

Windsor Heights Fire Department Emergency Medical Services

EMS PROTOCOLS

FIRST RESPONDER, EMT-B, EMT-I, EMT-P, AND PS

(ADULT & PEDIATRIC)



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Windsor Heights Fire Department
EMS Protocol and Procedure Authorization

Adopted: September 2006

Modified: December 12, 2007

Reviewed: December 12, 2007

Medical Director

Date

Service Director

Date

Chief

Date



Windsor Heights Fire Department Section 2

EMS Protocols

Introduction and Authorization

Date Issued – February 13, 2008

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 Continuous Quality Improvement.

Regardless of EMS provider level of certification, use of skills in the out of hospital setting are limited to the EMS provider's scope of practice and EMS service program's level of authorization in accordance to the skills and protocols approved by the physician medical director. The service program medical director must determine what skills within the level of service authorization and provider scope of practice are to be included and also which, if any, are not included for individual EMS services. The "Iowa EMS Scope of Practice" document, adopted by reference to the administrative rules outlines skills by certification level. It is available on the Bureau of EMS website, or by contacting the Bureau of EMS.

Protocols are essential 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. According to Iowa Administrative Code 641-132.9(2)(a) individual physician medical directors duties include "developing, approving, and updating protocols to be used by service program personnel that meet or exceed the minimum standard protocols developed by the department." Additionally, according to 641-132.8(3) (b) service programs shall "utilize department protocols as the standard of care. The service program medical director may make changes to the department protocols provided the changes are within the EMS provider's scope of practice and within acceptable medical practice. A copy of the changes shall be filed with the department."

The following authorization page and any changes or revisions made by the EMS service medical director must be on file with the State EMS System 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 EMS service medical director prior to implementation. Any changes must be on file with your State EMS System Coordinator. Skills must be within the level of service authorization and EMS provider scope of practice. The scope of practice document can be found on the Bureau of EMS Website at www.idph.state.ia.us/ems.

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



Windsor Heights Fire Department **Section 2**
 EMS Protocols

Introduction and Authorization
 Date Issued – February 13, 2008

Windsor Heights Fire Department

Service Program Name

Ambulance CCT Endorsement Non-transport

A. Level of Staffing:

Ambulance TA (Transport Agreement) Minimum Basic 24/7

B. Level of Authorization:

- Basic (no defibrillation or Combitube)
- First Responder
- EMT-B
- EMT-I
- EMT-P
- EMT-P/CCT (attach protocol)
- PS
- PS/CCT (attach protocol)

C. These protocols 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

D. 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

E. APPROVAL OF SKILLS AND TRAINING LEVEL (Physician Medical Director must approve skills) Circle Approved Skills

Initiation of organ donation	YES	NO	FR
Esophageal/tracheal/double-lumen airway	YES	NO	FR
MAST/PASG	YES	NO	Basic
IV maintenance	YES	NO	EMTB
Glucose Monitor (Auto-lance for EMT-B)	YES	NO	EMTB
EPINEPHRINE Auto-Injector Pen	YES	NO	EMT-B, EMT-I
Gastric Tube Insertion	YES	NO	EMT-I
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
RSI (attach protocol)	YES	NO	PS
Nasotracheal Intubation	YES	NO	PS
EKG Interpretation (multi lead or 12 lead)	YES	NO	PS
Thrombolytics (attach protocol)	YES	NO	PS
Assessment-based Spinal Immobilization	YES	NO	PS

Joseph Karr, DO
 Medical Director

Date



Windsor Heights Fire Department
EMS Protocols

Section 3

Protocol Revision

Date Issued – February 13, 2008

List all changes made by the physician medical director. According to Iowa Administrative Code 641-132.8(3) (b) service programs shall ***“utilize department protocols as the standard of care. The service program medical director may make changes to the department protocols provided the changes are within the EMS provider’s scope of practice and within acceptable medical practice. A copy of the changes shall be filed with the department.”*** 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 (may attach copies)</u>
21	Pain Management	Removal of Morphine
**	Nasogastric Tube Placement	Removed
**	Gastric tube placement	Removed
**	Urinary Catheter Placement	Removed
7	Acute Coronary Syndrome	Added
16	Chest Pain	Removal of Morphine
**	Intraosseous Catheter Initiation	Addition of EZ-IO®
**	PTL®	Removed

** EMS Protocol and Procedure Supplemental / Guidelines

SERVICE NAME – Windsor Heights Fire Department

Joseph Karre, DO
PHYSICIAN MEDICAL DIRECTOR

Date



DRUG LIST

Drugs listed on this page are those referenced in the protocols. Medical directors may add, delete, and/or substitute drugs (such as Ativan for Valium) as appropriate for their service program. Additional drugs (such as those from current AHA/ACLS guidelines) may be determined by the service program medical director, based upon the unique EMS system factors.

FR, B, & I DRUG LIST

- * Aspirin
- * Glucose Paste
- * Oxygen
- ** Hand-Held Nebulizer
- ** Nitroglycerin
- *** Epinephrine auto-injector

- * Over the counter (All levels)
- ** Patient Assisted Medications (EMT-B and transitioned EMT-I)
- *** Administered by EMT-B and EMT-I providers per protocol.

PARAMEDIC DRUG LIST (Includes FR, B & I list)

Adenosine
Albuterol
Amiodarone
Atropine
Benadryl
Dextrose 50
Dopamine
Epinephrine
Etomidate
Fentanyl
Glucagon
Lasix
Lidocaine
Magnesium Sulfate
Metoprolol
Narcan
Nitronox
Sodium Bicarbonate
Valium
Versed

I.V. SOLUTIONS LIST

0.9% Sodium Chloride (Normal Saline)

ADDITIONAL DRUGS LIST

Lidocaine 2%



INITIAL TREATMENT PROTOCOL(S) FOR ALL PATIENTS:

Always observe the following precautions (I. & II.) and 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 > 29 breaths per minute or < 10 breaths per minute should receive high flow oxygen (10-15 LPM non-rebreather 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 basic and/or advanced airway adjuncts, and high flow oxygen. (Recent research in children has shown that artificial respiration using a basic airway saves lives of children as well as the more complex intubation procedure.)
5. If the patient is not breathing, ventilate using high flow oxygen.
6. COPD patients:
 - a. If in no distress, administer oxygen by NC (usually 2-4 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.
8. If utilizing endotracheal intubation, confirm placement with and end-tidal CO₂ detector (non-cardiac arrest) or esophageal detection device (cardiac arrest).
9. Secure the ET tube with a manufactured tracheal tube holder to prevent dislodgment and utilize end-tidal CO₂ monitoring or capnography to detect dislodgment, and assure head immobilization to prevent tube dislodgment.



C. Assess the Patient's Circulation.

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

D. Poisoning-see Poisoning Protocol pages 23 & 24.

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.

C. Monitor EKG and treat dysrhythmias following the appropriate protocol(s)/current ACLS guidelines.

V. Identify Priority Patients.

A. Consider:

1. Poor general impression
2. Unresponsive patients
3. Responsive, not following commands
4. Breathing difficulty
5. Shock (hypoperfusion)
6. Complicated childbirth
7. Chest pain with suspected MI
8. Uncontrolled bleeding
9. Severe pain
10. Syncope
11. Acute brain attack

B. Trauma Patients:

Follow the Out-of-Hospital Trauma Triage Destination Decision Protocol 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 in a life threatening situation and other IV access not possible. (See EMS Procedures # 5)
 - 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 ml/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. Call Poison Control for direction when called to a poisoning case.
- C. 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. Initiate Out of Hospital Trauma Alert if indicated.**
- D. Advise receiving facility of changes occurring in patient's status en route. Update patient status upon arrival at the receiving facility.



E. Complete written patient care 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 Critical Incident Stress Management (CISM) provided 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 E).



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.
- D. **Special Considerations**
 - a. 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.

Abdominal Pain - Adult

- I. EMT-B
 - a. Transport in position of comfort.
- II. EMT-I
 - a. If patient's condition indicates, establish IV access at a TKO rate.
- III. EMT-P/PS
 - a. Consider monitoring rhythm if condition warrants.
 - b. Allow patient to sit in a position of comfort.
 - c. Consider self-administered *NITRONOX*® therapy if history of kidney stone with similar pain.

Abdominal Pain - Pediatric

- I. Basic Pediatric
 - a. Be prepared to treat respiratory compromise.
- II. Pediatric EMT-I
 - a. If patient's condition indicates, establish IV access at a TKO rate.
- III. Pediatric EMT-P/PS
 - a. Consider monitoring rhythm if condition warrants.



Basic Treatment Guidelines

1. Follow initial care protocol
2. If trauma related, refer to trauma protocol.
3. If suspected Acute Myocardial Infraction (AMI), place patient in position of comfort, loosen tight clothing, and reassure.
4. Administer oxygen, 2-4 liters per minute via nasal Canula, if signs of respiratory distress administer high flow oxygen.
5. Administer Aspirin 81mg x4; chewable if the patient has not taken one prior to arrival of EMS.
 - a. Hold administration of Aspirin if patient has an allergy to Aspirin or if the patient is wheezing.
6. Assist the patient with their own Nitroglycerin if blood pressure is > 100 mm/Hg systolic.

Advanced Treatment Guidelines

1. Establish Intravenous access and infuse as patient condition indicates.
2. Establish cardiac monitoring, perform 12 lead ECG.
3. Administer Nitroglycerin 0.4 mg sublingually.
 - a. May repeat every three to five minutes to a maximum of three doses, as long as systolic blood pressure (SBP) remains > 90 mm/Hg.
 - b. May administer without IV if patient appears hemodynamically stable.
 - c. May proceed to Fentanyl if no relief from Nitroglycerin administration after two doses.
4. Administer Fentanyl, 25-50 mcg, IVP, repeated every five minutes to a total of 200 mcg. Titrate to effect with repeat doses every five minutes. IF any of the following occur, hold further administration of Fentanyl.
 - a. Hypotension (SBP < 90 mm/Hg).
 - b. Respiratory depression
 - c. Maximum of 200 mcg has been administered.
 - d. Pain is alleviated.
5. If AMI is suspected with noted elevation in two contiguous leads, initiate Lopressor (Metoprolol) therapy to reduce myocardial ischemia and damage. (*Paramedic Specialist only*)
 - a. Only administer if patient SBP > 90 mm/Hg and heart rate > 60 beats per minute.
 - b. Administer Lopressor 5 mg slow IVP every five minutes x 3 doses for a total of 15 mg.
 - c. For personnel certified as "Iowa Paramedics" to administer Lopressor they must:
 - i. Transmit a 12 lead ECG to Medical Control Facility.
 - ii. Receive Medical Control authorization to administer the drug.
6. If time allows, establish second IV line and infuse as patient condition warrants.
7. If time allows, obtain follow-up ECG.



Special Considerations

If patient has taken sexual enhancement drugs (i.e. Viagra, Cialis, etc.) within the past 48 hours, use of Nitroglycerin is contraindicated. Proceed with Fentanyl administration (Item 4, Advanced Treatment Guidelines).

Patient with any of the following chief complaints should be treated as suspected ACS unless other wise ordered.

- Chest pain or pressure in any patient > 25 years of age.
- Syncopal episode in any patient > 25 years of age.
- Unexplained respiratory distress.
- Atypical chest pain (i.e. shoulder, arm, back, jaw pain, or abdomen) in absence of chest pain, especially in patients having past cardiac history, irregular pulse, diabetes and in the elderly.
- In young adults consider history of cocaine and methamphetamine use.
- Other anginal equivalents.



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 Life Support measures.
 - I. EMT-B
 - i. Administer preloaded auto-injectable *EPINEPHRINE* (0.3 mg) and transport.
 - ii. Tier with a Paramedic level service when available.
 - iii. Continuously reassess airway, breathing and circulation status.
 - iv. If patient condition continues to worsen, give additional preloaded auto-injectable *EPINEPHRINE* (0.3 mg) every 5-10 minutes as needed up to 3 doses.
 - v. Treat for shock and be prepared to initiate CPR and AED as necessary during transport. Continue transport without delay.
 - II. Special Considerations
 - i. When using auto-injector remove safety cap and place tip of auto-injector against the patient's lateral thigh midway between the waist and the knee. Push the injector firmly against the thigh and hold firmly until the injector activates and medication is injected (10 count). If unable to use this site an alternative site is the shoulder at the fleshy portion of the upper arm.
 - III. EMT-P/PS
 - i. Monitor EKG and treat dysrhythmias following the appropriate protocol(s).
 - ii. If reaction is not life threatening consider administration of:
 - 1. *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 as needed every 5-10 min.-up to 3 doses.
 - 2. *BENADRYL* 25 mg IM or slow IV push.
 - 3. *ALBUTEROL* 2.5 mg in 3.0 cc NS by nebulizer for respiratory distress.



I. CONSCIOUS DIABETIC PATIENT:

- a. Follow "Initial Protocols for All Patients"
- b. Emergency Medical Care:
- c. Determine if patient can swallow
- d. Administer one 15-gram tube of *oral glucose* between cheek and gum.
- e. Monitor airway closely.

II. UNCONSCIOUS DIABETIC PATIENT:

- a. Follow "Initial Protocols For All Patients".
- b. Special Considerations
 - i. 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, especially if they have taken their prescribed insulin, by playing too hard.
- c. I/P: Consider drawing blood sample for glucose level evaluation per local hospital policy.

ALTERED MENTAL STATUS WITH A HISTORY OF DIABETES

EMT-B

- If conscious, transport in semi-setting position. If unconscious, transport immediately to medical facility.
- Consider glucometer check if available.

EMT-P/PS

- Administer *DEXTROSE* (50 ml 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.

Basic Pediatric

- Follow Initial Treatment Protocol.

Pediatric EMT-P/PS

- *GLUCOSE* (D50) IV 2-4 ml/kg.
- Determine blood glucose prior to and following administration.
- *GLUCAGON* 0.01-0.03 mg/kg IM; not to exceed 1.0 mg.



I. Amputation of a part

- a. Follow "Initial Protocols For All Patients".
- b. Emergency Medical Care:
- c. Control bleeding.
- d. Treat for shock.
- e. Follow trauma protocol as indicated.

II. Care of amputated part:

- a. Locate and preserve the amputated part.
- b. Place the part in an empty plastic bag.
- c. Place the plastic bag containing the part in a larger bag or container with ice and water.
- d. Do not use ice alone.
- e. Do not use dry ice.
- f. Label with name, date and time.
- g. 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.

AMPUTATION

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-P/PS

- Follow trauma protocol as indicated.

Pediatric (All level of certification)

- Follow "Initial Treatment Protocol".



- I. Follow "Initial Protocols For All Patients"
- II. Apparent death indications are as follows:
 - a. Signs of trauma are conclusively incompatible with life.
 - b. There is physical decomposition of the body.
 - c. There is Rigor Mortis.
- III. If apparent death is confirmed, then continue as follows:
 - a. The county Medical Examiner and law enforcement shall be contacted.
 - b. Consider deceased a possible organ donor, and follow guidelines as approved by medical director. See Protocol Procedures Appendix 20.
 - c. At least one EMS provider should remain at the scene until the appropriate authority is present.
 - d. Provide psychological support for grieving survivors.
 - e. Document reason no resuscitation was initiated.
- IV. Preserve the crime scene if present.
- V. In all other circumstances (except where "NO CPR/DNR" protocol applies) full resuscitation must be initiated.

Apparent Death Management

EMT-B

- No special protocol needed.

EMT-P/PS

- No special protocol needed.
- May use cardiac monitor to document asystole (two leads).



I. Behavioral Emergencies

- a. Follow "Initial Protocols For All Patients". (BE ALERT for your own safety!)

II. Emergency Medical Care:

- a. Evidence of immediate danger:
- b. Protect yourself and others by summoning law enforcement to assure everyone's safety; and, if necessary, to enable you to render care.
- c. Assess and consider medial/trauma causes and treat with appropriate protocol(s).
- d. Detailed Physical Exam: additional assessment and treatment as situation permits.
- e. If no evidence of immediate danger, continue assessing, treating and communicating with patient.
- f. Keep environment as calm/quiet as possible.

III. Special Considerations

- a. One First Responder or EMT should assume control of situation and establish contact with patient to reduce confusion and minimize stress.
- b. Use a calm, quiet voice, and talk to the patient. Be honest, direct, and non-threatening.
- c. Move slowly, and explain what you are doing. Avoid remarks that could be perceived to be judgmental.
- d. Keep your own emotions in check. Use physical restraints only if necessary for the protection of yourself or your patient.

BEHAVIORAL EMERGENCIES

WITH PATIENT CONSENT:

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

WITHOUT PATIENT CONSENT:

- Obtain consent from law enforcement officer, or other consent according to local requirements.
- Patient unconscious: "Implied Consent".

EMT-B

Transport patient to appropriate medical facility.

EMT-P/PS

- If severe anxiety or agitation causes threat to self or others, consider *VALIUM* 2 mg IV push slow titrated for response (maximum dose 10 mg), or 5-10 mg IM.
- Provide supportive care. Follow other protocols if indicated.



NORMAL DELIVERY

- I. Follow Initial Protocols For All Patients
- II. Emergency Medical Care:
 - a. If delivery is imminent with crowning, commit to delivery on site and radio responding ambulance personnel of situation.
 - b. If delivering, apply gloves, mask, gown, and eye protection for infection control precautions.
 - c. Have mother lie with knees drawn up and spread apart.
 - d. Elevate buttocks with blankets or pillow.
 - e. Create sterile field around vaginal opening with sterile towels or paper barriers.
 - f. When the infant's head appears during crowning, place fingers on bony part of skull (not on fontanelle or face) and exert very gentle pressure to prevent explosive delivery. Use caution to avoid pressing on fontanel.
 - g. 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.
 - h. As the infant's head is delivered, determine if the umbilical cord is around the infant's neck; if it is, slip it over the shoulder or clamp, cut, and unwrap it.
 - i. After the infant's head is delivered, support the head; suction the mouth two or three times and the nostrils. Use caution to avoid contact with the back of the mouth.
 - j. As the torso and full body is delivered, support the infant with both hands.
 - k. As the feet are delivered, grasp the feet.
 - l. Wipe blood and mucus from mouth and nose with sterile gauze, suction mouth and nose again.
 - m. Wrap infant in a warm blanket and place on its side, head slightly lower than trunk.
 - n. Keep infant level with vagina until the cord is cut.
 - o. Assign partner to monitor infant and complete initial care of the newborn.
 - p. Clamp, tie, and cut umbilical cord (between the clamps) as pulsations cease approximately 4 fingers width from infant.
 - q. Observe for delivery of placenta while preparing mother and infant for transport.
 - r. When delivered, wrap placenta in towel and put in plastic bag; transport placenta to hospital with mother.
 - s. Gently massage mother's lower abdomen until it becomes firm.
 - t. Place sterile pad over vaginal opening, lower mother's legs, and help her hold them together.
 - u. Record time of delivery.



III. Special Considerations

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

BIRTH

EMT-B

- Follow Initial Treatment Protocol. Transport to appropriate medical facility.

EMT-P/PS

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



WHEN BABY IS DELIVERED

- I. 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.
- II. Ensure open and patent airway.
- III. Ventilate at a rate of 40 breaths per minute with 100% oxygen.
- IV. Reassess after 30 seconds.
- V. If the heart rate is absent or remains <60 BPM after 30 seconds of adequate assisted ventilation, second rescuer should start chest compression with 2 thumbs and encircling fingers.
- VI. Prevent/minimize heat loss to maintain normothermia:
- VII. Warm the external environment (use the engine heater, warm blankets, etc.).
- VIII. Dry the infant thoroughly, removing the wet linen immediately after drying.
- IX. Wrap the newborn in blankets and cover the head in order to minimize heat loss.
- X. Repeat suctioning if necessary, and continue to monitor and support baby's respiratory/circulatory status.
- XI. Special Considerations
 - a. 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).
 - b. The greatest risk to the mother is postpartum hemorrhage, so watch closely for signs of hypovolemic shock and excessive vaginal bleeding.
 - c. 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.



WHEN BABY IS DELIVERED

EMT-B

- Follow Initial Treatment Protocol. Transport to appropriate medical facility.

EMT-P/PS

- Mother:
 - Establish a large-bore IV at TKO rate unless hypotensive, give fluid challenge.
- Infant:
 - When meconium staining is observed in amniotic fluid, deliver the head and suction meconium from the hypopharynx. In the vigorous infant, there is no need for direct tracheal suctioning, regardless of the consistency of meconium. When meconium is observed in amniotic fluid and the newly born infant demonstrates any of the following:
 - absent or depressed respirations
 - HR <100, or
 - Poor muscle tone
 - Direct tracheal suctioning is recommended.



ABNORMAL DELIVERY PROCEDURE:

- I. Breech Delivery:
 - a. Frank breech (Buttocks Presentation):
 - b. Allow spontaneous delivery.
 - c. Support infant's body as it's delivered.
 - d. If head delivers spontaneously, proceed as in Section I (Normal Delivery) A, and B.
 - e. 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.
 - f. DO NOT REMOVE YOUR HAND UNTIL RELIEVED BY AMBULANCE PERSONNEL OR HOSPITAL STAFF.
- II. Limb Delivery
 - a. Place mother in head down position.
 - b. Administer high flow oxygen to mother.
- III. Prolapsed Chord:
 - a. Place mother in head down position, and administer high flow oxygen.
 - b. 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.
- IV. Multiple Birth:
 - a. 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.
 - b. Deliver as you would for normal delivery of one infant.
- V. Heavy Vaginal Breathing Following Delivery:
 - a. Control bleeding - massage lower abdomen firmly and intermittently.
 - b. Treat for Shock.
 - c. Consider putting baby to mother's breast.
- VI. Miscarriage:
 - a. May result in profuse vaginal bleeding.
 - b. Provide emotional support to mother, and treat her immediately for shock.
 - c. Save all expelled tissues, and transport with patient.



ABNORMAL DELIVERY PROCEDURE

EMT-B

- Follow Initial Treatment Protocol.
- Transport to appropriate medical facility.

EMT-P/PS

- Mother:
 - If heavy vaginal bleeding following delivery or miscarriage, consider use of MAST/PASG-(inflate legs only).
- Infant:
 - When meconium staining is observed in amniotic fluid, deliver the head and suction meconium from the hypopharynx. In the infant is vigorous, there is no need for direct tracheal suctioning, regardless of the consistency of meconium. When meconium is observed in amniotic fluid and the newly born infant demonstrates any of the following:
 - absent or depressed respirations
 - HR <100, or
 - Poor muscle tone
 - Direct tracheal suctioning is recommended.



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.

II. Special Considerations:

- a. Respiratory emergencies are common calls that require diligent assessment, care, and emotional support.
- b. It is very important to evaluate your patient for adequate breathing throughout the call.
- c. A conscious, dyspneic patient may rapidly deteriorate to respiratory crisis, be prepared to intervene.
- d. COPD patients may react adversely to high flow oxygen administration. Do not hesitate to administer oxygen as needed, but monitor closely and be prepared to assist respirations.

III. BREATHING DIFFICULTY:

- a. If patient has a physician-prescribed, hand-held, metered-dose inhaler:
- b. Contact medical direction for approval to give inhaler treatment.
- c. Assure medication is prescribed for patient.
- d. Is patient alert enough to take treatment?
- e. Check expiration date.
- f. Shake inhaler vigorously several times.
- g. Have patient exhale as deeply as possible and put lips around inhaler opening.
- h. Depress inhaler and have patient inhale as deeply as possible; have them hold their breath as long as possible to facilitate medication absorption.
- i. Replace oxygen and allow patient to breathe a few times.
- j. Reassess patient and repeat second dose if necessary per medical direction.

IV. 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.



V. DYSPNEA PATIENT:

- a. Follow "Initial Protocols For All Patients".
- b. Emergency Medical Care:
- c. Be prepared to assist respirations.
- d. Allow patient to assume position of comfort if conscious.
- e. Loosen restrictive clothing.

VI. OBSTRUCTED AIRWAY:

- a. If unable to ventilate proceed with clearing of obstructed airway observing current national cardiopulmonary resuscitation performance guidelines for obstructed airway.

VII. Special Considerations

- a. Respiratory emergencies are common calls that require diligent assessment, care, and emotional support.
- b. It is very important to evaluate your patient for adequate breathing throughout the call.
- c. A conscious, dyspneic patient may rapidly deteriorate to respiratory crisis, be prepared to intervene.

VIII. OBSTRUCTED AIRWAY—Pediatric:

- a. No special protocol noted.
- b. Special Pediatric Considerations
- c. Follow "Initial Treatment Protocol".
- d. If the child resists supplemental oxygen, allow the parent to hold the mask for "blow-by" supplemental oxygen.
- e. Clear obstructed airway observing current BLS guidelines.
- f. Consider possible foreign body obstruction.
- g. Be gentle, calm and reassuring to patients and parents.

EMT-B

- Follow "Initial Protocols For All Patients".

EMT-P/PS

- *ALBUTEROL* 2.5 mg in 3.0 cc NS by nebulizer.
- Administer *EPINEPHRINE* 0.3 - 0.5 mg of a 1:1,000 solution sc. Repeat in 12-15 min. per medical direction.

Basic Pediatric

- Follow "Initial Treatment Protocol".

Pediatric EMT-P/PS

- Follow "Initial Treatment Protocol".
- *ALBUTEROL* 2.5 mg in 3 cc NS via nebulizer.
- *EPINEPHRINE* (1:1,000) 0.01 mg/kg sc up to 0.3 cc.
 - May repeat every 20 minutes as needed up to 3 doses.



BURN MANAGEMENT

EMT-B

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

EMT-P/PS

- Consider self-administered *NITRONOX*® therapy.
- See also Pain and Anxiety Control protocol.

Basic Pediatric

- Follow "Initial Treatment Protocol".

Pediatric EMT-P/PS

- No special protocol noted.



I. CHEST PAIN / ACUTE CORONARY SYNDROME OR ST ELEVATED MI:

- a. Follow "Initial Protocols For All Patients".
- b. Follow: Acute Coronary Syndrome (ACS) protocol
- c. Emergency Medical Care:
 - i. If trauma related, refer to trauma protocol.
 - ii. Place patient in position of comfort, loosen tight clothing, and reassure.
 - iii. If patient alert and oriented and expresses no allergy to aspirin (wheezing/aspirin induced asthma, or breathing problems), have patient chew and swallow four 81 mg *ASPIRIN* tablets (baby aspirin) or swallow one 325 mg *ASPIRIN* tablet.

II. Special Considerations

- a. Patients with any of the following chief complaints should be treated as suspected acute myocardial infarction:
 - i. Chest pain or pressure in any patient over age 25.
 - ii. Syncopal episode in any patient over age 25.
 - iii. Unexplained respiratory distress.
 - iv. 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).
- b. Check for history of illicit drugs, such as Cocaine and Methamphetamine use.
- c. Monitor the blood pressure and contact medical control if hypertensive.

III. CARDIAC ARREST:

- a. Follow "Initial Protocols For All Patients".
- b. Emergency Medical Care:
 - i. Provide CPR/AED according to current AHA performance guidelines.

IV. CONGESTIVE HEART FAILURE/PULMONARY EDEMA

Follow "Initial Protocols For All Patients".

Emergency Medical Care:

Place patient in position of comfort, typically sitting up. Loosen tight clothing and reassure.

Administer high-flow oxygen

- a. *Special Considerations*
- b. *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.



Chest Pain Management

EMT-B

- Follow “Initial protocols for all patients”.
- If the patient has been prescribed *Nitroglycerin* (patient’s Nitro only) and blood pressure is greater than 100 systolic, give one dose.
- Repeat one dose in 3-5 minutes if no relief and authorized by medical direction up to a maximum of three doses.
- Reassess vital signs and chest pain after each dose.
- If capability exists 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 to maximize the patient’s potential for reperfusion.

EMT-P/PS

- Monitor EKG and treat dysrhythmias following the appropriate protocol(s)/current ACLS guidelines, as needed.
- Obtain a 12-lead EKG
 - Transmit it to the receiving facility for interpretation prior to patient’s arrival.
- Administer *NITROGLYCERIN* (tab or spray) 0.4 mg sublingually
 - If blood pressure greater than 100 systolic.
 - May repeat every 5 minutes as needed for a total of 3 doses prior to contacting medical control
 - If patient is taking sexual enhancement drugs such as Viagra, then contact medical direction prior to giving *Nitroglycerin*.
 - If no relief after administration of *Nitroglycerin*, proceed to *Fentanyl*.
- Administer *Fentanyl* in 25mcg – 50mcg. IVP, repeated every 5 minutes to total of 200mcg.
 - Titrated until one of the following is present:
 - Relief of pain.
 - Hypotension develops (systolic < 90mm/Hg).
 - Respiratory depression occurs.
 - CNS depression results.
 - 200 mcg total has been administered.
- If Acute Myocardial Infraction (AMI) is suspected with noted elevation in two contiguous leads, initiate Lopressor (Metoprolol) therapy to reduce myocardial ischemia and damage. (Paramedic Specialist only)
 - Only administer if Systolic Blood Pressure is >90 mm/Hg and heart rate > 60 beats/ min.
 - Administer Lopressor (Metoprolol) 5mg slow IVP every 5 minutes x 3 doses. Total of 15mg.
 - For personnel certified as “Iowa Paramedics” to administer Lopressor (Metoprolol) they must:
 - Transmit a 12 lead ECG to Medical Control Facility.
 - Receive Medical Control authorization to administer the drug.
- If time allows, establish second IV line and infuse as patient condition warrants
- If time allows, obtain follow-up 12 lead ECG.



Chest Pain Management (cont.)

EMT-B Pediatric

- Follow “Initial protocol for all patients”

Pediatric EMT-P/PS

- Monitor EKG and treat dysrhythmias following the appropriate protocol(s) using current AHA/ACLS guidelines as needed. When using biphasic defibrillators, follow the manufacturer’s guidelines and local medical director’s recommendation as necessary to assure sequential energy delivery for defibrillation or cardioversion is consistent with current AHA/ACLS guidelines.
- *Definitive care means a hospital with a cardiologist and cardiac catheterization capability. See current AHA/ACLS guidelines for specific recommendations and classification.



I. STROKE/CVA:

- a. Follow "Initial Protocols For All Patients".
- b. Emergency Medical Care:
 - i. Calm and reassure the patient, even if not conscious.
 - ii. Monitor and maintain patent airway.
 - iii. Place patient in recovery position on affected side.
 - iv. Attempt to obtain a history for time of onset, including the exact time the patient was last seen as "normal".
 - v. Determine presence of:
 1. Facial droop
 2. Arm drift
 3. Speech deficit and report findings to the receiving hospital as soon as possible (See Special Considerations - Cincinnati Prehospital Stroke Scale*).

II. Special Considerations

- a. 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.
- b. Monitor the blood pressure and contact medical control if hypertensive.
- c. While stroke patients may not be able to speak, they are usually acutely aware of their surroundings and are anxious.
- d. Talk to your patient and keep the patient informed about the treatment being rendered.
- e. 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.
- f. *Use the Cincinnati Prehospital Stroke Scale when evaluating a Stroke patient:
 - i. Facial Droop (have patient show teeth or smile).
 - ii. Normal: Both sides of face move equally.
 - iii. Abnormal: One side of face does not move as well as the other.
 - iv. Arm Drift (patient closes their eyes and extends both arms straight out for 10 seconds).
 - v. Normal: Both arms move the same, or both arms do not move at all.
 - vi. Abnormal: One arm either does not move, or one arm drifts down compared to the other.
 - vii. Speech (patient repeats "The sky is blue in Cincinnati").
 - viii. Normal: Patient says correct words with no slurring of words.
 - ix. Abnormal: Patient slurs words, says the wrong words, or is unable to speak.

EMT-B

- Follow "Initial protocol for all patients"
- Protect affected limbs from injury during transport, and take care to maintain body heat
- Consider glucometer check if available.

EMT-P/PS

- Monitor EKG and treat dysrhythmias following appropriate protocol.
- Monitor and maintain patient airway, including intubation, if necessary.
- Monitor BP and contact Medical Co



I. EXPOSURE TO COLD:

- a. Follow "Initial Protocols For All Patients". (Oxygen should be warmed and humidified if possible).
- b. Emergency Medical Care:
 - i. Remove the patient from the cold environment - protect from further heat loss.
 - ii. Remove wet clothing and cover with blanket and keep warm.
 - iii. Handle the patient gently.
 - iv. Do not allow the patient to exert self.
 - v. The patient should not be given anything by mouth.
 - vi. Do not massage extremities.

II. LOCAL COLD INJURIES (FROSTBITE):

- a. Follow "Initial Protocols For All Patients".
- b. Emergency Medical Care:
 - i. Remove the patient from the cold environment.
 - ii. Protect the cold injured extremity from further injury (manual stabilization).
 - iii. Remove wet or restrictive clothing.
 - iv. Do not rub or massage.
 - v. Do not re-expose to the cold.
 - vi. Remove jewelry.
 - vii. Cover with dry clothing or dressings.
- c. *Special Considerations*
 - i. Do not allow the patient to eat or drink stimulants. Coffee, tea, smoking, or stimulants may worsen the condition.
 - ii. Unwarmed high flow oxygen may cause hypothermia.
 - iii. The hypothermic heart may be unresponsive to defibrillation.
 - iv. After failed initial resuscitative measures, avoid defibrillation until core temp is greater than 86 degrees Fahrenheit.

III. COLD INJURY WITH DELAYED TRANSPORT:

- a. Follow "Initial Protocols For All Patients".
- b. Contact Medical Direction prior to the following:
- c. Emergency Medical Care:
 - i. Start rapid re-warming (Immerse the affected part in warm water of 100-105 degrees Fahrenheit).
 - ii. Monitor the water to ensure it does not cool from the frozen part.
 - iii. Continuously stir water.
 - iv. Continue until the part is soft and color and sensation return.
 - v. Dress the area with dry sterile dressings.
 - vi. Protect against refreezing.
 - vii. Transport to appropriate medical facility as soon as possible.
- d. *Special Considerations*
 - i. Do not allow the patient to eat or drink stimulants.
 - ii. Unwarmed high flow oxygen may cause hypothermia.
 - iii. The hypothermic heart may be unresponsive to defibrillation.
 - iv. After failed initial resuscitative measures, avoid defibrillation until core temp is greater than 86 degrees Fahrenheit.



EMT-B

- Actively re-warm with hot packs to neck, armpits, and groin.
- Obtain vital signs every 5 minutes.
- Maintain horizontal position of patient.
- Avoid rough handling.
- Transport as soon as possible to an appropriate medical facility.

EMT-P/PS

- Monitor EKG and treat dysrhythmias following appropriate protocol.

Basic Pediatric

- Cover infant's head to maintain body heat.

Pediatric EMT-P/PS

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



I. EMERGENCY MEDICAL CARE OF BONE OR JOINT INJURIES:

- a. Follow "Initial Protocols For All Patients".
- b. Emergency Medical Care:
 - i. Assess extent of injury including presence or absence of pulse.
 - ii. Establish and maintain manual stabilization of injured extremity by supporting above and below the injury.
 - iii. Remove or cut away clothing and jewelry.
 - iv. Cover open wounds with a sterile dressing.
 - v. Do not intentionally replace any protruding bones.
 - vi. Apply cold pack to area of pain or swelling.

II. Special Considerations

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

EMT-B

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

EMT-P/PS

- Establish IV if indicated and infuse as patient condition warrants.
- Monitor EKG and treat dysrhythmias if indicated following the appropriate protocol.
- Consider self-administered NITRONOX therapy.
- See also Pain and Anxiety Control protocol.

Basic Pediatric

- Follow "Initial Treatment Protocol".

Pediatric EMT-P/PS

- See also Pain and Anxiety Control protocol.



I. EXPOSURE TO HEAT

- a. Follow "Initial Protocols For All Patients".
- b. Emergency Medical Care:
 - i. Remove the patient from the hot environment and place in a cool environment (back of air conditioned response vehicle).
 - ii. Loosen or remove clothing.
 - iii. Cool patient by fanning.
 - iv. Place in recovery position.

II. Special Considerations

- i. Not all heat emergencies are environmental in nature. They may have febrile or neurological etiology.
- ii. High body temperature may cause seizures.
- iii. Rapid cooling may cause vomiting.

EMT-B

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

EMT-P/PS

- If patient's condition indicates, establish IV access at a TKO rate.
- Monitor EKG and treat dysrhythmias following the appropriate protocol(s).

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-P/PS

- Consider establishing an IV during transport
- For dehydration therapy, administer @ 20 ml/kg IV bolus.
- Monitor EKG and treat dysrhythmias following appropriate protocol.



Scope of Practice:

Advanced EMS Provider (EMT-P, Paramedic Specialist, CCP and RN Exception)

Indications:

1. Palliative measures for a painful condition.
2. Condition may include, but are not limited to, fractures, burns, and other traumatic injuries.

Contraindications:

1. Significant depressed mental status.
2. Concern for respiratory drive or airway control.
3. Significant hypotension.

Procedure:

1. Patient assessment.
2. Intravenous catheter placement.
3. Supplemental oxygen to maintain SpO₂ > 94%.
4. Cardiac monitoring.
5. Pain control:
 - a. **Fentanyl**
 - i. **Adults:**
 1. 100 mcg IVP with titration of 50 mcg every 5 minutes as needed for pain.
 2. Maximum dose 200mcg
 - ii. **Pediatric:**
 1. 1-2 mcg/kg IVP with titration of 1 mcg/kg every 3-5 minutes as needed for pain.
 2. Alternate route IN (20-40 mcg)
 3. Maximum dose 2mcg / kg
 - iii. **Medical Control:**
 1. For extended scene time medical control can be contacted for increasing maximum dosing.
 - b. **Valium**
 - i. **Adults:**
 1. 2.5-5.0 mg IVP.
 - ii. **Pediatrics**
6. Anxiolytic:
 - a. **Versed**
 - i. **Adults:**
 1. 1-2 mg IVP with titration of 1 mg every 5 minutes to maximum dose of 5 mg.
 - ii. **Pediatric:**
 1. 0.05-0.1 mg/kg IVP.
7. Reversal of narcotic analgesia:
 - a. **Narcan**
 - i. **Adults:**
 1. 0.5-2.0 mg IVP.
 - ii. **Pediatrics:**
 1. 0.1 mg/kg IVP.

Complications:

1. Hypotension.
2. Loss of respiratory drive with need for reversal or airway control.



I. Ingested Poisons

- a. Follow Initial Protocols For All Patients:
- b. Emergency Medical Care:
 - i. Identify and estimate amount of substance ingested. Call Poison Control and follow directions given to provide care.
 - ii. Contact Medical Direction as soon as possible with information given by Poison Control and care given.

II. Inhaled poisons:

- a. If hazard of inhaled poison is still present, DO NOT ENTER SCENE without self-contained breathing apparatus!
- b. Follow Initial Protocols For All Patients:
- c. Emergency Medical Care:
 - i. Remove patient to fresh air and administer high-flow oxygen.
 - ii. Estimate duration of exposure to inhaled poison.
 - iii. Call Poison Control for assistance and follow directions given.
 - iv. Contact Medical Direction as soon as possible with information given by Poison Control and care given.

III. Absorbed Poisons:

- a. Follow Initial Protocols For All Patients.
- b. Emergency Medical Care:
 - i. Identify contaminate! If it will be a hazard to you, use protective clothing and extreme caution.
 - ii. Call Poison Control for assistance and follow directions given.
 - iii. Contact Medical Direction, as soon as possible, with information given by Poison Control and care given.

IV. Injected Poisons:

- a. Follow Initial Protocols For All Patients.
- b. Emergency Medical Care:
 - i. BE ALERT for respiratory difficulty; maintain airway; and give high-flow oxygen.
 - ii. Call Poison Control while checking patient for marks, rashes, or welts.
 - iii. Try to identify source of injected poison.
 - iv. Contact Medical Direction, as soon as possible, with information given by Poison Control and care given.

V. Special Considerations

- a. POISON CONTROL PHONE: 1-800-222-1222
- b. 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.
- c. 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.
- d. If environmental toxin involved, notify HAZMAT.



Poisoning Treatment

EMT-B

- Follow Initial Protocols For All Patients.
- With ingested poison, administer activated charcoal if order given by Poison Control. Container must be shaken thoroughly. Record time given. Be alert for vomiting. Place patient on left side, protect airway, and save vomitus.

EMT-P/PS

- Call Poison Control for directions.
- If patient condition indicates, establish IV access at TKO rate.

Basic Pediatric

- Call Poison Control for directions.

Pediatric EMT-P/PS

- Call Poison Control for directions.
- If patient condition indicates, establish IV access at TKO rate.



I. CONTINUING SEIZURES:

- a. Follow Initial Protocols For All Patients.
- b. Emergency Medical Care:
 - i. 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:
 - i. Protect patient from injury, by clearing area of all possible hazards.
 - ii. Protect patient's privacy by removing bystanders.
 - iii. Do NOT attempt to put anything into patient's mouth.
 - iv. Place patient in recovery position.
- c. Monitor duration and document observations.

III. POST SEIZURE:

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

IV. Special Considerations

- a. Continuing seizures are a true LIFE-THREATENING emergency and require IMMEDIATE transport!
- b. 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.

Seizure Management

EMT-B

- Follow Initial Protocols For All Patients.
- Perform glucometer check per local protocol. Do not delay transport.

EMT-P/PS

- If patient condition indicates, establish IV access at TKO rate.
- Draw a blood sample or use glucometer check.
- Consider *VALIUM* 2 mg slow IV push, titrated for response: maximum dose: 10 mg.
- Consider *DEXTROSE* 50 ml of 50% solution IV push, especially if no prior history of seizure disorder.

Basic Pediatric

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

Pediatric EMT-P/PS

- If patient condition indicates, establish IV access at TKO rate.
- Draw a blood sample or use glucometer check.
- If seizures do not stop, administer *VALIUM* in a dose of 0.1-0.3 mg/kg IV slowly.



I. Sexual Assault (Alleged)

- a. Follow Initial Protocols For All Patients.
- b. Emergency Medical Care:
- c. Identify yourself to the patient; assure patient that they are safe and are in no further danger.
- d. Do NOT burden patient with questions about the details of the crime; you are there to provide emergency medical care.
- e. BE alert to immediate scene and document what you see! Touch only what you need to touch at the scene.
- f. Do not disturb any evidence unless necessary for treatment of patient. (If necessary to disturb evidence, DOCUMENT WHY and how it was disturbed).
- g. Treat for shock if indicated.
- h. Treat other injuries as indicated.
- i. 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".
- j. Contact local Law Enforcement if not present.

II. Special Considerations

- a. 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.
- b. DO NOT allow the patient to bathe, douche, change clothes, or go to the bathroom.
- c. Pediatric
 - i. Follow Initial Treatment Protocol.
 - ii. 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, contact law enforcement and consider transport even though the severity of injury may not warrant such action. Report your suspicions to the emergency department staff in accordance with local policies

EMT-B

- Follow Initial Protocols For All Patients.

EMT-P/PS

- If patient's condition indicates, establish IV access at a TKO rate.
- Monitor EKG and treat dysrhythmias if indicated following the appropriate protocol.



I. BLEEDING AND SHOCK EMERGENCIES

a. EXTERNAL BLEEDING:

- i. Follow Initial Protocols For All Patients. (Consider use of blindly inserted, combine esophageal/endotracheal device if indicated and approved by medical director).
- ii. Emergency Medical Care:
 1. Use body substance isolation (BSI).
 2. Control bleeding by applying pressure directly on the point of bleeding.
 3. 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.
 4. Large gaping wounds may require sterile gauze and direct hand pressure.
 5. If bleeding persists, consider appropriate arterial pressure points in upper and lower extremities.
 6. Treat for shock, if present.

b. INTERNAL BLEEDING:

- i. Follow Initial Protocols For All Patients.
- ii. Emergency Medical Care:
 1. Use body substance isolation (BSI).
 2. Comfort, calm, and reassure the patient.
 3. Reassure the patient.
 4. Keep the patient calm and in position of comfort.
 5. Keep the patient warm.
 6. Treat for shock, if needed.

II. Special Considerations

- i. Immediate transport is critical for patient with signs and symptoms of shock (hypoperfusion, pallor, dyspnea, tachycardia, low blood pressure or altered mental status).
- ii. It is necessary that all First Responders and EMTs use the Glasgow Coma Score and the Iowa Trauma System Out-Of-Hospital Trauma Triage Destination Decision Protocol (See Appendix A).

III. SHOCK (hypoperfusion)

- a. Follow Initial Protocols For All Patients.
- b. Emergency Medical Care:
 - i. Body substance isolation (BSI).
 - ii. Control any external bleeding.
 - iii. Keep the patient calm, and in position of comfort.
 - iv. Prevent loss of body heat by covering the patient.
 - v. Do not give food or drink.



IV. CHEST INJURIES:

- a. Follow Initial Protocols For All Patients.
- b. Emergency Medical Care:
 - i. Seal open chest wounds IMMEDIATELY. 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.
 - ii. 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.
 - iii. Impaled objects in the cheek may be removed if causing airway problems or if you are having trouble controlling the bleeding. Use direct pressure on injury after removal to control any bleeding.

V. Special Considerations

- i. Immediate transport is critical for patient with signs and symptoms of shock (hypoperfusion, pallor, dyspnea, tachycardia, low blood pressure, or altered mental status).
- ii. It is necessary that all First Responders and EMTs use the Glasgow Coma Score and the Iowa Trauma System Out-Of-Hospital Trauma Triage Destination Decision Protocol (See Appendix A).
- iii. Advise responding ambulance of possible shock before their arrival when possible.

VI. HEAD/NECK AND SPINE INJURIES:

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

VII. Special Considerations

- i. Immediate transport is critical for patient with signs and symptoms of shock (hypoperfusion, pallor, dyspnea, tachycardia, low blood pressure or altered mental status).
- ii. It is necessary that all First Responders and EMTs use the Glasgow Coma Score and the Iowa Trauma System Out-Of-Hospital Trauma Triage Destination Decision Protocol (See Appendix A).
- iii. Advise responding ambulance of possible shock before their arrival when possible.



Trama Management

EMT-B

- If bleeding persists, consider appropriate arterial pressure points in upper and lower extremities and also application of a splint.
- MAST/PASG could also be used as a pressure dressing.
- 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.
- Immediate transport is critical for patients with signs and symptoms of shock.
- Maintain constant manual in-line immobilization until the patient is properly secured to a backboard with the head immobilized.

EMT-P/PS

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

Basic Pediatric

- Follow Initial Treatment Protocol.

Pediatric EMT-P/PS

- Establish IV accesses, and give fluid challenge as appropriate (20cc/kg for shock).
- Consider Intraosseous infusion, if patient condition warrants.



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

- I. Follow Initial Protocols For All Patients.
 - A. Any situation that overwhelms the local EMS resources should be 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 unified Incident Command System coordinates all emergency response personnel, i.e., law, fire, rescue, ambulance, etc.).
 - A. Consider use of S.T.A.R.T. (Simple Triage and Rapid Treatment Protocol Procedures Algorithm- Appendix 19) to assist with initial triage of multiple patients.
 - B. As patients are moved to Triage areas according to priorities, continue to assess and treat as necessary.



TRIAGE - MASS CASUALTY INCIDENT

III. Responsibilities of "On-Scene" Medical Coordinator:

- A. Will call for additional assistance, as needed.
- B. Upon further assessment, assigns personnel to Priority I (**Red**) 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 (**Red**) patients have been moved into the triage area, Priority II's (**Yellow**) and III's (**Green**) can be evacuated. (Exception: if a Priority I (**Red**) is trapped, II's (**Yellow**) 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 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, (**Red**) 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 (**Red**) first, then II's (**Yellow**), III's (**Green**) and last IV's (**Black**).
- 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.



Triage Color Code

Red – Immediate (Priority I)

Yellow – Delayed (Priority II)

Green – Minor (Priority III)

Black – Deceased (Priority IV)

This is the only acceptable color-coding system.

(Each service must have an identifying system in place such as color-coded triage tags or color-coded tape.)

Immediate (PRIORITY I PATIENTS)

RED

This highest priority is for patients who need immediate care and transport. Treat these patients first and transport as soon as possible.

Typical Injuries:

Airway and breathing difficulties

Uncontrolled or severe bleeding

Decreased level of consciousness

severe medical problems

Shock (hypoperfusion)

severe burns

Delayed (PRIORITY II PATIENTS)

YELLOW

These patients' treatment and transportation can be delayed temporarily.

Typical Injuries:

Burns without airway problems

Major or multiple bone or joint injuries

Back injuries with or without spinal cord damage.

Minor (PRIORITY III PATIENTS)

GREEN

This low priority of patients should have treatment and transportation delayed until last.

Typical Injuries:

Minor fractures

Minor soft tissue injuries



I. UNCONSCIOUS MEDICAL PATIENT:

- a. Follow Initial Protocols For All Patients.
- b. Emergency Medical Care:
 - i. If problem identified, follow appropriate protocol.
 - ii. Advise responding ambulance of any information gathered during assessment.

II. UNCONSCIOUS TRAUMA PATIENT:

- a. Follow Initial Protocols For All Patients.
- b. Special Considerations
 - i. If unconsciousness is due to trauma or unknown cause, assume patient has a spinal cord injury.
 - ii. Be prepared to handle combative, disoriented patient, or seizures.

UNCONSCIOUS PATIENT MANAGEMENT

EMT-B

- Follow Initial Protocols For All Patients.
- Consider glucometer check if available.

EMT-P/PS

- Establish IV access at a TKO rate.
- Perform glucometer check per local protocol. Do not delay transport.
- Consider intubation.
- Monitor EKG and treat dysrhythmias following the appropriate protocol.
- Administer *DEXTROSE* 50 ml of 50% solution IV push and observe patient response.
- If no response, give *NARCAN* 1.0 mg IV push and observe for response. May repeat 1.0 mg IV in 3-5 minutes if no response.

Basic Pediatric

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

Pediatric EMT-P/PS

- Establish IV access at a TKO rate.
- Perform glucometer check per local protocol.
- Administer:
 - *DEXTROSE 50%* 0.5-1.0 gram/kg (2-4 ml/kg) IV
 - *NARCAN* 0.1 mg/kg up to 2 mg IV, or ET.

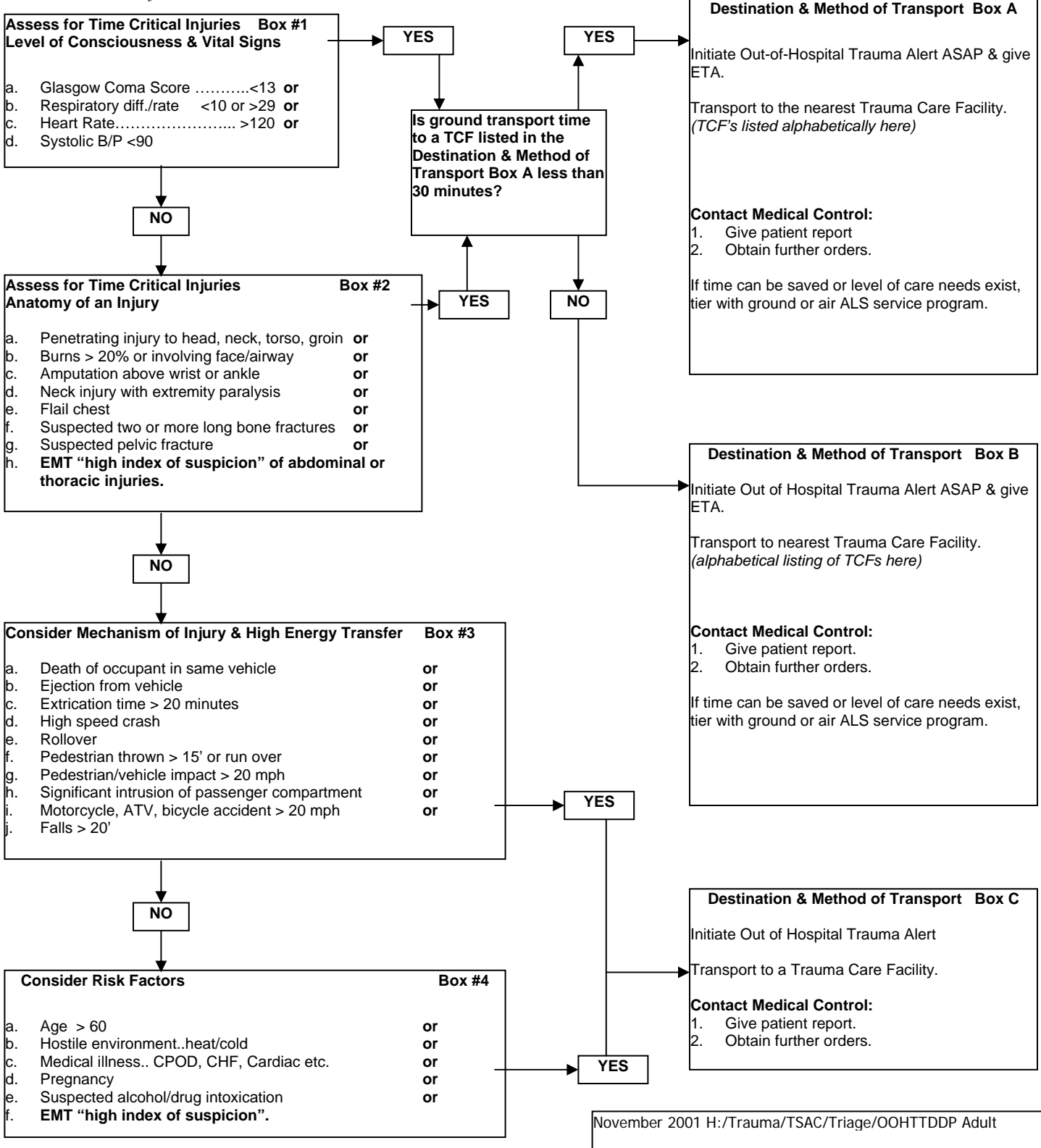
APPENDIX A ADULT (Age 15 or greater)

**Iowa Department of Public Health
Bureau of EMS
IOWA'S TRAUMA SYSTEM**

Windsor Heights Fire Department

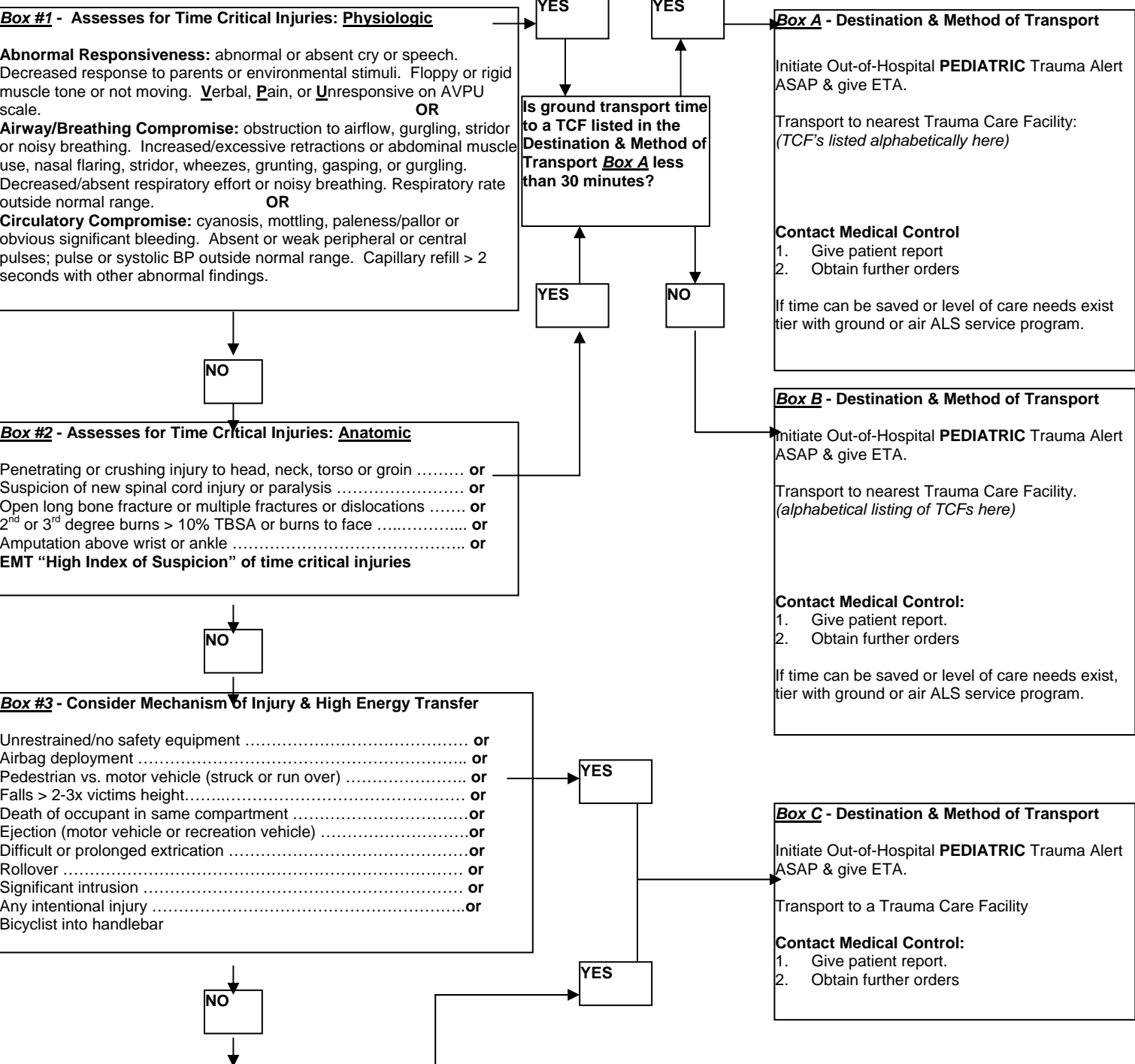
OUT OF HOSPITAL TRAUMA TRIAGE DESTINATION DECISION PROTOCOL (OOHTTDDP)

The following criteria shall be utilized to assist the EMS provider in the identification of time critical injuries, method of transport and trauma care facility resources necessary for treatment of those injuries.



OUT-OF-HOSPITAL PEDIATRIC TRAUMA TRIAGE DESTINATION DECISION PROTOCOL (OOHPTDDP)

The following criteria shall be utilized to assist the EMS provider in the identification of time critical injuries, method of transport and trauma care facility resources necessary for treatment of those injuries.



- Box #4 - Consider Risk Factors**
- Age < 5 years or
 - Environmental exposure or
 - ETOH/drugs or
 - Comorbid condition

Normal Pediatric Vital Sign Ranges			
	Normal RR	Normal PR	Systolic BP Lower Limit
Infant (<1yr.)	30-60	100-160	>60 (or strong pulses)
Toddler (1-3yr.)	24-40	90-150	>70 (or strong pulses)
Preschool (4-5yr.)	22-34	80-140	>75
School age (6-12yr.)	18-30	70-120	>80
Adolescent (12-20yr.)	12-20	60-100	>90

APPENDIX B

EMS OUT-Of-HOSPITAL DO-NOT-RESUSCITATE PROTOCOL

Purpose: This protocol is intended to avoid unwarranted resuscitation by emergency care providers in the out-of-hospital setting for a qualified patient.¹ There must be a valid Out-Of-Hospital Do-Not-Resuscitate (OOH DNR) order signed by the qualified patient's attending physician or the presence of the OOH DNR identifier indicating the existence of a valid OOH DNR order.

No resuscitation: Means withholding any medical intervention that utilizes mechanical or artificial means to sustain, restore, or supplant a spontaneous vital function, including but not limited to:

1. Chest compressions,
2. Defibrillation,
3. Esophageal/tracheal/double-lumen airway; endotracheal intubation, or
4. Emergency drugs to alter cardiac or respiratory function or otherwise sustain life.

Patient criteria: The following patients are recognized as qualified patients to receive no resuscitation:

1. The presence of the uniform OOH DNR order or uniform OOH DNR identifier, or
2. The presence of the attending physician to provide direct verbal orders for care of the patient.

The presence of a signed physician order on a form other than the uniform OOH DNR order form approved by the department may be honored if approved by the service program EMS medical director. However, the immunities provided by law apply only in the presence of the uniform OOH DNR order or uniform OOH DNR identifier. When the uniform OOH DNR order or uniform OOH DNR identifier is not present contact must be made with on-line medical control and on-line medical control must concur that no resuscitation is appropriate.

Revocation: An OOH DNR order is deemed revoked at any time that a patient, or an individual authorized to act on the patient's behalf as listed on the OOH DNR order, is able to communicate in any manner the intent that the order be revoked. The personal wishes of family members or other individuals who are not authorized in the order to act on the patient's behalf shall not supersede a valid OOH DNR order.

Comfort Care (♥): When a patient has met the criteria for no resuscitation under the foregoing information, the emergency care provider should continue to provide that care which is intended to make the patient 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 and suctioning).

¹ *Qualified Patient* means an adult patient determined by an attending physician to be in a terminal condition for which the attending physician has issued an Out of Hospital DNR order in accordance with the law. Iowa Administrative Code 641-142.1 (144A) Definitions.

APPENDIX C

EMS APPROVED ABBREVIATIONS

ā	before	Mgtt	microd
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
BLS	basic life support	NaHCO ₃	sodium bicarbonate
BP	blood pressure	NG,N/G	nasogastric
BS	blood sugar	nitro	nitroglycerine
ċ	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
		PCR	patient care record
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	q̄	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	SOB	shortness of breath
gr	grain SQ	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	liter	w/s	watt second setting
LOC	level of consciousness	x	times
LR	lactated ringers	y/o	years old

APPENDIX D

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:

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

*Developed based upon discussion at the October 1998 meeting of the Quality Assurance, Standards, and Protocols subcommittee of the Iowa EMS Advisory Council; and on concepts from the article 'When to Implement Clinical Protocol Change?' From EMS Best Practices September 1998.

APPENDIX E

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 F

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 G

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) Correctable causes or special resuscitation circumstances have been considered and addressed.

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.

OTHER 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.
- 4) Implement survivor support plans related to coroner notification, funeral home transfer, leaving the body at the scene, and death notification/grief counseling for survivors.

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 profound hypothermia or drug or toxin overdose may benefit from continued resuscitation.

APPENDIX H

Chest Pain Checklist Reperfusion therapy screening not limited to paramedic level

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: ___/___/___

Incident/Record # _____

	YES	NO
Ongoing chest discomfort (>20 min and <12 hr)	<input type="checkbox"/>	___
Oriented, can cooperate	<input type="checkbox"/>	___
If 12 Lead EKG available, transmitted to receiving facility	<input type="checkbox"/>	___
Known bleeding disorder	___	<input type="checkbox"/>
Active internal bleeding or history of GI bleed	___	<input type="checkbox"/>
Use of anticoagulants	___	<input type="checkbox"/>
Surgery or trauma in past 2 months	___	<input type="checkbox"/>
History of stroke, TIA, brain tumor or aneurysm	___	<input type="checkbox"/>
Terminal Illness	___	<input type="checkbox"/>
Jaundice, hepatitis, kidney failure	___	<input type="checkbox"/>
Uncontrolled hypertension (Blood Pressure >180/110)	___	<input type="checkbox"/>

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.

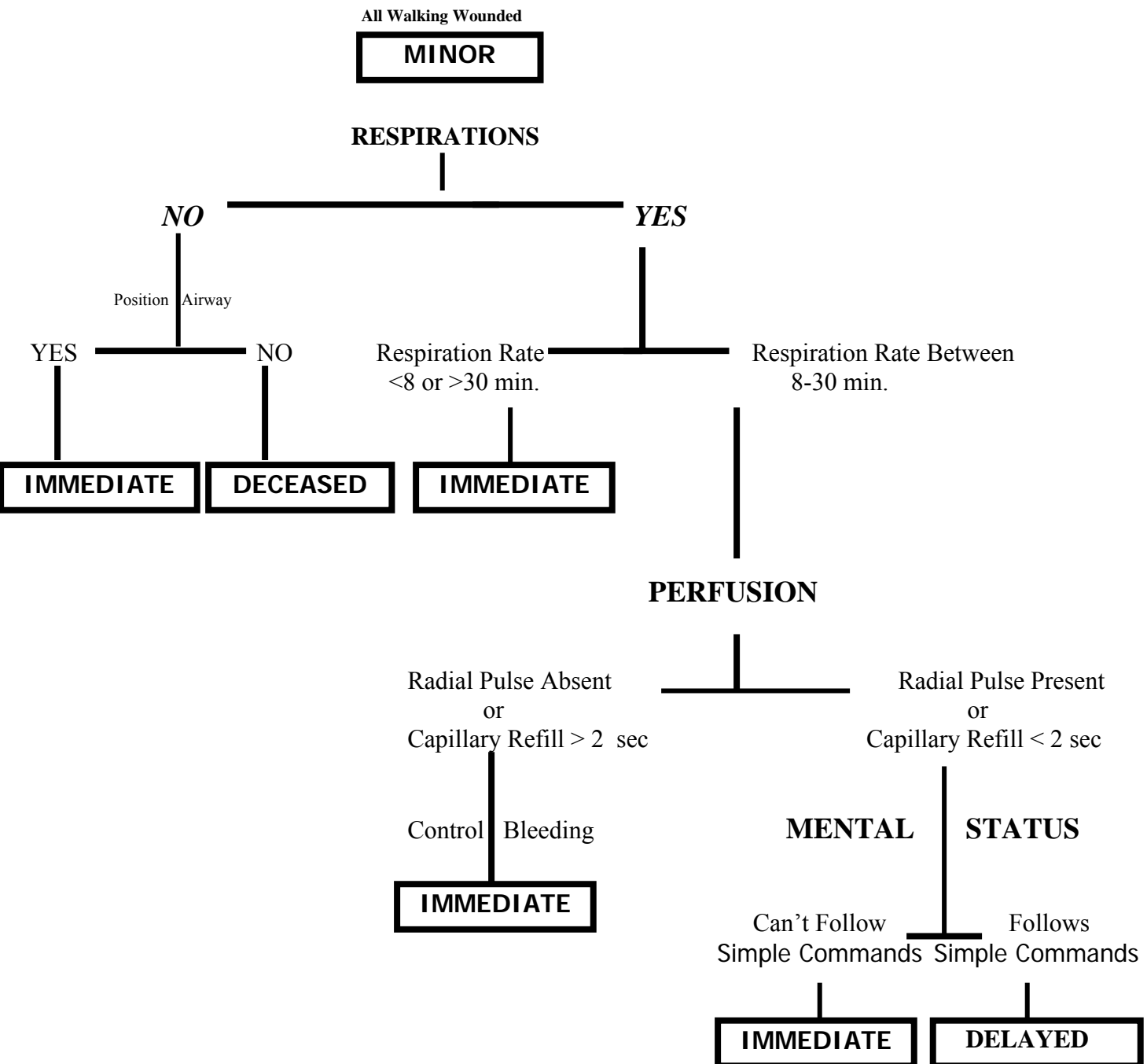
APPENDIX I

START

(Simple Triage and Rapid Treatment)

1. Respirations
2. Perfusion
3. Mental Status

The following are guidelines for initial tactical triage using the START method. START is most useful in initially clearing the disaster zone where there are numerous casualties. **It focuses on respiration rate, perfusion, and mental status and takes under one minute to complete.** Once the patient moves toward a higher level of care (evacuation), a more detailed approach to triage may be needed.



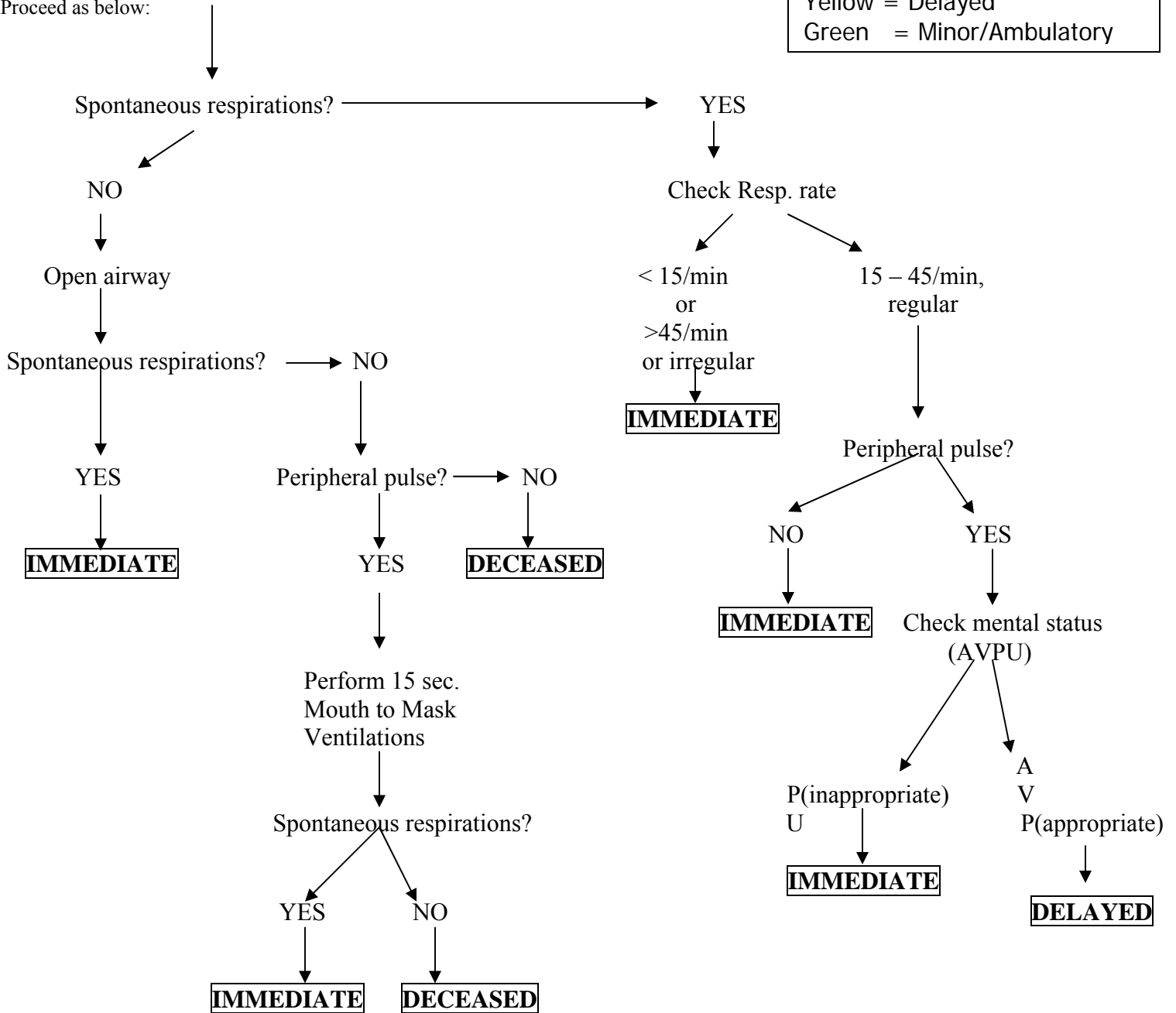
APPENDIX J

PEDIATRIC JumpSTART

Identify and direct all ambulatory patients to designated Green area for secondary triage and treatment. Begin assessment of nonambulatory patients as you come to them. Proceed as below:

MINOR

Black = Deceased/Expectant
 Red = Immediate
 Yellow = Delayed
 Green = Minor/Ambulatory



APPENDIX K

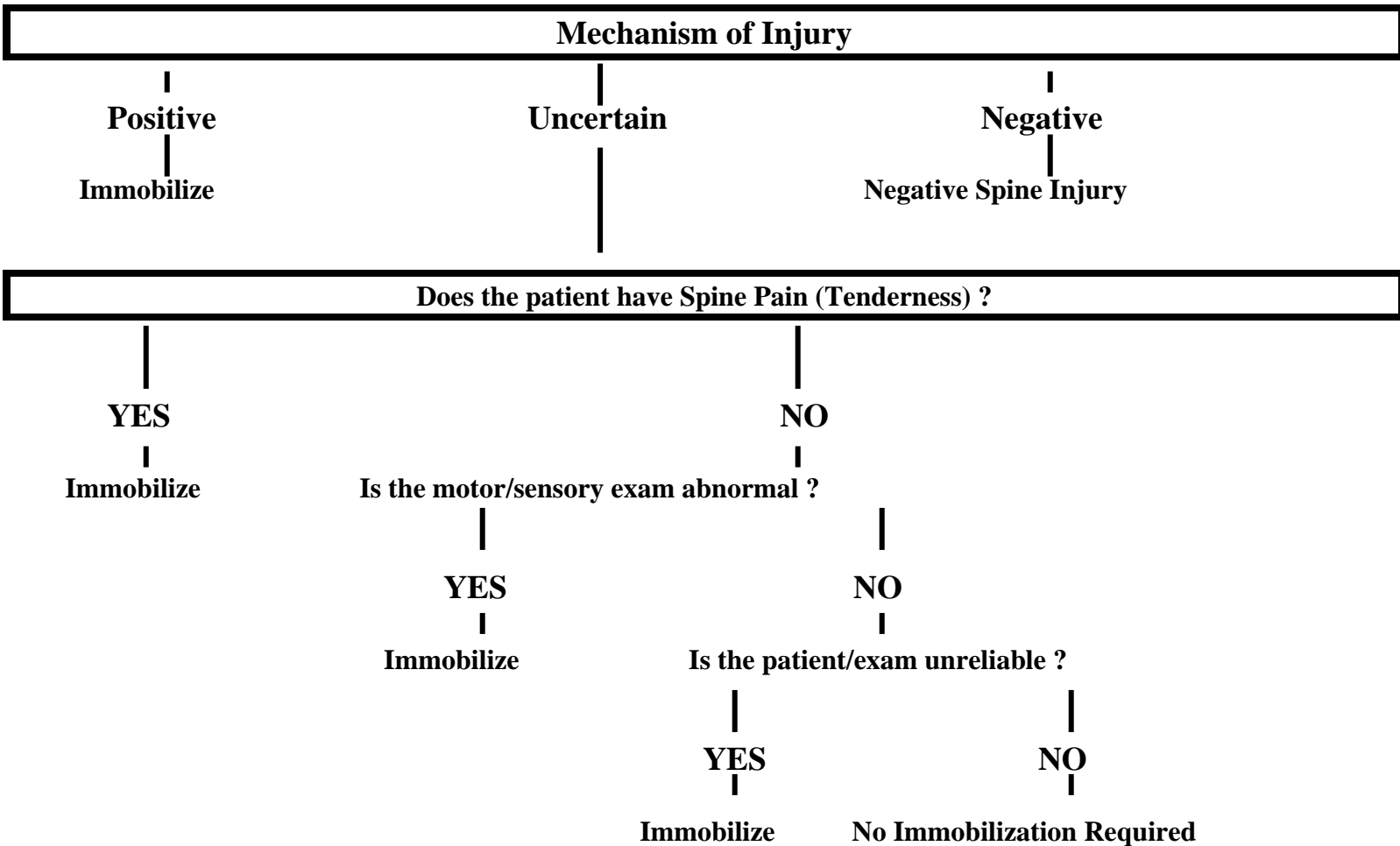
Guidelines for EMS Provider Initiating Organ Donation At the Scene of the Deceased

- I. All appropriate patient care protocols will be enacted to assure patient care is provided according to prevailing standards.
- II. If resuscitation efforts are unsuccessful, or if upon arrival the patient is deceased and without indications to initiate resuscitation, then on-line medical direction will be contacted to confirm that no further medical care is to be given.
- III. *As per Iowa Code 142C.7 a medical examiner or a medical examiner's designee, peace officer, fire fighter, or emergency medical care provider may release an individual's information to an organ procurement organization, donor registry, or bank or storage organization to determine if the individual is a donor.*
- IV. *As per Iowa Code 142C.7 Any information regarding a patient, including the patient's identity, however, constitutes confidential medical information and under any other circumstances is prohibited from disclosure without the written consent of the patient or the patient's legal representative.*
- V. At least one EMS provider should remain at the scene until the appropriate authority (medical examiner, funeral home, public safety, etc.) is present.

APPENDIX L

Assessment Based Spinal Immobilization

The following represents clinical criteria for initial assessment of spine injury for patients with an uncertain mechanism of injury. **The use of this procedure is only approved for the Paramedic Specialist level as outlined in the Iowa EMS Scope of Practice.**



Definition of “Spinal Immobilization”: Mechanical immobilization of the **entire** spinal column that is inclusive of the head through the pelvis.

References

1. USDOT/NHTSA- EMT-Paramedic NSC (1998)
2. Marc D. Muhr, BA, EMT-P, David I. Seabrook, BS, EMT-P, Lynn K. Wittwer, MD. Paramedic Use of A Spinal Injury Clearance Algorithm Reduces Spinal Immobilization In The Out-Of-Hospital Setting . Prehospital Emergency Care 1999, 3:1-6
3. Daniel G. Hankins, MD, Edgardo J. Rivera-Rivera, MD, Joseph P. Ornato, MD, Robert A. Swor, DO, Thomas Blckwell, MD, Robert M. Domeier, MD. Prehospital Emergency Care 2001;5:88-93
1. Geoffrey Stroh, MD, Darren Graude, MD, EMT-P. Can an Out-Of-Hospital Spine Clearance Protocol Identify All Patients With Injuries? An Argument for Selective Immobilization. American College of Emergency Physicians 2001.
2. Prehospital Trauma Life Support (PHTLS) 5th Edition, NAEMT, Figure 9-13 p 238. Mosby Publishers. St. Louis. 2003

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

APPENDIX M

Guidelines for EMS Providers responding to a patient with special needs (This Protocol is not intended for interfacility transfers.)

These guidelines should be used when an EMS provider, responding to a call, is confronted with a patient using specialized medical equipment that the EMS provider has not been trained to use, and the operation of that equipment is outside of the EMS provider's scope of practice. The EMS provider may treat and transport the patient, as long as the EMS provider doesn't monitor or operate the equipment in any way while providing care.

When providing care to patients with special needs, EMS personnel should provide the level of care necessary, within their level of training and certification. When possible, the EMS provider should consider utilizing a family member or caregiver who has been using this equipment to help with monitoring and operating the special medical equipment if necessary during transport.

Some examples of special medical devices:

- PCA (patient controlled analgesic)
 - Chest Tube
-