxone prior to ruling out hypoglycemia.
- Addicts may go into acute withdrawal when given Naloxone, be prepared for nausea/vomiting and agitation.

## 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, metabolic disturbances, etc.

### ALL EMS PROVIDERS

- Establish Primary Management
- For inadequate respiratory effort, proceed according to respiratory distress protocol, 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.
- Restrain as necessary according to restraint protocol, and consider police involvement per Bosque staff.

### 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
- 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.

# 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.
- Administer oxygen 15 lpm by non-rebreather mask or assist ventilations with 100% Oxygen via bag valve mask if any of 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.

## 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.

### BLS PROVIDERS

- If the attack is moderate to severe and there is wheezing is present, initiate a “blow-by” 2.5 mg Albuterol nebulizer.

## 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 protocol. 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 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 PROVIDERS

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

# 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 stridorous 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.
- Bronchodilators are not indicated, unless wheezes (not stridor) are auscultated.

## 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.
- Consider cardiac monitoring.

### BLS PROVIDERS

- Assess blood glucose level

## 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 breath slower.
- Await EMS/Fire arrival.

## NARCOTIC OVERDOSE (KNOWN OR SUSPECTED)

### ALL EMS PROVIDERS

- Consider scene safety/law enforcement
- Establish Primary Management
- Secure samples of suspected agent for EMS/Fire to take to the hospital if available

### BLS PROVIDERS

- Assess blood glucose level
- Naloxone (Narcan)
  - Adult:
    - IN: 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:
    - 0.01 mg/kg slow IN (one half dose administered in each nare) up to 1.2 mg.
- If patient's respiratory rate and volume do not improve despite Naloxone administration, secure the airway with the most appropriate definitive airway (Combitube)

## 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

- Establish primary management
- Identify substance and estimate amount ingested, inhaled or injected
- If altered LOC, assess Blood Glucose Level
- Administer Oxygen, cannula or mask based on level of consciousness
- Await EMS/Fire arrival

**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.

## 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" & the "Agitation" guidelines.
- 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 protocols. 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
- Await EMS/Fire arrival

## RESPIRATORY DISTRESS – ASTHMA

**Treatment Indication:** Constriction of the small airways of the lungs, increased secretions 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

### BLS PROVIDERS

- For the patient with wheezes and SOB:
  - Albuterol 5mg in 3ccNS and, for the patient weighing less than 40 kg, 2.5mg albuterol in 3ccNS
  - 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<sub>2</sub>):**

- Adult Patient - Administer 0.3 mg Epinephrine 1:1000 SQ via Epi-Pen. When an Epi-Pen is utilized, administer it into the antero-lateral thigh per the instructions on the device.
- Pediatric Patient – If available, utilize an Epi-Pen Jr, which delivers half of the adult dose. This device is also delivered into the antero-lateral thigh.

This must not be given to patients with a history of coronary artery disease and/or hypertension or over the age of 45.

## 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 non-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 and 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.
- Initiate rapid transport and ILS/ALS intercept.

### BLS PROVIDERS

- If wheezing is present, administer an Albuterol nebulizer:
  - Adults and children > 8 years, 5.0mg, as needed. Repeat 5.0 mg per nebulizer treatment as necessary, with cardiac and vital sign monitoring. Some patients may need continuous nebulizer treatment during entire transport.
  - Providers are encouraged to deliver nebulized Albuterol via BVM for patients who are unable to provide effective respiratory exchange.

## 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 in 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 do 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 PNB
- Have suction available
- Obtain history of seizure activity including onset, duration, type, medication taken and prior history

### BLS AND ABOVE PROVIDERS

- Assess blood glucose level.

# 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
- A detailed history and time of onset is critical, however, you may be able to obtain this information enroute. Do not delay transport any more than necessary.
- 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, unreactive pupils, or extensor posturing), then ventilate at a rate of 16 – 20 ventilations per minute.

# 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
- Assess and ensure a patent airway, rate and depth of respirations, and circulation. Combitube 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

## BLS PROVIDERS

- If narcotic overdose is suspected and hypoglycemia has been ruled out as a cause of the unresponsiveness, administer Naloxone per Narcotic Overdose Protocol

# CARDIAC EMERGENCIES

# CARDIAC EMERGENCIES

## A. 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 extremely short of breath, a flow rate of 2- 4liters 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.

- All chest pain patients must be evaluated by EMS/Fire

## B. 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 two chewable “children’s” aspirin (162 mg) if not allergic and suspect cardiac related chest pain.
- 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.
- Await EMS/Fire arrival.

## C. CARIOGENIC 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
- Await EMS/Fire arrival

## D. 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-breather
- If necessary, assist the patient's ventilations with a BVM
- Await EMS/Fire arrival.

## E. CARDIAC ARREST (NON TRAUMATIC) – ADULT & PEDIATRIC

**Treatment Indication:** Unconscious and unresponsive patient without respiratory effort and no palpable pulses.

ALL EMS PROVIDERS

**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
- Establish Primary Management
- Start CPR at the compression-to-ventilation ration of 30:2 until defibrillator attached.
- 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 2006 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 the two minutes of CPR at the compression-to-ventilation ration of 30:2. 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.
  - If two rescuers are available during a pediatric resuscitation, a compression to ventilation rate 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 30:2 rate. 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; thusly the appropriate oropharyngeal airway should be used for these patients. Utilize a BVM 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.
- Secure the airway with the Combitube 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.
  - 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 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.
- Continue efforts and await EMS/Fire arrival.

## F. 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.
- Secure the airway with a Combitube.
- Await EMS/Fire arrival.

## G. 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:
  - 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), quickly suction meconium and any other secretions only by mouth as completely and quickly as possible (intubation has been shown to NOT be needed for vigorous babies, even with the presence of meconium). Warm and dry baby.
  - If the baby is not vigorous (APGAR <7), place in supine position in slight Trendelenburg position, and open/maintain airway. If ALS providers capable of neonatal intubation are not present, suction meconium and any other secretions, but do not suction for more than 10 seconds at a time without ventilating. After clearing the airway as much as possible, stimulate the baby by flicking the feet and/or rubbing the baby's back.
  - 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 100 times per minute. The compression to ventilation ratio is as follows: One rescuer – 30 compressions to 1 ventilation; two rescuers – 15 compressions to 2 ventilations.
  - 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.
  - Await EMS/Fire arrival.

# 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.

### 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.**
- Once the entire head is delivered, ask the mom if she can momentarily stop pushing and/or to pant. If meconium or significant fluids are present, gently suction the mouth and nose with a bulb syringe.
  - **In the absence of meconium or significant fluids, suctioning the baby while the head is still at the perineum and the body is undelivered has been shown to have less value than traditionally thought. Aggressive suctioning can cause bradycardia, tissue trauma, and irritation of nasal membranes that causes rebound mucous production & nasal congestion. Use your best judgment, and gently suction the baby as soon as you feel it is necessary.**
- 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. 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.**

- 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 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.

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.

- Ensure maternal primary management including high flow oxygenation 12 – 15 lpm via PNB (regardless of respiratory distress).
- Await EMS/Fire arrival.

## 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)
- Generally, 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.
- 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 (below the fundus, and just above the pubic bone) 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, and push the vaginal wall tissue away from the baby's face. You may thread oxygen tubing into this space @ 6 – 8 liters per minute. Keep the baby's body warm by draping with towels, etc, and keep the umbilical cord warm and moist if it is still pulsating.

## 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
- Await EMS/Fire arrival.

## 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 off of the cord.
  - 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.
- Await EMS/Fire arrival

## 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 not an uncommon 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 – 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.
- Await EMS/Fire arrival.

## 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.

### 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.

### SEVERE PREECLAMPSIA

**Treatment Indications:** Severe preeclampsia may develop suddenly and present with any of the following: a systolic pressure of 160 mm/Hg or greater and/or a diastolic pressure of 110mmHg 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

## 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.

### 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.
- Await EMS/Fire arrival.

## 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, although at least 30% of patients lack 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
- Await EMS/Fire arrival.

# TRAUMA EMERGENCIES

## 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) Program. 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 traumatic injuries as appropriate.
- 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.
- Await EMS/Fire arrival

## 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.

**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. At the discretion of the Bosque School Faculty/Staff, an adult may or may not collect the snake for transport to the hospital for identification. 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, for coral and exotic bites only, 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).

# 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-PERINEUM	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 protocols will supersede burn protocols.
- Await EMS/Fire arrival

## FRACTURES - ISOLATED

**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.

# 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 treatment – do not attempt field re-warming.
- Do not massage, apply ointments, break blisters or engage in aggressive warming of injured area.

## 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).
- Await EMS/Fire arrival

## 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 Spinous 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<sub>2</sub> > 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.
- BGL, if altered mentation

# HYPERTHERMIA

**Treatment Indications:** A group of disorders brought on by exposures to excessive heat here 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.
- Await EMS/Fire arrival

## 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

## HYPOTHERMIA EMERGENCIES

**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 the 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.
- Await EMS/Fire arrival.

# SPINAL MOTION RESTRICTION – LONG SPINE BOARD

**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 PROVIDERS

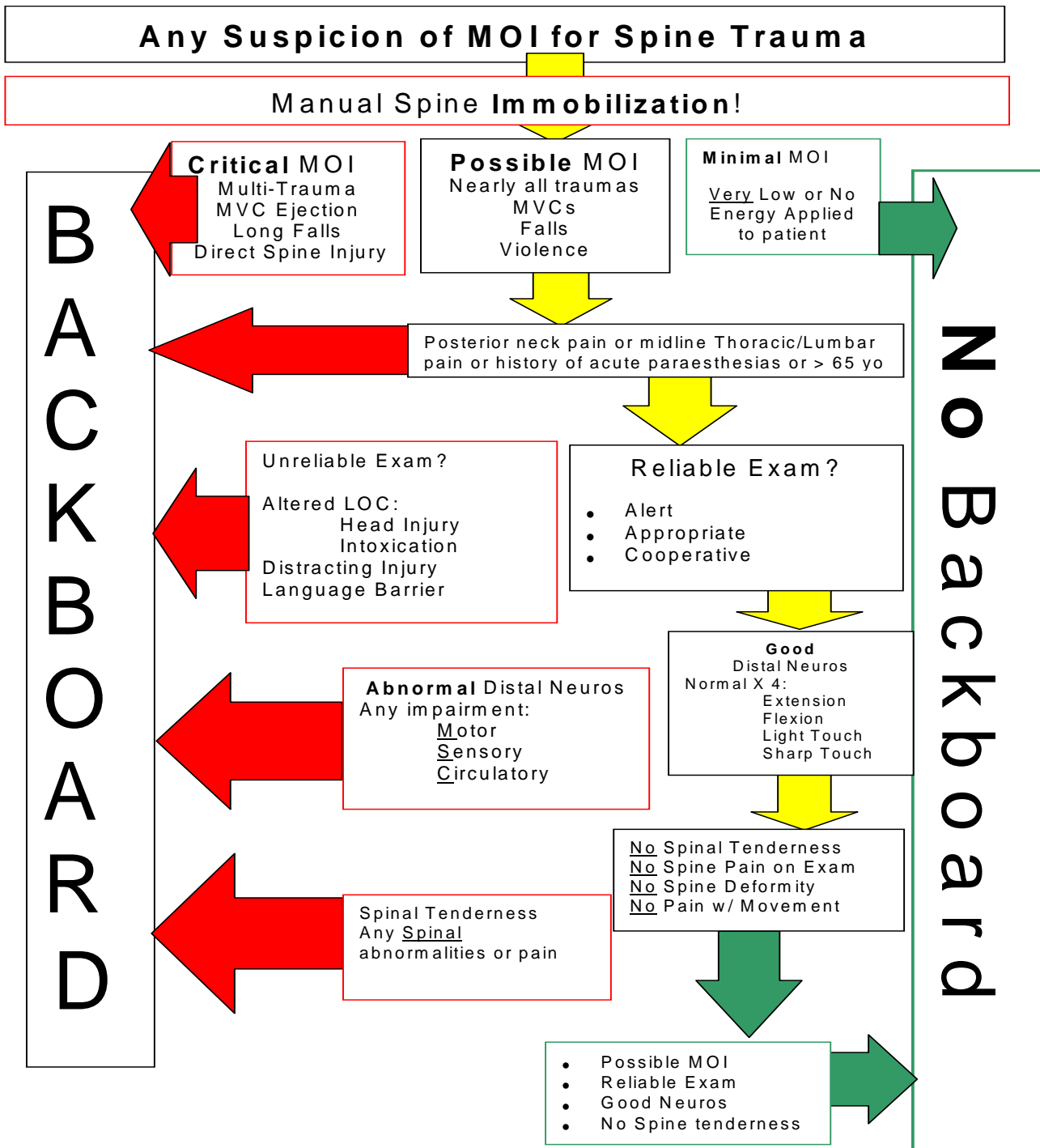
The following patients should receive SMR:

- Patients with a significant mechanism of injury, or who have an altered level of consciousness, or who are complaining of mid-line C-spine and/or vertebral column pain.
- Patients who have a significant distracting injury and may not be able to fully perceive and appreciate their pain along the vertebral column.
- Patients displaying symptoms of neurological deficits after a traumatic incident.
- Victims of penetrating trauma if:
  - There is evidence of neurological deficit at or below the level of injury.
  - There is a suspicion of spinal injury based on the location of the wound.

## Field Treatment

- Rigid Cervical Collars - properly sized collars shall be used in conjunction with SMR whenever practical.
- Critical trauma patients shall be extricated using rapid extrication standards – PHTLS by EMS/Fire.
- With a fully cooperative and stable patient, extricate the patient onto a long board using manual support in conjunction with a C-Collar. Patients who are unconscious should be extricated rapidly using appropriate, available equipment and personnel for the situation.
- With any index of suspicion, maintain in-line stabilization pending EMS/Fire arrival.

# SPINAL IMMOBILIZATION ALGORITHM



## 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
- Wrap loosely in saline moistened gauze.
- Place into plastic bag or emesis basin.
- DO NOT pour water into bag and do not cool directly with ice. Place in sealed bag in ice water bath, when possible.
- Await EMS/Fire arrival.

## TRAUMA - BLUNT

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 hands).

- Prolongation of scene time is **unacceptable** for the following:
  - To await arrival of helicopter, may rendezvous en route when necessary
  - To begin IVs at the scene, when ground transport is available.
  - To await arrival of a paramedic (perform ALS intercept)

### ALL EMS PROVIDERS

- Establish Primary Management, including rapid placement onto a long spine board with spinal precautions.
- Await EMS/Fire arrival.

## 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 hands).

- Prolongation of scene time is **unacceptable** for the following:
  - To await arrival of helicopter, may rendezvous en route when necessary
  - To begin IVs at the scene, when ground transport is available.
  - To await arrival of a paramedic (perform ALS intercept)

### ALL EMS PROVIDERS

- Establish Primary Management, including the appropriate dressing of wounds if time allows.
- Spinal motion restriction (backboarding) is very seldom necessary for patients with penetrating trauma. Refer to the Spinal Motion Restriction Guideline.