(Underlined sections are new or replacements; [bracketed] sections are deleted.)

BEFORE THE BOARD OF COMMISSIONERS

FOR THE COUNTY OF MULTNOMAH

ORDINANCE NO. 618

An Ordinance adopting a recommendation of the EMS Policy Board to amend Emergency Medical Services Rule 631.502 by revision of the Advanced Life Support Treatment Protocols and declaring an emergency.

Multnomah County ordains as follows:

Section 1. Findings.

1. MCC 6.31.060 authorizes the Board of County Commissioners to adopt rules concerning procedures and prehospital treatment protocols, upon recommendation of the Emergency Medical Services Policy Board.

2. Multnomah County has used Advanced Life Support (ALS) Protocols to assure accident victims of the highest level of care.

3. The EMS Medical Advisory Board has recommended adoption of revised ALS protocols in EMS Rule 631.502.

4. The EMS Policy Board, pursuant to MCC 6.31.062, conducted a public hearing on April 4, 1989 and recommended adoption of the revised ALS protocols in EMS Rule 631.502.

5. The recommended changes to the County's rules are consistent with the purposes of MCC Chapter 6.31 and are in the public interest. The Statement of Need adopted by the Emergency Medical Services Policy Board attached as Exhibit 1 and incorporated herein by reference, is also adopted by this Board.

Section 2. Repeal of ALS Protocols.

EMS Rule 631.502 is amended by repeal of the protocols contained in Exhibit F of that rule.

Section 3. Adoption of ALS Protocols.

The ALS protocols dated June 1, 2989, and Exhibit 2 to this ordinance are adopted and are incorporated herein by reference. These protocols shall constitute Exhbit F of EMS Rule 631.502.

Section 4. Emergency Clause.

This Ordinance, being necessary for the health, safety, and general welfare of the people of Multnomah County, an emergency is declared and the Ordinance shall take effect upon its execution by the County Chair, pursuant to Section 5.50 of the Charter of Multnomah County.

ADOPTED this 1st day of June, 1989, being the date of its first reading before the Board of County Commissioners of Multnomah County.

BOARD OF COUNTY COMMISSIONERS
MULTNOMAH COUNTY, OREGON

By Gladys McCoy
Gladys McCoy
Multnomah County Chair

(SEAL)

REVIEWED:

LAURENCE KRESSEL, COUNTY COUNSEL
FOR MULTNOMAH COUNTY, OREGON

By Sandra Duffy
Sandra Duffy
Assistant County Counsel

4606R/dp
050289:1

IN THE MATTER OF A PROPOSAL TO)
RULES CONCERNING PROCEDURES AND)
PREHOSPITAL TREATMENT PROTOCOLS)
FOR THE VARIOUS TYPES OF EMERGENCIES)
TO WHICH LICENSEES RESPOND)

EMS 2-89
Legal Authority
Statement of Need
Principal Document Relied On

1. Citation of Legal Authority:

MCC 6.31.060 A (3) authorizes the Emergency Medical Services Policy Board to recommend rules establishing procedures and prehospital treatment protocols for the various types of emergencies to which licensees respond and provide care.

2. Need for Rule:

The current protocols do not recognize the current knowledge on certain treatment modems and patient care techniques or skills. Also, the state has adopted a portion of the pediatric care material which these rules propose. The proposed rules are recommended by the EMS Medical Advisory Board.

3. Documents:

Minutes of the Treatment Protocol Subcommittee meetings from May 1988 through March 1989.

Medical Advisory Board meeting minutes from May 1988 through March 1989.

Oregon Plan for Pediatric Emergency Care

Standards for Advanced Cardiac Life Support AHA

Exhibit 1

[5299E m]

Exhibit F
(to EMS Rule 631-502)

JUNE 1, 1989

ADVANCED LIFE SUPPORT PROTOCOLS

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Exhibit F
(to EMS Rule 631-502)

DO NOT RESUSCITATE

Policy:

The goal is to provide comfort and emotional support with the highest quality medical care to patients in conformity with the highest ethical and medical standards. Unless a "DNR" order is issued and follows the protocol outlined, any patient who sustains a cardiopulmonary arrest will receive full cardiopulmonary resuscitation with the objective of restoring life.

Definitions:

1. A DNR (Do Not Resuscitate) Order is an order issued by a physician directing that in the event the patient suffers a cardiopulmonary arrest, (i.e. clinical death)* cardiopulmonary resuscitation will not be administered. Also see Transport of Chronically Ill Patient for the patient who is still breathing and has a pulse.

2. Resuscitation includes attempts to restore failed cardiac and/or ventilatory function by procedures such as endotracheal intubation, mechanical ventilation, closed chest massage, and defibrillation.

Protocol:

1. When the patient's family, friends, or nursing home personnel state that the patient is not to be resuscitated:

   A. BLS protocols at the EMT-I level will be followed while attempts to determine if a written DNR order from the patient's physician is in the patient's medical file.

   B. In the absence of written DNR order, call the attending physician or (if not quickly available) MRH physician for a verbal order.

   C. The EMT must document the DNR order in the patient care report.

2. The following procedures should NOT be performed on a patient who is the subject of a confirmed DNR order and who is PULSELESS AND NONBREATHING:

   A. CPR
   B. Endotracheal intubation
   C. Defibrillation
   D. Assistance with respiratory efforts (i.e., "Bagging")
   E. Oral/nasal airways
   F. Suctioning
   G. IV lines
   H. Fluids
   I. Medications, including oxygen
   J. EKG monitoring

   *Clinical death exists when a patient is pulseless and nonbreathing. Biological death has occurred when no CNS signs of life exist.

BURNS

SPECIFIC INFORMATION NEEDED:

A. Time elapsed since burn.

B. Was patient in a closed space with steam or smoke? For how long?

C. Loss of consciousness.

D. Accompanying explosion, toxic fumes.

E. Prior cardiac or pulmonary disease.

SPECIFIC PHYSICAL FINDINGS:

A. Vital signs.

B. Extent of burns: Description of areas involved.

C. Depth of burns: Superficial - erythema only.

Significant - blistered or charred areas.

D. Evidence of respiratory burns: Soot or erythema of mouth, singed nasal hairs, cough, hoarseness, respiratory distress.

E. Associated trauma.

TREATMENT:

A. Remove clothing which is smoldering or which is nonadherent to the patient.

B. O_2, high flow, by non-rebreathing mask if there is possibility of respiratory burns, and in closed space burns.

C. Remove rings, bracelets and other constricting items.

D. If burn is moderate-to-severe, dress burns with dry, clean dressings or cover patient with burn sheet. For burns less than 20%, may apply wet dressings for comfort.

E. Thermal Burns: If more than about 20% significant burn or if respiratory distress or hypotension exists:

1. Start IV: Balanced salt solution, large bore, TKO or as % burn. Treat hypotension according to Shock Protocol.

2. Monitor cardiac rhythm.

BURNS (Continued)

F. Electrical Burns:

1. Start IV: Balanced salt solution, large bore, TKO or as indicated by shock syndrome.

2. Monitor cardiac rhythm.

3. Apply sterile dressings to entry and exit burns.

G. Chemical Burns:

1. Flush contaminated skin and eyes with copious amounts of water. (see precautions)

2. Obtain and document vital signs, and transport.

H. Transport:

1. The following patients should be transported to a burn center:

a. Total burn which is 25% or more of body surface in an adult, 10-15% in a child.

b. Full thickness burn which is 10% or greater of body surface.

c. Burns with inhalation injuries, fractures, or in poor risk patients.

SPECIFIC PRECAUTIONS:

A. Attempt to leave unbroken blisters intact.

B. Suspect airway burns in any facial burns or burns received in closed space. Use conservative fluid resuscitation when burns are confined to head and neck until airway is properly controlled.

C. Deaths in the first 24 hours after burn injury are due to either airway burns or fluid loss. Fluids are calculated on the basis of extent of significant burn. No further burn classification is possible or useful in an acute situation.

D. Consider carbon monoxide poisoning in all closed space burns. If suspected, give O_2, high flow, through non-rebreathing mask.

E. Consider MI in firefighters who are burned; child abuse in pediatric burns, suicide attempt as cause for burns.

F. Avoid starting IVs in burned areas if possible.

BURNS (Continued)

G. In a few instances, caution should be used with water flushing of chemical contaminants. In the case of lime ($CaCO_3$), brush off excess, then flush with copious amounts of water. Do not use water for phosphorus contamination.

H. Consider morphine sulfate for severe incapacitating pain per drug protocol.

I. Emphasis is placed on immediate transportation of the significantly burned patient. Do not delay transportation for the sake of fluid administration.

Exhibit F
(to EMS Rule 631-502)

CARDIAC ARREST

SPECIFIC INFORMATION: DO NOT DELAY MANAGEMENT TO OBTAIN HISTORY:

A. History: Preceding symptoms, onset, downtime (no CPR).

B. Past History: Diseases, medications

C. Surrounding evidence of drug ingestion, penetrating or blunt injury.

D. Appropriateness of resuscitative efforts: In unexpected or unwitnessed cardiovascular collapse, proceed with protocol unless obvious signs of death are present (rigor, etc.). In all others, begin protocol, then request further information of family members. Medical Resource may also be of assistance. (See Death In The Field Protocol.)

E. Once resuscitative efforts have been initiated, they should be continued until arrival at the receiving hospital, or until a joint decision has been made with Medical Resource or the attending physician, that resuscitation should cease. (See Death In The Field Protocol.)

SPECIFIC PHYSICAL FINDINGS:

A. Determine presence of arrest.

1. Unresponsive.

2. Absent or terminal respirations.

3. Absent pulses over major arteries.

B. If signs of penetrating chest injury or major blunt trauma are present with cardiopulmonary arrest, patient's only chance for survival is immediate transport. Apply PASG suit and administer fluids per shock protocol while en route. Ventilate and transport rapidly to appropriate facility. CLOSED CHEST MASSAGE IS NOT INDICATED IN THESE CIRCUMSTANCES IF THIS MEANS A DELAY IN IMMEDIATE TRANSPORT. (See Death In The Field Protocol.)

TREATMENT OF CARDIAC ARREST:

A. Initiate CPR: Follow American Heart Association Basic Life Support standards. (See Appendix A.)

B. Check cardiac rhythm with "quick look" paddles. Do not diagnose cardiac arrest solely on the basis of a monitor reading. Consider no respirations and no palpable pulse.

C. ARREST DYSRHYTHMIAS.

Exhibit F
(to EMS Rule 631-502)

CARDIAC ARREST (continued)

1. Ventricular Fibrillation.

Ventricular fibrillation (and pulseless ventrical tachycardia.) This sequence was developed to treat a broad range of patients with ventricular fibrillation (VF) or pulseless ventricular tachycardia (VT). Some patients may require care not specified herein. This algorithm should not be construed as prohibiting such flexibility. Flow of algorithm presumes that VF is continuing. CPR indicates cardiopulmonary resuscitation.

If for any reason this protocol cannot be followed in treatment order or drug amounts, MRH should be contacted.

Witnessed Arrest

Check Pulse-If No Pulse

Precordial Thump

Check Pulse-If No Pulse

Unwitnessed Arrest

Check Pulse-If No Pulse

CPR Until a Defibrillator is Available

Check Monitor for Rhythm - if VF or VT[a]

Defibrillate, 200 Joules[b]

Defibrillate, 200-300 Joules[b]

Defibrillate with up to 360 Joules

CPR if No Pulse

Establish IV Access

Epinephrine, 1:10,000, 0.5-1.0 mg IV Push[c]

Intubate If Possible[d]

Defibrillate With up to 360 Joules[b]

Lidocaine, 1 mg/kg IV Push (or 2 mg/kg E.T.)

Defibrillate With up to 360 Joules[b]

Bretylium, 5 mg/kg IV Push[e]

(Consider Bicarbonate)[f]

Defibrillate With up to 360 Joules[b]

Bretylium, 10 mg/kg IV Push*

Defibrillate With up to 360 Joules[b]

Repeat Lidocaine or Bretylium

Defibrillate With up to 360 Joules[b]

*Contact MRH if not done previously, or at any time if this protocol cannot be followed in order or in drug amounts.

CARDIAC ARREST (continued)

a. Pulseless VT should be treated identically to VF.

b. Check pulse rhythm after each shock. If VF recurs after transiently converting (rather than persists without ever converting), use whatever energy level has previously been successful for defibrillation.

c. Epinephrine should be repeated every five minutes (1 mg per ET tube if no IV).

d. Intubation is preferable. If it can be accomplished simultaneously with other techniques, then the earlier the better. However, defibrillation and epinephrine are more important initially if the patient can be ventilated without intubation.

e. Some may prefer repeated doses of lidocaine, which may be given in 0.5-mg/kg boluses every five minutes to a total dose of 3 mg/kg.

f. Value of sodium bicarbonate is questionable during cardiac arrest, and it is not recommended for routine cardiac arrest sequence. Consideration of its use in a dose of 1 mEq/kg is appropriate at this point. Half of original dose may be repeated every ten minutes if it is used.

g. After successful resuscitation, a continuous infusion of lidocaine should be initiated at 2-4 mg/min. Be cautious with the administration of lidocaine if:

Blood pressure is less than 90 systolic, OR
Heart rate is less than 50/min. OR
Periods of sinus arrest or any A-V block are present

After successful resuscitation, doses of lidocaine should be reduced by 50% in presence of decreased cardiac output (congestive heart failure, hypotension) hepatic dysfunction or age more than 70.

Exhibit F
(to EMS Rule 631-502)

CARDIAC ARREST (continued)

2. Ventricular Tachycardia

No Pulse

Treat as VF

Pulse Present

Stable[a]	Unstable[b]
O_2	O_2
IV Access	IV Access Contact MRH
Lidocaine 1 mg/kg	(Consider Sedation)[c]
	Cardiovert 50 Joules[d]
Prepare patient for transport	
Lidocaine, 0.5 mg/kg Every 5 min until VT Resolves, or up to 3 mg/kg* while in transport	Cardiovert 100 Joules
	Cardiovert 200 Joules
	Cardiovert With up to 360 Joules[d]
	If Recurrent, Add Lidocaine and Cardiovert again starting at energy level previously successful; Then Bretylium
After conversion, an infusion of lidocaine at 2-4 mg/min. should be started.	After conversion, an infusion of lidocaine at 2-4 mg/min. should be started.

*Contact MRH if not done previously

a. If patient becomes unstable (see footnote b for definition) at any time, move to "Unstable" arm of algorithm.

b. Unstable indicates symptoms: hypotension (systolic blood pressure less than 90 mm Hg), chest pain, congestive heart failure, or unconsciousness.

c. Sedation should be considered for all patients, including those defined in footnote b as unstable, except those who are hemodynamically unstable (e.g., hypotensive, in pulmonary edema, or unconscious).

d. In the absence of hypotension, pulmonary edema, or unconsciousness, a precordial thump may be employed prior to cardioversion.

Exhibit F
(to EMS Rule 631-502)

CARDIAC DYSRHYTHMIAS

SPECIFIC INFORMATION:

A. Chief complaint, sudden or gradual onset.

B. Related symptoms: dizziness, angina, syncope, s.o.b., palpitations.

C. Medications.

SPECIFIC PHYSICAL FINDINGS:

A. Vital signs.

B. Signs of low cardiac output:

1. Altered state of consciousness.

2. Presence of shock syndrome.

C. Signs of congestive failure.

D. NOTE: DYSRHYTHMIAS MAY NOT REQUIRE TREATMENT IN THE FIELD IF THE PATIENT IS ASYMPTOMATIC (i.e., NO SIGN OF LOW CARDIAC OUTPUT.)

GENERAL APPROACH TO TREATMENT:
(For specific treatment see under appropriate rhythm disturbance.)

A. O_2, position of greatest comfort.

B. Monitor cardiac rhythm.

C. Start IV: Large bore D5W, microdrip chamber, TKO rate.

D. Identify rhythm as closely as possible. Contact Medical Resource Hospital for assistance as needed.

PVC's: 1. Premature Ventricular Complexes: Treat only in the setting of a suspected ischemic event.

LIDOCAINE PROTOCOL:

a. Initial bolus: 1mg/kg over 1-2 min.

b. Begin lidocaine drip at 2 mg/min.

c. Repeat one-half of dose every 5 minutes until a maximum of 3 mg/kg is given. Increase lidocaine drip 1 mg/min after each repeat lidocaine bolus to maximum of 4 mg/min..

d. All doses, including initial bolus, must be reduced by 50% in patients with congestive heart failure, shock, or hepatic disease, or who are over 70 years of age.

CARDIAC DYSRHYTHMIAS (continued)

2. If PVC's are associated with a bradydysrhythmia, see section on bradydysrhythmias.

BRADY 1. Bradydysrhythmias (sinus bradycardia, ventricular escape rhythm, AV nodal block.)

A. Treatment may not be required if there are no signs of low output and blood pressure remains above 90 Torr and pulse rate is greater than 50.

B. ATROPINE - give 0.5 to 1.0 mg IV and repeat every 5 min. to a maximum of 2.0 mg as needed to maintain rate above 50 and blood pressure above 90 Torr.

C. Contact MRH if patient does not respond to Atropine.

D. ISOPROTERENOL - give cautiously if no response to atropine. Administer as drip of 2-10mcg/min to maintain a ventricular rate of 60-70.

E. Call MRH to notify of potential need for pacemaker insertion.

Exhibit F
(to EMS Rule 631-502)

CARDIAC DYSRHYTHMIAS (continued)

SUPRAVENTRICULAR TACHYCARDIA

Paroxysmal supraventricular tachycardia (PSVT). These various dysrhythmias are often very difficult to differentiate. If the patient is perfusing well, no specific prehospital treatment is necessary. Transport with monitoring. Consider IV and O_2.*

If dysrhythmia is resulting in a hemodynamically unstable patient immediate cardioversion should be considered.

Hemodynamically Unstable** (consider sedation)	Hemodynamically Stable
Synchronous Cardioversion 75-100 Joules***	Vagal Maneuvers
Synchronous Cardioversion 200 Joules	
Synchronous Cardioversion 360 Joules	
Correct Underlying Abnormalities	
Pharmacological Therapy (per MRH) + Cardioversion	

If conversion occurs but PSVT recurs, repeated electrical cardioversion is not indicated.

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* If rate is above 150, regardless of cause and in the setting of a suspected acute ischemic event, treatment early in the course may prevent impending cardiovascular collapse.

** Unconscious, pulmonary edema, shock syndrome, chest pain.

*** Before cardioversion of the conscious patient with poor perfusion, contact MRH.

Exhibit F
(to EMS Rule 631-502)

HYPOTHERMIA

SPECIFIC INFORMATION NEEDED:

A. Length of exposure?

B. Define categories of accidental hypothermia by physical findings (patient will be categorized by lowest physiological variable):

Apnea - Put metal or glass slide under nostrils for 60 seconds.

Pulse - Palpate carotid pulse for 60 seconds.

EKG - Attach EKG leads and interpret rhythm.

LOC - Determine LOC by verbal and motor responsiveness.

C. See Categories of Accidental Hypothermia (Specific Physical Findings) chart.

TREATMENT:

A. Warm oxygen preferably.

B. Monitor cardiac rhythm.

C. IV fluids - warmed if possible

Type: Normal saline or Normosol recommended.

Recommended Rate: 10 cc's/kg bolus, then 5 cc's/kg thereafter.

SPECIFIC PRECAUTIONS:

A. Handle alive patient gently - do not jostle.

B. Do not force oral intubation.

Do not nasotracheally intubate.

Consider needle cricothyrotomy only if patient deteriorates AND jaw is frozen.

C. Do chest compressions only if chest is compressible and patient has a disorganized rhythm.

D. If terrain is difficult, evacuate patient first and treat second.

E. Cardiopulmonary bypass offers rapid rewarming in profoundly cold patients who have cardiac failure (Category 1, 2, 3).

F. Consider other protocols as appropriate (i.e. altered mental status).

Exhibit F
(to EMS Rule 631-502)

HYPOTHERMIA (continued)

CATEGORIES OF ACCIDENTAL HYPOTHERMIA (SPECIFIC PHYSICAL FINDINGS)

1. Frozen, Lifeless	2. Cold, Lifeless	3. Cold, Alive	4. Moderate Hypothermia
If major trauma present, or head and trunk frozen, determine patient death in field. Apneic, pulseless,	If major trauma determine patient death in field. Apneic, pulseless, disorganized EKG rhythm,* unconscious	Respirations 12 No pulse palpable Organized EKG rhythm** Responsive to stimulus	Respirations 12 Pulses palpable Organized EKG rhythm** Responds to commands
Treatment:			
Transport if risk to personnel is acceptable.	ACLS Protocols Warm O_2 No nasotracheal tube Start IV via peripheral vein if possible	No CPR Warm O_2 IVs if feasible EKG monitoring	Supportive care No CPR Warm O_2 IVs if feasible EKG monitoring
Antiarrhythmic:			
None	Bretylium first drug of choice for V. fibrillation	Prophylactic Lidocaine if IV available (normal dose)	Prophylactic Lidocaine if IV available (normal dose)
Consider pump rewarming:			
Yes, maybe. No, if major trauma present.	Yes, probably. No, if major trauma present.	Yes, probably. No, if major trauma present.	No, unless deteriorating.

* Disorganized EKG rhythm is incompatible with life. (Asystole or V. Fib)
** Organized EKG rhythm is compatible with life (EMD etc.)

Exhibit F
(to EMS Rule 631-502)

NEAR DROWNING

SPECIFIC INFORMATION NEEDED:

A. How long patient was submerged.

B. Approximate temperature of water.

C. Fresh or salt water.

D. Associated trauma.

E. Was this a SCUBA diving accident?

SPECIFIC PHYSICAL FINDINGS:

A. Vital signs.

B. Neurologic status: Note, record, and monitor mental status.

C. Initial presence of crackles or other signs of pulmonary edema, respiratory distress, and any changes during transport.

TREATMENT:

A. Clear upper airway.

B. Assist ventilation as needed; if unsuccessful, patient may need intubation and positive pressure, suction, or relief of gastric distention.

C. Stabilize neck prior to removing from water if any suggestion of neck injury.

D. O_2, high flow.

E. IV: Volume expander (balanced salt solution), TKO.

F. Monitor cardiac rhythm.

SPECIFIC PRECAUTIONS:

A. If patient is still in water, rescue by trained, equipped personnel only.

B. Be prepared for vomiting.

C. ALL NEAR-DROWNINGS SHOULD BE TRANSPORTED. Even if patients initially appear fine, they can deteriorate. Monitor closely. Pulmonary edema is likely.

D. Hypothermia may be a problem. If suspected, refer to hypothermia protocol.

E. It is a common error to underestimate injuries in near-drownings from jumping, MVAs, etc.

POISONS AND OVERDOSES (Cont'd.)

a. Administer Naloxone 2 mg, slowly injected IV, IM, SC, SL, or ET, and observe for improved ventilations (may be repeated every 3-5 minutes up to 8 mg).

b. Thiamine, 100 mg IV if alcoholism is possible.

c. Administer dextrose 50%, 50 ml.

d. Monitor cardiac rhythm.

6. If overdose includes tricyclic anti-depressant:

a. Hyperventilate if possible.

b. Treat hypotension, as indicated, with fluid challenge and PASG pants.

c. If life-threatening arrhythmias exist, administer 1 mEq/kg NA HCO_3, slow IV push, after consultation with Medical Resource Hospital.

7. If cholinergic poisoning (e.g., organophosphate poisoning) has occurred and patient is critical with "SLUD" symptoms, administer 1-2 mg atropine, slow IV per MRH order and repeat dosage every 5 minutes until secretions have substantially decreased.

8. Consider administration of ipecac or activated charcoal in conscious, alert patients, if the ingestion occurred within the past 6 hours, (30 ml ipecac in adult, 15 ml in child over 1 year). Follow with 2-3 glasses of H_2O and ambulate if possible. Note specific precautions.

9. If arrhythmias or conduction abnormalities present or persist after treatment, treat per arrhythmia protocol and contact MRH.

a. Obtain and document vital signs during transport.

SPECIFIC PRECAUTIONS:

A. Contact MRH before administering ipecac or activated charcoal.

B. Do not induce vomiting in patients who:

1. Have ingested strong acid, strong base, iodides, silver nitrate, strychnine, phenothiazines, hydrocarbons, or camphor.

2. Are unconscious, obtunded seizing, or have no gag reflex.

3. Are in the third trimester of pregnancy.

4. In general, tricyclics, short acting sedatives, and beta blockers should not be ipecaced in the field.

C. Some hydrocarbon ingestions may benefit from emesis, contact Medical Resource on all hydrocarbon ingestions.

D. Do not try to neutralize acids with strong alkalis. Do not try to neutralize alkalis with acids.

E. Inhalation poisoning is particularly dangerous to rescuers. Recognize an environment with continuing contamination and extricate rapidly by properly trained and equipped personnel.

F. Ipecac may take up to 30 minutes to work. Be prepared to manage airway.

G. Activated charcoal may be ineffective in ingestions such as mineral acids, alkalies, petroleum products, or cyanide.

H. SLUDS - salivation, lacrimation, urination, defecation, sweating.

SEIZURES

SPECIFIC INFORMATION NEEDED:

A. Seizure history: Onset, time interval, previous seizures, type of seizure. Consider febrile seizures in children.

B. Medical history: Medications and compliance, head trauma, diabetes, headaches, drugs, alcohol, pregnancy.

SPECIFIC PHYSICAL FINDINGS:

A. Vital signs.

B. Seizure activity.

C. Level of consciousness.

D. Head and oral trauma.

E. Incontinence. (Urinary or fecal.)

F. Focal neurologic signs.

G. Headache.

TREATMENT:

A. Airway: Insure patency - nasopharyngeal airways useful.
NOTE: Do not FORCE anything between the teeth. Do not use esophageal obturator airway.

B. O_2 as needed.

C. Suction as needed.

D. If patient is seizing upon arrival or has prolonged (more than 2") or repetitive seizures:

1. Start IV: TKO or as directed.

2. Draw one red top tube

3. Dextrose 50%, 50 ml IV into secure vein, if history not obtainable. Give thiamine 100 mg IV before giving glucose if alcoholism is suspected. Consider naloxone 2 mg, slowly, to a maximum of 8 mg.

4. Contact Medical Resource Hospital if further intervention is necessary.

SEIZURES (Cont'd.)

5. Administer diazepam by MRH order, (Valium) 5-10 mg (not to exceed 0.3 mg/kg) slowly IV, for continued grand mal seizure activity. Pediatric dose 2-5 mgm, slowly (0.1 mg/kg). If unable to administer pediatric dose intravenously, consider rectal administration .5mgm/kgm.

E. Lateral recumbent position for transport.

F. Monitor cardiac rhythm.

G. Obtain and document vitals.

H. Document patient's level of consciousness at time of transport.

SPECIFIC PRECAUTIONS:

A. Move hazardous material away from patient. Restrain the patient only if needed to prevent injury. Protect patient's head.

B. Trauma to tongue is unlikely to cause serious problems. Trauma to teeth may. Attempts to force an airway into the patient's mouth can completely obstruct his airway.

C. Seizures in patients over the age of 50 are frequently caused by arrhythmias.

D. Medical personnel are often called to assist epileptics who seize in public. If patient clears completely, is taking his medications, has his own physician and is experiencing his usual frequency of seizures, transport may be unnecessary. Document patient's mental status and have patient sign a refusal form.

E. Don't forget to check for a pulse once a seizure terminates. Seizure activity may be the first sign of cerebral hypoxia from cardiac arrest!

F. Focal motor seizures are generally not treated in the pre-hospital setting.

Exhibit F
(to EMS Rule 631-502)

SUSPECTED SPINAL INJURY

SPECIFIC INFORMATION NEEDED:

A. Violent mechanism of injury (witness, scene, situation).
B. High energy transfer (ejection, helmet damage, starred windshield, etc.)

SPECIFIC PHYSICAL FINDINGS:

A. Significant injury above the clavicles.
B. Significant multiple trauma.
C. Prior or present altered mental status.
D. Paralysis, weakness, numbness, or tingling with violent mechanism of injury or high energy transfer.
E. Pain of the spine with or without movement.
F. Point tenderness, deformity, or guarding of the spine.

TREATMENT:

The following treatment will be used when any or all of the above Specific Physical Findings are present, or when in the EMT's best judgment the patient needs spinal support.

A. Temporarily immobilize cervical spine with rigid extrication collar and continuous manual in-line support. Immobilize thoracic and lumbosacral spine to long spine board, when possible, and/or other appropriate device as patient condition allows (KED, orthopedic, etc.). Secure head and cervical spine to long spine board using dense, soft, support material on both sides of the head, and tape. Patient's entire body will be securely immobilized by straps affixed directly to the long board. During this procedure the patient should be moved as little as possible, and always as a unit.

B. Oxygen as indicated.

C. I.V. per shock protocol, if appropriate.

SPECIFIC PRECAUTIONS:

A. Vomiting should be expected in head injury patients. Therefore, patient should be securely strapped to long board to enable board and patient to be turned as a unit. EMT should be aware that additional help may be necessary during transport to turn patient and manage airway while maintaining C-spine integrity.

B. Chin straps that could compromise the airway should be removed as the patient is immobilized to the long board. (Leg straps which may compromise C-spine immobilization should also be removed.)

C. Most patients require 1 to 1 1/2 inches of firm padding behind the head to assume standard neutral anatomic position.

D. In the severely traumatized patient requiring immediate life saving intervention and rapid transport, rigid C-collar, continuous manual in-line support during rapid extrication onto a long spine board and transport should be substituted for more time consuming methods.

E. Airway problems, respiratory difficulty, and shock are common in the traumatized patient. Alternate techniques for performing airway procedures should be used in spinal injury patients. To maintain proper control of the C-spine, endotracheal intubation with in-line stabilization must be performed by two EMTs.

F. If any immobilization techniques cause an increase in pain or neurologic deficit, the patient should be immobilized in position found or position of greatest comfort.

G. Geriatric patients (over 55) should cause a higher index of suspicion for the EMT due to physiologic aging changes; the EMTs' awareness of the need to provide for C-spine immobilization should be more acute in these patients.

Exhibit F
(to EMS Rule 631-502)

ALBUTEROL (VENTOLIN)[R]

PHARMACOLOGY AND ACTIONS:

Albuterol sulfate (ventolin)[r] is a potent, relatively selective beta$_2$-adrenergic bronchodilator. The pharmacologic effects are at least in part attributable to stimulation through beta-adrenergic receptors of intracellular adenyl cyclase which catalyzes the conversion of ATP to cyclic-AMP. Increased cyclic-AMP levels are associated with relaxation of bronchial smooth muscle and inhibition of release of mediators of immediate hypersensitivity from cells, especially mast cells.

The onset of improvement in pulmonary function is within 2 to 15 minutes after the initiation of treatment and the duration of action is from 4-6 hours.

As a beta$_2$ agonist, albuterol induces bronchial dilation, but has occasional beta$_1$ overlap with clinically significant cardiac effects. Clinically significant arrhythmias may occur especially in patients with underlying cardiovascular disorders such as coronary insufficiency and hypertension.

INDICATIONS:

A. Bronchial asthma and reversible bronchial spasm that occur with chronic pulmonary disease.

PRECAUTIONS:

A. The patient's rhythm should be observed for arrhythmias. Stop treatment if:
   1. Pulse increases by 20 BPM
   2. Frequent pvc's develop
   3. Any tachyarrhythmias other than sinus tachycardia appear.

B. Paradoxical bronchospasm may occur with excessive administration.

C. Albuterol is contraindicated in pregnancy.

ADMINISTRATION:

A. The usual dosage for adults and children 12 years and older is 2.5 mg of albuterol administered three to four times daily by nebulization.

B. Albuterol sulfate solution for inhalation comes premixed in 3 ml unit dose containing total 2.5 mg at a concentration of 0.83 mg/ml. Refrigeration is not necessary with this medication.

DIAZEPAM (VALIUM (R))

PHARMACOLOGY AND ACTIONS:

Diazepam acts as a tranquilizer, an anticonvulsant and a skeletal muscle relaxant.

INDICATIONS:

A. Status epilepticus. In the field, this is any seizure which has lasted longer than 10 minutes, or two consecutive seizures without regaining consciousness. Do not give unless patient is actively seizing.

B. May be given prior to cardioversion. Contact MRH.

PRECAUTIONS:

A. Since diazepam can cause respiratory depression and/or hypotension, the patient must be monitored closely. Very rarely cardiac arrest may occur.

B. For the above reasons, diazepam should not be given without a good IV line in place and a bag valve mask ready.

ADMINISTRATION:

A. Adult: 5-10 mg slow IV push (each 5 mg over at least one minute).

B. Pediatric: 2-5 mg slow IV push (0.1 mg/kg).

SIDE EFFECTS AND SPECIAL NOTES:

A. Common side effects include drowsiness, dizziness, fatigue and ataxia. Paradoxical excitement or stimulation sometimes occurs.

B. Should not be mixed with other agents or diluted with intravenous solutions. Turn off IV flow while administering, and give through the near end of IV tubing.

C. Most likely to produce respiratory depression in patients who have taken other depressant drugs, especially alcohol and barbiturates, or when given rapidly.

D. Consider rectal administration .5 mgm/kg (if unable to adminster IV) in seizing children. Contact MRH.

BALANCED SALT SOLUTIONS (BSS):

PHARMACOLOGY:

These are solutions which consist of balanced electrolytes in water. These solutions contain sodium chloride, sodium acetate, sodium gluconate, potassium chloride, and magnesium chloride hexahydrate. They provide water and electrolytes for replacement of acute extracellular fluid losses and they do not disturb the normal electrolyte balance since the electrolyte composition and tonicity approach that of normal plasma. They do not contain calcium and will not lead to precipitation when mixed with blood or prehospital medications.

INDICATIONS:

A balanced salt solution is indicated for replacement of fluid volume losses such as in trauma, burns, dehydration, or shock.

PRECAUTIONS:

Balanced salt solutions should be used with caution in patients with renal impairment (hyperkalemia), cardiac and respiratory disorders (fluid overload), or extremes of age.

SPECIAL NOTES:

A. Only solutions that consist of citrate and acetate buffers and are 100% compatible to two currently available solutions Normosol-R and Plasmalyte-A are acceptable.

B. Where IVs are used to maintain venous access, a heparin lock may be substituted.

C. Since BSS are compatible with all prehospital medications, including blood products, they offer more than LR as a trauma resuscitation fluid.

D. In patients in which fluid overload is a problem, BSS may be used with a microdrip, and this microdrip may be used to administer prehospital medications.

LIDOCAINE (XYLOCAINE (R)

PHARMACOLOGY AND ACTIONS:

A. Depresses automaticity of Purkinje fibers; therefore, raises stimulation threshold in the ventricular muscle fibers (makes ventricles less likely to fibrillate).

B. Little antiarrhythmic effect at subtoxic levels on atrial muscle.

C. CNS stimulation: tremor, restlessness and clonic convulsions followed by depression and respiratory failure at higher doses.

D. Cardiovascular effect: decreased conduction rate and force of contraction, mainly at toxic levels.

E. The effect of a single bolus on the heart disappears in 10-20 minutes due to redistribution in the body. Metabolic half-life is about 2 hours and, therefore, toxicity develops with repeated doses.

INDICATIONS:

A. PVC's in suspected ischemic event.

B. Prophylaxis: used to prevent ventricular arrhythmias in patients suspected of having an MI.

C. Stable ventricular tachycardia or recurrent ventricular tachycardia if clinical condition is not rapidly deteriorating.

D. Recurrent ventricular fibrillation.

E. Following successful defibrillation or cardioversion from ventricular tachycardia.

PRECAUTIONS:

A. Use with extreme caution in presence of advanced AV block unless artificial pacemaker is in place.

B. In atrial fibrillation or flutter, quinidine-like effect may cause alarming ventricular acceleration.

C. Lidocaine is generally not recommended for treatment of supra-ventricular arrhythmias.

LIDOCAINE (XYLOCAINE (R) (Cont'd)

D. Diazepam (R) should be available to treat convulsions if they occur.

E. Relatively contra-indicated with heart rate less than 50.

ADMINISTRATION:

The protocol for Lidocaine administration will depend upon the clinical setting in which it is used:

A. Cardiac Arrest: Ventricular Fibrillation or Pulseless Ventricular Tachycardia:

1. Lidocaine bolus 1mg/kg load then .5 mg/kg every 5 minutes * to total dose of 3mg/kg.

2. Only bolus therapy should be used in the cardiac arrest setting (should the arrest be followed by successful resuscitation, a continuous infusion should be initiated at 2-4mg.min).

B. Ventricular Tachycardia with pulse:

1. Lidocaine bolus 1mg/kg load, then .5 mg/kg every 5 minutes * to total dose of 3mg/kg.

2. An infusion of 2-4 mg/min should be started.

C. Ventricular Ectopy (PVC):

1. Lidocaine 1mg/kg load then .5 mg/kg every 5 minutes to total dose of 3/mg/kg.

2. An infusion of 2mg/min should be started. This drip should be increased by 1mg/min after each bolus to a total of 4mg/min.

* PLEASE NOTE: These times vary from ACLS guidelines. For Ventricular Fibrillation, Pulseless Ventricular Tachycardia, and Ventricular Tachycardia with pulse, ACLS recommends Lidocaine every 8 minutes.

LIDOCAINE (XYLOCAINE (R) (Cont'd)

D. Primary prophylaxis against ventricular fibrillation: (to be considered in the context of suspected acute myocardial infarction).

1. Lidocaine bolus 1mg/kg load, then .5 mg/kg every 5 minutes to total dose of 2mg/kg.

2. An infusion of 2mg/min should be started.

E. All Lidocaine doses (including loading doses) should be reduced by 50% in presence of decreased cardiac output (congestive heart failure, hypotension), hepatic dysfunction, or age more than 70. This rule does NOT apply to patients in cardiac arrest.

NALOXONE (NARCAN (R)

PHARMACOLOGY AND ACTIONS:

Narcan (R) is a narcotic antagonist which competitively binds to narcotic sites but which exhibits almost no pharmacologic activity of its own. Duration of action: 1-4 hours.

INDICATIONS:

A. Reversal of narcotic effects, particularly respiratory depression, due to narcotic drugs either ingested, injected or administered in the course of treatment. Narcotic drugs include morphine, Demerol (R), heroin, Dilaudid (R), Percodan (R), codeine, Lomotil (R), propoxyphene (Darvon (R)), pentazocine (Talwin (R)).

B. Diagnostically in coma of unknown etiology to rule out (or reverse) narcotic depression.

PRECAUTIONS:

A. In patients physically dependent on narcotics, frank and occasionally violent withdrawal symptoms may be precipitated.

B. Be prepared to restrain the patient. May become violent as the Narcan (R) reverses the narcotic effect.

ADMINISTRATION:

2.0 mg slowly injected IV, IM, SQ, SL., or by ET tube. If no response is observed, this dose may be repeated at 3-5 min intervals up to four times in patients suspected of having narcotic overdose. IV administration is preferred.

SIDE EFFECTS AND SPECIAL NOTES:

A. This drug is remarkably safe and free from side effects. Do not hesitate to use it if indicated.

B. The duration of some narcotics is longer than Narcan (R) and the patient must be monitored closely. Repeated doses of Narcan (R) may be required. Patients who have received this drug must be transported to the hospital because coma may reoccur when Narcan (R) wears off.

C. May need large doses to reverse propoxyphene (Darvon (R)) overdose.

Exhibit F
(to EMS Rule 631-502)

MEDICAL CONTROL OF THE SCENE

Purpose: The purpose of this protocol is to describe who is in charge of patient care at the scene of a medical emergency.

Procedure:

1. The first arriving EMT-4 on an ALS unit operated by a licensee of Multnomah County will assume responsibility for directing overall patient care.

new language →

2. The responsibilities of the EMT-4 directing overall patient care include:

   A. Assuring that treatment, operations, and communications follow the proper protocols established by rule under Multnomah County Code Chapter 6.31 when treating and transporting victims of medical emergencies.

   B. Avoiding direct patient care activities.
      This EMT-4 must watch over the entire patient care scene activities and be sure that the patient care activities are being accomplished in a rapid, efficient, appropriate, and timely manner. If there are only two (2) EMT-4s at the scene, this EMT must do those patient care activities (e.g., start IV) which will allow him/her to watch over the whole scene easily.

   C. Directing other EMT's to establish airway management, start IV's, etc.

   D. Establishing the appropriate time to be spent at the scene for doing patient care according to the protocol for "Time at the Scene."

   E. Determining when transportation of the patient is to occur.

   F. Performing medical coordination with all agencies and personnel.

3. The EMT-4 directing overall patient care will be held responsible and accountable for patient care activities performed at the scene, and he/she will be so identified on all patient care reports.

4. The first arriving EMT-4 will turn over patient care to the transporting EMTs, if they are not the same, if and when it is determined that transport is imminent. Continued patient care will then become the responsibility of the transporting unit. Such transfer of responsibility will be carried out at a time which is most appropriate to patient care.

5. Any disputes about patient care should be referred immediately to and resolved by the Medical Resource Hospital Physician.

6. Scene care may be transferred to a Flight Nurse for air transportation.

7. Care may also be transferred to a Physician at the scene (see protocol for "Medical Professional at the Scene").

Revised 10/88

Exhibit F
(to EMS Rule 631-502)

TRANSPORT BY FIRE DEPARTMENT ALS RESCUES

Purpose: The purpose of this procedure is to define those occasions when transportation of patients by fire department ALS licensed rescues may be appropriate.*

Procedure:

1. It may be appropriate for a fire department ALS rescue to transport a patient when waiting for an incoming transporting ALS ambulance will delay patient transport by five or more minutes,** and the patient, after assessment, exhibits one or more of the following conditions:

   A. Existing airway obstruction or respiratory failure with inability to secure an adequate airway and ventilation in the field.

   B. Severe uncontrollable bleeding or existing circulatory failure with inability to achieve hemodynamic stability.

   C. Abnormal delivery (such as breech, shoulder).

2. In all cases, fire department rescues will transport the patient to the closest appropriate hospital, code 3, with the highest certified EMT providing patient care during transport.

3. In addition to those instances above, it is appropriate for a fire department ALS rescue to transport a patient when a physician (MD, DO) on scene orders transport by the ALS rescue.

4. For situations not covered by the above criteria, particularly in trauma cases, in which immediate transport is in the patient's best interest, Medical Resource Hospital should be contacted for consultation and approval.

* Fire department ALS rescues are licensed to Oregon State Division of Health EMS standards. Personnel standards are at least one EMT III and one EMT I.

** As determined through the EMS dispatcher.

Exhibit F
(to EMS Rule 631-502)

INTRAOSSEOUS INFUSION

DEFINITION: An alternative technique for establishing IV access in pediatric patients in whom peripheral IV access is difficult and time consuming.

INDICATIONS:

A. Intraosseous infusion is indicated in emergency situations when life-saving fluids or drugs should be administered and IV cannulation is either too difficult or time consuming to perform.

B. In the prehospital setting, intraosseous infusion is normally considered in a child three years of age or less, in cardiac arrest or shock with a decreased level of consciousness, with an inability to establish peripheral IV access.

C. This procedure should not delay transport time, and airway management should be the therapeutic priority in all these cases.

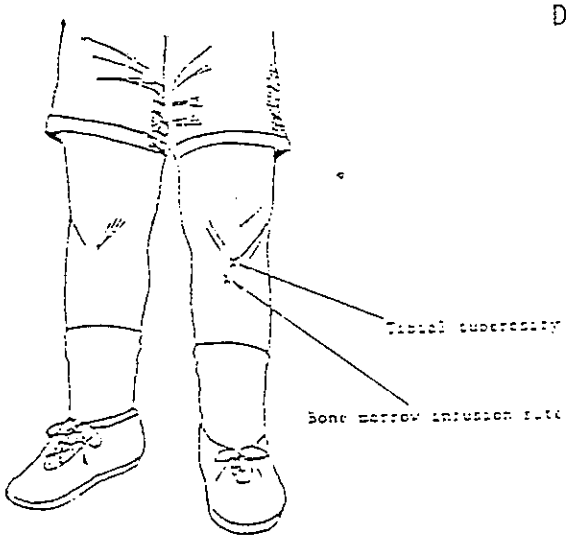
PROCEDURE:

The procedure for initiating intraosseous infusion includes:

A. Equipment:
   1. Approved bone marrow type needles 16 and 18 gauge size.
   2. Betadine swabs
   3. Two 5cc syringes
   4. Flush solution
   5. Sterile gauze pads
   6. Tape

B. Site Selection:
   The proximal tibia is the site of choice. Avoid using a leg which has been traumatized or infected.

C. Site Preparation:
   Palpate the landmarks and note the entry point which is the anteromedial flat surface 1-3 cm below the tibial tuberosity. Then prep the surface with betadine and dry with a sterile gauze pad.



D. Insert Needle:
   Insert at the proximal tibial site, directing the needle caudally (toward the foot, away from the knee joint in order to avoid damaging the growth plate). The needle should penetrate the skin and subcutaneous tissue and be pushed through the cortex of the bone using rotation (avoid rocking the needle!), until a "pop" or loss of resistance is felt. Placement in the marrow should then be confirmed by:

D. 1. Firm fixation of the needle, and either:
2. Removal of the stylet with free aspiration of marrow/blood (which should be saved for type and cross), or
3. Infusion of 2-3cc of sterile solution, palpating for extravasation or noting significant resistance. If extravasation should occur, further attempts at the site and extremity should be avoided.

E. Start Infusion:
Although gravity drainage may suffice, pressurized infusions (blood pump or syringe and stopcock) may be needed during resuscitation.

PRECAUTIONS

A. Potential complications of bone marrow infusion include osteomyelitis, growth plate injury, and extravasation of fluid with compression of popliteal vessels or the tibial nerve.

B. In all critical cases, the airway and breathing should be established first, since many drugs can be given via the endotracheal route (naloxone, atropine, epinephrine, and lidocaine).

C. Two attempts, one in each tibia should be the maximum number of attempts.

D. General contraindications for intraosseous infusion include cellulitis or infected burns at the site of insertion and fractures of the bones proximal to the insertion site.

NOTE

A. All prehospital ALS personnel must be inserviced and approved by their supervising physician prior to performing this procedure.

B. A written report of all intraosseous procedures must be made to the Board of Medical Examiners and Multnomah County EMS.

C. This procedure is approved on a provisional basis pending careful review of cases to determine the need for and efficacy of intraosseous infusions.

Exhibit F
(to EMS Rule 631-502)

ATTACHMENT B

Exhibit F
(to EMS Rule 631-502)

DEATH IN THE FIELD

Withholding Resuscitative Efforts:

A. Determining death in the field without initiating resuscitative efforts should be considered under the following conditions:

1. Patient qualifies as a "DNR" patient (see DNR Protocol)
2. A pulseless, non-breathing patient in a multiple casualty incident where the resources of the system are required for the stabilization of living patients.
3. Decapitation
4. Rigor Mortis in a warm environment
5. Decomposition.
6. Skin discoloration in dependent body parts

Determining Death in Cardiac Arrest:

A. The victim of a medical (non-traumatic) cardiac arrest should not be determined to be dead on the scene unless:

1. The patient meets criteria for withholding resuscitative efforts (A.1-6), or;

2. The patient has been shown to be unresponsive to appropriate advanced cardiac resuscitative measures.

B. Traumatic Arrest
1. In addition to the conditions listed under Withholding Resuscitative Efforts, a victim of trauma should not be determined to be dead at the scene unless:
   a. The patient is a victim of Blunt Trauma and has no vital signs in the field (pulseless, non-breathing, with fixed and dilated pupils).

Documentation:

A. All B.L.S. care provided should be documented with procedure and time.

B. All conversations with physicians or MRH should be fully documented with physician's name, time, and instructions.

Precautions:

A. All hypothermic patients, victims of electrocution, lightning, and drowning should have resuscitative efforts begun and transported to the hospital.

Exhibit F
(to EMS Rule 631-502)

NEAR DROWNING

SPECIFIC INFORMATION NEEDED:

A. How long was patient submerged?

B. Approximate temperature of water.

C. Fresh or salt water?

D. Was this a SCUBA diving accident?

SPECIFIC PHYSICAL FINDINGS:

A. Vital signs.

B. Neurologic status: Monitor level of consciousness on a continuing basis.

D. Initial presence of rales or other signs of pulmonary edema, respiratory distress, and any changes.

TREATMENT:

A. Clear upper airway.

B. Assist ventilations as needed.

C. Stabilize cervical spine prior to removing from water if any suspicion of neck injury.

D. O_2, high flow (10-15 L/min.), regardless of condition.

E. Positional drainage of lungs. FOR SALT WATER VICTIMS ONLY.

F. If certified as EMT-2, start IV: balanced salt solution, TKO, or as needed.

G. Call for ALS back-up.

H. Document.

SPECIFIC PRECAUTIONS:

A. Be prepared for vomiting.

B. ALL NEAR-DROWNINGS SHOULD BE TRANSPORTED. Call for ALS back-up even if patients initially appear fine, they can deteriorate. Monitor closely. Pulmonary edema is likely.

C. Hypothermia may be a problem. Remove clothes and obtain patient's temperature.

D. It is a common error to underestimate injuries in near-drownings from jumping, MVAs, etc.

Exhibit F
(to EMS Rule 631-502)

SUSPECTED SPINAL INJURY

SPECIFIC INFORMATION NEEDED:

A. Violent mechanism of injury (witness, scene, situation).
B. High energy transfer (ejection, helmet damage, starred windshield, etc.)

SPECIFIC PHYSICAL FINDINGS:

A. Significant injury above the clavicles.
B. Significant multiple trauma.
C. Prior or present altered mental status.
D. Paralysis, weakness, numbness, or tingling with violent mechanism of injury or high energy transfer.
E. Pain of the spine with or without movement.
F. Point tenderness, deformity, or guarding of the spine.

TREATMENT:

The following treatment will be used when any or all of the above Specific Physical Findings are present, or when in the EMT's best judgment the patient needs spinal support.

A. Temporarily immobilize cervical spine with rigid extrication collar and continuous manual in-line support. Immobilize thoracic and lumbosacral spine to long spine board, when possible, and/or other appropriate device as patient condition allows (KED, orthopedic, etc.). Secure head and cervical spine to long spine board, when possible, using dense, soft, support material on both sides of the head, and tape. Patient's entire body will be securely immobilized by straps affixed directly to the long board. During this procedure the patient should be moved as little as possible, and always as a unit.

B. Oxygen as indicated.

C. I.V. per shock protocol, if appropriate.

SPECIFIC PRECAUTIONS:

A. Vomiting should be expected in head injury patients. Therefore, patient should be securely strapped to long board to enable board and patient to be turned as a unit. EMT should be aware that additional help may be necessary during transport to turn patient and manage airway while maintaining C-spine integrity.

B. Chin straps that could compromise the airway should be removed as the patient is immobilized to the long board. (Leg straps which may compromise C-spine immobilization should also be removed.)

C. Most patients require 1 to 1 1/2 inches of firm padding behind the head to assume standard neutral anatomic position.

D. In the severely traumatized patient requiring immediate life saving intervention and rapid transport, rigid C-collar, continuous manual in-line support during rapid extrication onto a long spine board and transport should be substituted for more time consuming methods.

E. Airway problems, respiratory difficulty, and shock are common in the traumatized patient. Alternate techniques for performing airway procedures should be used in spinal injury patients. To maintain proper control of the C-spine, endotracheal intubation with in-line stabilization must be performed by two EMTs.

F. If any immobilization techniques cause an increase in pain or neurologic deficit, the patient should be immobilized in position found or position of greatest comfort.

G. Geriatric patients (over 55) should cause a higher index of suspicion for the EMT due to physiologic aging changes; the EMTs' awareness of the need to provide for C-spine immobilization should be more acute in these patients.

IPECAC

PHARMACOLOGY AND ACTIONS:

Ipecac alkaloids act both locally on the gastric mucosa and centrally on the chemoreceptor trigger zone to induce vomiting. Usually effective within 20-30 minutes.

INDICATIONS:

To induce vomiting for patients who have ingested poisons or drugs (other than strong acids, alkali, hydrocarbons, phenothiazines, tricyclics, and short-acting sedatives).

PRECAUTIONS:

A. Ipecac should NOT be given to patients who are unconscious or who have a rapidly diminishing level of consciousness.
B. Should NOT be given to patients who are seizing.
C. Ipecac should not be used to induce vomiting in the field in patients who have ingested acids, alkalis (lye), silver nitrate, iodides, strychnine or hydrocarbons.
D. Ipecac syrup should not be confused with Ipecac fluid extract. The latter is very concentrated and has caused death.

ADMINISTRATION:

A. Contact POISON CONTROL (279-7799) prior to administration of Ipecac.
B. Adult: 30 ml p.o.
C. Pediatric (over 1 year): 15 ml p.o.

SIDE EFFECTS AND SPECIAL NOTES:

A. The emetic action is improved if fluids are given orally just before or after the Ipecac (2-3 glasses of water in adults).
B. Emetic action may be enhanced by ambulation.
C. The gag reflex may be an unreliable indicator of whether or not someone will be able to protect his/her airway in the event of emesis. Additionally, testing for a gag reflex in a patient with depressed level of consciousness may actually cause aspiration. USE CAUTION.
D. Always stand by with suction. Patient should be in lateral decubitus position, or sitting.
E. May not be successful in phenothiazine overdose due to strong antiemetic action.
F. Check expiration date of Ipecac before administering.