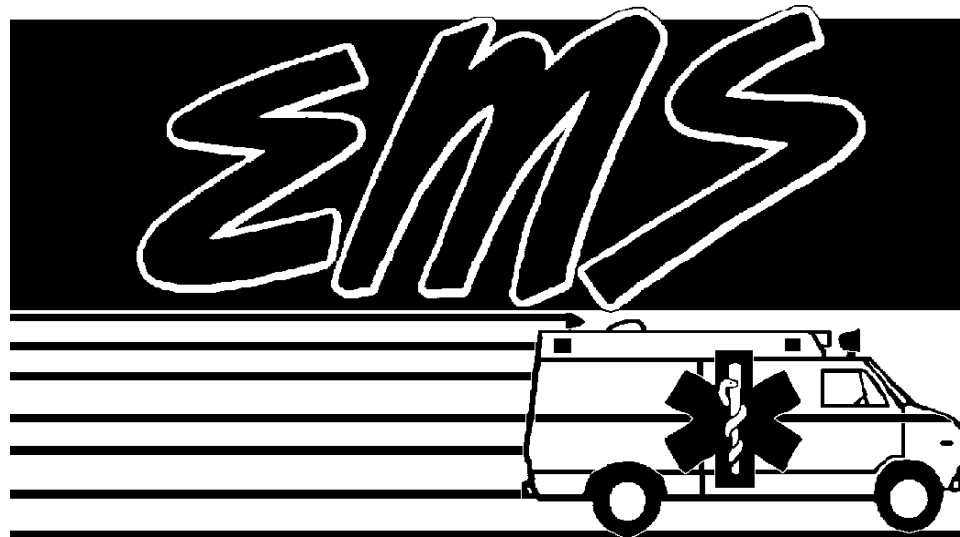


City of Eagle Grove Department of E.M.S.

PROTOCOLS

FIRST RESPONDER, EMT-B, EMT-I, PARAMEDIC

(ADULT & PEDIATRIC)



City of Eagle Grove Department of E.M.S.

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The purpose of protocols in the out of hospital setting is to assure safe and effective intervention during the out of hospital phase of patient care. In consideration of the unique resources, needs, population, and geography of individual service programs in Iowa, physician medical directors may choose to enhance or omit portions of these protocols in accordance with Iowa Code, Chapter 147A. Medical directors are responsible to ensure that EMS personnel use protocols, have the training and skills required, and perform quality assurance activities to assure protocols are used appropriately.

Regardless of EMS provider level of certification, use of skills in the out of hospital setting are limited to those approved in protocol by the physician medical director of the service under which they as a member are authorized to provide care in the field. Medical directors must determine what skills within the level of service and provider scope of practice are to be included and also which, if any, are not included for individual EMS services. Appendix R outlines the scope of practice for levels of certification in Iowa.

Protocols are essential in view of the patient care being provided to assure education, training, and standards of care meet the needs of patients. Ongoing review and update of protocols is necessary to keep pace with interventions known to be effective in out of hospital care. The challenge is for all EMS providers, out of hospital and in hospital, to keep current with the protocols so the EMS continuum of care can effectively reduce suffering, disability, death and costs from life-threatening illness and injury.

It is the intent of the Protocol Committee and the Iowa EMS Advisory Council that these protocols will serve as a standard throughout Iowa's EMS system. Individual physician medical directors are encouraged to use this or a similar set of protocols.

The following authorization page and any changes or revisions made by the ambulance service medical director must be on file with the State EMS Regional Coordinator .

AUTHORITY:

According to Iowa Code, Chapter 147A, emergency medical personnel may only deliver emergency medical care under the direction of a physician medical director who is licensed to practice medicine in Iowa. The medical practice of Out-of-Hospital personnel is an extension of the medical director's license.

Protocols shall be approved, signed, and dated by the individual service's medical director prior to implementation. Any changes must be on file with your State EMS Regional Coordinator, including any other skill(s) within the level of service scope of practice (Appendix R) not listed in "A" below that are not to be included for this service.

The Service Physician Medical Director Must Approve The Protocol In Accordance With The Authorized Level Of Service.

_____ **Service Program Name**

_____ **Ambulance (Transport)** _____ **Non-transport**

_____ **Occasional Transport**

LEVEL OF CARE:

_____ **Basic**

_____ **First Responder**

_____ **EMT-B**

_____ **EMT-I**

_____ **EMT-P**

_____ **Physician Medical Director's Name (please print)**

_____ **Physician Medical Director's Signature** _____ **Date**

A. APPROVAL OF SKILLS AND TRAINING
(Physician Medical Director must approve skills if used)

| | <u>CIRCLE</u> | <u>MINIMUM TRAINING</u> |
|---|---------------|-------------------------|
| Esophageal/tracheal/double-lumen airway | YES NO | (FR) |
| Nasopharyngeal Airway | YES NO | (FR) |
| Glucose Paste | YES NO | (FR) |
| Extend Defib Shocks > 6 | YES NO | (FR, B & I) |
| Pulse Oximetry | YES NO | (FR, B,I,P) |
| MAST/PASG | YES NO | (Basic,B,I,P) |
| IV maintenance | YES NO | (EMT-B) |
| Glucose Monitor (Auto-lance for EMT-B) | YES NO | (EMT-B,I,P) |
| Gastric Tube Insertion | YES NO | (EMT-I or P) |
| Needle Thoracostomy | YES NO | (EMT-P) |
| Nasogastric Tube Insertion | YES NO | (EMT-P) |
| Urinary Catheterization | YES NO | (EMT-P) |
| Intraosseous Infusion | YES NO | (EMT-P) |
| Needle Cricothyrotomy | YES NO | (EMT-P) |

B. These protocols in their entirety are to be considered a standing order. Radio communications are not required prior to performing any protocol action. EMT's/Paramedics should call in for further direction or confirmation of orders whenever the situation warrants.

YES NO

C. The emergency medical care provider present with the highest level of certification (on the transporting service) shall determine, based upon patient care needs, the appropriate level of provider to attend the patient during transport.

YES NO

List all changes throughout the protocols made by the physician medical director. Changes must be within the service scope of practice. Include a copy of any additional protocols if approved for use. Submit a revised copy of the drug list on next page if additions or deletions apply.

| <u>PAGE</u> | <u>PROTOCOL NAME</u> | <u>CHANGES MADE</u> (may attach copies) |
|-------------|--------------------------------|---|
| 21 | Extremity Injuries | |
| Appendix V | Medication Assisted Intubation | |
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SERVICE NAME _____

PHYSICIAN MEDICAL DIRECTOR _____

Signature

_____ Date

DRUG LIST

FR,B,&I DRUG LIST

- * Activated Charcoal
- ** Hand Held Nebulizers
- * Aspirin
- ** Epinephrine auto-injector
- * Glucose Paste
- ** Nitroglycerin
- * Oxygen

- * Over the counter (All levels)
- **Patient Assisted Medication

ACLS DRUG LIST (Paramedic Only)

- Adenosine
- Albuterol
- Aminophylline
- Amiodarone
- Atropine
- Diltiazem
- Diphenhydramine
- Dopamine
- Epinephrine
- Glucagon
- Lasix
- Lidocaine
- Magnesium Sulfate
- Morphine Sulfate
- Narcan
- Nitroglycerin
- Nitronox
- Oxytocin
- Procainamide
- Romazicon
- Sodium Bicarbonate
- Thiamin
- Valium
- Vasopressin

I.V. SOLUTIONS LIST

- Lactated Ringers
- Normal Saline
- 5% Dextrose Water

ADDITIONAL DRUGS LIST

- Meperidine
- Ketorolac
- Nitroglycerin Drip
- Succinylcholine
- Metoclopramide

INITIAL PROTOCOL(S) FOR ALL PATIENTS:

All emergency care providers should start at the left-hand side of the page and proceed as far as your level of certification permits.

Always observe the following precautions (I. & II.) and only then perform the patient assessment and obtain the necessary information on all patients:

I. Scene Size-Up: As you approach the scene, assure safety for yourself and the patient. Establish and follow Incident Command.

II. BSI (Body Substance Isolation): Prior to patient assessment, employ precautions to prevent contact with potentially infectious body fluids or materials.

III. Initial Assessment: Perform initially on every patient to form a general impression of needs and priorities.

Assess Patient's Mental Status. Maintain Spinal Immobilization if Needed (reference appropriate protocols).

Begin by speaking to the patient. State name, tell the patient that you are an FR/EMT, and explain that you are here to help.

A. Assess the Patient's Airway Status.

1. Responsive patient - assess for adequacy of breathing
2. Unresponsive patient -check for and maintain open airway
 - a. Position the patient according to age and size.
 - b. Trauma patients or those with unknown nature of illness, the cervical spine should be stabilized/immobilized and the jaw thrust maneuver performed as indicated.

B. Assess the Patient's Breathing.

1. If breathing is adequate and the patient is responsive, oxygen may be indicated.
2. All responsive patients breathing > 24 breaths per minute or < 8 breaths per minute should receive high flow oxygen (defined as a 10-15 LPM nonrebreather mask).
3. If the patient is unresponsive and the breathing is adequate, provide high concentration oxygen.
4. If the breathing is inadequate, assist the patient's breathing and utilize ventilator adjuncts, and high flow oxygen.

5. If the patient is not breathing, ventilate using ventilatory adjuncts and high flow oxygen.
6. COPD patients:
 - a. If in no distress, administer oxygen by NC (usually 1-2 LPM).
 - b. If in distress, use high flow oxygen by mask and be prepared to use ventilatory adjunct.
7. If utilizing pulse oximetry, titrate oxygen delivery to keep oxygen saturation greater than 90 percent.

C. Assess the Patient's Circulation.

1. Check for pulse. If absent begin CPR.
2. Check for major bleeding. If present, control.
3. Check perfusion by evaluating skin color and temperature.

IV. Assess the patient and determine if the patient has a life threatening condition.

A. If a life threatening condition is found, treat immediately.

B. Assess nature of illness or mechanism of injury.

V. Identify Priority Patients.**A. Consider:**

1. Poor general impression
2. Unresponsive patients - no gag or cough
3. Responsive, not following commands
4. Difficulty breathing
5. Shock (hypoperfusion)
6. Complicated childbirth
7. Chest pain with BP < 100 systolic, or suspected MI
8. Uncontrolled bleeding
9. Severe pain anywhere

B. Trauma Patients:

When possible follow the Out-of-Hospital Trauma Triage Destination Decision Protocol (will be required Jan. 1, 2001) for the identification of time critical injuries, method of transport and trauma facility resources necessary for treatment of those injuries.

VI. Conduct the appropriate focused history and physical examination.**VII. Treatment:**

- A.** Follow specific protocol(s) and standing orders approved by the service medical director.

- B.** IV's should be started en route to the hospital, except when there is an unavoidable delay (i.e. long extrication, CPR, etc.) If Paramedic level intervention for an unstable patient requires IV access, the IV should be started as soon as feasible.
1. Venous access can be achieved using:
 - a. Saline lock - used only on patients who have stable vital signs and do not require volume replacement.
 - b. IV of Normal Saline or Lactated Ringers for IV fluid administration.
 - c. Intraosseous should be considered for children in a life threatening situation and other IV access not possible.
 - d. Use pre-existing venous port access during emergency.
 2. IV fluid administration is at the following rates:
 - a. TKO - slow drip for patients that may need IV medication or fluid bolus.
 - b. Fluid Challenge - rapid 250-500 cc fluid bolus (Pediatric: 20 cc/kg).
 - c. Maintain IV flow rate as ordered by physician.
- C.** Medication administration.

Before administration of a drug you must ask yourself the following questions as you select the medication and confirm that it is not expired.

1. Do I have the right patient?
2. Is this the right medication?
3. Is this the right dose?
4. Check for right expiration date.
5. Am I giving this medication by the right route of administration?

VIII. TRANSPORT / TIERING

- A.** Patients should be transported as soon as feasible to an appropriate medical facility. Immediate transport with treatment en route is recommended for patients with significant trauma or unstable airways.
- B.** Tier with an appropriate service if assistance or level of care needs exist and can be met timely through tiered response.

IX. COMMUNICATIONS

- A.** Contact medical direction as soon as feasible in accordance with local protocol for further orders. For seriously injured or critically ill patients,

give a brief initial report from the scene when possible, with a more detailed report given to medical direction while en route.

- B.** When communicating with medical direction or the receiving facility, a brief verbal report should include these essential elements when possible:
1. Identify unit and level of provider (who and what)
 2. Patient's age, sex.
 3. Patient's physician
 4. Patient's chief complaint.
 5. Brief pertinent history of the present illness.
 6. Major past illnesses.
 7. Baseline vital signs including Mental Status/GCS when appropriate.
 8. Pertinent findings of the physical exam.
 9. Emergency medical care given.
 10. Patient response to emergency care given.
 11. Estimated time of arrival (ETA).
 12. Out of Hospital Trauma Alert if indicated.
- C.** Advise receiving facility of changes occurring in patient's status en route. Update patient status upon arrival at the receiving facility.
- D.** Complete written run report and provide a copy as soon as possible for the receiving facility to assure continuity of patient care.

X. Other

- A.** Notify dispatch when assignment is completed. Clean, restock, and check over vehicle and equipment for next assignment.
- B.** Consider having a Critical Incident Stress Debriefing (CISD) anytime rescuers and health care providers have been involved in a major incident, or one which produces adverse reaction.
- C.** Remember the importance of patient confidentiality.
- D.** You may need to use more than one protocol for any single patient.
- E.** Physician on scene if involved should be qualified and willing to remain with patient (See appendix P).

ABDOMINAL PAIN

Initial Treatment Protocol

I. GENERALIZED ABDOMINAL PAIN

A. Follow Initial Protocols For All Patients:

B. Emergency Medical Care:

1. If medical emergency, refer to appropriate protocol.
2. If trauma emergency, refer to appropriate protocol.
3. Allow position of comfort.
4. BE ALERT for vomiting.
5. Give nothing by mouth.

C. Consider injury related pain and refer to appropriate protocol, or treat for SHOCK if indicated.

Special Considerations

Children experience blunt trauma to the abdomen more often than do adults. In fact, this is often a site of hidden injury. Keep in mind the possibility of a serious abdominal injury when treating children.

EMT-B

Transport in position of comfort.

EMT-I

If patient's condition indicates, establish IV access at a TKO rate.

EMT-P

Consider monitoring rhythm if condition warrants.

Consider self-administered **NITRONOX** therapy if history of kidney stone with similar pain.

Basic Pediatric

Be prepared to treat respiratory compromise.

Pediatric EMT-I

If patient's condition indicates, establish IV access at a TKO rate.

Pediatric EMT-P

Consider monitoring rhythm if condition warrants.

**ALLERGIC REACTION
(ACUTE) / ANAPHYLAXIS**

Initial Treatment Protocol

I. ALLERGIC REACTION

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 - 1. Look for medical alert device.
 - 2. Look for patient's medications, and give them to the ambulance personnel.
 - 3. Be prepared to initiate Basic Cardiac Life support measures.

(EMT-B CONTINUED)

6. If condition fails to improve or remains unstable contact medical direction for order to give additional dose of epinephrine.

EMT-I

Establish IV access at a TKO rate for normal blood pressure, or as appropriate if hypotensive.

EMT-P

Monitor EKG and treat dysrhythmias following the appropriate protocol(s).

If reaction is not life threatening consider administration of:

EPINEPHRINE- 0.3-0.5 mg (0.3-0.5 cc) of 1:1,000 solution (Subcutaneously) if a bite or sting, inject proximal to site when possible.

Consider:

BENADRYL 25 mg IM or slow IV push.

ALBUTEROL 2.5 mg in 3.0 cc NS by nebulizer for respiratory distress.

EMT-B

1. Determine if patient has prescribed pre-loaded epinephrine available.
2. If patient does not have epinephrine auto-injector available transport immediately.
3. Contact medical direction for order to facilitate administration of preloaded epinephrine.
4. Reassess in two minutes.
5. Record reassessment findings.

Basic Pediatric

Follow Initial Treatment Protocol.

Pediatric EMT-I

Establish IV access at a TKO rate for normal blood pressure, or as appropriate if hypotensive.

Pediatric EMT-P

Monitor EKG and treat dysrhythmias following the appropriate protocol(s). If reaction is not life threatening consider administration of:

EPINEPHRINE SQ, 0.01 mg/kg of 1:1,000. Maximum dose 0.3 cc. May repeat every 20 minutes as needed up to 3 doses.

BENADRYL IV, 1-2 mg/kg up to 25 mg slowly in 2-5 minutes.

ALBUTERAL 2.5 mg in 3.0 cc NS by nebulizer for respiratory distress.

Initial Treatment Protocol

ALTERED MENTAL STATUS WITH A HISTORY OF DIABETES

I. CONSCIOUS DIABETIC PATIENT:

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 - 1. Determine if patient can swallow
 - 2. Contact medical direction for glucose order.
 - 3. Administer one 15-gram tube of oral glucose between cheek and gum.
 - 4. Monitor airway closely.

II. UNCONSCIOUS DIABETIC PATIENT:

- A. Follow Initial Protocols For All Patients:

Special Considerations

Children who have diabetes are more at risk for medical emergencies than adults. Children are more active than adults and may exhaust blood sugar levels by playing too hard, especially if they have taken their prescribed insulin.

EMT-B

If conscious transport in semi-setting position. If unconscious transport immediately to medical facility.

EMT-I

Establish IV access at a TKO rate.

Draw blood sample for glucose level evaluation if possible.

Perform Glucometer check per local protocol. Do not delay transport.

EMT-P

Administer **DEXTROSE** (50 cc of 50% solution) slow IV push if hypoglycemic. If unable to obtain IV access give **GLUCAGON** 1 mg IM.

See protocol of UNCONSCIOUS PATIENT and administer **NARCAN** if appropriate. 1.0 mg IV push and observe for response.

Consider **THIAMINE** 100 mg IV/IM.

Basic Pediatric

Follow Initial Treatment Protocol.

Pediatric EMT-I

If patient's condition indicates, establish IV access at a TKO rate
Draw blood sample for glucose level evaluation.
Perform Glucometer check per local protocol.

Pediatric EMT-P

GLUCOSE (D25) IV 2-4 cc/kg.
Determine blood glucose prior to and following administration.
GLUCAGON 0.03-0.1 mg/kg IM.

AMPUTATED PART

Initial Treatment Protocol

- I. Follow Initial Protocols For All Patients:
- II. Emergency Medical Care:
 - A. Control bleeding.
 - B. Treat for shock.
 - C. Follow trauma protocol as indicated.
- IV. Care of amputated part:
 - A. Locate and preserve the amputated part.
 - 1. Place the part in a plastic bag.
 - 2. Place the plastic bag containing the part in a larger bag or container with ice and water.
 - a. Do not use ice alone.
 - b. Do not use dry ice.
 - 3. Label with name, date and time.
 - 4. Give to ambulance personnel to be transported WITH the patient.

Special Considerations

Most extremity parts can be reattached, such as arms, ears, fingers, feet, toes, hands, legs, nose, penis and scalp. Optimal results are obtained when implantation occurs within a few hours of the injury.

EMT-B

For long transport, wrap amputated part as listed before, and keep cool. Place in cooler with cold pack or ice, but NOT in direct contact with ice. Transport amputated part with the patient.

EMT-I

Follow trauma protocol as indicated.

EMT-P

Follow trauma protocol as indicated.

Basic Pediatric

Follow Initial Treatment Protocol.

Pediatric EMT-I

Follow Initial Treatment Protocol.

Pediatric EMT-P

Follow Initial Treatment Protocol.

APPARENT DEATH

Initial Treatment Protocol

I. DETERMINATION OF APPARENT DEATH:

- A.** Follow Initial Protocols For All Patients:
- B.** If apparent death is confirmed above:
 - 1. The county Medical Examiner and law enforcement shall be contacted.
 - 2. At least one EMS provider should remain at the scene until the appropriate authority is present.
 - 3. Provide psychological support for grieving survivors.
 - 4. Document reason no resuscitation was initiated.

Special Considerations

Apparent death indications are as follows:

1. Signs of Trauma are conclusively incompatible with life.
2. There is Physical Decomposition of the body.

Preserve the crime scene if present.

EMT-B

Continue care while transporting to appropriate medical facility.

EMT-I

No special protocol needed.

EMT-P

No special protocol needed.

May use cardiac monitor to document asystole.

Basic Pediatric

Follow Initial Treatment Protocol.

Pediatric EMT-I

Follow Initial Treatment Protocol.

Pediatric EMT-P

No special protocol noted.

Pediatric Special Considerations

Complete section for Out-Of-Hospital Responders on the Infant Death Scene Investigation Report.

BEHAVIORAL EMERGENCIES

Initial Treatment Protocol

I. PSYCHIATRIC PATIENT:

- A. Follow Initial Protocols For All Patients: (BE ALERT for your own safety!)
- B. Emergency Medical Care:
 - 1. Evidence of immediate danger:
 - a. Protect yourself and others by summoning law enforcement to assure everyone's safety; and, if necessary, to enable you to render care.
 - b. Assess and treat life-threatening injuries.
 - c. Detailed Physical Exam: additional assessment and treatment as situation permits.
 - 2. If no evidence of immediate danger, continue assessing, treating and communicating with patient.
 - 3. Keep environment as calm/quiet as possible.

(Special Considerations Continued)

Move slowly, and explain what you are doing. Avoid remarks that could be perceived to be judgmental.

Keep your own emotions in check. Use physical restraints only if necessary for the protection of yourself or your patient.

EMT-I

Provide supportive care. Follow other protocols if indicated.

EMT-P

Provide supportive care. Follow other protocols if indicated.

EMT-B

Transport patient to appropriate medical facility.

1. WITH PATIENT'S CONSENT:

- (a). The EMT making initial contact with patient should also remain with patient during transport.
- (b). DO NOT allow patient in front with driver.
- (c). If patient is a female, a female EMT (or other female), should be in back of the ambulance with the patient and the attendant.
- (d). Keep environment as calm/quiet as possible. (DO NOT use sirens, unless indicated by seriousness of injuries or condition of patient).

2. WITHOUT PATIENT'S CONSENT:

- (a). Obtain consent from law enforcement officer, or other consent according to local requirements.
- (b). Patient is unconscious: You have "implied consent".

Special Considerations

One First Responder or EMT should assume control of situation and establish contact with patient to reduce confusion and minimize stress.

Use a calm, quiet voice, and talk to the patient. Be honest, direct, and non-threatening.

BIRTH

Initial Treatment Protocol

I. NORMAL DELIVERY

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 1. If delivery is imminent with crowning, commit to delivery on site and radio responding ambulance personnel of situation.
 2. If delivering, apply gloves, mask, gown and eye protection for infection control precautions.
 3. Have mother lie with knees drawn up and spread apart.
 4. Elevate buttocks with blankets or pillow.
 5. Create sterile field around vaginal opening with sterile towels or paper barriers.
 6. When the infant's head appears during crowning, place fingers on bony part of skull (not fontanelle or face) and exert very gentle pressure to prevent explosive delivery. Use caution to avoid fontanelle.
 7. If the amniotic sac does not break, or has not broken, use a clamp to puncture the sac and push it away from the infant's head and mouth as they appear.
 8. As the infant's head is being born, determine if the umbilical cord is around the infant's neck; slip over the shoulder or clamp, cut and unwrap.

9. After the infant's head is born, support the head, suction the mouth two or three times and the nostrils. Use caution to avoid contact with the back of the mouth.
10. As the torso and full body is born, support the infant with both hands.
11. As the feet are born, grasp the feet.
12. Wipe blood and mucus from mouth and nose with sterile gauze, suction mouth and nose again.
13. Wrap infant in a warm blanket and place on its side, head slightly lower than trunk.
14. Keep infant level with vagina until the cord is cut.
15. Assign partner to monitor infant and complete initial care of the newborn.
16. Clamp, tie and cut umbilical cord (between the clamps) as pulsations cease approximately 4 fingers width from infant.
17. Observe for delivery of placenta while preparing mother and infant for transport.
18. When delivered, wrap placenta in towel and put in plastic bag; transport placenta to hospital with mother.
19. Gently massage mother's abdomen until it becomes firm.
20. Place sterile pad over vaginal opening, lower mother's legs, help her hold them together.
21. Record time of delivery.

Special Considerations

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

The greatest risk to the mother is postpartum hemorrhage so watch closely for signs of hypovolemic shock and excessive vaginal bleeding.

In instances where delivery is not proceeding normally and the mother exhibits sudden onset of severe abdominal pain and the clinical signs of shock, treat for shock.

EMT-B

Follow Initial Treatment Protocol. Transport to appropriate medical facility.

EMT-I

Establish a large bore IV at TKO rate. If hypotensive, give fluid challenge.

If heavy vaginal bleeding following delivery or miscarriage consider use of MAST/PASG- (Inflate legs only) if approved by medical director.

**BIRTH-Initial Treatment Protocol
(continued)**

II. WHEN BABY IS DELIVERED:

- A. Stimulate the newborn to breathe. Continue to stimulate newborn if not breathing by flicking soles of feet, or rubbing infants back. If the newborn does not begin to breathe or continues to have breathing difficulty after one minute, consider the need for additional measures.
 - 1. Ensure open and patent airway.
 - 2. Ventilate at a rate of 40 breaths per minute with 100% oxygen.
 - 3. Reassess after one minute.
 - 4. If heart rate is less than 80 beats per minute, a second rescuer should perform chest compressions.
- B. Prevent/minimize heat loss:
 - 1. Warm the external environment (use the engine heater, warm blankets, etc.).
 - 2. Dry the infant thoroughly, removing the wet linen immediately after drying.
 - 3. Wrap the newborn in blankets and cover the head in order to minimize heat loss.
- C. Repeat suctioning if necessary, and continue to monitor and support baby's respiratory/circulatory status.

Special Considerations

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

The greatest risk to the mother is postpartum hemorrhage so watch closely for signs of hypovolemic shock and excessive vaginal bleeding.

In instances where delivery is not proceeding normally and the mother exhibits sudden onset of severe abdominal pain and the clinical signs of shock, treat for shock.

EMT-B

Follow Initial Treatment Protocol.
Transport to appropriate medical facility.

EMT-I

Establish a large bore IV at TKO rate unless hypotensive, give fluid challenge.

If heavy vaginal bleeding following delivery or miscarriage consider use of MAST/PASG- (Inflate legs only) if approved by medical director.

EMT-P

After normal birth and while transporting mother and infant consider the administration of **OXYTOCIN** 10 units in 500 cc of NS or LR and infused as ordered by standing orders or medical direction.

If heavy vaginal bleeding following delivery or miscarriage consider use of MAST/PASG-(Inflate legs only) if approved by medical director.

If heavy meconium staining is present, the infant should be immediately intubated with a 3.5 ETT and not stimulated to cry as this can cause aspiration. The ETT is then used as a suction catheter, removing the ETT and reintubation as required to remove meconium prior to stimulating the infant to cry.

**BIRTH-Initial Treatment Protocol
(continued)**

III. ABNORMAL DELIVERY

PROCEDURE:

A. Breech Delivery:

1. Frank breech (Buttocks Presentation):
 - a. Allow spontaneous delivery.
 - b. Support infant's body as it's delivered.
 - c. If head delivers spontaneously, proceed as in Section I (Normal Delivery) A, and B.
 - d. If head DOES NOT deliver within 3 minutes, insert gloved hand into the vagina, keeping your palm TOWARD baby's face; form a "V" with your fingers and push wall of vagina AWAY from baby's face, thereby creating an airway for baby.
 - e. DO NOT REMOVE YOUR HAND UNTIL RELIEVED BY AMBULANCE PERSONNEL OR HOSPITAL STAFF.

B. LIMB PRESENTATION:

- 1) Place mother in head down position.
- 2) Administer high flow oxygen to mother.

C. PROLAPSED CORD:

1. Place mother in head down position, and administer high flow oxygen.

2. Insert gloved hand into the vagina and gently push up on the baby's head to take pressure off the cord. DO NOT REMOVE YOUR HAND UNTIL RELIEVED BY AMBULANCE PERSONNEL OR HOSPITAL STAFF.

D. MULTIPLE BIRTHS:

1. This is usually not a surprise to the mother, as she has probably already been told to expect this by her doctor, but BE ALERT for the multiple birth possibility. Monitor your patient closely.
2. Deliver as you would for normal delivery of one infant.

E. HEAVY VAGINAL BLEEDING FOLLOWING DELIVERY:

1. Control bleeding - massage lower abdomen firmly and intermittently.
2. Treat for Shock.
3. Consider putting baby to mother's breast.

F. MISCARRIAGE:

1. May result in profuse vaginal bleeding.
2. Provide emotional support to mother, and treat her immediately for shock.
3. Save all expelled tissues, (to include fetus), for transport with patient.

EMT-B

Follow Initial Treatment Protocol.
Transport to appropriate medical facility.

EMT-I

Establish a large bore IV at TKO rate unless hypotensive, give fluid challenge.

If heavy vaginal bleeding following delivery or miscarriage consider use of MAST/PASG- (Inflate legs only) if approved by medical director.

EMT-P

After normal birth and while transporting mother and infant consider the administration of **OXYTOCIN** 10 units in 500 cc of NS or LR and infused as ordered by standing orders or medical direction.

If heavy vaginal bleeding following delivery or miscarriage consider use of MAST/PASG-(Inflate legs only) if approved by medical director.

Initial Treatment Protocol

**BREATHING DIFFICULTY
(WHEEZING, STRIDOR,
OBSTRUCTED AIRWAY)**

I. ASTHMA ATTACK:

- A. Follow Initial Protocols For All Patients:
- B. Keep the patient at rest.
- C. Place the patient in a sitting position, allowing for proper drainage from the mouth. It often helps if the patient can support himself by the forearms when in a sitting position.
- D. Cover the patient to conserve body heat, but do not allow the patient to overheat.
- E. Provide emotional support.
- F. Continue to monitor the patient and up date the responding ambulance of current patient status and any changes.

Special Considerations

Respiratory emergencies are common calls that require diligent assessment, care, and emotional support.

It is very important to evaluate your patient for adequate breathing throughout the call.

A conscious, dyspneic patient may rapidly deteriorate to respiratory crisis, be prepared to intervene.

COPD patients may react adversely to high flow oxygen administration. Monitor closely and be prepared to assist respirations through artificial ventilation (consider use of BVM) and contact responding ambulance.

EMT-B

If patient has a physician prescribed, hand-held metered dose inhaler.

1. Contact medical direction for approval to give inhaler treatment.
2. Assure medication is prescribed for patient.
3. Is patient alert enough to take treatment?
4. Check expiration date.
5. Shake inhaler vigorously several times.
6. Have patient exhale as deeply as possible, and put lips around inhaler opening.
7. Depress inhaler and have patient inhale as deeply as possible, and have them hold their breathe as long as possible to facilitate medication absorption.
8. Replace oxygen and allow patient to breath a few times.
9. Reassess patient and repeat second dose if necessary per medical direction.

EMT-I

If patient condition indicates respiratory failure establish IV access at TKO rate.

EMT-P

ALBUTEROL 2.5 mg in 3.0 cc NS by nebulizer.

Administer **EPINEPHRINE** 0.3 - 0.5 mg of a 1:1,000 solution subcutaneously. Repeat in 12-15 min. per medical direction.
Or

Basic Pediatric

Follow Initial Treatment Protocol.

Pediatric EMT-I

Follow Initial Treatment Protocol.

Pediatric EMT-P

Follow Initial Treatment Protocol.

ALBUTEROL 2.5 mg in 3 cc NS by nebulizer.

or

EPINEPHRINE (1:1000) 0.01 mg/kg S.C. up to 0.3 cc.

**BREATHING DIFFICULTY
(WHEEZING, STRIDOR,
OBSTRUCTED AIRWAY)
(continued)**

II. CROUP (STRIDOR)

- A. Follow Initial Protocols For All Patients: (Humidified oxygen if possible).
- B. Allow the patient to assume a position of comfort, usually sitting upright on the parent's lap.
- C. Give patient report to responding ambulance.
- D. Should the patient deteriorate into respiratory arrest, be prepared to support respirations according to current CPR guidelines.

III. DYSPNEA PATIENT

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 - 1. Be prepared to assist respirations.
 - 2. Allow patient to assume semisitting position if conscious.
 - 3. Loosen restrictive clothing.

IV. OBSTRUCTED AIRWAY

If unable to ventilate proceed with clearing of obstructed airway observing current cardiopulmonary resuscitation performance standards for obstructed airway according to the American Red Cross or the American Heart Association in all the following cases:

- A. CONSCIOUS ADULT PATIENT.

- B. UNCONSCIOUS ADULT PATIENT (Witnessed):
- C. UNCONSCIOUS ADULT PATIENT (UNWITNESSED):

Special Considerations

Respiratory emergencies are common calls that require diligent assessment, care, and emotional support.

It is very important to evaluate your patient for adequate breathing throughout the call.

A conscious, dyspneic patient may rapidly deteriorate to respiratory crisis, be prepared to intervene.

EMT-B

Follow Initial Treatment Protocol.
Transport to appropriate medical facility.

EMT-I

If patient condition indicates, establish IV access at TKO rate.

EMT-P

No special protocol noted.

Basic Pediatric

Follow Initial Treatment Protocol.

Pediatric EMT-I

Follow Initial Treatment Protocol.

Pediatric EMT-P

No special protocol noted.

Pediatric Special Considerations

Follow Initial Treatment Protocol.

If the child resists supplemental oxygen, allow the parent to hold the mask for "blow-by" supplemental oxygen.
Clear obstructed airway observing current BLS/CPR guidelines.

Consider possible foreign body obstruction.

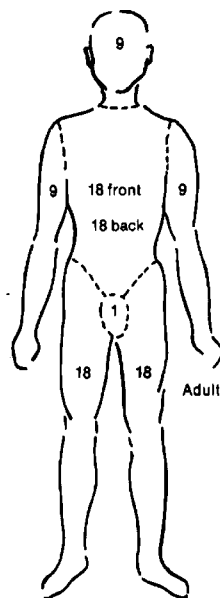
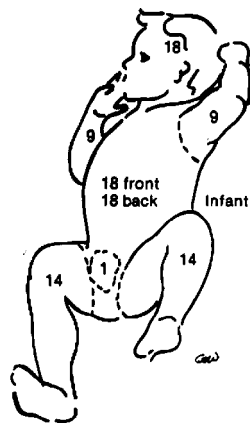
Be gentle, calm and reassuring to patients and parents.

BURNS

Initial Treatment Protocol

I. THERMAL:

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 1. Stop the burning process, initially with water or saline.
 2. Remove smoldering clothing and jewelry.
 3. Continually monitor the airway for evidence of obstruction.
 4. Prevent further contamination.
 5. Cover the burned area with a dry sterile dressing.
 6. Do not use any type of ointment, lotion or antiseptic.
 7. Do not break blisters.



Special Considerations

Burns pose greater risks to infants and children. This is because their body surface area is greater in relation to their total body size. This results in greater fluid and heat loss than would be found in an adult patient.

Consider the possibility of child abuse. (**Iowa Child Abuse Reporting Number is 1-800-362-2178**)

To estimate percent of body surface area injured you can also use the "Rule of Palm". The patient's palm equals approximately 1 percent of the body surface area.

EMT-B

Transport to the most appropriate medical facility.

Use "rule of nines" to estimate percent of body surface area injured.

Estimate depth of burn as superficial, partial thickness or full thickness.

EMT-I

Establish a large bore IV if indicated and infuse as patient condition warrants.

EMT-P

Monitor EKG and treat dysrhythmias if indicated following the appropriate protocol.

Consider **MORPHINE SULFATE** 1-2 mg increments IV push or self-administered **NITRONOX** for pain.

Basic Pediatric

Follow Initial Treatment Protocol.

Pediatric EMT-I

Establish IV access.

Pediatric EMT-P

Consider **MORPHINE SULFATE** 0.1 mg/kg IV for pain.

BURNS - (continued)

II. CHEMICAL:

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 - 1. Brush off powders prior to flushing.
 - 2. Immediately begin to flush with large amounts of water.
 - 3. Continue flushing the contaminated area when en route to the receiving facility.
 - 4. Do not contaminate uninjured areas while flushing!
 - 5. Attempt to identify contaminant.

Initial Treatment Protocol - (continued)

III. TOXIN IN THE EYE:

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 - 1. Flood eye(s) with lukewarm water and have patient blink frequently during irrigation. Use caution to not contaminate other body areas.
 - 2. Continue irrigation until ambulance personnel take over.
 - 3. Attempt to identify contaminant.

IV. ELECTRICAL BURNS:

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 - 1. Treat soft tissue injuries associated with the burn with dry dressing.
 - 2. Treat for shock if indicated.

Special Considerations

Consider the possibility of child abuse.

EMT-B

Transport to the most appropriate medical facility.
 Use "rule of nines" to estimate percent of body surface area injured.
 Estimate depth of burn as superficial, partial thickness or full thickness.

EMT-I

Establish a large bore IV if indicated and infuse as patient condition warrants.

EMT-P

Consider self-administered **NITRONOX** therapy.

Consider **MORPHINE SULFATE** 1-5 mg titrated IV for pain.

Basic Pediatric

Follow Initial Treatment Protocol.

Pediatric EMT-I

Establish IV access.

Pediatric EMT-P

No special protocol noted.

CARDIAC PROBLEMS

Initial Treatment Protocol

I. CHEST PAIN:

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 1. If trauma related refer to trauma protocol.
 2. Place patient in position of comfort, loosen tight clothing and reassure.

Special Considerations

Patients with any of the following chief complaints should be treated as suspected acute myocardial infarction, unless ordered otherwise:

- a. Chest pain or pressure in any patient over age 25.
- b. Syncopal episode in any patient over age 25.
- c. Unexplained respiratory distress.
- d. Atypical cardiac pain (i.e., shoulder, arm, or jaw pain in absence of chest pain, especially in patients having past cardiac history or irregular pulse).

In young adults check for history of illicit drugs such as Cocaine and Methamphetamine use.

II. CARDIAC ARREST:

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 1. See protocol approved by State of Iowa for automated external defibrillation (**AED**), or manual external defibrillation.
 2. See protocol for Advanced Airway approved by State of Iowa.

EMT-B

Follow Initial Treatment Protocols.

1. Contact medical direction for orders.
2. If the patient has been prescribed nitroglycerin (patients nitro only) and blood pressure is greater than 100 systolic, give one dose.
3. Repeat one dose in 3-5 minutes if no relief and authorized by medical direction up to a maximum of three doses.
4. Reassess vital signs and chest pain after each dose.
5. If blood pressure less than 100 systolic or patient does not have prescribed nitro, transport promptly continuing assessment and supportive measures.

EMT-I

Establish IV access at TKO rate unless otherwise ordered or indicated.

EMT-P

Monitor EKG and treat dysrhythmias following the appropriate protocol(s).

Administer **NITROGLYCERIN (tab or spray)** 0.4 mg sublingually if blood pressure greater than 100 systolic. (If patient is taking sexual enhancement drugs such as Viagra then contact medical direction prior to giving Nitroglycerin). May repeat every 5 minutes as needed for a total of 3 doses prior to contacting medical control.

If patient alert and oriented and expresses no to aspirin (wheezing/aspirin induced asthma, or breathing problems) have patient chew and swallow one to four 81 mg **ASPIRIN** tablet (Baby aspirin) or swallow one 325 mg **ASPIRIN** tablets.

If no relief after administration of Nitroglycerin administer **MORPHINE SULFATE** in 1-2 mg IV titrated every 5 minutes until one of the following is present:

1. Relief of pain.
2. Hypotension develops.
3. Respiratory depression occurs.
4. CNS depression results.
5. 10 mg total IV has been administered. (Continued)

CARDIAC PROBLEMS (continued)

(EMT-P CONTINUED)

Further assess the patient and evaluate the nature of pain(unless other treatment priorities exist).

1. Complete an approved chest pain checklist to determine inclusion/exclusion criteria for thrombolytic therapy.
2. If capability exist the EMS provider should obtain a 12-lead EKG and if possible transmit it to the receiving facility and/or medical control for interpretation prior to patient's arrival.

Maximize the patient's potential for reperfusion as follows:

1. Communicate as soon as feasible with medical control regarding patient assessment and treatment in the field in order to facilitate the hospital's ability to timely match needs to resources (lytic therapy, cath lab, etc.)
2. If a local protocol for lytic therapy in the field has been established, then proceed with lytic protocol if:
 - a. authorized by voice contact with medical control, and
 - b. the paramedic has received training and has the approval of their physician medical director.

Continue to monitor the patient's symptoms, vital signs, and rhythm; and treat with the appropriate protocols(s).

Basic Pediatric

Follow above Initial Treatment Protocol.

Pediatric EMT-I

If patient's condition indicates, establish IV access at a TKO rate.

Pediatric EMT-P

Monitor EKG and treat dysrhythmias following the appropriate protocol(s).

Initial Treatment Protocol

III. CONGESTIVE HEART FAILURE/PULMONARY EDEMA

A. Follow Initial Protocols For All Patients:

B. Emergency Medical Care:

1. Place patient in position of comfort, typically sitting up, loosen tight clothing and reassure.
2. Administer high flow oxygen.

Special Considerations

Congestive heart failure (CHF) is a condition of excessive fluid buildup in the lungs and/or other organs and body parts. The fluid buildup causes edema, or swelling.

The disorder is termed congestive because the fluids congest, or clog, the lungs.

It is termed heart failure because the congestion both results from and also aggravates failure of the heart to function properly.

CARDIAC PROBLEMS (continued)

EMT-B

1. Transport immediately if the patient has any of the following:
 - (a) No history of cardiac problems.
 - (b) Systolic blood pressure of less than 100.
 - (c) A history of cardiac problems, but does not have nitroglycerin.
2. Contact medical direction for orders.
3. If the patient has been prescribed nitroglycerin (patients nro only) and blood pressure is greater than 100 systolic, give one dose.
4. Repeat one dose in 3-5 minutes if no relief and authorized by medical direction up to a maximum of three doses.
5. Reassess patient and vital signs after each dose.

EMT-I

Establish IV access at TKO rate unless otherwise ordered or indicated.

EMT-P

Be prepared to intubate patient.

Monitor EKG and treat dysrhythmias following the appropriate protocol(s).

Administer **NITROGLYCERIN** 0.4 mg sublingually if blood pressure greater than 100 systolic.

Administer **LASIX** 40-80 mg IV bolus.

Give **MORPHINE SULFATE** in 1-2 mg IV boluses titrated every 5 minutes until one of the following is present:

1. Relief of pain.
2. Hypotension develops.
3. Respiratory depression occurs.
4. CNS depression results.
5. 10 mg total IV bolus has been administered.

Basic Pediatric

Follow above Initial Treatment Protocol.

Pediatric EMT-I

If patient's condition indicates, establish IV access at a TKO rate.

Pediatric EMT-P

Monitor EKG and treat dysrhythmias following the appropriate protocol(s).

**CARDIOPULMONARY
RESUSCITATION**

**IF CPR IS NEEDED
IMMEDIATELY
INITIATE DEFIBRILLATION
PROTOCOL**

(Automated external defibrillation, or manual as authorized)

Provide CPR according to current performance guidelines.

If the patient is breathing, maintain open airway and check for a carotid pulse. Administer high flow oxygen and be prepared to assist respirations at a rate of one (1) ventilation every five (5) seconds.

Special Considerations

Successful resuscitations have been documented after prolonged periods of cold water submersion.

EMT-B

Follow Initial Treatment Protocols.

EMT-I

Establish IV access at a TKO rate.

EMT-P

FOLLOW CURRENT
ACLS GUIDELINES

Basic Pediatric

Provide CPR according to current performance guidelines.

Pediatric EMT-I

Establish IV access at a TKO rate.

Pediatric EMT-P

FOLLOW CURRENT
PEDIATRIC ACLS/PALS
GUIDELINES

**CEREBROVASCULAR
ACCIDENT (CVA), PARALYSIS,
“BRAIN ATTACK”**

Initial Treatment Protocol

I. STROKE/CVA:

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 1. Calm and reassure the patient, even if not conscious.
 2. Monitor and maintain patent airway.
 3. Place patient in recovery position.
 4. If patient unconscious place on affected side.

EMT-B

Follow Initial Treatment Protocols.

Protect affected limbs from injury during transport, and take care to maintain body heat.

EMT-I

If patient's condition indicates, establish IV access at a TKO rate.

EMT-P

Monitor EKG and treat dysrhythmias following appropriate protocol.

Monitor and maintain patient airway, including intubation if necessary.

Basic Pediatric

No protocol

Pediatric EMT-I

No protocol

Pediatric EMT-P

No protocol

Special Considerations

Timely recognition of acute neurological deficit and early transport/notification to the receiving hospital can increase the chance to reverse acute stroke through early intervention.

While stroke patients may not be able to speak, they are usually acutely aware of their surroundings and are anxious. Talk to your patient and keep the patient informed about the treatment being rendered.

Stroke patients also experience increased salivation and may have difficulty with swallowing and gag reflexes; therefore the EMS Provider needs to be acutely aware of airway management problems.

COLD EMERGENCIES

Initial Treatment Protocol

I. EXPOSURE TO COLD:

- A. Follow Initial Protocols For All Patients: (Oxygen should be warmed and humidified if possible).
- B. Emergency Medical Care:
 - 1. Remove the patient from the cold environment - protect from further heat loss.
 - 2. Remove any wet clothing and cover with blanket and keep warm.
 - 3. Handle the patient gently.
 - 4. Do not allow the patient to walk or exert himself.
 - 5. The patient should not be given anything by mouth.
 - a. Do not allow the patient to eat or drink stimulants.
 - b. Coffee, tea, or smoking may worsen the condition.
 - 6. Do not massage extremities.

Special Considerations

Do not allow the patient to eat or drink stimulants.

Unwarmed high flow oxygen may cause hypothermia.

The hypothermic heart may be unresponsive to defibrillation.

After failed initial resuscitative measures, avoid defibrillation until core temp is greater than 86 degrees Fahrenheit.

II. LOCAL COLD INJURIES (FROSTBITE):

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 - 1. Remove the patient from the environment.
 - 2. Protect the cold injured extremity from further injury (manual stabilization).
 - 3. Remove wet or restrictive clothing
 - 4. Do not rub or massage.
 - 5. Do not re-expose to the cold.
 - 6. Remove jewelry.
 - 7. Cover with dry clothing or dressings.

EMT-B

- 1. If patient is alert and responding appropriately, actively rewarm with hot packs to neck, armpits and groin.
- 2. Obtain vital signs every 5 minutes.
- 3. Maintain horizontal position of patient.
- 4. Avoid rough handling.
- 5. Transport as soon as possible to an appropriate medical facility.

EMT-I

If patient's condition indicates, establish IV access at a TKO rate.
Warmed IV if possible.

EMT-P

Monitor EKG and treat dysrhythmias following appropriate protocol.

Basic Pediatric

Cover infant's head to maintain body heat.

Pediatric EMT-I

If patient's condition indicates, establish IV access at a TKO rate. Warmed IV if possible.

Pediatric EMT-P

Be prepared to treat hypoglycemia.
Monitor EKG and treat dysrhythmias following appropriate protocol.

COLD EMERGENCIES (continued)

Initial Treatment Protocol (continued)

COLD INJURY WITH DELAYED TRANSPORT:

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:

EMT-B

Contact medical direction prior to the following:

1. Start rapid rewarming (Immerse the affected part in warm water of 100-105 degrees Fahrenheit).
2. Monitor the water to ensure it does not cool from the frozen part.
3. Continuously stir water.
4. Continue until the part is soft and color and sensation return.
5. Dress the area with dry sterile dressings.
6. Protect against refreezing.
7. Transport to appropriate medical facility as soon as possible.

Special Considerations

Shivering occurs between 86-98 degrees F. (but not below). This is a fair indicator of the severity of hypothermia in the patient.

Do not allow the patient to eat or drink stimulants.

Unwarmed high flow oxygen may cause hypothermia.

The hypothermic myocardium may be unresponsive to cardioactive drugs, pacemaker stimulation and defibrillation.

Medicines may accumulate to toxic levels.

After failed initial resuscitative measures, avoid defibrillation or drug therapy until core temp is greater than 86 degrees Fahrenheit.

EMT-P

Monitor EKG and treat dysrhythmias following appropriate protocol.

Basic Pediatric

Cover infant's head to maintain body heat.

Pediatric EMT-I

If patient's condition indicates, establish IV access at a TKO rate. Warmed IV if possible.

Pediatric EMT-P

Be prepared to treat hypoglycemia. Monitor EKG and treat dysrhythmias following appropriate protocol.

EMT-I

If patient's condition indicates, establish IV access at a TKO rate. Warmed IV if possible.

EXTREMITY INJURIES

Initial Treatment Protocol

I. EMERGENCY MEDICAL CARE OF BONE OR JOINT INJURIES:

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 - 1. Assess extent of injury including presence or absence of pulse.
 - 2. Establish and maintain manual stabilization of injured extremity by supporting above and below the injury.
 - 3. Remove or cut away clothing and jewelry.
 - 4. Cover open wounds with a sterile dressing.
 - 5. Do not intentionally replace any protruding bones.
 - 6. Apply cold pack to area of pain or swelling.
 - 7. Assist ambulance personnel as indicated and needed.

Special Considerations

Studies of mechanism of injury indicate that infants and children with fractured femurs often have injury to internal organs.

EMT-B

- 1. If severe deformity of the distal extremity is cyanotic or lacks pulses, align with gentle traction before splinting, and transport immediately.
- 2. Do not intentionally replace the protruding bones.
- 3. Pad each splint to prevent pressure and discomfort to the patient.
- 4. Splint the patient before moving when feasible.
- 5. When in doubt, splint the injury.
- 6. Consider MAST/PASG for splinting.

EMT-I

Establish a large bore IV if indicated and infuse as patient condition warrants.

EMT-P

Monitor EKG and treat dysrhythmias if indicated following the appropriate protocol. Consider Meperidine 25-50mg intramuscular or slow IV push for pain.

Consider Ketorlac 30-60mg Intramuscular or IV push for pain.

Consider **MORPHINE SULFATE** 1-5 mg titrated IV for pain. May repeat in 5 minutes if needed and vital signs stable.

Basic Pediatric

Follow Initial Treatment Protocol.

Pediatric EMT-I
Establish IV access.
Pediatric EMT-P

MORPHINE SULFATE 0.1 mg/kg IV for pain. May repeat in 5 min. if needed and vital signs stable.

HEAT EMERGENCIES

Initial Treatment Protocol

I. EXPOSURE TO HEAT

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 1. Remove the patient from the hot environment and place in a cool environment (back of air conditioned response vehicle).
 2. Loosen or remove clothing.
 3. Cool patient by fanning.
 4. Place in recovery position.

Special Considerations

Not all heat emergencies are environmental in nature. They may have febrile or neurological etiology.

High body temperature may cause seizures.

Rapid cooling may cause vomiting.

EMT-I

If patient's condition indicates, establish IV access at a TKO rate.

EMT-P

Monitor EKG and treat dysrhythmias following the appropriate protocol(s).

EMT-B

1. Cool patient by applying water and fanning, and apply cool packs to neck, groin and armpits.
2. If patient is alert, stable and not nauseated, have the patient slowly drink small sips of water.
3. If the patient is unresponsive or is vomiting, transport to an appropriate medical facility with patient on their left side.

Basic Pediatric

Be prepared to treat febrile seizures in infants.

Consider sponging with ONLY COOL water during transport. If shivering occurs stop sponging.

Pediatric EMT-I

Consider establishing an IV during transport

For dehydration therapy administer @ 20 cc/kg.

Pediatric EMT-P

Monitor EKG and treat dysrhythmias following appropriate protocol.

HIGH BLOOD PRESSURE

Initial Treatment Protocol

I. HIGH BLOOD PRESSURE:

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 - 1. Reassure and keep patient quiet.

Special Considerations

Any patient presenting with a systolic blood pressure of greater than 200 mm Hg, a diastolic pressure greater than 130 mm/Hg and CNS dysfunction (bad headache, coma, or seizures), chest pain, or shortness of breath is a candidate to have BP promptly lowered.

EMT-P

Monitor EKG and treat dysrhythmias if indicated following the appropriate protocol.

Contact medical direction for orders for:

NITROGLYCERIN (tab or spray)
1/150 gr (0.4 mg) sublingually.

EMT-B

Follow Initial Treatment Protocol.

EMT-I

Establish IV access at TKO rate unless otherwise ordered or indicated.

Basic Pediatric

Follow Initial Treatment Protocol.

Pediatric EMT-I

Establish IV access.

Pediatric EMT-P

No special protocol noted.

**PATIENT PRIORITIZATION
REQUIREMENTS**

PRIORITY I PATIENTS:

Severe respiratory difficulties
Unconsciousness due to trauma
Respiratory arrest
Severe shock
Airway obstruction
Cardiac problems
Severe head injuries
Cardiac arrest: (cardiac arrest may become last priority, if sufficient personnel is not available to treat all priority 1 or priority 2 patients.)
Severe blood loss
Open chest wounds and open abdominal wounds
Severe medical emergencies
Burns involving the respiratory tract

PRIORITY II PATIENTS:

Severe burns
Head injuries (conscious patients)
Spinal injuries
Moderate bleeding
Multiple fractures
Cervical spine injuries

PRIORITY III PATIENTS:

Minor fractures
Moderate and minor burns
Soft tissue injuries
Minor bleeding
Obvious mortal wounds
Obvious death

Special Considerations

Any situation that overwhelms local EMS resources should be declared a Multiple/Mass Casualty Incident. The first responding EMS unit should declare a possible major incident while en route to the scene if the dispatch information suggests that one exists. Upon arrival to the scene, the unit should verify that a major incident does or does not exist.

EMT-I

Follow Trauma Protocol.

EMT-P

Follow Trauma Protocol.

POISONING

Initial Treatment Protocol

I. Ingested Poisons

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 - 1. Identify and estimate amount of substance ingested. Take container to receiving facility when feasible.
 - 2. Contact your Medical Direction facility as soon as possible with the substance ingested, so they can contact the Poison Control Center if indicated.
 - 3. DO NOT induce vomiting unless directed to do so by Medical Direction.

II. Inhaled poisons: (If hazard of inhaled poison is still present, DO NOT ENTER SCENE without self-contained breathing apparatus)!

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 - 1. Remove patient to fresh air, administer high flow oxygen.
 - 2. Identify substance inhaled. Bring all containers, bottles, labels etc. of poison agents to receiving facility.

- 3. Estimate duration of exposure to inhaled poison.
- 4. Contact medical direction immediately, and advise of the nature of the problem and substance.
- 5. Treat as per medical direction's recommendations and transport.

Special Considerations

**POISON CONTROL
PHONE 1800-352-2222**

It is important to find out an infant's or child's weight, which in combination with the estimated amount of the poisonous substance that was ingested will help medical direction determine appropriate treatment.

Because it is usually extremely difficult or impossible to be sure exactly how much the child has taken, be prepared to treat for the worst.

EMT-B

Follow Initial Protocols For All Patients.

With ingested poison administer activated charcoal if order given by medical direction. Container must be shaken thoroughly.
Record time given.
Be alert for vomiting: protect airway and save vomitus.

EMT-I

If patient condition indicates, establish IV access at TKO rate.

EMT-P

Call medical direction for orders.

Basic Pediatric

Call medical direction for orders.

Pediatric EMT-I

If patient condition indicates, establish IV access at TKO rate.

Pediatric EMT-P

Call medical direction for orders.

POISONING - (continued)

Initial Treatment Protocol (continued)

III. Absorbed Poisons:

A. Follow Initial Protocols For All Patients:

B. Emergency Medical Care:

1. Identify contaminate! If it will be a hazard to you, use protective clothing and extreme caution.
2. Flood skin with copious amounts of water and remove contaminated clothing. (EXCEPTION: if contaminate is dry lime, brush off powder well BEFORE rinsing).
3. If eye is involved irrigate with clean water for at least 20 minutes (and continue en route to facility if possible).
4. Call your medical direction immediately, and advise them of the substance, this will allow them time to contact Poison Control if it is necessary.
5. Treat as per medical direction's recommendations, and transport. Be careful to protect yourself.

2. Check patient for marks, rashes, or welts.
3. Try to identify source of injected poison.
4. Transport to hospital immediately, closely monitoring patient's vital signs en route.
5. Notify hospital en route of patient's problem and status.

Special Considerations

**POISON CONTROL
PHONE 1800-352-2222**

It is important to find out an infant's or child's weight, which in combination with the estimated amount of the poisonous substance that was ingested will help medical direction determine appropriate treatment.

Because it is usually extremely difficult or impossible to be sure exactly how much the child has taken be prepared to treat for the worst.

EMT-B

Follow Initial Protocols For All Patients.

EMT-I

If patient condition indicates, establish IV access at TKO rate.

EMT-P

Call medical direction for orders.

Basic Pediatric

Call medical direction for orders.

Pediatric EMT-I

Call medical direction for orders.

Pediatric EMT-P

Call medical direction for orders.

IV. Injected Poisons:

A. Follow Initial Protocols For All Patients:

B. Emergency Medical Care:

1. BE ALERT for respiratory difficulty, maintain airway, and give high flow oxygen.

SEIZURES

Initial Treatment Protocol

I. CONTINUING SEIZURES:

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 1. Prepare patient for transport, taking special care to protect the patient from injury.

II. DURING SEIZURE:

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 1. Protect patient from injury, by clearing area of all possible hazards.
 2. Protect patient's privacy by removing bystanders.
 3. Do NOT attempt to put anything into patient's mouth.
 4. Place patient in recovery position.

III. POST SEIZURE:

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 1. Continue airway assessment and support.
 2. Treat for any injuries and advise responding ambulance of situation, and continue monitoring vital signs and respirations closely.

Special Considerations

Continuing seizures is a true LIFE THREATENING emergency and requires IMMEDIATE transport!

Approximately 5% of children have seizures as a result of fever. Febrile seizures are most common between the ages of 6 months and 4 years.

EMT-B

Follow Initial Protocols For All Patients.

EMT-I

If patient condition indicates, establish IV access at TKO rate.

Draw a blood sample.

Perform Glucometer check per local protocol. Do not delay transport.

EMT-P

Consider **VALIUM** 2 mg IV push slow over 2-5 minutes to a maximum dose of 10 mg.

Consider **DEXTROSE** 50 cc of 50% solution IV push, especially if no prior history of seizure disorder.

Consider **THIAMINE** 100 mg IV if history of alcoholism is suspected.

Basic Pediatric

Provide oxygen by pediatric NRM or blow-by- technique.

Pediatric EMT-I

If patient condition indicates, establish IV access at TKO rate.

Draw a blood sample or use Glucometer check.

Pediatric EMT-P

If seizures do not stop, administer **VALIUM** 0.1-0.3 mg/kg IV slowly or 0.3-0.5 mg/kg per rectal via feeding tube type catheter.

SEXUAL ASSAULT (Alleged)

Initial Treatment Protocol

- I. Follow Initial Protocols For All Patients:
- II. Emergency Medical Care:
 - A. Identify yourself to the patient, assure patient that they are safe, and are in no further danger.
 - B. Do NOT burden patient with questions about the details of the crime; you are there only to provide emergency medical care.
 - C. BE alert to immediate scene and document what you see! Touch only what you need to touch at the scene.
 - D. Do not disturb any evidence unless necessary for treatment of patient. (If necessary to disturb evidence, DOCUMENT WHY and how it was disturbed).
 - E. Treat for shock if indicated.
 - F. Treat other injuries as indicated.
 - G. Preserve evidence, such as clothing you may have had to remove for treatment, and make sure that it is NEVER left unattended at any time, to preserve "chain of evidence".

Special Considerations

Crewmembers of the same sex may relate better to the patient in time of such emotional crisis. Accurately record your observations and conversations with the patient.

Do NOT allow the patient to bathe, douche, change clothes, or go to the bathroom.

EMT-B

Follow Initial Protocols For All Patients.

EMT-I

If patient's condition indicates, establish IV access at a TKO rate.

EMT-P

Monitor EKG and treat dysrhythmias if indicated following the appropriate protocol.

Pediatric

Follow above Initial Treatment Protocol. Gather information from the parents or care giver away from the child without expression of disbelief or judgment

Talk with the child separately about how the injury occurred.

If you are suspicious about the mechanism of injury, transport the child even though the severity of injury may not warrant such action.

Report your suspicions to the emergency department staff in accordance with local policies.

TRAUMA

Initial Treatment Protocol

I. BLEEDING AND SHOCK EMERGENCIES

A. External Bleeding:

1. Follow Initial Protocols For All Patients: (Consider use of blindly inserted, combine esophageal/endotracheal device if indicated and approved by medical director).
2. Emergency Medical Care:
 - a. Use body substance isolation
 - b. Control bleeding by applying pressure directly on the point of bleeding.
 - c. Elevation of a bleeding extremity may be used secondary to and in conjunction with direct pressure if no injury to the muscle or bone exists.
 - d. Large gaping wounds may require sterile gauze and direct hand pressure.
 - e. If bleeding persists, consider appropriate arterial pressure points in upper and lower extremities.
 - f. Treat for Shock if present.

B. INTERNAL BLEEDING:

1. Follow Initial Protocols For All Patients:
2. Emergency Medical Care:
 - a. Use body substance isolation (BSI).

- b. Comfort, calm, and reassure the patient while waiting for the ambulance to arrive.
- c. Reassure the patient.
- d. Keep the patient calm and in position of comfort.
- e. Keep the patient warm.
- f. Treat for shock if needed.

Special Considerations

Initial assessment and management of any traumatic incident, minor or major, should be accomplished in a similar manner during each situation following the Initial Treatment Protocol for all patients.

Immediate transport is critical for patient with signs and symptoms of shock (hypoperfusion: pallor, dyspnea, tachycardia, low blood pressure or altered mental status).

It is necessary that all First Responders and EMTs learn how to use the Glasgow Coma Score, and learn how to use the Iowa Trauma System Out-Of-Hospital Trauma Triage Destination Decision Protocol.

Advise responding ambulance of possible shock before their arrival when possible.

EMT-B

1. If bleeding persists, consider appropriate arterial pressure points in upper and lower extremities and also application of a splint.
2. MAST/PASG could also be used as pressure dressing.

(EMT-B CONTINUED)

3. A tourniquet can be used as a last resort to control bleeding. Do not remove or loosen the tourniquet once it is applied unless directed to do so by medical direction.
4. Immediate transport is critical for patients with signs and symptoms of shock.

EMT-I

Consider use of blindly inserted, combined esophageal/endotracheal device if indicated and approved by medical director.

Establish large bore IV. Give fluid challenge as appropriate. Consider repeat fluid challenge if hypotension persists and there is no evidence of CHF or pulmonary edema.

Start second large bore IV with severe trauma.

IV lines should be started en route to the hospital, except when there is an unavoidable delay as a result of a prolonged extrication, etc.

Also consider the use of MAST/PASG if indicated and approved by medical director.

EMT-P

Monitor EKG and treat dysrhythmias if indicated following the appropriate protocol.

TRAUMA - (continued)

Initial Treatment Protocol - (continued)

C. SHOCK (hypoperfusion)

1. Follow Initial Protocols For All Patients:
2. Emergency Medical Care:
 - a. Body substance isolation (BSI).
 - b. Control any external bleeding.
 - c. Keep the patient calm, and in position of comfort.
 - d. Prevent loss of body heat by covering the patient with a blanket when appropriate.
 - e. Do not give food or drink.

II. CHEST INJURIES:

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 1. Seal open chest wounds **IMMEDIATELY** that may be making a sucking sound. Use occlusive dressing taped down on three sides. If the patient's breathing becomes worse, lift one corner of the dressing to release pressure, and then re-seal.
 2. Impaled objects must be left in place, and should be stabilized by building up around object with multi-trauma dressings, etc., taking care that the penetrating object is not allowed to do further damage.

3. Impaled objects in the chest may be removed if causing airway problems, or you are having trouble controlling bleeding. Use direct pressure on injury after removal to control any bleeding.

Special Considerations

Initial assessment and management of any traumatic incident, minor or major, should be accomplished in a similar manner during each situation following the Initial Treatment Protocol for all patients.

Immediate transport is critical for patient with signs and symptoms of shock (hypoperfusion: pallor, dyspnea, tachycardia, low blood pressure or altered mental status).

It is necessary that all First Responders learn how to use the Glasgow Coma Score, and learn how to use the Iowa Trauma System Out-Of-Hospital Trauma Triage Destination Decision Protocol.

Advise responding ambulance of possible shock before their arrival when possible.

EMT-B

1. If bleeding persists, consider appropriate arterial pressure points in upper and lower extremities and also application of a splint.
2. MAST/PASG could also be used as pressure dressing.

(EMT-B CONTINUED)

3. A tourniquet can be used as a last resort to control bleeding. Do not remove or loosen the tourniquet once it is applied unless directed to do so by medical direction.
4. Immediate transport is critical for patients with signs and symptoms of shock.

EMT-I

Consider use of blindly inserted, combined esophageal/endotracheal device if indicated and approved by medical director.

Establish large bore IV. Give fluid challenge as appropriate. Consider repeat fluid challenge if hypotension persists and there is no evidence of CHF or pulmonary edema.

Start second large bore IV with severe trauma.

IV lines should be started en route to the hospital, except when there is an unavoidable delay as a result of a prolonged extrication, etc.

Also consider the use of MAST/PASG if indicated and approved by medical director.

EMT-P

Monitor EKG and treat dysrhythmias if indicated following the appropriate protocol.

Initial Treatment Protocol - (continued)

TRAUMA - (continued)

III. HEAD/NECK AND SPINE

INJURIES:

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 - 1. Establish and maintain manual spinal immobilization.
 - 2. Place the head in a neutral in-line position unless the patient complains of pain or the head is not easily moved into position.
 - 3. Apply cervical collar and maintain manual stabilization.
 - 4. Monitor airway closely, taking care to suction secretions, be prepared for vomiting (log roll, using manual stabilization as needed).
 - 5. Control bleeding, and dress and bandage open wounds.
 - 6. Repeat vital signs, Glasgow Coma Scale, and pupillary response frequently.

Special Considerations

Initial assessment and management of any traumatic incident, minor or major, should be accomplished in a similar manner during each situation following the Initial Treatment Protocol for all patients.

Immediate transport is critical for patient with signs and symptoms of shock (hypoperfusion: pallor, dyspnea, tachycardia, low blood pressure or altered mental status).

(Special Considerations Continued)

It is necessary that all EMS providers learn how to use the Glasgow Coma Score, and learn how to use the Iowa Trauma System Out-Of-Hospital Trauma Triage Destination Decision Protocol.

Advise responding ambulance of possible shock before their arrival when possible.

IV. EXTREMITY INJURIES:

See protocol on page 20.

EMT-B

Maintain constant manual in-line immobilization until the patient is properly secured to a backboard with the head immobilized.

EMT-I

Consider use of blindly inserted, combined esophageal/endotracheal device if indicated and approved by medical director.

Establish large bore IV. Give fluid challenge as appropriate. Consider repeat fluid challenge if hypotension persists and there is no evidence of CHF or pulmonary edema.

Start second large bore IV with severe trauma.

(EMT-I CONTINUED)

IV lines should be started en route to the hospital, except when there is an unavoidable delay as a result of a prolonged extrication, etc.

Also consider the use of MAST/PASG if indicated and approved by medical director.

EMT-P

Monitor EKG and treat dysrhythmias if indicated following the appropriate protocol.

Basic Pediatric

Follow Initial Treatment Protocol.

Pediatric EMT-I

Establish IV accesses, and give fluid challenge as appropriate (20cc/kg for shock).

Pediatric EMT-P

Consider intraosseous infusion if approved by service medical director.

Initial Treatment Protocol

This protocol should be followed until superseded or overridden by a community disaster plan.

TRIAGE - MASS CASUALTY INCIDENT

- I. Follow Initial Protocols For All Patients:
 - A. Any situation that overwhelms the local EMS resources should be declared a Multiple/Mass Casualty Incident. The first responding EMS unit should declare a possible major incident while en route to the scene if the dispatch information suggests the likelihood that one exists. As soon as possible upon arrival to the scene, the unit should verify that a major incident does or does not exist.
- II. First Responder or EMT (Medical Coordinator): takes charge of overall medical coordination at scene until relieved by a higher trained EMS person. (The Medical Coordinator coordinates all emergency response personnel, i.e., law, fire, rescue, ambulance, etc.).
 - A. Conduct your patient assessment as follows:
 1. Only 15 Second survey to assure ABC's.
 2. Correct immediate life-threatening problems.
 - B. Identify victims, according to priorities.

- III. Responsibilities of "on-scene" medical coordinator:
 - A. Will call for additional assistance, as needed.
 - B. Assigns manpower to Priority I patients (in field) first, and sees they are moved to Triage area for treatment.
 - C. Does not waste time/resources by treating in field.
 - D. When all Priority I patients have been moved into the triage area, Priority II's and III's can be evacuated. (Exception: if a Priority I is trapped, II's could be moved until rescue has been accomplished.
- IV. Triage Director (second First Responder or EMT at scene):
 - A. Is in charge of ALL equipment and equipment in triage, and will decide priorities of care and assignment of EMS personnel in Triage area.
 - B. Will notify receiving hospital(s) as soon as possible, of number of patients, and estimated severity, so hospital(s) can activate disaster plans.

- C. Will make transport assignments and patient care assignments consistent with priority of patient. (Priority I, should have highest level of out-of-hospital care at scene and en route).
- D. Arranges with Medical Coordinator for the transport of Priority I's first, then II's and III's.
- E. Will coordinate with Medical Coordinator throughout rescue effort.
- V. "On-scene" medical coordinator will remain at scene to coordinate activities until all patients are moved into and out of triage area and incident scene.

(continued on next page)

**TRIAGE – MASS CASUALTY
INCIDENT – (continued)**

PRIORITY I PATIENTS:

Severe Respiratory difficulties
 Unconsciousness due to Trauma
 Respiratory Arrest
 Severe Shock (hypoperfusion)
 Airway Obstruction
 Cardiac Problems
 Severe Head Injuries
 Cardiac Arrest:(Cardiac arrest
 may become last priority, if
 sufficient personnel is not
 available to treat all Priority 1 or
 Priority 2 patients.)
 Severe Blood Loss
 Open Chest Wounds and Open
 Abdominal Wounds
 Severe Medical Emergencies
 Burns involving the respiratory tract

PRIORITY II PATIENTS:

Severe burns
 Head Injuries (Conscious Patients)
 Spinal Injuries
 Moderate Bleeding
 Multiple Fractures
 Cervical Spine Injuries

PRIORITY III PATIENTS:

Minor fractures
 Moderate and Minor Burns
 Soft tissue injuries
 Minor Bleeding
 Obvious Mortal Wounds
 Obvious Death

EMT-B

Follow Trauma Protocol.

EMT-I

Follow Trauma Protocol.

EMT-P

Follow Trauma Protocol.

Basic Pediatric

Follow Trauma Protocol.

Pediatric EMT-I

Follow Trauma Protocol

Pediatric EMT-P

Follow Trauma Protocol

UNCONSCIOUS PATIENT

Initial Treatment Protocol

I. UNCONSCIOUS MEDICAL PATIENT:

- A. Follow Initial Protocols For All Patients:
- B. Emergency Medical Care:
 - 1. If problem identified, follow appropriate protocol.
 - 2. Advise responding ambulance of any information gathered during assessment.

II. UNCONSCIOUS TRAUMA PATIENT:

- A. Follow Initial Protocols For All Patients:

Special Considerations

If unconsciousness is due to trauma or unknown cause, assume patient has a spinal cord injury.

Be prepared to handle combative, disoriented patient, or seizures.

EMT-B

Follow Initial Protocols For All Patients.

EMT-I

Establish IV access at a TKO rate.

Draw blood sample for glucose level evaluation if possible.

Perform Glucometer check per local protocol. Do not delay transport.

EMT-P

Consider intubation.

Monitor EKG and treat dysrhythmias following the appropriate protocol.

Administer **DEXTROSE** 50 cc of 50% solution IV push and observe patient response.

If no response, give **NARCAN** 1.0 mg IV push and observe for response.

Basic Pediatric

Provide oxygen by pediatric NRM or blow-by-technique.

Pediatric EMT-I

Establish an IV enroute to an appropriate facility.

Pediatric EMT-P

Administer **GLUCOSE** 0.5-1.0 gram/kg of D25W (2-4 cc/kg) IV or **NARCAN** 0.1 mg/kg up to 2 mg IV or ET.

APPENDIX A

AIRWAY PROCEDURE COMBITUBE™

1) **Perform scene size-up.**

Use proper body substance isolation. Gloves are needed when there is a potential of contacting blood or body fluids; gowns are needed when large splash situations are likely, e.g., childbirth or major trauma; masks and eye protection are needed in situations when there is potential for blood or body fluid spatter. Assess scene safety, trauma (MOI) or medical (NOI), and number of patients. In cases of orotracheal intubation gloves, mask, and eye protection are needed.

2) **Perform initial assessment.**

Assess the general impression of patient, chief complaint, responsiveness, airway, breathing, and circulation status. Apply high flow oxygen, begin treatment for life-threatening injury/illness, if needed, and make transport decision based upon initial assessment.

Indications: The Combitube® is used for adult patients who are unconscious, apneic, and have no gag reflex.

Contra-indications: Never insert the Combitube® in a patient who is conscious with a gag reflex, who is under the age of 16, less than five feet in height (individual patient anatomy may vary sufficiently to warrant using a small adult Combitube® if available), who has swallowed a corrosive substance, or who has known esophageal disease.

3) **Gather and prepare necessary equipment.**

The necessary equipment for Combitube® insertion includes the Combitube®, 150 cc syringe, 20 cc syringe, water soluble lubricant, and stethoscope. inflate and check both the distal cuff (10- 15 cc of air) and the pharyngeal balloon (100

cc of air) for proper functioning. Lubricate the distal end of the tube with water soluble lubricant.

4) **Position for Combitube® tube insertion.**

Position the patient's head in a neutral or slightly flexed position if no suspected spinal injury (if a spine injury is suspected, maintain a neutral, in-line head position). Position yourself at the head of the patient (your left should also be the patient's left) with the assembled Combitube® equipment.

5) **Insert the Combitube®.**

Gently grasp the patient's lower jaw with the thumb and index finger of your non-dominant hand, lifting slightly upward. Holding the Combitube® in your dominant hand blindly insert the Combitube® into the midline of the mouth and pharynx following the normal curvature. Advance tube until the black measurement rings are aligned with the patient's teeth or the alveolar ridges. Never force the device; if it does not advance, simply readjust the insertion.

6) **Inflate the pharyngeal balloon.**

Using the larger syringe, inject 100 cc of air into the pharyngeal balloon or blue pilot valve. The device may move slightly as the Combitube® seats itself within the posterior pharynx.

APPENDIX A (CONT.)

AIRWAY PROCEDURE COMBITUBE™

7) Inflate the distal cuff.

Using the 20 cc syringe, inject 15 cc of air into the distal cuff (white pilot valve) or until resistance is felt.

8) Ventilate the patient using the #1 external tube.

The external tube marked #1 will be longer than tube #2. In most cases the Combitube® will be inserted into the esophagus. Always listen for breath sounds in the lung apices and bases, as well as over the epigastrium. If the tube is placed properly, there should be breath sounds in the lungs and no sound over the epigastrium.

9) Ventilate using the #2 external tube.

If there is an absence of breath sounds and positive sounds over the epigastrium, use the smaller #2 external tube. This will mean the tube is in the trachea. Once switched, again listen for breath sounds in the apices and bases of the lungs and over the epigastrium.

10) Ventilate with 100 percent oxygen and bag-valve.

Once tube placement is confirmed, ventilate the patient with high-flow oxygen at an appropriate rate. Always reassess and allow for exhalation between ventilations.

11) Continually assess tube placement.

Since there is always a possibility for the tube to slip from its position or be incorrectly placed, after every major patient

movement the tube's placement should be reevaluated by reassessing lung sounds and over the epigastrium.

12) Continue with further assessments.

Because securing the airway is most important, further assessment may not take place until after securing the airway. It may be necessary to complete the initial, focused, detailed, and on-going assessments after orotracheal intubation.

13) Remove tube, if indicated.

It may be necessary to remove the tube if the patient regains consciousness and begins to breathe on his/her own. In these cases, make sure a large bore suction catheter and suction unit are available. Never remove a tube unless the patient has resumed breathing on his/her own. If no spinal injury, turn the patient onto the left side and deflate all cuffs. In a smooth motion, remove the tube from the oropharynx. Be alert for vomiting and suction the oropharynx.

14) Document assessments and emergency care.

All assessments and emergency medical care need to be documented on the PCR for any trends the patient may present and any improving or worsening conditions. The procedure should be documented on the PCR. The PCR serves as a medical and legal document for the emergency call.

APPENDIX B

AIRWAY PROCEDURE PTL™

1) Perform scene size-up.

Use proper body substance isolation. Gloves are needed when there is a potential of contacting blood or body fluids; gowns are needed when large splash situations are likely, e.g., childbirth or major trauma; masks and eye protection are needed in situations when there is potential for blood or body fluid spatter. Assess scene safety, trauma (MOI) or medical (NOI), and number of patients. In cases of orotracheal intubation, gloves, mask, and eye protection are needed.

2) Perform initial assessment.

Assess the general impression of patient, chief complaint, responsiveness, airway, breathing and circulation status. Apply high flow oxygen, begin treatment for life-threatening injury/illness, if needed, and make transport decision based upon initial assessment

Indications:. The PTL® is used for adult patients who are unconscious, apneic, and have no gag reflex

Contra-indications: Never insert the PTL® in a patient who is conscious with a gag reflex, who is under the age of 16, less than five feet in height, who has swallowed a corrosive substance, or who has known esophageal disease.

3) Gather and prepare necessary equipment.

The necessary equipment for PTL® insertion includes the PTL®, water soluble lubricant, and stethoscope. Make sure both cuffs are fully deflated. Lubricate the distal end of the tube with water soluble lubricant.

4) Position for PTL® tube insertion.

Position the patient's head in a neutral or hyperextended position if no suspected spinal injury (if a spine injury is suspected, maintain a neutral, in-line head position). Position yourself at the head of the patient (your left should also be the patient's left) with the assembled PTL® equipment.

5) Insert the PTL®.

Gently grasp the patient's lower jaw with the thumb and index finger of your non-dominant hand, lifting slightly upward. Holding the PTL® in your dominant hand, insert the PTL® into the midline of the mouth and pharynx following the normal curvature. Advance tube until the teeth strap is in contact with the patient's lips or teeth. Never force the device; if it does not advance, readjust the insertion. Once it is in place, tighten the neck strap to hold the device in place.

6) Inflate the smaller distal and larger Oropharyngeal cuffs.

Inflate both cuffs by blowing into the inflation valve (marked #1). Make sure the white cap is in place over the deflation port under the inflation valve. Check the pilot balloon for inflation to assure proper inflation of the cuffs. It may be necessary to inflate slightly more after the initial ventilation to provide a better seal. The device may move slightly as the PTL® seats itself within the posterior pharynx.

7) Ventilate the patient using the #2 green tube.

There is a green tube (marked #2), and a clear tube (marked #3) which is longer. Ventilate using the green tube first. If the chest rises, then the device is in the esophagus and air is entering the lungs. Always listen for breath sounds in the lung apices and bases, as well as over the epigastrium. If properly placed, there should be breath sounds in the lungs and no sound over the epigastrium.

APPENDIX B (CONT.)

AIRWAY PROCEDURE PTL™

8) Ventilate using the #3 clear tube.

If there is an absence of breath sounds and no chest rise using the green tube, then you will need to ventilate using the longer #3 clear tube, since this will mean the device is in the trachea. Remove the stylet and attempt to ventilate through the #3 tube. Again listen for breath sounds in the lung apices and bases and over the epigastrium.

9) Ventilate with 100 percent oxygen and bag-valve.

Once tube placement is confirmed, ventilate the patient with 100 percent oxygen at an appropriate rate. Always reassess and allow for exhalation between ventilations.

10) Continually assess tube placement.

Since there is always a possibility for the tube to slip from its position or to be incorrectly placed, after every major patient movement the tube's placement should be reevaluated by reassessing lung sounds and auscultating over the epigastrium.

11) Continue with further assessments.

Because securing the airway is the most important part of emergency medical care, further assessment may not take place until after securing the airway. It may be necessary to complete the initial, focused, detailed, and on-going assessments after orotracheal intubation.

12) Remove tube, if indicated.

It may be necessary to remove the tube if the patient regains consciousness and begins to breathe on his/her own. In these cases, make sure a large bore suction catheter and suction units are available. Never remove a tube unless the patient has resumed breathing on his/her own. If no spinal injury, turn the patient onto the left side and deflate all cuffs. In a smooth motion, remove the tube from the oropharynx. Be alert for vomiting, and suction the oropharynx.

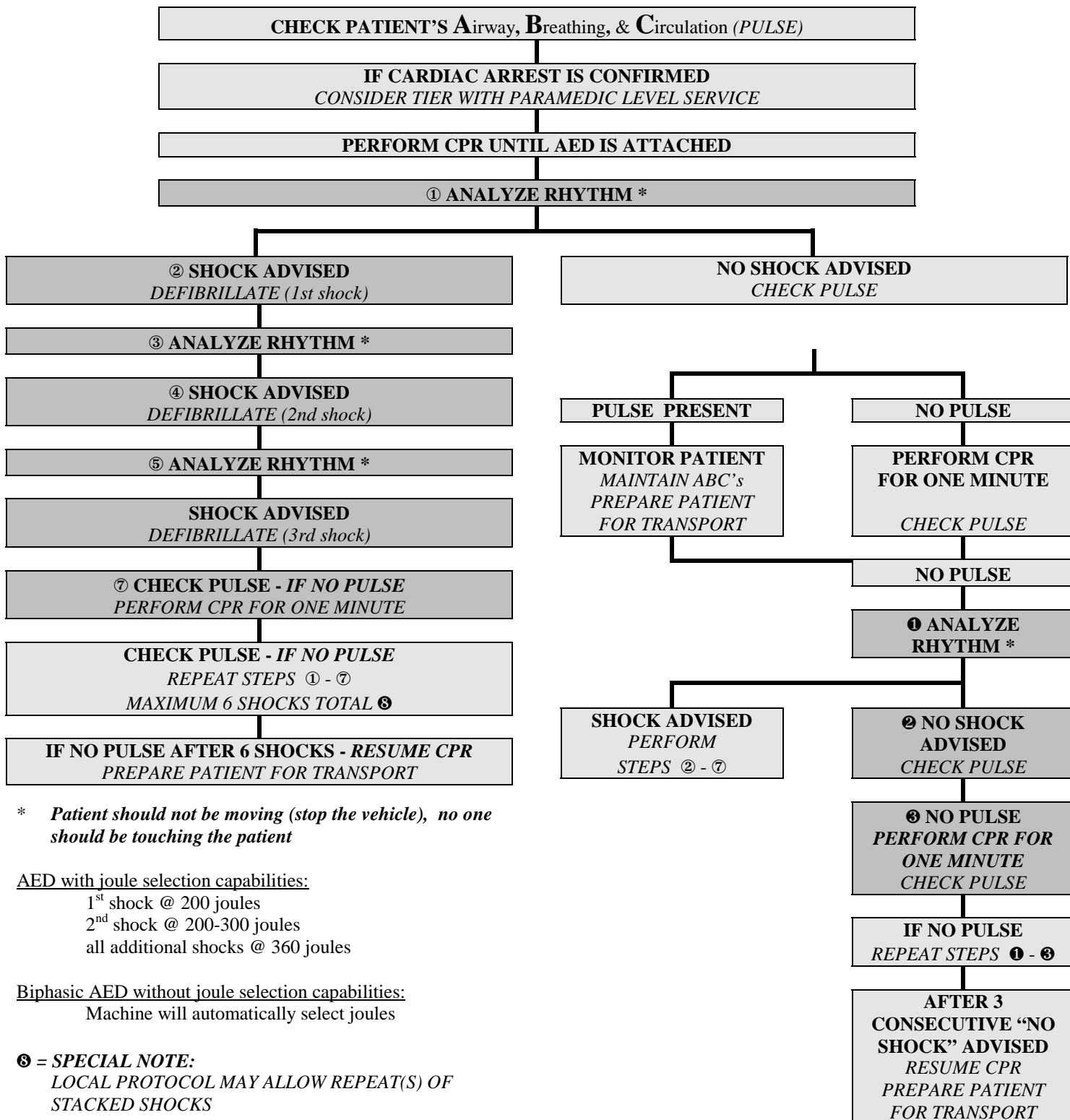
13) Document assessments and emergency care.

All assessments and emergency medical care need to be documented on the PCR for any trends the patient may present and any improving or worsening conditions. The procedure should be documented on the PCR. The PCR serves as a medical and legal document for the emergency call.

Appendix C

Iowa Statewide Automated External Defibrillation (AED) Protocol

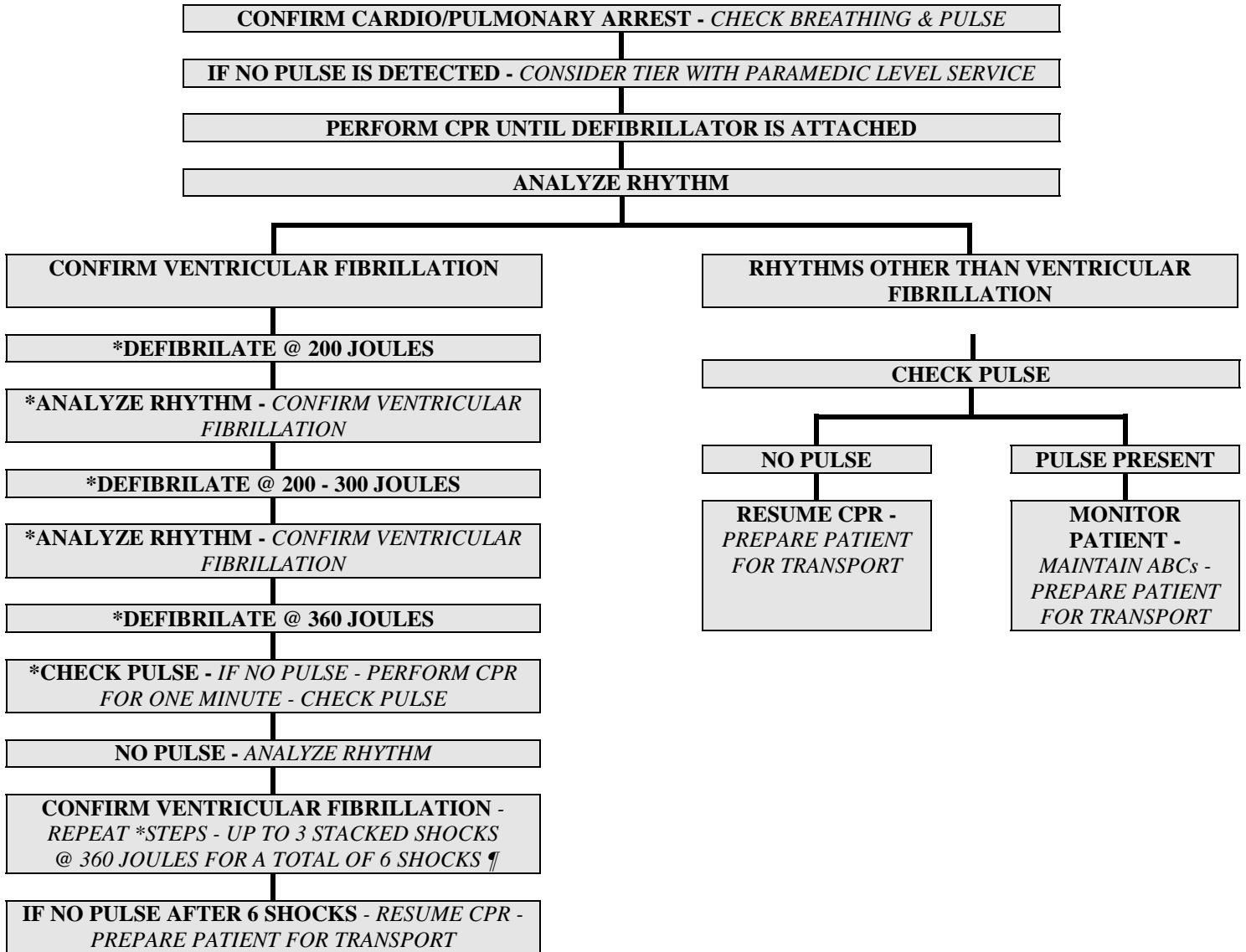
***PATIENTS MUST BE PULSELESS & BREATHLESS
& BE AT LEAST: 8 YEARS OF AGE “OR” 55 POUNDS IN WEIGHT***



APPENDIX D

Iowa Statewide Manual Defibrillation Protocol

***PATIENTS MUST BE PULSELESS & BREATHLESS
& BE AT LEAST: 8 YEARS OF AGE "OR" 55 POUNDS IN WEIGHT***



¶ = SPECIAL NOTE: LOCAL PROTOCOL MAY ALLOW REPEAT OF STACKED SHOCKS @ 360 JOULES

APPENDIX E

GASTRIC TUBE INSERTION

Procedure:

1. Explain procedure to patient.
2. Raise head of bed to high Fowlers position if possible. Support the patient's head and shoulders with a pillow.
3. Place a towel over the patient's chest and put tissues and emesis basin on the patient's lap.
4. Measure the tube to determine how far to insert it. Place the tip of the tube at the patient's mouth, then extend the tube to the tip of the ear lobe and then to the end of the xyphoid process. Use a piece of tape to mark the distance to be inserted or use black markings found on some tubes.
5. Lubricate tip with water or KY jelly.
6. Have patient tilt head forward. Pass tube through mouth downward but do not force. Stop immediately if patient experiences respiratory distress.
7. When the tube is inserted in the approximate length you have measured, check for placement in the stomach:
 - a. Check mouth and throat using a tongue blade and flashlight. The tube might be coiled in the back of the throat. Especially important in unconscious or semi-conscious patients.
 - b. Inject 10-20 cc of air through the tube into the stomach while auscultating the stomach just below the xyphoid process. You should hear a "wooshing" sound of air entering the stomach.
 - c. If given order by medical direction aspirate stomach contents with a syringe using very gentle suction. If stomach contents are not obtained, move patient to left lateral position and aspirate again. If you still do not get stomach contents, advance the tube another 1-2 inches and aspirate again. If still uncertain clamp the tube during transport. Have placement evaluated in hospital.
8. Connect tube to suction if ordered by medical direction. Use lowest possible setting which is effective. If not ordered to suction, clamp tube.
9. Anchor tube to the patient's face with tape that has been wrapped around the tube.
10. Document the time of insertion, the type and size of gastric tube used, and note type and amount of drainage and patency of tubing.
11. Auscultate placement of tube every 5 minutes during transport.

APPENDIX F

GLUCOSE MONITORING

Services who choose to provide Glucose Monitoring shall follow the guidelines set out by the Clinical Laboratory Improvement Amendment (CLIA) and follow a protocol approved by the service program's medical director.

APPENDIX G

INTRAOSSSEOUS INFUSION

Indications: A qualified EMS provider* may use this skill for patients in whom venous access is impossible after 90 seconds or 3 IV attempts in a life threatening situation. When cardiopulmonary arrest is present, 3 IV attempts are not necessary. Proceed directly to Intraosseous.

Contraindications: Fractured bones, previous attempts and any other known imperfection of the bone.

Procedure/Treatment:

1. Identify insertion site and cleanse the skin with Betadine.
2. Insert the needle at a 90 degree angle. A twisting or boring motion should be utilized to overcome resistance of the cortex.
3. Advance the needle, feeling a "pop" and lack of resistance of needle passing through the cortex.
4. Remove the stylet and attempt to aspirate bone marrow into a saline filled syringe.
 - a) Inject 2-5 cc of saline verify placement and flush away clots and/or marrow blocking the needle. Observe for any swelling at the site.
5. Verify placement further by the needle standing in position without support. Stabilize needle with gauze and tape.
6. Connect IV fluids to the site and run the fluid looking for signs of infiltration. Use connecting tubing between IV and needle.
7. Multiple punctures at a site should not be attempted.

***Qualified EMS provider:** A certified paramedic who has demonstrated skills necessary to competently perform this procedure and has the approval of the medical director.

APPENDIX H

MAINTENANCE OF NON-MEDICATED IV's

I. DISCONTINUING AN IV:

A. Procedure

1. Advise or receive orders from medical direction to discontinue IV.
2. Take appropriate BSI precautions.
3. Explain procedure to the patient and/or family members.
4. Turn off IV fluid by closing pressure wheel on administrative tubing.
5. Remove tape and other securing material from IV tubing and catheter.
6. Remove IV catheter and administration tubing still connected.
7. Cover the puncture site with an alcohol wipe, 2x2, or 4x4 and hold pressure until bleeding stops.
8. Cover wound with appropriate dressing (Band-Aid).
9. Discard IV administration set, fluid, and catheter in an approved fashion.
10. Document discontinuance of IV.

II. CHANGING IV FLUIDS:

A. Rational

1. During long distance transfers.
2. Change of fluids by medical direction.

B. Procedure

1. Check orders/authorization for change of IV fluids from medical direction.
2. Check for correct IV fluid.
3. Take appropriate BSI precautions.
4. Prepare new IV solution, remove covers.
5. Turn off IV flow rate by closing pressure wheel on administration tubing.
6. Invert IV container, remove the IV container to be changed from the administration set, maintaining a sterile environment.
7. Invert the new solution container, puncture the replacement solution container with spike of administration set.
8. Turn IV container over (upright).
9. Fill drip chamber of administration set to marked line if needed.
10. Adjust IV flow rate to desired amount.
11. Reassess IV site and flow.
12. Discard used IV container in an appropriate manner.
13. Document procedure.

C. Precautions

1. Do not allow an IV to "run dry".
2. If the drip chamber is empty, will need to "bleed" air from the tubing before adjusting the IV flow rate.

APPENDIX I

MAST/PASG APPLICATION

Indications: A qualified EMS provider* may use this skill for the following:

- A. To stabilize lower extremity or pelvic fractures.
- B. To control bleeding of large lower extremity lacerations.

Contraindications: Do not use on patients with pulmonary edema, congestive heart failure or cardiogenic shock.

Procedure/Treatment:

1. Contact medical direction for order to apply MAST/PASG.
2. Use one of the standard application procedures of the MAST/PASG, taking precautions to protect the spine or extremity injuries.
3. Cut the patient's pants off and remove shoes.
4. Wrap legs and abdomen snugly with Velcro straps.
5. Attach the tubing to each of the three compartments and foot pump.
6. Make sure valve stems are in the open position (in line with the tubing).
7. Pump trouser up until one of the following occurs.
 - a. BP rises to above 100 mm systolic.
 - b. Velcro straps slip and/or pop-off valve releases.
 - c. Trousers indent with firm pressure.
8. Uneven compartment filling can be compensated for by turning off the valve to filled compartments.
9. Note the time of the MAST/PASG inflation.
10. Monitor vital signs, especially the blood pressure, every five minutes until arrival to the ER.
11. **DO NOT DEFLATE MAST!** In the event that respiratory distress develops after inflation, contact medical direction for further orders.
12. Upon arrival to the ER, provide the nurse and/or doctor with the time of inflation and the vital signs before and after inflation.

***Qualified EMS provider:** A certified EMT-B, EMT-I or Paramedic who has demonstrated the skills necessary to competently perform this procedure and has the approval of the medical director.

APPENDIX J

NASOGASTRIC TUBE INSERTION

Procedure:

1. Explain procedure to patient.
2. Raise head of bed to high Fowlers position if possible. Support the patient's head and shoulders with a pillow.
3. Place a towel over the patient's chest and put tissues and emesis basin on the patient's lap.
4. Question the patient regarding any nasal injuries or occlusions.
5. Measure the tube to determine how far to insert it. Place the tip of the tube on the patient's nose, then extend the tube to the tip of the ear lobe and then to the end of the xyphoid process. Use a piece of tape to mark the distance to be inserted or use black markings found on some tubes.
6. Curve the end of the tube by coiling the first 6 inches tightly around your finger.
7. Lubricate tip with water or KY jelly.
8. Have patient tilt head forward. Pass tube through nose downward but do not force. Some people have obstructions in nasal passages. If severe resistance is met, remove the tube, lubricate and try the other nostril.
9. When inserted approximately 4-5 inches, have the patient swallow water from a straw. If patient can't drink fluids, have the patient dry swallow or suck air through a straw. Advance the tube with each swallow. Stop tube insertion for respiratory distress.
10. When the tube is inserted in the approximate length you have measured, check for placement in the stomach:
 - a. Ask the patient to talk. If they cannot talk, the tube might have passed through the vocal cords.
 - b. Check mouth and throat using a tongue blade and flashlight. The tube might be coiled in the back of the throat. Especially important in unconscious or semi-conscious patients.
 - c. Inject 10-20 cc of air through the tube into the stomach while auscultating the stomach just below the xyphoid process. You should hear a "wooshing" sound of air entering the stomach.
 - d. If given order by medical direction aspirate stomach contents with a syringe using very gentle suction. If stomach contents are not obtained, move patient to left lateral position and aspirate again. If you still do not get stomach contents, advance the tube another 1-2 inches and aspirate again. If still uncertain clamp the tube during transport. Have placement evaluated in hospital.
11. Connect tube to suction if ordered by medical direction. Use lowest possible setting which is effective. If not ordered to suction, clamp tube.
12. Anchor tube to the patient's nose with tape that has been wrapped around the tube. Do not allow any pressure to be placed on the patient's nares.
13. Document the time of insertion, the type and size of nasogastric tube used, and note type and amount of drainage and patency of tubing.
14. Auscultate placement of tube every 5 minutes during transport.

APPENDIX K

NEEDLE CRICOTHYROTOMY

Indications: A qualified EMS provider* may use this skill when unable to gain airway access by other means, or there is an upper airway obstruction.

Contraindications:

1. Pre-existing laryngeal pathology.
2. Anatomical barriers
3. Anticoagulation therapy.

Complications:

1. Injury to surrounding tissue.
2. Hemorrhage.
3. Infection.
4. Edema.
5. Aspiration of blood.
6. Subcutaneous and mediastinal emphysema.

Procedure/Treatment:

1. Stabilize the patient's head in the neutral position.
2. Identify the cricothyroid membrane and prepare the skin.
3. Stabilize the cricoid and thyroid cartilages with the nondominant hand.
4. Make an incision through the skin in the area that the needle will puncture.
5. Once the cricothyroid membrane has been identified, insert the # 14 splinting needle device just below the midpoint of the cricothyroid membrane with the needle angled at 45 degrees caudally. The 3cc syringe is attached to the needle prior to insertion.
6. Placement in the airway is verified by drawing air with the syringe, after placement is verified the syringe is removed.
7. The leader of the dilator is inserted through the splinting needle and into the trachea.
8. The needle is then split and removed .
9. The dilator and the airway are then advanced into the trachea.
10. The dilator is removed from the airway leaving the airway open for resuscitation.
11. The cuff can be inflated and the resuscitation applied.

***Qualified EMS provider:** A certified paramedic who has demonstrated the skills necessary to competently perform this procedure and has the approval of the medical director.

APPENDIX L

NEEDLE THORACOSTOMY

Indications: A qualified EMS provider* may use this skill for respiratory compromise associated with one or more of the following:

1. Tension Pneumothorax.
2. Absent or greatly decreased breath sounds over the hemithorax area.
3. Trachea shifted to unaffected side and/or JVD.
4. Subcutaneous emphysema.
5. Multiple rib fractures.

Procedure/treatment:

1. Expose and cleanse anterior chest at level of the 2nd intercostal space on the affected side.
2. Find 2nd intercostal space midclavicular line with gloved finger.
3. Using 14 gauge over-the-needle catheter and syringe attached direct needle over the third rib into the 2nd intercostal space.
4. Apply enough pressure to push the needle through the intercostal muscle and into the pleural cavity.
5. You should pull back air in the syringe or if no syringe on the needle you should here a rush of air, either of these should be considered a positive placement.
6. Remove the needle leaving catheter in place and securing with tape.
7. Connect to one-way valve.
8. Assess patient for improvement in status.

***Qualified EMS provider:** A certified paramedic who has demonstrated the skills necessary to competently perform this procedure and has the approval of the medical director.

APPENDIX M

URINARY CATHETERIZATION PROCEDURE

A. Procedure for Female Catheterization:

1. Prepare the patient and explain procedure. Maintain privacy for patient. Place patient in dorsal recumbent position with knees flexed and legs spread apart. Drape with blanket exposing genital area.
2. Prepare equipment. Place catheter tray close, and open tray and catheter.
3. Put on sterile gloves.
4. Place sterile towel under buttocks. Test bulb on catheter by instilling water into balloon and then deflate.
5. Place tray on sterile towel and open lubricant container. Place catheter on sterile towel or in sterile container.
6. Place sterile drapes over pubic area.
7. Separate labia with thumb and forefinger to expose meatus. (This glove is contaminated).
8. Cleanse vulva with cotton balls saturated with Betadine solution with a downward stroke on each side and over meatus, using forceps in kit. Discard after one wipe. Wait 1-3 minutes for it to dry.
9. Connect drainage bag to catheter.
10. Lubricate tip of the catheter with jelly.
11. Pick up catheter about 3 inches from the tip.
12. Insert catheter gently into meatus and drain urine from bladder. At this time inflate the catheter bulb with 5-10 cc of water.
13. Discard disposable equipment.
14. Chart amount of urine obtained along with procedure and equipment used.

B. Procedure for Male Catheterization:

1. Use the same sterile technique in catheterizing the male patient as is used for the female. The most important point to remember in catheterizing a male is - THE URETHRA MUST BE LUBRICATED WELL.
2. Prepare the patient and equipment in the same manner as above. A #18 foley catheter is the least traumatic to the urethra.
3. Inflate and deflate the catheter bulb prior to insertion to check functioning of bulb.
4. Using forceps provided in kit, clean the penis well before inserting the catheter and retract the foreskin. Clean the glans penis and drape the area with paper drapes.
5. After xylocaine has been inserted, or after the catheter has been well lubricated with KY jelly, insert the tip of the catheter into the urethral meatus and advance it. There should be no trouble advancing the catheter ordinarily in the entry urethra. This includes the penile urethra and the deep bulbous urethra (5-6 inches).
6. Just prior to entering the bladder, the catheter enters the membranous urethra which contain the male sphincter. If the patient has had much pain with catheterization, the sphincter will contract. HOLD THE CATHETER AGAINST THE SPHINCTER FOR A MINUTE AND THE SPHINCTER WILL GRADUALLY RELAX. The catheter can then move into the bladder.
7. The prostate may be enlarged, but if the urethra is well lubricated there should be no problem inserting the catheter.
8. After the catheter is inserted to the "y" junction, place 10-12 cc of sterile saline in the balloon.
9. Irrigation may be necessary if the catheter is plugged by KY jelly or Xylocaine.
10. The catheter should remain attached to drainage system to maintain a closed system.

APPENDIX N

NO CPR PROTOCOL

(An out-of-hospital No-CPR / DNR protocol for Emergency Medical Care)

Purpose: This protocol is intended to avoid unwarranted resuscitation by emergency care providers in the out-of-hospital setting for those patients who, either in person or through an appropriate surrogate, express a desire to refuse such care AND for whom a validly executed No-CPR / DNR status has been determined by their physician.

For the purpose of this policy a patient shall be No-CPR / DNR at the time criteria 1, 2, and 3 (see below) have been met and communicated to the emergency care provider. If the below mentioned criteria **IS NOT MET**, the emergency care provider is to proceed with the care appropriate to the patient's condition.

Definitions: A. **No-CPR Orders:** Written or verbal orders from a physician stating that CPR and/or Advanced Life Support measures are not to be initiated OR continued.
B. **No-CPR includes:** (1) No Chest Compressions (2) No Defibrillation
(3) No Esophageal Obturator / Endotracheal Intubation.

***** A patient encountered by an emergency care provider shall be considered No-CPR if: *****
1, 2 (a. or b. or c.), and 3, of the following conditions have been met:

CRITERIA:

1. Either patient or an appropriate surrogate (if the patient is incapacitated) has expressed a desire to avoid invasive care and there is no evidence that would lead a reasonable emergency care provider to believe the patient would now feel differently.
2. The patient's status for No-CPR / DNR has been verified as appropriate by a physician caring for the patient by **any one** of the following actions:
 - a. There is a written Do Not Resuscitate (aka DNR) or No-CPR order that is signed by the patient's physician and is available for the emergency care provider to read.
 - b. The patient's physician is on scene and communicates a verbal order that this patient is DNR or No-CPR. A signed written order verifying the verbal order should be requested.
 - c. The patient's physician is not on the scene but is in communication with emergency care providers and is known by the emergency care provider to be a practicing community physician and communicates a verbal order that the patient is DNR or No-CPR. A signed written order verifying the verbal order should be requested.
3. **Transporting Services (aka: ambulance services):** Contact* must be made with on-line medical control and *medical control must concur that No-CPR is appropriate.*

Non-transporting Services (aka: rescue and/or first response services): Contact* must be made with on-line medical control directly OR with the EMS transporting service responding to the call to relay (by radio or cellular phone) the information of DNR or No-CPR status to the on-line medical control AND *medical control must concur that No-CPR is appropriate.* The EMS transporting personnel will then advise the non-transporting service of the Medical Control decision.

*Should there be a communication failure preventing involvement of Medical Control then section 2 a., or 2 b., or 2c. would be sufficient for a No-CPR / DNR status.

Comfort Care (♥):

When a patient has met the criteria for No-CPR / DNR under the foregoing information, the emergency care provider shall withhold or discontinue the therapies defined under No-CPR Orders but should continue to provide that care which is intended to make the patient more comfortable (a.k.a. ♥ Comfort Care). Whether other types of care are indicated will depend upon individual circumstances for which Medical Control may be contacted by or through the responding ambulance service personnel.

- ♥ **Comfort Care may include, but is not limited to:** (1) Pain medication (2) Fluid Therapy
(3) Respiratory Assistance (oxygen, suctioning, BVM)

APPENDIX 0

PHYSICIAN ON SCENE

Your offer of assistance is appreciated. However, this EMS service, under law and in accordance with nationally recognized standards of care in Emergency Medicine, operates under the direct authority of a Physician Medical Director. Our Medical Director and his or her physician designees have already established a physician-patient relationship with this patient. To ensure the best possible patient care, and to prevent on your part inadvertent patient abandonment or interference with an established physician-patient relationship, please comply with our established protocols.

Please review the following if you wish to assume responsibility for this patient:

1. You must be recognized or identify yourself as a qualified physician.
2. You must be able to provide proof of licensure and identify your specialty.
3. If requested, you must speak directly with the on-line medical control physician to verify transfer of responsibility for the patient from that physician to you.
4. EMS personnel, in accordance with State law, can only follow orders that are consistent with the approved protocols.
5. You must accompany this patient to the hospital, unless the on-line medical control physician agrees to re-assume responsibility for this patient prior to transport.

APPENDIX P

AIR MEDICAL TRANSPORT Utilization Guidelines for Scene Response

These guidelines have been developed to assist with the decision making for use of air medical transport by the emergency medical services community. The goal is to match the patient's needs to the timely availability of resources in order to improve the care and outcome of the patient from injury or illness.

CLINICAL INDICATORS:

- Advanced level of care need (skills or medications) exists that could be made available more promptly with an air medical tier versus tiering with ground ALS service, and further delay would likely jeopardize the outcome of the patient
- Transport time to definitive care hospital can be significantly reduced for a critically ill or injured patient where saving time is in the best interest of the patient
- Multiple critically ill or injured patients at the scene where the needs exceed the means available
- EMS Provider 'index of suspicion' based upon mechanism of injury and patient assessment

DIFFICULT ACCESS SITUATIONS:

- Wilderness or water rescue assistance needed
- Road conditions impaired due to weather, traffic, or road construction / repair
- Other locations difficult to access

The local EMS provider must have a good understanding of regional EMS resources and strive to integrate resources to assure that ground and air services cooperate as efficiently and effectively as possible in the best interest of the patient.

Medical directors for ambulance services should assure that EMS providers are aware of their own service's abilities and limitations given the level of care and geographic response area being served. Audits should be conducted on an ongoing basis to assure that utilization of regional resources (ground and air) is appropriate in order to provide the level of care needed on a timely basis.

APPENDIX Q

EMS PROVIDER SCOPE OF PRACTICE

According to Iowa Administrative Code 132.2(4) emergency medical skills may be performed if there is documentation of training, and the skill is both within the provider and service program level of authorization, a written protocol exists, and the skill is approved by the service program's medical director.

New First Responder Level:

- AED
- Oral airway suctioning
- Oral or nasopharyngeal airways
- Oxygen administration
- Esophageal/tracheal/double-lumen airway
- Vitals, including blood pressure
- BCLS
- Bandaging
- Over the counter meds
- C-collar with manual stabilization

EMT-Basic Level:

- First Responder level skills, plus
- Monitoring & maintenance of non-medicated IV

- Spinal immobilization (C-collar with manual stabilization, short board, long board)
- Patient assisted meds (inhaler, nitro, epi-pen)
- M.A.S.T.
- Extremity immobilization/splint

EMT-Intermediate Level:

- First Responder & EMT-B skills, plus
- Initiation of non-medicated IV
- EGTA
- Gastric tube insertion

EMT-Paramedic Level:

- First Responder, EMT-B & EMT-I skills, plus

- Endotracheal intubation
- Pharmacological intervention
- Maintenance & monitoring of intravenous infusion of blood & blood products
- Tension pneumothorax decompression
- Cricothyrotomy and transtracheal insufflation
- Gastric tube insertion
- Nasogastric tube insertion
- Rotating tourniquets
- Urinary catheterization
- Intraosseous infusion
- Rhythm strip interpretation
- Obtaining a 12-lead ECG
- 12 lead ECG interpretation if trained.

The Department may approve other emergency medical skills on a limited pilot project basis. Requests for pilot projects shall be submitted in writing to the department.

APPENDIX R

DISCONTINUATION OF RESUSCITATION

INDICATIONS TO CONSIDER TERMINATION OF RESUSCITATION:

- 1) Patient is in full arrest with no signs of life present.
- 2) Patient is considered an adult.
- 3) Full ACLS has been instituted (Paramedic level) to include rhythm analysis and defibrillation if indicated, advanced airway management, and drugs given per protocol.
- 4) No return of circulation or shockable rhythm exists.
- 5) Any family members present are in agreement to terminate efforts.

TERMINATION OF RESUSCITATION:

- 1) Patient meets all five criteria under 'indications' above, or patient is terminally ill/DNR where CPR was started prior to knowledge of resuscitation status.
- 2) *Physician on-line medical direction* is contacted (while ACLS continues) to discuss any further appropriate actions.
3. ACLS may be discontinued if *physician on-line medical direction* authorizes.

SPECIAL CONSIDERATIONS:

- 1) Documentation must reflect that the decision to terminate resuscitation was determined by *physician on-line medical direction*.
- 2) An EMS/health care provider must attend the deceased until the appropriate authorities arrive.
- 3) All IVs, tubes, etc. should be left in place until the medical examiner authorizes their removal.

Physician on-line medical direction includes either of the following:

- 1) Hospital based physician contact via phone or radio.
- 2) Patient's primary care physician or on call physician contact via phone or radio.

Special Considerations

Patients with hypothermia or metabolic disorder may benefit from continued resuscitation.

APPENDIX S

PULSE OXIMETRY PROCEDURE

Application of the pulse oximeter is not a priority in the initial management of the critically ill or injured patient. The pulse oximeter can be used to help monitor the patient's oxygenation after the usual procedures to stabilize the patient are completed (ABC's management).

Procedure/Treatment:

1. Start treatment based on initial assessment to stabilize the patient while applying pulse oximeter.
2. Position patient comfortably and support dependent extremity to be used for monitoring.
3. Remove finger nail polish. Polish can falsely alter saturation.
4. Attach sensor probe to finger or bridge of nose. May also use the earlobe or toes.

Potential problems:

1. Inaccuracy if O₂ saturation less than 70%.
2. Possible interference with ambient light.
3. Presence of carboxyhemoglobin will produce normal reading in the presence of severe tissue hypoxemia.
4. Measurements can be difficult to get in the presence of vasoconstriction, hypotension and anemia.

APPENDIX T

Chest Pain Checklist

This checklist is an assessment tool for patients with signs/symptoms of myocardial infarction. If all boxes are checked and ECC findings of acute myocardial infarction are present, reperfusion therapy with thrombolysis may be indicated. (Thrombolysis is generally not indicated if any boxes are not checked. However, emergency angiography and PTCA or bypass surgery may still be indicated.)

Communication of this information to the receiving facility on a timely basis can help reduce time to definitive treatment. In local EMS systems where there is a long transport time or long hospital door to treatment time there may be a benefit to administering thrombolytics in the field based upon using local protocol and on-line medical control authorization.

| | | |
|--|----------------------------|--------------------------|
| Age: _____ | Gender: male/female | Date: ____/____/____ |
| Name # _____ | Incident/Record # _____ | |
| | | YES NO |
| Ongoing chest discomfort(>20 min and <12 hr) | | _____ |
| Oriented, can cooperate | | _____ |
| If 12 Lead EKG available, transmitted to receiving facility | | _____ |
| Known bleeding disorder | | _____ |
| Active internal bleeding or history of GI bleed | | _____ |
| Use of anticoagulants | | _____ |
| Surgery or trauma in past 2 months | | _____ |
| History of stroke, TIA, brain tumor or aneurysm | | _____ |
| Terminal Illness | | _____ |
| Jaundice, hepatitis, kidney failure | | _____ |
| Uncontrolled hypertension (Blood Pressure >180/110) | | _____ |
| Right Arm ____/____ Left Arm ____/____ | | |
| EMS provider completing form _____ | | Signature |

Sources: 1) *Management of acute myocardial infarction. J Am Coll Cardiol 1996;28:1328-428.*

- 2) *EMS providers' role in EHAC program: prevention and stratification strategies. Proceedings from the First Maryland Chest Pain Center Research Conference 1997.*

APPENDIX U

RECTAL VALIUM ADMINISTRATION

Administration of rectal Valium may be considered for pediatric seizure emergencies after the usual procedures to stabilize the patient are completed (ABC's management).

Procedure/Treatment:

1. Draw up 10 mg of Valium into syringe and remove needle.
2. Lubricate end of feeding tube and insert approximately 2 inches into the rectum.
3. Attach syringe to end of tube and push appropriate dose of Valium into tube.
4. Clamp the tube and remove syringe.
5. Pull back 2 cc's of air in syringe and reattach to tube.
6. Unclamp the tube and push air into feeding tube, being sure the Valium is placed into the rectum.
7. Repeat 4,5 and 6 until Valium is fully into rectum.
8. Remove the tube from rectum and hold buttocks together.

APPENDIX V

Medication Assisted Intubation

INDICATIONS: A qualified EMS provider* may use this skill for the following:

- A. Uncontrolled, obstructed or inadequate airway secondary to trauma or overdose when further sedation is needed
- B. Decreased level of consciousness, combativeness or severe agitation secondary to trauma or suspected CVA
- C. Combative or uncontrollable head trauma patient that presents potential for injury to self or others
- D. CHF, COPD, or Asthma patient with hypoxia and/or respiratory exhaustion who cannot be nasotracheally intubated or easily orally intubated
- E. Burn patient with potential or existing respiratory compromise

CONTRAINDICATIONS: Hypersensitivity to medications that would be used

PROCEDURE:

1. Position patient supine on ambulance cot. Position a towel roll under the shoulders.
2. Ensure all equipment is set up for intubation.
3. Ensure adequate spinal precautions are taken.
4. Pre-oxygenate with high flow oxygen by mask. Excessive manual ventilation may result in gastric distention with vomiting and aspiration. Be prepared to suction as needed.
5. If needed, sedate the patient with **Valium 2.0 – 5.0 mg IV** (adult) or **Valium 0.05 – 0.2 mg/kg IV** diluted 1:1 in NS (peds). Wait for 1-2 minutes for sedative effect. May use repeat doses of 2.0 mg every 2-3 minutes as needed to titrate for effect. Maximum dose not to exceed 10 mg.
6. If needed, sedate the patient with **Midazolam 1.0 – 2.5 mg IV** (adult) Wait for 1-2 minutes for sedative effect. May use repeat doses of 1.0 - 2.5 mg every 2-5 minutes if needed to titrate for sedative effect. Maximum dose not exceed 5mg.
7. Administer **1.5 MG/KG Succinylcholine IV push**.
8. Apply cricoid pressure (Sellick maneuver) to occlude the esophagus until intubation is successfully completed and the ETT cuff is inflated. If the patient actively vomits, cricoid pressure must be released.
9. **Intubate** (Wait for complete paralysis as indicated by no blink reflex, no muscle tone in jaw).
10. Verify and secure tube placement and apply end tidal CO2 detector.
11. If bradycardia occurs associated with intubation, temporarily halt attempt and hyperventilate the patient with the BVM and 100% oxygen. If the patient remains bradycardic, consider **Atropine 0.5 mg IV** (adult) or **Atropine 0.01 mg/kg IV** (peds).
12. Consider sedation/prolonged paralysis as indicated. (Continued sedation Midazolam 0.1MG/KG IV.)
13. Consider use of **Romazicon 0.2 mg IV** for reversal of sedative effects. (Max dose of 1.0 mg)

*Qualified EMS provider: A certified EMT-P who has the skills necessary to competently perform this procedure and the approval of their medical director.

APPENDIX W

EMS APPROVED ABBREVIATIONS

| | | | |
|-----------------|---------------------------------------|--------------------|-----------------------------------|
| ā | before | Mgtt | microdrops |
| ABC | airway, breathing, circulation | MD | medical doctor |
| ALS | advanced life support | mEq | milliequivalents |
| AMI | acute myocardial infarction | mg | milligram |
| amps | ampules | MI | myocardial infarction |
| ASA | aspirin | min | minute |
| AT | atrial tachycardia | ml | milliliter |
| AV | atrioventricular | mm | millimeter |
| bicarb | sodium bicarbonate | MS | morphine sulfate |
| BID | twice a day | NaCl | sodium chloride |
| BIS | basic life support | NaHCO ₃ | sodium bicarbonate |
| BP | blood pressure | NG,N/G | nasogastric |
| BS | blood sugar | nitro | nitroglycerine |
| c | with | NPO | nothing by mouth |
| CAD | coronary artery disease | NS | normal saline |
| CC | chief complaint | NSR | normal sinus rhythm |
| cc | cubic centimeter | NTG | nitroglycerine |
| CCU | coronary care unit | O ₂ | oxygen |
| CHB | complete heart block | OB | obstetrics |
| CHF | congestive heart failure | OD | overdose |
| cm | centimeter | OR | operating room |
| CNS | central nervous system | P | pulse |
| c/o | complains of | p | after |
| CO | carbon monoxide | PAC | premature atrial contraction |
| CO ₂ | carbon dioxide | PAT | paroxysmal atrial tachycardia |
| COPD | chronic obstructive pulmonary disease | PE | physical exam, pulmonary edema |
| CPR | cardiopulmonary resuscitation | pedi | pediatric |
| CSF | cerebral spinal fluid | PERL | pupils equal, reactive to light |
| CVA | cerebral vascular accident | PJC | premature junctional contraction |
| D/C | discontinue | po | by mouth |
| DOA | dead on arrival | pr | per rectum |
| D5W | 5% dextrose in water | prn | whenever necessary, as needed |
| Dx | diagnosis | PVC | premature ventricular contraction |
| ED | emergency department | q | every |
| EKG, ECG | electrocardiogram | QID | for times a day |
| Epi | epinephrine | R | respirations |
| ER | emergency room | R/O | rule out |
| ET | endotracheal | RN | registered nurse |
| ETOH | alcohol | Rx | treatment |
| fib | fibrillation | s | without |
| fl | fluid | SC | subcutaneous |
| fx | fracture | Sec | second |
| GI | gastrointestinal | SL | sublingual |
| gm | gram | SOB | shortness of breath |
| gr | grain | SQ | subcutaneous |
| gt(t) | drop(s) | STAT | immediately |
| h,hr | hour | s/s | sign, symptoms |
| hx | history | SVT | supraventricular tachycardia |
| ICU | intensive care unit | Sx | symptoms |
| IM | intramuscular | TIA | transient ischemic attack |
| IV | intravenous | TID | three times a day |
| Kg | kilogram | TKO | to keep open |
| KVO | keep vein open | VF | ventricular fibrillation |
| L | litre | w/s | watt(5second 5settlng |
| LOC | level of consciousness | x | times |
| LR | lactated ringers | y/o | years old |

APPENDIX X

GUIDELINES FOR NEW PROTOCOL DEVELOPMENT A RATIONAL DECISION MAKING PROCESS*

(Also can be used to evaluate existing protocols)

Making a decision to develop a new protocol or evaluate an existing one should be based on a rational process. Questions that should be asked and answered when considering a new drug therapy or procedure are as follows:

Key Questions for any New Protocol

- 1) Is the drug therapy or procedure medically indicated and safe?
- 2) Is it within the scope of practice for the provider?
- 3) How specifically will this protocol benefit patient care?
- 4) What specifically is needed to implement this protocol (education/training, medical director protocol development/authorization, equipment needs, etc.)?
- 5) How will this protocol impact operations?
- 6) What is the opinion of providers concerning this protocol?
- 7) Does the medical community support this protocol change?
- 8) What are all the costs versus benefits associated with implementation and maintenance?
- 9) What are the medical-legal implications?
- 10) What ongoing provider involvement such as skills maintenance and continuous quality improvement is necessary?
- 11) How will success be measured?

Rational Protocol Development Process to Make the Right Protocol Decision

- 1) Study the issue thoroughly
- 2) Identify key questions
- 3) Compare with goals
- 4) Assess fit with system
- 5) Cost benefit analysis
- 6) Identify measuring tools

Stakeholders in this process are recognized to include, but not be limited to:

- 1) Medical direction (on-line and off-line)
- 2) Educators/training programs
- 3) Regulators of policy and rules
- 4) Service directors
- 5) Service providers
- 6) Consumers
- 7) Third party payers

APPENDIX Z

HAZARDOUS MATERIAL RESPONSE

Procedure:

1. Receiving notification that a person, who has been exposed to hazardous material needs to be transported, the ambulance personnel need to contact the department chief of the situation.
2. Reference the DOT Emergency Response Guidebook and the NIOSH Guide to Chemical Hazards to obtain information on the hazardous substance.
3. Prepare the oldest ambulance that is readily available by performing the following steps:
 - a) Remove all unnecessary supplies and equipment. Equipment that remains in the ambulance should be covered with visqueen to prevent contamination.
 - b) If time allows cover the interior of the patient compartment with visqueen and tape all seams.
 - c) Prepare plastic bags for patient belongings.
 - d) Provide three EMTs/Paramedics that are appropriately dressed to meet the victim(s) and the hazard.

Note: If weather permits this may be done at the staging area in the field.

4. The crew for transporting the victim(s) will wear personal protective equipment which may include (depending on the nature of the hazard):
 - a) Saranex 23-P Tyvek suit w/hood up over hair
 - b) Latex Response Boot
 - c) Neoprene gloves
 - d) Face shield
 - e) Tape (duct tape) seams between gloves, boots and suit, leave flap of tape for easy removal
 - f) Cover all exposed skin. Most substances are rapidly absorbed through the skin.

Note: If weather permits, this may be done at the staging area in the field.

5. Contact the Regional Hazmat Team at the scene and find out which direction to enter from. When arriving at the scene, report to the staging area. Do not enter any part of the field that is restricted due to contamination.
6. The crew that is transporting the victim(s) will do the following;
 - a) Receive victim(s) from the Regional Hazmat Team after they have been decontaminated (contact can not be made until they have been decontaminated.)
 - b) Contact the receiving hospital and advised them that the victim(s) have been completely decontaminated
 - c) Transport the victim(s) to the hospital after they have been decontaminated in the field
7. When all victim(s) have been transported:
 - a) Roll up all visqueen and place it in hazard contamination bags
 - b) Place the unit out of service until released by trained personnel
 - c) Remove protective clothing:
 - 1) Remove outer gloves
 - 2) Roll down suit from top, leaving suit inside out
 - 3) Remove boots, after removing one boot, place clean shoe into clean area leaving contaminated foot in contaminated area until second boot is removed, then step into clean area
 - 4) Remove face shield
 - 5) Remove inner exam gloves last, placing all in the contaminated area as protective clothing is removed.

