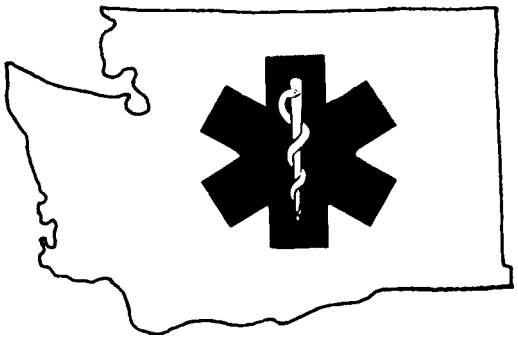
WASHINGTON STATE

DEPARTMENT OF HEALTH

HEALTH SERVICES QUALITY ASSURANCE DIVISION

OFFICE OF EMERGENCY MEDICAL & TRAUMA PREVENTION



INTRAVENOUS THERAPY TECHNICIAN

FIELD PROTOCOLS

Revised July 2000

THESE FIELD PROTOCOLS WERE DEVELOPED AND WRITTEN WITH THE ASSISTANCE OF THE FOLLOWING INDIVIDUALS:

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These Intermediate Life Support Technician Field Protocols are State Protocols that establish the standard for field performance. EMS County Medical Program Directors may NOT have protocols that vary from these without specific written approval from the Department of Health. Any deviation from these protocols must be identified to and approved in writing by the Department of Health.

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INTRODUCTION

These protocols were developed by the Washington State Protocol Work Group based on the Washington State EMT-Intermediate Curriculum, Revised February 1999 and represent the consolidation of medical procedures for emergency pre-hospital patient care from many local and national sources.

These protocols were developed for use by Intravenous Therapy trained and certified personnel. No person may provide any treatment they are not trained to provide AND are not certified by the Department at the required level of certification.

The assessment information in the General Orders is intended to be considered with all protocols. In addition, the General Medical Assessment should be considered with all medical protocols, the General Trauma Assessment should be considered with all trauma protocols, and the Pediatric Assessment should be considered with all pediatric protocols.

These protocols are intended to:

1. Provide direction for the use of appropriate emergency medical care procedures, based on the Washington State Intravenous Therapy curriculum training modules (identified on page xiv of the curriculum), to be employed by Intravenous Therapy certified personnel while working under the direction of the County Medical Program Director;
2. Provide for the standardization of pre-hospital care in Washington State;
3. Provide base hospital physicians and nurses with an understanding of what aspects of patient care have been stressed to EMS personnel and what their treatment capabilities may be;
4. Provide EMS personnel with a framework for pre-hospital care and an anticipation of supportive orders from Medical Control;
5. Provide the basic framework on which Medical Control can conduct quality improvement programs.

They are <u>not</u> intended to:

1. Be a replacement for “on-line” medical control;
2. Be a teaching manual for EMS personnel. It is assumed that EMS personnel are appropriately trained and that each person will continue to meet the state’s continuing education requirements for recertification. It is further assumed that the County Medical Program Director will provide continuing education based on the results of patient care audit and review;
3. Interfere with the wishes of the patient or family;

NOTES:

GENERAL ORDERS - Adult

I. Scene Size-up/Assessment

A. Body Substance Isolation Per Agency Exposure Control Program

B. Scene Safety

C. Mechanism Of Injury/Nature Of Illness

1. Medical

a) Nature of illness - determine from the patient, family or bystanders why EMS was activated.

b) Determine the total number of patients. If there are more patients than the responding unit can effectively handle, initiate a mass casualty plan.

(1) Obtain additional help prior to contact with patients, such as law enforcement, fire, rescue, ALS, utilities. EMT-Intermediate is less likely to call for help if involved in patient care.

(2) Begin triage.

2. Trauma

a) Mechanism of injury - determine from the patient, family or bystanders and inspection of the scene what is the mechanism of injury.

b) Determine the total number of patients.

(1) If there are more patients than the responding unit can effectively handle, initiate a mass casualty plan.

(a) Obtain additional help prior to contact with patients. EMT-Intermediate is less likely to call for help when involved in patient care.

(b) Begin triage.

(c) If the responding crew can manage the situation, consider spinal precautions and continue care.

c) Activate trauma system per Regional Patient Care Procedures (PCPs)

NOTE: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical control.

II. Initial Assessment

A. General Impression of the Patient

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

C. Assess Patient's Mental Status. Maintain Spinal Immobilization if Needed.

D. Assess the Patient's Airway Status.

E. Assess the Patient's Breathing.

F. Assess the Patient's Circulation.

G. Identify Priority Patients.

1. Consider:

a) Poor general impression

b) Unresponsive patients - no gag or cough

c) Responsive, not following commands

d) Difficulty breathing

e) Shock (hypoperfusion)

f) Complicated childbirth

g) Chest pain with BP <100 systolic

h) Uncontrolled bleeding

i) Severe pain anywhere

j) Multiple injuries
k) Expedite transport of the patient.

H. If EMS-No CPR Form/Bracelet Intact, Follow Protocols for EMS-No CPR
I. Proceed to the appropriate focused history and physical examination
J. Place patient in a position of comfort, unless contraindicated

III. Focused History and Physical Exam - Medical Patients

A. Responsive Medical Patients
1. Assess patient history
2. Perform physical examination
3. Assess baseline vital signs including pulse oximetry if available
4. Provide emergency medical care based on signs and symptoms in consultation with medical direction/control
5. Provide psychological support as necessary

B. Unresponsive Medical Patients
1. Perform rapid assessment
2. Utilize the techniques of patient assessment previously identified
3. Assess baseline vital signs including pulse oximetry if available
4. Obtain patient history from bystander, family, friends

IV. Focused History and Physical Exam - Trauma Patients

A. Re-consider mechanism of injury
B. Perform rapid trauma physical examination on patients with significant mechanism Of injury
C. For patients with no significant mechanism of injury, e.g., cut finger
1. Perform focused history and physical exam of injuries based on the techniques of examination. The focused assessment is performed on the specific injury site.
2. Assess baseline vital signs including pulse oximetry if available.
3. Assess patient history.
a) Chief complaint
b) History of present illness
c) Past medical history
d) Current health status

V. Detailed Physical Exam

A. Patient and injury specific; e.g., cut finger would not require the detailed physical exam.
B. Perform a detailed physical examination on the patient to gather additional information.

VI. Ongoing Assessment

A. Repeat Initial Assessment.
1. For a stable patient, repeat and record every 15 minutes.
2. For an unstable patient, repeat and record at a minimum every 5 minutes.
3. Reassess and record vital signs.
4. Repeat focused assessment regarding patient complaint or injuries
5. Assess interventions

VII. Communications

A. Radio Information Protocol During Transport.

1. Identify agency and level of service
2. Patient's age, sex, and primary complaint or problem
3. Physical assessment findings including, vital signs and level of consciousness
4. Pertinent history as needed to clarify problem (medications, illnesses, allergy, mechanism of injury)
5. Treatment given and patient's response
6. Estimated time of arrival

B. Verbal and written report to emergency department nurse or physician

C. Consider critical incident stress debriefing as necessary (see DOA, page 59)

VIII. Transportation

A. Advise emergency department of changes in patient's condition during transportation

B. Continue ongoing assessment and patient care

C. Appropriate mode and appropriate facilities per trauma triage guidelines and regional patient care procedures.

IX. Clean, Service And Restock Vehicle

GENERAL ORDERS - Pediatric (Less than 16 yrs old)

I. Scene Size-up And Initial Patient Assessment

A. Assess ABC

1. Airway - Do not hyperextend or hyperflex child's neck
2. Breathing - Check for obstructions
3. Circulation - Check capillary refill

B. Consider possible domestic violence or abuse by adults

II. Focused Assessment And Physical examination

A. Consider the patient's developmental stage when assessing signs and symptoms

B. Physical exam may be better tolerated if conducted from trunk to head

C. Be alert for signs of child abuse and neglect (see Physical Abuse and Neglect, page 23)

III. Ongoing Assessment

IV. Transport

A. Utilize Regional PCPs and County Operating Procedures (COPS) regarding pediatric trauma destinations.

CARDIOLOGY EMERGENCIES

CHEST PAIN

I. Scene Size-Up/Initial Patient Assessment
II. Focused History and Detailed Physical Exam
- A. Signs and Symptoms
  - 1. Chief complaint
    - a) Typical: **Angina** - sudden onset of discomfort
      - (1) Usually of brief duration, lasting three to five minutes, maybe five to 15 minutes; never 30 minutes to two hours
      - (2) Usually relieved by rest and/or medication
    - b) Atypical: **AMI** - duration of 30 minutes to two hours
  - 2. Denial
  - 3. Contributing history

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management
- A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery page 71; see Suctioning, page 79)
- B. Nitroglycerin (see page 70)
  - 1. Patient's own, physician prescribed Nitroglycerin available; assist patient with self administration of Nitroglycerin, after consulting on or off line medical control
    - a) Patient systolic BP >100
    - b) Given every 3-5 minutes (max. 3 doses)
  - 2. If patient's own, physician prescribed Nitroglycerin not available or appropriate;
    - a) Continue oxygen
    - b) Allow patient to achieve safe position of comfort
- C. Provide IV therapy as necessary (see page 64)

IV. Ongoing Assessment
V. Transport

HEART FAILURE

II. Scene Size-Up/Initial Patient Assessment

III. Focused History and Detailed Physical Exam

A. Signs and Symptoms

1. Progressive or acute SOB
2. Progressive accumulation of edema
3. Weight gain over short period of time
4. Episodes of paroxysmal nocturnal dyspnea
5. Unconscious
6. Altered levels of consciousness
7. Dyspnea
8. Productive cough
9. Labored breathing
10. Any tachycardia with ectopy
11. Atrial arrhythmia
12. Skin changes
13. Peripheral pulse changes
14. Jugular venous distension (JVD)

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

IV. Management

A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

B. Position of comfort

C. Provide IV therapy as necessary (see page 64)

D. Nitroglycerin (see page 70)

1. Patient's own, physician prescribed Nitroglycerin available; assist patient with self administration of Nitroglycerin, after consulting on or off line medical control
   a) Patient systolic BP >100
   b) Given every 3-5 minutes (max. 3 doses)
2. If patient's own, physician prescribed Nitroglycerin not available or appropriate;
   a) Continue oxygen
   b) Allow patient to achieve safe position of comfort

E. Pulse Oximetry as available

V. Ongoing Assessment

VI. Transport

CARDIAC TAMPONADE

I. Scene Size-Up/Initial Patient Assessment

II. Focused History and Detailed Physical Exam

A. Signs and Symptoms

1. Dyspnea
2. Orthopnea
3. Chest pain
4. Elevated venous pressures (early sign)
5. Decreased systolic pressure (early sign)
6. Narrowing pulse pressure (early sign)
7. Heart sounds normal early on, progressively faint or muffled

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

B. Provide IV therapy as necessary (see page 64)

IV. Ongoing Assessment

V. Transport

A. Rapid transport for pericardiocentesis in conjunction with Advanced Life Support and/or air ambulance transport.

VASCULAR DISORDERS

I. Scene Size-Up/Initial Patient Assessment

II. Focused History and Detailed Physical Exam

A. History of:
   1. Aneurysm
   2. Inflammation
   3. Occlusive disease (trauma, tumor embolus, thrombosis, etc.)

B. Signs and Symptoms
   1. Circulation
      a) Pain, pallor, pulseless
      b) Paralysis
      c) Parethesia
      d) Pulsatile mass may be present
      e) May have unequal pulse/pressure in extremities
   2. Skin
      a) Pallor or mottled
      b) Temperature may vary
   3. Pain
      a) Chest, abdominal or involved extremity
         (1) Sudden or gradual

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

B. Allow patient to achieve position of comfort

C. Provide IV therapy as necessary (see page 64)

IV. Ongoing Assessment

V. Transport

A. Rapid transport based on patient symptoms and potential for immediate surgical intervention

EMS-NO CPR DIRECTIVE FOR EMS PROVIDERS

I. Scene Size-Up/Initial Patient Assessment

II. Focused History and Detailed Physical Exam

A. Confirm the EMS-No CPR status in one of the following ways:

1. Determine that the EMS-No CPR bracelet is intact and not defaced. The bracelet can be located on either wrist, either ankle, or on a necklace or neck chain, and worn by the patient. OR

2. If no bracelet is located, look for the **original** EMS-No CPR Directive at the bedside (see page 60), on the back of the bedroom door, or on the refrigerator. In extended or intermediate care facilities, look for the directive with the patient's chart.

III. Management

A. When the patient is determined to be "obviously dead," resuscitation measures shall not be initiated.

1. The "obviously dead" are victims who, in addition to absence of respiration and cardiac activity, have suffered one or more of the following:

a. Decapitation

b. Evisceration of heart or brain

c. Incineration

d. Rigor Mortis

e. Decomposition

B. Determine if the patient has a valid EMS-No CPR bracelet or Directive:

1. Begin resuscitation if the bracelet is not attached, or if it has been defaced and no valid EMS-No CPR Directive is located.

2. Begin resuscitation if, in your medical judgement, your patient has attempted suicide or is a victim of a homicide.

3. If the Directive is valid, perform the following standard EMT-No CPR orders:

a. Open the airway using AHA/ARC manual methods (do not provide positive pressure ventilation with a bag valve mask, pocket mask or endotracheal tube).

b. Clear the airway (including stoma) of secretions with appropriate suction device.

c. Provide oxygen per nasal cannula at 2-4 l/min.

d. Make the patient comfortable and provide emotional support.

e. Control any bleeding.

f. Provide pain medications as per local protocols.

g. Provide emotional support to the family.

h. Contact patient's physician or on-line medical control if directed by local protocols or if questions or problems arise.

C. If resuscitative efforts have been started before learning of a valid EMS-No CPR order, STOP these treatment measures:

1. Basic CPR.
2. Intubation (leave the endotracheal tube in place, but stop any positive pressure ventilations).
3. Cardiac monitoring and defibrillation.
4. Administration of resuscitation medications.
5. Any positive pressure ventilation (through bag valve masks, pocket face masks, endotracheal tubes).

D. Other DNR Orders: We continue to encourage medical facilities to use the Department of Health EMS-No CPR Directive.

1. Sometimes health care facilities prefer to use their own health care DNR orders. When encountering other DNR orders, perform the following:
   a. Verify that the order has a physician signature requesting "Do Not Resuscitate."
   b. Verify the presence of the patient's name on the order.
   c. Contact on-line medical control for further consultation. In most cases, on-line medical control will advise to withhold CPR following verification of a valid physician-signed DNR order.

E. Revoking the EMS-No CPR Directive. The following people can inform the EMS system that the EMS-No CPR Directive has been revoked:

1. The patient (by destroying the directive and bracelet, or by verbally revoking the directive).
2. The physician expressing the patient's revocation of the directive.
3. The legal surrogate for the patient expressing the patient's revocation of the directive. (The surrogate cannot verbally revoke a patient executed directive).

F. Documentation

1. Complete the Medical Incident Report (MIR) directive approved by your Medical Program Director.
2. State in writing in the upper left hand corner of the narrative summary:
   a. "Patient identified as EMS-No CPR by directive, bracelet, or both."
3. Record the name of the patient's physician, and state whether you contacted the physician.
4. Record the reason why the EMS system was activated.
5. Comfort the family and bystanders when patients have expired (see Appendix).
6. Follow your local Medical Program Director's protocols for patients who have expired. Actions may include contact of the local coroner's office, the local law enforcement agency, the local chaplain service, or funeral home. The MIR form must still be completed.

G. Comfort Care Measures

1. No CPR does not mean No Treatment or No Caring.
    a. Providing comfort care measures is an important responsibility and service you provide to patients and their families at a crucial moment in their lives.
2. Comfort care measures for the dying patient may include:
    a. Suctioning the airway;
    b. Administering oxygen;
    c. Positioning for comfort;
    d. Splinting;
    e. Controlling bleeding;
    f. Providing pain medications;
    g. Providing emotional support;
    h. Contacting patient's physician or on-line medical control if directed by local protocols or if questions or problems arise.

H. Special situation:
1. The patient's wishes in regard to resuscitation should always be respected. Sometimes, however, the family may vigorously and persistently insist on CPR even if a valid EMS-No CPR Directive or bracelet is located. These verbal requests are not consistent with the patient's directive. However, in such circumstances:
    a. Attempt to convince family to honor the patient's decision to withhold CPR. If family persists, then
    b. Initiate resuscitation efforts until relieved by paramedics (for First Responders and EMTs).
    c. Advanced life support personnel should continue treatment and consult medical control.

I. **Remember: -** Once a death has occurred, the family and relatives become your patients.

IV. Ongoing Assessment as appropriate

V. Transport if necessary

ENDOCRINOLOGY EMERGENCIES

I. Scene Size-up And Initial Patient Assessment

II. Focused History and Detailed Physical Exam

A. Rapid, to include, but not limited to:

1. Known history of diabetes
2. Recent history
3. Last meal, last medication dose & type, any related illness
4. Determine if patient can swallow
5. Determine blood glucose level

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Hypoglycemia

A. Signs And Symptoms

1. Develops Rapidly
2. Dizziness and headache
3. Abnormal, hostile or aggressive behavior
4. Fainting, convulsions
5. Full rapid pulse
6. Skin pale, cold and clammy
7. Copious saliva, drooling

B. Management

1. If patient is able to swallow, administer oral glucose or substance high in simple sugar, i.e., honey, orange juice with 2-3 tsp. of sugar, after consulting on or off line medical control.
2. Be prepared for patient to vomit
3. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
4. Start IV

IV. Hyperglycemia

A. Signs And Symptoms

1. Develops slowly
2. Dry mouth, and intense thirst
3. Abdominal pain and vomiting
4. Restlessness
5. Weak rapid pulse
6. Dry, red warm skin

B. Management

1. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

V. Ongoing Assessment

VI. Transport

A. Place Patient in position of comfort, preferably lying on their side, and be prepared for patient to vomit.

B. If patient regains full consciousness and refuses transport, consult with Medical Control.

ENVIRONMENTAL EMERGENCIES

ANAPHYLAXIS/ALLERGIC REACTION

I. Scene Size-Up/Initial Patient Assessment

II. Focused History and Detailed Physical Exam

A. Signs and Symptoms

1. Not all signs and symptoms are present in every case
2. History - Previous exposure; Previous experience to exposure; Onset on symptoms; Dyspnea
3. Level of Consciousness - Unable to speak; Restless; Decreased level of consciousness; Unresponsive
4. Upper Airway – Hoarseness; Stridor; Pharyngeal edema / spasm
5. Lower Airway – Tachypnea; Hypoventilation; Labored-Accessory muscle use; Abnormal retractions; Prolonged expirations; Wheezes; Diminished lung sounds
6. Skin – Redness; Rashes; Edema; Moisture; Itching; Urticaria; Pallor; Cyanotic
7. Vital Signs – Tachycardia; Hypotension
8. Gastrointestinal - Abnormal cramping; Nausea/vomiting; Diarrhea

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Remove offending agent (i.e. Stinger)

B. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

C. Anaphylaxis / Allergic Reaction with Severe Respiratory Distress

1. Circulation
2. Provide IV therapy as necessary (see page 64)
3. Epinephrine 1:1000 (Administered by a Epi Auto-injector from your EMS supplies.
   a) Dosage:
      (1) **Adult:** (30 kg or 66 lbs and higher) - one adult auto-injector (0.3 mg)
      (2) **Infant and child:** (Under 30 kg or 66 lbs) - one pediatric auto-injector (0.15 mg)
   b) Assure not cloudy or crystallized
   c) Only to be administered following approval by on-line or off-line medical direction/control.
      (1) Patients 17 yrs. of age or younger:
         (a) Obtain verbal or written permission from the patient, or the patient's parent or guardian to administer Epinephrine.
      (2) Patients of any age with evidence of a prescription, administer Epinephrine.

d) Record time of injection and reassess in two minutes

e) Patients 18 yrs. of age or older, with no evidence of a prescription:

(1) Contact medical control

(2) Provide supportive care and transport.

4. If the administration of Epi is refused do not administer Epi, contact medical control and continue supportive care.

D. Pulse Oximetry if available

E. Psychological support

IV. Ongoing Assessment

V. Transport

TOXICOLOGY

I. Scene Size-Up/Initial Patient Assessment

II. Focused History and Detailed Physical Exam

A. Signs and Symptoms

1. Not all signs and symptoms are present in every case
2. History - Previous exposure; Previous experience to exposure; Onset on symptoms; Dyspnea
3. Level of Consciousness - Unable to speak; Restless; Decreased level of consciousness; Unresponsive; Abnormal pupillary size
4. Upper Airway – Hoarseness; Stridor; Pharyngeal edema / spasm
5. Lower Airway – Tachypnea; Hypoventilation; Labored-Accessory muscle use; Abnormal retractions; Prolonged expirations; Wheezes; Diminished lung sounds
6. Skin – Redness; Rashes; Edema; Moisture; Itching; Urticaria; Pallor; Cyanotic
7. Vital Signs – Abnormal temperature; Hypotension; Oximetry low; End Tidal CO_2 high
8. Gastrointestinal - Abnormal cramping; Nausea/vomiting; Diarrhea

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

B. Circulation

C. Pharmacological - Medications only to be administered following approval by on-line or off-line medical direction/control.

1. Poisoning By Inhalation Or Surface Absorption
   a) Contact ALS for additional resources
2. Poisoning by Ingestion
   a) Syrup of Ipecac - 2 tablespoons and 2, 8 oz. glasses of any safe liquid (water, milk, soda pop, etc.) for adults and children. Repeat in thirty minutes if the patient does not vomit, <u>OR</u>,
   b) Activated Charcoal - 1 gram per kilogram of body weight.
   c) Contraindications for either medication include altered mental status, ingestion of acids/alkalis, inability to swallow
3. Poisoning by Injection
   a) **<u>When resulting in anaphylaxis</u>** - See anaphylaxis, page 12

D. Pulse oximetry

E. Transport Considerations

1. Appropriate mode
2. Appropriate facility

F. Psychological / Communication strategies

IV. Ongoing Assessment

V. Transport

BITES AND STINGS - VENOMOUS

I. Scene Size-up And Initial Patient Assessment

II. FOCUSED HISTORY AND PHYSICAL EXAM

A. Signs And Symptoms

1. History of bite (spider, snake) or sting (insect, scorpion or marine animal)
2. Pain
3. Redness and/or swelling
4. Weakness and/or dizziness
5. Chills or fever
6. Nausea and vomiting
7. Bite marks or stinger

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

B. If stinger is present, scrape the sting site to remove the stinger **<u>Note:</u>** Do not attempt to pull the stinger.

C. Wash area gently

D. Remove jewelry from the affected limb before swelling begins, if possible

E. Keep limb immobilized and below the level of the heart and keep patient at rest

F. Do not apply cold to a snake bite

G. Consult medical direction regarding constricting band for snakebite

H. Observe for development of signs and symptoms of an allergic reaction (see Anaphylaxis/Allergic Reaction, page 12)

IV. Ongoing Assessment

V. Transport

DROWNING AND NEAR DROWNING

I. Scene Size-up And Initial Patient Assessment

CAUTION: Assure the safety of the rescue personnel.

II. Focused History And Physical Exam

A. Signs And Symptoms

1. Consider length of time in cold water drowning. Any pulseless non-breathing patient who has been submerged in cold water should have resuscitation efforts initiated. (See Hypothermia, 20)
2. Suspect spinal injury if diving accident is involved or unknown

Note: When a paramedic system exists, ALS rendezvous shall be arranged as soon as possible as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. All drowning and near-drowning patients

1. In-line immobilization and removal from water with a backboard if spine injury is suspected or the patient is unresponsive
2. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
3. If gastric distention interferes with artificial ventilation:
   a) Place patient on their left side, while continuing to protect the c-spine
   b) If there is no suspected spinal injury, place patient on left side to allow water, vomitus and secretions to drain from the upper airway
   c) Have suction immediately available
   d) Place hand over the epigastric area of the abdomen
   e) Apply firm pressure to relieve the distention

   Note: This procedure should only be done if the gastric distention interferes with the ability to artificially ventilate the patient effectively. It is preferable to have a dual-lumen airway in place before decompression
4. Provide IV therapy as necessary (see page 64)

B. For pulseless and non-breathing drowning patients, follow the Cardiopulmonary Resuscitation protocol, page 58 and AED, page 56.

IV. Ongoing Assessment

V. Transport

HEAT EMERGENCIES

I. Scene Size-up And Initial Patient Assessment

II. Focused History And Physical Exam

A. Signs And Symptoms

1. Muscular cramps
2. Weakness or exhaustion
3. Dizziness or faintness
4. Skin
   a) Moist, pale, normal to cool temperature
   b) Hot, dry or moist (extreme emergency)
5. Rapid heart rate
6. Altered mental status or unresponsive

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Patient with moist, normal to cool temperature skin

1. Remove patient from the hot environment and place patient in a cool environment (back of an air conditioned ambulance)
2. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
3. Loosen or remove clothing
4. Cool patient by fanning
5. Place patient in supine position with legs elevated
6. Provide IV therapy as necessary (see page 64)
7. If patient is responsive and not nauseated, have patient drink water
8. If the patient is unresponsive or is vomiting, transport to hospital with patient on their left side

B. Patient hot with dry or moist skin

1. Remove patient from the hot environment and place patient in a cool environment (back of an air conditioned ambulance with air conditioner running on high)
2. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
3. Remove clothing
4. Apply cool packs to neck, groin and armpits
5. Keep skin wet by applying water by sponge or wet towels
6. Fan aggressively
7. Provide IV therapy as necessary (see page 64)
8. Transport to hospital immediately. Do not postpone transport to cool patient in the field

C. Heat Cramps

1. Remove patient form the hot environment and place patient in a cool environment (back of air conditioned ambulance)
2. Administer sips of cool water if patient is completely conscious and not nauseous
3. Provide IV therapy as necessary (see page 64). Administer bolus of a balanced salt solution 500 to 1000 ml.
4. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
5. Transport to hospital immediately. Do not postpone transport to cool patient in the field

IV. Ongoing Assessment

V. Transport

LOCAL COLD INJURIES

I. Scene Size-up and Initial Patient Assessment.

II. Focused History and Physical Exam.

A. Signs and symptoms.

1. Local injury with clear demarcation
2. **Early or superficial injury**
   a) Blanching of the skin - palpation of the skin in which the normal color of the skin does not return.
   b) Loss of feeling and sensation in the injured area.
   c) Skin remains soft.
   d) If rewarmed, tingling sensation.
3. **Late or deep injury.**
   a) White, waxy skin.
   b) Firm to frozen feeling on palpation.
   c) Swelling may be present.
   d) Blisters may be present.
   e) If thawed or partially thawed, the skin may appear flushed with areas of purple and blanching or mottled and cyanotic.

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Remove patient from the cold environment and protect the patient from further heat loss.

B. Protect the cold injured part from further injury.

C. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

D. Remove wet or restrictive clothing.

E. Rule out other significant injuries or illness including hypothermia.

F. If early or superficial.

1. If the injury is to an extremity, splint the extremity.
2. Cover the extremity.
3. Do not rub or massage.
4. Do not re-expose to the cold.

G. If the injury is late or a deep cold

1. Remove jewelry.
2. Cover with dry clothing or dressings.
3. Do not rub or massage.
4. Do not apply heat.
5. Do not rewarm.
6. Do not allow the patient to walk on the affected extremity.

IV. On-going Assessment

A. Report patient's condition to receiving hospital.

B. Do Not Allow Patient to Remain in or Return to a Cold Environment.

C. Do not rewarm frostbite in the field unless limb is frozen to an object. Warm area just enough to free the limb so that patient can be moved.

D. When an extremely long or delayed transport is inevitable (> 4 hours), then perform active rapid rewarming.

1. <u>ACTIVE RAPID REWARMING OF FROZEN PARTS</u>
   a) Obtain medical direction prior to initiating rewarming.
   b) Use warm water (100°F - 105°F).
   c) Fill container with water. Remove clothing, jewelry, bands, or straps from the injured extremity.
   d) Fully immerse the injured part.
   e) Continuously stir the water
   f) When the water temperature falls below 100°F, remove limb and add more warm water.
   g) When extremity is rewarmed (it is soft and the color and sensation have returned):
      (1) Gently dry affected area and apply a dry sterile dressing.
      (2) Be sure fingers and toes are separated by sterile dressings.
      (3) Keep area warm.
      (4) Make a small tent-like cover; do not put any pressure on the site.
      (5) Keep patient at rest.
      (6) Protect the part from refreezing.
      (7) Expect the patient to complain of severe pain.

V. Transport

A. Arrange for ALS Rendezvous where available.

HYPOTHERMIA

I. Scene Size-up and Initial Patient Assessment.

II. Focused History and Physical Exam.

A. Signs and symptoms.

1. Environmental conditions of cold exposure
2. Cool to cold skin temperature
3. Decreased mental and or motor status
4. Stiff or rigid posture
5. Muscular rigidity
6. Shivering may be present (absent when temp below 90 degrees).
7. Abnormal breathing
   a) Early/rapid
   b) Late/slow or absent
8. Low to absent blood pressure
9. Slowly responding pupils
10. Poor judgment
11. Complaints of joint or muscle stiffness
12. Skin
    a) Red - early
    b) Pale
    c) Cyanotic
    d) Stiff/hard
13. Loss of fine motor control

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Obtain temperature using hypothermia thermometer. If not available, estimate temperature using chart on page 59

B. Remove patient from the cold environment and protect the patient from further heat loss.

C. Remove patient's wet clothing and wrap the patient in blankets. Keep patient out of draft.

D. Handle with extreme care. Rough handling may cause ventricular fibrillation.

E. Do not allow the patient to walk or exert themselves.

F. Care for shock

G. Clear the airway; provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment. **Warm and humidify the oxygen if possible**. (See Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

H. Assess pulses for 30 to 45 seconds before starting CPR.

1. If no pulse, perform CPR
2. Automatic External Defibrillator Protocol (see page 56)
3. Continue efforts to rewarm
4. If pulseless and directed by the machine, defibrillate. Defibrillation may be successful after warming.
5. If pulseless, continue CPR and warming throughout transport.
6. Although patients suffering from hypothermia should be evaluated on an individual basis, in general, patients should be warmed to normal temperatures before stopping resuscitation.

I. If the patient is alert and responding appropriately, with temperature > 94 degrees, actively rewarm.

1. Blankets
2. Heat packs or hot water bottles to groin, axillary and cervical regions.

3. Turn up heat high in the patient compartment of the ambulance.
4. Give warm fluids.

J. If the patient is unresponsive or not responding appropriately, temperature 94 to 84 degrees:
1. Warm blankets
2. Turn up heat high in the patient compartment of the ambulance.

K. Do not allow patient to have any stimulants (I. e. coffee, chocolate etc.)

L. Do not massage extremities.

M. Provide IV therapy as necessary (see page 64).
1. If possible warm IV to 104 degrees F
2. Administer a 500 - 1000 ml bolus of a balanced salt solution.

N. Care for other life threatening injuries including frostbite.

IV. On-going Assessment

A. Check and record vitals *including temperature*.

B. Do Not Allow Patient to Remain in or Return to a Cold Environment.

V. Transport All but the Very Mildest Cases.

A. Care must be taken to handle patient gently. If patient is not in ventricular fibrillation rough handling is likely to cause it. Continue to assess pulse and vitals.

B. Remember you do not want the patient to become colder so don't leave their body exposed.

C. Arrange for ALS rendezvous where available.

FEVER

I. Scene Size-up And Initial Patient Assessment

CAUTION: Consider full body substance isolation procedures.

II. Focused Assessment

A. Signs And Symptoms
1. Flushed, warm dry skin
2. Restless
3. May have rash or stiff neck
4. Seizures
5. Dehydration, decreased urine output

III. Management

A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

B. If prolonged transport is necessary
1. Undress patient to the underwear
2. Use tepid water to cool patient
3. Provide IV therapy as necessary (see page 64)

IV. Ongoing Assessment

V. Transport

GERIATRIC EMERGENCIES

I. Scene Size-up and Initial Patient Assessment

A. Environment assessment
   1. Living environment: alone vs. Assisted
   2. Observe scene for signs of abuse

B. Be very patient

C. Factors complicating assessment
   1. Multiple diseases/complaints
   2. Absent classical symptoms
   3. Failure to relate symptoms
   4. Sensory alterations
   5. Polypharmacy
   6. Mechanism of Injury
      a) Falls
      b) Motor vehicle accident
      c) Burns
      d) Assault/abuse
      e) Other/may be underlying cause of trauma
   7. Hypo/Hyperthermia

II. Focused History and Physical Exam

A. Common medical complaints

B. Environment and Mental Status Assessment

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Medical
   1. Altered Mental Status (See page 32)
   2. Cardiology Emergencies (See page 4)
   3. Endocrinology Emergencies (See page 11)
   4. Environmental Emergencies (See page 12)
   5. Neurological Emergencies (See page 32)
   6. Pulmonary Emergencies (See page 24)
   7. Toxicology Emergencies (See page 14)

B. Trauma
   1. Airway and ventilation
      a) Dentures may need to be removed
      b) Oxygen important due to vascular disease
   2. Circulation
      a) Monitor fluid administration closely
   3. Other
      a) Prevent hypothermia
      b) Packaging to include bulk and padding
      c) Head injury more serious in elderly
      d) Treat according to protocols for specific trauma (See pages 41)

IV. Ongoing Assessment

V. Transport

PHYSICAL ABUSE AND NEGLECT

I. Scene Size-up And Initial Patient Assessment

II. Focused Assessment

A. Signs And Symptoms Of Suspected Abuse And Neglect

1. Multiple bruises in various stages of healing
2. Injury inconsistent with mechanism described
3. Repeated calls to the same address
4. Fresh burns
5. Parents or care giver seem inappropriately unconcerned
6. Conflicting stories
7. Fear on the part of the patient to discuss how the injury occurred
8. Lack of adult supervision
9. Malnourished appearance
10. Unsafe living environment
11. Untreated chronic illness

III. Management

A. Follow appropriate treatment protocol

B. Report following state law and local operating procedures (see Reporting Child and Dependent Adult Abuse, page 74)

IV. Ongoing Assessment

V. Transport

RESPIRATORY EMERGENCIES

I. Scene Size-up And Initial Patient Assessment

II. Focused History

A. Onset/Provocation/Quality/Radiation/Severity/Time

B. Signs And Symptoms

1. Anxious/restless
2. Shortness of breath (air hunger, increased/decreased/absent respirations)
3. Skin color changes (cyanotic, pale/clammy, redness/flushing)
4. Abnormal airway noises (wheezing, stridor, gurgling, snoring)
5. Mechanics of respiration (fatigue due to breathing effort, diaphragmatic breathing, retractions, irregular breathing pattern)
6. Patient position (upright, feet dependent; tripod)
7. Drooling, difficulty swallowing, seal bark cough

C. Allergies/Medications/Prior Medical History/Last Oral Intake/Events Prior

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Patient c/o SOB/inadequate respirations

1. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
2. Allow patient to achieve position of comfort (POC)

B. Patient c/o SOB with wheezing

1. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
2. Assist with self administration of inhaler
   a) If available and prescribed for patient
   b) Consult medical control
3. Provide IV therapy as necessary (see page 64)
4. Pulse Oximetry

IV. Pediatric Management Considerations

A. Airway obstruction- (see Airway Obstruction, page 55)

1. Use infant/child foreign body airway procedures if complete obstruction
2. If partial obstruction
   a) Do not agitate patient
   b) Allow patient position of comfort
   c) Oxygen/limited exam

B. Patient drooling, with difficulty swallowing, or seal bark cough

C. <u>Note:</u> Do not attempt to visualize oropharynx (see Epiglottitis, page 31)

1. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
2. Allow patient to achieve position of comfort (parents lap prn, except during transport)

V. Ongoing Reassessment

A. Be Prepared To Provide Positive Pressure Ventilation Should Patient Deteriorate

B. Monitor Patient And Vital Signs Closely

VI. Transport Rapidly

OBSTRUCTIVE AIRWAY DISEASE (Asthma, Emphysema, Chronic Bronchitis)

I. Scene Size-up/Initial Patient Assessment

II. Focused History and Detailed Physical Exam

A. Signs and Symptoms

1. Altered mental status
2. Dyspnea (nocturnal /awakened)
3. Wheezing
4. Cough
5. Retractions
6. Apneic
7. Decreased $Sp0_2$

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

B. Assist with self administration of inhaler

1. If available and prescribed for patient
2. Consult medical control

C. Provide IV therapy as necessary (see page 64)

D. Pulse Oximetry

IV. Ongoing Assessment

V. Transport

PNEUMONIA

I. Scene Size-up/Initial Patient Assessment

II. Focused History and Detailed Physical Exam

A. Signs/Symptoms

1. Fever/Chills/Fatigue
2. Cough/Rales/Egophony (see Glossary, page 84)
3. May have pleuritic chest pain

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

B. Assist with self administration of inhaler

3. If available and prescribed for patient
4. Consult medical control

C. Provide IV therapy as necessary (see page 64)

D. Cool patient if increased temperature

E. Pulse Oximetry

IV. Ongoing Assessment

***V.* Transport**

PULMONARY EDEMA (NON-CARDIOGENIC)

I. Scene Size-up/Initial Patient Assessment

A. Remove patient from toxic environment or high altitude as appropriate

II. Focused History and Detailed Physical Exam

A. Signs and Symptoms

1. Dyspnea/Orthopnea
2. Fatigue/Reduced exercise capacity
3. Rales

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

B. Vascular access

1. Provide IV therapy as necessary (see page 64)
   a) Monitor IV flow rates and lung sounds carefully, do not over hydrate patient.

C. Pulse Oximetry

IV. Ongoing Assessment

V. Transport

PULMONARY EMBOLUS

I. Scene Size-up/Initial Patient Assessment
II. Focused History and Detailed Physical Exam
A. Signs and Symptoms
1. Altered Mental Status
2. Cyanosis/Dyspnea/Tachypnea
3. Hypotension
4. Tachycardia
5. Chest Pain/Cough/Pleural friction rub

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management
A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
B. Provide IV therapy as necessary (see page 64)
C. Pulse Oximetry
IV. Ongoing Assessment
V. Transport

UPPER RESPIRATORY INFECTION

I. Scene Size-up/Initial Patient Assessment
II. Focused History and Detailed Physical Exam
A. Signs and symptoms
1. Sore throat/Fever/Chills/Head Ache
2. Cervical adenopathy/ Erythematous pharynx (see Glossary, page 84)

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management
A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
B. Pulse Oximetry
C. Assist with self administration of inhaler
1. If available and prescribed for patient
2. Consult medical control
IV. Ongoing Assessment
V. Transport

PNEUMOTHORAX

I. Scene Size-up/Initial Patient Assessment

II. Focused History and Detailed Physical Exam

A. Signs and Symptoms

1. Simple Pneumothorax

a) Early

(1) Dyspnea/tachypnea

(2) Unilateral decreased or absent breath sounds

b) Progressing

(1) Increasing difficulty breathing

(2) Hyperresonant to percussion on affected side

(3) Tachycardia

2. Tension Pneumothorax

a) Early

(1) Dyspnea/tachypnea

(2) Decreased or absent breath sounds

(3) Decrease in pulse oximetry readings

b) Progressing

(1) Increasing difficulty breathing

(2) Hyperresonant to percussion on affected side

(3) Tachycardia

c) Late

(1) Tracheal deviation (away from affected side)

(2) Jugular venous distension (JVD)

(3) Narrow pulse pressure

(4) Subcutaneous emphysema

3. Open Pneumothorax:

a) Air movement out of defect in chest wall, due to penetrating chest injury, which doesn't seal itself.

b) Respiratory distress

c) Subcutaneous emphysema

d) Sucking/bubbling sound on inhalation.

e) Decreasing breath sounds on affected side

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Simple Pneumothorax.

1. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
2. Provide IV therapy as necessary (see page 64)

B. Tension Pneumothorax:

1. Clear the airway; provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment using positive pressure ventilation as necessary (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79).

2. Provide IV therapy as necessary (see page 64)
3. Transport rapidly to appropriate facility

C. Open Pneumothorax:

1. Clear the airway; provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment using positive pressure ventilation as necessary (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79).
2. Occlude wound with dressing. Tape 3 sides to create a one-way valve.
3. Provide IV therapy as necessary (see page 64)

IV. Ongoing Assessment

V. Transport

HYPERVENTILATION SYNDROME

I. Scene Size-up/Initial Patient Assessment

II. Focused History and Detailed Physical Exam

A. Signs and symptoms

1. Dyspnea (usually rapid with high minute volume)/May have chest pain
2. Carpopedal spasms
3. May vary due to etiology

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Generally supportive, symptom based.

B. Do not place bag over mouth and nose.

C. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

D. Pulse Oximetry

E. Coached ventilation

IV. Ongoing Assessment

V. Transport

EPIGLOTTITIS

EPIGLOTTITIS - ADULT

I. Scene Size-up/Initial Patient Assessment

II. Focused History and Detailed Physical Exam

A. Signs and Symptoms
1. Fever/ill appearance
2. Drooling, difficult/painful swallowing
3. Respiratory distress, hypoxia
4. May have stridor/croup depending on degree of obstruction
5. Patient will prefer leaning forward (tripod position)

B. History of
1. Upper respiratory infection
2. Older children and adults may only c/o sore throat and/or voice changes

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

B. DO NOT PLACE ANYTHING IN THE PATIENTS MOUTH OR VISUALIZE THE AIRWAY

C. If airway becomes obstructed ventilate with BVM

D. Do not attempt IV access

IV. Ongoing Assessment

A. Handle patient very gently

V. Transport

EPIGLOTTITIS - Pediatric Considerations

I. Scene Size-up/Initial Patient Assessment
II. Focused History and Detailed Physical Exam
Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.
III. Management

A. Handle very gently
B. Airway obstruction (see Airway Obstruction, page 55)
1. Use infant, child foreign body airway procedures if complete obstruction
2. If incomplete obstruction
   a) Do not agitate patient; allow patient position of comfort.
   b) Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

C. Patient drooling, with difficulty swallowing, or seal bark cough
1. **<u>Note:</u>** Do not attempt to visualize oropharynx
2. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
3. Do not attempt IV access
4. Allow patient to achieve position of comfort (parents lap prn, except during transport.)

IV. Ongoing Assessment

A. Monitor patient and vital signs closely.
B. Be alert for patient deterioration. Consult online/offline medical control for airway management.

V. Transport

NEUROLOGICAL EMERGENCIES

ALTERED MENTAL STATUS AND COMA

I. Scene Size-up And Initial Patient Assessment
II. Focused History and Detailed Physical Exam
A. Signs and Symptoms
1. Alterations/Changes to bodily systems
2. Determine blood glucose level

Note: When a paramedic system exists, ALS rendezvous shall be arranged as soon as possible as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management
A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
B. Circulation
1. Provide IV therapy as necessary (see page 64)
2. Determine blood glucose
a) If hypoglycemic, see page 11
C. Spinal precautions
D. Pulse Oximetry
E. Psychological Support
IV. Ongoing Assessment
V. Transport

Pediatric Considerations

I. Attempt to determine cause; i.e., hypoglycemia, poisoning, post seizure, infection, head trauma, hypoperfusion
II. See above for management

BEHAVIORAL EMERGENCIES

I. Scene Size-up And Initial Patient Assessment

CAUTION: Be alert, patient behavior may change rapidly and the scene may become unsafe.

A. If Scene Is Not Secure
   1. Guarantee your own safety
   2. Call law enforcement
   3. Locate the patient
   4. Assess and treat life-threatening problems
   5. If show of force necessary to render care, contact law enforcement and medical control

B. If Scene Seems Secure
   1. Scan for signs of items contributing to crisis

II. Focused Assessment

A. Signs And Symptoms
   1. Psychological Crisis
      a) Panic
      b) Agitation
      c) Bizarre behavior
      d) Danger to self or others
   2. Suicide Risk
      a) Depression
      b) Suicidal gestures
   3. Mental Status Examination (see Altered Mental Status, page 32)

Note: When a paramedic system exists, ALS rendezvous shall be arranged as soon as possible as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. One EMS provider to assume control of situation
B. Speak in a calm quiet voice, maintain eye contact and move slowly
C. Answer questions honestly
D. Do not leave the patient alone or turn your back
E. Restrain only if necessary for your protection or that of the patient

IV. Ongoing Assessment

V. Transport

A. If Patient Consents, Follow General Orders (see page 1)
B. If Patient Refuses, Obtain Consent According To Local Procedure

CEREBRAL VASCULAR ACCIDENT (CVA)

II. Scene Size-Up/Initial Patient Assessment

III. Focused History and Detailed Physical Exam

A. Signs and Symptoms

1. Alteration in consciousness
2. Intense or unusually severe headache
3. Aphasia
4. Facial weakness or asymmetry
5. Un-coordination, weakness, paralysis or sensory loss
6. Ataxia
7. Visual loss
8. Slurred speech
9. Dizziness, double or blurred vision, nausea, vomiting, photophobia

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

IV. Management

A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

1. While protecting airway--place patient on paralyzed side, if possible
2. Be prepared to manage secretions

B. Circulation

1. Provide IV therapy as necessary (see page 64)
2. Determine blood glucose
   a) If hypoglycemic, see page 11

V. Ongoing Assessment

A. Consider the cause--take all medications to the hospital

B. Examine for signs of trauma

VI. Transport

1. Maintain body heat
2. Protect affected limbs from injury
3. Anticipate seizures

SEIZURES

I. Scene Size-up And Initial Patient Assessment

II. Focused Assessment

A. Signs And Symptoms
   1. May experience sensory changes
      a) Aura
      b) Abnormal twitch
      c) Anxiety
      d) Dizziness
      e) Smell, vision, taste
   2. Sudden unresponsiveness
   3. Convulsions
   4. Loss of bowel and bladder control
   5. Postictal (recovery phase)
      a) Confusion, disoriented and possibly combative
      b) Exhausted and weak
   6. Determine blood glucose level
   7. Pulse Oximetry

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
B. Suction as needed
C. Positioning and spinal precautions
D. Prevent injury to the patient, but do not restrain
E. If hypoglycemic, see page 11
F. Treat other injuries as necessary
G. Pediatric Considerations - Febrile Seizure
   1. Remove heavy or swaddling clothes, keep lightly dressed

IV. Ongoing Assessment

V. Transport

NOTE: Conditions that may cause seizures:	
Epilepsy	Hypoglycemia (low blood sugar), page11
Fever, page 21	Hypoxia (oxygen starvation)
Infections	Dysrhythmia (abnormal heart rhythms)
Poisoning, page 14	Head trauma, page 47
Stroke, page 34	
Pre-delivery seizure, usually due to severe high blood pressure (eclampsia), page 40	

GYNECOLOGICAL EMERGENCIES

EXCESSIVE VAGINAL BLEEDING

I. Scene Size-up And Initial Patient Assessment
II. Focused Assessment
Note: When a paramedic system exists, ALS rendezvous shall be arranged as soon as possible as directed by local or regional patient care procedures or when directed by medical direction/control.
III. Management

A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
B. Treat for shock (see Shock, page 49)
C. If bleeding due to trauma to external genitalia place appropriate external dressings to any wounds
D. Do not place dressings inside vagina

IV. Ongoing Assessment
V. Transport

SEXUAL ASSAULT

I. Scene Size-up And Initial Patient Assessment
Note: Contact law enforcement and follow local procedures for preserving evidence.
II. Focused Assessment
Note: When a paramedic system exists, ALS rendezvous shall be arranged as soon as possible as directed by local or regional patient care procedures or when directed by medical direction/control.
III. Management

A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
B. Follow treatment protocols for victims of trauma, see page 41
C. Advise patient not to wash, douche, urinate or defecate prior to physician exam
D. Do not examine genitalia unless obvious bleeding requires the application of a dressing
E. Do not place dressings inside vagina
F. If hypotensive see shock, page 49

IV. Ongoing Assessment

A. Provide Nonjudgmental Emotional Support

V. Transport

OBSTETRICAL EMERGENCIES

EMERGENCY DELIVERY

I. Scene Size-up And Initial Patient Assessment

II. Focused Assessment

A. Determine
1. Date of expected birth
2. Onset of contractions/pain
3. Any Bleeding or discharge
4. Number or pregnancies/births
5. Duration and frequency of contractions

B. Signs And Symptoms Of Imminent Delivery
1. Perineum bulging or baby crowning
2. Contractions < 2 minutes apart
3. Mother expresses the need to "push" or "bear down"

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management of imminent delivery

A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

B. Pulse Oximetry

C. Establish IV access as situation allows (see page 64)

D. Have mother lie supine with knees drawn up and spread apart

E. Prepare OB kit

F. When the infant's head appears during crowning, place fingers on bony part of skull and exert very gentle pressure to prevent explosive delivery
1. If the umbilical cord is wrapped around the infant's neck, slip it gently over the shoulder and head
2. If slipping the cord over the infant's head and shoulders fails, place umbilical clamps 2 inches apart and cut the cord between the clamps

G. When head is delivered, suction infant's nose and mouth with bulb syringe

H. Assist delivery of shoulders and body; do not pull on infant

I. When baby is delivered;
1. Wipe blood and mucus from mouth and nose, suction mouth and nose again
2. Assure patent airway, stimulate cry by tapping soles of feet
3. Do APGAR assessment on infant one minute after delivery (see APGAR, page 55)
4. Wrap infant in warm blanket and place on its side, head slightly lower than trunk
5. Keep infant level with vagina until the cord is cut
6. As pulsations cease; double clamp, tie and cut cord between two clamps
7. Let placenta deliver normally. **<u>Note:</u>** Do not pull on cord.
   a) Place in plastic bag and transport with mother
   b) Massage mother's lower abdomen until firm
8. Place sterile pad over vaginal opening

IV. Ongoing Assessment
A. Estimate blood loss, treat for shock as necessary
B. Record time of delivery
V. Transport
A. After delivery, place patient in position of comfort

COMPLICATIONS OF DELIVERIES

MISCARRIAGE - SPONTANEOUS ABORTION

I. Scene Size-up And Initial Patient Assessment
II. Focused Assessment
A. Signs And Symptoms
1. Cramp-like lower abdominal pain similar to labor
2. Moderate to severe vaginal bleeding, which may be bright or dark red
3. Passage of tissue or blood clots

Note: When a paramedic system exists, ALS rendezvous shall be arranged as soon as possible as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management
A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
B. Treat for shock (see Shock, page 49)
C. Place sterile pad over vaginal opening
D. Bring fetal tissues to the hospital
IV. Ongoing Assessment
V. Transport

PROLAPSED CORD

I. Scene Size-up And Initial Patient Assessment
II. Focused Assessment
A. Signs And Symptoms
1. Cord presents through the birth canal before delivery
2. Normally occurs early in labor

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management
A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
B. Provide IV therapy as necessary (see page 64)
C. Position mother in knee chest position or extreme Trendelenburg
D. Insert sterile gloved hand into vagina pushing the presenting part of the fetus away from the pulsating cord
E. Keep pressure on presenting part and monitor pulsations in the cord

IV. Ongoing Assessment
A. Continue monitoring pulsations until relieved at the hospital

V. Transport
A. Provide rapid transport and early notification to hospital

BREECH BIRTH AND/OR LIMB PRESENTATION

I. Scene Size-up And Initial Patient Assessment
II. Focused Assessment
A. Signs And Symptoms
1. Buttocks or extremities present first during the delivery process

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management
A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
B. Provide IV therapy as necessary (see page 64)
C. Allow delivery to progress spontaneously
D. Support infant's body as it is delivered
E. If head delivers spontaneously, proceed as with normal delivery
F. If head does not deliver within 4-6 minutes, insert gloved hand into vagina, create an airway for the baby
G. Place mother in head down position with pelvis elevated
H. Do not remove hand from inside vagina until relieved by hospital staff

IV. Ongoing Assessment

V. Transport
A. Do not remove hand from inside vagina until relieved by hospital staff
B. Provide rapid transport and early notification to hospital

MECONIUM STAIN

I. Scene Size-up And Initial Patient Assessment
II. Focused Assessment
A. Signs And Symptoms
1. Greenish or brownish-yellow amniotic fluid rather than clear
2. Discoloration/staining on infants face
3. Often indicates possible fetal distress during labor

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management
A. Do not stimulate infant to breath prior to suctioning
B. Suction oropharynx and nasopharynx
C. Maintain infant's airway
IV. Ongoing Assessment
V. Transport

PRE-DELIVERY SEIZURES

I. Scene Size-up And Initial Patient Assessment
II. Focused Assessment
A. Signs And Symptoms
1. Mild pre-eclampsia
a) Hypertension (moderate, above 140 and below 160)
b) Edema
c) Rapid weight gain
2. Moderate to severe
a) Hypertension above 160 systolic
b) Headache
c) Changes in behavior
d) Visual disturbances
e) Dyspnea
f) Cyanosis
3. Eclampsia (any of the above plus)
a) Seizure
b) Postictal

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management
A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
B. Take seizure precautions (see Seizures, page 35)
IV. Ongoing Assessment
V. Transport
A. Patient preferably lying on left side

TRAUMA

GENERAL TRAUMA ASSESSMENT

I. Scene Size-Up
- A. Assess For Number Of Multiple Trauma Patients
- B. Activate Local Emergency System As Necessary Following Regional Patient Care Procedures

II. Initial Patient Assessment
- A. A.B.C.
- B. Establish Patient Care Priorities As Soon As Possible
  - 1. Triage multiple patients
    - a) Notify receiving facility
  - 2. Follow the Trauma Triage Procedures (see pages 58 and 59)
    - a) Notify the trauma center as soon as possible

III. Rapid Or Focused History And Physical Exam (Trauma)
- A. Deformities, Contusions, Abrasions, Punctures - Burns, Tenderness, Lacerations, and Swelling (DCAP-BTLS)
- B. Pulse, Movement, Sensation (PMS)
- C. Vital Signs
- D. SAMPLE History
- E. Glasgow Coma Scale (GCS) (see Glasgow Coma Scale, page 62)
- F. Pulse oximetry

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

IV. Ongoing Assessment
- A. Re-evaluate Initial Patient Assessment Items
  - 1. Unstable patient a minimum of every 5 minutes
  - 2. Stable patient every 15 minutes

V. Transport
- A. Mode Of Transportation And Destination Based On Regional Patient Care Procedures
- B. Prioritize Patient Transport

ABDOMINAL INJURY

I. Perform Initial Patient Assessment

II. Focused Assessment

A. Signs and Symptoms
   1. Tender, rigid or distended abdomen
   2. Position (guarding)
   3. Signs and symptoms of shock
   4. Consider abdominal spinal injury
   5. Wounds, (entrance/exit), bruising
   6. Consider pregnancy (see Obstetrical Emergencies, page 37)

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
B. Provide IV therapy as necessary (see page 64)
C. Pulse Oximetry
D. Do not touch or try to replace exposed organs
   1. Cover exposed organs with sterile/moist dressing
E. Control bleeding
F. Treat for shock (see Shock, page 49)
G. Pregnancy (see Obstetrical Emergencies, page 37)
H. Consider use of the MAST/PASG (see pages 67 &68)
I. Mechanical head and spine immobilization as necessary
J. Give nothing by mouth
K. Position supine with flexed knees, if no contraindications

IV. Ongoing Assessment

V. Transport

BURN INJURY

I. Scene Size-up And Initial Patient Assessment

CAUTION: Identify source of burning and take appropriate safety precautions.

II. Focused Assessment

A. Signs And Symptoms

1. Evaluate depth and area by using rule of nines appendix (see page 78)
   a) Burns >= 20% and/or involving face or airway, see Trauma Triage Procedure, page 81
2. Carefully evaluate respiratory tract for involvement

Note: Burns may be more severe than they first appear.

Note: When a paramedic system exists, ALS rendezvous shall be arranged as soon as possible as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

Note: Stop the burning process.

Note: For burns involving chemicals refer to the Toxicology/Poisoning/Overdose protocol (see page 14).

A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
   1. Continuously reassess respiratory status

B. Treat for Shock (see page, 49)

C. Provide IV therapy as necessary (see page 64)

D. Pulse Oximetry

E. Remove jewelry and non-adhered clothing as necessary

F. Cover burns with dry sterile dressing

G. Control bleeding

H. Treat for shock (see Shock, page 49)
   1. Consider use of the MAST/PASG (see, pages 67 & 68)

IV. Ongoing Assessment

V. Transport

A. Transport following local burn center protocols or Trauma Triage Procedure as directed by medical control and regional patient care procedures.

CHEST INJURY

I. Scene Size-up And Initial Patient Assessment
II. Focused Assessment
- A. Signs And Symptoms
- B. Changes in respiratory rate/quality
- C. Breath sounds diminished, unequal, or absent
- D. Flail chest
- E. Use of accessory muscles
- F. Distended neck veins (JVD)
- G. Consider thoracic spinal injury
- H. Shock
- I. Wounds, (entrance/exit), bruising
- J. Complains of pain with inspiration or expiration

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management
- A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
  - 1. Continuously reassess respiratory status
- B. Pneumothorax – refer to Pneumothorax, page 28
- C. Flail Chest
  - 1. Splint if pain is significant
- D. Control bleeding
- E. Provide IV therapy as necessary (see page 64)
- F. Pulse Oximetry
- G. Treat for shock (see Shock, page 49)
- H. Mechanical head and spine immobilization as necessary

IV. Ongoing Assessment
V. Transport

EXTERNAL BLEEDING AND AMPUTATIONS

I. Scene Size-up And Initial Patient Assessment

II. Focused Assessment

A. Signs And Symptoms

B. Spurting/steady flowing or oozing blood

C. Bright red or dark blood

D. Separated or displacement of body part or tissue

E. Shock

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

B. Control bleeding

1. Direct pressure/pressure point
2. Elevation
3. Splints
4. Mast/PASG (see, pages 67 and 68)
5. Tourniquet
6. Apply dressing and bandage

a) Amputations

<u>Note:</u> Do not complete partial amputations.

(1) Wrap severed body part in dry sterile dressing

(2) Wrap or bag amputated part in plastic and keep cool (do not allow to freeze)

(3) Transport severed part with patient, if possible

b) Do not remove impaled objects

(1) Unless impaled in cheek and airway is compromised by the object

(2) Secure in place

C. Provide IV therapy as necessary (see page 64)

D. Pulse Oximetry

E. Treat for Shock (see Shock, page 49)

IV. Ongoing Assessment

V. Transport

EXTREMITY INJURY

I. Scene Size-up And Initial Patient Assessment

II. Focused Assessment

A. Signs And symptoms
   1. Exposed bone ends
   2. Joints locked in position
   3. Loss of feeling or movement
   4. Loss of distal pulse
   5. Bruising/swelling
   6. Pain
   7. Shock
   8. Multiple long bone fracture

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

B. Consider alignment with gentle traction if pulses absent or gross deformity noted

C. Mechanical immobilization
   1. Reassess distal PMS after applying splint
   2. Consider application of cold pack to painful or swollen area
   3. Consider elevation of extremity

D. Control bleeding

E. Provide IV therapy as necessary (see page 64)

F. Pulse Oximetry

G. Treat for shock (see Shock, page 49)

H. Consider use of the MAST/PASG (see pages 67 & 68)

IV. Ongoing Assessment

V. Transport

HEAD AND SPINE INJURY

I. Scene Size-up And Initial Patient Assessment

II. Focused Assessment

A. Signs And Symptoms

1. Cerebrospinal fluid or blood from nose, ears, mouth
2. Glasgow coma scale score (see Glasgow Coma Scale, page 62)
   a) Altered mental status, see Trauma Triage Procedures, page 81
3. Bruising around eyes, or behind ears
4. Altered mental status
5. Irregular breathing
6. Changes in pulse rate
7. Changes in blood pressure
8. Neurologic disability
9. Loss of bowel or bladder control
10. Unequal pupils with altered mental status
11. Seizures

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Immediate manual head and C-spine immobilization

B. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)

C. Control bleeding

D. Provide IV therapy as necessary (see page 64)

E. Pulse Oximetry

F. Treat for shock (see Shock, page 49)

G. Mechanical head and spine immobilization

IV. Ongoing Assessment

V. Transport

MULTI-SYSTEM/TIME CRITICAL TRAUMA

I. Scene Size-up And Initial Patient Assessment

A. Begin Extrication (If Necessary) And Treatment Simultaneously If Possible

1. Immediate manual head and C-spine immobilization

B. Treat Life Threatening Injuries As They Are Found

C. On-Scene Time Should Be Limited To 10 Minutes, Barring Extrication Or Rescue

1. Notify The Trauma Center As Soon As Possible, (see Trauma Triage Procedures, page 81)

II. Perform Focused Assessment

A. Assess For Other Signs And Symptoms

1. Provide rapid survey of head, chest, abdomen

B. Provide Emergency Medical Care As Necessary

1. Provide any urgent treatment required

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Ongoing Assessment Of Response To Treatment Provided, If Life Threatening Problems Are Controlled:

A. Assess Response To Treatment Provided

B. Immobilize Patient

IV. Transport

A. Transport as Soon as Possible Following Initial Treatment

SHOCK

I. Scene Size-Up/Initial Patient Assessment

II. Focused History and Detailed Physical Exam

A. Stages of shock
   1. Compensated or nonprogressive
   2. Decompensated or progressive
   3. Irreversible

B. Etiologic classifications
   1. Hypovolemic
   2. Distributive (vasogenic)
   3. Cardiogenic

C. Signs and Symptoms by stages of shock
   1. Early or compensated
      a) Tachycardia
      b) Pale, cool skin
      c) Diaphoresis
      d) Level of consciousness
         (1) Normal
         (2) Anxious or apprehensive
      e) Blood pressure maintained
      f) Narrow pulse pressure
         (1) Pulse pressure is the difference between the systolic and diastolic pressures, i.e., Pulse pressure = systolic - diastolic
         (2) Pulse pressure reflects the tone of the arterial system and is more sensitive to changes in perfusion than the systolic or diastolic alone
      g) Positive orthostatic tilt test
      h) Dry mucosa
      i) Complaints of thirst
      j) Weakness
      k) Possible delay of capillary refill
   2. Late or progressive
      a) Extreme tachycardia
      b) Extreme pale, cool skin
      c) Diaphoresis
      d) Significant decrease in level of consciousness
      e) Hypotension
      f) Dry mucosa
      g) Nausea
      h) Cyanosis with white, waxy-looking skin

D. Signs and Symptoms of shock by etiological classification
   Note: Shock is assumed to be hypovolemic until proven otherwise
   1. Cardiogenic shock
      a) Differentiated from hypovolemic shock by one or more of following
         (1) Chief complaint, e.g., Chest pain, dyspnea, tachycardia
         (2) Heart rate, i.e., Bradycardia or excessive tachycardia
         (3) Signs of congestive heart failure, i.e., Jugular venous distension (JVD), rales
         (4) Dysrhythmias

2. Distributive shock
   a) Differentiated from hypovolemic shock by presence of one or more of following
      (1) Mechanism that suggests vasodilatation, e.g., Spinal cord injury, drug overdose, sepsis, anaphylaxis
      (2) Warm, flushed skin, especially in dependent areas
      (3) Lack of tachycardia response (not reliable, though, since significant number of hypovolemic patients never become tachycardic)
3. Obstructive shock
   a) Differentiated from hypovolemic shock by presence of signs and symptoms suggestive of
      (1) Cardiac tamponade
      (2) Tension pneumothorax

Note: When a paramedic system exists, ALS rendezvous shall be arranged <u>as soon as possible</u> as directed by local or regional patient care procedures or when directed by medical direction/control.

III. Management

A. Airway and ventilatory support
   1. Clear the airway, provide oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Airway Obstruction, page 55; see Oxygen Delivery, page 71; see Suctioning, page 79)
   2. Pulse Oximetry

B. Circulatory support
   1. Hemorrhage control
   2. Provide IV therapy as necessary using a balanced salt solution (see page 64)
   3. Rate of administration - Use the rule of replacing 1 unit of blood with 3 units of solution, titrating to a maximum of 90 to 100 systolic, listening to lung sounds
   4. Consider use of Mast/PASG (see, pages 67 and 68)

IV. On-Going Assessment

V. Transport

APPENDICIES

ADVANCED AIRWAY MANAGEMENT AND VENTILATION FOR MULTI-LUMEN TRAINED PERSONNEL

ADVANCED AIRWAYS

PHARYNGOTRACHEAL LUMEN AIRWAY (PTL) AND ESOPHAGEAL TRACHEAL COMBITUBE (COMBITUBE)

I. Indications:
   A. Patient with inadequate respirations, able to tolerate an OPA.
   B. Alternative airway control when endotracheal intubation is not available or successful.

II. Contraindications/Precautions:
   A. Age and weight restrictions not consistent with manufacturer's recommendations.
   B. Conscious patient with a gag
   C. Device does not eliminate aspiration risk.
   D. Difficult to intubate and suction around.
   E. Can only be passed orally.
   F. Patients with esophageal disease or caustic ingestion

III. Complications:
   A. Airway trauma from poor technique.
   B. Displacement of pharyngeal balloon.

IV. Procedure:

A. PTL

1. Maintain body substance isolation.
2. Open airway and pre-oxygenate with 100% O_2
3. Place head into hyperextended position if no spine injury. If potential for injury, intubate patient in neutral position.
4. Insert tube and advance until flange hits teeth (If resistance is felt, do not force.); Secure tube to patient and inflate distal cuffs by blowing into the inflation valve.
5. Deliver breath through the green tube.
   a) Chest rise indicates PTL is in Esophagus.
      (1) Ventilate patient through green tube
   b) No chest rise indicates PTL is in trachea.
      (1) Ventilate through clear ET tube.
6. Continue ventilations and reassess patient
   a) Monitor end-tidal CO^2

B. COMBITUBE

1. Maintain body substance isolation.
2. Open airway, clear of any foreign objects and pre-oxygenate with 100% O_2
3. Place head into hyperextended position if no spine injury. If potential for injury, intubate patient in neutral position.
4. Attach the blue tipped syringe (with 100 ml's of air drawn up) to "#1" and the white tipped syringe (with 15 ml's of air drawn up) to "#2".
5. Open the airway by grasping the lower jaw between the index finger and thumb. Lift anteriorly.

6. Insert the combitube along the base of the tongue into the airway. (If resistance is felt, do not force.) Proper depth is achieved when the teeth or alveolar ridge are between the heavy black lines.
7. Inflate the blue cuff and the white cuff with 100 and 15 ml's of air respectively.
8. Ventilate through the #1 tube:
9. If chest rises and falls and lung sounds are heard, continue ventilations.
10. If lung sounds absent and no rise and fall, ventilate through the #2 tube
11. Continue ventilations and reassess patient.
    a) Monitor end-tidal CO2

AIRWAY OBSTRUCTION - FOREIGN BODY

	Adult 8 + years old	**Child** 1-8 years old	**Infant** Birth to 1 year
Ventilations	10-12 per/min	20 per/min	20 per/min
If unable to ventilate, reposition head and reattempt ventilation. If still unsuccessful:			
Tongue/Jaw lift and Finger Sweep	If unconscious	If unconscious and object is seen, perform finger sweep	If unconscious and object is seen, perform finger sweep
Abdominal Thrusts	Sets of 5	Sets of 5	***Not Used***
Chest Thrusts	Only if victim pregnant or obese	***Not Used***	Sets of 5 back blows followed by 5 chest thrusts
Back Blows	***Not Used***	***Not Used***	
Continue the above sequence until successful. If patient resumes effective breathing, place in recovery position. If unable to clear airway within one minute, begin transport and continue sequence enroute.			

APGAR SCORING

Sign	**0**	**1**	**2**	**Points**
Appearance (Color)	Blue, pale	Body pink, extremities blue	Completely pink	
Pulse Rate (Heart rate)	Not detectable	Slow (below 100)	Over 100	
Grimace (Irritability)	No Response	Grimace	Cry	
Activity (Muscle Tone)	Limp	Some Flexion	Active Motion	
Respirations (Respiratory effort)	Absent	Slow, irregular	Good, crying	
			TOTAL:	

SCORE		
Point Total	**Infant's Condition**	**Treatment Considerations**
10	Very Good	Routine
7 - 9	Good	Routine
4 -6	Fair	May need stimulation and oxygen
0 - 3	Poor	May need oxygen by bag-valve-mask and CPR

AUTOMATED EXTERNAL DEFIBRILLATION - NARRATIVE
Pending Arrival of ALS Personnel

I. Initial Intervention

A. Initial assessment (ABC's)

B. If no pulse:

1. Begin **CPR** until defibrillator attached.
2. Attach defibrillation electrodes and press **Analyze**.

II. Defibrillation Sequence

A. If shock advised, **defibrillate** up to **3 times** as needed (200, 300, 360)

Note: Pulse checks not necessary between shocks unless "No Shock Advised".

B. Check Pulse

Note: If patient hypothermic, limit shocks to 3, continue CPR until ALS arrival.

C. If no pulse:

1. **CPR** for 1 minute then check pulse
2. If no pulse press **Analyze**
3. **Defibrillate**, 360 up to **3 times** as necessary

Note: Pulse checks not necessary between shocks unless "No Shock Advised".

4. **CPR** for 1 minute

D. Check Pulse

E. If no pulse:

1. Press **Analyze**
2. **Defibrillate**, 360 up to **3 times** as necessary.

Note: Pulse checks not necessary between shocks unless "No Shock Advised".

III. Persistent V-Fib

A. If V-fib persists after 9 shocks, repeat sets of 3 stacked shocks with 1 minute of CPR between each set until "No Shock Advised".

Note: Continue stacked shock sequence until V-fib no longer present or patient converts to perfusing rhythm.

B. IF V-fib recurs, shock at energy level used for initial conversion (i.e. if patient converts at 300 and then V-fib recurs, begin shock sequence at 300).

IV. Patient Regains Pulse (Return of Spontaneous Circulation)

A. If the patient regains pulse or pulse present during the above sequence:

1. Assess vital signs.
2. Support airway and breathing.

V. Other Considerations

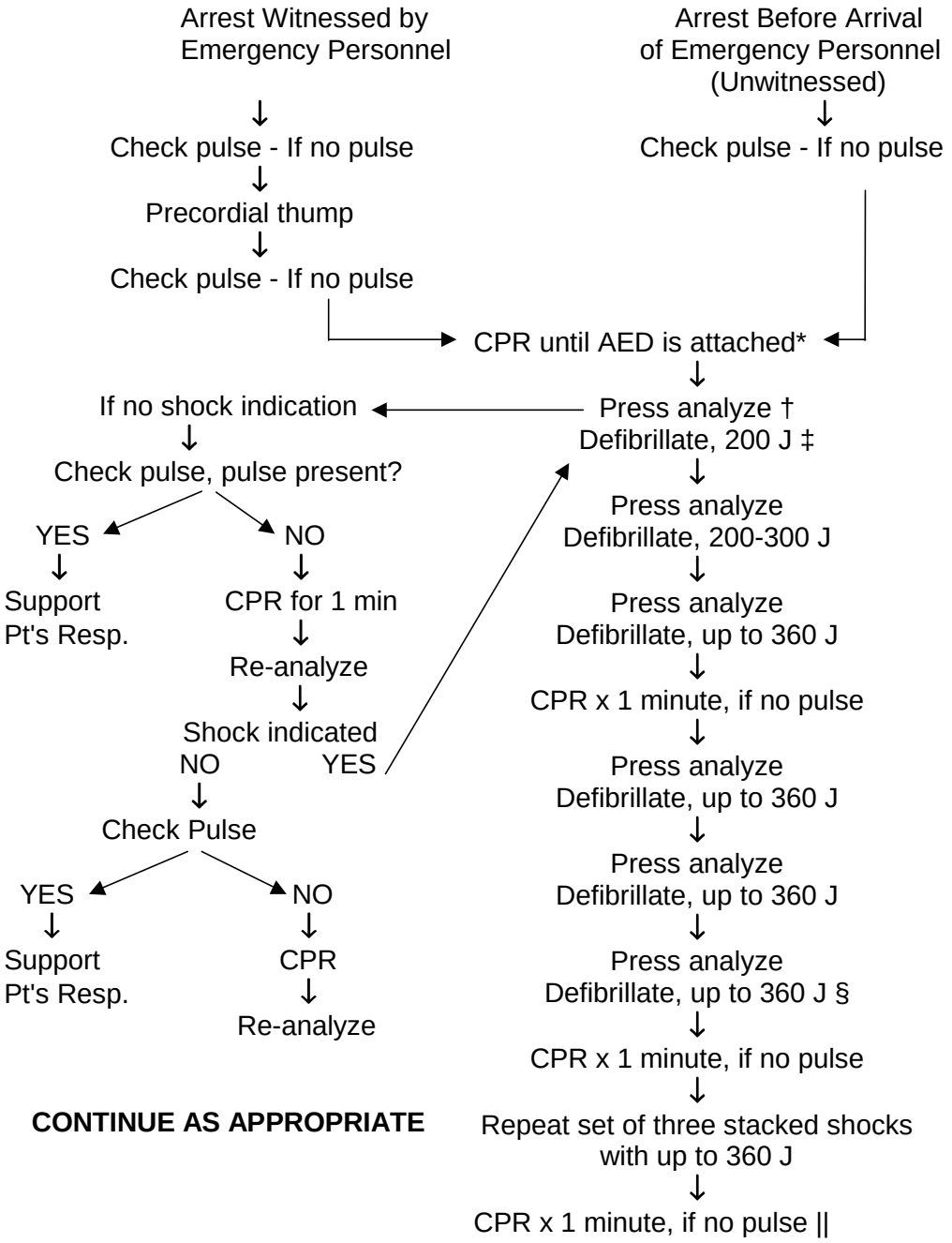
A. "No Shock Advised" and no pulse present

1. Resume CPR and Re-Analyze after 1-3 minutes.

B. Provide CPR if AED is not functioning (see AED Algorithm, page 57.

AUTOMATED EXTERNAL DEFIBRILLATION - ALGORITHM

(Recommended treatment algorithm for ventricular fibrillation and pulseless ventricular tachycardia when ACLS cannot be provided and an automated external defibrillator and a trained provider are present) NOTE: Automated external defibrillation is not used in cardiac arrest in children less than 12 years of age and less than 90 lbs



* The single rescuer with an AED should verify unresponsiveness, open the airway (A), give two respirations (B), and check the pulse (C) If a full cardiac arrest is confirmed; the rescuer should attach the AED and proceed with the algorithm.
†If "no shock indicated" appears, check pulse, repeat 1 minute of CPR, and then reanalyze. After three "no shock indicated" messages are received, repeat analyze period every 1-2 minutes.
‡Pulse check is not required after shocks 1, 2, 4, and 5 unless the "no shock indicated" message appears.
§If ventricular fibrillation recurs after transiently converting (rather than persists without ever converting), restart the treatment algorithm from the top.
||In the unlikely event that ventricular fibrillation persists after nine shocks, then repeat sets of three stacked shocks, with 1 minute of CPR between each set.

Flow chart based on information from the American Heart Association.

CARDIOPULMONARY RESUSCITATION

	Adult	***Child***	***Infant***
Age	8 yrs. and older	1 - 8 yrs.	Birth - 1 year
Duration of Each Ventilation	1 1/2 to 2 sec	1 to 1 1/2 sec	1 to 1 1/2 sec.
Pulse Check Location	Carotid artery	Carotid artery	Brachial artery
Compression Depth	1 1/2 to 2 in.	1 - 1 1/2 in.	1/2 to 1 in.
One-rescuer CPR compression to ventilation ratio	15:2	5:1	5:1
Two-rescuer CPR compression to ventilation ratio	5:1	5:1	5:1
Rate	80 - 100	100	120

CHARTING

1. **S.O.A.P.**

- Subjective - What is reported by the patient and others.
- Objective - What is observable, objective, measurable, or verifiable
- Assessment - What is your appraisal of the patient's condition
- Plan - What was done for the patient while in your care

2. **C.H.A.R.T.**

- Chief Complaint - The major problem with the patient
- History - Subjective information told to you by patient, family, etc. Follow the S.A.M.P.L.E.D. guideline
  - Symptoms
  - Allergies
  - Medication
  - Past medical history
  - Last Food\Beverage
  - Events prior
  - Description of patient
- Assessment - Physical findings, including vital signs
- Rendered Treatment - What you did for the patient and its effect
- Transport/Transfer - How, where, who, transported. Changes during transport

CORE BODY TEMPERATURE

CORE BODY TEMPERATURE **USE A HYPOTHERMIA THERMOMETER**		**SYMPTOMS**
99 F-96 F	37.0 C-35.5 C	Shivering
95 F-91 F	35.5 C-32.7 C	Intense shivering. If conscious, patient has difficulty speaking.
90 F-86 F	32.0 C-30.0 C	Shivering decreases. Strong muscular rigidity. Thinking is less clear, general comprehension is dulled, possible total amnesia. Muscle coordination erratic and jerky. Patient generally able to maintain the appearance of psychological contact with surroundings.
85 F-81 F	29.4 C-27.2 C	Irrational. Loses contact with environment. Drifts into a stuporous state. Muscular rigidity continues. Pulse and respirations are slow and cardiac arrhythmias may develop.
80 F-78 F	26.6 C-20.5 C	Patient loses consciousness and does not respond to spoken words. Most reflexes cease to function. Heartbeat becomes erratic.

DEAD ON ARRIVAL (DOA)

I. EMS personnel shall not initiate resuscitation measures when a patient is determined to be:
   A. The “obviously dead” are victims who, in addition to absence of respiration and cardiac activity, have suffered one or more of the following:
      1. Decapitation
      2. Evisceration of the heart or brain
      3. Incineration
      4. Rigor Mortis
      5. Decomposition
   B. EMS-No CPR Directive and no pulse or respirations
      1. DOA victims will be reported to the appropriate authorities based on local procedures.
      2. Consider critical incident stress debriefing for EMS personnel when involved with sudden, unexpected, accidental, traumatic and/or unexplained deaths, particularly if children are involved.

EMS-NO CPR DIRECTIVE – Sample Form

SAMPLE FORM SAMPLE FORM

Emergency Medical Services

EMS - No CPR Directive

Part 1. EMS-No CPR Directive

I, _____, ask that emergency medical personnel not revive me if my heart stops beating or I stop breathing. I understand this request means nothing will be done to start me breathing or my heart beating again. I have been told by my doctor what is good and bad about this decision. I understand that I may change my mind about this request at any time by tearing up this directive and taking off the EMS-No CPR bracelet. I want all emergency medical personnel to be free from legal liability for honoring this directive.

_____ _____

Patient Signature **Date**

Part 2. Surrogate's EMS-No CPR Directive

(Use this section if individual is incapable of making health care decisions).

I, _____, have durable power of attorney for health care/guardianship/ substitute decision making authority for _____ to make health care decisions for him/her.

Relationship to patient: _____ (guardian; representative named in durable power of attorney for health care; spouse; adult child; parent; adult brother or sister.)

I believe this person would not want CPR in his/her condition, or if I do not know his/her belief, I believe that **attempting CPR would not be in this person's best interest**, so I ask that CPR not be tried. This person's physician has explained to me what will happen if he/she stops breathing or his/her heart stops and CPR is not tried: this person will die. I understand this.

_____ _____

Surrogate Signature Date

Part 3. Physician's EMS-No CPR Directive to EMS Personnel

I, _____, am a physician actively caring for the patient named above, and hereby state that this directive is consistent with the patient/surrogate directive above. I have discussed the medical risks and benefits of this decision with the patient/surrogate. I direct all Emergency Medical Services personnel to withhold CPR from the patient in the event of cardiac or respiratory arrest (CPR includes any ventilation support other than manually opening airway, cardiac compressions, endotracheal intubation, advanced airway management, defibrillation, and intravenous resuscitation medications).

I further direct such personnel to provide other medical interventions such as intravenous fluids, oxygen, or other therapies necessary for comfort care or to alleviate pain, consistent with their operating protocols and their scope of practice.

_____ _____

Physician Signature Date

_____ _____

Address Phone

Green copy: To be kept by patient and immediately available to emergency personnel.
Yellow copy: To be kept in patient's permanent medical record.

DOH 530-042 (Revised 9/95)

Emergency Medical Services
NO CPR Directive

Purpose

This EMS-No CPR Directive was developed by the Department of Health's Office of Emergency Medical and Trauma Prevention, and the EMS-No CPR Workgroup. This directive instructs EMS personnel to withhold resuscitation attempts in the event of a patient's cardiopulmonary arrest. Resuscitative measures to be withheld include any ventilation support (other than manually opening the airway), cardiac compressions, advanced airway management, defibrillation and intravenous resuscitation medications. This directive does not affect the provision of other emergency medical care by EMS personnel such as intravenous fluids, oxygen or other therapies deemed necessary to provide comfort care to alleviate pain.

Applicability

This directive applies to resuscitation attempts by EMS providers in prehospital settings -- i.e., in a patient's home, in a long-term care facility, during transport to or from a health care facility and in other locations outside acute care hospitals. The directive does not replace other written DNR orders that may be required pursuant to a long-term care facility's own policies and procedures governing CPR attempts by facility personnel. Patients should be advised that their prehospital EMS-No CPR instruction may not be honored in other states or jurisdictions, and may or may not be honored upon admission to a hospital.

Either an intact EMS-No CPR bracelet or the original EMS-No CPR directive must be present for the EMS-No CPR directive to be honored.

Instructions

1. Patient completes EMS-No CPR Directive (Part 1); OR
2. Surrogate completes Surrogate's EMS-No CPR Directive;(Part 2)
3. Attending Physician signs the Directive to EMS Personnel (Part 3);
4. EMS-No CPR Bracelet and original signed EMS-No CPR Directive placed with the patient.

This EMS-No CPR Directive should be located at the patient's bedside (bedside table) or on the back of the door to patient's room or on the refrigerator. Patients should carry the original directive with them if traveling. If the patient is being transported by ambulance, the original directive should accompany the patient. However, the bracelet alone will be sufficient authorization to withhold CPR during ambulance transport if a cardiac arrest should occur.

The **green copy** of the directive should be retained by the patient. *The completed directive (or the EMS-No CPR bracelet) must be readily available to EMS personnel in order for the EMS No- CPR instructions to be honored.* Resuscitation attempts maybe initiated until the directive (or bracelet) is presented and the identity of the patient is confirmed.

The **yellow copy** of the directive should be retained by the physician and made part of the patient's permanent medical record.

Revocation

If a decision is made to revoke the EMS-No CPR Directive, the patient's physician should be notified immediately and all copies of the directive should be destroyed. This EMS-No CPR directive or bracelet may be revoked at any time by any of the following methods:

1. By being intentionally canceled, defaced, obliterated, burned, torn, or otherwise destroyed by a qualified patient or his/her surrogate decision maker if the surrogate executed the directive; or

2. By verbal communication from a qualified patient or his/her surrogate decision maker expressing the patient's revocation of the EMS-No CPR directive. Such verbal revocation becomes effective upon its actual communication to the Attending Physician or EMS personnel.

Questions about implementation of the prehospital EMS-No CPR Directive should be directed to the Office of Emergency Medical and Trauma Prevention at (800) 458-5281 (extension 2).

Green copy: To be kept by patient and immediately available to emergency personnel.
Yellow copy: To be kept in patient's permanent medical record.

DOH 530-042 (Revised 9/95)

GLASGOW COMA SCALE

Glasgow Coma Scale

Category	Response	Score
Eye Opening	Spontaneous----------	4
	To voice ----------	3
	To Pain ----------	2
	None ----------	1
Verbal Response	Oriented ----------	5
	Confused----------	4
	Inappropriate words ---------	3
	Incomprehensible words ---	2
	None ----------	1
Motor Response	Obeys commands ----------	6
	Localizes Pain ----------	5
	Withdraw (pain) ----------	4
	Flexion (pain) ----------	2
	None ----------	1
	Total possible	15

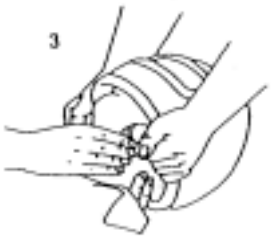
<u>Note:</u> Use the best patient response in each category

HELMET REMOVAL

1. One rescuer applies in-line stabilization by placing his or her hands on each side of the helmet with the fingers on the victim's mandible. This position prevents slippage if the strap loosens.

2. The rescuer cuts or loosens the straps or the D-rings while maintaining in-line stabilization.

3. A second rescuer places one hand on the mandible, at the angle, with the thumbs on one side and the long and index fingers on the other. With the other hand, the second rescuer also applies pressure from the occipital region. This maneuver transfers the in-line stabilization responsibility to the second rescuer.



4. The rescuer at the top removes the helmet, considering these three factors: A. The helmet is egg shaped and must be expanded laterally to clear the ears, B. Glasses must be removed prior to helmet removal, C. If the helmet provides full facial coverage, it must be raised over the nose and moved backwards.

5. The second rescuer must maintain in-line stabilization from below in order to prevent head tilt.

6. After the helmet is removed, the rescuer at the top places his or her hands on either side of the victim’s head with the palms over the ears.

7. In-line stabilization is maintained from above until a backboard and cervical collar are securely in place.

INTRAVENOUS ACCESS BY IV THERAPY TECHNICIANS

NOTE: IV FLUIDS ARE DRUGS. ON-LINE MEDICAL DIRECTION/CONTROL OR STANDING ORDERS ARE REQUIRED FOR THE EMT-I TO ADMINISTER IV FLUIDS.

I. GENERAL PROCEDURES

A. Intravenous access is established only when clinically indicated
B. Local procedure will identify:
   1. The number of attempts at starting an IV
   2. When cannulation of the external jugular vein is permissible for a patient in which attempts in the upper extremities were unsuccessful
C. Documentation of procedure, number of attempts, and solution/cannulation device used
D. IO to be used on children **under the age of six <u>only</u>**
E. Carefully monitor the amount of fluid given in all patients
F. Monitor all sites for complications

II. ASSEPTIC TECHNIQUE

A. Use as sterile a technique as possible when performing a venous cannulation
B. In an emergent situation it may be necessary to use limited or no sterile technique. Avoid additional contamination and document circumstances

III. FLUID ADMINISTRATION

A. IV fluid of choice is a balanced salt solution
B. If fluid is not needed for resuscitation, drip rate will be TKO

SALINE INTRAVENOUS ACCESS LOCKS

I. PURPOSE

A. Saline lock devices maintain intravenous access while avoiding the risk of inadvertent rapid-fluid administration and the inconvenience of manipulating IV tubing and fluid bags while moving and handling patients

II. EQUIPMENT

A. Infusion adapter device
B. Vial of normal saline for injection
C. Syringe with needle
D. Alcohol wipe

III. POLICY

A. Candidates for saline locks:
   1. Patients who would have an IV placed to establish venous access prophylactically
   2. Patients who would have an IV placed to administer medication
B. Candidates for conventional IV therapy with appropriate solutions and administrations sets:
   1. Patients requiring volume resuscitation
   2. Patients requiring continuous drip infusion of medication
   3. Patients requiring cardiac or other resuscitation with frequent medications in sequence
C. If, at any time, the patient's condition deteriorates and it is felt a conventional IV is necessary, it may be established by piggybacking into the injection port using a needle no larger than 18 Ga. due to possible injection port coring with larger sizes

IV. PROCEDURE

A. Establish IV access via over-the-needle catheter
B. Draw up at least 2.5 ml of sterile saline for injection and fill injection port
C. Remove the injection adapter cap, if present, and attach adapter (saline lock) to catheter hub. Rotate Luer hub to lock.
D. Draw back on syringe to insure patency; if patent, inject saline. ***WHILE MAINTAINING POSITIVE PRESSURE TO SYRINGE PLUNGER, WITHDRAW NEEDLE FROM PORT****.*
E. Secure IV device and port, if not already done.
F. Document

INTRAOSSEOUS INFUSION

I. PURPOSE

A. To establish a route for drug or fluid resuscitation of an infant or child (under the age of 6 years) who is unconscious, unresponsive, and in need of immediate life-saving intervention and there is an inability to establish a peripheral line within 90 seconds.
B. Attempts to establish an IO or IV line should not unnecessarily delay the transport of the patient.

II. CONTRAINDICATIONS

A. Patients 6 years of age or older
B. An intraosseous line should not be inserted when there is a known fracture of the bone chosen for line placement.
C. An intraosseous line should not be inserted when there is infection present in the leg chosen for line placement.
D. Insertion should not be attempted on the same leg two times.

III. SITES FOR INTRAOSSEOUS NEEDLE INSERTION

A. Proximal Tibia
B. Other sites as identified by the Medical Program Director

IV. EQUIPMENT FOR INTRAOSSEOUS INFUSION

A. Needles
   1. Preferred needle
      a) Intraosseous needle.
   2. Other needles if approved by the Medical Program Director
      a) Bone marrow aspiration needle
      b) Spinal needle may be used but is less stable.
B. Other equipment
   1. Iodine solution
   2. Sterile towels and gloves
   3. 4X4 pads
   4. Two 5 or 10 cc syringes
   5. IV solution
   6. Towel or sandbag/small IV bag for stabilizing leg
   7. Blood tubes- for bone marrow aspirate

V. NEEDLE INSERTION

A. Step one – stabilize leg
   1. Position with knee slightly bent
   2. Place support under knee
   3. Tape in place

B. Step two – prepare the site
   1. Clean with iodine solution and 4X4 gauze pad using circular motion, wipe dry

C. Step three – insert the needle
   1. Check package of needle for further instructions
   2. Needle should be directed away from knee
   3. Apply pressure to top of needle (slight give will be felt as the tip enters the marrow cavity)
   4. If properly inserted, will stand without support
   5. **CAUTION:** If too much pressure is applied, needle may exit through the cortex of the bone. If this occurs:
      a) Fluid will infiltrate into tissue
      b) Remove the needle
      c) Site on other leg must be chosen for next insertion attempt.

D. Step four – confirm needle placement
   1. Remove stylet from needle
   2. Connect syringe to hub of needle
   3. Aspirate approximately 1 cc bone marrow – may not always be aspirated (May be used for lab studies)
   4. 5 – 10 cc of normal saline used to initially flush the syringe while observing for extravasation. Fluid should flush easily.
   5. If not confirmed, remove; hold pressure for 5 minutes and cover with dressing.

VI. SECURING THE NEEDLE

A. Connect the IV tubing to hub
B. Tape tubing onto leg to prevent dislodgment
C. Carefully monitor for signs of infiltration

MAST/PASG - NARRATIVE

Use of the MAST/PASG is based on direction from medical control. Consult medical control before placing or inflating the unit!

I. Purpose

A. Assist in the control of bleeding from pelvic fractures when associated with shock.
B. Pressure dressing, to control severe bleeding caused by massive soft tissue damage in the lower extremities.
C. Splint, to immobilize bone and joint injuries of the lower legs.

II. Indications

A. Blood pressure less than 90 mm. Hg. systolic with other clinical signs and symptoms of shock.
B. Pelvic fractures
C. Femur fractures
D. Other cases when ordered by a physician

III. Absolute Contraindication

A. Pulmonary edema

IV. Relative contraindications

A. Uncontrolled bleeding above the level of the MAST/PASG
B. Head injuries
C. Eviscerations
D. Impaled objects in lower extremities or abdomen
E. Pregnancy; do not inflate the abdominal section

V. Inflation procedures

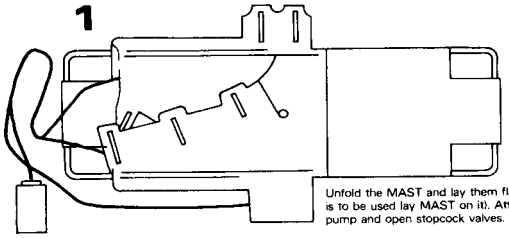
A. Monitor and record vital signs continuously during application and inflation
B. Remember; the only pressure that is important is the patient's blood pressure
C. Use in accordance with local procedure
D. Follow inflation steps (see page 68)

VI. Deflation procedures

A. Generally not a procedure performed in the field.
B. Follow local procedure

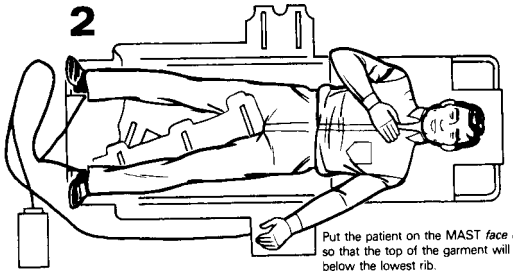
MAST/PASG - INFLATION STEPS

1. **Unfold the MAST and lay them flat (if stretcher is to be used lay MAST on it). Attach foot pump and open stopcock valves.**



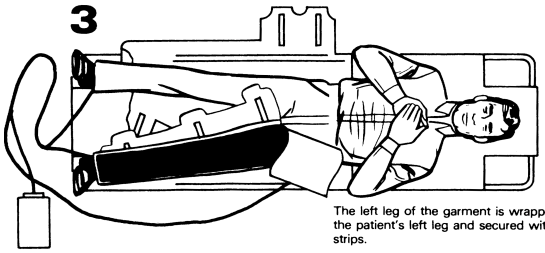
Unfold the MAST and lay them flat (if stretcher is to be used lay MAST on it). Attach foot pump and open stopcock valves.

2. **Put the patient on the MAST face up (supine) so that the top of the garment will be just below the lowest rib.**



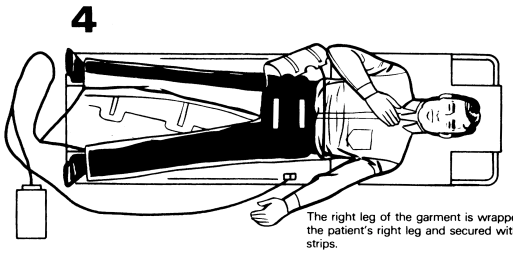
Put the patient on the MAST *face up (supine)* so that the top of the garment will be just below the lowest rib.

3. **The left leg of the garment is wrapped around the patient's left leg and secured with Velcro strips.**



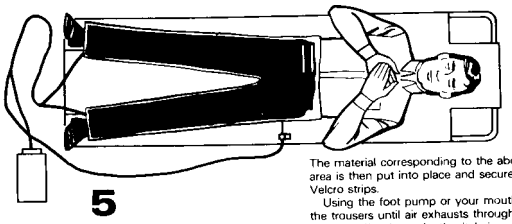
The left leg of the garment is wrapped around the patient's left leg and secured with Velcro strips.

4. **The right leg of the garment is wrapped around the patient's right leg and secured with Velcro strips.**



The right leg of the garment is wrapped around the patient's right leg and secured with Velcro strips.

5. **The material corresponding to the abdominal area is then put into place and secured with Velcro strips.**
   Using the foot pump or your mouth, inflate the trousers until air exhausts through the relief valves and/or the patient's vital signs become stable. Close the stopcock valves.



The material corresponding to the abdominal area is then put into place and secured with Velcro strips.
Using the foot pump or your mouth, inflate the trousers until air exhausts through the relief valves and/or the patient's vital signs become stable. Close the stopcock valves.

MEDICATION REFERENCE

EPINEPHRINE 1:1,000
(Administered by a Epi Auto-injector from your EMS supplies)

Medication Name
- Generic - Epinephrine
- Trade - Adrenalin™

Actions
- Dilates the bronchioles
- Constricts blood vessels

Indications
- Anaphylaxis
- Medical direction/control authorizes use for this patient

Contraindications
- Pulmonary edema, hypothermia, hypertension.
- Pregnancy
- Patients with tachyarrhythmias
- No contraindications when used in a life-threatening situation

Incompatibilities/Drug interactions
- Potentiates other sympathomimetics
- Patients on monoamine oxidase inhibitors, antihistamines, and tricyclic antidepressants may have heightened effects

Side Effects
- Ventricular arrhythmias
- Precipitation of angina or myocardial infarction
- Tachycardia
- Anxiety
- Hypertension
- Headache
- Pallor
- Dizziness
- Nausea
- Vomiting

Medication Form
- Liquid administered via a commercially pre-loaded, measured dose, auto- injectable syringe system

Dosage
- Adult: (30 kg or 66 lbs and higher) - one adult auto-injector (0.3 mg)
- Infant and child: (Under 30 kg or 66 lbs) - one pediatric auto-injector (0.15 mg)

Route of Administration
- IM

NITROGLYCERIN

Medication Name

- Generic: Nitroglycerin
- Trade: Nitrostat, Nitrobid, Nitrolingual Spray

Indications

- Chest pain, thought to be of cardiac origin

Contraindications

- Baseline systolic BP is below 100 mm/Hg
- Head injury suspected
- Patient is infant or child
- Three doses have already been taken by the patient

Medication Form

- Tablet, sublingual spray

Dosage

- One tablet or one spray under the tongue
- May be repeated in three to five minutes if no relief, not contraindicated, and medical direction authorizes
- May not give more than three dosages

Action

- Dilates blood vessels
- Decreases heart workload

Side Effects

- Headache
- Decreased blood pressure
- Changes in pulse

ORAL GLUCOSE

Medication Name

- Generic: Glucose, oral
- Trade: Glutose, Insta-glucose, etc.

Actions

- Increases blood sugar

Indications

- Patient with an altered mental status and a known history of diabetes.

Contraindications

- Unconsciousness
- Known diabetic who has not taken insulin for days
- Unable to swallow

Side Effects

- None when properly administered (May be aspirated by patient without a gag reflex)

Medication Form

- Gel in toothpaste-type tubes

Dosage

- One tube

Route of Administration

- po - between the cheek and gums

OXYGEN DELIVERY

OXYGEN ADMINISTRATION REFERENCE CHART		
Method	Flow Rate (in liters per minute)	% Oxygen Delivered
Room Air		21
Nasal Cannula (prongs)	1 2 4	24 28 31
Face Mask (simple)	6 10	35-40 40-50
Nonrebreather Face Mask *(1)	12 15	80 90
Face Mask with Oxygen Reservoir Bag	10-12	90
Pocket Mask	10 15 30	50 80 100 *(2)
Bag Valve Mask	Room Air 12	21 40 - 90 *(3)
Positive Pressure Device (demand valve)	100	100 *(4)

*(1) Delivery system of choice for patients with inadequate breathing and patients who are cyanotic, cool, clammy, short of breath, or suffering chest pain, suffering sever injuries, or displaying an altered mental status, or being transported.
*(2) This is accomplished by occluding breathing port with thumb.
*(3) Depends on brand of bag valve mask and provisions for occluding room air inlet.
*(4) Should not be used on children under 12 years old.

NOTES:
1. Administration rates by nasal cannulae of over 4 L/min. are uncomfortable.
2. Use humidified oxygen, when possible, on infants, children, suspected respiratory tract burns, and transports exceeding one-hour duration.
3. Bag Valve mask is not recommended for use on patients in transport situations.
4. Most hypoxic patients will feel better with an increase in delivered oxygen from 21% to 24%.
5. Pressure cycled ventilators are NOT acceptable alternatives to oxygen therapy.
6. Percentages of delivered oxygen listed above are based on optimal conditions. Altitude, equipment, etc. may decrease percentages of delivered oxygen.

OXYGEN BOTTLE VOLUME AND FLOW				
Bottle Size	Volume in Liters	Time @ 5 L/min.	Time @ 10 L/min.	Time @ 15 L/min.
D	360	1 hr. 12 min.	36 min.	24 min.
E	625	2 hrs. 5 min.	1 hr. 3 min.	42 min.
M	3,200	10 hrs.	5 hrs.	3 hrs. 20 min.
G	5,300	17 hrs. 40 min.	8 hrs. 50 min.	5 hrs. 53 min.
H	6,900	23 hrs.	11 hrs. 30 min.	7 hrs. 40 min.

1. The above values are based on full bottle (2,000 to 2,200 psi.) @ 70 degrees F.
2. Allow for pressure drop of 5 psi for every 1 degree drop in temperature below 70 degrees F.

PERIPHERAL INTRAVENOUS INFUSION MAINTENANCE

(Emergency Medical Technician Special Skill)

1. Check patency and type of infusion solution
2. Stabilization
   A. Dressing over insertion site
   B. Stabilize limb on armboard if necessary
   C. Stabilize tubing with two stress loops
3. Fluids
   A. **Note:** No medications in IV or to be given enroute - no blood products
   B. Start with full bag of prescribed solution hung by hospital staff.
   C. Adjust flow rate to prescribed rate
   D. Replace bag with sterile technique when 50cc remain in current bag and readjust flow rate
   E. Adjust flow rate as needed and at least hourly
4. Patency
   A. Observe for patency as necessary and record
   B. Avoid kinks in tubing, pressure over or near insertion site
   C. Observe insertion site for infiltration and extravasation
   D. Consider possibility of clot occlusion if not patent and no other reason for lack of flow
5. Discontinuing an infiltrated or occluded IV:
   A. Turn infusion off via roller clamp
   B. Gently and systematically remove tape
   C. Remove catheter and quickly cover with sterile 2x2
   D. Immediately observe for intact catheter
   E. Hold direct pressure over insertion site for 1-2 minutes until bleeding stops
   F. Secure 2x2 over site with tape or Band-Aid
   G. If catheter is not intact and a portion is missing, assume catheter embolus and immediately tourniquet limb well above insertion site, keep limb in dependent position and immediately seek medical intervention
6. Patient Assessment
   A. Respiratory and cardiovascular status assessed at start and as necessary throughout transport
   B. Fluids in and out, fluid remaining in bag checked and recorded hourly
   C. Condition of infusion site checked frequently and recorded at least hourly

PULSE, BLOOD PRESSURE, AND RESPIRATION - RANGES

NORMAL RANGES OF ARTERIAL BLOOD PRESSURES (mm/Hg)			
Newborn	80 / 46	**8-9 Years**	106 / 58
6-12 Months	89 / 60	**9-10 Years**	108 / 58
1 Year	96 / 66	**10-11 Years**	112 / 58
2 Years	98 / 64	**11-12 Years**	114 / 60
3 Years	100 / 68	**12-13 Years**	116 / 60
4 Years	98 / 66	**13-14 Years**	118 / 60
5 Years	94 / 56	**Male Adult**	Systolic: Patient's Age + 100 (Up to 150 mmHg) Diastolic: 60 to 90 mmHg
6-7 Years	100 / 56	**Adult Female**	Systolic: Patients Age + 90 (Up to 140 mmHg) Diastolic: 50 to 80 mmHg

Note: The systolic values given above may vary up or down from the mean significantly and still remain in the normal range as follows:

Newborn + or - 16
6 Mos. - 4 Years + or - 25
4 Years - 10 Years + or -16
10 Years - 14 Years + or -18

The diastolic values given above (for Newborn through 14 Years old) may vary up to + or - 24 mm/Hg from the mean and still remain in the normal range.

NORMAL PULSE RATES (HEART BEATS PER MINUTE)			
Newborn	110 - 150	**6 Years**	80 - 100
11 Months	100 - 140	**8 Years**	76 - 90
2 Years	90 - 110	**10 Years**	70 - 110
4 Years	80 - 120	**Adult**	60 - 100

NORMAL RESPIRATORY RATES (RESPIRATIONS PER MINUTE)			
Neonate	30 - 50	**10 Years**	14 - 22
2 Years	20 - 30	**Adolescent and Adult**	12 - 20

26.44.030 Reports--Duty and authority to make--Duty of receiving agency--Duty to notify--Case planning and consultation--Penalty for unauthorized exchange of information--Filing dependency petitions--Interviews of children--Records--Risk assessment process--Reports to legislature.

(1)(a) When any practitioner, professional school personnel, registered or licensed nurse, social service counselor, psychologist, pharmacist, licensed or certified child care providers or their employees, employee of the department, or juvenile probation officer has reasonable cause to believe that a child or adult dependent or developmentally disabled person, has suffered abuse or neglect, he or she shall report such incident, or cause a report to be made, to the proper law enforcement agency or to the department as provided in RCW 26.44.040.

(b) The reporting requirement shall also apply to any adult who has reasonable cause to believe that a child or adult dependent or developmentally disabled person, who resides with them, has suffered severe abuse, and is able or capable of making a report. For the purposes of this subsection, “severe abuse” means any of the following: Any single act of abuse that causes physical trauma of sufficient severity that, if left untreated, could cause death; any single act of sexual abuse that causes significant bleeding, deep bruising, or significant external or internal swelling; or more than one act of physical abuse, each of which causes bleeding, deep bruising, significant external or internal swelling, bone fracture, or unconsciousness.

(c) The report shall be made at the first opportunity, but; and in no case longer than forty-eight hours after there is reasonable cause to believe that the child or adult has suffered abuse or neglect. The report shall include the identity of the accused if known.

(2) The reporting requirement of subsection (1) of this section does not apply to the discovery of abuse or neglect that occurred during childhood if it is discovered after the child has become an adult. However, if there is reasonable cause to believe other children, dependent adults, or developmentally disabled persons are or may be at risk of abuse or neglect by the accused, the reporting requirement of subsection (1) of this section shall apply.

(3) Any other person who has reasonable cause to believe that a child or adult dependent or developmentally disabled person has suffered abuse or neglect may report such incident to the proper law enforcement agency or to the department of social and health services as provided in RCW 26.44.040.

(4) The department, upon receiving a report of an incident of abuse or neglect pursuant to this chapter, involving a child or adult dependent or developmentally disabled person who has died or has had physical injury or injuries inflicted upon him or her other than by accidental means or who has been subjected to sexual abuse, shall report such incident to the proper law enforcement agency. In emergency cases, where the child, adult dependent, or developmentally disabled person’s welfare is endangered, the department shall notify the proper law enforcement agency within twenty-four hours after a report is received by the department. In all other cases, the department shall notify the law enforcement agency within seventy-two hours after a report is received by the department. If the department makes an oral report, a written

report shall also be made to the proper law enforcement agency within five days thereafter.

(5) Any law enforcement agency receiving a report of an incident of abuse or neglect pursuant to this chapter involving a child or adult dependent or developmentally disabled person who has died or has had physical injury or injuries inflicted upon him or her other than by accidental means, or who has been subjected to sexual abuse shall report such incident in writing as provided in RCW 26.44.040 to the proper county prosecutor or city attorney for appropriate action whenever the law enforcement agency's investigation reveals that a crime may have been committed. The law enforcement agency shall also notify the department of all reports received and the law enforcement agency's disposition of them. In emergency cases, where the child, adult dependent, or developmentally disabled person's welfare is endangered, the law enforcement agency shall notify the department within twenty-four hours. In all cases, the law enforcement agency shall notify the department within seventy-two hours after a report is received by the law enforcement agency.

(6) Any county prosecutor or city attorney receiving a report under subsection (5) of this section shall notify the victim, any persons the victim requests, and the local office of the department of the decision to charge or decline to charge a crime within five days of making the decision.

(7) The department may conduct ongoing case planning and consultation with those persons or agencies required to report under this section with consultants designated by the department, and with designated representatives of Washington Indian tribes if the client information exchanged is pertinent to cases currently receiving child protective services or department case services for the developmentally disabled. Upon request, the department shall conduct such planning and consultation with those persons required to report under this section of the department determines it is in the best interests of the child or developmentally disabled person. Information considered privileged by statute and not directly related to reports required by this section shall not be divulged without a valid written waiver of the privilege.

(8) Any case referred to the department by a physician licensed under chapter 18.57 or 18.71 RCW on the basis of an expert medical opinion that child abuse, neglect, or sexual assault has occurred and that the child's safety will be seriously endangered if returned home, the department shall file a dependency petition unless a second licensed physician of the parents' choice believes that such expert medical opinion is incorrect. If the parents fail to designate a second physician, the department may make the selection. If a physician finds that a child has suffered abuse or neglect does not constitute imminent danger to the child's health or safety, and the department agrees with the physician's assessment, the child may be left in the parents' home while the department proceeds with reasonable efforts to remedy parenting deficiencies.

(9) Persons or agencies exchanging information under subsection (7) of this section shall not further disseminate or release the information except as authorized by state or federal statute. Violation of this subsection is a misdemeanor.

(10) Upon receiving reports of abuse or neglect, the department or law enforcement agency may interview children. The interviews may be conducted on school premises, at day care facilities, at the child's home, or other suitable locations outside the presence of parents. Parental notification

of the interview shall occur at the earliest possible point in the investigation that will not jeopardize the safety or protection of the child or the course of the investigation. Prior to commencing the interview the department or law enforcement agency shall determine whether the child wishes a third party to be present for the interview and, of so, shall make reasonable efforts to accommodate the child's wishes. Unless the child objects, the department or law enforcement agency shall make reasonable efforts to include a third party in any interview so long as the presence of the third party will not jeopardize the course of the investigation.

(11) Upon receiving a report of child abuse and neglect, the department of investigating law enforcement agency shall have access to all relevant records of the child in the possession of mandated reports and their employees.

(12) The department shall maintain investigation records and conduct timely and periodic reviews of all cases constituting abuse and neglect. The department shall maintain a log of screened-out non-abusive cases.

(13) The department shall use a risk assessment process when investigating child abuse and neglect referrals. The department shall present the risk factors at hearings in which the placement of a dependent child in an issue. The department shall, within funds appropriated for this purpose, offer enhanced community-based services to persons who are determined not to require further state intervention.

The department shall provide annual reports to the legislature on the effectiveness of the risk assessment process.

(14) Upon receipt of a report of abuse or neglect the law enforcement agency may arrange to interview the person making the report and any collateral sources to determine if any malice is involved in the reporting.

(15) The department shall make reasonable efforts to learn the name, address, and telephone number of each person making a report of abuse or neglect under this section. The department shall provide assurances of appropriate information required under this subsection, the department shall only investigate cases in which: (a) The department believes there is a serious threat of substantial harm to the child: (b) the report indicates conduct involving a criminal offense that has, or is about to occur, in which the child is the victim; or (c) the department has, after investigation, a report of abuse or neglect that has been founded with regard to a member of the household within three years of receipt of the referral. [1998 c 328 § 5 …]

"The legislature finds that including certain department of corrections personnel among the professionals who are mandated to report suspected abuse or neglect of children, dependent adults, or, people with developmental disabilities is an important step towards improving the protection of these vulnerable populations. The legislature intends, however to limit the circumstances under which department of corrections personnel are mandated reporters of suspected abuse or neglect to only those circumstances when the information is obtained during the course of their employment. This act is not to be construed to alter the circumstances under which other professional are mandated to report suspected abuse or neglect, nor is it he legislature's intent to alter current practices and procedures utilized by other professional organizations who are mandated reporters under RCW 26.44.030(1)(a)." [1996 c 278 § 1]

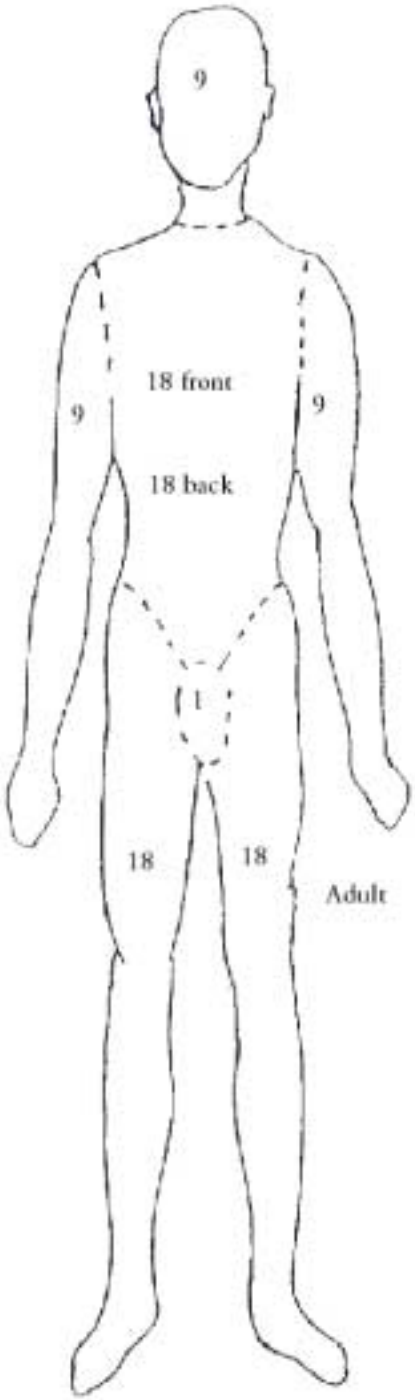
The Washington State legislature finds and declares:

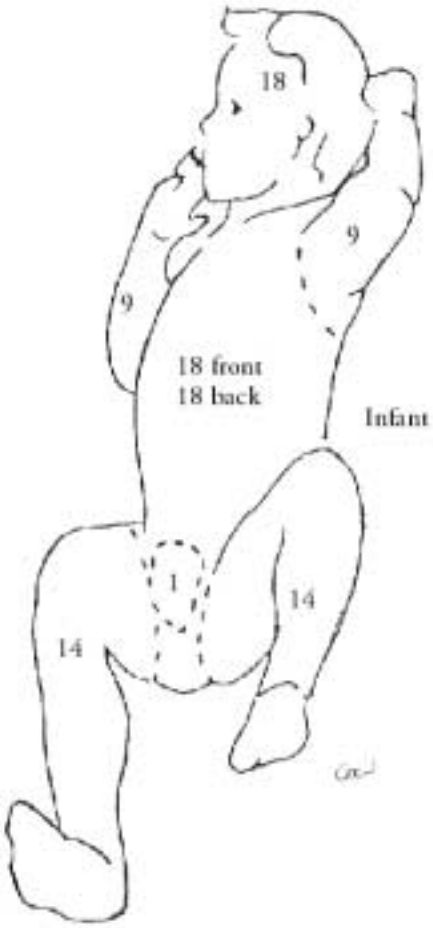
The children of the state of Washington are the state's greatest resource and the greatest source of wealth to the State of Washington. Children of all ages must be protected from child abuse. Governmental authorities must give the prevention, treatment, and punishment of child abuse the highest priority, and all instances of child abuse must be reported to the proper authorities who should diligently and expeditiously take appropriate action, and child abusers must be held accountable to the people of the state for their actions.

The legislature recognizes the current heavy caseload of government authorities responsible for the prevention, treatment, and punishment of child abuse. The information obtained by child abuse reporting requirements, in addition to it's use as a law enforcement tool, will be used to determine the need for additional funding to ensure that resources for appropriate governmental response to child abuse are available. [1985 c 259 § 1]

NOTES:

RULE OF NINES - ESTIMATING BURNS





START TRIAGE

Simple Triage And Rapid Treatment

I. RPM method of identifying immediate patients; Respiration's, Perfusion, Mental status
II. Triage Criteria
  A. Immediate (Red)
    1. Respiration's >30 per minute or absent until head repositioned, or
    2. Radial pulse absent or capillary refill > 2 seconds, or
    3. Cannot follow simple commands
  B. Delayed (Yellow)
    1. Respiration's present and < 30 per minute, and
    2. Radial pulse present, and can follow simple commands
  C. Minor (Green)
    1. Anyone that can get up and walk when you instruct them to do so.
  D. Deceased (Black)
    1. Anyone not breathing after you open the airway
III. This system is limited to use in the incident where needs exceed resources immediately available
IV. Frequently reassess patients and perform a more in-depth triage as more rescuers become available

SUCTIONING

I. Purpose of suctioning
  A. Remove blood, other liquids and food particles from the airway.
  B. Some suction units are inadequate for removing solid objects like teeth, foreign bodies and food.
  C. A patient needs to be suctioned immediately when a gurgling sound is heard with artificial ventilation.
II. Types of equipment
  A. Suction devices
    1. Mounted
    2. Portable
      a) Electrical
      b) Hand operated
  B. Suction catheters
    1. Hard or rigid ("Yankauer," "tonsil tip")
      a) Used to suction the mouth and oropharynx of an unresponsive patient.
      b) Should be inserted only as far as you can see.
      c) Use rigid catheter for infants and children, but take caution not to touch back of airway.
    2. Soft (French)
      a) Useful for suctioning the nasopharynx and in other situations where a rigid catheter cannot be used.
      b) Should be measured so that it is inserted only as far as the base of the tongue.

III. Techniques of use

A. Suction device should be inspected on a regular basis before it is needed. A properly functioning unit with a gauge should generate 300 mm Hg vacuum. A battery-operated unit should have a charged battery.

B. Turn on the suction unit.

C. Attach a catheter.

1. Use rigid catheter when suctioning mouth of an infant or child.
2. Often will need to suction nasal passages; should use a bulb suction or French catheter with low to medium suction.

D. Maintain body substance isolation

E. Use with extreme caution in patients with epiglottitis.

F. Insert the catheter:

1. Into the oral cavity without suction, if possible. Insert only to the base of the tongue.
2. Into the stoma or trach tube
   a) Use French catheter
   b) Measure length of catheter for insertion to length of little finger (approximately 3 inches)
   c) Suction

G. Apply suction. Move the catheter tip side to side.

H. Suction airway until clear, and observe for bradycardia in children. Suction for no more than 15 seconds at a time. (15 seconds is the maximum recommended suction duration per insertion.)

1. In infants and children, shorter suction time should be used.
2. If the patient has secretions or emesis that cannot be removed quickly and easily by suctioning, the patient should be log rolled and the oropharynx should be cleared.
3. If patient produces frothy secretions as rapidly as suctioning can remove, suction for 15 seconds, artificially ventilate for two minutes, then suction for 15 seconds, and continue in that manner. Consult medical direction for this situation.

I. If necessary, rinse the catheter and tubing with water to prevent obstruction of the tubing from dried material.

STATE OF WASHINGTON
PREHOSPITAL TRAUMA TRIAGE (DESTINATION) PROCEDURE

Purpose

The purpose of the Triage Procedure is to ensure that major trauma patients are transported to the most appropriate hospital facility. This procedure has been developed by the Prehospital Technical Advisory Committee (TAC), endorsed by the Governor's EMS and Trauma Care Steering Committee, and in accordance with RCW 70.168 and WAC 246-976 adopted by the Department of Health (DOH).

The procedure is described in the schematic with narrative. Its purpose is to provide the prehospital provider with quick identification of a major trauma victim. If the patient is a major trauma patient, that patient or patients must be taken to the highest level trauma facility within 30 minutes transport time, by either ground or air. To determine whether an injury is major trauma, the prehospital provider shall conduct the patient assessment process according to the trauma triage procedures.

Explanation of Process

A. **Any certified EMS and Trauma person can identify a major trauma patient and activate the trauma system.** This may include requesting more advanced prehospital services or aero-medical evacuation.

B. **The first step (1) is to assess the vital signs and level of consciousness.** The words "Altered mental status" mean anyone with an altered neurologic exam ranging from completely unconscious, to someone who responds to painful stimuli only, or a verbal response which is confused, or an abnormal motor response.

C. The "and/or" conditions in Step 1 mean that any one of the entities listed in Step 1 can activate the trauma system.

D. Also, the asterisk (*) means that if the airway is in jeopardy and the on-scene person cannot effectively manage the airway, the patient should be taken to the nearest medical facility or consider meeting up with an ALS unit. These factors are true regardless of the assessment of other vital signs and level of consciousness.

E. **The second step (2) is to assess the anatomy of injury.** The specific injuries noted require activation of the trauma system. Even in the assessment of normal vital signs or normal levels of consciousness, the presence of any of the specific anatomical injuries does require activation of the trauma system.

F. Please note that steps 1 and 2 also require notifying Medical Control.

G. **The third step (3) for the prehospital provider is to assess the biomechanics of the injury and address other risk factors.** The conditions identified are reasons for the provider to contact and **consult with Medical Control** regarding the need to activate the system. They do not automatically require system activation by the prehospital provider.

H. Other risk factors, coupled with a "gut feeling" of severe injury, means that Medical Control should be consulted and consideration given to transporting the patient to the nearest trauma facility.

I. Please note that certain burn patients (in addition to those listed in Step 2) should be considered for immediate transport or referral to a burn center/unit.

Patient Care Procedures

To the right of the attached schematic you will find the words "according to DOH approved regional patient care procedures." These procedures are developed by the regional EMS and Trauma council in conjunction with local councils. They are intended to further define how the system is to operate. They identify the level of medical care personnel who participate in the system, their roles in the system, and participation of hospital facilities in the system. They also address the issue of inter-hospital transfer, by transfer agreements for identification, and transfer of critical care patients.

In summary, the Prehospital Trauma Triage Procedure and the Regional Patient Care Procedures are intended to work in a "hand in glove" fashion to effectively address EMS and Trauma patient care needs. By functioning in this manner, these two instruments can effectively reduce morbidity and mortality.

If you have any questions on the use of either instrument, you should bring them to the attention of your local or regional EMS and Trauma council or contact 1-800-458-5281.

STATE OF WASHINGTON
PREHOSPITAL TRAUMA TRIAGE (DESTINATION) PROCEDURES

- Prehospital triage is based on the following 3 steps: Steps **1 and 2 require prehospital EMS personnel to notify medical control and activate the Trauma System. Activation of the Trauma System in Step 3 is determined by medical control****

STEP 1
ASSESS VITAL SIGNS & LEVEL OF CONSCIOUSNESS

- Systolic BP <90*
- HR >120*

* for pediatric (<15y) pts. use BP <90 or capillary refill >2 sec.
* for pediatric (<15y) pts. use HR <60 or >120

Any of the above vital signs associated with signs and symptoms of shock
and/or
- Respiratory Rate <10 >29 associated with evidence of distress
and/or
- Altered mental status

YES →

1. Take patient to the highest level trauma center within 30 minutes transport time via ground or air transport according to DOH approved regional patient care procedures.
2. Apply "Trauma ID Band" to patient.

**If prehospital personnel are unable to effectively manage airway, consider rendezvous with ALS, or intermediate stop at nearest facility capable of immediate definitive airway management.

NO ↓

STEP 2
ASSESS ANATOMY OF INJURY

- Penetrating injury of head, neck, torso, groin; OR
- Combination of burns ≥ 20% or involving face or airway; OR
- Amputation above wrist or ankle; OR
- Spinal cord injury; OR
- Flail chest; OR
- Two or more obvious proximal long bone fractures.

YES →

NO ↓

STEP 3
ASSESS BIOMECHANICS OF INJURY AND OTHER RISK FACTORS

- Death of same car occupant; OR
- Ejection of patient from enclosed vehicle; OR
- Falls ≥ 20 feet; OR
- Pedestrian hit at ≥ 20 mph or thrown 15 feet
- High energy transfer situation
  - Rollover
  - Motorcycle, ATV, bicycle accident
  - Extrication time of > 20 minutes
- Extremes of age <15 >60
- Hostile environment (extremes of heat or cold)
- Medical illness (such as COPD, CHF, renal failure etc.)
- Second/third trimester pregnancy
- Gut feeling of medic

YES →

CONTACT MEDICAL CONTROL FOR DESTINATION DECISION

YES →

1. Take patient to the highest level trauma center within 30 minutes transport time via ground or air transport according to DOH approved regional patient care procedures.
2. Apply "Trauma ID Band" to patient

NO ↓

NO ↓

TRANSPORT PATIENT PER REGIONAL PATIENT CARE PROCEDURES

COMMON MEDICAL ABBREVIATIONS

1°	Primary, first degree
2°	Secondary, second degree
3°	Tertiary, third degree
<	Less than
≤	Less than or equal to
>	Greater than
≥	Greater than or equal to
≡	Approximately equal to
α	Alpha
$\overline{a}$	Before
abd	Abdomen
ASA	Aspirin
$\overline{c}$	With
c/o	Complaining of
CA	Cancer
CAO	Conscious, alert, orientated
CHF	Congestive heart failure
COPD	Chronic obstructive pulmonary disease
cx	Chest
Dx	Diagnosis
♀	Female
Fx	Fracture
g,gm	Gram
Ga.	Gauge
GI	Gastrointestinal
gr	Grain
gtt	Drop
HA	Headache
HTN	Hypertension
Hx	History
LOC	Level of consciousness
♂	Male
MI	Myocardial infarction
min	Minute
N&V	Nausea, vomiting
NTG	Nitroglycerin
$\overline{p}$	After
po	By mouth, orally
p.r.n.	As needed
$\overline{q}$	Every
Rx	Prescribed for
$\overline{s}$	Without
Sz	Seizure
↓	Decreased
↑	Increased
∇	Change
∅	No, none

GLOSSARY

ABC	Assess for and treat as necessary life threatening Airway, Breathing, and Circulatory problems during the Initial Patient Assessment.
ABORTION	The premature expulsion from the uterus of the embryo or a nonviable fetus.
ADENOPATHY	Swelling and morbid change in lymph nodes; glandular disease.
ALS	Advance Life Support.
AMBULATE	To walk about.
ANCILLARY	Subordinate or dependent muscles, breathing without usual chest wall movement.
APHASIA	A defect in speaking or comprehending in the normal fashion, caused by injury or disease in the brain centers regulating speech.
APNEA	Absence of breathing.
ASPHYXIA	Suffocation.
AUSCULTATION	The technique of listening for and interpreting sounds that occur within the body, usually with a stethoscope.
AVPU	Alert, responds to Verbal stimulus, responds to Painful stimulus, Unresponsive.
BCLS	Basic Cardiac Life Support
BILATERAL	Pertaining to both sides.
BLANCHING	Palpation of the skin following which the normal skin color does not return.
BLS	Basic Life Support.
BM	Bowel Movement.
BSI	Body Substance Isolation precautions (universal precautions).
BRACHIAL	Pertaining to the arm.
BRADYCARDIA	An abnormal condition in which the heart contracts steadily but at a rate of less than 60 beats per minute.
BRADYPNEA	An abnormally slow rate of breathing.
BREECH BIRTH	A delivery in which the presenting part is the buttocks or foot.
BRONCHITIS	Inflammation of the bronchi.
BURN	An injury caused by extremes of temperature, electric current, or certain chemicals.
FIRST DEGREE	A burn affecting only the outer skin layers.
SECOND DEGREE	A partial thickness burn penetrating beneath the superficial skin layers, producing edema and blistering.
THIRD DEGREE	A full thickness burn, involving all layers of the skin and underlying tissues as well, having a charred or white, leathery appearance.
CAROTID	One of the main arteries of the neck supplying blood to the head.

CENTRAL NERVOUS SYSTEM (CNS)	The brain and spinal cord.
CEREBROSPINAL FLUID (CSF)	The fluid that bathes the brain and spinal cord.
CEREBROVASCULAR ACCIDENT (CVA)	The sudden cessation of circulation to the region of the brain, caused by thrombus, embolism or hemorrhage. It is sometimes called a stroke.
CHEYNE-STOKES RESPIRATION	An abnormal breathing pattern characterized by rhythmic waxing and waning of the depth of respiration, with regularly occurring periods of apnea) It is seen in association with central nervous system dysfunction.
CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)	A term comprising chronic bronchitis, emphysema, and sometimes asthma-illnesses that cause obstructive problems in the lower airways.
COMA	A state of unconsciousness from which the patient cannot be aroused, even by powerful stimulation.
COMA POSITION	A body position which allows the unconscious patient (non-traumatic) to breathe without obstruction from oral bleeding or drainage.
CONTRAINDICATION	Any condition which renders a particular line of treatment improper or undesirable.
CONVULSION	A violent, involuntary contraction or series of contractions of the voluntary muscles; a "fit;" a seizure.
CPR	CardioPulmonary Resuscitation.
CREPITUS	A grating sound heard and a sensation felt when the fractured ends of a bone rub together.
CROWNING	The stage of birth when the presenting part of the baby is visible at the vaginal orifice.
CYANOSIS	Bluish color to the skin, associated with hypoxia.
DCAP-BTLS	acronym for Deformities, Contusions, Abrasions, Punctures or penetrations, Burns, Tenderness, Laceration, and Swelling.
DECEREBRATE POSTURE	A posture assumed by patients with severe brain dysfunction characterized by extension and rotation of the arms and extension of the legs.
DECORTICATE POSTURE	A posture assumed by patients with severe brain dysfunction characterized by extension of the legs and flexion of the arms.

DETAILED PHYSICAL EXAM	A head to toe examination at a slower pace than the rapid assessment or Initial Patient Assessment and only done on low priority patients or in the transport mode with high priority patients.
DIABETES MELLITUS	A systemic disease affecting many organs, including the pancreas, whose failure to secrete insulin causes an inability to metabolize carbohydrate and consequent elevations in blood sugar.
DIAPHORESIS	Profuse perspiration.
DOA	Dead On Arrival.
DOT	Department Of Transportation.
DOTS	Assessment of Deformities, Open injuries, Tenderness, Swelling
DYSPNEA	Difficulty in breathing, with resultant rapid, shallow respirations.
EDEMA	The condition in which excess fluid accumulates in body tissue, manifested by swelling.
EGOPHONY	A nasal sound somewhat like the bleat of a goat, heard in auscultation, when the patient speaks in a normal tone.
EMBOLISM	A mass (embolus, singular; emboli, plural) of solid, liquid or gaseous material that is carried in the circulation and may lead to occlusion of blood vessels, with resultant infarction and necrosis of tissue supplied by those vessels.
EMPHYSEMA	Infiltration of any tissue by air or gas; a chronic pulmonary disease caused by dissension of the alveoli and destructive changes in the lung.
EMS	Emergency Medical Services.
EMS-MPD	Emergency Medical Services-Medical Program Director.
Emergency Medical Technician (EMT)	A person certified to provide emergency care per RCW 18.73.081
EPIGASTRIUM	The upper central portion of the abdomen within the sternal angle.
ERYTHEMATOUS	A spot or colored area showing diffused redness of the skin.
ETA	Estimated Time of Arrival.
ETIOLOGY	The causative agent of a disease.
EVISCERATE	To remove the intestines; to disembowel.
EXSANGUINATE	To bleed to death.
EXTENTION	A movement allowed by certain joints of the skeleton that increases the angle between two adjoining bones. For example, extending the leg increases the angle between the thigh and the calf. Compare flexion.
EXTRAVASATION	Leakage of intravenous fluid into surrounding tissues.
FEBRILE	Characterized by fever.
FIRST RESPONDER	A person certified to provide emergency care per RCW 18.73.081.

FLAIL CHEST	The condition in which several ribs are broken, each in at least two places, or in which there is sternal fracture or separation of the ribs from the sternum, producing a free or floating segment of the chest wall that moves paradoxically on respiration.
FLEXION	The act of bending.
FOCUSED PHYSICAL EXAM	The step of patient assessment that follows the Initial Patient Assessment of the medical patient
GLASGOW COMA SCALE	A measurement tool used to accurately record the patient's level of consciousness at regular intervals.
GRAND MAL SEIZURE	A generalized motor seizure
HEAT CRAMPS	Painful muscle cramps resulting from excessive loss of salt and water through sweating.
HEAT EXHAUSTION	Prostration caused by excessive loss of water and salt through sweating, characterized by cold, clammy skin and a weak, rapid pulse.
HEAT STROKE	A life-threatening condition caused by a disturbance in the temperature regulating mechanism, characterized by extreme fever, hot and dry skin, bounding pulse, and delirium or coma.
HYPERGLYCEMIA	Abnormally increased concentration of sugar in the blood.
HYPERTHERMIA	Abnormally increased body temperature.
HYPERVENTILATION	An increased rate and/or depth of respiration.
HYPOGLYCEMIA	Abnormally diminished concentration of sugar in the blood.
HYPO-PERFUSION	Decreased perfusion to the body's tissue, also called shock.
HYPOTHERMIA	Having a body temperature below normal.
HYPOVENTILATION	A reduced rate or depth of breathing, often resulting in an abnormal rise of carbon dioxide.
HYPOVOLEMIA	Abnormally decreased amount of blood and fluids in the body.
HYPOXIA	Reduction of oxygen in body tissues below normal levels.
INFARCTION	Death (necrosis) of a localized area of tissue caused by the cutting off of its blood supply.
INITIAL PATIENT ASSESSMENT	A step to quickly determine if the patient is suffering from any life threatening injuries or illnesses.
INSUFFICIENCY	The condition of being inadequate to normal performance.
INSULIN SHOCK	Severe hypoglycemia caused by excessive insulin dosage with respect to sugar intake. It may be characterized by bizarre behavior, sweating, tachycardia, or coma.
INTERMEDIATE LIFE SUPPORT TECHNICIAN (ILST)	A person who has been certified to practice as an intermediate Life Support Technician per RCW 18.71.200.

JVD	Jugular Vein Distention
KILOGRAM	A measure of weight equaling 2.2 pounds.
LATERALIZING SIGNS	The appearance of signs on the opposite side of the body from the affected part, i.e., a stroke occurs on the right side of the brain, and show signs of paralysis on the left side of the body.
LAVAGE	To wash out, or irrigate.
LETHARGY	A condition of drowsiness or indifference.
M.A.S.T.	Military Anti-Shock Trousers.
Medical Program Director (MPD)	The physician in each county certified by the Department of Health to carry out the duties of the MPD.
MENSTRUATION	The process by which the uterine lining is shed each month by women between the ages of puberty and menopause.
MIR	Medical Incident Report form.
MOI	Mechanism Of Injury
MISCARRIAGE	A layman's term for an abortion, or the premature expulsion of a nonliving fetus from the uterus.
NECROSIS	The death of tissue, usually caused by a cessation of its blood supply.
NEUROLOGICAL FLOW SHEET	A written record of vital signs and level of consciousness used for patients with altered levels of consciousness.
N.H.T.S.A.	National Highway Traffic Safety Administration
NOI	Nature Of Illness
NORMAL SALINE	A solution containing 0.9% sodium chloride.
OCCLUSIVE DRESSING	A watertight covering for a wound.
O-P-Q-R-S-T	Mnemonic device used to assess the patient's chief complaint or major symptoms, Onset, Provocation, Quality, Radiation, Severity, Time.
O_2	Oxygen
PARADOXICAL RESPIRATION	The situation in which attempts to inhale cause collapse of a portion of the chest wall instead of expansion. It is seen in flail chest.
PARAMEDIC	A person certified to engage in paramedic practices per RCW 18.71.200.
PARENCHYMA	The essential or functional elements of an organ.
P.A.S.G.	Pneumatic Anti-Shock Garment (See M.A.S.T.)
PATIENT CARE PROCEDURES (PCPs)	Written operating guidelines adopted by the regional EMS/TC council per WAC 246-976-010.
PERINEUM	That area of the anatomy bounded anteriorly by the pubic symphysis and posteriorly by the coccyx.
PERIORAL	Around the mouth.
PERIORBITAL	Around the eye.
PETIT MAL SEIZURE	A type of epileptic attack seen especially in children, characterized by momentary loss of awareness without loss of motor tone.

PLACENTA	A vascular organ attached to the uterine wall, supplying oxygen and nutrients to the fetus; also called the afterbirth.
PMS	Pulse, Movement, Sensation.
PNEUMOTHORAX	Air in the pleural cavity.
POC	Position Of Comfort.
POSTICTAL	Referring to the period after the convulsive state of a seizure.
POSTPARTUM	Occurring after childbirth, with reference to the mother.
p.r.n.	As circumstances may require, as necessary.
PROLAPSED CORD	A delivery in which the umbilical cord appears at the vaginal orifice before the head of the infant.
PRONE	Lying flat with the face downward.
PROPHYLAXIS	Taking measures to prevent the occurrence of a given disease or abnormal state.
PROTOCOL	Written procedures adopted by the MPD that direct the out-of-hospital emergency care per WAC 246-976-010.
PSDE	Painful, Swollen, Deformed, Extremity, formerly referred to as a fracture.
PSYCHOSIS	A mental disorder causing disintegration of personality and loss of contact with reality.
PULMONARY EDEMA	Congestion of the pulmonary air spaces with exudate and foam.
RAPID ASSESSMENT	The step of patient assessment that follows the Initial Patient Assessment of the high priority trauma patient. A rapid assessment of the head, neck, chest, abdomen, pelvis, extremities and posterior of the body to detect Causes, Signs, and Symptoms of injury.
RCW	Revised Code of Washington
RECOVERY POSITION	The patient positioned on his/her left side, used to help maintain an open airway by preventing the tongue from occluding the posterior aspect of the mouth and allowing gravity to assist in draining secretions.
RESPIRATORY INSUFFICIENCY	A condition which results in inadequate oxygen and carbon dioxide exchange in the lungs and tissues, due to disease or injury.
SAMPLE	history, acronym for Signs and Symptoms, Allergies, Medications, Past pertinent medical history, Last oral intake, Events leading to illness or injury

SHOCK	A state of inadequate tissue perfusion (hypoperfusion), which may be caused by pump failure (cardiogenic shock), volume loss (hypovolemic shock), vasodilatation (neurogenic shock), or any combination of these.
SOB	Shortness Of Breath
STATUS EPILEPTICUS	The occurrence of two or more seizures without a period of complete consciousness between them.
SUBCUTANEOUS EMPHYSEMA	A condition in which trauma to the lung or airway results in the escape of air into the tissues of the body, especially the chest wall, neck, and face, causing a crackling sensation on palpation of the skin.
SUPERVISING PHYSICIAN	A physician designated by the EMS MPD to be responsible for the supervision of medical treatment procedures for BLS and ALS technicians.
SUPINE	Lying flat with the face upward.
TACHYCARDIA	A rapid heart rate, over 100 per minute.
TACHYPNEA	An abnormally rapid rte of breathing
TENSION PNEUMOTHORAX	The situation in which air enters the pleural space through a one-way valve defect in the lung, causing progressive increase in intrapleural pressure, with lung collapse and impairment of circulation.
THROMBUS	A fixed clot that forms inside a blood vessel.
TINNITUS	Tinkling or ringing heard in one or both ears. It may be a sign of hearing injury.
TOXIN	A poison manufactured by bacteria or other forms of animal or vegetable life.
TRACHEAL DEVIATION	A lateral shift in the position of the trachea so it no longer appears in the midline of the neck.
TRAINING PHYSICIAN	A physician designated by the EMS-MPD to be responsible for BLS and ALS training programs.
TRENDELENBURG POSITION	The position in which a patient is placed on his back with legs raised and head lowered.
TRIAGE	A system used for categorizing and sorting patients according to the severity of their problems.
VENTRICULAR FIBRILLATION (VF or V-Fib)	A disorganized series of electrical stimulations which disrupts the heart's pumping and cuts off the cardiac output.
VITAL SIGNS	Pulse, blood pressure, respiration, skin color, and pupil size.
WAC	Washington Administrative Code

NOTES: