BLS
Sample Ambulance Protocols Template

EMS
Patient Care Guidelines

October 17, 2008
Revised: November 17, 2011
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General Administrative Guidelines
ADOPTION STATEMENT

The goal of prehospital emergency medical services is to deliver a viable patient to appropriate definitive care as soon as possible. Optimal prehospital care results from a combination of careful patient assessment, essential prehospital emergency medical services and appropriate medical consultation.

These BLS Patient Care Guidelines were developed to standardize the emergency patient care that EMS providers, through medical consultation, deliver at the scene of illness or injury and while transporting the patient to the closest appropriate hospital. These guidelines will help EMS providers anticipate and be better prepared to give the emergency patient care ordered during the medical consultation.

As Medical Director for ____________________________
Ambulance Service, I approve and adopt these guidelines for use in all patient care encounters.

___________________________________
Medical Director 

___________________________________
Service Director 

___________________________________
Date 

___________________________________
Date
Roles and Responsibilities of the Medical Director

Definition:
The Medical Director is a physician who accepts responsibility for the quality of care provided by drivers and attendants of a Basic Life Support transportation service that has been granted a variance to perform a restricted treatment of procedure.

Requirements:
Pursuant to Minnesota Statute 144E.265 Subd. 1.
The Medical Director must meet the following requirements:
(1) be currently licensed as a physician in this state;
(2) have experience in, and knowledge of, emergency care of acutely ill or traumatized patients; and
(3) be familiar with the design and operation of local, regional, and state emergency medical service systems.

Roles and Responsibilities:
Pursuant to Minnesota Statute 144E.265 Subd. 2.
The Medical Director responsibilities include but are not limited to:

A. Approving standards for training and orientation of personnel that impact patient care.
B. Approving standards for purchasing equipment and supplies that impact patient care.
C. Establishing standing orders for prehospital care.
D. Approving written triage, treatment, and transportation guidelines for adult and pediatric patients.
E. Participating in the development and operation of continuous quality improvement programs including, but not limited to, case review and resolution of patient complaints.
F. Establishing procedures for the administration of drugs.
G. Maintaining the quality of care according to the standards and procedures established under clauses A through F.

Annual Assessment of EMTs:
Pursuant to Minnesota Statute 144E.265 Subd. 3. Annually, the medical director or the medical director's designee shall assess the practical skills of each person on the ambulance service roster and sign a statement verifying the proficiency of each person.
Guideline Number – 1075.00 rev. 10/17/08

Service Responsibilities

INSERT Service Specific Guideline
GENERAL ADMINISTRATION GUIDELINE
Guideline Number- 1100.00 rev. 10/17/08

SCOPE
These Patient Care Guidelines apply to BLS ambulance services.

The following guidelines are to be used as consultative information to strive for the optimal care of patients. The statements contained herein are intended to be informative and represent what is believed to be the current standard of care for any particular circumstance. It is recognized that any specific procedure or recommendation is subject to modification depending on circumstances of a particular case.

A. Age limits for pediatric and adult medical protocols must be flexible. For ages less than 13 years, pediatric orders should always apply. Between the ages of 13 and 18, judgment should be used, although the pediatric orders will usually apply. Adult guidelines apply to patient’s ages 18 and over. It is recognized that the exact age of a patient is not always known.

B. Courtesy to the patient, the patient's family, and other emergency care personnel is of utmost importance. Providing quality patient care includes bringing any of the patient’s medication vials along with them when they are transported to a hospital or other facility.

C. Minnesota Statutes, Chapter 144E.123 PREHOSPITAL CARE DATA. Requires the following: Subdivision 1. Collection and maintenance. A licensee shall collect and provide prehospital care data to the board in a manner prescribed by the board. At a minimum, the data must include items identified by the board that are part of the National Uniform Emergency Medical Services Data Set. A licensee shall maintain prehospital care data for every response. Subdivision 2. Copy to receiving hospital. If a patient is transported to a hospital, a copy of the ambulance report delineating prehospital medical care given shall be provided to the receiving hospital.

D. The specific conditions listed for treatment in this document, although frequently stated as medical diagnosis, are merely provider impressions to guide the EMS care provider in initiating appropriate treatment. This document is to be used as consultative material in striving for optimal patient care. It is recognized that specific procedures or treatments may be modified depending on the circumstances of a particular case. A medical control physician should be contacted anytime there is a concern regarding the patient’s status.
CISD AND PEER COUNSELING

EMS personnel are encouraged to familiarize themselves with the causes and contributing factors of critical incident and cumulative stress, and learn to recognize the normal stress reactions that can develop from providing emergency medical services. An EMS Peer Counseling Program is available to EMS personnel through the Regional EMS Programs. The program consists of mental health professionals, chaplains, and trained peer support personnel who develop stress reduction activities, provide training, conduct debriefings, and assist EMS personnel in locating available resources. The team will provide voluntary and confidential assistance to those wanting to discuss conflicts or feelings concerning their work or how their work affects their personal lives.

A critical incident is any response that causes EMS personnel to experience unusually strong emotional involvement. A formal or informal debriefing will be provided at the request of medical authorities, ambulance management or EMS personnel directly related to the incident.

Contact information for Regional EMS Programs is available on the EMSRB website at www.emsrb.state.mn.us
DEAD ON ARRIVAL (DOA)

DOA Criteria Defined:
A pulseless, apneic patient can be called deceased on arrival if the following signs are present:

- Rigor mortis (Caution: do not confuse with stiffness due to cold environment)
- Dependent lividity.
- Decomposition.
- Decapitation.
- Severe trauma that is not compatible with life.
- Incineration.
DNR AND LIVING WILLS

Do Not Resuscitate (DNR, No CPR) orders are orders issued by a patient’s physician to refrain from initiating resuscitative measures in the event of cardiopulmonary arrest. Patients with DNR orders may receive vigorous medical support, including all interventions specified in the Medical Protocols, up until the point of cardiopulmonary arrest.

In the nursing home, a DNR order is valid if it is written in the order section of the patient chart (or on a transfer form) and is signed by a physician, registered nurse practitioner, or physician assistant acting under physician authority. Copies of the order are valid. In a private home, the standard DNR form must be signed by the patient or proxy, the physician, and a witness in order to be valid. No validation stamp or notarization is necessary, and a legible copy is acceptable.

If possible, the DNR order or copy should accompany the patient to the hospital. Pertinent documentation should be included on the ambulance report form for the run. In the event of confusion or questions regarding the DNR order, resuscitation should be initiated and a medical control physician should be consulted.

Living Wills
The presence of a living will should not alter your care. The living will cannot be interpreted in the field. Living wills should not be interpreted at the scene but conveyed to the physicians in the receiving Emergency Department.

DNR (Do Not Resuscitate)
1. CPR may be withheld if apneic, pulseless (at-home) patient has a Minnesota Medical Association DNR Form signed by themselves or their guardian, a witness and their physician. MUST be signed by all three.
2. CPR may be withheld if apneic, pulseless (nursing home) patient has an order in their medical record signed by their physician. This order (does not need to be the formal DNR Form)
3. When the patient is NOT apneic and pulseless, standard medical care should be provided regardless of their DNR status.

The only Valid HOME DNR Order is a Minnesota Medical Association DNR Form signed by the patient or their legal guardian, a witness and their physician. All three signatures MUST be present. Copies are valid. No validation stamp or notarization is necessary. A VALID Nursing Home DNR Order is a signed physician order that can be found in the patient’s medical chart.
Infection Control Plan

*Minnesota Statute 144E.125 Operation Procedures, requires that Minnesota Licensed Ambulance Services have a procedure for infection control.*

*Ambulance Services are required to comply with OSHA regulation 1910.1030(c)*

Universal precautions (aka - Standard precautions) refers to the practice, in medicine, of avoiding contact with patient’s bodily fluids, by means of the wearing of nonporous articles such as medical gloves, goggles, and face shields. Medical instruments should be handled carefully and disposed of properly in a sharps container. Pathogens fall into two broad categories, blood borne (carried in the body fluids) and airborne. Universal precautions cover both types.

Universal precautions should be practiced in any environment where workers are exposed to bodily fluids, such as:

- Blood
- Sputum
- Semen
- Vaginal secretions
- Synovial fluid
- Amniotic fluid
- Cerebrospinal fluid
- Pleural fluid
- Peritoneal fluid
- Pericardial fluid

Whenever providing care for a patient with a febrile respiratory illness, perform the following:

1. Wear a mask
2. Wear eye protection if productive cough present and while performing any procedure which may result in droplet production (nebs)

**What is a “Significant Exposure”?**

- Patient’s blood or body fluids contact an opening in the skin (e.g. cuts, abrasions, dermatitis or blisters) or if there is prolonged contact or an extensive area is exposed.
- Blood or body fluids sprayed into your eyes, nose or mouth.
- Puncture wound from a needle, human bites, or other sharp object that has had contact with the patient’s blood or body fluids.

(Continued on next page)
GENERAL ADMINISTRATIVE GUIDELINE
Guideline Number - 1200.00 rev. 10/17/08

Infection Control Plan (continued)

- Potential exposure or known exposure to airborne transmitted organisms (e.g. Tuberculosis) or droplet transmitted organism (e.g. Meningitis).

How do I prevent a “Signature Exposure”? 
- Use gloves for patient contact, shielded face masks and/or mask with safety goggles for airway management, shielded masks with gowns for obstetrical deliveries, N-95 masks for potential TB patients or patients coughing bloody sputum and/or experiencing night sweats with weight loss.

What if a “Significant Exposure” Occurs?
- Wash the exposed skin, blow your nose, irrigate your eyes, and consider gargling as soon as possible.
- Report the incident immediately to your supervisor.
- Follow the infectious source (patient) to the hospital for a post exposure evaluation.
- Report to the ER to initiate Exposure protocol.
MANDATORY REPORTING ISSUES

It is mandatory to report certain crimes, failure to report these incidents may be a crime itself. Minnesota offers immunity from liability for people who report incidents in good faith. When required to report these incidents you are exempt from patient confidentiality requirements. Minnesota State statute (626.556-67) requires the EMT-B to report the following:

- Child Abuse
- Vulnerable Adult Abuse (elderly, spouse, mentally challenged)

Document clearly on the patient care report that your concerns have been reported to the receiving facility.

Discuss your concerns with the service if you have any question about the requirement to report an incident.

EMSRB Mandatory Reporting Requirements

Ambulance Services are mandated to report to the Minnesota EMS Regulatory Board in compliance with the following statutes:

**M. S. 144E.305, Subd. 2(a): REPORTING MISCONDUCT**

Subd. 2. Mandatory reporting. (a) A licensee shall report to the board conduct by a first responder, EMT, EMT-I, or EMT-P that they reasonably believe constitutes grounds for disciplinary action under section 144E.27, subdivision 5, or 144E.28, subdivision 5. The licensee shall report to the board within 60 days of obtaining verifiable knowledge of the conduct constituting grounds for disciplinary action.

**M. S. 144E.305, Subd. 2(b): REPORTING MISCONDUCT**

Subd. 2. Mandatory reporting. (b) A licensee shall report to the board any dismissal from employment of a first responder, EMT, EMT-I, or EMT-P. A licensee shall report the resignation of a first responder, EMT, EMT-I, or EMT-P before the conclusion of any disciplinary proceeding or before commencement of formal charges but after the first responder, EMT, EMT-I, or EMT-P has knowledge that formal charges are contemplated or in preparation. The licensee shall report to the board within 60 days of the resignation or initial determination to dismiss. An individual's exercise of rights under a collective bargaining agreement does not extend the licensee's time period for reporting under this subdivision.
Patient Confidentiality

Purpose
The purpose of this document is to outline and educate BLS Ambulance Services concerning the policies and procedures needed to comply with the patient privacy rights enacted under the Health Insurance Portability and Accountability Act of 1996 (HIPAA).

Policy
1. The patient has the right to receive a privacy notice in a timely manner. Upon request, the patient may at any time receive a paper copy of the privacy notice, even if he or she earlier agreed to receive the notice electronically.

2. Requesting restrictions on certain uses and disclosures. The patient has the right to object to, and ask for restrictions on, how his or her health information is used or to whom the information is disclosed, even if the restriction affects the patient’s treatment, payment, or health care operation activities. The patient may want to limit the health information that is included in patient directories, or provided to family or friends involved in his or her care or payment of medical bills. The patient may also want to limit the health information provided to authorities involved with disaster relief efforts. However, we are not required to agree in all circumstances to the patient’s requested restriction.

3. Receiving confidential communication of health information. The patient has the right to ask that we communicate his or her health information to them in different ways or places. For example, the patient may wish to receive information about their health status in a special, private room or through a written letter sent to a private address. We must accommodate requests that are reasonable in terms of administrative burden. We may not require the patient to give a reason for the request.

4. Access, inspection and copying of health information. With a few exceptions, patients have the right to inspect and obtain a copy of their health information. However, this right does not apply to psychotherapy notes or information gathered for judicial proceedings, for example. In addition, we may charge the patient a reasonable fee for copies of their health information.

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5. **Requesting amendments or corrections to health information.**
   If the patient believes their health information is incomplete or incorrect, they may ask us to correct the information. The patient may be asked to make such requests in writing and to give a reason as to why his or her health information should be changed. However, if we did not create the health information that the patient believes is incorrect, or if we disagree with the patient and believe his or her health information is correct, we may deny the request. We must act on the request within 60 days after we receive it, unless we inform the patient of our need for a one-time 30-day extension.

6. **Receiving an accounting of disclosures of health information.**
   In some limited instances, the patient has the right to ask for a list of the disclosures of their health information that we have made during the previous six years, but the request cannot include dates before April 14, 2003. This list must include the date of each disclosure, who received the disclosed health information, a brief description of the health information disclosed, and why the disclosure was made. We must furnish the patient with a list within 60 days of the request, unless we inform the patient of our need for a one-time 30-day extension, and we may not charge the patient for the list, unless the patient requests such list more than once in a 12 month period. In addition, we will not include in the list disclosures made to the patient, or for purposes of treatment, payment, health care operations, national security, law enforcement/corrections, and certain health oversight activities.

7. **Complaints.** Patients have the right to file a complaint with an ambulance service and with the federal Department of Health and Human Services if they believe their privacy rights have been violated. We will not retaliate against the patient for filing such a complaint.
Patient Consent and Refusal

*INSERT Service Specific Guideline*
PHYSICIAN OR MEDICAL PROVIDER ON SCENE

If a Physician is present on scene, and wishes to assume medical direction. The following must occur:

1. Provider must:
   a. Produce identification and copy of a Valid Minnesota Medical License.
   b. Agree to accompany the patient to the receiving facility.
   c. Agree to sign the patient care report assuming medical responsibility for the patient.

2. Medical Control must be informed and consent to the provider assuming on scene medical direction.

3. If the physician does accept the terms above, upon arrival at the hospital obtain a photo copy of the license and attach to the patient care report.
Response Obligations

Obligated to Assess & Treat
When you respond to an emergency medical call, you are obligated to assess and treat the patient. Responsibility for the patient continues until a higher medical authority (paramedic, registered nurse, and/or physician) assumes care.

ALS Intercept
Do not delay transport of the patient to definitive care waiting for the ALS intercept to arrive. Transport the patient when able. You can meet the intercept ambulance on the way to the hospital. Consider the condition of the patient and the medical need when determining if the Paramedic should move to the BLS ambulance or the patient should be transferred to the ALS ambulance. Understand that moving the patient can significantly delay transport to the hospital and worsen the patient’s medical condition.
Restraint Use

PURPOSE:
To provide guidance and criteria for the use of physical restraint of patients during care and transport.

DEFINITION:
Any mechanism used to physically confine a patient. This includes, but is not limited to: soft composite dressing, tape, leathers or hand cuffs wrapped and secured at the wrist and/or ankles and/or chest or lower extremities.

POLICY / PROCEDURE
A. If EMS personnel judge it necessary to restrain a patient to protect him/her self from injury, or to protect others (bystanders or EMS personnel) from injury:
   1. Document the events leading up to the need for restraint use in the patient record.
   3. Document the reason for restraining the patient.
   4. In the event that the patient spits, the rescuer may place over the patient’s mouth and nose a surgical mask or an oxygen mask that is connected to high flow oxygen.
B. Inform patient of the reason for restraint.
C. Restrain patients in a manner that does not impair circulation or cause choking or aspiration. **DO NOT** restrain patients in the prone position (face down). Prone restraint has the potential to impair the patient’s ability to breathe adequately. Police officers are trained in restraining violent individuals safely. Utilize the police on the scene in deciding the appropriate restraint technique to maximize the safety of the rescuers and the patient.
D. As soon as possible, attempt to remove any potentially dangerous items (belts, shoes, sharp objects, weapons) prior to restraint. Any weapons or contraband (drugs, drug paraphernalia) shall be turned over to a Law Enforcement Officer.
E. Assess the patient’s circulation (checking pulses in the feet and wrists) every 5-10 minutes while the patient is restrained. If circulation is impaired, adjust or loosen restraints as needed. Document the presence of pulses in each extremity and the patient’s ability to breathe after restraint is accomplished. Be prepared to turn the patient to facilitate clearance of the airway while also having suction devices readily available.
F. Inform hospital personnel who assume responsibility for the patient’s care at the hospital of the reason for restraining the patient.
G. The EMT at his discretion may request that law enforcement accompany and or follow the patient to the hospital. **Any patient restrained in handcuffs shall have law enforcement accompany the patient in the patient compartment or follow the ambulance.**
Guideline Number - 1500.00

Adult

“GENERAL”

Patient Care Guidelines
Guideline Number - 1510.00 rev. 11/17/11

GENERAL PATIENT CARE GUIDELINE

SCENE SURVEY
- PPE
- Scene Safety / Evaluate for Hazards
- Mechanism of Injury
- Consider Spinal Stabilization
- Number of Victims
- Additional Resources

ESTABLISH LOC
- A=Alert, V=Responds to Voice, P=Responds to Pain, U=Unresponsive
- Obtain and Document Glasgow Coma Scale (GCS)

SPINAL PRECAUTIONS
- Manually stabilize c-spine if trauma is suspected

AIRWAY
- Establish and maintain open airway
- Place oral or nasal airway if unconscious
- Consider Non-visualized Airway if not breathing (see “AED” Protocol)

BREATHING
- Administer oxygen at 10-15 L/min by mask or
  If breathing inadequate Assist ventilations

CIRCULATION/PERFUSION
- Assess pulses
- Assess skin color and capillary refill
- Apply AED if patient in full arrest (see “AED” Protocol)

BLEEDING
- Apply direct pressure to external bleeding and
  Use pressure points or tourniquet for uncontrolled bleeding

VITAL SIGNS
- Obtain Respiratory Rate, Pulse Rate, B/P & Perfusion Status
- Obtain Blood Glucose Determination

HISTORY

HEAD-TO-TOE-EXAM
- All life-threatening problems should be treated as they are found
Pediatric Considerations

1. Airway and breathing problems are the most common cause of cardiac arrest in children.
2. Do not hyperextend the neck when opening the airway in newborns or infants.
3. Use a Bag-Valve-Mask (BVM) or mouth to mask with one-way valve with supplemental oxygen to ventilate a child.
   A. 0yr. To 5 yr. - 400cc BVM (infant size)
   B. 5yr. To 90lbs. – 1000cc BVM (child size)
4. Newborns and infants are more prone to becoming hypothermic (cold). Prevent heat loss.

### VITAL SIGN REFERENCE

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**Trauma Considerations**

**Airway**
Airway remains the top priority while maintaining spinal precautions:

a. Establish and maintain an open airway using the modified jaw thrust.
b. All unconscious patients require an oral or nasal airway.
c. Begin oxygen therapy as soon as possible.
d. If the patient vomits or has fluids in airway: **MAINTAIN SPINAL STABILIZATION AND LOG ROLL PATIENT TO SIDE AS A UNIT** to clear out or suction the airway.

**Spinal Precautions** (manual head stabilization, rigid cervical collar, spine board)
Take spinal precautions whenever a trauma patient has:

a. Experienced a mechanism of injury that could cause an injury to the spine.
b. Loss of consciousness or altered level of consciousness.
c. Any complaint of numbness, tingling or inability to move extremities.
d. Complaints of pain in the head, neck, or back.
e. Evidence of intoxication or under the influence of drugs.
f. Head and/or facial trauma.
g. Penetrating injury to the head, neck or trunk.

**NOTE: If in doubt immobilize.**
Guideline Number – 2000.00

Adult

“SPECIFIC”

Patient Care Guidelines
Adult
“SPECIFIC”

Patient Care Guidelines

Medical Emergencies
# Minnesota BLS Ambulance

**EMS STANDARD OPERATING PROCEDURES**

**Patient Care Guidelines**

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## Guideline Number - 2025.00 rev. 10/17/08

**ALTERED LEVEL OF CONSCIOUSNESS**

### Signs & Symptoms

- Confusion
- Change in level of alertness
- Bizarre behavior
- Combativeness
- Drowsiness
- Unconsciousness

### Causes

- Diabetic emergency
- Drugs/alcohol/poisons (carbon monoxide/pesticides)
- Hypoxia
- Respiratory Distress (low oxygen states or elevated CO2)
- Seizure
- Head Injuries
- Exposure to Environmental Extremes (heat/cold)
- CVA or stroke
- Infections

### History

- S&S (baseline)
- Allergies
- Medications
- Past Medical History:
  - Cardiac
  - Neurological
  - Respiratory
  - Diabetes
  - Exposures
  - Ingestions
  - Drug Use
  - Cancer
  - Recent trauma (Medical alert tags)
- Last Oral Intake
- Events leading up to the injury, illness or fever, any witnesses

### Treatment

#### SPINAL PRECAUTIONS

Take spinal precautions on ANY patient with altered LOC if trauma cannot be ruled out.

**LOC- AVPU**

**AIRWAY**

Establish and maintain open airway

Place oral or nasal airway if unconscious

**OXYGEN**

Obtain Pulse Oximetry Reading

Administer Oxygen at 10 – 15 L/min by mask (OR) Assist ventilations as needed

Consider Non Visualized Airway

**VITAL SIGNS**

Respiratory rate, Pulse, B/P, Perfusion status & Blood Glucose level.

**ASSESS LOC/PUPILS**

AVPU, Orientation, GCS

Note an improvement or deterioration in LOC

### ALS Intercept Considerations

- Airway management required
- Shock
- Unimproved after initial therapy

**Reporting:**

Update dispatch with significant information to be relayed to ALS Crews.

**Assist ALS with:**

- Airway Management
- Vital signs
- IV set up/start Variance Med Administration *(If in scope)*
- CPR
- Transport

### Additional Considerations

- Consider non visualized airway (Combitube/King LT) if unresponsive.
- Be prepared for vomiting.
- Turn to side and clear airway. If the patient is on a backboard, maintain spinal stabilization and turn the patient as a unit (log roll) to side and clear out airway.
**Guideline Number - 2050.00** rev. 10/17/08

**ASTHMA**

**Signs & Symptoms**
- Difficulty breathing and speaking
- Cyanosis
- Anxiety, decreased LOC
- Abnormal respiratory rate (<12 or >20)
- Decreased respiratory depth
- Noisy or labored breathing

**Causes**
- Asthma or Airway Obstruction
- Anaphylaxis
- Cardiac problems
- Hyperglycemia
- Infection
- Trauma
- Drug overdose/Chemical (toxic) exposure
- Stroke
- Pulmonary edema or embolism

**History**
- Signs & symptoms:
- Allergies
- Medications
- Past Medical History:
  - Respiratory problems
  - Cardiac History
  - Hypertension
  - Recent delivery or pregnancy
  - Alcohol, tobacco, or Drug use
  - Recent surgery
- Last oral intake
- Events leading up to incident:
  - Exertion
  - Bee sting
  - Spider bites
  - Exposures
  - Eating
- Recent trauma

**Treatment**

**LOC**
- AVPU

**AIRWAY**
- Establish and maintain open airway

**POSITION**
- Place patient at rest in position of comfort
- Sitting up if conscious
- Recovery position if vomiting or oral secretions

**OXYGEN**
- Administer Oxygen at 10-15L/min by mask
  - (OR) Assist ventilations as needed

**VITAL SIGNS**
- Respiratory rate, Pulse, B/P & Perfusion status, GCS
- Blood glucose level

**MEDICATION**
- Wheezing/Bronchospasms-Inhaler or Nebulizer
- CPAP guideline

**ALS Intercept Considerations**
- Unimproved or worsening condition after initial treatment.
- Decreased LOC

**Reporting:**
- Update dispatch with significant information to be relayed to ALS Crews.

**Assist ALS with:**
- Airway Management
- Vital signs
- IV set up/start (If in scope)
- Variance Med Administration (If in scope)
- CPR
- Transport

**Additional Considerations**
- Ensure a good mask to face seal, no air should escape around the mask during BVM ventilations, have suction unit nearby, ensure oxygen is connected and monitor supply.
- Patients who become unconscious should be laid down
- Nasal cannula is reserved for patients with COPD who complain of only mild distress without symptoms
Behavioral or Psychiatric Emergencies

- Ensuring the safety of EMS personnel is of paramount importance. Always summon law enforcement to secure the scene and patient before attempting to provide medical care. Be aware of items at the scene or medical equipment that may become a weapon.

A. Guidelines for the Management of Uncooperative, Agitated, Violent or Potentially Violent Patients Secondary to a Medical Disorder

1. Assure appropriate police agency has been notified.
2. Follow altered level of consciousness protocol. These patients may be confused, disoriented, agitated, uncooperative, argumentative, lethargic or semi-comatose.
3. Obtain history from family, friends, witnesses or patient if possible.
4. Conduct as thorough a physical examination as can be done under the circumstances.
5. Support ventilation: if possible, administer oxygen via non rebreather or nasal cannula.
6. Keep calm. Do not get angry at the patient. Talk slowly and clearly to the patient. Do not shout or threaten. Constantly reassure the patient and identify yourself and constantly keep the patient informed of what you are doing and why.
7. If the patient becomes violent, or his actions present a threat to his safety or that of others, immediate restraint may be necessary.
8. Transport as soon as possible.

B. Guidelines for the Management of an Obviously Mentally Ill Person Who Is Violent or Considered to be Potentially Violent

1. If physical violence has occurred or there is a likelihood that the patient has access to a weapon, do not intervene. Take precautions for your own safety and that of others at the scene. Call for police assistance and await their arrival.
2. If no violence has occurred and the patient does not have access to weapons and can be approached with minimal danger to EMS personnel:
   a. Attempt to calm the patient.
   b. Do not shout or threaten.

(Continued next page)
Behavioral or Psychiatric Emergencies (Continued)

B. Guidelines for the Management of an Obviously Mentally Ill Person Who Is Violent or Considered to be Potentially Violent (Continued)

c. Identify yourself. Speak slowly, clearly and remain in control of your emotions.
d. Explain why you are there and that you would like to help him/her.
e. If patient continues to present a risk of violence, becomes increasingly agitated and uncooperative, do not force the issue. Withdraw and wait for law enforcement personnel.

C. Restraint Protocol

This is to be used when a patient who is sick or injured (non-mentally ill) because of central nervous impairment, is behaving in such a manner as to interfere with his examination, care and treatment to the extent that he endangers his life or the safety of others. May also be used when restraining and transporting a mentally ill person at the request of a police officer.

1. Clear the area of family and bystanders.
2. Make a plan before any attempt at restraint, assigning specific duties to each member of the team. Designate a team leader.
3. A show of force may initially be sufficient to gain the cooperation of the patient and is preferable to the actual use of force as a first step.
4. Use only as much force as required. Never strike patient.
5. Physically control patient. Apply restraints.
6. Restraints should be of a soft nature, i.e., leather cuffs, cravats, sheets, etc. Apply to the wrists and ankles. Restraints should not cut off circulation. Check CMS every 10 minutes.
7. Once restrained, the patient should be checked for Medical Alert tags, medications or possible weapons.
8. If restrained secondary to central nervous system impairment, overdose or vomiting, keep the patient in the left lateral recumbent position. Hard restraints such as handcuffs are not acceptable.

(Continued next page)
9. Patient should be secured to stretcher only (not backboard) and secured by straps or sheets at the, pelvis, arms, and legs. **Restrain patient supine only.**

10. Patient should never be secured to a vehicle or immovable object.

11. Once restraints have been applied, they should never be removed until the patient is safely in the hospital.

12. Stay with the restrained person at all times. Be observant for possible vomiting. Be prepared to turn the patient and suction if necessary.

13. Transport as soon as possible.

CARDIAC ARREST

Signs & Symptoms

- Unresponsive
- Apneic
- Pulseless
- Multiple unconscious victims (no signs of trauma) Consider a HAZMAT situation – remove yourself from scene until scene safety can be confirmed.

Causes

- Airway obstruction
- Cardiac Rhythm Disturbance/MI
- Drowning
- Drug overdose
- Electroclution
- Hypothermia
- Nerve agent or organophosphate poisoning
- Cyanide
- Trauma

History

- S&S leading to arrest
- Allergies
- Medications
- Past Medical History:
  - Cardiac
  - Respiratory
  - Recent surgery
  - Recent trauma (Medical alert tags)
- Last Oral Intake
- Events leading up to the injury or illness
  - Bystander CPR
  - Down Time
  - Witnessed Arrest

Treatment

AIRWAY
Establish and maintain open airway
Place oral or nasal airway

BREATHING
Utilize BVM with supplemental Oxygen
Consider using ITD (Impedance Threshold Device) as soon as possible

CIRCULATION
Expose chest and begin CPR

AED
Attach Semi-Automatic Defibrillator
See CPR/AED Guideline for further instructions

Note: When you find a public access defibrillator already in use you may use the pre-attached pads and the device unless the pads are incorrectly placed or the device is malfunctioning. An advanced airway should not be placed until after the AED has first analyzed and advised to shock or not to shock.

Additional Considerations

- Move patient to a workable space if appropriate:
  - Out of confined space
  - Onto hard surface
  - Out of bed
- Bring in reserve oxygen tank, assure properly connected.
- Gastric distention may be caused by:
  - Not opening the airway enough.
  - Ventilating with too much volume.
  - Ventilating too rapidly.

Consider ALS Intercept If:

- Available

Reporting:

Update dispatch with significant information to be relayed to ALS Crews.

Assist ALS with:

- Airway Management
- Vital signs
- IV set up/start (If in scope)
- Variance Med Administration (If in scope)
- CPR
- Transport
CARE OF THE NEWBORN

### Signs & Symptoms of Imminent Delivery
- Premature Newborn is one that weighs less than 5 ½ pounds at birth or one that is born before the 37th week of pregnancy.
- Full-term newborn (37-40 weeks)
- Overdue pregnancies - Greater than 40 weeks gestation, have greater risk of complications

### Causes
- Delivery of the full-term newborn
- Delivery of the premature newborn. Premature newborns need special care from the moment of birth.

### History
- Signs & Symptoms
- Due date
- Time of delivery
- Color of amniotic fluid
- Allergies
  - Not established in the newborn
  - Note mother’s allergies
- Medications
  - Note mother’s medications/drug history
- Past Medical History:
  - Mothers
  - Prenatal
- Last oral intake
- Events (abnormal)

### Consider ALS Intercept If:
- Premature Newborn
- CPR required
- Ventilations Required
- APGAR less than 8 at 5 minutes

### Reporting:
Update dispatch with significant information to be relayed to ALS Crews.

### Assist ALS with:
- Airway Management
- Vital signs
- IV set up/start
- Transport

### Treatment

#### AIRWAY
- Suction mouth, then nose with bulb syringe.

**MINIMIZE HEAT LOSS**
- Dry newborn well
- Increase room temperature or move to warm environment.
- Wrap newborn in blanket and place hat or towel on newborns head to prevent heat loss.

#### VITAL SIGNS
- Monitor respiratory rate (normal 30-60/min)
- Monitor pulse rate (normal 120-189)
- Obtain an APGAR score on newborn
- At 1 and 5 minutes after birth (see below)

**If breathing minimal or absent:**
- Provide physical stimulation (rub newborns back)
- If no improvement utilize BVM ventilations (Attach BVM to supplemental oxygen)

**If pulse <60/min after 30 seconds of adequate ventilation:** Begin CPR

### Additional Considerations
- When the nostrils are suctioned the baby may gasp or begin breathing and aspirate or suck any Meconium, blood, fluids or mucus from its mouth into its lungs. This is why you should suction the mouth before the nostrils.
- Most newborns respond well to drying, stimulation, oxygen and if needed bag-mask-ventilation.

### Newborn APGAR

<table>
<thead>
<tr>
<th>Newborn APGAR</th>
<th>0 points</th>
<th>1 point</th>
<th>2 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>heart rate</td>
<td>absent</td>
<td>&lt;100</td>
<td>&gt;100</td>
</tr>
<tr>
<td>respiratory</td>
<td>absent</td>
<td>slow or</td>
<td>strong</td>
</tr>
<tr>
<td>effort</td>
<td>irregular</td>
<td></td>
<td></td>
</tr>
<tr>
<td>muscle tone</td>
<td>floppy</td>
<td>movement</td>
<td>active</td>
</tr>
<tr>
<td>irritability</td>
<td>no response</td>
<td>some</td>
<td>vigorous</td>
</tr>
<tr>
<td>color</td>
<td>blue, pale</td>
<td>blue &amp; pink</td>
<td>pink</td>
</tr>
</tbody>
</table>
Guideline Number - 2200.00 rev. 11/17/11

CHEST PAIN/DISCOMFORT (Suspected MI)

**Signs & Symptoms**
- Chest pain, pressure or discomfort in any adult
- Unexplained jaw, neck, back, arm or shoulder pain
- Syncopal episode (passing out) in any adult
- Unexplained shortness of breath, fatigue, diaphoresis (sweating, pale skin) in any adult (especially elderly)
- Ashen, pale or cyanotic color
- Irregular pulse
- Anxiety, nausea &/or vomiting
- Altered Level of Consciousness (LOC)

**Causes**
- Coronary Artery Disease
- Spasm or Blockage of the coronary arteries (little to no oxygenated blood flow to cardiac muscle)
- Myocardial Infarction (heart muscle death)

**History**
- Specific complaint or signs & symptoms
- Allergies
- Medications
- Past Medical History:
  - Cardiac
  - Respiratory
  - Hypertension
  - Diabetes
  - Recent surgery
  - Recent trauma
  - Drug Use (Medical alert tags)
- Last Oral Intake
- Events leading up to the injury or illness

**Treatment**

**LOC AVPU**

**REASSURE**
Reassure to decrease anxiety
Assess Pain Rating / Scale 1-10

**POSITION OF COMFORT**
Place patient in position of comfort
Usually this is seated, head elevated

**OXYGEN**
Pulse Oximetry Reading
Administer Oxygen at 10-15L/min mask (OR) Assist ventilations as needed

**VITAL SIGNS**
Respiratory rate, Pulse, B/P & Perfusion Status, Glasgow Coma Scale

**MEDICATION**
Aspirin
Nitroglycerin

**Consider ALS Intercept If:**
- Pain not improved after third NTG
- ALS able to obtain/transmit 12-lead ECG
- Hypotension Occurs

**Reporting:**
Update dispatch with significant information to be relayed to ALS Crews.

**Assist ALS with:**
- Airway Management
- Vital signs
- IV set up/start
- Transport

**Additional Considerations**
- Administration of nitroglycerin will require frequent vital signs.
- Consider placing the patient on the automatic blood pressure monitor once an initial manual set of vital signs has been obtained.
- Nitroglycerin should not be given to patients who have taken Viagra, Levitra or Cialis in the last 24 hours.
CHF / PULMONARY EDEMA

**Signs & Symptoms**
- Appears anxious, agitated
- Respiratory Distress
- Rapid, shallow breathing
- Fatigue
- Noisy or “wet-sounding” breathing
- May have wheeze
- May have edema (swelling) to feet and legs
- May exhibit pink frothy sputum

**Causes**
- Congestive heart failure (CHF)
- Heart attack (MI)
- Inhalation injury (chemical or nerve agent)
- Smoke inhalation
- Drug overdose
- Heat
- Cold

**History**
- Specific complaint or signs & symptoms
- Allergies
- Medications
- Past Medical History:
  - Cardiac
  - Respiratory
  - Exposures
  - Recent trauma
  - Drug use (Medical alert tags)
- Last Oral Intake
- Events leading up to the injury or illness

**ALS Intercept Considerations**
- Respiratory Arrest
- Unimproved or worsening condition after initial treatment.
- Severe HTN (SPB > 200 Hg)
- Shock

**Reporting:**
Update dispatch with significant information to be relayed to ALS Crews.

**Assist ALS with:**
- Airway Management
- Vital signs
- IV set up/start *(If in scope)*
- Variance Med Administration *(If in scope)*
- CPR
- Transport

**Treatment**

**LOC**

**AVPU**

**REASSURE**
Reassure to decrease anxiety

**POSITION OF COMFORT**
Place patient in position of comfort
Usually this is seated, head elevated

**OXYGEN**
Administer Oxygen at 10-15L/min mask (OR)
Assist Ventilations as needed

**VITAL SIGNS**
Respiratory rate, Pulse, B/P, Perfusion status & GCS

**MEDICATION**
Nitroglycerine - NTG

**Procedure**
CPAP

**Additional Considerations**
- Be assertive with oxygen even if the patient resists
- Nitroglycerine - NTG administration to be considered after contacting Medical Control
- Patients experiencing “air hunger” are very anxious, and require constant reassurance
- CPAP can reverse pulmonary edema and improve oxygenation by forcing fluid out of the lungs
### Signs & Symptoms
- Confusion, decreased coordination
- Weakness and/or paralysis (usually one sided)
- Slurred speech or inability to speak
- Facial drooping, sensory changes
- Difficulty swallowing or breathing
- High blood pressure
- Headache, gaze preference

**Hypoglycemia may present with same signs!**

### Causes
- Hypertension (HTN)
- Medications (Coumadin, Heparin)
- Cerebrovascular disease
- Cardiac Arrhythmia (Atrial fibrillation & flutter)
- Congenital vascular malformations (Aneurysms)
- Diabetes (causes brittle blood vessels)
- Tobacco usage
- Sickle Cell Disease

### Treatment
**LOC - AVPU**

**AIRWAY**
Establish and maintain open airway
Place oral or nasal airway if unconscious

**POSITION**
Roll non-trauma patient on to side
(Recovery position)

**OXYGEN**
If pulse Oximetry is ≥ to 92% Administer Oxygen at 2 L/min by Nasal Cannula
If pulse Oximetry is < 92% Administer Oxygen 100% NRB (OR)
Assist Ventilations as needed

**VITAL SIGNS**
Assess respiratory rate, pulse, B/P, Perfusion status & GCS

**ASSESS LOC/CMS**
Re-assess Orientation, Document GCS
Obtain blood glucose level,
Perform /Document Cincinnati Stroke Scale
(Assess Facial Droop, Arm Drift, Abnormal speech)

### Consider ALS Intercept If:
- Significant HTN (SBP > 200 mmHg)
- ALS able to transport pt. to stroke center faster
- Airway not secure

**Reporting:**
Update dispatch with significant information to be relayed to ALS Crews.

**Assist ALS with:**
- Airway Management
- Vital signs
- IV set up/start

### History
- Specific complaint or signs & symptoms (onset & duration)
- Allergies
- Medications
- Past Medical History:
  - Cardiac Hypertension
  - Diabetes
  - Recent surgery
  - HX CVA/TIA
  (Medical alert tags)
- Last Oral Intake
- Events leading up to the incident

### Additional Considerations
- Patients with onset of symptoms of less than 6 hours may be a candidate for specialized treatment. *Contact Medical Control (receiving hospital) IMMEDIATELY.*
- Stroke may be so severe the person is unconscious and may have signs of swelling in the brain (e.g. unequal pupils, irregular breathing).
- Monitor and protect all paralyzed limbs when moving patients.
- These patients have difficulty protecting their own airways. Aggressively treat airway problems.
- Be patient with stroke victims as they try to communicate.

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**Guideline Number - 2250.00**

**CVA (Cerebral Vascular Accident) / STROKE**
DIABETIC EMERGENCIES

Signs & Symptoms
- Hypoglycemia (Low Blood Sugar): rapid onset, pale sweaty skin, light headedness, confusion, unusual behavior, may appear intoxicated.
- Hyperglycemia (High Blood Sugar): gradual onset, warm dry flushed skin, drowsy to comatose, deep rapid fruity (acetone) smelling breath.

Causes
- Hypoglycemia (Low Blood Sugar): usually the patient has taken insulin but has not eaten, or is expending more energy than usual through exercise, fever, illness
- Hyperglycemia (High Blood Sugar): has not taken insulin, fever, illness

History
- S&S (skin moist pale or dry flushed)
- Allergies
- Medications (Insulin) or Oral medications
- Past Medical History:
  - Diabetes
  - Drug Use
  - Recent illness (Medical alert tags)
- Last Oral Intake, Last Insulin dose
- Events leading up to the illness

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Consider ALS Intercept if;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Airway</strong></td>
<td>Altered LOC &amp; Glucose Level is High</td>
</tr>
<tr>
<td>Establish and maintain open airway</td>
<td></td>
</tr>
<tr>
<td>Place oral or nasal airway if unconscious</td>
<td></td>
</tr>
<tr>
<td><strong>Position</strong></td>
<td>Unable to administer medication</td>
</tr>
<tr>
<td>Support unresponsive non-trauma patients in recovery position</td>
<td></td>
</tr>
<tr>
<td><strong>Oxygen</strong></td>
<td>Failure to improve after medication administration</td>
</tr>
<tr>
<td>Administer Oxygen 10 – 15 L/min by mask</td>
<td></td>
</tr>
<tr>
<td>(OR) Assist ventilations as needed</td>
<td></td>
</tr>
<tr>
<td><strong>LOC</strong></td>
<td>Reporting</td>
</tr>
<tr>
<td>AVPU, Orientation, GCS</td>
<td></td>
</tr>
<tr>
<td><strong>Vital Signs</strong></td>
<td></td>
</tr>
<tr>
<td>Respiratory rate, Pulse, B/P &amp; Perfusion status, Blood Glucose level</td>
<td></td>
</tr>
<tr>
<td><strong>Medications</strong></td>
<td></td>
</tr>
<tr>
<td>If glucose is less than 80 mg/dL</td>
<td></td>
</tr>
<tr>
<td>Oral Glucose (OR)</td>
<td></td>
</tr>
<tr>
<td>Glucagon (if altered LOC)</td>
<td></td>
</tr>
</tbody>
</table>

Additional Considerations
- Patient may present combative, protect the patient from harm.
- NEVER give oral glucose or any liquid source of sugar to a patient that is unable to protect their own airway. Patient MUST be able to speak and have an intact gag reflex.
HEAT EXHAUSTION / HEAT STROKE

**Signs & Symptoms**
- **Heat Exhaustion:** muscle cramps, weak, dizzy, rapid shallow breathing, weak pulse, heavy perspiration
- **Heat Stroke:** rapid shallow breathing, full rapid pulse, 50% of patients will continue to perspire, dilated pupils, seizures, loss of consciousness or altered mental status

**Causes**
- Exposure to extreme temperatures for a prolonged period of time
- Strenuous activity in warm or hot weather, especially when combined with lack of water.
- Inappropriate clothing, i.e., too many or too heavy in hot weather.

**History**
- Signs & Symptoms: Moist or Dry Skin, Neurological Changes
- Allergies
- Medications
- Past Medical History: Respiratory, Cardiac, Infections (OR), Alcohol or Drug Use, Exertion, Recent Illnesses (Medical alert tags)
- Last oral intake
- Events leading up

**Treatment**

**LOC**

**AVPU**

**AIRWAY**
Establish and maintain open airway
Place oral or nasal airway if unconscious

**OXYGEN**
Pulse Oximetry reading
Administer Oxygen at 10 – 15 L/min by mask
(OR) Assist ventilations as needed

**VITAL SIGNS**
Respiratory rate, Pulse, B/P, Perfusion status & GCS

**REMOVE FROM ENVIRONMENT**
Remove the patient from the environment

**ACTIVE COOLING**
If the patient is confused or unconscious begin active cooling
Remove clothing; apply cool packs to neck, groin and axilla
Keep the skin wet & cool air moving across it
Give water only if patient can manage his or her own airway
Do NOT allow the patient to chill or shiver

**Consider ALS Intercept If:**
- Airway management required
- Shock
- Not improved with initial therapy

**Reporting:**
Update dispatch with significant information to be relayed to ALS Crews.

**Assist ALS with:**
- Airway Management
- Vital signs
- IV set up/start
- Transport

**Additional Considerations**
- Anticipate vomiting in the heat exhaustion patient; roll the patient to the side and clear airway.
- An increased body temperature or overheating associated with a change in level of consciousness, such as confusion or unconsciousness, indicates a life-threatening emergency.
**HYPOTHERMIA**

### Signs & Symptoms
- (99F-96F) shivering
- (95F-91F) intense shivering, difficulty speaking
- (90F-86F) muscle rigidity, uncoordinated, think slow
- (85F-81F) decreased Level of consciousness, slow pulse & respiration
- (80F-78F) Loss of consciousness, few reflexes, heart rate erratic

### Causes
- Conduction-direct transfer of heat from one material to another through direct contact
- Convection-currents of air or water pass over the body
- Radiation-is heat the body sends out in waves
- Evaporation-occurs when the body perspires or gets wet and vaporizes
- Respiration-warmth lost through exhaled air

### History
- **Signs & Symptoms**
  - Predisposing factors
  - Length of exposure
  - Type of heat loss
- **Allergies**
- **Medications**
- **Past Medical History**
  - Alcohol Abuse
  - Drug Use
  - Circulatory Disorders
- **Last Oral Intake**
- **Events leading up to incident**

### Treatment
- **LOC AVPU**
- **AIRWAY**
  - Establish and maintain an open airway
- **OXYGEN**
  - Administer Oxygen at 10 – 15 L/min by mask (OR) Assist ventilations as needed

**VITAL SIGNS**
- Respiratory rate, Pulse, B/P, GCS and perfusion status
- Do pulse check for 30-45 seconds
- If no pulses start CPR attach AED

**REWARM PATIENT**
- Remove wet garments and cover with blankets. Handle patient gently.
- Apply warm packs to neck, armpits, and groin

**Frostbite**
- Frozen limbs should be handled gently,
- Do NOT rub. Do NOT allow the patient to walk on frozen limb
- Cover and immobilize the affected part

### Consider ALS Intercept If:
- Cardiac Arrest
- Airway Management Required
- Fails to improve with initial therapy

### Reporting:
- Update dispatch with significant information to be relayed to ALS Crews.

### Assist ALS with:
- Airway Management
- Vital signs
- Splinting
- IV set up/start
- Transport

### Additional Considerations
- See “Cardiac Arrest” protocols for Hypothermic Arrests.
- Factors that contribute to hypothermia are alcohol ingestion, underlying illness, overdose or poisoning, trauma, environment - being outdoors and decreased ambient temperature.
- Hypothermia can develop in temperatures well above freezing.
- Perform CPR on ALL hypothermic cardiac arrests and continue until rewarming is complete. Patient outcome cannot be determined until rewarming is complete.
- Active rewarming of frozen parts is seldom recommended in the field.
HYPOVOLEMIA / SHOCK

**Signs & Symptoms**
- Pale
- Diaphoretic (sweaty)
- Rapid breathing
- May or may not have a fast heart rate
- Altered level of consciousness
- Hypotension (low blood pressure) *late sign
- Confusion & anxiety

**Causes**
- Blood loss (external or internal)
- Severe dehydration

**History**
- Signs & Symptoms
- Allergies
- Medications
- Past Medical History:
  - Cardiac
  - Respiratory
  - Exposures
  - Drug Use
  - Vomiting
  - Fever
  - Recent Trauma (Medical alert tags)
- Last Oral Intake
- Events leading up to the illness or injury

**Treatment**

**LOC**
AVPU

**SPINAL PRECAUTIONS**
Manually stabilize head to immobilize neck
When moving the patient, keep spine aligned

**AIRWAY**
Establish and maintain open airway
Place oral or nasal airway if unconscious

**OXYGEN**
Pulse Oximetry
Administer Oxygen at 10 – 15 L/min by mask
(OR) Assist ventilations as needed

**CONTROL BLEEDING**
Expose injury sites and apply direct pressure
Cover open wounds with sterile dressings
If direct pressure does not control bleeding
use pressure points or tourniquets

**VITAL SIGNS/LOC**
Respiratory rate, Pulse, B/P,
Perfusion status & GCS
Re-assess AVPU, Orientation, GCS

**POSITION**
Lie patient flat and elevate lower extremities
Keep Patient Warm &
Apply “PASG” Trousers (optional)

**Consider ALS Intercept If:**
- Greater than 30 minutes from definitive care
- Airway compromise
- No response to initial care

**Reporting:**
Update dispatch with significant information to be relayed to ALS Crews.

**Assist ALS with:**
- Airway Management
- Vital signs
- IV set up/start
- Transport

**Additional Considerations**
- Remember a few of the earliest signs of shock are irritability, anxiety, restlessness, increase in heart rate and/or thirst.
- Low blood pressure is a late sign of shock.
## Signs & Symptoms
- Contractions
- Water Broke
- Crowning
- Urge to push or move bowels

## Causes
- Pregnancy with labor
- Imminent Delivery

### History
- Signs & Symptoms
  - Prenatal care
  - Due Date
  - Contractions
  - Meconium
- Allergies
- Medications
- Past Medical History:
  - Previous
  - Pregnancies
  - Diabetes
  - Hypertension
  - Hypotension
  - Pre-eclampsia
  - Cardiac Problems
  - Respiratory Problems
  - Drug Use
- Last Oral Intake
- Event leading up to delivery

### Treatment
**PREPARE FOR DELIVERY**
- Reassure and comfort mother
- Provide a clean environment

**ASSIST DELIVERY**
- Support baby’s head during delivery
- Clear baby’s mouth first
- Then nose w/bulb syringe

*(See Care of the Newborn)*

**UMBILICAL CORD**
- Place 2 clamps on cord
- 8 – 10 inches from baby.
- Cut cord between clamps.

**CONTROL BLEEDING**
- Gently message abdomen over uterus
- Place pad between legs

**VITAL SIGNS**
- Assess respiratory rate, pulse,
  - B/P and perfusion status
- Monitor for signs & symptoms of shock

### Consider ALS Intercept If:
- Premature (< 37 weeks) delivery
- Multiple births (twins, etc.)
- Cord Prolapse
- Breech presentation
- Limb presentation
- Shock

**Reporting:**
- Update dispatch with significant information to be relayed to ALS Crews.

**Assist ALS with:**
- Airway Management
- Vital signs
- IV set up/start
- Transport

### Additional Considerations
- **Do not delay transport for the delivery of the placenta.**
  - Placenta should deliver within 20 minutes. Save placenta and keep with patient. Allow placenta to deliver naturally - **Do NOT** pull on cord

- Some deliveries are abrupt. Do NOT squeeze the baby, but DO provide adequate support. You can prevent an abrupt delivery by using one hand to maintain slight pressure on the baby’s head, avoiding direct pressure on the infant’s soft spot on the skull.

- Do NOT cut or clamp a cord that is still pulsating.

- After the delivery, dry and wrap the baby, if mother is interested in nursing place the baby to breast this will facilitate uterine contraction. If not, and baby is stable allow mother to hold child.

- For delivery complications (e.g. limb presentation, prolapsed cord, breech presentation, prolonged delivery, heavy bleeding) give **Oxygen** at 10 – 15 L/min by mask, **elevate hips**. Contact medical control and transport.

- Contact Medical Control if complications noted upon your arrival.
POISONING – DRUG INGESTION

**Signs & Symptoms**
- Presenting signs & symptoms will depend on the product, agent or drug the patient contacted, ingested, inhaled and/or injected.
- Environmental cues become extremely important (empty bottles, drug paraphernalia, product containers, lingering smells or odors, dead animals, vomit, pills, spray paint cans).

**Causes**
- Inhalation
- Ingestion
- Injection
- Skin contact

**Examples**
Drugs, medications, alcohol, carbon monoxide, household products, plants, or chemicals.

**History**
- Specific signs & symptoms, length of exposure, time of ingestion, vomiting
- Allergies
- Medications (Ipecac)
- Past Medical History: Cardiac
- Suicide Attempts
- Exposures
- Drug Abuse (Medical alert tags)
- Last Oral Intake
- Events leading up to the incident

**Treatment**
**LOC**
AVPU

**AIRWAY**
Establish and maintain open airway
Place an oral or nasal airway if unconscious

**POSITION**
Place non-trauma patient in recovery position

**OXYGEN**
Pulse Oximetry reading
Administer Oxygen at 10 – 15 L/min by mask (OR) Assist ventilations as needed

**VITAL SIGNS**
Assess Respiratory rate, Pulse, B/P & Perfusion status, Document GCS

**ASSESS LOC**
Re Assess AVPU, GCS
If altered level of consciousness
Obtain a blood glucose level.

**CONTACT POISON CONTROL**
1-800-222-1222

**Consider ALS Intercept If:**
- Airway compromise
- Shock

**Reporting:**
Update dispatch with significant information to be relayed to ALS Crews.

**Assist ALS with:**
- Airway Management
- Vital signs
- IV set up/start
- Transport

**Additional Considerations**
- Anticipate vomiting
- Roll to side and clear airway
- Bring bottles or pills etc with patient to ED for identification
- Drug induced behavior is often unpredictable behavior. Always leave yourself an exit.
- Be suspicious of an MCI involving a number of patients complaining with the same complaints (shortness of breath, drooling, and pin-point pupils, tearing, unable to control bowel or bladder, seizures). If found, GET OUT!
RESPIRATORY DISTRESS - COPD

**Signs & Symptoms**
- Difficulty breathing and speaking
- Cyanosis
- Anxiety, decreased LOC
- Abnormal respiratory rate (<12 or >20)
- Decreased respiratory depth
- Noisy or labored breathing

**Causes**
- Emphysema
- Tobacco Use
- Medical Non-compliance
- Infection (precipitates attack)

**History**
- Signs & symptoms:
- Allergies
- Medications
- Past Medical History:
  - Respiratory problems
  - Cardiac History
  - Hypertension
  - Recent delivery or pregnancy
  - Alcohol, tobacco, or Drug use
  - Recent surgery
- Last oral intake
- Events leading up to incident
  - Exertion
  - Bee sting
  - Spider bites
  - Exposures
  - Eating
  - Recent trauma

**Treatment**

### LOC
AVPU

### AIRWAY
Establish and maintain open airway

### POSITION
Place patient at rest in position of comfort
- Sitting up if conscious
- Recovery position if vomiting or oral secretions

### OXYGEN
Pulse Oximetry Reading
Administer Oxygen at 10-15L/min by mask
(OR) Assist ventilations as needed

### VITAL SIGNS
Respiratory rate, Pulse, B/P & Perfusion status, GCS, Blood glucose level

### MEDICATION
For Wheezing/Bronchospasms
- Administer Inhaler or Nebulizer
- CPAP guideline

**ALS Intercept Considerations**
- Unimproved or worsening condition after initial treatment.
- Decreased LOC
- Shock
- Persistent hypoxia

**Reporting:**
Update dispatch with significant information to be relayed to ALS Crews.

**Assist ALS with:**
- Airway Management
- Vital signs
- IV set up/start
- Variance Med Administration (If in scope)
- Transport

**Additional Considerations**
- Ensure a good mask to face seal, no air should escape around the mask during BVM ventilations, have suction unit nearby, ensure oxygen is connected and monitor supply.
- Patients who become unconscious should be laid down
- Nasal cannula is reserved for patients with COPD who complain of only mild distress without symptoms.
Signs & Symptoms

- Generalized (Full Body) Seizure: uncoordinated muscular activity accompanied by LOC
- Partial or Complex Seizures: abnormal behavior, convulsion of part of the body
- Status Seizure: prolonged generalized (full body) seizure and/or no recovery from postictal state

Causes

- Epilepsy
- Diabetic Problems
- Head Injury
- Brain Tumor or Stroke
- Alcohol/Drug Overdose or Withdrawal
- Infections
- Chemical Exposures

History

- S&S (last seizure)
- Allergies
- Medications
  - Are they compliant with prescribed seizure medications?
- Past Medical History:
  - Cardiac
  - Respiratory
  - Exposures
  - Ingestion
  - Recent trauma (Medical alert tags)
- Last Oral Intake
- Events leading up to the seizure, witnesses, LOC, what seizure looked like, frequency and duration.

Treatment

LOC - AVPU
(During Seizure)

Oxygen
Administer Oxygen (blow-by)
Protect patient from harm

POSITION
Support unresponsive non-trauma patient in recovery position
(After Seizure)

Airway
Position to maintain open clear airway
Roll to side to allow secretions to drain

Oxygen
Obtain Pulse Oximetry reading
Administer Oxygen at 10 – 15 L/min by mask
(OR) Assist ventilations as needed

LOC
Re-assess AVPU, Orientation, GCS

Vital Signs
Respiratory rate, Pulse, B/P, Perfusion status & Blood glucose level

ALS Intercept Considerations

- Status Seizures
- Airway compromise
- Shock

Reporting:
Update dispatch with significant information to be relayed to ALS Crews.

Assist ALS with:
- Airway Management
- Vital signs
- IV set up/start
- Variance Med Administration
- Transport

Additional Considerations

- Be prepared for the possibility that the patient sustained a traumatic injury during the seizure or that the seizure is a result of trauma. When in doubt use spinal precautions.
- Assess the airway for tongue lacerations or obstructions such as gum. Suction the airway as needed or appropriate.
- As seizure patients awaken, anticipate spitting or spewing of oral secretions and use shielded facemask or safety glasses.
- Status Seizures exist when one seizure is followed by another without a postictal period or a continuous seizure lasting longer than 5 minutes.
Minnesota BLS Ambulance
EMS STANDARD OPERATING PROCEDURES
Patient Care Guidelines

Guideline Number – 2600.00

Adult
“SPECIFIC”

Patient Care Guidelines

Trauma Emergencies
Guideline Number – 2625.00 rev. 11/17/11

BURNS - CHEMICAL (Contact)

**Signs & Symptoms**
- Irritation or redness to the skin
- Burning to the eyes or other mucous membranes
- Choking or coughing
- Pain at burn site
- Vomiting
- Seizures
- Respiratory Distress/Burning
- SLUDGE Syndrome

**Causes**
- Acids/Alkalis: Wash even after the burning has stopped.
- Dry Lime: Brush lime off FIRST then flush with copious amounts of water.
- Carbolic Acid: Do NOT mix with water.
- Sulfuric Acid: Heat is produced when water is added, flush with copious amounts of water and continue to flush.
- Hydrofluoric Acid: Flush with water, burns are delayed.

**History**
- Signs & Symptoms
- Mechanism of Injury
- Exposure duration
- Confined space
- Exposure type
- Allergies
- Medications
- Past Medical History: Respiratory, Cardiac (Medical alert tags)
- Last oral intact
- Events leading up to incident

**Treatment**

**SCENE SAFETY**
Wear appropriate PPE.

**STOP BURNING PROCESS**
Remove clothing, brush off chemicals from skin
Continuously irrigate eyes or skin with water
Do NOT use neutralizers like vinegar or baking soda

**LOC - AVPU**

**AIRWAY**
Establish and maintain an open airway
Place an oral airway if unconscious

**OXYGEN**
Administer Oxygen at 10 – 15 L/min by mask (OR) Assist ventilations as needed

**VITAL SIGNS**
Respiratory rate, Pulse, B/P, Perfusion status & GCS

**COVER WOUNDS**
Cover with clean dressing or burn sheet
After washing eyes, cover both eyes with moistened pads
Refer to Inhalation Injury Guideline for Respiratory Symptoms

**Consider ALS Intercept if:**
- Airway management required
- Respiratory Distress
- Shock
- Consider Air Medical direct to Burn Center for
  - All acid burns
  - >10 BSA burns

**Reporting**
Update dispatch with significant information to be relayed to ALS Crews.

**Assist ALS with:**
Airway Management
Vital signs
IV set up/start
Assist with transport

**Additional Considerations**
- Wear appropriate PPE to protect yourself from exposures, and control the flushing process to avoid splashing.
- Do NOT contaminate skin that has not been in contact with the chemical.
- Be prepared to address airway concerns.
- Maintain patient's body temperature if there is significant body surface area burn.
- Contact Poison Control 1-800-222-1222
- Consider Hazmat response early
BURNS - THERMAL

**Signs & Symptoms**
- **Superficial Burns**: involves the outer layer of skin, characterized by reddening of the skin and swelling (looks like a sunburn)
- **Partial Thickness Burn**: involves the second layer of skin, there will be intense pain, noticeable reddening, blisters and mottled (spotted) appearance
- **Full Thickness Burns**: all layers of the skin damaged, charred black or brown or dry and white, may have severe pain or no pain at all

**Causes**
- Flame
- Radiation
- Excessive heat from fire
- Steam
- Hot liquids
- Hot objects

**History**
- Signs & Symptoms
  - Mechanism of Injury
  - How long exposed
  - Confined space
  - Facial burns
  - Sooty sputum
  - Stridor or SOB
  - Burn Process Stopped
- Change in Voice
- Allergies
- Medications
- Past Medical History
  - Respiratory
  - Cardiac
  - Immune
  - Vascular
  - (Medical alert tags)
- Last oral intact
- Events leading up to incident

**Treatment**

**SCENE SAFETY**

**STOP BURNING PROCESS**
- Flame: Wet down, smother, Then remove clothing/jewelry
- Semi-solid (grease, tar, wax): Cool with water - do NOT remove from skin.

**LOC - AVPU**

**AIRWAY**

Establish and maintain an open airway
- Place an oral airway if unconscious

**OXYGEN**

Administer Oxygen at 10 – 15 L/min by mask (OR) Assist ventilations as needed

**VITAL SIGNS**

Assess Respiratory rate, Pulse, B/P & Perfusion status

**COVER WOUNDS**

Estimate burn area using “rule of palm” (patient palm = 1%)
- Place dry, sterile dressings on burns to prevent hypothermia. Maintain patient’s body temperature

**Consider ALS Intercept if:**
- Airway Compromise
- Air Medical Directly to Burn Center if:
  - Greater than 10% BSA 2nd degree burns if <10 or >50 y/o
  - 2nd degree greater than 20% BSA
  - 3rd degree greater than 5% BSA to...
- >10% partial thickness; >2% full thickness, circumferential burns, face/hands/perineum/feet;
- Burns associated with trauma

**Reporting**

Update dispatch with significant information to be relayed to ALS crews.

**Assist ALS with:**
- Airway Management
- Vital signs
- IV set up/start

**Additional Considerations**
- Always consider the possibility of an inhalation injury with facial burns, sooty sputum, respiratory distress, voice change and singed facial hair. **BE PREPARED FOR AIRWAY compromise.**
- For burns to hands and feet, be sure to remove rings and jewelry so that swelling does not constrict blood flow. Separate fingers and toes with sterile gauze.
- For burns to eyes, do NOT open eyelids if burned. Apply sterile pad to both eyes to prevent sympathetic movement.
**Electrocution**

### Signs & Symptoms
- Burns where energy enters & exits the body
- Restlessness, irritability, or disorientation
- Muscle tenderness or twitching
- Respiratory difficulties or arrest
- Irregular heart beat or cardiac arrest
- Elevated or low blood pressure (shock)
- Fractures
- Seizures
- Visual disturbances

### Causes
- Alternating current
  - low voltage < 1000 volts
  - high voltage is > 1000 volts
- Direct current
- Lightening

### History
- Signs & Symptoms
- Mechanism of Injury
- Exposure duration
- Current & voltage
- Location of wounds
- Points of contact
- Power source off
- Trauma
- Allergies
- Medications
- Past Medical History:
  - Respiratory
  - Cardiac
  - (Medical alert tags)
- Last oral intact
- Events leading up to incident

### Treatment

#### Scene Safety
Before entering the scene, ensure the electrical hazard has been eliminated.

#### Stop Burning Process
Ensure the power source has been turned off.

#### Spinal Precautions
Manually stabilize head to immobilize neck.
When moving patient keep the spine aligned.

#### LOC - AVPU

- **AIRWAY**
  - Establish and maintain an open airway
  - Place an oral airway if unconscious

- **Oxygen**
  - Administer Oxygen at 10 – 15 L/min by mask
  - (OR) Assist ventilations as needed

- **VITAL SIGNS**
  - Respiratory rate, Pulse, B/P & Perfusion status & GCS

- **COVER WOUNDS**
  - Cover with sterile dressing or burn sheet

- **SPLINT FRACTURES**
  - Splint above & below fracture site
  - (See “Fractures” Protocol)

### Consider ALS Intercept if:
- Cardiac Arrest
- Respiratory Arrest
- Shock
- Irregular pulse
- Multiple Trauma
- Entrance and exit wounds from high voltage current

### Reporting
Update dispatch with significant information to be relayed to ALS crews.

### Assist ALS with:
- Airway Management
- Vital signs
- IV set up/start
- Assist with transport

### Additional Considerations
- Make certain that you and the patient are in a SAFE ZONE.
- Electricity may cause severe injuries with little visible damage.
- Direct attention to monitoring pulse, treating shock and stabilizing injuries.
- All unconscious, apneic, pulseless patients should be treated according to the “Cardiac Arrest/AED Protocol”
- In lightening strikes if multiple casualties treat cardiac arrest victims first.
**Guideline Number - 2700.00 rev. 11/17/11**

**HEAD and SPINE INJURIES**

### Signs & Symptoms
- May have few signs or symptoms, just mechanism of injury alone
- **Head Injuries**: may be unconscious, unequal pupils, irregular breathing, drainage from ears or nose, posturing with arms flexed inward or outward
- **Spinal Injuries**: numbness & tingling arms/legs, inability to feel or move extremities, pain, difficulty regulating temperature, abnormal response to pain, urinating on self, sustained penile erection

### Causes
- Trauma

### History
- Signs & symptoms:
  - Mechanism of Injury
  - CMS, GCS, Vomiting/LOC DCAP-BTLS
- Allergies
- Medications
- Past Medical History:
  - Seizures
  - Cardiac/CVA
  - Brain Injuries
  - Paralysis
  - Cancer
  - Arthritis
  - Osteoporosis
  - Trauma
  - (Medical Alert tags)
- Last oral intake
- Events leading up to incident.

### Treatment

**SPINAL PRECAUTIONS**
- Manually stabilize cervical spine
- When moving patient keep spine aligned
  - LOC
  - AVPU

**AIRWAY**
- Establish and maintain open airway
- Place oral or nasal airway if unconscious

**OXYGEN**
- Pulse Oximetry reading
- Administer Oxygen 10 – 15 L/min by mask
  - (OR) Assist ventilations as needed

**VITAL SIGNS**
- Respiratory rate, Pulse, B/P,
- Perfusion status & Glasgow Coma Scale

**ASSESS CMS**
- Check Circulation, Motion & Sensation
  - (CMS) in extremities before and after back boarding the patient

**BACKBOARD, C-COLLAR**

### Consider ALS Intercept If:
- Neurological Deficit
- Airway compromised
- Shock
- Multisystem trauma

### Reporting:
- Update dispatch with significant information to be relayed to ALS Crews.

### Assist ALS with:
- Airway Management
- Vital signs
- IV set up/start
- Transport

### Additional Considerations
- Anticipate vomiting. If vomiting occurs protect the spine while rolling the immobilized patient as a unit to the side.
- Serious head injuries may result in combative ness or unconsciousness as a result of brain swelling. Other signs and symptoms include: unequal pupils, irregular respirations, posturing, and fluid in ears or nose. Treat with Oxygen, assist respirations as needed.
INHALATION INJURY (Toxic Gas)

**Signs & Symptoms**
- Respiratory Distress/Burning
- Choking or coughing
- Irritation or redness to the skin
- Burning to the eyes or other mucous membranes
- Vomiting
- Seizures
- SLUDGE Syndrome

**Causes**
- Toxic Gas Exposure (Chlorine, Sarin, Mustard Gas)
- Household Chemical Exposures.

**History**
- Signs & Symptoms
- Mechanism of Injury
- Exposure duration
- Confined space
- Exposure type
- Allergies
- Medications
- Past Medical History: Respiratory Cardiac (Medical alert tags)
- Last oral intact
- Events leading up to incident

**Treatment**

**SCENE SAFETY**
Wear appropriate PPE.

**LOC**

**AVPU**

**AIRWAY**
Establish and maintain an open airway
Place an oral airway if unconscious

**OXYGEN**
Pulse Oximetry (treat regardless of reading)
Administer Oxygen at 10 – 15 L/min by mask (OR)
Assist ventilations as needed

**VITAL SIGNS**
Respiratory rate, Pulse, B/P, Perfusion status & GCS

**SECONDARY INJURY**
Treat Chemical skin exposure per the *Burns – Chemical Guideline*
Contact Poison Control 1-800-222-1222

**Consider ALS Intercept if:**
- Airway management required
- Respiratory Distress
- Shock
- Voice changes

**Reporting**
Update dispatch with significant information to be relayed to ALS Crews.

**Assist ALS with:**
Airway Management
Vital signs
IV set up/start
Assist with transport

**Additional Considerations**
- Wear appropriate PPE to protect yourself from exposures.
- Be prepared to address airway concerns.
- Notify Hospital early if concerns of Organophosphate/Nerve Agent exposure.
Guideline Number – 2775.00 rev. 11/17/11
Traumatic Injury - Fractures, Dislocations & Sprains

Signs & Symptoms
- Deformity
- Pain
- Swelling
- Discoloration

Causes
- Trauma
- Disease States (osteoporosis, cancers)

**History**
- **Signs & Symptoms**
  - Mechanism of Injury
  - CMS, DCAP-BTLS
- **Allergies**
- **Medications**
  - (Aspirin or Coumadin)
- **Past Medical History:**
  - Arthritis
  - Cancer
  - Osteoporosis
  - Paralysis
  - Trauma
  - (Medical alert tags)
- **Last Oral Intake**
- **Events leading up to the injury**

**Treatment**

**SPINAL PRECAUTIONS**

**LOC**

**AVPU**

**AIRWAY, BREATHING, CIRCULATION**

**STABILIZE INJURY**

Stabilize in position found until ready to splint

**EXPOSE INJURY SITE**

**CONTROL BLEEDING**

Apply direct pressure if uncontrolled bleeding
use pressure points or tourniquets
Apply sterile dressings to open wounds

**ASSES CMS**

Assess Circulation, Motion & Sensation before and after splinting,
if pulseless or cold do NOT splint

**SPLINT FRACTURES**

Immobilize joint above/below fracture site
Splint joints in position found
Straighten midshaft fractures before splinting
Apply splint, ice packs and elevate extremity.

**VITAL SIGNS**

Respiratory rate, Pulse, B/P, Perfusion Status & GCS

**Consider ALS Intercept if:**
- Pain Management required
- Prolonged Extrication
- Multiple Trauma
- CMS compromise
- Shock

**Reporting:**
Update dispatch with significant information to be relayed to ALS Crews.

**Assist ALS with:**
- Airway Management
- Vital signs
- Splinting
- IV set up/start
- Transport

**Additional Considerations**
- If there is a possible cervical spine injury DO NOT tie a sling around the patient’s neck.
- Consider traction splint for isolated mid-shaft femur fractures only.
- If there is a pulse, motor or sensory problem with an injured limb, you should make one (1) attempt to regain pulses.
Guideline Number – 2800.00 rev. 11/17/11
Traumatic Injuries – Wound Care

Signs & Symptoms

- Closed Wounds (contusion, edema, discoloration, deformity, pain, decreased sensation, hematoma)
- Open Wounds (bleeding, abrasion, laceration, puncture or penetration, avulsion, amputation)

Causes

- Closed Wounds (blunt trauma or crushing injuries)
- Open Wounds (any sharp object, penetration via impaled objects, knives or firearms, spontaneous rupture of blood)

History

- Signs & Symptoms
- DCAP-BTLS
- Allergies
- Medications
  - Blood Thinners
  - Blood Pressure
- Past Medical History:
  - Bleeding disorders
  - Hypertension
  - Cardiac Problems
  - Respiratory Problems
  - Last Tetanus Shot
- Last Oral Intake
- Events leading up to injury or incident

Treatment

Priorities Remain: Spinal Precautions, LOC, Airway, Breathing, Circulation, Control of Bleeding and Oxygen Administration.

WOUNDS
1. EXPOSE injury site
2. COVER open wounds w/dressings
3. CONTROL BLEEDING w/direct pressure.

If bleeding persists, continue direct pressure, consider elevation, pressure dressing, pressure points or tourniquets.

AMPUTATIONS
1. CONTROL BLEEDING (see above)
2. COVER STUMP with saline soaked dressing
3. WRAP AMPUTATED PART in gauze
4. MOISTEN GAUZE with saline
5. Place in PLASTIC BAG
6. Place ON ICE, keep cool but do NOT freeze

IMPALED OBJECTS
1. IMMOBILIZE OBJECT in place, do NOT remove

Exception: objects impaled in cheek may be removed to ensure a patent airway. Be ready for bleeding inside mouth.

CHEST INJURIES
Sucking Chest Wound: (look & feel for subcutaneous air under skin)
1. COVER w/OCCUCLSIVE dressing
2. MONITOR signs of increased respiratory distress
3. If present LIFT one side of dressing
4. Allow AIR TO ESCAPE

Consider ALS Intercept If:

- Uncontrolled Bleeding
- Amputations
- Flail Chest
- Shock
- Airway Compromise
- Penetrating trauma to chest/back/abdomen

Reporting:
Update dispatch with significant information to be relayed to ALS Crews.

Assist ALS with:

- Airway Management
- Vital signs
- Bandaging
- IV set up/start
- Transport

Additional Considerations

- Manual stabilization of flail chest might include the palm of a hand, a folded towel or the use of pillow.
- Signs of increased respiratory distress include decreased LOC, cyanosis, and tracheal deviation, diminished or absent breath sounds.
- Monitor for signs and symptoms of shock.
MEDICATION ADMINISTRATION
Aspirin

Medication name:

- Aspirin, ASA, Ecotrin, Acetylsalicylic acid

Actions:

- Impedes clotting by blocking prostaglandin synthesis, which prevents formation of the platelet-aggregating substance thromboxane A2

Indications:

- Provider Impression Chest Pain/ Discomfort of suspected Cardiac origin.

Contraindications: (do NOT give if)

- Hypersensitivity to drug. Patients with active ulcer disease

Dose:

- Give 324 mg of chewable ASA give within minutes of arrival.

Side Effects:

- Use with caution in patients with GI lesions, impaired renal function, hypoprothrombinemia, vitamin K deficiency, thrombocytopenia, or severe hepatic impairment.
Guideline Number- 3050.00 rev. 10/17/08

Benadryl
(Diphenhydramine hydrochloride)

Medication name:
- Benedryl, Benadryl 25, Benedryl Allergy, Caladryl

Actions:
- Antihistamine

Indications:
- Provider Impression of Anaphylaxis / Allergic Reaction

Contraindications: (do NOT give if)
1. Hypersensitivity to diphenhydramine
2. Newborns or premature infants
3. Nursing mothers

PRECAUTIONS:
1. May cause drowsiness, especially in the elderly
2. Use with caution in patients with glaucoma
3. May potentiate the effects of other sedative and psychiatric agents, especially the MAO inhibitors, with which it should not be used.

Dose:
1. Adult Dose: 25-50 mg ORALLY
   Note: Liquid preparation is preferred over tablets.

Side Effects:
COMMON
1. Dizziness
2. Dryness of mouth, nose, or throat
3. Sedation, sleepiness
4. Thickening of bronchial secretions

SERIOUS
1. Anaphylaxis

ADMINISTRATION:
1. In adult patients presenting signs and symptoms of anaphylaxis and under the direction of medical control, administer 25 mg of Benadryl ORALLY.
2. In pediatric patients presenting signs and symptoms of anaphylaxis and under the direction of medical control, administer 1mg/kg (1 kg = 2.2 lbs) of Benadryl ORALLY.

- If service is unable to contact medical control and signs and symptoms of anaphylaxis are severe, give 25 mg ORALLY (adult) or 1mg/kg (1 kg = 2.2 lbs) ORALLY (pediatric age 1-12, if under age 1 contact medical control for direction). Continue to attempt contact with medical direction.
- Consider ALS intercept
Beta- Agonist Medications
Guideline Number - 3125.00  rev. 11/17/11

Beta-Agonist Medication / Metered Dose Inhaler

*(OPTIONAL) Requires EMSRB Variance Approval per Minnesota Rules 4690.8300 SPECIFIC VARIANCES Subpart 7*

**Medication Name:** Albuterol, Proventil, Ventolin, Metaproterenol, Alupent, Metaprel, Xopenex

**Actions:** dilates bronchioles

**Indications:**
- Provider Impression:
  - Asthma
  - Respiratory Distress - COPD
  - Allergic Reaction
  - CHF/Pulmonary Edema

**Contraindications:**
- Patient is unable to use the device (not alert or unable to be coached)
- Allergy or know hypersensitivity to albuterol

**Dose:** 1 or 2 inhalations every 10 minutes. **Contact medical control if not improved after 2\textsuperscript{nd} dose.**

**Metered Dose Inhaler Administration:**

1. Check right medication, expiration date.
2. Use a spacer.
3. Assure the inhaler is at room temperature.
4. Shake canister vigorously.
5. Ask patient to exhale deeply and place lips around inhaler opening.
6. Ask patient to inhale slowly and deeply as they depress the canister.
7. Have the patient hold their breath for as long as comfortably possible.
8. Replace oxygen mask on patient.
9. Repeat second inhalation as needed in approximately one minute.

**Side Effects:** increases pulse rate, causes tremors or nervousness, headache, chest pain and arrhythmias.

**Pediatric Considerations:** One treatment may be given to children <12 years of age prior to medical control contact. Administer adult strength.

**Ongoing Assessment:** Continue to assess and monitor airway, breathing, circulation and level of consciousness. Continue high-flow oxygen; take frequent vital signs (pulse, respirations, and blood pressure). Observe for deterioration and assist patient with additional puffs of inhaler and/or be prepared to assist ventilations.

**Consider ALS Intercept if not improved after 2\textsuperscript{nd} dose.**
Guideline Number- 3140.00  rev. 11/17/11

Beta-Agonist Medication / Nebulizer

(OPTIONAL) Requires EMSRB Variance Approval per Minnesota Rules 4690.8300

SPECIFIC VARIANCES Subpart7

Medication Name: Albuterol, Proventil, Ventolin, Metaproterenol, Alupent, Metaprel, Xopenex

Actions: dilates bronchioles

Indications:
Provider Impression:
- Asthma
- Respiratory Distress - COPD
- Allergic Reaction
- CHF/Pulmonary Edema

Contraindications:
- Patient is unable to use the device (not alert or unable to be coached)
- Hypersensitivity to Albuterol, Proventil, Ventolin, Metaproterenol, Alupent, Metaprel, Xopenex

Dose:
Ages 1 and up - 1 unit dose every 10 minutes from the completion of previous dose as needed.

CONTACT MEDICAL CONTROL if not improved after second administration.

Using a nebulizer

- Put the liquid medication in the chamber.
- Attach oxygen tubing to the chamber and set the flow rate at 6 – 8 lpm.
- Observe the medication mist coming from the device.
- Have the patient seal their lips around the mouthpiece and breathe deeply or attach the face mask to the chamber and administer via the mask.
- Instruct the patient to hold their breath for a few seconds after breathing if possible.
- Continue until the medication is gone from the chamber.
- Reassess the patient’s level of distress and vital signs.
- Document the patient’s response to the medication.

Side Effects: increases pulse rate, causes tremors or nervousness, headache, chest pain and arrhythmias.

Pediatric Considerations:
- May be administered via Blow By method if child is too young to hold in mouth.
- For ages less than 1 year of age, Contact Medical Control.

Ongoing Assessment:
- Continue to assess and monitor airway, breathing, circulation and level of consciousness.
- Continue high-flow oxygen.
- Take frequent vital signs (pulse, respirations, and blood pressure).
- Observe for deterioration and assist patient with additional puffs of inhaler and/or be prepared to assist ventilations.
- Monitor the patients level on consciousness closely as decreasing level of consciousness is often the first sign of impending respiratory failure.
Dextrose – Oral (Glucose)

**Medication name:**
- Dextrose – Oral, Glucose, Glucosa – Oral, Insta-Glucose

**Indications:**
- Provider Impression Hypoglycemia
- Provider Impression Altered Level of Consciousness (Blood Glucose Level not obtainable)

**Contraindications:** (do NOT give if)
- Any patient who cannot control their own airway.

**Dose:**
- Give 25 grams orally.

**PRECAUTION:**
1. Airway must be carefully maintained.

**ADMINISTRATION:**
1. Perform blood glucose measurement.
2. Administer 1 tube (Glucose = 25 gm per tube, Insta-Glucose = 31 gm per tube) in downside cheek of log-rolled patient.
4. Repeat blood glucose measurement.
5. Notify medical control that oral glucose has been given.

**PEDIATRIC CONSIDERATIONS:**
1. The initial dosage is usually one half of the adult dose.
Guideline Number – 3200.00 rev. 10/17/08
EPINEPHRINE AUTO INJECTOR
(Optional) Requires EMSRB Variance Approval per Minnesota Rules 4690.8300 SPECIFIC VARIANCES Subpart 7

Medication Name:
Epinephrine, Adrenaline, EpiPen or EpiPen Jr.

Actions:
Dilates the bronchioles and constricts blood vessels.

Indications:
Provider Impression Anaphylaxis

Contraindications:
None when used in life threatening situation.

Dose:
Adult- One auto-injector (0.3 mg) repeat in 10 minutes if not improved
Infant & Children One Junior auto-injector (0.15 mg) repeat in 10 minutes if not improved
Contact medical control ASAP if EpiPen used

Epi-Pen Administration:

* Remove cap from auto-injector.
* Place tip of auto-injector against patient’s thigh:
  Lateral (side) portion of thigh midway between waist and knee.
* Push the injector firmly against the thigh until the injector activates.
* Hold the injector in place until the medication is injected (at least 10 sec.)
* Dispose of used auto-injector in the biohazard “sharps” box inside the ambulance.

Side Effects: Increased heart rate, pallor, dizziness, chest pain, headache, nausea, vomiting, excitability, and/or anxiety.

Ongoing Assessment: Continue to assess and monitor airway, breathing and circulation. Continue high-flow oxygen; take frequent vital signs (pulse, respirations, blood pressure). Treat for shock as needed and be prepared to provide life support (BVM, CPR, and AED).

Consider ALS Intercept if EpiPen used as patient may worsen suddenly.
Guideline Number - 3225.00 rev. 11/17/11
Glucagon, IM

(Optional) Requires EMSRB Variance Approval per Minnesota Rules 4690.8300 SPECIFIC VARIANCES Subpart 7

Medication Name: Glucagon, GlucaGen

Actions:
Raises blood glucose level by promoting catalytic depolymerization of hepatic glycogen to glucose. Induces liver glycogen breakdown, releasing glucose from the liver.

Indications:
Provider Impression:
- Diabetic Hypoglycemia
  - Blood Glucose Level of ≤ 80 mg/dL with Symptoms
- Altered Level of Consciousness
  - Suspected Hypoglycemia in the absence of a blood glucose reading.

Contraindications:
- Known hypersensitivity to drug, and in patients with pheochromocytoma or with insulinoma (tumor of pancreas).

Dosage: 1 mg. Intramuscular (IM)
  a. Adult: 1 mg. (whole syringe)
  b. Pediatrics: under 20 kg. (44 pounds) 0.5 of syringe (0.5 mg. or ml.)

Glucagon Administration:

1. Dissolve the lyophilized glucagon in the accompanying diluent
2. Glucagon should not be used at concentrations greater than 1 mg/mL (1 unit / mL).
3. Glucagon solutions should not be used unless they are clear and of a water-like consistency.
4. Contact medical control for additional dosing.

Side Effects: Hyperglycemia (excessive dosage), nausea and vomiting hypersensitivity reactions (anaphylaxis, dyspnea, hypotension, rash), increased blood pressure, and pulse; this may be greater in patients taking beta-blocker medications.

Precautions: Give with caution to patients that have low levels of releasable glucose (e.g., adrenal insufficiency, chronic hypoglycemia, and prolonged fasting).
Nerve agents are the most toxic of the known chemical agents. Agents such as Sarin (GB), Soman (GD), Tabun (GA) and VX are considered major terrorist threats. These agents are organophosphate compounds similar to the pesticides parathion and TEPP. These agents are hazards in their liquid and vapor states and can cause death within minutes after exposure. In their liquid state symptoms may be delayed for hours. Treatment of a victim with nerve agent intoxication consists of immediate decontamination, ventilation, administration of antidotes (Atropine & Pralidoxime Chloride) and supportive therapy. The antidote comes in a double-barreled auto-injector and administration is similar to the Epi-Pen. The Mark 1 Antidote Kit is primarily reserved for the rescuer and/or for paramedic administration.

**Medication Name:**
- Adult Auto-injector #1 (Atropine 2mg)
- Adult Auto-injector #2 (Pralidoxime Chloride 600 mg)
- Pediatric Auto-injectors (Atropine 1mg) – Purple
- Pediatric Auto-injectors (Atropine 0.5 mg) - Blue

**Actions:**
Atropine blocks the effects of excess acetylcholine, dries secretions and decreases wheezing. Pralidoxime Chloride attaches to the nerve agent inhibiting the enzyme that is normally used to break down acetylcholine restoring it to its normal activity.

**Indications:**
- Unexplained Multiple Casualties Incident (MCI)
- Signs & symptoms of nerve agent toxicity or organophosphate poisoning:

**Mild Symptoms:** runny nose, small pupils and eye pain.

**Moderate Symptoms:** DUMBELLS
- D-Diarrhea,
- U-Urination,
- M-Miosis (pinpoint pupils),
- B-Bronchospasms (wheezing),
- E-Emesis (vomiting),
- L-Lacrimation (tearing),
- S-Salivation (drooling)

**Severe Symptoms:** loss of consciousness, seizures and apnea.

(Continued on next page)
MARK 1 "NERVE AGENT" ANTIDOTE KIT
(Continued)

**Contraindications:** Adult auto-injectors (Mark 1 Kits) are contraindicated for pediatric patients or patients < 40 kg.

**Adult Dose:** Use 2 or 3 Mark 1 Kits (#1 Atropine 2 mg & #2 Pralidoxime Chloride 600 mg) for patients over 90 lbs with seizures, severe shortness of breath or unconsciousness (moderate to severe symptoms).

**Pediatric Dose:**
- 1 mg (purple) Atropine auto-injector: 40-90 lbs (4 to 10 year old)
- 0.5mg (blue) Atropine auto-injector: 15-40 lbs (6 month to 4 years old)

Give one every 5 minutes to control secretions.

**Side Effects:** dilated pupils, decrease wheeze, decrease respiratory secretions.

**Ongoing Assessment:** Continue to assess and monitor airway, breathing, circulation, continue high-flow oxygen. Be prepared to suction if necessary. Secondary contamination is a significant risk; rescuers should use appropriate level of contact and respiratory protection.
NITROGLYCERIN

(Optional) Requires EMSRB Variance Approval per Minnesota Rules 4690.8300
SPECIFIC VARIANCES Subpart7

Medication Name: Nitroglycerin, Nitrostat, Nitrolingual, Nitrodur

Actions: Relaxes or dilates blood vessels and decrease the workload of the heart.

Indications:
Provider Impression:
- Chest Pain/Discomfort of Suspected Cardiac Origin
- CHF/ Pulmonary Edema

Contraindications:
- Patient’s systolic blood pressure is <90.
- The patient has taken medications for Erectile Dysfunction within the past 48 hours.- Including Viagra, Cialis and Levitra
- Hypersensitivity to Nitroglycerin.
- Head Trauma

Dose: (Ages 18 and over)
- One tablet or spray Sublingual every 5 minutes until symptoms relieved.
- Stop if systolic blood pressure drops below 110mm/Hg.

NOTE: Contact Medical Control if not improved after 3 doses.

Nitroglycerin Administration:
1. Make sure Nitroglycerin is indicated and the patient has no contraindications.
2. Take blood pressure.
3. Ask patient to lift tongue and place one tablet or spray dose under tongue (while wearing gloves) or have patient place tablet or spray under tongue.
4. Have patient keep mouth closed with tablet under tongue (ask them not to swallow) until the tablet or spray is dissolved.
5. Repeat a blood pressure and reassess the patient’s symptoms.

Side Effects: Hypotension (low blood pressure), headache, pulse rate change.

Ongoing Assessment: Continue to assess and monitor airway, breathing, and circulation.
Continue high-flow oxygen; take frequent vital signs (pulse, respirations, and blood pressure).
OXYGEN

ACTION: Increases arterial oxygen tension (saO2) and hemoglobin saturation

INDICATIONS: LOW CONCENTRATION (24 – 44%):
1. Patients with pulse Oximetry readings >=92%

INDICATIONS: HIGH CONCENTRATION (60–100%):
1. Smoke, carbon monoxide, or toxic gas inhalation.
2. Trauma or suspected blood loss.
3. Hypoxia (pulse Oximetry readings of <92%) from any cause.
4. Respiratory distress, poor capillary refill or other indications of poor oxygenation.
5. Unresponsive patient.
6. Obstetric patients with known or suspected complications.

CONTRAINDICATIONS:
1. None in the prehospital setting.

PRECAUTIONS:
1. This guideline refers to spontaneously breathing and adequately ventilating patients only.
2. High concentration Oxygen in some cases (emphysema and asthma) may depress the respiratory drive; be prepared to assist ventilations, but don’t allow patients to become severely hypoxic for fear of respiratory arrest.
3. Agitation or restlessness can be a sign of hypoxia.
4. Do not use in the presence of open flames.
5. In the treatment for anxiety; hyperventilation should be treated with reassurance and coaching to slow breathing. If the possibility of another underlying cause exists (i.e. pulmonary embolus, asthma, heart attack) then the patient should be treated with oxygen. DO NOT treat any patient by having them breathe into a paper bag or Oxygen mask that is not supplied with Oxygen.

ADVERSE REACTIONS/SIDE EFFECTS:
1. Non-humidified oxygen can dry mucous membranes, but humidified Oxygen is not indicated in the prehospital setting.

ADMINISTRATION:
1. Deliver low concentrations via nasal cannula @ 1-6 lpm
2. Deliver high concentrations via non-rebreather mask @ 6-15 lpm
3. Attempt to obtain and document pulse Oximetry readings before and during Oxygen therapy.

SPECIAL NOTES: Always treat your patient based on signs and symptoms. Do not rely on the pulse Oximetry reading to determine appropriate care. If Oximetry is unavailable, patients should receive high concentration oxygen based on assessment indications.
Guideline Number – 4000.00

EQUIPMENT

&

PROCEDURES
Guideline Number – 4025.00 rev. 10/17/08

BAG-VALVE MASK

Bag-Valve-Mask (BVM)-consists of a self-inflating bag, one-way valve, face mask, and oxygen reservoir. It should always be connected to 15 liters of oxygen, allowing for the oxygen reservoir to fill first and then when squeezed capable of delivering 100% oxygen. The most difficult part of delivering BVM ventilation’s is obtaining an adequate face mask seal. Therefore it is strongly recommended that BVM artificial ventilation be performed by two rescuers.

1. **Two-person BVM ventilation-NO Trauma Suspected:**
   a. Open the patient’s airway using the HEAD-TILT, CHIN-LIFT TECHNIQUE. Suction and insert an airway adjunct (oral or nasal).
   b. Select the correct bag size.
   c. Kneel at the patient’s head. Position thumbs over the top half of the mask, index and middle fingers over the bottom half.
   d. Place the apex or top of the triangular mask over the bridge of the patient’s nose, then lower the mask over the mouth and upper chin. If the mask has a large, round cuff surrounding a ventilation port, center the port over the patient’s mouth.
   e. Use ring and little fingers to bring the patient’s jaw up to the mask and maintain the head-tilt, chin-lift.
   f. With the other hand apply slight pressure over the cricoid cartilage to prevent air entering the stomach (Sellick Maneuver) Avoid pressure on the carotid artery.
   g. The second rescuer should connect bag to mask, if not already done. While you maintain the mask seal, the second rescuer should squeeze the bag with two hands until the patient’s chest rises. If using a BVM with manometer do not exceed 30 cmH20 of pressure.
   h. The second rescuer should release pressure on the bag and let the patient exhale passively. While this occurs the bag is refilling from the oxygen source.

2. **Two-person BVM ventilation: Trauma Suspected:**
   a. Open the patient’s airway USING THE JAW-THRUST TECHNIQUE. Suction and insert an oral airway. (May utilize the Head tilt chin lift if the airway cannot be opened by the jaw-thrust technique.)
   b. Select the correct BVM size.
   c. Kneel at the patient’s head. Place thumbs over the nose portion of the mask and place your index and middle fingers over the portion of the mask that covers the mouth.
   d. Use your ring and little fingers to bring the jaw upward, toward the mask, WITHOUT TILTING THE HEAD OR NECK.
2. Two-person BVM ventilation: Trauma Suspected (continued):
   e. With the other hand apply slight pressure over the cricoid cartilage to
      prevent air entering the stomach (Sellick Maneuver) Avoid pressure on
      the carotid artery.
   f. The second rescuer should squeeze the bag to ventilate the patient as
      described above for the non-trauma patient.
      
      NOTE: If the airway cannot be opened by the Jaw thrust technique,
      revert to the Head tilt chin lift technique as a last resort.

3. One-person BVM ventilation:
   a. Position yourself at the patient’s head and establish an open airway.
      Suction and insert an airway adjunct as necessary.
   b. Select the correct BVM size. Position the mask on the face as described
      above.
   c. Form a “C” around the ventilation port with thumb and index fingers.
      Use the middle, ring and little fingers under the patient’s jaw to hold the
      jaw to the mask.
   d. With your other hand, squeeze the bag. The squeeze should be to the
      point at which you see the chest rise. If using a BVM with manometer
      do not exceed 30 cmH20 of pressure.
   e. Release pressure on the bag and let the patient exhale passively. While
      this occurs the bag is refilling from the oxygen source.

4. If the chest does not rise and fall during BVM ventilation:
   a. Reposition the head.
   b. Check for escape of air around the mask and reposition fingers and
      mask.
   c. Check for airway obstruction or obstruction in the BVM system.
   d. Re-suction the patient if necessary. Insert an airway adjunct if not
      already done.
   e. If none of the above methods work, use a pocket mask with a one-way
      valve.
   f. When ventilating squeeze slowly and gently until you get chest rise.

5. Artificial Ventilation of a Stoma Breather:
   a. Clear any mucous plugs or secretions from the stoma.
   b. Leave the head and neck in a neutral position, as it is unnecessary to
      position the airway prior to ventilation’s in a stoma breather.
   c. Use a pediatric size mask to establish a seal around the stoma.
   d. Ventilate at the appropriate rate for the patient’s age.
e. If unable to artificially ventilate through the stoma, consider sealing the stoma and attempting artificial ventilation through the mouth and nose.

Guideline Number – 4075.00 rev. 10/17/08

CPR/Automatic External Defibrillator (AED)

General Considerations

1. **CPR comes first.** Determine unresponsiveness, open airway and begin CPR.
2. Chest compressions at 100/minute, allowing complete chest recoil by not resting any weight of the rescuer on the patients chest.
3. Do not interrupt CPR except when absolutely necessary
(Continued on next page)

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CPR/Automatic External Defibrillator (AED)
(Continued)

4. OP or NP airway required during BVM ventilation
5. Ventilate at no more than 10 breaths per minute
6. 1 cycle of CPR is 30 compressions and 2 breaths until **Non-visualized airway**
   (Combitube, King LT) inserted or patient intubated THEN deliver 1 breath every
   10 compressions but do not stop compressions for breath to be delivered.
7. Attach **ResQpod** to **Non-visualized airway** (Combitube, King LT)
8. A pulse check may be taken during rhythm analysis as long as it does not
   interfere with the analysis.
9. All contact with patient must be avoided during delivery of shock(s).
10. Automated external defibrillation is not used in cardiac arrest in children under 8
    years of age and less than 90 lbs **unless** using a device with Pediatric pads and
    cables.
11. Preferred placement of AED pads is right upper chest and left lower chest wall
12. Call for ALS backup immediately.
13. Preparation for transport of patient should begin staffing allows
14. Assuming no on-scene ALS, the patient should be transported by the time one of
    the following occurs:
    a. The patient regains a pulse.
    b. Three shocks are delivered.
    c. The machine gives three consecutive messages (separated by two
       minute of CPR) that no shock is advised.
15. If automated external defibrillators can not analyze rhythm properly when
    emergency vehicle is in motion, stop vehicle.

**Operational Steps- Multiple Rescuers**
1. Stop CPR if in progress
2. Verify pulselessness and apnea
3. **If no by-stander CPR:** Have partner resume CPR, perform 2 minutes of CPR
   before defibrillation
4. Turn on defibrillator power and attach device
5. Stop CPR
6. Clear patient
CPR/Automatic External Defibrillator (AED)
(Continued)

7. Initiate analysis of rhythm. If AED advises shock:
   a. Deliver shock
   b. Perform 2 minutes of CPR
   c. Insert Non-visualized airway (Combitube, King LT) and attach ResQPOD
   d. Check Pulse and Analyze Rhythm
   e. If machine advises shock, deliver second shock
   f. If no pulse perform 2 minutes of CPR
   g. Check Pulse and Analyze Rhythm
   h. If machine advises shock, deliver third shock
   i. Perform 2 minutes of CPR
   j. Check pulse and Analyze Rhythm

8. If pulse returns, check breathing and ensure adequate ventilation.

9. If no pulse
   a. Resume CPR for two minutes
   b. Repeat steps 6 - 8. Deliver no more than six shocks without contacting Medical Control for orders.

10. If, after any rhythm analysis, the machine advises no shock, check pulse.
    a. If pulse is present, check breathing, and ensure adequate ventilation.
    b. If no pulse, resume CPR for two minutes and repeat rhythm analysis. If AED advises shock, repeat steps 6 - 8.
    c. If no shock continues to be advised, resume CPR for additional 2 minutes and analyze rhythm again.
    d. If no shock continues to be advised, resume CPR and transport

**Operational Steps - Single rescuer**

1. Verify pulselessness and apnea.
2. Turn on defibrillator power and attach device while beginning narrative.
3. Clear patient

(Continued on next page)
Guideline Number – 4075.00 rev. 10/17/08
CPR/Automatic External Defibrillator (AED)
(Continued)

4. Initiate analysis of rhythm. If AED advises shock:
   a. Deliver shock
   b. Perform 2 minutes of CPR
   c. Check pulse and Analyze Rhythm
   d. If machine advises shock, deliver second shock
   e. Perform 2 minutes of CPR
   f. Check Pulse and Analyze Rhythm
   g. If machine advises shock, deliver third shock
   h. Perform 2 minutes of CPR
   i. Check pulse and Analyze Rhythm

5. If pulse returns, check breathing and ensure adequate ventilation.

6. If no pulse returns continue CPR until ALS arrives

7. If, after any rhythm analysis, the machine advises no shock, check pulse.
   a. If pulse is present, check breathing, and ensure adequate ventilation.
   b. If no pulse, resume CPR for two minutes and repeat rhythm analysis. If AED advises shock, repeat steps 4 and 5
   c. If no shock continues to be advised, resume CPR for additional 2 minute and analyze rhythm again.
   d. If no shock continues to be advised, resume CPR until help arrives

**Post Arrest Care**
In the event that return of spontaneous circulation occurs the initial objectives of post-resuscitation care are to

- Optimize cardiopulmonary function and systemic perfusion, especially perfusion to the brain
- Transport the victim of out-of-hospital cardiac arrest hospital emergency department (ED) and continue an appropriately equipped critical care unit
- Try to identify the precipitating causes of the arrest.
- Institute measures to prevent recurrence
Institute measures that may improve long-term, neurologically intact survival

(Continued on next page)

Guideline Number – 4075.00 rev. 10/17/08

CPR/Automatic External Defibrillator (AED)
(Continued)

Airway

- Ensure Non-visualized Airway/ET is properly secured and patient is easy to ventilate
- Assess pulse Oximetry continuously
- Maintain end-tidal CO2 between 30-40 mmHg. If less than 30 slow ventilation rate. If greater than 40 increase ventilation rate.

Circulation

- Assess presence of pulses and attempt to obtain blood pressure
- If hypertensive monitor frequently

Neurological

- Assess AVPU

Metabolic

- Obtain blood glucose and administer Glucagon if less than 80

Temperature Control

- Do not attempt to warm patient unless hypothermia is the suspected cause of the arrest
- Apply Ice Packs to axial, groin, and neck

Transport

- Transport to nearest facility with post arrest hypothermia capability if one is available
Continuous Positive Airway Pressure has been shown to rapidly improve vital signs, gas exchange, and the work of breathing, decrease the sense of dyspnea, and decrease the need for endotracheal intubation in patients who suffer respiratory distress from asthma, COPD, pulmonary edema, CHF, and pneumonia. In patients with CHF, CPAP improves hemodynamics by reducing preload and afterload.

**INDICATIONS:**
Any patient who is complaining of shortness of breath for reasons other than trauma and:

- Is awake and able to follow commands
- Is over 12 years old and is able to fit the CPAP mask
- Has the ability to maintain an open airway.
- A respiratory rate greater than 25 breaths per minute
- Has a systolic blood pressure above 100mmHg
- Uses accessory muscles during respiration’s
- Sign and Symptoms consistent with asthma, COPD, pulmonary edema, CHF, or pneumonia

**CONTRAINDICATIONS:**
- Patient is in respiratory or cardiac arrest.
- Patients suspected of having a pneumothorax (unequal breath sounds)
- Patients at risk for vomiting.
- Patient has a tracheostomy.

**PRECAUTIONS:**
- Use care if patient:
  - Has impaired mental status and is not able to cooperate with the procedure
  - Has failed at past attempts at noninvasive ventilation
  - Has active upper GI bleeding or history of recent gastric surgery
Complains of nausea or vomiting

(Continued next page)

Guideline Number - 4100.00 rev. 10/17/08
CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP)
(Continued)

PRECAUTIONS (continued):
- Has inadequate respiratory effort
- Has excessive secretions
- Has a facial deformity that prevents the use of CPAP

- If utilizing CPAP with a portable O2 tank, pay particular attention to oxygen levels as small tanks can deplete quickly. When in the ambulance it is preferable to utilize the on-board oxygen.

PROCEDURE:

1. EXPLAIN THE PROCEDURE TO THE PATIENT
2. Ensure adequate oxygen supply to ventilation device (100%)
3. Place the patient on continuous pulse Oximetry.
4. Place the delivery device over the mouth and nose
5. Secure the mask with provided straps or other provided devices
6. Use 5 cm H20 PEEP, If using device with adjustable CPAP do not exceed 10 cmH20 PEEP.
7. Check for air leaks
8. Monitor and document the patient’s respiratory response to treatment
9. Monitor vital signs at least every 5 minutes. CPAP can cause BP to drop.
11. Monitor and document the patient’s respiratory response to treatment
12. Continue to coach patient to keep mask in place and readjust as needed
13. If respiratory status deteriorates, remove device and assist ventilations as needed.

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Guideline Number - 4100.00 rev. 10/17/08

CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP)

(Continued)

REMOVAL PROCEDURE:

1. CPAP therapy needs to be continuous and should not be removed unless the patient can not tolerate the mask or experiences continued or worsening respiratory failure.
2. Consider assisting ventilations manually if the patient is removed from CPAP therapy.
3. CPAP may be discontinued if patient improves dramatically but be prepared to reinstitute CPAP is needed.

PEDIATRIC CONSIDERATIONS:

- CPAP should not be used in children under 12 years of age

SPECIAL NOTES:

- Bronchodilator nebulization may be placed in-line with CPAP circuit.
- Do not remove CPAP until hospital therapy is ready to be placed on patient.
- Most patients will improve in 5-10 minutes. If no improvement within this time, consider assisting ventilations manually.
- Watch patient for gastric distention. Be prepared for vomiting.
- CPAP does not violate DNR Order.
- Request ALS intercept if patient condition does not improve.
Guideline Number – 4140.00 rev. 10/17/08

Glucometer

INSERT Service Specific Guideline
Guideline Number – 4150.00 rev. 10/17/08

Intravenous Access
INDICATIONS:

1. Unresponsive
2. Apparent age > 14 for Adult EZ-IO, < 14 for Pediatric EZ-IO
3. Cardiac Arrest (medical or traumatic)

CONTRAINDICATIONS:

1. Femur or tibia fracture
2. Knee replacement (look for large anterior scar)
3. Severe osteoporosis or tumor of leg
4. Infection at insertion site
5. Inability to locate landmarks or excessive tissue at insertion site

CONSIDERATIONS:

1. Use outside the above indications/contraindications may be authorized by online medical control

EQUIPMENT:

1. EZ-IO driver
2. EZ-IO needle appropriate for age of patient
3. Site prep (Betadine/Alcohol swab)
4. Extension set
5. 10 ml syringe
6. 1000 ml bag of normal saline or lactated ringers
7. Tape/gauze

PROCEDURE:

1. Assemble and prepare all equipment and BSI, including a bag of normal saline with tubing purged.
2. Prep site with betadine or alcohol prep.
3. Locate the patella, tibial tuberosity, and flat surface of the tibia.
4. Verify that target zone is 1 finger width medial to the tibial tuberosity.
5. Open the EZ-IO cartridge and attach the needle set to the driver (there should be a snap).

(Continued next page)
PROCEDURE (continued):

6. Remove the cap from the needle by rotating clockwise until loose and pulling it free.

7. Stabilizing the leg with one hand, position the driver over the site at a 90 degree angle to the bone surface and power the needle through the skin only to the bone surface.

8. Ensure the 5 mm mark (closest to the flange) on the catheter is visible. If the mark is not visible, do not proceed as the needle set is not long enough to penetrate the IO space.

9. Applying firm, steady pressure, power the needle set into the bone until the flange touches the skin or a sudden lack of resistance is felt.

10. While supporting the needle set with one hand, pull straight back on the driver to detach it from the needle set.

11. Grasping the hub firmly with one hand, rotate the stylet counter clockwise until loose, pull it from the hub, place it in the stylet cartridge, and place in a biohazard container.

12. Confirm placement by; visible blood at the tip of the stylet, aspiration of marrow, free flow of IV fluid without evidence of leakage or extravasations.

14. Rapidly infuse a 10 cc flush of N.S.

15. Secure catheter and IV tubing with tape.

16. Watch for soft tissue swelling.

SPECIAL NOTES

1. If drip rate is slow, flush with 10 cc normal saline. If slow drip continues, consider inflating BP cuff on bag to 300 mm/Hg.

2. The device can be removed by grasping the catheter hub and rotating while pulling gently. A syringe can be attached if a larger handle is desired (rotate clockwise)
Assess indications and explain procedure to patient/family.

**Indications:**
Administration of medication, fluids or nutrition.

**Contraindications:**
1. Thrombosis (blood clot in extremity be accessed)
2. Phlebitis (vein infection) or skin infection in extremity
3. Arm on side of mastectomy, dialysis shunt or distal to area of trauma

**Equipment:**
1. Alcohol swab
2. Tourniquet
3. Appropriate size catheter
4. Tape or occlusive dressing
5. IV fluids and IV tubing or saline lock

**Procedure:**
1. **Site selection** will depend on many factors including: Patient comfort, accessibility, urgency of IV access, intended use and patient age. In general, more distal sites should be selected first. This allows use of a more proximal site if initial attempt is unsuccessful. Acceptable sites include: dorsal hand, forearm, antecubital (higher likelihood of position related flow obstruction), foot, lower leg and scalp in children.
2. **Apply** a tourniquet proximal under tension.
3. **Consider** venous dilation; active or passive pumping of an extremity, or gravity.
4. **Clean** skin with alcohol swab.
5. **Stabilize** skin by taught traction distally with the non-dominant hand.
6. **Puncture** skin at a 30º angle, bevel up, just over or parallel to the vein. Once blood is seen in the flash chamber, the catheter is advanced over the needle.
7. **Remove** needle, dispose of in sharps container.
8. **Connect** IV tubing or saline lock.
9. **Open** IV flow to ensure that IV is patent and that no infiltration has occurred.
10. **Adjust** flow rate as appropriate.
11. **Apply** tape or dressing. Additional dressing or tape may be used to prevent accidental removal.

**Guideline Number – 4170.00** rev. 10/17/08
*Peripheral Intravenous Access*
(Continued)
## Complications: Prevention and Management

<table>
<thead>
<tr>
<th>Complication</th>
<th>Prevention</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bruising and hematoma:</td>
<td>Appropriate technique and catheter size.</td>
<td>Apply direct pressure.</td>
</tr>
<tr>
<td>Infection:</td>
<td>Aseptic technique.</td>
<td>(No acute)</td>
</tr>
<tr>
<td>Fluid extravasation:</td>
<td>Assure appropriate catheter function with saline prior to administering medications.</td>
<td>Removal of catheter.</td>
</tr>
<tr>
<td>Thrombosis:</td>
<td>Adequate fluid administration</td>
<td>Remove catheter.</td>
</tr>
<tr>
<td>Obstructed IV lines:</td>
<td>Adequate fluid administration</td>
<td>Aspirate blood if possible, discard, and flush with saline. If unable to aspirate remove catheter.</td>
</tr>
<tr>
<td>Embolism:</td>
<td>Prevent air mixture with fluids; do not allow IV bags to run dry.</td>
<td>Disconnect catheter and allow fluid to fill tubing or aspirate air from a nearby port</td>
</tr>
</tbody>
</table>

Guideline Number – 4175.00 rev. 10/17/08
Non Visualized Airways
Indications:

- Patient is unconscious and unable to protect own airway; no apparent gag reflex.

Contraindications:

- Patient less than five feet in height for standard Combitube, less than 4 feet for Combitube SA (small adult)
- Patient less than twelve years of age
- Responsive patients with an intact gag reflex.
- Patients with known esophageal disease.
- Patients who have ingested caustic substances.
- Known or suspected foreign body obstruction of the larynx or trachea.
- Presence of tracheostomy

Procedure:

- The first priority is to defibrillate the patient in cases of ventricular fibrillation. The AED should be applied first, using conventional airway management, following the AED protocol.
- The Combitube should be placed during the two minutes of CPR between AED analysis. (This may somewhat delay subsequent AED analysis).
- Ventilate the patient prior to Combitube insertion for 10-15 seconds using a BVM with supplemental oxygen.
- Insertion -- done quickly between ventilation (30 seconds)
- Position the patient’s head in a neutral position and grasp the tongue and lower jaw between the index finger and thumb and lift upward (jaw-thrust maneuver).
- Insert the Combitube gently but firmly, following the same direction as the natural curvature of the oropharynx, until the black rings on the tube are positioned slightly beyond the patient’s teeth.
- DO NOT USE FORCE! If the tube does not insert easily, withdraw it and repeat procedure.
- In cases of suspected cervical spine injury, c-spine precautions will be taken at all times.

(Continued on next page)
Caution: When facial trauma has resulted in sharp, broken teeth or dentures remove denture and exercise extreme caution when passing the Combitube into the mouth to prevent the cuff from tearing.

With the other hand, hold the Combitube with the curve in the same directions as the curve of the pharynx. Insert the tip into the mouth and advance carefully until the printed ring is aligned with the teeth. **Caution:** **DO NOT FORCE THE COMBITUBE.** If the tube does not advance easily, redirect it or withdraw and reinsert. Have suction available and ready whenever withdrawing tube.

**NOTE:**
If the Combitube is not successfully placed within 30 seconds, remove the device and ventilate the patient for 30 seconds using basic methods, as described in C above, before re-attempting insertion.

**Inflation of Combitube**

- Inflate line 1, blue pilot balloon leading the pharyngeal cuff, with 100 ml (cc) of air using the 100 ml (cc) syringe. (This may cause the Combitube to move slightly from the patient’s mouth).
- Inflate line 2, white pilot balloon leading the distal cuff, with approximately 20 ml (cc) of air using the 20 ml (cc) syringe.

**NOTE:** *Keep syringes with the patient in case adjustments need to be made.*

**Ventilation**

- Begin ventilation through the longer blue (distal) tube. Watch for chest rise. If auscultation of breath sounds is positive and auscultation of gastric air sounds is negative, continue ventilation.
- If no chest rise, negative lung sounds, and/or positive gastric air sounds with ventilation through the distal tube, begin ventilation through the shorter clear (proximal) tube. Confirm ventilation with chest rise, presence of auscultated lung sounds, and absence of gastric air sounds.

(Continued next page)
Guideline Number – 4185.00 rev. 10/17/08
(Non Visualized Airway)
Combitube
(Continued)

- If there is no chest rise or positive lung sounds through either tube, remove the device, hyperventilate the patient 20-30 seconds as described in C above, and repeat the insertion/inflation/ventilation procedures.
- Continue to ventilate the patient through the tube which resulted in lung sounds using a BVM or a manually triggered oxygen delivery value.

REASSESS TUBE PLACEMENT FOLLOWING EVERY PATIENT MOVEMENT.

- If two consecutive attempts at non visualized airway placement fail to result in a proper placement and ventilation, do not attempt placement again. Ventilate the patient using basic methods and equipment.

Removal of Combitube:

In general it is not appropriate to remove a properly placed Combitube. It may be more appropriate to calm the patient and assist their ventilations. Premature removal of the Combitube may leave the patient with an unprotected airway in the event that their level of consciousness decreases. The return of the patient’s gag is not sufficient reason to remove the Combitube. The patient’s level of consciousness must be sufficient to spontaneously protect their airway.

Indications:

- The patient regains consciousness AND their protective gag reflex returns OR
- Spontaneous ventilation is inadequate with the Combitube in place.

Procedure:

- Position patient on side, using spinal injury precautions when indicated.
- Have suction equipment readily available.
- Deflate cuffs (blue, then white) and withdraw device in smooth steady motion.
- Suction as needed, monitoring airway and respirations closely.
- Be prepared for vomiting
Indications:
- Patient is unconscious and unable to protect own airway; no apparent gag reflex.

Contraindications:
- Patient with an intact gag reflex
- Ingestion of a caustic substance
- Patient less than that approved for King LT-D size being used.

Procedure:
- Don protective eyewear, mask, and gloves
- Ventilate patient with oral/nasal airways and BVM with 100% supplemental oxygen during preparation of King LT-D
- Select appropriate size
  - #3 – for patients 4ft – 5ft
  - #4 – for patients 5ft – 6ft
  - #5 – for patients 6ft and over
- Test Cuffs, remove all air from cuffs
- Apply a water based lubricant to the beveled distal tip and posterior aspect of the tube, taking care to avoid introduction of lubricant in or near the ventilator openings.
- Place patient’s head in a neutral position. If trauma is suspected provide manual cervical spine motion restriction
- Hold the King LT-D at the connector with the dominant hand.
- With the non-dominant hand, hold the mouth open and apply a chin lift.
- Rotate the airway laterally 45-90 degrees such that the blue orientation line is touching the corner of the mouth, introduce the tip into the mouth and advance behind the base of the tongue.
- As the tube tip passes over the tongue, rotate the tube back to the midline so that the blue orientation line faces the patient’s chin.
- Without exerting excessive force, advance the tube until base of the connector is aligned with teeth or gums.
- Inflate the King LT-D with the appropriate sized volume of air.
  - #5 LT-D 70-90 ml, LTS-D 60-80 ml
  - #4 LT-D 60-80 ml, LTS-D 50-70 ml
  - #3 LT-D 45-60 ml, LTS-D 40-55 ml

(Continued next page)
(Non visualized airway)

KING LT-D or LTS-D AIRWAY
(Continued)

Procedure (continued):

- Attach the manual resuscitator bag to the King LT-D.
- While bagging the patient, gently withdraw the tube until ventilation becomes easy and free flowing.
- Adjust cuff inflation if necessary to maintain a seal of the airway at the peak ventilatory pressure employed.
- Confirm correct placement by listening for breath sounds, observing the chest rise and fall.
- Secure the King LT-D with tape. Consider use of C-collar to restrict head movement.
- If using King LTS-D, decompress the stomach by inserting a nasogastric tube though the gastric outlet on the airway.

KING LT-D and KING LTS-D REMOVAL

- Removal of the airway is indicated IF the patient has a return of gag reflex AND ability to protect own airway OR if ventilation is inadequate.
- Don protective eyewear, mask, and gloves.
- Vomiting is likely, have suction ready with yankauer tip.
- If not contraindicated by suspected spinal injury, turn the patient to the side.
- Insert the syringe into the pilot bulb and withdraw all air from the cuff.
- Carefully remove the tube staying alert for vomiting.
- Oxygenate and ventilate as needed.
PNEUMATIC ANTI-SHOCK GARMENT (PASG)

(Optional) Requires MD approval see Minnesota Statutes 144E.101 Subd. 6(d)

**INDICATIONS:**

1. Stabilization of pelvic
2. Compression of external bleeding
3. Intra-abdominal bleeding, suspected ruptured aortic abdominal aneurysm
4. Other causes of shock for which MAST may be helpful:
   a. spinal shock
   b. overdose
   c. septic shock
   d. anaphylaxis

**CONTRAINDICATIONS:**

1. Hypotension associated with heart attack (cardiogenic shock)
2. Pulmonary edema
3. Penetrating trauma anywhere on the body, regardless of other injuries
4. Inflation of the abdominal compartment in pregnancy is a relative contraindication.

**PRECAUTIONS:**

1. Do not deflate PASG without physician order.
2. Physicians or ALS may choose not to use PASG, as it is controversial in its effectiveness.
3. Respiration may need to be assisted after inflation of abdominal section.

**INFLATION PROCEDURE:**

1. Check vital signs and lung sounds. Expose and perform exam of areas that will be covered by PASG
2. Remove articles such as belts with large buckles, keys, etc. from pockets
3. Position patient on the PASG. The top of the garment should be placed just below the lowest rib
4. Wrap garment snugly and secure Velcro. Avoid wrinkles in garment to ensure proper inflation
5. Attach air tubing. Open valves to legs and close valve to abdominal section
6. Inflate both legs until Velcro crackles. Close leg valves
7. Recheck vital signs and lung sounds. If systolic pressure remains low, the physician may order inflation of the abdominal section
8. Inflate abdominal section by opening valve to the abdominal section while leg valves remain closed. Inflate abdominal section until Velcro crackles. Close valve
9. Recheck vital signs and lung sounds after application.
10. Continue to monitor vital signs every 3 to 5 minutes after placement.

(Continued next page)
PNEUMATIC ANTI-SHOCK GARMENT (PASG)

REMOVAL PROCEDURE:

1. Deflate only under controlled circumstances at the direction of the physician.
2. Never deflate entire PASG at once. Deflate abdominal section first, then each leg separately.
3. Deflate slowly – 15 to 20 minutes for each section. Detach tubing at abdominal valve, place thumb over connector and open valve. Release air slowly by thumb control.
4. Continue to monitor BP every 2 – 3 minutes throughout deflation procedure.
5. If BP drops by 5 mmHg, stop deflation until BP is stabilized by further volume replacement.

PEDIATRIC CONSIDERATIONS:

1. Inflation in pediatric patients is per physician order only

SPECIAL NOTES:

1. Head injury is not a contraindication
2. The PASG should not be used for lower extremity long bone splinting. These injuries should be splinted using standard splinting devices or traction splints, when appropriate
Pulse Oximetry Readings

- >95% Normal
- 90-95% Evaluate Patient: Begin Oxygen
- 85-90% Evaluate Patient: Begin 100% Oxygen & Treat Aggressively
- <85% Major Crisis: Evaluate, Begin 100% Oxygen & Treat Aggressively

**INDICATIONS:**
1. Respiratory distress/complaints
2. Cardiac problems
3. Multiple system trauma
4. Poor color
5. Patients requiring use of airway adjuncts and/or assisted ventilation's
6. Suspected shock
7. Altered level of consciousness

**NOTE:** Never withhold Oxygen from a symptomatic patient regardless of the pulse Oximetry reading.

**PRECAUTIONS:**
1. Patients with hemoglobin disorders such as CO poisoning, anemia, and methemoglobinemia may give artificially high saO2 readings. Readings in such patients should be interpreted with extreme caution
2. Pulse Oximetry readings may be difficult to obtain in states of low perfusion

**PROCEDURE FOR PATIENTS WITH SaO2 <90% OR FALLING SaO2:**
1. Check airway and manage as indicated
2. Increase oxygen delivery (increase liter flow) and/or assist ventilation
3. Check pulse Oximetry device placement. Possible causes of inaccurate readings include:
   - Excessive movement, ambient light or temperature
   - Moisture in the sensor or sensor not at heart level.
   - Cold, blue fingertips (do NOT use thumbs)
   - Sensor placed on same arm blood pressure is being obtained on
   - Improperly attached sensor (look for consistent flashing green light)
   - Incorrect sensor for patient (do NOT use on neonates or infants)
   - Poor patient perfusion (light should blink green and heart rate digital reading should be the same as the patients radial pulse when taken)
   - Anemia, low or misleading hemoglobin concentrations (CO poisoning, ingested fingernail polish)

(Continued next page)
**PEDIATRIC CONSIDERATIONS:**
1. Special probes may be required to obtain readings in pediatric patients

**SPECIAL NOTES:**
1. Best probe site in adults is usually the middle fingertip with nail polish removed
2. Attempt to obtain and document pulse Oximetry readings before and during oxygen therapy
3. The use of pulse Oximetry as a vital sign is encouraged, as the oximeter may be helpful in detecting hypoxia not evidenced by signs or symptoms
4. Sensor sites (fingertips) must be checked periodically to determine sensor positioning, skin sensitivity and circulation (pink, warm, warm, capillary refill less than 2 seconds).
5. Clean Oximeter with Disinfectant
ResQPOD®

The ResQPOD Circulatory Enhancer provides a small but important amount of resistance when the patient inhales through the device. This resistance increases blood flow back to the heart which increases the preload of the heart.

INDICATIONS:
Cardiac arrest (ResQPOD)

CONTRAINDICATIONS:
Do not use in patient < 12 y/o or under 100 lbs.

PROCEDURE:
A. Select airway adjunct (mask, Combitube, or King Airway).
B. Turn timing lights on with an advanced airway (Combitube or King Airway). The timing lights indicate when a ventilation should be administered.
C. Continue CPR allowing complete chest re-coil after each compression.
D. Assure proper ventilation rates.
   1) 30:2 mask Rate
   2) 8-10/min—advanced airway rate.
E. Place ResQPOD between adjunct and bag-valve mask with supplemental Oxygen and ensure the mask has a continuous tight seal.
F. Ensure Combitube or King Airway is properly placed and secured with a mechanical tube holder.
   Use caution so additional weight of ResQPOD does not move the Combitube or King Airway.
G. Document time ResQPOD is placed in circuit and any changes in skin color.
H. If ResQPOD fills with blood/emesis/fluid, remove and shake the fluid out. Re-apply and continue ventilations.

If EMS providers or hospital staffs have not been trained in the ResQPOD, discontinue use. Only healthcare providers who are trained in the use of the ResQPOD should use the device.
INDICATIONS:

5. Control of life threatening extremity hemorrhage not controlled by direct pressure
6. Unstable multisystem trauma patient with severe extremity bleeding when there are not enough personnel to either hold direct pressure or frequently reassess a pressure dressing

CONTRAINDICATIONS:

1. Bleeding that can be controlled by direct pressure

PRECAUTIONS:

1. Commercial tourniquets that are at least 2 inches in width decrease the risk of tissue damage
2. Once a tourniquet is applied it should only be removed by a physician

PROCEDURE:

1. Identify that patient has bleeding which requires a tourniquet
2. Apply tourniquet at least 4-6 inches proximal (above) the site of injury
3. Tighten tourniquet until bleeding stops
4. Secure the device in place
5. Note time of device application
6. Transport

SPECIAL NOTE:

1. Recent data from the military demonstrate that tourniquets are safe and effective in treating life threatening external hemorrhage
2. When an artery is severed it tends to retract up into the wound. This is why the tourniquet must be placed 4-6 inches above the site of the injury.
3. There are several commercial tourniquets available. The Combat Application Tourniquet™ is the device currently used by the US Army.
APPENDIX
**ACCEPTED ABBREVIATIONS**

↑  increase(d)
Ø  None
↓  decrease(d)
≈  approximately
#  pound
Δ  Change
♂  Male
♀  Female
(L)  Left
@  At
(R)  Right
a  Before
1°, 2°, 3°  first degree, second degree, third degree
2x, 3x  2 times, 3 times, etc.
AAA  abdominal aortic aneurysm
A & O x 3  alert and oriented to person, place, time
A-fib  atrial fibrillation
A-flut  atrial flutter
A-tach  atrial tachycardia
AB  abortion, miscarriage
ABCs  airway, breathing, and circulation
ABD  Abdomen
AED  automatic external defibrillator
AMA  against medical advice
AMI  acute myocardial infarction
Amb  ambulance
amt.  Amount
ant.  Anterior
approx.  approximately
ASA  acetylsalicylic acid (aspirin)
ASAP  as soon as possible
ASHD  arteriosclerotic heart disease
ATV  automatic transport ventilator
AV  atrioventricular
BBB  bundle branch block
Bicarb  Bicarbonate
bilat.  Bilateral
BM  bowel movement
BP  blood pressure
brady  bradycardia
BS  blood sugar, breath sounds

(Continued next page)
**Accepted Abbreviations**

(Continued)

<table>
<thead>
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<th>Description</th>
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<tr>
<td>BSI</td>
<td>body substance isolation</td>
</tr>
<tr>
<td>BVM</td>
<td>bag-valve mask</td>
</tr>
<tr>
<td>c</td>
<td>With</td>
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<tr>
<td>C-1, etc.</td>
<td>first cervical vertebrae</td>
</tr>
<tr>
<td>C/O</td>
<td>complaining of</td>
</tr>
<tr>
<td>Ca</td>
<td>Cancer</td>
</tr>
<tr>
<td>CC</td>
<td>chief complaint</td>
</tr>
<tr>
<td>cc</td>
<td>cubic centimeter</td>
</tr>
<tr>
<td>CHF</td>
<td>congestive heart failure</td>
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<tr>
<td>CHI</td>
<td>closed head injury</td>
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<tr>
<td>CMS</td>
<td>Circulation, movement, sensation</td>
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<tr>
<td>CNS</td>
<td>central nervous system</td>
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<tr>
<td>CO</td>
<td>carbon monoxide</td>
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<td>carbon dioxide</td>
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<tr>
<td>COPD</td>
<td>chronic obstructive pulmonary disease</td>
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<td>CPAP</td>
<td>Continuous positive airway pressure</td>
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<td>CPR</td>
<td>cardiopulmonary resuscitation</td>
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<td>CSF</td>
<td>cerebrospinal fluid</td>
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<td>CVA</td>
<td>cerebrovascular accident (stroke)</td>
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<td>D50W</td>
<td>50% dextrose in water</td>
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<td>D5W</td>
<td>5% dextrose in water</td>
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<tr>
<td>DC</td>
<td>Discontinue</td>
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<td>DNR</td>
<td>do not resuscitate</td>
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<td>DOA</td>
<td>dead on arrival</td>
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<tr>
<td>DOB</td>
<td>date of birth</td>
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<td>DTs</td>
<td>delirium tremens</td>
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<td>Dx</td>
<td>Diagnosis</td>
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<tr>
<td>ECG</td>
<td>electrocardiogram</td>
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<td>ED</td>
<td>emergency department</td>
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<td>eg</td>
<td>for example</td>
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<tr>
<td>ENT</td>
<td>ear, nose and throat</td>
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<td>ETT</td>
<td>endotracheal tube</td>
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<td>ethyl alcohol</td>
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<td>exp.</td>
<td>Expiratory</td>
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<td>FBAO</td>
<td>foreign body airway obstruction</td>
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<td>Fx</td>
<td>Fracture</td>
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<td>G</td>
<td>gravida</td>
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<tr>
<td>GCS</td>
<td>Glasgow coma scale</td>
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Accepted Abbreviations

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<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
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<td>GI</td>
<td>gastrointestinal</td>
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<tr>
<td>GSW</td>
<td>gunshot wound</td>
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<td>drops</td>
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<td>h/o</td>
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<td>H&amp;P</td>
<td>history physical</td>
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<tr>
<td>HA</td>
<td>headache</td>
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<td>HEENT</td>
<td>head, eyes, ears, nose and throat</td>
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<td>Hep A</td>
<td>hepatitis A</td>
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<td>Hep B</td>
<td>hepatitis B</td>
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<tr>
<td>Hep C</td>
<td>hepatitis C</td>
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<tr>
<td>HIV</td>
<td>human immunodeficiency virus</td>
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<td>HPI</td>
<td>history of present illness/injury</td>
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<td>HR</td>
<td>heart rate</td>
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<td>HTN</td>
<td>Hypertension</td>
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<td>History</td>
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<td>IM</td>
<td>Intramuscular</td>
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<td>intracardiac defibrillator</td>
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<td>Intravenous</td>
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<td>JVD</td>
<td>jugular vein distention</td>
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<td>Lac</td>
<td>Laceration</td>
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<td>LLQ</td>
<td>left lower quadrant</td>
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<td>LMP</td>
<td>last menstrual period</td>
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<td>LOC</td>
<td>loss/level of consciousness</td>
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<tr>
<td>LS</td>
<td>lung sounds</td>
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<td>LUQ</td>
<td>left upper quadrant</td>
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<tr>
<td>MAE</td>
<td>moves all extremities</td>
</tr>
<tr>
<td>MCA</td>
<td>motorcycle accident</td>
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<tr>
<td>Mcg</td>
<td>Microgram</td>
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<tr>
<td>MDI</td>
<td>metered dose inhaler</td>
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<td>Meq</td>
<td>Milliequivalent</td>
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<td>Milligram</td>
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<td>MI</td>
<td>myocardial infarction</td>
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<td>Mid</td>
<td>Middle</td>
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<td>mg</td>
<td>1 mg (no trailing 0) 0.1 mg</td>
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<td>Milliliter</td>
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<td>mod</td>
<td>Moderate</td>
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### Accepted Abbreviations (Continued)

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<tr>
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<tr>
<td>MgSO₄</td>
<td>Do not use – write Magnesium Sulfate</td>
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<tr>
<td>MS/MSO₄</td>
<td>Do not use- write morphine sulfate</td>
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<td>MVC</td>
<td>motor vehicle crash</td>
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<td>N &amp; V</td>
<td>nausea and vomiting</td>
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<td>NAD</td>
<td>no acute distress</td>
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<td>NaHCO₃</td>
<td>sodium bicarbonate</td>
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<td>neg./-</td>
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<td>Nasogastric tube</td>
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<td>normal saline</td>
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<td>oxygen saturation</td>
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</tr>
<tr>
<td>occ.</td>
<td>occasional</td>
</tr>
<tr>
<td>OD</td>
<td>overdose</td>
</tr>
<tr>
<td>p</td>
<td>after</td>
</tr>
<tr>
<td>P</td>
<td>pulse</td>
</tr>
<tr>
<td>p.o.</td>
<td>by mouth, orally</td>
</tr>
<tr>
<td>p.r.n.</td>
<td>as needed</td>
</tr>
<tr>
<td>PAC</td>
<td>premature atrial contraction</td>
</tr>
<tr>
<td>palp.</td>
<td>palpated, palpation</td>
</tr>
<tr>
<td>PCT</td>
<td>pneumatic compression trousers</td>
</tr>
<tr>
<td>PAT</td>
<td>paroxysmal atrial tachycardia</td>
</tr>
<tr>
<td>PE</td>
<td>physical exam, pulmonary embolism</td>
</tr>
<tr>
<td>ped.</td>
<td>pediatric</td>
</tr>
<tr>
<td>PEEP</td>
<td>positive end expiratory pressure</td>
</tr>
<tr>
<td>PERRL</td>
<td>pupils equal, round, react to light</td>
</tr>
<tr>
<td>PG</td>
<td>pregnant, pregnancy</td>
</tr>
<tr>
<td>PID</td>
<td>pelvic inflammatory disease</td>
</tr>
<tr>
<td>PMH</td>
<td>past medical history</td>
</tr>
<tr>
<td>PNB</td>
<td>pulseless, not breathing</td>
</tr>
<tr>
<td>pos./+</td>
<td>Positive</td>
</tr>
<tr>
<td>post.</td>
<td>Posterior</td>
</tr>
<tr>
<td>PSVT</td>
<td>paroxysmal supraventricular tachycardia</td>
</tr>
<tr>
<td>Pt.</td>
<td>Patient</td>
</tr>
<tr>
<td>PTCA</td>
<td>percutaneous transvenous coronary angioplasty</td>
</tr>
<tr>
<td>PVC</td>
<td>premature ventricular contraction</td>
</tr>
<tr>
<td>q.</td>
<td>Every</td>
</tr>
</tbody>
</table>

(Continued next page)
### Accepted Abbreviations (Continued)

- **R**  Respirations  
- **R/O**  rule out  
- **RLQ**  right lower quadrant  
- **RLS**  red lights and siren  
- **ROM**  range of motion  
- **RR**  respiratory rate  
- **RSI**  rapid sequence induction  
- **RUQ**  right upper quadrant  
- **Rx**  Treatment  
- **s**  Without  
- **SBP**  systolic blood pressure  
- **SC**  subcutaneous  
- **S-brady**  sinus bradycardia  
- **S-tach**  sinus tachycardia  
- **SIDS**  sudden infant death syndrome  
- **SL**  Sublingual  
- **SO**  standing order  
- **SOB**  shortness of breath  
- **SPO2**  oxygen saturation via pulse oximeter  
- **SVT**  supraventricular tachycardia  
- **Sx**  Symptoms  
- **T**  temperature  
- **tach.**  Tachycardia  
- **TB**  Tuberculosis  
- **TBSA**  total body surface area  
- **TIA**  transient ischemic attack  
- **TKO**  to keep open  
- **TTA**  trauma team activation  
- **Tx**  treatment  
- **URI**  upper respiratory infection  
- **UTI**  urinary tract infection  
- **V-fib**  ventricular fibrillation  
- **V-tach**  ventricular tachycardia  
- **VO**  verbal order  
- **VS**  vital signs  
- **w/c**  wheelchair  
- **WNL**  within normal limits  
- **Y/O**  year old
REFERENCE CHARTS
Burn Charts

BURN CHART
(Note: only 2° & 3°burns are counted)

Adult

Child

Infant

PARKLAND FORMULA*
(IV fluids for first 8 hours)

\[
\% \text{ Burn Area} \times \text{Pt. Wt. in Kg} = \text{cc/hr} \div 4
\]

Example: 20% TBSA; patient weight - 70 kg:

\[
\frac{20 \times 70 - 1400}{4} = 350 \text{ cc/hr NS}
\]

This formula does not apply to patients in shock. The patient in shock needs more aggressive IV fluid replacement.

THE PATIENT’S PALM equals approximately 1% of their total body surface area.
TABLE 1. The Cincinnati Prehospital Stroke Scale

Facial Droop (have patient show teeth or smile):
- Normal—both sides of face move equally
- Abnormal—one side of face does not move as well as the other side

Left: normal. Right: stroke patient with facial droop (right side of face).

Arm Drift (patient closes eyes and holds both arms straight out for 10 seconds):
- Normal—both arms move the same or both arms do not move at all (other findings, such as pronator drift, may be helpful)
- Abnormal—one arm does not move or one arm drifts down compared with the other

Abnormal Speech (have the patient say “you can’t teach an old dog new tricks”):
- Normal—patient uses correct words with no slurring
- Abnormal—patient slurs words, uses the wrong words, or is unable to speak

Interpretation: If any 1 of these 3 signs is abnormal, the probability of a stroke is 72%.
### GLASGOW COMA SCALE

<table>
<thead>
<tr>
<th><strong>Eye Opening Response</strong></th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous - Already open with blinking</td>
<td>4</td>
</tr>
<tr>
<td>To Speech - Not necessary to request eye opening</td>
<td>3</td>
</tr>
<tr>
<td>To Pain - Stimulus should not be to the face</td>
<td>2</td>
</tr>
<tr>
<td>None - Make note if eyes are swollen shut</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Verbal Response</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oriented - Knows name, age, etc.</td>
<td>5</td>
</tr>
<tr>
<td>Confused conversation - Still answers all questions</td>
<td>4</td>
</tr>
<tr>
<td>Inappropriate Words - Speech is either exclamatory or at random</td>
<td>3</td>
</tr>
<tr>
<td>Incomprehensible sounds - Do not confuse with partial respiratory obstruction</td>
<td>2</td>
</tr>
<tr>
<td>None - Make note if patient is intubated</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Best Upper Limb Motor Response (Pain applied to nailbed)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Obeys - Moves limb to command; Pain is not required</td>
<td>6</td>
</tr>
<tr>
<td>Localizes - Changing the location of the painful stimulus causes the limb to follow</td>
<td>5</td>
</tr>
<tr>
<td>Withdraws - Pulls away from painful stimulus</td>
<td>4</td>
</tr>
<tr>
<td>Abnormal flexion - Decorticate posturing</td>
<td>3</td>
</tr>
<tr>
<td>Extensor response - Decerebrate posturing</td>
<td>2</td>
</tr>
<tr>
<td>No response</td>
<td>1</td>
</tr>
</tbody>
</table>
Do Not Resuscitate
POLST - Guideline Number – 5325.00 rev. 11/17/11
Provider Orders for Life Sustaining Treatment (POLST)

POLST translates an advance directive into provider orders.

Link to POLST Form:
http://www.mnmed.org/LinkClick.aspx?fileticket=Xsrrd0zv540%3D&tabid=3291
### Guideline Number – 5500.00 rev. 10/17/08

#### Medical Director Skill Assessment Verification

Minnesota Statutes, section 144E.265, subpart 3: Annually, the medical director or the medical director’s designee shall assess the practical skills of each person on the ambulance service roster and sign a statement verifying the proficiency of each person. The statements shall be maintained in the ambulance service licensee’s files.

I, as medical director for ____________________________ Ambulance Service verify that each of the following ambulance service personnel has been assessed for practical skill proficiency by me or my designee and is approved to provide care in accordance with the protocol/guidelines established for the ambulance service.

<table>
<thead>
<tr>
<th>Name</th>
<th>Certification</th>
<th>Date of Training</th>
<th>Level</th>
<th>MN Certification #</th>
<th>Exp. Date</th>
</tr>
</thead>
</table>

Medical Director______________________________  MN Physician License #_______

(Print Name)

Signature________________________________________  Date_____________________

(Original Signature)
Guideline Number – 5550.00 rev. 10/17/08

Medical Director Variance Medication Annual Skill Verification

Minnesota Rules, section 4690.8300, subpart 8: In order to maintain a variance granted under subpart 7 (Variance for certain drugs.), the licensee’s medical director shall, by the annual anniversary date of the approved variance: a) provide a list of the licensee’s attendants; b) certify in writing that each attendant has satisfactorily completed the required training and retained skill proficiency; and c) certify in writing that, prior to allowing an attendant who was hired after the variance was granted to administer a drug specified in subpart 7, the attendant satisfactorily completed the required training.

Documentation of items a) through c) shall be retained in the licensee’s files.

Variance Medications Granted:
Beta Agonist by Metered Dose Inhalation  _____ Beta Agonist by Nebulization  _____
Premeasured Subcutaneous Epinephrine  _____ Sublingual Nitroglycerine  _____
Premeasured Intramuscular of Subcutaneous Glucagon  _____

I, as medical director for _____________________ Ambulance Service, verify that each of the following ambulance service personnel has completed continuing education training and showed skill proficiency for the above listed variance medications in accordance with the protocols/guidelines I have established and approved.

<table>
<thead>
<tr>
<th>Name</th>
<th>Date of Training</th>
<th>Certification Level</th>
<th>MN Certification #</th>
<th>Exp. Date</th>
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</tbody>
</table>

Medical Director ____________________________ MN Physician License # ______________
(Print Name)

Signature _________________________________ Date ______________
Guideline Number – 5600.00 rev. 10/17/08

Annual Medical Director Approval of Specific Procedures for Basic Life Support Services

Service Medical Director: Initial each procedure below that has been approved for your ambulance service. This will verify that protocol/guidelines, training, ongoing training, and quality assurance plans are in place and currently approved by you in accordance with Minnesota Statutes, section 144E.101, subdivision 6.

Esophageal Tracheal Airway:
Type of airway authorized (initial those that apply):
  _____ Combi-Tube®
  _____ King®
  _____ Other ________________________ (specify)

Intravenous Infusion: ____________ Authorized for EZ-IO®: _________

Medical Anti-shock Trousers: _________

I, as medical director for ____________________________ Ambulance Service, verify the following ambulance service personnel have completed training and/or ongoing training (continuing education) within the past year, and are authorized by me to use the equipment necessary to provide care in accordance with the protocol/guidelines I have established and approved.

<table>
<thead>
<tr>
<th>Name</th>
<th>Certification Level</th>
<th>MN. Certification #</th>
<th>Certification Exp.</th>
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<tbody>
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</tbody>
</table>

Medical Director: ____________________________    MN. Physician License #: __________
(Print Name)
Guideline Number – 5650.00  
Medical Director Skill Assessment Verification - Designee

Minnesota Statutes, section 144E.265, subpart 3: Annually, the medical director or the medical director’s designee shall assess the practical skills of each person on the ambulance service roster and sign a statement verifying the proficiency of each person. The statements shall be maintained in the ambulance service licensee’s files.

I, ______________________________, as medical director for ________________ Ambulance Service authorize the following person(s) to act as my designee(s) for the purpose of annual skill verification. This may include but is not limited to:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Medical Director _______________________________  MN Physician License # ____________
(Print Name)

Signature _______________________________  Date ________________
(Original Signature)
MEDICAL DIRECTION STATEMENT

I ______________________ M.D. being a licensed physician in Minnesota, having experience in, and knowledge of, emergency care of acutely ill or traumatized patients, and being familiar with the design and operation of local, regional, and state emergency medical services systems agree to provide medical direction to the ____________ ____________ Ambulance Service. This will be in accordance with Minnesota Statutes, sections 144E.001 to 144E.33 and Minnesota Rules, Chapter 4690. I accept responsibility for the following as stated in Minnesota Statutes, section 144.265, Subdivisions 2 & 3.

My responsibilities as medical director shall include, but are not limited to:

1. Approving standards for training and orientation of personnel that impact patient care.

2. Approving standards for purchasing equipment and supplies that impact patient care.

3. Establishing standing orders for pre-hospital care.

4. Approving triage, treatment, and transportation guidelines for adult and pediatric patients.

5. Participating in the development and operation of continuous quality improvement programs, including, but not limited to, case review and resolution of patient complaints.

6. Establishing procedures for the administration of drugs.

7. Maintaining the quality of care according to the above standards and procedures established.

Annually, I or my designee shall assess the practical skills of each person on the ambulance service roster and will sign a statement verifying the proficiency of each person. The statements will be maintained in the ambulance services files.

Medical Director:_________________________ Date:____________________

(Original signature)

License Number:_________________________
## General Administrative (Response Obligations)

<table>
<thead>
<tr>
<th>Guideline Name</th>
<th>Guideline Number</th>
<th>Page</th>
<th>Revision Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Administrative (Response Obligations)</td>
<td>1325.00</td>
<td>20</td>
<td>Added: <strong>ALS Intercept</strong>: Do not delay transport of the patient to definitive care waiting for the ALS intercept to arrive. Transport the patient when able. You can meet the intercept ambulance on the way to the hospital. Consider the condition of the patient and the medical need when determining if the Paramedic should move to the BLS ambulance or the patient should be transferred to the ALS ambulance. Understand that moving the patient can significantly delay transport to the hospital and worsen the patient's medical condition.</td>
</tr>
</tbody>
</table>

## General Patient Care (Bleeding)

<table>
<thead>
<tr>
<th>Guideline Name</th>
<th>Guideline Number</th>
<th>Page</th>
<th>Revision Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Patient Care (Bleeding)</td>
<td>1510.00</td>
<td>23</td>
<td>Added: Tourniquet</td>
</tr>
</tbody>
</table>

## General Patient Care (Pediatric Considerations)

<table>
<thead>
<tr>
<th>Guideline Name</th>
<th>Guideline Number</th>
<th>Page</th>
<th>Revision Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Patient Care (Pediatric Considerations)</td>
<td>1510.00</td>
<td>24</td>
<td>Updated: Link to current EMSC BLS Pediatric Guidelines</td>
</tr>
</tbody>
</table>

## Cardiac Arrest (Breathing)

<table>
<thead>
<tr>
<th>Guideline Name</th>
<th>Guideline Number</th>
<th>Page</th>
<th>Revision Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac Arrest (Breathing)</td>
<td>2125.00</td>
<td>32</td>
<td>Added: Impedance Threshold Device (ITD)</td>
</tr>
</tbody>
</table>

## Hypovolemia / Shock

<table>
<thead>
<tr>
<th>Guideline Name</th>
<th>Guideline Number</th>
<th>Page</th>
<th>Revision Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypovolemia / Shock</td>
<td>2350.00</td>
<td>40</td>
<td>Added: Tourniquet</td>
</tr>
</tbody>
</table>

## Chest Pain/Discomfort (Additional Considerations)

<table>
<thead>
<tr>
<th>Guideline Name</th>
<th>Guideline Number</th>
<th>Page</th>
<th>Revision Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest Pain/Discomfort (Additional Considerations)</td>
<td>2200.00</td>
<td>34</td>
<td>Added: Nitroglycerin should not be given to patients who have taken Viagra, Levitra or Cialis in the last 24 hours.</td>
</tr>
</tbody>
</table>

## CHF / Pulmonary Edema (Additional Considerations)

<table>
<thead>
<tr>
<th>Guideline Name</th>
<th>Guideline Number</th>
<th>Page</th>
<th>Revision Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHF / Pulmonary Edema (Additional Considerations)</td>
<td>2225.00</td>
<td>35</td>
<td>Added: CPAP can reverse pulmonary edema and improve oxygenation by forcing fluid out of the lungs</td>
</tr>
</tbody>
</table>

## Heat Exhaustion/Heat Stroke (Causes)

<table>
<thead>
<tr>
<th>Guideline Name</th>
<th>Guideline Number</th>
<th>Page</th>
<th>Revision Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat Exhaustion/Heat Stroke (Causes)</td>
<td>2300.00</td>
<td>38</td>
<td>Added: exposure to extreme temperatures or humidity for prolonged periods of time</td>
</tr>
</tbody>
</table>

## Burns – Chemical (Additional Considerations)

<table>
<thead>
<tr>
<th>Guideline Name</th>
<th>Guideline Number</th>
<th>Page</th>
<th>Revision Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burns – Chemical (Additional Considerations)</td>
<td>2625.00</td>
<td>46</td>
<td>Added: Consider HAZMAT response early</td>
</tr>
</tbody>
</table>

## Burns – Thermal (Treatment / Consider ALS Intercept)

<table>
<thead>
<tr>
<th>Guideline Name</th>
<th>Guideline Number</th>
<th>Page</th>
<th>Revision Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burns – Thermal (Treatment / Consider ALS Intercept)</td>
<td>2640.00</td>
<td>47</td>
<td>Change Treatment to: dry sterile dressings; Change Consider ALS Intercept to: Greater than 10% BSA 2nd degree burns if &lt;10 or &gt;50 y/o; 2nd degree greater than 20% BSA; 3rd degree greater than 5% BSA to…&gt;10% partial thickness; &gt;2% full thickness, circumferential burns, face/hands/perineum/feet</td>
</tr>
</tbody>
</table>
### Head and Spine Injuries (Treatment / Consider ALS Intercept)
- **Intercept:** 2700.00
- Add to Treatment: C-Collar, Backboard; Add to Consider ALS Intercept: Multisystem Trauma
- **Date:** 11/17/2011

### Traumatic Injuries – Fractures, Dislocations & Sprains
- **Intercept:** 2775.00
- Added: Tourniquet
- **Date:** 11/17/2011

### Traumatic Injuries – Wound Care (Treatment)
- **Intercept:** 2800.00
- Added: Tourniquet; Removed: Section on flail chest regarding stabilizing the segments
- **Date:** 11/17/2011

### Beta-Agonist Medication / Metered Dose Inhaler & Beta-Agonist Medication / Nebulizer (Contradictions / Side Affect Profile / Pediatric Considerations)
- **Intercept:** 3125.00 & 3140.00
- Added: Allergy or know hypersensitivity; Added: headache, chest pain and arrhythmias; Added: Pediatric considerations
- **Date:** 11/17/2011

### Glucagon, IM (Indications / Dosage)
- **Intercept:** 3225.00
- Changed Indications to: Blood Glucose Level of ≤80 mg/dL with Symptoms; Added: Pediatric Dosage
- **Date:** 11/17/2011

### No CPR Form (EMSRB)
- **Intercept:** 5325.00
- Change to: Link for POLST: Provider Orders for Life Sustaining Treatment form.
- **Date:** 11/17/2011

### Minnesota Medical Association – DNR Form
- **Intercept:** 5350.00
- Removed
- **Date:** 11/17/2011