

MONTANA BOARD OF MEDICAL EXAMINERS

MONTANA PREHOSPITAL

TREATMENT PROTOCOLS

(Version 1.10)

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Montana Board Approved Protocols: Introduction

The Montana Board of Medical Examiners has approved the following protocols for licensed Montana Emergency Medical Responder's thru Paramedic's (including all endorsements).

These protocols are intended to be used as a default or baseline protocols for Montana licensed Emergency Medical Providers and local Medical Directors to assist in providing established and approved guidelines for individual providers functioning in prehospital, transport and emergent conditions.

The local medical director may choose not to use the default protocols and may develop protocols for their Emergency Medical Providers; **however**, service specific protocols must be first reviewed and approved by the Board of Medical Examiners.

The Board authorizes the medical director to use the Board approved protocols in their entirety or may determine to limit the service or individual EMT providers function / practice where appropriate and in accordance with provider's abilities or needs of the community they serve. **However**, the local medical director may not significantly alter or expand approved Board protocols without first seeking Board of Medical Examiners approval. (See ARM 24.156. 2140 for Board Protocol Request/Approval Procedures) A submission for approval form is available on <http://www.emt.mt.gov/>.

Emergency Medical Personnel may not function/practice beyond their individual licensure level and scope of practice authorized by the state-wide protocols or local medical director (if an exception has been granted by the Board).

These protocols define the expected performance of various levels of prehospital personnel when faced with a variety of emergency situations. This is not a procedure manual describing the "how to", but a performance manual which guides the "what to do". It is presented in a field guide format for easy reference.

The **Advanced Cardiac Life Support (ACLS)** and **Pediatric Life Support (PALS)** algorithms for the various dysrhythmias are not reproduced in this protocol manual. They are available from various sources and it would serve no useful purpose to re-print them in this protocol. The algorithms are developed to guide a wide variety of medical providers.

It is the responsibility of the Montana Emergency Medical Provider to know / recognize their SCOPE OF PRACTICE and operate within their scope when utilizing ACLS/PALS algorithms. When the appropriate Emergency Medical Provider encounters a dysrhythmia, they are to treat the patient: within their scope of practice, according to the most recent prehospital ACLS or PALS protocols and as directed by their medical director. Medications/procedures identified in the algorithms that are outside of the National Educational Standards and Montana scope of practice of the individual licensee may not be performed.

General Board Statements Concerning ECP (Emergency Care Providers) Scope of Practice

The Montana Board of Medical Examiners has prepared the following statements to frequently asked questions concerning the ECP scope of practice. These statements while they do not carry the power of rule or regulation, it provides the reader an understanding of how the Board feels concerning a specific issue. It is hoped that these statements will help avoid confusion on difficult issues.

EMERGENCY CARE PROVIDERS EMPLOYED IN OTHER THAN PRE-HOSPITAL SETTINGS:

The Montana Board of Medical Examiners has been asked whether an Emergency Medical Provider who is employed in an in-hospital setting may perform acts beyond the level of his or her ECP licensure under orders from the ECP's employer, without jeopardizing the ECP's licensure.

An ECP's practice is, by statute, limited to the out-of-hospital scene (Section 50-6-201, Montana Code Annotated). Some Montana hospitals, however, recognizing the skills and training of the certified ECP, have begun to employ ECPs in the hospital emergency room and other in-hospital settings. Typically, the facility lists ECP-licensure as a criterion for employment, and then trains the person in such additional skills and techniques as may be necessary to perform the in-hospital job, e.g., phlebotomy. The facility may call the employee an "emergency department technician" or "emergency room assistant." Such employment practices are cost-effective for the facilities because they can send the employee out to the scene of an accident on an emergency call as a fully-certified ECP, and, when the run is completed, can use the same employee for routine in-hospital tasks instead of having to employ an additional unlicensed person for those tasks.

The Board's jurisdiction in this matter extends to the licensure and conduct of Emergency Medical Provider when that person is acting in the capacity of an ECP. Hence, the various levels of ECP licensure (EMR, EMT, AEMT and Paramedic) reflect different levels of education and training required by administrative rules, which have been promulgated by the Board. When the ECP is providing pre-hospital care at the scene of an accident or medical call, the ECP must confine his or her practice to the tasks allowed under the ECP's level of licensure; in such a context, the Board has the obligation to protect the public by ensuring that the individual ECP has been trained according to the rules, has passed the examination required by rule, and otherwise meets the licensure requirements.

Licensure as an ECP, however, does not preclude the licensed person from pursuing other employment in the health care field, undertaking additional training, and exercising additional skills acquired from non-ECP sources, in a non-ECP context. When a hospital employs a person to perform non-ECP tasks, on-site in the hospital's facility, the hospital undertakes the responsibility to educate, train, and monitor the person's performance, rather than the Board. The ECP who performs such non-ECP tasks in a hospital setting may not use the title associated with pre-hospital licensure (EMR, EMT, AEMT or Paramedic). Under these circumstances, the ability and obligation to protect the public passes from the Board to the employing facility, at least until the ECP's next out-of-hospital run.

The Board recognizes that a geographical determination “Where was the ECP, on a run or in the hospital” may oversimplify the issues in a given case, and the Board will treat complaints and questions on a case-by-case basis when presented to the Board. However, it is the Board’s position that exercising skills or performing tasks beyond the scope of a person’s ECP-licensure, when so required by the person’s employer ***in a non-ECP setting***, does not constitute a ***per se*** violation of ARM Rule 24.156.2701(i).

EMERGENCY CARE PROVIDERS (ECPs) CONTINUING PATIENT CARE ONCE IN A MEDICAL FACILITY:

It is the position of the Montana Board of Medical Examiners that Emergency Care Providers who begin initial patient care as a part of their normal out-of-hospital response may continue the patient’s care in the medical facility under the following provisions: (1) the care rendered in the facility is at the request of the medical provider and (2) the Emergency Medical Provider operates within their individual scope of practice at all times. The Montana Board of Medical Examiners believes that quality medical care is a team effort by many different providers all working for the best patient outcome. The Board also believes the Emergency Medical Provider’s role in assisting the medical staff at a medical facility (when requested) contributes to that team effort until transfer of patient care is complete. Emergency Medical Provider’s, like all of the other health care providers, bring a set of skills and knowledge to the team, thus increasing the patient’s chance for a better outcome.

EMERGENCY CARE PROVIDERS (ECPs) ON AN EMS SERVICE RESPONDING TO A MEDICAL FACILITY AT THE REQUEST OF THE FACILITY:

It is the position of the Montana Board of Medical Examiners that Emergency Care Providers on an EMS service responding to a medical facility may function within their scope of practice utilizing their usual standing orders, protocols and medical oversight and in preparation for transport. This does not change when the location requesting assistance is from a medical facility. The Montana Board of Medical Examiners believes that quality medical care is a team effort by many different providers all working for the best patient outcome. The Board also believes the ECP’s role in assisting the medical staff at a medical facility (when requested) contributes to that team effort until transfer of patient care is complete. ECPs, like all of the other health care providers, bring a set of skills and knowledge to the team; thus, increasing the patient’s chance for a better outcome.

RECOMMENDATIONS MEDICATION CONTROL PROCEDURES FOR EMS SERVICES:

All medications should be treated the same. While narcotics require the most extreme controls, if one procedure is developed for all medications, it’s more likely to be followed by all staff and becomes less confusing for all.

All medications should be inventory controlled.

A “Medication Log” should be developed and maintained that identifies all medications utilized by the service by medication name, location, purchase date and expiration date.

All medications not assigned to a specific person, should have unauthorized access controlled by policy, location or other method.

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All medications assigned to a specific person (or crew) should be done in writing and/or via a computerized drug dispensing system.

When medications are being transferred from person to person (or crew to crew) due to shift change, a written process should be developed that requires the receiving person (or crew) to accept the medications and the transferring person (or crew) to confirm medications transferred.

Only one or two persons should maintain oversight of purchasing and replacement of expired medications.

This should be documented on the "Medications Log" identified above. All medications disposed of should be witnessed by another and documented in writing.

Security should be maintained on all medications carried on EMS vehicles or in EMS medication bags constantly, either by locking devices or secure locations.

A quality assurance program must be developed and maintained to compare amounts of medications used during patient care (documented on patient care reports) and amounts replaced due to usage.

All medications disposed of during the actual run (not returned to the person responsible for oversight) must be witnessed and documented either on a specific form or patient care report in which some of the medications were utilized.

All discrepancies in amounts, locations, documentation and security must be investigated by the medical director immediately.

ECP WILDERNESS EDUCATIONAL PROGRAMS:

Emergency Care Providers who attend ECP Wilderness educational programs do so to expand their education and flexibility in applying patient care in non-conventional settings, while maintaining patient care standards as identified by the Board approved Montana ECP Statewide Protocols.

The altering of Board approved Montana ECP Statewide Protocols by individual ECPs is unsafe practice and may result in Board action against the licensee.

There is a Board process for the Medical Director to alter Board approved Montana Statewide ECP Protocols for specific services if necessary.

Individual ECPs must function within the Montana Statewide Pre-Hospital Treatment protocols.

GENERAL INSTRUCTIONS FOR USING THESE PROTOCOLS

To use these protocols as they are intended, it is necessary to know the underlying assumptions:

1. Users of these protocols are assumed to be a licensed provider in Montana and have knowledge of basic and more detailed patient management principles found in the Educational Standards, EMS textbooks and literature appropriate to the EMS provider's level of licensure.
2. The protocols are NOT intended to be a sequential approach to patient care where everything must be done in the exact order as written. You are expected to practice medicine at the level of your licensure. The licensed provider should always evaluate the needs of the patient and consider the benefits vs. the risk when applying these recommendations. Each level of licensure is expected to appropriately integrate their skills into the total patient care (e.g. in the SHOCK protocol, the Advanced Emergency Medical Technician is to "establish an advanced airway as needed". While this is listed as the first item under AEMT, the AEMT should know it may well need to be incorporated into the INITIAL ASSESSMENT.)
3. Drug dosages contained within this protocol are to assume "**LEAN BODY WEIGHT**" when computing dosages/body weight and might need to be adjusted accordingly. In the pediatric patient use a "length-based resuscitation tape" to calculate medication dosages.
4. The term "**AS NECESSARY**", when used in the sections dealing with IV administration, means: (1) when the patient presents signs and symptoms of impending shock, (2) has potential to develop shock, (3) or for medication administration.
5. The term "**Start a peripheral IV(s)**" when dealing with patients means, after one peripheral attempt or if NO obvious site is present, establish an intraosseous (IO) site. In the conscious patient with an IO, cardiac Lidocaine 2% (adults: 20-40mg; pediatric: 0.5mg/kg) should be considered before infusing medication or fluid to reduce infusion pain, if within your scope of practice.
6. The term "**CONSIDER**" utilized within this protocol means, an action, drug or treatment, that the ECP should apply critical thinking to determine, within their SCOPE OF PRACTICE, if that step should be initiated for the best patient outcome and with the optimal risk vs. benefit ratio.
7. Oxygen delivery should be to maintain an O2 saturation of > 92%. Use continuous pulse oximetry if within at your scope.

Obtaining and delivering or transmission of capnography numerical values (by basic life support personnel) to the receiving emergency room is not prohibited, provided that obtaining the numerical values do not delay assessment, management and transportation of the patient. Capnography interpretation and use for management or treatment purposes is not within the EMR/EMT/AEMT scope of practice.

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8. Obtaining and delivering or transmission of a 3, 12 or 15 lead EKG (by basic life support personnel) to the receiving emergency room is not prohibited, provided that obtaining the numerical values do not delay assessment, management and transportation of the patient. EKG interpretation and use for management or treatment purposes is not within the EMR/EMT/AEMT scope of practice.

Obtaining and delivering or transmission of a 15 lead EKG by Paramedic personnel to the receiving emergency room is not prohibited.

9. These protocols reflect a SCOPE OF PRACTICE and may be different than the SCOPE OF EDUCATION you were trained to. It is the responsibility of providers to know / recognize their SCOPE OF PRACTICE and operate within that scope.
10. It is the responsibility of the licensed provider to be competent in the skills identified in these protocols before attempting any procedure or protocol contained in this document. Medical Direction may be required to complete portions of these protocols; it is the responsibility of the provider to always function legally.
11. Each protocol has identified the licensure level or endorsement for specific treatment considerations. If a specific licensure level or endorsement is not listed, there is nothing specific for that level or endorsement. However, each level of licensure or endorsement assumes that everything prior to that level or endorsement has been considered or completed. As example if pain medications are identified at the AEMT with I99 endorsement level, it can be assumed that the PARAMEDIC includes pain medications as well as anything specifically listed under PARAMEDIC.
12. Drug Assisted Intubation (DAI), in any form or manner, is not in the scope of practice for the PARAMEDIC
13. Throughout this document there are sections with the notation: "***per local protocol***". These sections within the protocol allow for flexibility to address local needs but also require specific attention by the local medical director. This implies and requires the active participation of the local medical director to utilize that section of the protocol. That would include but not be limited to supplemental education, review of recommended dosages, indications for usage and QA/QI review.
14. ECPs may transfer patients between medical facilities provided that they possess the knowledge and skills necessary to manage the needs of the patient. Consultation with the transferring physician is required to assure the potential needs of the patient are met while conducting the transfer. The ECPs scope of practice may not be expanded to meet the needs of the patient; appropriate personnel must be obtained to assure continuity of patient care.

GENERAL ORDERS FOR ALL PATIENTS

- I. **Scene Size Up and Primary Assessment.** Done initially on every patient and repeated every 5-10 minutes.
 - A. Check responsiveness.
 - B. AIRWAY - Is it patent? Identify and correct existing or potential obstruction.
 - C. BREATHING - Present? Estimate rate, quality, and bilateral breath sounds. Consider oxygen administration; establish device/LPM by individual protocol. Identify and correct existing or potential compromising factors.
 - D. CIRCULATION - Pulse present? Estimate rate, quality, and location of pulse and capillary refill. Control external bleeding, identify and treat for shock.
 - E. DISABILITY - LOC, AVPU, Glasgow Coma Scale
 - F. If patient's condition dictates early transport, secondary assessment and additional treatment may be completed en route to the hospital.

- II. **FOCUSED and or SECONDARY ASSESSMENT.** Complete as indicated by patient's condition. May include one or more of the following:
 - Determine level of consciousness.
 - Obtain AMPLE (allergies, medications, past medical history, last meal and event) history from the patient, family and/or bystanders.
 - Check for medical identification.
 - Perform a head to toe assessment.
 - Locate patient's medications and bring to hospital.
 - Obtain and record pulse, respirations, blood pressure, skin color and pupil reaction and size.
 - Obtain other pertinent information as determined by patient's condition (such as POLST or Comfort One documentation).

- III. **Additional Field Treatment and Preparation for Transport**
 - See appropriate protocol.
 - Any intravenous fluid or medication may be administered intraosseously

- IV. **Communications**
 - A. Radio information protocol, from Emergency Medical Responders (EMR) to responding ambulance:
 - Patient's age and sex
 - Chief complaint or problem
 - Vital signs and level of consciousness
 - Physical assessment findings
 - Pertinent history as needed to clarify problem (medications, illness, allergy, mechanism of injury)
 - Treatment given and patient's response

- B. Radio information protocol, from transporting personnel to medical facility, prior to arrival:
- Identify ambulance service
 - Patient's age and sex
 - Chief complaint or problem
 - Vital signs and level of consciousness
 - Physical assessment findings
 - Pertinent history as needed to clarify problem (medications, illness, allergy, mechanism of injury).
 - Treatment given and patient's response.
 - ETA (Estimated time of arrival)
 - Identify receiving hospital if different than the one communicating to
 - Advise receiving facility of changes in patient's condition at any time

A higher level of care, when available, should be requested as appropriate.

Patient transport should not be delayed awaiting arrival of the higher level of care.

Do not delay transport or treatment of the patient because of communication problems

Notify receiving hospital of any systems activation (Trauma, STEMI, or Stroke).

Provide a verbal report to and leave a written report with the receiving facility.

STANDARD / UNIVERSAL PRECAUTIONS

As explained in DOL Regulation 29 CFR 19.10, Standard/Universal Precautions is defined as an approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other blood borne pathogens.

Standard Precautions emphasize the major features of Universal (blood and body fluid) Precautions (designed to reduce the risk of transmission of blood borne pathogens) and Body Substance Isolation (designed to reduce the risk of transmission of pathogens from moist body substances). This means treating all blood and body fluids as potentially infectious. Standard precautions apply to (1) blood; (2) all body fluids, secretions, and excretions except sweat, regardless of whether or not they contain visible blood; (3) non-intact skin; and, (4) mucous membranes. Normally your skin acts as a protective barrier to keep viruses out, but even tiny breaks or cracks in the skin from common conditions like dermatitis, acne, chapping, or broken cuticles can become doorways for Human Immunodeficiency Virus (HIV) or Hepatitis B Virus (HBV) to enter your body.

Each worker is responsible to follow exposure follow-up recommendations.

SOURCES:

Blood
Wound Drainage
Tissue
Other Body Fluids
Contaminated Materials
POSSIBLE ENTRY SITES
Eyes
Nose
Mouth
Non-intact skin

PERSONAL PROTECTIVE EQUIPMENT:

Protective equipment needs to be worn to prevent exposure to infection or hazards while working in a health care or while performing delivery of care to patients. Precautions are listed as: (1) Contact precautions; (2) Airborne precautions; (3) Droplet precautions; and (4) Standard Precautions. Precautions include wearing a mask (face shield), eye protection, gloves, gown, and placing patients in isolation when appropriate. Hand washing remains the primary method of reducing the spread of infection.

Routine and terminal cleaning of equipment that comes in contact with patients should be cleaned following policies and procedures at the agency in which the healthcare worker is working. The intended type of reprocessing equipment is determined by the article, its intended use, the manufacturer's recommendations, policy and any applicable guidelines and regulations.

CLEANING UP:

Contaminated disposable (single use) patient-care equipment is handled and transported in

a manner that reduces the risk of transmission. Environmental protection rules and regulations need to be followed for bagging and disposing of medical waste.

Handling, storage, treatment, and disposal of all regulated waste shall be in accordance with Health and Safety Codes for the state and county in which the client company is located.

Any spilled body fluids or blood must be cleaned up following standard precautions, and use of protective equipment is required to prevent exposure. Cleaning up any spill requires that the area be disinfected using an acceptable solution for decontamination.

SHARPS & NEEDLE-LESS SYSTEMS:

Sharps are to be handled with precaution. They are not to be recapped and are to be disposed of in proper rigid, puncture resistant, and leak proof containers. Prohibited practices include, but are not limited to, the following:

- a) Reusing disposable sharps
- b) Shearing or breaking of contaminated needles and other contaminated sharps
- c) Opening, emptying, or cleaning sharps manually or in any other manner that would expose employees to the risk of sharps injury
- d) Any other improper handling of sharps/needle-less systems

It is now required that if both a needle-less and sharps device are available the needle-less systems must be used. The new regulation contains a new definition of sharps in general and requires that non-needle sharps be used that incorporate engineered sharps injury protection. Sharps logs are to be maintained on all needle sticks for five (5) years from the date of the stick. Training records are to be maintained for three (3) years post training.

YOUR PERSONAL CHECKLIST:

- Personal Health: If you have an infection or feel ill, stay home.
- Keep health tests and immunizations up to date, as required for your job.
- Maintain good health. A strong body resists infection. Get enough rest, exercise, and maintain a healthy diet.

TRANSMITTABLE DISEASES: Basic Information

BLOODBORNE VIRUS EXPOSURE- Universal Precautions- ALL blood exposures are considered potentially infectious, including undiagnosed exposures

HEPATITIS A & E:

The viruses are excreted or shed in feces. Direct contact with an infected person's feces or indirect fecal contamination of food, water supply, raw shellfish, hands, and utensils may result in sufficient amounts of the virus entering the mouth to cause infections. Other transmission can occur due to intra-family or institutional transmission.

HEPATITIS B:

Formerly called serum hepatitis, it is the most common form of hepatitis with 30 million carriers in the world and an estimated 1.2 million carriers in the United States. Exposure is due to intra-family or institutional transmission, anal or oral sex, or intravenous drug use.

HEPATITIS C:

Formerly called non-A or non-B, more than 3.9 million Americans are carriers of the virus.

Once exposed symptoms may not occur for up to 10 years. Exposure is directly one person to another via blood or contaminated needles, as from intravenous drug use, transfusion and hemodialysis. Exposure can occur due to unclean instruments used in tattoos, podiatry or nail care. Still under investigation is contamination from oral, household, and intra-family transmission.

HUMAN IMMUNODEFICIENCY VIRUS:

Exposure: HIV is primarily transmitted through sexual contact but may also be transmitted through contact with blood and certain body fluids.

TUBERCULOSIS:

Exposure occurs from individuals infected with Mycobacterium tuberculosis. It is an airborne, droplet nuclei transmission. Symptoms: May feel weak/sick, fever, experience night sweats, weight loss – cough (blood possible), chest pain.

Workers working with patients with known TB need to utilize personal respiratory protection, which is a high efficiency particulate air filtered (HEPA) mask that is fit based on OSHA standards.

ABDOMINAL PAIN (Medical Etiology)

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

Be alert for and treat shock; see [Shock Protocol](#)

FOCUSED / DETAILED ASSESSMENT

Note nature of illness
Visualize and palpate abdomen
Obtain history
Obtain and record vital signs

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

Place patient in position of comfort

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

Start a peripheral IV/IO(s), as necessary, with NORMAL SALINE /LACTATED RINGERS solution (en route)

EMT (Emergency Medical Technician) with medication endorsement:

Consider pain management, see [Pain Management Protocol](#)

AEMT (Advanced Emergency Medical Technician):

Consider pain management, see [Pain Management Protocol](#)

AEMT (Advanced Emergency Medical Technician with I99 Endorsement):

Consider pain management, see [Pain Management Protocol](#)

PARAMEDIC:

Consider pain management, see [Pain Management Protocol](#)

NOTE:

Nothing by mouth
Important history
SAMPLE
Bowel function
Last menstrual period
Consider pregnancy
Rectal bleeding
Vomiting (nausea)

ABNORMAL DELIVERY PROCEDURES

BREECH BIRTH

Breech-Buttocks First Presentation

Administer high flow oxygen per non-rebreather mask

Allow delivery to progress spontaneously

Support infant's body as it is delivered

If head delivers, proceed as in [Obstetrical Emergencies Protocol](#)

If head does not deliver within 2 minutes, insert gloved hand into vagina to take the pressure off the cord and if possible create a space around the infant's nose to allow breathing.

TRANSPORT IMMEDIATELY, DO NOT REMOVE HAND UNTIL RELIEVED BY RECEIVING FACILITY STAFF

Notify receiving facility as soon as possible of breech birth

LIMB PRESENTATION

Place mother in Trendelenburg position

Administer high flow oxygen per non-rebreather mask

TRANSPORT IMMEDIATELY

PROLAPSED CORD

Place mother in Trendelenburg position or knee-chest position

Administer high flow oxygen per non-rebreather mask

Insert gloved hand into vagina and push baby's head off of the cord

TRANSPORT IMMEDIATELY, DO NOT REMOVE HAND UNTIL RELIEVED BY RECEIVING FACILITY STAFF

Notify receiving facility as soon as possible of prolapsed cord

MULTIPLE BIRTHS

While unusual, be alert to the possibility and stay with the patient.

NOTES

Consider the possibility of pregnancy in any female of child bearing age with complaints of vaginal bleeding, menstrual cycle irregularity, abdominal pain or low back pain or shoulder pain not associated with trauma.

If cord is around baby's neck during delivery, slip cord over baby's head to avoid strangulation or tearing of the cord. If cord is already tight, clamp cord twice and cut between clamps.

The greatest risks to the newborn infant are airway obstruction and hypothermia. KEEP BABY WARM, COVERED AND DRY, INCLUDING THE HEAD; KEEP AIRWAY SUCTIONED with a bulb syringe (squeeze bulb before inserting into the mouth and do not touch the posterior pharynx)

Greatest risk to the mother is postpartum hemorrhage; watch closely for signs of hypovolemic shock with excessive vaginal bleeding

Anytime a mother in labor displays sudden onset of severe abdominal pain and/or shock, place mother on left or right side and treat for shock

Spontaneous or induced abortions may result in copious vaginal bleeding. Provide emotional support. Treat for shock as indicated. Bring fetus and any tissue to the receiving facility.

Follow NRP or PALS current guidelines for additional care as appropriate

ADRENAL INSUFFICIENCY

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

Be alert for and treat shock; see [Shock Protocol](#)

FOCUSED / DETAILED ASSESSMENT

Obtain pertinent medical history

Check for Medical Alert tags

Note medications patient has taken, how much and when

EMR (Emergency Medical Responder) with monitoring endorsement:

Determine glucose

EMT (with medication endorsement):

For adult patients with adrenal insufficiency or at risk of acute adrenal crisis in medical distress, administer:

hydrocortisone (Solu-Cortef) 100mg IM, OR

methylprednisolone (Solu-medrol) 125mg IM, OR

dexamethasone (Decadron) 4mg IM

For pediatrics with adrenal insufficiency, administer:

hydrocortisone (Solu-Cortef) 2mg/kg IM (to maximum of 100mg), OR

methylprednisolone (Solu-medrol) 2mg/kg IM (to maximum of 125mg), OR

Decadron (dexamethasone) 0.03-0.15mg/kg IM (to maximum of 4mg)

AEMT (with medication endorsement)

For adult patients (if not previously administered steroid dose), then administer:

hydrocortisone (Solu-Cortef) 100mg IM/IV/IO, OR

methylprednisolone (Solu-medrol) 125mg IM/IV/IO, OR

Decadron (dexamethasone) 4mg IM/IV/IO

For pediatrics (if not previously administered steroid dose), then administer:

hydrocortisone (Solu-Cortef) 2mg/kg IM/IV/IO (to maximum of 100mg), OR

methylprednisolone (Solu-medrol) 2mg/kg IM/IV/IO (to maximum of 125mg), OR

Decadron (dexamethasone) 0.03-0.15mg/kg IM/IV/IO (to maximum of 4mg)

Identification of the patient with adrenal insufficiency or acute adrenal crisis is critically important to outcome.

Hydrocortisone is the steroid of choice for adrenal insufficiency (AI), if available.

A stress dose of steroid, should be given to patients with known AI in the presence of:

- shock (any cause)
- multisystem trauma, significant 2nd/3rd° burns or drowning
- multiple long bone fractures
- vomiting/diarrhea with dehydration
- acute cardiopulmonary distress
- fever >100.4° (and ill appearing)
- environmental hypothermia or hyperthermia

If no steroid is available during transport, then alert the emergency department/medical control that a patient with adrenal crisis is en route.

ALTERED MENTAL STATUS

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

- Establish and protect airway
- Suction secretions as needed
- Administer high flow oxygen by non-rebreather mask
- Assist ventilations as needed
- Disability: LOC, AVPU, obtain Glasgow Coma Scale score
- Assess and treat for shock; see [Shock Protocol](#)

FOCUSED / DETAILED ASSESSMENT

- Identify mechanism of injury and/or etiology and treat as indicated; see specific protocols
- Consider oral GLUCOSE
- Obtain a history
- Neurological assessment on all four extremities

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

- It may be necessary to place patient in the coma position

EMR (Emergency Medical Responder):

- Transport patient in coma position as injuries allow
- Use bag valve mask to assist ventilations as needed, 100% oxygen

EMR (Emergency Medical Responder) with Naloxone endorsement:

- If Narcotic or Opiate overdose is suspected administer:

- Adult** - NALOXONE for desired effect not to exceed 0.4 to 4 mg (IN)
(be aware that the patient may become belligerent or hostile and may need restraint)
- Pediatric** - NALOXONE 0.2 mg/kg (IN), ½ dose each side

EMR (Emergency Medical Responder) with monitoring endorsement:

- Determine glucose
- Adult** - If glucose is < 60 and patient has control of their airway, consider oral GLUCOSE

EMT (Emergency Medical Technician) with Naloxone endorsement:

- If Narcotic or Opiate overdose is suspected administer:

- Adult** - NALOXONE for desired effect not to exceed 0.4 to 4 mg (IN)
(be aware that the patient may become belligerent or hostile and may need restraint)
- Pediatric** - NALOXONE 0.2 mg/kg (IN), ½ dose each side

EMT (Emergency Medical Technician) with airway endorsement:

- Consider advanced airway if needed

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:
Start a peripheral IV(s) as necessary, with NORMAL SALINE solution (en route)

EMT (Emergency Medical Technician) with medication endorsement:

If glucose < 60,

Adult - consider GLUCAGON 1mg (IM/IN/SQ)

If glucose > 60

Adult – consider 0.4 mg NALOXONE (IM/IN) for suspected narcotic overdose, if no response after 2 minutes, repeat dose once. For additional doses consult medical control.

If Narcotic or Opiate overdose administer:

Adult - NALOXONE for desired effect not to exceed 0.4 to 4 mg (IV/ET/IM/IN/IO) (be aware that the patient may become belligerent or hostile and may need restraint)

Pediatric - NALOXONE 0.1 mg/kg (IV/ET/IM/IO), max 2 mg: or (IN) 0.2 mg/kg, ½ dose each side

AEMT (Advanced Emergency Medical Technician):

Start a peripheral IV(s) as necessary, TKO with NORMAL SALINE

If glucose is 60-80 and patient is symptomatic:

Consider DEXTROSE 50% (25cc) IV. May repeat X1 for persistent hypoglycemia OR DEXTROSE 10% (100cc) IV. May repeat every 5 minutes to a max of 25g (250cc) for persistent hypoglycemia.

If glucose is <60 or unable to determine glucose then:

Adult - Consider THIAMINE 100 mg IV then administer:

DEXTROSE 50% (50cc) IV OR

DEXTROSE 10% (100cc) IV. May repeat every 5 minutes to a max of 25g (250cc) for persistent hypoglycemia.

Consider NALOXONE 0.4-4 mg (IV/ET/IM/IN) (be aware that the patient may become belligerent or hostile and may need restraint)

Pediatric - Administer DEXTROSE 25% (2cc/kg (IV/IO) over 2 minutes, OR DEXTROSE 10%, 5cc/kg (IV/IO)

Consider Pediatric - NALOXONE 0.1 mg/kg (IV/ET/IM/IO), max 2 mg OR (IN) 0.2 mg/kg, ½ dose each side

Neonate (<2 months) – administer DEXTROSE 10% 2cc/kg (IV)

If unable to initiate a peripheral IV and if glucose < 60, administer GLUCAGON

If < 20KG 0.5mg (IM/IN)

If >20Kg 1mg (IM/IN)

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DO NOT give DEXTROSE if coma is secondary to trauma; unless glucose is < 60, then give small amounts of DEXTROSE 50% (5-10ml) or DEXTROSE 10% (50-100cc) IV and recheck glucose between doses, until in the normal range

If stroke is suspected, avoid affected limbs when establishing IV(s), if possible

PARAMEDIC:

If Narcotic or Opiate overdose administer:

Adult - NALOXONE for desired effect not to exceed 0.4 to 4 mg (IV/ET/IM/IN/IO) (be aware that the patient may become belligerent or hostile and may need restraint)

Pediatric - NALOXONE 0.1 mg/kg (IV/ET/IM/IO), max 2 mg: or (IN) 0.2 mg/kg, ½ dose each side

*Additional doses may be administered as needed after contact with medical control

NOTE:

Maintain a high index of suspicion for neck injury in the unconscious patient with unknown etiology; See [Head/Neck/Spine Protocol](#)

Keep suction available at all times.

Prepare to handle respiratory and/or cardiac arrest.

Prepare to handle combative, disoriented patient.

Prepare to handle seizures; see [Seizure Protocol](#)

Remember, TALK to the patient hearing is the last sense to be lost in coma.

Transport all medications with patient.

Consider possible stroke

If diabetic emergency is a consideration and patient is unconscious,

DO NOT administer oral GLUCOSE.

While aphasic patients are unable to speak, they are usually acutely aware of their surroundings and very frightened, TALK to the patient, and keep the patient INFORMED

Extremes of BP, either high (over 200 mm Hg systolic) or low (under 100 mm Hg systolic) or with other clinical signs of shock indicate need to expedite transport.

Notify receiving facility of the patient's condition.

AMPUTATED PART

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

Control external bleeding; see [External Bleeding Protocol](#)

Be alert for and treat shock; see [Shock Protocol](#)

FOCUSED / DETAILED ASSESSMENT

Identify mechanism of injury

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

Apply appropriate dressing

Consider tourniquet for uncontrolled extremity hemorrhage

Care of amputated part: Rinse the part gently with normal saline to remove loose debris DO NOT SCRUB

Wrap amputated part in gauze moistened with saline

Place wrapped part into plastic bag and seal with tape (do not pour more fluid into bag)

Label with name, date and time

Place plastic bag into container filled with ice and water if available

Do not SUBMERGE

Do not use "dry ice"

Do not allow part to freeze!

Label with name, date and time

Arrange for transport of amputated part with patient

EMT (Emergency Medical Technician):

While prompt transport and definitive care are important, care must be taken to assure total patient assessment and safety for all concerned during transport

Be sure amputated parts accompany ALL patients, including field deaths

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

Start IV as necessary, with NORMAL SALINE /LACTATED RINGERS solution (en route)

EMT (Emergency Medical Technician) with medication endorsement:

Consider pain management, see [Pain Management Protocol](#)

AEMT (Advanced Emergency Medical Technician):

Consider pain management, see [Pain Management Protocol](#)

AEMT (Advanced Emergency Medical Technician) with I99 Endorsement:

Consider pain management, see [Pain Management Protocol](#)

PARAMEDIC:

Consider pain management, see [Pain Management Protocol](#)

NOTE: Be aware that the obvious injury may not be the only injury

ANAPHYLAXIS

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

Be alert for and treat shock; see [Shock Protocol](#)
Be alert for dyspnea, see [Dyspnea Protocol](#)
Administer patient prescribed EPINEPHRINE AUTO-INJECTOR
Administer patient prescribed ALBUTEROL INHALER

FOCUSED / DETAILED ASSESSMENT

Obtain pertinent medical history without delay of treatment
Known sensitivities and allergies
Onset of symptoms
Possible source of toxin
Check for Medical Alert tags
Medications patient has taken, how much, when and responses

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

Activate EMS system at highest level of care available rapid transport

EMT (Emergency Medical Technician) with medication endorsement:

If BP > 70 systolic and no complaint of respiratory distress, or total body hives, or swelling of tongue, mouth or throat, consider administration of:

Adult - DIPHENHYDRAMINE 50-100 mg (PO)

Pediatric - DIPHENHYDRAMINE 0.5-1 mg/kg to a max of 50 mg (PO)

Adult - If BP < 70 systolic or in respiratory distress, or total body hives, or swelling of tongue, mouth or throat that causes respiratory distress, consider administration of EPINEPHRINE (AUTO-INJECTOR) or 0.3 to 0.5 ml (1:1,000=1 mg/ml) (IM) from a 1 ml vial of 1:1,000 epinephrine; repeat every 5 to 15 minutes as needed per local protocol

If repeated B/P is > 70, then administer:

Adult - DIPHENHYDRAMINE 50-100 mg (PO)

Pediatric - DIPHENHYDRAMINE 0.5-1 mg/kg to a max of 50 mg (PO)

Pediatric - If BP < 70 systolic or in respiratory distress, or total body hives, or swelling of tongue, mouth or throat that causes respiratory distress, consider administration of pediatric EPINEPHRINE (AUTO-INJECTOR); repeat every 5 to 15 minutes as needed per local protocol

If repeated B/P is > 70, then administer:

Adult - DIPHENHYDRAMINE 50-100 mg (PO)

Pediatric - DIPHENHYDRAMINE 0.5-1 mg/kg to a max of 50 mg (PO)

For respiratory distress: ALBUTEROL 2.5mg mixed in 3cc of normal saline, NEBULIZED with oxygen after EPINEPHRINE

EMT (Emergency Medical Technician) with IV/IO initiation endorsement: Start IV with NORMAL SALINE/LACTATED RINGERS solution (en route)

AEMT (Advanced Emergency Medical Technician):

If BP is < 70 systolic or in respiratory distress, or total body hives, or swelling of tongue, mouth or throat that causes respiratory distress, administer:

Adult - EPINEPHRINE 0.3 to 0.5 ml (1:1,000=1mg/ml) (IM) repeat every 5 to 15 minutes as needed

Pediatric - EPINEPHRINE (1:1,000=1mg/ml) (IM) 0.01 ml/kg to a max of 0.5 mg, repeat every 5 to 15 minutes as needed.

AEMT (Advanced Emergency Medical Technician) with medication endorsement:

If BP > 70 systolic and no complaint of respiratory distress, or total body hives, or swelling of tongue, mouth or throat, consider administration of:

Adult - DIPHENHYDRAMINE 50-100 mg (PO)

Pediatric - DIPHENHYDRAMINE 0.5-1 mg/kg to a max of 50 mg (PO)

If BP < 70 systolic or in respiratory distress, or total body hives, or swelling of tongue, mouth or throat that causes respiratory distress, consider administration of EPINEPHRINE, repeat every 5 to 15 minutes as needed per local protocol

If repeated B/P is > 70, then administer:

Adult - DIPHENHYDRAMINE 50-100 mg (PO) or DIPHENHYDRAMINE 50 mg (IM)

Pediatric - DIPHENHYDRAMINE 0.5-1 mg/kg to a max of 50 mg (PO/IM)

If BP is < 70 systolic or in respiratory distress, or total body hives, or swelling of tongue, mouth or throat that causes respiratory distress, administer:

Adult - if unresponsive to IM EPINEPHRINE administration then consider EPINEPHRINE (1:10,000=1mg/10ml) (IV) 2 to 4 ml, repeat every 3-5 minutes to a minimum B/P 90 systolic and improvement of symptoms

Pediatric - If unresponsive to IM EPINEPHRINE administration, then consider EPINEPHRINE (1:10,000=1mg/10ml) (IV) 0.1ml/kg to a max of 4 ml (0.4mg), repeat every 3 TO 5 minutes to a minimum B/P 90 systolic and improvement of symptoms

For respiratory distress: ALBUTEROL 2.5mg mixed in 3cc of normal saline, NEBULIZED with oxygen after EPINEPHRINE

Paramedic:

If B/P is > 70, then administer:

Adult - DIPHENHYDRAMINE 50-100 mg (PO) or DIPHENHYDRAMINE 50 mg (IM/IV)

Pediatric - DIPHENHYDRAMINE 0.5-1 mg/kg to a max of 50 mg (PO/IM/IV)

NOTE:

Use Caution when administering epinephrine in older patients or patients with a history of cardiovascular disease

DO NOT delay transport for treatment

If an insect sting, scrape stinger out, do not pull stinger out

Presence of edema of tongue, mouth, and/or throat is an indicator for immediate transport

Anticipate acute airway obstruction and or respiratory arrest

DO NOT administer epinephrine 1:1,000 intravenously.

Benadryl IV should be administered slowly (50mg/min)

Use of single dose vial (1ml of 1:1,000 of epinephrine) for all levels is recommended to eliminate medication errors.

ARREST CARDIAC - ADULT

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

- Initiate CPR according to current AHA standards
- Attach and utilize AED and follow protocol
- For hypothermic patients, see Cold Emergencies - [Systemic Hypothermia Protocol](#)
- Suction secretions as needed
- Administer high flow oxygen and assist ventilation as necessary

FOCUSED / DETAILED ASSESSMENT

- Obtain a history if possible

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

- Protect limbs from injury during movement

EMT (Emergency Medical Technician) with airway endorsement:

- Establish advanced airway as needed

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

- Start a peripheral IV with NORMAL SALINE /LACTATED RINGERS solution

AEMT (Advanced Emergency Medical Technician) with I99 Endorsement:

- Attach monitor.

Identify rhythm and treat specific dysrhythmia, within your scope of practice, according to the most recent ACLS protocols as directed by the medical director

PARAMEDIC:

Identify rhythm and treat specific dysrhythmia, within your scope of practice, according to the most recent ACLS protocols as directed by the medical director.

Obtain, interpret and transmit 12 lead ECG if there is return of spontaneous circulation

If EKG shows STEMI, consider:

- Fibrinolytic (per local protocol)
- Enoxaparin or Heparin (per local protocol)

ARREST CARDIAC - PEDIATRIC

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

- Perform CPR according to current AHA standards
- Attach AED and follow protocol
- Suction secretions as needed.
- Administer high flow oxygen and assist ventilations as necessary

FOCUSED / DETAILED ASSESSMENT

- Obtain a history if possible

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

- Protect limbs from injury during movement

EMT (Emergency Medical Technician) with airway endorsement:

- Establish advanced airway as needed

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

- Start a peripheral IV with NORMAL SALINE /LACTATED RINGERS solution
- Administer an initial fluid bolus of 20cc/kg. Repeat one time and then contact medical control

EMT (Emergency Medical Technician) with airway endorsement:

- If unconscious and age >8, establish advanced airway as needed

AEMT (Advanced Emergency Medical Technician) with I99 Endorsement:

- Attach monitor
- Identify rhythm and treat specific dysrhythmia; within your scope of practice, according to the most recent PALS protocols as directed by the medical director
- If unconscious and age >8, establish advanced airway as needed

PARAMEDIC:

- Attach monitor
- Identify rhythm and treat specific dysrhythmia; within your scope of practice, according to the most recent PALS protocols as directed by the medical director

NOTE:

- Consider foreign body obstruction.
- Airway and oxygen is the most important during a pediatric arrest since most arrests are secondary to primary respiratory compromise.
- Defibrillation is rarely indicated and is a secondary consideration to airway.

BEHAVIORAL - PSYCHIATRIC EMERGENCY

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

Protect yourself and others

FOCUSED / DETAILED ASSESSMENT.

Obtain history including:

Prescription or non-prescription drugs

Underlying organic cause, i.e., brain tumor, chemotherapy, hypoglycemia, hyperglycemia

Previous psychiatric problem

EMR (Emergency Medical Responder) with monitoring endorsement:

Consider organic cause of anxiety or agitation (e.g. hypoxia, hypoglycemia)

Determine glucose

Adult - If glucose is < 60 and patient has control of their airway, consider oral GLUCOSE

EMT (Emergency Medical Technician):

With patient consent:

Transport patient in position of comfort if not contraindicated by injuries

Keep environment as quiet as possible

Do not use sirens unless indicated by injuries

If patient refuses transport, contact law enforcement agency according to local requirements

Use and document physical restraint only as necessary for the protection of yourself or the patient

EMT (Emergency Medical Technician) with medication endorsement:

If glucose < 60,

Adult - consider GLUCAGON 1mg (IM/IN)

PARAMEDIC:

If patient is agitated, consider:

VALIUM 5mg IV, may repeat once OR

VERSED 2 to 4 mg IV/IM may repeat once OR

LORAZEPAM 2 mg IV/IM may repeat once OR

DIPHENHYDRAMINE 50mg IV/IM OR

HALDOL 5 mg IV/IM, may repeat once with DIPHENHYDRAMINE 50mg IV/IM

If patient exhibits extreme agitation and/or combativeness, consider Excited Delirium Syndrome (see best practice):

Administer KETAMINE 4 mg/kg IM (Maximum dose 400mg) or 1-2mg/kg IV

(Maximum dose 100mg), then may follow with MIDAZOLAM 2 mg IV/IO slow push

OR 2mg IN (1mg per nare).

If hypersalivation occurs, consider ATROPINE 0.5 mg IV/IM/IO

OR

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Administer MIDAZOLAM 2mg IV/IO slow push or 2mg IN (1mg per nare).
May repeat every 3-5 minutes as needed to a maximum of 10mg.

Contact medical control for further sedation orders if patient remains uncontrollably violent or agitated.

Note:

If KETAMINE utilized, it is important to notify the receiving facility and to clearly note this during transition of care, as patient's mental status and course will be affected by this medication.

Hyperthermia is a significant risk. Active cooling should be utilized as necessary.

NOTE:

RESCUER must assume control of the situation.

Multiple people attempting to intervene may increase patient's confusion and agitation.

Speak in a calm, quiet voice. Move slowly when approaching and caring for patient.

Do not attempt to restrain until law enforcement is on scene.

If restraints have been applied, do not remove. Protect airway.

Consider medical etiology (i.e.: hypoxia, hypoglycemia, etc.)

EXCITED DELIRIUM/VIOLENT PATIENT

EMR (Emergency Medical Responder)

Secure safety of personnel, assure scene safety
Attempt to calm or engage the patient
Provide cool environment. Obtain measure temperature, if possible.
Request law enforcement, if not already on scene
Provide supplemental oxygen or ventilatory assistance as needed. Maintain O2 sats $\geq 93\%$

EMR (Emergency Medical Responder) **with monitoring endorsement:**

Determine glucose
Adult - If glucose is < 60 and patient has control of their airway, consider oral GLUCOSE

EMT (Emergency Medical Technician) with IV endorsement:

Obtain IV access, if possible, while maintaining provider safety.

Infuse NS/LR 10-20 ml/kg (2L max) if patient hyperthermic/tachycardic.

Paramedic:

KETAMINE 4 mg/kg IM (Maximum dose 400mg) or 1-2mg/kg IV (Maximum dose 100mg), then may follow with MIDAZOLAM 2 mg IV/IO slow push or 2mg IN (1mg per nare).

If hypersalivation occurs, consider ATROPINE 0.5 mg IV/IM/IO

OR

MIDAZOLAM 2mg IV/IO slow push or 2mg IN (1mg per nare).
May repeat every 3-5 minutes as needed to a maximum of 10mg.

Contact medical control for further sedation orders if patient remains uncontrollably violent or agitated.

Note:

If KETAMINE utilized, it is important to notify the receiving facility and to clearly note this during transition of care, as patient's mental status and course will be affected by this medication.

Hyperthermia is a significant risk. Active cooling should be utilized as necessary.

Best Practice: Excited Delirium Syndrome

"Best Practice" is an attempt to define a treatment that has less than full scientific validation. In many cases, the best practice is not known even though many EMS textbooks and curricula may identify a single or best method. The Montana Board of Medical Examiners will provide guidance to EMT personnel and Medical Directors through the development of best practices for various treatments and or skills. Developed best practices will identify the Boards opinion and recommendations for utilization of the treatment or skill. It will be the responsibility of the Medical Director to incorporate best practices into performance expectations of the EMTs they supervise.

Background:

Excited delirium syndrome (ExDS) is a potentially life-threatening condition in which a person is in a psychotic and extremely agitated state, with psychomotor agitation and often with violent behavior. Mentally, the subject is unable to process rational thoughts or to focus his/her attention. This is **not** a mere psychiatric behavioral condition but is an extreme condition with neurologic, metabolic and cardiovascular features.

Presentation:

Excited Delirium is characterized by extreme agitation, confusion and hallucinations, erratic behavior, diaphoresis, tachycardia, dilated pupils, hyperthermia, hyper-aggression, unexplained strength and endurance and making unintelligible sounds. They may exhibit behaviors that include clothing shedding, shouting out, and extreme thrashing when restrained. It is often found in correlation with alcohol and illicit drug use (cocaine, amphetamine, hallucinogens), and in those patients with preexisting mental illness.

General Considerations:

The medical director should consider beforehand which medication algorithm will be utilized and counsel providers in advance.

In this condition, a person can act erratically enough that he/she becomes a danger to self and to the public. Safety of you and your EMS crew cannot be over emphasized.

Other conditions may cause altered mentation, including hypoglycemia, hypoxia, seizures, head injury, stroke and sepsis. EMS providers must assess for and distinguish the patient with these conditions from the patient with ExDS.

Approach patient care with a calm manner. Attempt verbal de-escalation. Remove or limit unnecessary stimulation whenever possible.

Patients who have received multiple rounds of energy from TASERs by law enforcement in order to be subdued may be experiencing ExDS. It is important to coordinate with law enforcement and be prepared to treat once law enforcement gains physical control of the patient. Never transport a patient who is restrained by police without a police officer present who can remove or unlock restraints. Patient should not be "hog-tied" or restrained in a fashion that interferes with the patient's airway or breathing (such as prone position or "sandwiched").

Medical Considerations and Treatment:

The patient with ExDS is at risk for sudden cardiovascular collapse, cardiopulmonary arrest and death. They must be closely monitored for evidence of hemodynamic instability or impending collapse. Often a period of cessation of struggle, even without sedation, may immediately precede cardiac arrest.

Patients with signs and symptoms of Excited Delirium (ExD) should not receive Diphenhydramine or Haldol as these drugs may exacerbate already existing hyperthermia or lower seizure threshold. Active cooling should be utilized if elevated body core temperature noted or suspected. The patient should be transported face up or in lateral recumbent position, never prone or face down to avoid positional asphyxia.

Sedation drug therapy, though beneficial and appropriate, may increase the risk of airway compromise. Continuous aggressive monitoring of airway and breathing must occur and care rapidly initiated if necessary.

Special Considerations:

In the extremely agitated ExDS patient, IM KETAMINE may be administered to the lateral thigh through clothing.

Rarely, laryngospasm has been noted in KETAMINE administration. Usually this can be treated with high flow O₂, airway maneuvers (e.g. jaw thrust) and positive pressure ventilation. Be prepared to aggressively manage the airway if necessary.

If KETAMINE is utilized, infrequently the patient may experience excess salivation requiring suctioning +/- the administration of ATROPINE.

In the patient with ExDS, crystalloid fluids (LR/NS) 10-20mL/kg (up to 2L) should be administered if the patient is tachycardic and/or hyperthermic. Active cooling of the hyperthermic ExDS patient should be undertaken as soon as possible.

If ExDS patient experiences cardiac arrest, administer SODIUM BICARBONATE (2 amps) during first line treatment and then follow appropriate ACLS algorithm.

KETAMINE is available in multiple concentrations, increasing the risk of medication dosing errors. Ketamine 100mg/ml allows for IM usage, but can NOT be administered IV without proper dilution.

BLEEDING CONTROL (EXTERNAL)

EMR (EMERGENCY MEDICAL RESPONDER):

INITIAL ASSESSMENT

Control bleeding

Apply direct pressure over wound with your GLOVED hand (use dressing if immediately available)

After bleeding is controlled, apply a pressure dressing

Pressure dressing may include use of air splints or BP cuff partially inflated over the dressed wound without causing distal decrease in circulation

Consider tourniquet for uncontrolled extremity hemorrhage

If pressure dressing becomes saturated with blood, remove dressing and repeat direct pressure until bleeding is controlled then re-apply a pressure dressing

Be alert for and treat shock; see [Shock Protocol](#)

Consider a clot inducing dressing or external clamping device for uncontrollable bleeding (medical director must approve specific agent or device utilized)

FOCUSED / DETAILED ASSESSMENT

Identify mechanism of injury

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

Monitor dressing and vital signs continuously

EMT (Emergency Medical Technician) with airway endorsement:

Establish advanced airway as needed

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

Start IV with NORMAL SALINE/LACTATED RINGERS solution (en route)

NOTE:

Immobilize impaled objects in place

Consider removal of impaled objects in the cheek only if necessary to assure patient airway

Be cautious for possible damage to gloves when applying direct pressure (bone ends, glass, etc.)

External clamping devices are currently approved for scalp, axillary, groin and extremity hemorrhage.

BURNS – (Chemical/Thermal/Electrical)

EMR (Emergency Medical Responder): ***ENSURE YOUR OWN SAFETY FIRST!***

INITIAL ASSESSMENT

Be alert for and treat airway compromise

Be alert for and treat respiratory compromise or distress; see [Dyspnea Protocol](#)

Be alert for and treat shock; see [Shock Protocol](#)

Be alert for and treat cardiac arrest; see [Cardiac Arrest Protocol](#)

Remove contaminant

Chemical on skin:

Remove contaminated clothing and flood skin with water for 20 minutes; wash gently with soap, water, and rinse

If contaminant is dry powder, brush off before washing

Identify contaminant. See [Poisoning Protocol](#)

Chemical in eye:

Flood eye(s) with lukewarm water continuously for at least 20 minutes and have patient blink frequently during irrigation

Identify contaminant

See [Poisoning Protocol](#)

FOCUSED / DETAILED ASSESSMENT

Obtain and record pertinent history of events including:

Contaminant

Initial contact and length of exposure

Identify mechanism of injury

Identify all electrical contact points

Time of electrical contact

Obtain and record vital signs every 5-15 minutes depending on severity of burn

Obtain time of burn

Determine mechanism of injury and be alert for other trauma

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

Notify medical control of hazardous material situation

For large surface burns (i.e., torso, legs, etc.) place patient between clean dry sheets

Dress smaller burns with sterile dry dressing

EMT (Emergency Medical Technician) with airway endorsement:

Establish advanced airway as needed

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

Start IV with NORMAL SALINE/LACTATED RINGERS solution (en route).

Utilize a non-burned area if possible.

Adult - administer a 500cc - 1000cc bolus of fluid and contact medical control for rate adjustment

Pediatric - administer a 20cc/kg fluid bolus and contact medical control for rate adjustment

EMT (Emergency Medical Technician) with medication endorsement:
Consider pain management, see [Pain Management Protocol](#)

AEMT (Advanced Emergency Medical Technician):
Consider pain management, see [Pain Management Protocol](#)

AEMT (Advanced Emergency Medical Technician) with I99 endorsement:
Attach monitor
Consider pain management, see [Pain Management Protocol](#)

PARAMEDIC:
Consider pain management, see [Pain Management Protocol](#)

NOTE:

Stop burning process.

Be alert for smoke inhalation (see [Poisoning Protocol](#)) or respiratory tract burns (see [Dyspnea Protocol](#))

Remove jewelry and non-adherent clothing from burned areas.

Keep patient warm

CHEST PAIN

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

Administer supplemental oxygen

Be alert for and treat shock; see [Shock Protocol](#)

Be alert for irregular pulse rhythm

If systolic blood pressure is > 100, and no recent use of sexual enhancement drugs, then administer patient prescribed NITROGLYCERIN 0.4 mg (spray/SL), may repeat at 5 minute intervals if systolic BP remains > 100 mm Hg

FOCUSED / DETAILED ASSESSMENT

Obtain and record vital signs every 5 minutes

Obtain pertinent and AMPLE medical history including; onset, location, quality and duration of pain

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

Place patient in position of comfort, loosen tight clothing and reassure

Expedite transport. Notify transporting agency as soon as possible

Consider ASPIRIN 325 mg, chew and swallow, if patient not allergic

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

Start IV TKO, with NORMAL SALINE/LACTATED RINGERS solution, (en route)

EMT (Emergency Medical Technician) with medication endorsement:

Consider NITROGLYCERIN 0.4 mg (spray/SL), may repeat at 5 minute intervals if systolic BP remains > 100 mm Hg, for pain relief

If systolic BP < 100 after NITRO administration, hold further NITRO and notify receiving facility.

AEMT (Advanced Emergency Medical Technician):

Consider pain management, see [Pain Management Protocol](#)

AEMT (Advanced Emergency Medical Technician) with I99 endorsement:

Attach monitor

Identify rhythm and treat specific dysrhythmia, within your scope of practice, according to the most recent prehospital ACLS protocols as directed by the medical director

Consider pain management, see [Pain Management Protocol](#)

PARAMEDIC:

Consider IV NITRO drip, per local protocol

If EKG shows STEMI, consider:

FIBRINOLYTIC (per local protocol)

ENOXAPARIN or HEPARIN (per local protocol)

If EKG shows inferior STEMI, obtain right sided V4

Consider pain management, see [Pain Management Protocol](#)

NOTE:

Prepare to deal with respiratory or cardiac arrest.

Notify hospital.

Do not allow the patient to ambulate.

Nitroglycerin is the medication of choice for cardiac chest pain and should be utilized prior to considering narcotic analgesia.

Do not use FENTANYL when patient is complaining of chest pain unless patient is allergic to Morphine. Ketamine and benzodiazepines are not to be used as analgesic adjuncts in chest pain of suspected cardiac origin.

If systolic BP < 100 after NITRO administration, hold further NITRO and notify receiving facility.

Follow the AHA ACLS chest pain algorithm within your level of training/licensure.

COLD EMERGENCIES – FROSTBITE

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

Be alert for and treat shock; see [Shock Protocol](#)

FOCUSED / DETAILED ASSESSMENT

Assess all frost-bitten patients for systemic hypothermia

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

Protect injured areas from pressure, trauma and friction

Remove only wet coverings (i.e.: clothing, blankets etc.) from injured parts

Do not rub

Do not break blisters

Do not allow the limb to thaw if there is any chance the limb may refreeze before evacuation is complete

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

Start a peripheral IV (s) as necessary, TKO with Normal Saline/Lactated Ringers solution

EMT (Emergency Medical Technician) with medication endorsement:

Consider pain management, see [Pain Management Protocol](#)

AEMT (Advanced Emergency Medical Technician):

Consider pain management, see [Pain Management Protocol](#)

AEMT (Advanced Emergency Medical Technician) with I99 endorsement:

Consider pain management, see [Pain Management Protocol](#)

PARAMEDIC:

Consider pain management, see [Pain Management Protocol](#)

NOTE:

When practical, major re-warming should be left for a hospital setting.

Warmed humidified (< 104 degrees F) oxygen is preferred, when available.

Warmed (< 100 degrees F) IV fluids is preferred, when available

If a lower extremity has started to thaw, do not allow the patient to ambulate if possible.

COLD EMERGENCIES - SYSTEMIC HYPOTHERMIA

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

Administer warmed (<104 degrees F) high flow oxygen per non-rebreather mask

If altered level of conscious, see [Altered Mental Status Protocol](#)

Determine core temp

If core temp < 86 F (30 C) with signs of cardiac activity – gently assist ventilations with basic maneuvers, if > 86 (30 C) manage airway normally

Attach and utilize AED and follow protocol:

If patient temperature is > 86 F (30 C), follow [AED protocol](#)

If patient temperature is < 86 F (30 C) or unknown, administer one shock, then provide no further shocks till temperature > 86 F

FOCUSED / DETAILED ASSESSMENT

Identify mechanism of injury and be alert for other trauma

Remove only wet clothing and maintain the patient in a warm, draft free environment

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

Handle all hypothermia patients with care; rough handling may precipitate ventricular fibrillation

If **unconscious** and hypothermic; maintain body temperature until a higher level of care is available

If **conscious**; add heat packs to the abdomen (not groin or axilla), lateral chest and neck to prevent additional heat loss

Maintain core temperature by keeping the victim warm with blankets

Warm fluids may be administered to a conscious alert patient

EMR (Emergency Medical Responder) with monitoring endorsement:

Determine glucose

Adult - If glucose is < 60 and patient has control of their airway, consider oral GLUCOSE

EMT (Emergency Medical Technician):

If core temp <86 F (30 C) with signs of cardiac activity – gently assist ventilations with basic maneuvers, if > 86 F (30 C) manage airway normally

EMT (Emergency Medical Technician) with airway endorsement:

If core temp >86 F (30 C) then consider advanced airway

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

Start a peripheral IV(s), as necessary, TKO with NORMAL SALINE solution (en route, warmed to about 100 degrees if possible) run at 125ml/hour

EMT (Emergency Medical Technician) with medication endorsement:

If glucose < 60,

Adult - consider GLUCAGON 1mg (IM/IN)

AEMT (Advanced Emergency Medical Technician):

If glucose is < 60:

Adult - consider DEXTROSE 50% (50cc) (IV) OR
DEXTROSE 10% (100cc) IV. May repeat every 5 minutes to a max of
25g (250cc) for persistent hypoglycemia

Pediatric – consider DEXTROSE 25%, 1cc/kg to a max of 25cc (IV) OR
DEXTROSE 10%, 5cc/kg (IV/IO)

AEMT (Advanced Emergency Medical Technician) with I99 endorsement:

If core temp <86 F (30 C) hold all other medication

If core temp >86 F (30 C) intravenous medication may be administer but at longer than
standard intervals

NOTE:

When practical, major re-warming should be left for a hospital setting.

Warmed / humidified (<104 degrees F) oxygen is preferred, when available.

Warmed (< 100 degrees F) IV fluids is preferred, when available

CPR should not be initiated in the field if: chest is frozen/non-compliant or the victim has been
unquestionably submersed more than 1 hour and core temp > 30°C OR obvious lethal injury is
present.

Chest compression should never be done if clinical signs of functional cardiac activity are present
even if a pulse is not palpable under field conditions.

This includes victims who show any movement, spontaneous respiration, response to positive
pressure ventilation, or other signs of life.

DIABETIC EMERGENCY - CONSCIOUS

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

FOCUSED / DETAILED ASSESSMENT

Obtain pertinent and AMPLE medical history including: Insulin, or oral diabetic medications; type, dosage, time
How much and when has patient eaten/drank today
Recent or current illness, heavy exercise or high stress
Consider pregnancy

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

Maintain body heat.
Administer an oral substance high in simple sugar (if tolerated by patient)
Do not delay transport for the administration of oral GLUCOSE agents

EMR (Emergency Medical Responder) with monitoring endorsement:

Determine glucose
Adult - If glucose is < 60 and patient has control of their airway, consider oral GLUCOSE

EMT (Emergency Medical Technician) with medication endorsement:

If glucose < 60,
Adult - consider GLUCAGON 1mg (IM/IN/SQ)

AEMT (Advanced Emergency Medical Technician):

Start a peripheral IV(s) as necessary, TKO with NORMAL SALINE

If glucose is 60-80 and patient is symptomatic:

Consider DEXTROSE 50% (25cc) IV. May repeat X1 for persistent hypoglycemia OR
DEXTROSE 10% (100cc) IV. May repeat every 5 minutes to a max of 25g
(250cc) for persistent hypoglycemia.

If glucose is < 60 or unable to determine glucose then:

Adult - administer DEXTROSE 50% (50cc) IV; OR
DEXTROSE 10% (100cc) IV. May repeat every 5 minutes to a max
25g (250cc) for persistent hypoglycemia.

Pediatric - administer DEXTROSE 25%, 2cc/kg (IV/IO) over 2 minutes; OR
DEXTROSE 10%, 5cc/kg (IV/IO)

If unable to initiate a peripheral IV and if glucose < 60, administer GLUCAGON

if < 20 Kg 0.5mg (IM/IN)
if > 20 Kg 1mg (IM/IN)

Neonate (< 2 months) –administer DEXTROSE 10% 2cc/kg (IV)

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PARAMEDIC:

If prolonged transport, consider DEXTROSE 10% drip at 100ml/hr. to maintain blood glucose >80, checking blood glucose levels every 15-20 mins.

NOTE:

Insulin should not be given

DRUG OVERDOSE

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

Be alert for and treat respiratory compromise; see [Dyspnea Protocol](#)

Be alert for seizures; see [Seizures Protocol](#)

Be alert for and treat shock; see [Shock Protocol](#)

If altered level of consciousness; see [Altered Mental Status Protocol](#)

Disability: LOC, AVPU, obtain Glasgow Coma Scale score

FOCUSED / DETAILED ASSESSMENT

Identify substance and have container taken to the hospital

Estimate quantity

Time since exposure

Pertinent medical history including: chronic illness, medical problems within past 24 hours, medications and allergies

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

Notify medical control as soon as possible

EMR (Emergency Medical Responder) with monitoring endorsement:

Determine glucose

Adult - If glucose is < 60 and patient has control of their airway, consider oral GLUCOSE

EMR (Emergency Medical Responder) with Naloxone endorsement:

If Narcotic or Opiate overdose is suspected administer:

Adult - NALOXONE for desired effect not to exceed 0.4 to 4 mg (IN)

(be aware that the patient may become belligerent or hostile and may need restraint)

Pediatric - NALOXONE 0.2 mg/kg (IN), ½ dose each side

EMT (Emergency Medical Technician) with Naloxone endorsement:

If Narcotic or Opiate overdose is suspected administer:

Adult - NALOXONE for desired effect not to exceed 0.4 to 4 mg (IN)

(be aware that the patient may become belligerent or hostile and may need restraint)

Pediatric - NALOXONE 0.2 mg/kg (IN), ½ dose each side

EMT (Emergency Medical Technician) with airway endorsement:

Establish advanced airway as needed

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

Start a peripheral IV(s), as necessary, with NORMAL SALINE/LACTATED RINGERS solution (en route)

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EMT (Emergency Medical Technician) with medication endorsement:

If glucose < 60,

Adult - consider GLUCAGON 1mg (IM/IN)

If Narcotic or Opiate overdose administer:

Adult - NALOXONE for desired effect not to exceed 0.4 to 4 mg (IV/ET/IM/IN/IO)
(be aware that the patient may become belligerent or hostile and may need restraint)

Pediatric - NALOXONE 0.1 mg/kg (IV/ET/IM/IO), max 2 mg: or (IN) 0.2 mg/kg,
½ dose each side

AEMT (Advanced Emergency Medical Technician):

If oral hypoglycemic or Insulin overdose:

Adult – If glucose < 60, consider THIAMINE 100mg IV,
then administer DEXTROSE 50% (50cc) OR

DEXTROSE 10% (100cc) IV; May repeat every 5 minutes to a max of 25g
(250cc) for persistent hypoglycemia.

If unable to initiate a peripheral IV, administer GLUCAGON 1mg (IM/IN)

Peds - DEXTROSE 25%, 2cc/kg (IV or IO) over 2 minutes OR
DEXTROSE 10%, 5cc/kg (IV/IO)

If unable to initiate a peripheral IV, GLUCAGON

if < 20 Kg 0.5mg (IM/IN)

if > 20 Kg 1mg (IM/IN)

Neonate (< 2 months) – administer DEXTROSE 10%, 2cc/kg (IV)

PARAMEDIC:

If Tricyclic antidepressants overdose with ventricular arrhythmias, tachycardia, altered mental status, decreased blood pressure or seizures administer:

Sodium Bicarbonate 1 meq/Kg IV, may repeat once; if ventilating the patient,
increase rate to 18 to 20 breaths per minute

If Narcotic or Opiate overdose administer:

Adult - NALOXONE for desired effect not to exceed 0.4 to 4 mg (IV/ET/IM/IN/IO)
(be aware that the patient may become belligerent or hostile and may need restraint)

Pediatric - NALOXONE 0.1 mg/kg (IV/ET/IM/IO), max 2 mg: or (IN) 0.2 mg/kg, ½
dose each side

*Additional doses may be administered as needed after contact with medical control

DYSPNEA – ADULT

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

Administer high flow oxygen with a non-rebreather mask

Use pocket mask AND assist respirations as needed

Consider foreign body obstruction

Assess bilateral breath sounds

With distress and marked wheezing or very decreased breath sounds bilaterally, administer patient prescribed metered-dose inhaler, two puffs of an ALBUTEROL or IPRATROPIUM metered-dose inhaler with a spacer, may repeat twice

FOCUSED / DETAILED ASSESSMENT

Obtain pertinent medical history

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

Allow patient to seek position of comfort

EMT (Emergency Medical Technician):

Use bag valve mask to assist ventilation, as needed, 100% oxygen

Consider CPAP (not to exceed 10cm H₂O)

EMT (Emergency Medical Technician) with airway endorsement:

Establish advanced airway as needed

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

Start IV TKO with NORMAL SALINE/LACTATED RINGERS solution (en route).

EMT (Emergency Medical Technician) with medication endorsement:

With distress and marked wheezing or very decreased breath sounds bilaterally, administer ALBUTEROL 2.5mg mixed in 3cc of normal saline, NEBULIZED with oxygen OR ALBUTEROL/IPRATROPIUM (Duoneb) 3cc NEBULIZED with oxygen.

If patient does not improve, consider repeating nebulized Albuterol premix (2.5mg mixed in 3cc of Normal Saline) or continuous nebulized Albuterol

If pulmonary edema suspected and blood pressure is greater than 160/90, consider three consecutive sprays of NITROGLYCERIN

AEMT (Advanced Emergency Medical Technician):

For known asthmatic nonresponsive to Albuterol, consider Epinephrine 0.3 to 0.5 mg (1:1,000) IM

PARAMEDIC:

With complete obstruction of the airway and inability to intubate, consider cricothyrotomy.

Consider Furosemide per local protocol if pulmonary edema suspected

Consider administration of ACE inhibitor

If acute exacerbation of asthma or COPD consider steroids

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If pulmonary edema suspected, consider IV nitro drip per local protocol

NOTE:

The conscious, dyspneic patient may rapidly deteriorate to respiratory failure.

PREPARE TO INTERVENE

Allergic reactions are frequently responsible for dyspneic episodes, thus inquiry for known allergies must include substances other than medications.

DO NOT withhold oxygen if it is needed.

DYSPNEA is a symptom, not a disease/injury.

Reassess for cause and correct as necessary / possible.

If patient has personal prescribed inhaler, allow the patient to use it, as prescribed, assist as necessary.

Specific cricothyrotomy technique is determined by the Medical Director.

FRACTURES OF EXTREMITIES

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

Be alert for and treat shock; see [Shock Protocol](#)

FOCUSED / DETAILED ASSESSMENT

Identify mechanism of injury

Check pulses and sensation distal to the injury BEFORE and AFTER splinting (CMS)

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

Protect injury from excessive movement

Careful assessment prior to and following manipulation is critical

Elevate injured limb if possible

Apply cold packs to injury site when practical

Apply manual traction when signs and symptoms suggest possible femur fracture

Fractures are splinted in the position found; however, realignment of a fracture may be necessary to facilitate packaging a patient, correct a circulatory compromise, neurological deficit or to allow transportation

Apply a traction splint when signs and symptoms suggest possible femur fracture, if tolerated by patient

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

Start a peripheral IV(s), as necessary, with NORMAL SALINE/LACTATED RINGERS solution (en route)

EMT (Emergency Medical Technician) with medication endorsement:

Consider pain management, see [Pain Management Protocol](#)

AEMT (Advanced Emergency Medical Technician):

Consider pain management, see [Pain Management Protocol](#)

AEMT (Advanced Emergency Medical Technician) with I99 Endorsement:

Consider pain management, see [Pain Management Protocol](#)

PARAMEDIC:

Consider pain management, see [Pain Management Protocol](#)

NOTE:

Do not allow the obvious fracture to obscure other assessment findings.

Contact medical control when diminished or absent neurovascular function is noted distal to the injury.

HEAD/NECK/SPINE INJURIES

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

Manually stabilize head, neck and spine until secured on appropriate device
Careful assessment before and after realignment is critical
Return patient to an in-line neutral position if no resistance is met
Realignment of the head neck and spine may be necessary to facilitate stabilization or correct an airway problem
Elevate head of bed or backboard 30 degrees if head injury present
Use padding or pre-padded back board any time a backboard is used to all times to protect patient from further injury

DO NOT HYPEREXTEND THE NECK WHEN OPENING THE AIRWAY

Administer high flow oxygen, with a non-rebreather mask.
Use pocket mask (BVM if present) to assist ventilations in the head injured patient with a decreased LOC, not to exceed 12 per minute.
Be alert for and treat shock; see [Shock Protocol](#)
Disability: LOC, AVPU, obtain Glasgow Coma Scale score

FOCUSED / DETAILED ASSESSMENT

Identify mechanism of injury
Note cerebrospinal fluid or blood from ears, nose, and/or mouth
Perform a neurological assessment on all four extremities (CMS)
Record pupil size and shape

EMT (Emergency Medical Technician):

Maintain and transport with entire immobilization device turned onto its side when possible airway issues are present

EMT (Emergency Medical Technician) with airway endorsement:

Establish advanced airway as needed, maintaining in-line stabilization at all times

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

Start a peripheral IV(s), as necessary, TKO, with NORMAL SALINE/LACTATED RINGERS solution (en route)

AEMT (Advanced Emergency Medical Technician) with I99 endorsement:

Establish advanced airway as needed, maintaining in-line stabilization at all times

PARAMEDIC

If patient is intubated utilize CO2 monitor to maintain CO2 35-38 mmHg; for signs and symptoms of brain herniation increase ventilation rate to decrease the CO2 to 30-35 mmHg until the signs and symptoms resolve then return to a CO2 35-38 mmHg.

NOTE:

IF patient is unconscious, see [Altered Mental Status Protocol](#)

IF decreased blood pressure, consider other injuries.

Do not use TRACTION on the cervical spine.

IF a patient has a helmet in place and it is poor fitting or interferes with the airway, remove it in accordance to the American College of Surgeons guidelines.

Signs of herniation include: abnormal posturing, decreasing LOC, GCS > 3 to 5 and one or both pupils fail to respond to light.

DO NOT ventilate > 12 times per minute unless signs of herniation exist

Patients with penetrating trauma to the head, neck, or torso and no evidence of spinal injury should not be immobilized on a backboard.

Spinal precautions can be maintained by application of a rigid cervical collar and securing the patient firmly to the EMS stretcher, and may be most appropriate for: 1) patients who are found to be ambulatory at the scene, 2) patients who must be transported for a protracted time, particularly prior to interfacility transfer, or 3) patients for whom a backboard is not otherwise indicated

Criteria for Spinal Precautions (only one of the following need be present to require spinal precautions):

Mechanism consistent with potential for spinal injury (i.e. significant falls (greater than 20 feet), or motor vehicle collisions with significant mechanism of injury, or direct trauma to head, neck, or back)

Neck/back pain or tenderness

Abnormal neurological exam or complaint of symptoms (i.e. sensory/motor abnormalities, or history of LOC with current injury, or altered mental status)

Multi-system trauma (potential for distracting injury)

Omission criteria (all of the following must be met to allow for selectively not following spinal precautions):

Normal neurological exam in cooperative patient (i.e. fully alert and oriented patient and Normal sensory/motor exam)

Normal vital signs

Absence of intoxicants

Absence of neck/back pain or tenderness

Absence of distracting injuries

No communication barriers (i.e. due to language, intellect, intoxication, emotional condition, etc.)

Best Practice: Spinal Precautions

"Best Practice" is an attempt to define a treatment that has less than full scientific validation. In many cases, the best practice is not known even though many EMS textbooks and curricula may identify a single or best method. The Montana Board of Medical Examiners will provide guidance to EMT personnel and Medical Directors through the development of best practices for various treatments and or skills. Developed best practices will identify the Boards opinion and recommendations for utilization of the treatment or skill. It will be the responsibility of the Medical Director to incorporate best practices into performance expectations of the EMTs they supervise.

General Considerations:

Spinal precaution is a difficult issue to address primary due to the lack of scientific validation specifically regarding the out of hospital settings. Text books and curricula conflict with suggested "rule out" protocols for wilderness and search and rescue settings. Montana protocols states "...Manually stabilize head, neck and spine until secured on appropriate device..." and purposely does not identify the technique or specific device to utilize, nor does it identify the variability required to adapt to varying out of hospital situations.

Manual Immobilization: Manual c-spine immobilization refers to the practice of holding a patients head still until secured on a device. Text books and the National Educational Standards refer to this as "in-line stabilization". Since there is no evidence that this action is dangerous, this technique is reasonable. However, it should be noted that a patient who is able to comprehend instructions should have no difficulty in maintaining their neck in a neutral position and will not "push through the pain response" causing injuries. **Therefore, if faced with manpower shortages or other patient care priorities, providers should reconsider the decision to prioritize manual c-spine immobilization before or in lieu of other critical actions.**

Cervical Collar: Originally extrication collars were only used in extrication situations and sand bags were used to restrict movement when the patient was placed on back boards. The development and expanded use of c-collars was imitated to curtail the use of sand bags when immobilizing patients. Many of the currently available disposable c-collars today are flimsier than the original extrication collars adding to the questioning of their effectiveness. It's commonly taught that a c-collar alone will not provide adequate stability, limiting both lateral and anterior-posterior motion, and therefore must be used in combination with manual immobilization until secured to a device. While studies exist showing c-collars do a relative reasonable job in limiting anterior-posterior motion (if correctly fitted and secured) it also shows that lateral motion restriction is inadequate. None of the studies deal with the application of the c-collar in an uncontrolled situation or an out-of-hospital setting. **Therefore, during extrication it is reasonable to utilize a c-collar to assist in controlling anterior-posterior movement of the cervical but lateral movement must be maintained with additional management. It is also necessary to reconsider the application of a c-collar when application is difficult due to situational issues or when clothing or body habitus would require dangerous movement of the neck while applying the c-collar.**

Backboard: While there is no evidence to support spinal immobilization in general, a great deal of time is spent educating EMTs in the process of spinal immobilization. We do this because we fear expanding the patient's injuries, injuries that clearly have a high impact on patient outcome and quality of life. Despite the amount of time spent training, patients are still transported and delivered to the medical facilities with spinal columns that have not been maintained in a neutral position. It is apparent that the backboard is not without serious complications such as skin breakdown and patient discomfort. Patients presenting with normal mentation and possible cervical injuries seldom intentionally move (due to pain associated with such movement) and unstable c-spine injuries are conditions such as facet jumps and ligament rupture, are extremely rare. Those patients who present with an altered mentation, severe trauma or other serious conditions that often result in combative behavior are seldom immobilized without significant movement. **Therefore, it would be reasonable to question the validity of broadly requiring**

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immobilization of all potential c-spine injuries with the utilization of a backboard in the out-of-hospital setting. The utilization of a backboard is reasonable to prevent further insult or injury, as long as we consider the complications they cause and consider those complications fully before making it a definite priority to immobilize on a backboard in the out- of- hospital setting. Backboards are best used for extrication, and have been associated with potential harm (increased pain and anxiety, skin breakdown, decreased respiratory capacity, and increased difficulty with airway management) during transport or when used for prolonged periods. There is no evidence that patients who are awake, able to follow commands, and neurologically intact benefit from transport on a full backboard, and **therefore it is reasonable to consider transporting these patients with spinal precautions consisting of a c-collar while secured to a stretcher. This method of transport is most applicable to patients with a prolonged transport (who could be extricated on a backboard then rolled or lifted with spinal precautions to the stretcher), or patients who are ambulatory at the scene (who can sit directly on the stretcher without need for extrication on a backboard).**

Rapid Extrication vs. KED/Short Board: Like immobilization in general, rapid extrication techniques taught in PHTLS and BTLS have not been based on evidence. Even though patients who sustain a significant mechanism of injury are statically more likely to have a spinal column injury and require the application of KED or other short board devices, there have been no reported cases of spinal cord injuries linked to the failure to use these devices. **Therefore, the utilization of "rapid extrication techniques" is reasonable to prevent further insult or injury when faced with patient injuries or conditions that are considered "life threatening"; as long as they limit spinal cord movement and we consider the complications they may cause if used inappropriately. However, without "life threatening" injuries, best practice is the utilization of spinal precautions.**

INFLUENZA PANDEMIC PROTOCOL

General Comment:

*In the event that there is a public health or safety emergency in which health care resources are overwhelmed by demand, the EMT response will have to adapt to the severity of the situation and the available resources. This Influenza Pandemic protocol is to be used as a guide in the development of a local plan (based on the severity of the situation and the available resources) remembering that the local situation will change frequently, perhaps daily or hourly. This protocol is assuming that an Influenza Pandemic has overwhelmed the medical community and normal EMT operating procedures are not feasible or practical. The Montana Board of Medical Examiners recognizes that an organized **“treat and release protocol”** would not only be advantageous but necessary to maintain control and order to providing medical assistance in the community.*

ALL RESPONDERS: Physical Assessment:

When conducting your initial assessment a patient, maintain a safe distance (6 feet) and utilize personal protection until you determine if influenza like symptoms exist. If no symptoms exist, then proceed with your patient assessment as normal. If influenza symptoms are present; utilize the triage tool identified below to assess and determine the severity of the illness and assist in transport decisions. The local medical director must determine, in consultation with the local public health department and health care facilities, what scores would facilitate transport or treat and release; this could change depending on the evolving characteristics of the viral infection and may change daily or even hourly depending on available medical resources.

| <u>Demographics:</u> | <u>Score</u> |
|----------------------|--------------|
| Age <6 months: | 2 |
| 6 mo – 5 yrs | 1 |
| 5 yrs- 65 yrs | 0 |
| 65 yrs- 75 yrs | 1 |
| >75 yrs | 5 |
| Caregiver at home | -1 |

| <u>O2 saturation:</u> | <u>Score</u> |
|-----------------------|--------------|
| > or = to 90% | 0 |
| 86% - 89% | 3 |
| 76% - 85% | 4 |
| = to or < 75% | 5 |

| <u>Respiratory rate:</u> | <u>Score</u> |
|--------------------------|--------------|
| 8 - 24 resp / min | 0 |
| 24 - 60 | 2 |
| < 8 or > 60 | 3 |

| <u>Heart rate:</u> | <u>Score</u> |
|----------------------------|--------------|
| < 6 mo & > 150 HR | 2 |
| Children > 6 mo & > 120 HR | 2 |
| Adults: > 110 HR | 2 |

| <u>Blood pressure:</u> | <u>Score</u> |
|--------------------------------|--------------|
| <6 mo & cap refill > 2 seconds | 2 |
| 90 - 100mmHg | 2 |
| < 90mmHg | 4 |

| <u>Temperature:</u> | <u>Score</u> |
|---------------------|--------------|
| >103 F (39.4 C) | 1 |

| <u>Mental Status:</u> | <u>Score</u> |
|------------------------|--------------|
| Confused | 2 |
| Unresponsive/ Obtunded | 3 |

| <u>Able to tolerate PO?</u> | <u>Score</u> |
|-----------------------------|--------------|
| Yes | -1 |
| No | 1 |

| <u>Co morbidities:</u> | <u>Score</u> |
|------------------------|--------------|
| DM, asthma/COPD, CHF | 1 each |
| Obesity | 1 |
| Pregnancy | 2 |

| <u>Evaluator discretion:</u> | <u>Score</u> |
|---------------------------------|--------------|
| Evaluator may assign subjective | -1, 0, or +1 |

Patients who score:

- >14 Patient should remain home with comfort measures provided
- 8 - 14 Should be transported to the emergency department for treatment
- 4 - 8 Should be directed for additional screening/assessment but does not require ambulance transport
- < 4 Should not be transported and should remain home with provided instructions

HEAT EMERGENCIES

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

Be alert for and treat shock; see [Shock Protocol](#)

Be alert for altered mental status; see [Altered Mental Status Protocol](#)

Administer high flow oxygen with a non-rebreather mask

FOCUSED / DETAILED ASSESSMENT

Skin condition and color

History, time of onset, existing medical conditions and current medications

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

Remove from heat source

If patient is alert and oriented: encourage oral fluid intake, if tolerated (NO heated fluids or alcohol)

EMT (Emergency Medical Technician):

If skin is hot and patient is unconscious: transport immediately

Do not delay transport for cooling in heat stroke patients

If advised by medical control, cool patient en route by sponge bathing with tepid water <100 F

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

Start a peripheral IV(s), as necessary, with NORMAL SALINE solution (en route)

AEMT (Advanced Emergency Medical Technician) with I99 Endorsement:

Attach monitor

Identify rhythm and treat specific dysrhythmias within scope of practice, according to the most recent ACLS protocols and PALS protocols as approved by your medical director

If shivering occurs, consider

Adult - FENTANYL 25-50MCG (IV/IO)

Pediatric - (contact medical control for pediatric dose)

PARAMEDIC:

If shivering occurs, consider:

Adult - VERSED (1MG) (IV/IM) or FENTANYL 25-50MCG (IV/IO)

Pediatric - (contact medical control for pediatric dose)

NOTE

Not all heat emergencies are environmental in nature; they may have infectious, neurological or pharmacological etiology.

High body temperature may cause seizures, particularly in preschool age children or patients with a known seizure disorder; see [Seizure Protocol](#)

When actively cooling patients, avoid shivering response

JOINT DISLOCATIONS

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

Be alert for and treat shock; see [Shock Protocol](#)

FOCUSED / DETAILED ASSESSMENT

Identify mechanism of injury

Dislocations are splinted in position found

Check and document pulse and sensation distal to the injury before and after splinting

Dislocations are splinted in the position found; however, realignment of a dislocation may be necessary to facilitate packaging a patient, correct a circulatory compromise, neurological deficit or to allow transportation

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

Protect injury from excessive movement

Elevate injured limb if possible (not hips)

Apply cold packs to injury site when practical

EMT (Emergency Medical Technician) with medication endorsement:

Consider pain management, see [Pain Management Protocol](#)

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

Start IV with NORMAL SALINE /LACTATED RINGERS solution (en route)

AEMT (Advanced Emergency Medical Technician):

Consider pain management, see [Pain Management Protocol](#)

AEMT (Advanced Emergency Medical Technician) with I99 Endorsement:

Consider pain management, see [Pain Management Protocol](#)

PARAMEDIC:

Consider pain management, see [Pain Management Protocol](#)

NOTE:

Contact medical control when diminished or absent neurovascular function is noted distal to injury

MULTIPLE TRAUMA

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

- Secure airway, while considering spinal precautions: see [Head/Neck/Spine Protocol](#)
- Administer high flow oxygen per non-rebreather mask
- Control all external bleeding, see [Bleeding Protocol](#)
- Determine bilateral breath sounds
- Continually assess and document respiratory status
- Check for tension pneumothorax: tracheal deviation and/or subcutaneous emphysema
- Dress open chest wound with occlusive dressing secured to the chest wall forming a flutter valve
- In open chest wounds, watch the patient closely for signs of developing tension pneumothorax
- Impaled object should be stabilized in place
- Other injuries permitting, patient should be allowed to seek position of comfort
- Disability: LOC, AVPU, obtain Glasgow Coma Scale score

FOCUSED / DETAILED ASSESSMENT

- Identify mechanism of injury and treat injuries in order of priority, according to protocol

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

- Take and record vital signs every 5 minutes
- Follow local trauma facility activation criteria

EMT (Emergency Medical Technician)

- Secondary survey and treatment may be completed en route to the hospital
- If immobilized, maintain and transport with entire immobilization device turned onto its side when situation warrants.
- Transport obvious pregnant patients on her left side or elevate right hip or physically shift uterus to the left side

EMT (Emergency Medical Technician) with airway endorsement:

- Establish advanced airway as needed

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

- Start (2) IV(s) with NORMAL SALINE /LACTATED RINGERS solution (en route)

Limit fluid administration with boluses of 250 ml in adults to maintain a systolic B/P of 90 or palpable radial pulse

EMT (Emergency Medical Technician) with medication endorsement:

- Consider pain management, see [Pain Management Protocol](#)

AEMT (Advanced Emergency Medical Technician):

- Consider pain management, see [Pain Management Protocol](#)

AEMT (Advanced Emergency Medical Technician) with I99 Endorsement:

Attach monitor

Consider pain management, see [Pain Management Protocol](#)

Consider needle decompression of chest if tension pneumothorax is suspected

PARAMEDIC:

Consider pain management, see [Pain Management Protocol](#)

For hemorrhagic shock from trauma as demonstrated by **either** a systolic blood pressure less than 90mmHg **OR** a pulse rate greater than 110 beats per minute, consider one gram of Tranexamic Acid (TXA) in 50 milliliters of Normal Saline over 10 minutes (per local protocol).

Assure receiving facility is aware of administration as soon as possible.

NOTE:

If your patient might be pregnant, remember survival of the fetus depends on the survival of the mother

EARLY TRANSPORT IS INDICATED FOR MULTI-SYSTEM TRAUMA PATIENTS

DO NOT DELAY TRANSPORT for IV or medication administration, do en route

Communicate with transport agency as soon as possible

Adhere to your local trauma systems policy for transport direction

Immobilize patient as indicated

A cervical collar alone WILL NOT provide secure cervical spine immobilization

DO NOT manipulate the cervical spine to apply a cervical collar

Do not use TRACTION on the cervical spine

IF a patient has a helmet in place and it is poor fitting or interferes with the airway, remove it in accordance to the American College of Surgeons guidelines

If injury is in the upper abdomen, consider the possibility of chest injuries

Injury to the abdomen may cause vomiting; protect the airway

Give nothing by mouth

Determine if the patient is pregnant

Keep eviscerated bowel covered with a moist dressing

Immobilize impaled objects in place

NERVE AGENT

(MARK I, MARK II or DuoDote – AUTO-INJECTOR)

PRE-HOSPITAL PROVIDER GOALS:

- To protect themselves and other pre-hospital responders from any significant toxic exposure.
- To obtain accurate information on the health effects of the nerve agent and the appropriate pre-hospital evaluation and medical care for victims.
- To minimize continued exposure of the victim and secondary contamination of health care personnel by ensuring that proper decontamination has been completed prior to transport to a hospital emergency department.
- To provide appropriate pre-hospital emergency care consistent within their scope of practice.
- To prevent unnecessary contamination of their transport vehicle or equipment.

GENERAL

The nerve agents of known military importance are GA (Tabun), GB (Sarin), GD (Soman), GF, and VX.

ASSESSMENT (of the hazards):

Physical Characteristics – Nerve agents under temperate conditions are liquids, not gases as they erroneously called (“nerve gas”). They are clear and colorless, they have no taste, and most are odorless, although GD and GA are said to have slight odors. GB is the most volatile, but it evaporates less quickly than does water. The volatility of the other “G agents” is GD>GA>GF. VX is similar to light motor oil, and although liquid VX produces a slight amount of vapor it generally is not considered to be a vapor hazard unless the ambient temperature is very warm.

Signs and Symptoms:

After a small vapor exposure: Miosis (constricted pupils), runny nose, shortness of breath.

After a large vapor exposure: Loss of consciousness, convulsions, apnea, flaccid paralysis.

After a small to moderate liquid exposure: Localized sweating, fasciculations; nausea, vomiting, diarrhea, feeling of weakness (may start hours later).

After a large liquid exposure: Loss of consciousness, convulsions, apnea, flaccid paralysis.

Patient Treatment (In general, this is the responsibility of the EMT or Paramedic)

Assign highest priorities to ABC and decontamination.

Complete primary and secondary surveys as conditions allow. Bear in mind the chemical specific information.

In multiple patient situations, begin proper triage procedures.

Treat presenting signs and symptoms as appropriate and when conditions allow.

Administer orders of the designated hospital when conditions allow.

Perform invasive procedures only in contaminated areas.

Reassess the patient frequently because many chemicals have latent physiological effects.

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Recommendations for Initial Therapy:

| Type of Exposure | Symptoms | Treatment | Comments |
|---------------------------------|--|--|--|
| Mild Vapor Exposure | Miosis alone | No treatment | The presence of miosis and rhinorrhea require observation only |
| | Rhinorrhea | Depends on amount of rhinorrhea and amount of discomfort | The presence of miosis and rhinorrhea require observation only |
| Moderate Vapor Exposure | Miosis, rhinorrhea, shortness of breath, wheezing, secretions, muscle weakness, GI effects (vomiting and diarrhea) | One or two MARK I kits (repeat doses every 5 – 10 minutes via MARK I kit; total of 1,800 mg 2-PAMCI) | Be more aggressive with moderate vapor exposures. |
| Severe Vapor Exposure | Unconscious, seizing, flaccid, apnea | -Three MARK I kits ASAP -Airway / Ventilation / O ₂ | The antidotes should be administered as early as possible because airway management will not be possible until atropine reduces the bronchoconstriction. After administering the antidote, immediately obtain a definitive airway. Oxygenate the patient and suction secretions. |
| Mild Liquid Exposure | Localized sweating fasciculations | <ul style="list-style-type: none"> One MARK I kit | |
| Moderate Liquid Exposure | Gastrointestinal effects (vomiting, diarrhea) | <ul style="list-style-type: none"> EMT's – One MARK I kit (repeat atropine in 5 – 10 minutes if effects worsen) | Oxygen may be needed in those with cardiac or pulmonary disease who have severe breathing difficulty, but generally is not necessary. |
| Severe Liquid Exposure | Unconscious, seizing, flaccid, apnea | - Three MARK I kits ASAP - Airway/Ventilation/ O ₂ | The antidotes should be administered as early as possible because airway management will not be possible until atropine reduces the bronchoconstriction. After administering the antidote, immediately obtain a definitive airway. Oxygenate the patient and suction secretions. |

NEONATAL (< 2 months) RESUSCITATION

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

Establish and protect airway

Suction secretions (mouth, oropharynx then nose) dry infant to provide stimulation and prevent chilling, keep infant warm, keep head covered

Check RESPIRATORY rate:

If rate is > 20 or crying, NO ACTION

If rate is < 20, tactile stimulation, provide assisted ventilation with pocket mask, as needed

Check HEART rate:

If rate > 100, NO ACTION

If rate 60 - 100, ventilate with high flow oxygen

If rate < 60, VENTILATE with high flow oxygen and begin chest compressions

Check COLOR:

Normal, NO ACTION

Central cyanosis, provide 100% oxygen and assist ventilation as needed

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

Protect from injury during movement

EMR (Emergency Medical Responder) with monitoring endorsement:

Determine glucose

EMT (Emergency Medical Technician):

Use bag valve mask to assist ventilation, as needed, 100% oxygen

AEMT (Advanced Emergency Medical Technician):

If glucose < 60, administer 2cc/kg, D10W (IV)

If respiratory rate is not maintained with stimulation, consider NALOXONE 0.1 mg/kg (IM/IV/ET/IO)

AEMT (Advanced Emergency Medical Technician) with I99 Endorsement:

Consider advanced airway if transport time greater than 20 minutes or unable to bag correctly

Attach monitor

If heart rate remains < 60 after 30-60 seconds of adequate chest compressions and ventilation with high flow oxygen, administer EPINEPHRINE 0.01 - 0.03 mg/kg of (1:10,000) (IM/IV/ET/IO)

NOTE:

ACROCYANOSIS (blue extremities, pink trunk) can be NORMAL for newborns.

Newborn bradycardia is due to decreased oxygenation

Meconium is fetal stool, which if aspirated can cause neonatal respiratory problems.

OBSTETRICAL EMERGENCIES

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

If delivery is imminent:

Visually examine patient's perineum

If the perineum is bulging or baby's head is crowning, prepare to deliver baby

If the patient has had one or more normal deliveries and complains of urge to "push", "bear down," or "have a bowel movement," prepare to deliver baby

If complications are apparent, i.e., foot or cord visible or if severe vaginal bleeding; see [Abnormal Delivery Protocol](#) and contact transporting agency immediately

If seizures, refer to [Seizure Protocol](#)

FOCUS / DETAILED ASSESSMENT

Reassure mother

Obtain pertinent medical and obstetrical history

Membranes ruptured? Color of fluid?

Date of expected birth? Other births?

History? Onset, frequency and duration of contractions?

EMT (Emergency Medical Technician):

When the delivery is not proceeding normally and in which the mother displays sudden onset of severe abdominal pain or shock, place on high-flow oxygen, treat for shock; see [Shock Protocol](#) and transport immediately. Notify receiving facility en route

If no visible signs of impending delivery, transport patient on her left side or elevate right hip or gently shift uterus to the left side, transport patient at a normal rate of speed

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

Start TKO IV, with NORMAL SALINE/LACTATED RINGERS solution (en route, unless delivery is imminent)

If delivery occurs through meconium stained amniotic fluid AND the newborn is vigorous, treat normally but notify receiving hospital on arrival

AEMT (Advanced Emergency Medical Technician) with I99 endorsement:

If delivery occurs through meconium stained amniotic fluid AND the newborn is non-vigorous (depressed respirations or depressed muscle tone (floppy) or heart rate < 100) suction until clear and consider intubation. Notify receiving facility as soon as possible

PARAMEDIC:

If heavy bleeding following delivery of the placenta:

Mix 20 units PITOCIN in 1000 ml NORMAL SALINE or LACTATED RINGERS and run wide open for the first liter, unless directed otherwise by medical direction

If seizures:

Administer 4 grams of IV MAGNESIUM SULFATE over 5 minutes, contact medical control if seizures continue

NOTE:

Consider the possibility of pregnancy in any female of childbearing age (any menstruating female) with complaints of vaginal bleeding, menstrual cycle irregularity, abdominal pain (cramping), low back or shoulder pain

If cord is around baby's neck during delivery, slip cord over baby's head before shoulders deliver to avoid strangulation of baby; if cord won't slip, clamp cord in two places and cut cord between the two clamps. See [Abnormal Delivery Protocol](#), and contact transporting agency immediately.

The greatest risks to the newborn infant are airway obstruction and hypothermia. KEEP BABY COVERED (including the head), WARM and DRY. KEEP AIRWAY SUCTIONED with bulb syringe.

Greatest risk to the mother is postpartum hemorrhage; watch closely for signs of hypovolemic shock and excessive vaginal bleeding. If the placenta is delivered, externally massage the uterus till firm.

When using bulb syringe, remember to squeeze the bulb PRIOR to insertion in baby's nose or mouth to suction; do not contact the posterior pharynx which may cause bradycardia

Spontaneous or induced abortions may result in copious vaginal bleeding; Reassure the mother, provide emotional support, treat for shock; see [Shock Protocol](#). Notify transport agency immediately. Notify receiving facility. Transport fetus, placenta and any tissue to the hospital with the patient

Obtain APGAR if possible at 1 and 5 minutes post-delivery

PAIN MANAGEMENT

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

Assess pain using a pain scale before and after treatment(s)

FOCUSED / DETAILED ASSESSMENT

Assess underlying cause for pain

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

Treat underlying cause for pain: re-positioning, bandaging, splinting, elevation, traction, apply cold packs

Provide psychological support: interact with patient to provide distraction from the pain; allow parent to be accompany pediatric patient if possible

EMT (Emergency Medical Technician) with medication endorsement:

Hold pain management option (NITROUS OXIDE) if any of the following are present: altered/decreased level of consciousness, head injury, chest injuries (blunt or penetrating), intoxication or drug ingestion, maxillofacial injuries, psychiatric problems, < 12 years of age or less than 75 pounds, OB patient not in the process of delivery, bowel obstruction or traumatic abdominal injury, inner ear pain, COPD, emphysema, or any condition that may compromise respiratory effort.

Adult – NITROUS OXIDE (per local protocol)

AEMT (Advanced Emergency Medical Technician): with medication endorsement

Hold pain management option if any of the following are present: blood pressure less than 100 systolic; respiratory depression; active labor; closed head injury; sudden onset of headache; altered mental status related to injury and/or allergy

Adult – 5mg/10mg MORPHINE Auto-injector (per local protocol)

AEMT (Advanced Emergency Medical Technician) with I99 Endorsement:

Hold pain management option if any of the following are present: blood pressure less than 100 systolic; respiratory depression; active labor; closed head injury; sudden onset of headache; altered mental status related to injury and/or allergy

Adult - MORPHINE 2-5 mg (IV/IO/IM); Repeat every 5 minutes as needed up to a maximum of 15 mg (as long as vital signs are stable) OR

FENTANYL 25-50 mcg, (IV/IO/IM/IN) repeat every 5 minutes, not to exceed a maximum of 150 mcg

Consider antiemetic of choice, per local protocol, for nausea or vomiting

Pediatric - MORPHINE 0.1 mg/kg to a max of 5 mg (IV/IO/IM/IN), after 5 minutes, may repeat once, if vital signs are stable OR

FENTANYL 0.5 mcg/kg to a max of 50 mcg (IV/IO/IM/IN), after 5 minutes, may repeat once, if vital signs are stable
Consider antiemetic of choice, per local protocol, for nausea or vomiting

PARAMEDIC:

May administer alternative analgesics of choice if BP systolic > 100
Consider KETAMINE 0.1 to 0.5 mg/kg (IV), per local protocol

Consider benzodiazepine for muscle spasm or additional pain control and as an adjunct for pain control. Consider:

VALIUM 5mg IV, OR
VERSED 2 TO 4 mg IV/IM, OR
LORAZEPAM 2 mg IV/IM

PEDIATRIC RESPIRATORY DISTRESS

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

If ADEQUATE ventilation:

Let child assume position of comfort.

Administer high flow oxygen with a non-rebreather mask or "BLOW BY"

Consider administration of patient prescribed ALBUTEROL INHALER, with spacer

If INADEQUATE ventilation:

Administer patient prescribed ALBUTEROL INHALER, with spacer

Consider foreign body obstruction

If child has croupy cough or epiglottitis is suspected:

Put child in position of comfort

DO NOT attempt any procedure or maneuver which may increase child's anxiety unless absolutely necessary to preserve airway (this includes examination of the oropharynx)

Administer high flow oxygen. Use pocket mask to ventilate as necessary.

Epiglottitis may require forceful ventilation

Constantly monitor airway for patency in any unconscious child

FOCUSED / DETAILED ASSESSMENT

Obtain pertinent medical history if time allows

EMT (Emergency Medical Technician):

Use bag valve mask to assist ventilation, as needed, 100% oxygen

EMT (Emergency Medical Technician) with airway endorsement:

If unconscious and age >8, establish advanced airway as needed

EMT (Emergency Medical Technician) with medication endorsement:

With respiratory distress and wheezing bilaterally, administer 2 puffs Albuterol via metered dose inhaler with a spacer

With respiratory distress, and wheezing or very decreased breath sounds bilaterally administer:

Albuterol premix (2.5 mg mixed in 3cc of Normal Saline) via nebulizer with oxygen, if less than one year of age use 1.25mg of albuterol in 3cc of normal saline

If patient does not improve, consider repeating nebulized Albuterol premix or continuous nebulized Albuterol

AEMT (Advanced Emergency Medical Technician):

If patient has expiratory Stridor, administer EPINEPHRINE 0.5 mg in 2cc NORMAL SALINE NEBULIZED with oxygen, if less than one year of age use 1.25mg of ALBUTEROL in 3cc of NORMAL SALINE

For known asthmatic nonresponsive to ALBUTEROL, consider EPINEPHRINE 0.3 to 0.5 mg (1:1,000) IM

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AEMT (Advanced Emergency Medical Technician) with I99 Endorsement:
Consider advanced airway if impending respiratory arrest
If unconscious and age >8, establish advanced airway as needed

PARAMEDIC:

With complete obstruction of the airway and inability to intubate, consider cricothyrotomy.

If patient is under 12 years of age; consider needle cricothyrotomy with or without jet insufflation. Needle cricothyrotomy is the only approved procedure for children under 12 years old.

NOTE:

When dealing with pediatric patients consider allowing a parent to accompany.

The conscious, dyspneic child may rapidly deteriorate to from respiratory distress to respiratory failure

PREPARE TO INTERVENE. Be prepared to ventilate.

Allergic reactions are frequently responsible for dyspneic episodes, thus inquiry for known allergies must include substances other than medications.

DYSPNEA is a symptom, not a disease/injury, reassess for cause and correct as necessary/possible. Specific cricothyrotomy technique is determined by the supervising Medical Director.

POISONING

EMR (Emergency Medical Responder):

PROTECT YOURSELF FROM POSSIBLE EXPOSURE FIRST!

INITIAL ASSESSMENT

Be alert for and treat respiratory compromise; see [Dyspnea Protocol](#)
Be alert for and treat shock; see [Shock Protocol](#)
Be alert for seizures, see [Seizure Protocol](#)
If unconscious; see [Altered Mental Status Protocol](#)

FOCUSED / DETAILED ASSESSMENT

Identify substance, and if reasonable, have it taken to the hospital with the patient
Estimate quantity
Time since exposure
Obtain pertinent medical history; chronic illness, medical problems within past 24 hours, medications and allergies

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

Inhaled poisons: ***BE AWARE OF ENCLOSED OR CONFINED AREAS***

Immediately get the person to fresh air
Avoid breathing fumes
Open doors and windows wide
If victim is not breathing, start artificial respiration
Administer oxygen, 100% non-rebreather, assist ventilation as necessary

Dermal exposure:

Remove contaminated clothing and flood skin with water for 10 minutes,
Then wash gently with soap and water and rinse
Poison in the eye: flood the eye with lukewarm (not hot) water poured from a large glass 2 or 3 inches from the eye, repeat for 15 minutes; have the patient blink as much as possible while flooding the eye, do not force the eyelid open

Swallowed poisons:

DO NOT give anything by mouth until you have called for advice

EMR (Emergency Medical Responder) with monitoring endorsement:

Determine glucose

Adult - If glucose is < 60 and patient has control of their airway, consider oral GLUCOSE

EMT (Emergency Medical Technician) with airway endorsement:

Establish advanced airway as needed

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

Start IV with NORMAL SALINE/LACTATED RINGERS solution (en route)

AEMT (Advanced Emergency Medical Technician) with I99 endorsement:

Attach monitor

If suspected Organophosphate/carbonates (pesticides/insecticides) poisoning

Adult - ATROPINE 2 to 4 mg (IV/IO/IM/ET)

Dose may be repeated one time in 5 minutes, call medical control

Pediatric - ATROPINE 0.02 mg/kg (IV/IO/IM/ET) with a minimum of 0.15mg

Dose may be repeated one time in 5 minutes, call medical control

PARAMEDIC:

If Cyanide poisoning and/or hydrogen sulfide (sewer gas)

Utilize CYANIDE antidote kits as available on site or administer AMYL NITRATE vials (30 seconds of each minute and replace vial every 3 minutes), **do not delay transport for administration.**

NOTE:

Do not delay transport to administer antidotes

Treat patient not the poison!

DO NOT administer product label antidotes in the field; product label antidotes are frequently wrong

If patient is unconscious or semi-conscious, transport on left side, protect the airway and DO NOT administer oral agents

If ingestion is by a small child, consider other children present as potential poisonings

Contact the receiving facility as soon as possible.

RESUSCITATION TRIAGE

Patients with a completed POLST document, always follow their protocols/instructions.

Full resuscitation should be initiated, and transportation to a medical facility should take place, unless direct contact with medical control in cases of:

1. Pediatric
2. Pregnancy
3. Respiratory cause of cardiac arrest
4. Drug overdose
5. Chemical exposure
6. Lightning strike or electrocution
7. Cold water drowning
8. Hypothermia

Do not initiate resuscitation or **discontinue resuscitation**, if after an assessment any of the following has is present:

1. In the patient who has obvious signs of death:
 - a. Injuries incompatible with life, i.e. decapitation, incineration, **or**
 - b. Dependent lividity, **or**
 - c. Rigidity or rigor, **or**
 - d. Decomposition.

Consider not initiating resuscitation, if after an assessment any of the following exists:

The patient has suffered a traumatic arrest (obvious high energy blunt trauma or penetrating injuries with no signs of life), no pulse, and asystole (in two leads) is confirmed on a cardiac monitor, **or**

When resuscitation was not begun and more than 15 minutes has elapsed before your arrival, **or**

The patient is pulseless, breathless in a multiple casualty situation where all resources are required for the surviving patients, **or**

When resuscitation efforts would place rescuers at risk.

Consider termination of resuscitation if resuscitation has been by professional rescuers and the patient has received full resuscitation according protocols and:

The patient did not receive a shock at any time during the resuscitation, **and**

Did not achieve prehospital return of spontaneous circulation, at any point, after greater than 3 cycles of high quality CPR and appropriate rhythm analysis, **and**

Did not suffer an EMS-witnessed cardiac arrest.

If in doubt, transport with resuscitation efforts and transport to a medical facility.

Best Practice: RESUSCITATION TRIAGE

"Best Practice" is an attempt to define a treatment that has less than full scientific validation. In many cases, the best practice is not known even though many EMS textbooks and curricula may identify a single or best method. The Montana Board of Medical Examiners will provide guidance to ECP personnel and Medical Directors through the development of best practices for various treatments and or skills. Developed best practices will identify the Boards opinion and recommendations for utilization of the treatment or skill. **It will be the responsibility of the Medical Director to incorporate best practices into performance expectations of the ECPs they supervise.**

General Considerations:

Resuscitation is a difficult issue to address due to the variations of local ECP experience, available resources and distances we must deal with in Montana. This discussion is an attempt to assist the local medical director in determining how best to coordinate local resources in making tough yet critical time dependent decisions.

The issues are primarily threefold, (1) when resuscitation efforts do not need to be started, (2) when resuscitation efforts can be discontinued when begun by others prior to your arrival, and (3) when your professional resuscitation efforts can be discontinued. Another issue must be discussed, on-scene resuscitation versus transportation during resuscitation efforts. Each will be addressed to assist the local medical director and the local receiving facility to provide direction to ECPs under their oversight.

Of course, in every case discussed, documentation must be complete and detailed, and part of termination of efforts in the field is providing appropriate care and comforting to any family, witnesses, or bystanders present. Any service using these guidelines to cease resuscitative measures in the field should ensure appropriate training for providers in conveying death notification and associated bystander counseling.

In addition, all unattended deaths in the field are coroner's cases per Montana law. Care must be exercised to not unnecessarily disturb the scene. Do not remove ECG patches or airway devices, pick up material, etc. that could potentially alter the scene. Prior to leaving the scene where a death is declared, make sure an officer (either fire or police) is in charge of the scene, or the coroner is on scene.

When resuscitation does not need to be begun (when your duty to act is not expected): While the American Heart Association has provided guidance to providers when CPR and resuscitation efforts should not be begun, the American Heart Association produces recommendations. Therefore, it was felt that the protocols should identify conditions in which your scope of practice and duty to act is clearly identified. Those guidelines are identified above, following a complete assessment.

When resuscitation efforts can be discontinued once started by lay persons prior to your arrival: This becomes more difficult to simply establish a standard of black and white. Various situations can be experienced by the ECP upon their arrival. While it might be simplistic to state if a long response time to the scene (>15 minutes) and the patient has been receiving

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CPR by family or bystanders and your initial assessment reveals a pulseless, breathless patient and your AED states no shock advised; could result in discontinuing resuscitative measures. Often, it's more complex than that. Considerations that must be taken into account; cause of the arrest, time of discovery of the patient in arrest, time CPR was begun, length of CPR, quality of CPR, family or bystanders doing the CPR prior to your arrival. All of these can and should result in the ECP making a decision that is in the best interest of the patient and family. What we do know is that once the patient is pulseless and breathless, the patient deteriorates rapidly. Effect CPR can slow that deterioration but time is still a major factor. Therefore, when response times are excessive (>15 minutes) and transport times are equal to or even greater, we must take into consideration the impact on the family and ECP staff and consider discontinuing resuscitative efforts. This is not to be taken lightly and all efforts should be taken if in doubt. It's imperative that the medical director, local facility and ECPs have a discussion and the medical director establish local considerations that ECP's can utilize when faced with this scenario, prior to standing over the patient and attempting to call medical control on each case.

When your resuscitation efforts can be discontinued once started: As identified in the above protocol, resuscitative efforts can be discontinued if: The patient did not suffer an EMS-witnessed cardiac arrest, did not receive a shock at any time during the resuscitation, did not achieve prehospital return of spontaneous circulation, received greater than 3 cycles of high quality CPR and an appropriate rhythm analysis. This can be considered; however, this would not justify not utilizing a Paramedic response if reasonably available. This is not to be taken lightly and all efforts should be taken if in doubt. It's imperative that the medical director, local facility and ECPs have a discussion and the medical director establish local considerations that ECP's can utilize when faced with this scenario, prior to standing over the patient and attempting to call medical control on each case.

On-scene resuscitation versus resuscitation in a moving vehicle: Many high-volume EMS services across the county have developed protocols which discourage transporting patients receiving resuscitative measures for reasons of provider safety and the ability to provide high quality compressions while in a moving vehicle. While the choice not to transport your patient to an emergency room and resuscitate on the scene might seem an easy one, it should be done with great consideration of the variations that might contribute to success. Some of the obvious variables that must be considered are; distance to the receiving emergency room, frequency of ECPs providing resuscitation (experience), level of direct oversight from medical director, availability of additional personnel or assistance (utilized while in route), and the obvious one...is the standard of care equivalent to that of the emergency room that would be receiving the patient. These variables should be discussed and evaluated by the local receiving facility and medical director, so that the medical director can determine the best patient care a local EMS configuration can provide. This will not be easy and may change from time to time as variables change.

SEIZURES

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

- Administer high flow oxygen with non-rebreather mask
- If possible place patient on his/her side facing you to facilitate airway management

FOCUSED / DETAILED ASSESSMENT

- Protect patient from injury
- Remove hazards from immediate area
- Avoid unnecessary physical restraint
- Obtain pertinent medical history from family and bystanders including:
 - Known seizure disorder
 - Medications, what medication/when last taken
 - Check for medical tag and medications
 - Alcohol or drug intake
 - Recent trauma; see [Head/Neck/Spine Protocol](#)
 - Note fever, particularly in children under 5 years of age; see [Heat Protocol](#)
 - Duration of seizure

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

- Protect patient from injury during seizure

Do not transport during active seizures UNLESS seizure lasts in excess of 5 minutes or patient is significantly injured. Attempt to contact medical facility prior to transport
If transport during seizure becomes necessary, pad stretcher side rails to protect patient

EMR (Emergency Medical Responder) with monitoring endorsement:

- Determine glucose
- Adult - If glucose is < 60 and patient has control of their airway, consider oral GLUCOSE

EMT (Emergency Medical Technician) with airway endorsement:

- Establish advanced airway as needed

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

- Start IV with NORMAL SALINE/LACTATED RINGERS solution (en route)

EMT (Emergency Medical Technician) with medication endorsement:

- If glucose < 60,
Adult - consider GLUCAGON 1mg (IM/IN)

AEMT (Advanced Emergency Medical Technician):

if glucose is < 60 or unable to determine glucose then:

Adult - consider THIAMINE 100 mg (IV/IM), then administer
DEXTROSE 50% (50cc) (IV) OR
DEXTROSE 10% (100cc) (IV); may repeat every 5 minutes to a max of 25g
(250cc) for persistent hypoglycemia.

Pediatric – administer DEXTROSE 25%, 2cc/kg (IV/IO) over 2 minutes OR
DEXTROSE 10%, 5cc/kg (IV/IO)

If seizures are secondary to trauma or hypoxia, without hypoglycemia, do not give
DEXTROSE

AEMT (Advanced Emergency Medical Technician) with I99 endorsement:

Attach monitor

Administer:

Adult - DIAZEPAM 2-10 mg (IV/IO/ET) **OR** MIDAZOLAM 1-5 mg (IV/IM/IN) **OR**
LORAZEPAM 1-4 mg (IV/IM/IO)

Pediatric - MIDAZOLAM 0.2 mg/kg (IV/IM/IN) up to a max of 5 mg **OR**
DIAZEPAM 0.3 mg/kg up to a max of 10 mg (IV/ET/IO/Rectal) **OR**
LORAZEPAM 0.05 mg/kg (IV/IO/IM) up to a max of 4 mg

NOTES:

Do not attempt to insert tongue blade or other instruments in the mouth of a patient who is having a seizure

Do not allow a crowd of onlookers to gather

Patients in postictal state may appear lethargic, drift into sleep or have short memory loss or become violent

They should be allowed to rest and should be reassured

It may be helpful to reorient patients by telling them where they are, what happened, who you are etc.

Protect the dignity of the patient during a seizure; discourage onlookers

Patient may decline transport if they have a known history of seizures; experienced a single seizure and they are awake and appropriate at the scene

Check clothing and personal belongings for medication, medical alert devices

STROKE

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

- Establish and protect airway
- Suction secretions as needed
- Administer high flow oxygen by non-rebreather mask
- Use pocket mask to assist ventilations as needed
- See Altered Mental Status Protocol

FOCUSED / DETAILED ASSESSMENT

- Obtain careful history including:
 - Onset of symptoms
 - Previous history of CVA
 - Seizure disorders
 - Diabetes, thyroid disease, hypertension
 - Any trauma
 - Any toxins like alcohol, carbon monoxide
- Obtain and record vital signs
- Complete and provide the facility a "Prehospital Stroke Screening Scale"

EMR (Emergency Medical Responder) with monitoring endorsement:

Determine glucose

- Adult** - If glucose is < 60 and patient has control of their airway, consider oral GLUCOSE
- Do not delay transport for the administration of oral GLUCOSE

EMT (Emergency Medical Technician):

- Do not elevate head during transport
- Rapid transport and early notification of receiving facility

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

- Start a peripheral IV(s) as necessary, TKO with a NORMAL SALINE solution (en route)
- Avoid affected limbs when establishing IV(s) if possible

EMT (Emergency Medical Technician) with medication endorsement:

- If glucose < 60,
 - Adult** - consider GLUCAGON 1mg (IM/IN)

AEMT (Advanced Emergency Medical Technician):

- If glucose is < 60:
 - Consider DEXTROSE 50% (50cc) OR DEXTROSE 10% (100cc) IV. May repeat every 5 minutes to a max of (250cc) for persistent hypoglycemia.

If unable to initiate a peripheral IV and if glucose < 60, administer GLUCAGON 1mg (IM/IN)

AEMT (Advanced Emergency Medical Technician) with I99 Endorsement:

Attach monitor:

Identify rhythm and treat specific dysrhythmia; within your scope of practice, according to the most recent ACLS protocols as directed by the medical director

NOTE:

The following are the signs and symptoms suggestive of stroke, which should alert pre-hospital personnel for rapid evaluation and transport:

Abrupt onset of hemiparesis or monoparesis

Sudden decline in level of consciousness

Sudden severe headache

Acute dysphagia or dysarthria

Sudden loss of vision in one or both eyes or loss of vision in half of the visual field

Double vision

Ataxia

Extremity weakness

Loss of sensation in half of the body

SEXUAL ASSAULT

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

Assess and treat for injuries

FOCUSED /DETAILED ASSESSMENT

History

Identify mechanism of injury

Treat other injuries as indicated, see specific protocol

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

Early notification of receiving facility

NOTE:

Protect the scene and preserve evidence in cooperation with law enforcement

Encourage the patient not to bathe, douche, brush teeth, or change clothes

This is a highly emotional and volatile situation; be sure your findings and treatment are clearly documented

Crew members of the same sex may relate better with the patient in the time of emotional crisis

Remember sexual assault is required to be reported to the proper authorities

Remember, the patient of a sexual assault is not always female

Place any clothing removed in a paper bag (do not use plastic)

SHOCK - MEDICAL

*** For patients with adrenal insufficiency, on chronic steroid therapy or at risk of acute adrenal crisis in medical distress, see also ADRENAL INSUFFICIENCY protocol.

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

- Administer high flow oxygen by non-rebreather mask
- Maintain body heat
- Assess bilateral breath sounds

FOCUSED / DETAILED ASSESSMENT

- Take and record vital signs every five minutes
- Identify mechanism of injury or illness

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

- Facilitate transport as soon as possible

EMT (Emergency Medical Technician) with airway endorsement:

- Utilize an advanced airway as needed

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

- Start (2) large bore IV(s) with NORMAL SALINE /LACTATED RINGERS solution (en route).

- Adult - Administer a fluid challenge of 500 cc and reassess. May repeat X 1, then contact medical control.

- If you suspect "on-going blood loss", (INTERNAL or GI BLEED) maintain systolic blood pressures of 90 to 100 mmHg, higher blood pressures may increase bleeding

- Pediatric - initial fluid bolus of 20cc/kg, repeat one time, contact medical control

AEMT (Advanced Emergency Medical Technician) with I99 Endorsement:

- Attach monitor

PARAMEDIC:

- If cardiogenic shock, NOT hemorrhagic or hypovolemic, then administer vasopressor:
 - NOREPINEPHRINE infusion (PREFERRED): start at initial dose 1 mcg/minute, titrate to effect. Max dose for refractory shock 20 mcg/min. **OR**
 - DOPAMINE infusion (if NOREPINEPHRINE unavailable): start at 5 mcg/kg and increase by 5 mcg/kg every 5 minutes to maintain systolic BP > 100, do not exceed 25 mcg/kg/minute

If **Adult** with suspected septic shock and persistent hypotension after aggressive fluid resuscitation (30cc/kg), administer vasopressor:
NOREPINEPHRINE infusion (PREFERRED): start at initial dose 1 mcg/minute, titrate to effect. Max dose for refractory shock 20 mcg/min. **OR**
DOPAMINE infusion: start at 5 mcg/kg and per /minute and increase by 5 mcg/kg every 5 minutes to maintain systolic BP > 100, do not exceed 25 mcg/kg/minute

NOTE:

Attempt to determine the etiology of shock

Shock is indicated by a deteriorating trend of the following signs and symptoms:

Restlessness and anxiety decrease in level of consciousness

Capillary refill greater than 2 seconds

Cool, clammy, pale skin

Nausea and vomiting

Cyanosis (periorbital, perioral, nail bed)

Rapid shallow respiration greater than 24, progressing to slow, labored respirations

Narrowing pulse pressure

Decrease in blood pressure is a LATE sign, tachycardia is an early indicator

The elderly, children, pregnant women, patients on drugs and athletes MAY NOT show early signs of shock, and may deteriorate quickly

"On-Going Blood Loss" could be from a trauma or a medical issue (GI bleed, etc)

REMEMBER SEPTIC AND CARDIOGENIC SHOCK MAY REQUIRE AGGRESSIVE FLUID RESUSCITATION

Be vigilant for extravasation when administering any vasopressor infusion. Large vein IV or IO required

SMOKE INHALATION

EMR (Emergency Medical Responder):

INITIAL ASSESSMENT

Administer high flow oxygen by non-rebreather mask
Use pocket mask AND assist respirations as needed
Assess bilateral breath sounds
Disability: LOC, AVPU, obtain Glasgow Coma Scale score
Assess and treat for shock; see Shock-Medical Protocol
Asses for burns; see Burns
DO NOT DELAY TRANSPORT

FOCUSED / DETAILED ASSESSMENT

Obtain pertinent medical

ADDITIONAL FIELD TREATMENT AND PREPARATION FOR TRANSPORT

Smoke inhalation victims may be combative and require soft restraint

EMT (Emergency Medical Technician)

Use bag valve mask to assist ventilation, as needed, 100% oxygen
Consider CPAP (not to exceed 10cm H₂O)

EMT (Emergency Medical Technician) with airway endorsement:

Utilize an advanced airway as needed

EMT (Emergency Medical Technician) with IV/IO initiation endorsement:

Start (2) large bore IV(s) with NORMAL SALINE /LACTATED RINGERS solution (en route).

Adult - Administer a fluid challenge of 500 cc, reassess and titrate fluids to a systolic blood pressure of 90 to 100 mmHg

Pediatric - initial fluid bolus of 20cc/kg, repeat one time, contact medical control

EMT (Emergency Medical Technician) with medication endorsement:

With distress, and marked wheezing or very decreased breath sounds bilaterally

Adult - Administer, ALBUTEROL 2.5mg mixed in 3cc of normal saline, NEBULIZED with oxygen or IPRATROPIUM 0.5mg mixed in 3cc of normal saline, NEBULIZED with oxygen or BOTH

Pediatric – Pediatric Respiratory Distress

AEMT (Advanced Emergency Medical Technician):

Consider CPAP (not to exceed 15cm H₂O)

PARAMEDIC:

Patients exposed to fire and/or smoke in an enclosed area (structures, vehicles) with soot around or in nose or mouth, and Altered Mental Status

Adult - Administer Cyanokit 5g IV/IO (Cyanokit is incompatible with some drugs and needs its own IV/IO)

Pediatric- 70 mg/kg IV/IO

Do not delay transport due to Cyanokit administration.