Kanabec County First Responder Team, Inc

First Responder Protocols

These protocols have been reviewed and endorsed by the Medical Director and the Board of Directors.

For questions or comments, contact:

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Introduction

These protocols were developed by the Board of Directors of the Kanabec County First Responder Team in coordination with the Medical Director and represent the consolidation of recommendations for emergency pre-hospital patient care from many local and national sources. The assessment information in the First Responder General Orders is intended to be considered with all protocols.

These protocols are intended to:

1. Provide a guide to the appropriate emergency medical care procedures to be employed by EMS personnel while working under the direction of the Medical Director;
2. Assist in the standardization of pre-hospital care in Kanabec County;
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 **not** intended to:

1. Be a statement of the standards of care required in any particular situation, but rather guidelines with sufficient flexibility to meet the needs of complex emergency medical or trauma situations;
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 Medical 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, or the wishes of the patient's personal physician;
4. Dictate details of care to advising physicians;
5. Supersede pre-hospital patient care protocols developed and approved by the Medical Director.

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FIRST RESPONDER GENERAL ORDERS

I. Complete the First Responder Assessment
- A. Scene size-up/assessment
  1. Body substance isolation per agency exposure control program
  2. Scene Safety
- B. Initial patient assessment
  1. Alert, responds to Verbal stimulus, responds to Painful stimulus, Unresponsive
  2. Airway - Breathing - Circulation (follow American Heart standards for CPR, FBAO and AED)
     a) If DNR order, do not start resuscitative measures.
- C. First Responder physical exam
  1. Patient and injury specific
  2. Perform physical examination using **DCAPBTLS**
     a) **D**eformity, **C**ontusion , **A**brasion, **P**uncture, **B**urn, **T**enderness, **L**aceration, **S**welling
  3. Protect the patient's modesty
- D. History
  1. **SAMPLE**
     a) **S**igns and **S**ymptoms, **A**llergies, **M**edications, **P**ast pertinent medical history, **L**ast oral intake, **E**vents leading to Illness or Injury
- E. Ongoing assessment
  1. Repeat and record initial patient assessment, including time
  2. Reassess mental status
  3. Maintain open airway and monitor breathing for rate and quality
  4. Reassess pulse for rate and quality
  5. Monitor skin color and temperature
  6. Re-establish patient priorities
  7. Reassess and record vital signs, include time
  8. Repeat first responder physical exam pertaining to patient complaint or injuries
  9. Check interventions
  10. Comfort calm and reassure the patient
- F. If patient refuses treatment, the sign off must come from one of the other responding EMS resources (Ambulance or Sheriff's Office)
  1. Keep in mind, scene safety always comes first, when in doubt – wait for other resources to arrive.

II. Communications

A. Radio report, when necessary, should include:

1. Identify EMS 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

B. Verbal and written report

1. Verbal report to next level of care
2. Written Report

C. Consider critical incident stress debriefing as necessary

ALTERED MENTAL STATUS

I. General Orders (see page 4-5.)

II. Signs & Symptoms

A. Use **AVPU** mnemonic to determine Level of Consciousness (LOC)

1. **A**lert & Oriented
2. Responsiveness to **v**erbal stimuli
3. Responsiveness to **p**ainful stimuli
4. **U**nresponsiveness

B. Attempt to determine cause of altered mental status, if possible, i.e. Overdose, Medical condition by SAMPLE history or Trauma Assessment

1. Signs & Symptoms
2. Allergies
3. Medications
4. Past pertinent history
5. Last oral intake
6. Events leading to the injury or illness

III. Role of the First Responder/Emergency Medical Care

A. Provide Oxygen and/or ventilatory assistance as necessary, if not done during initial patient assessment (see Oxygen Delivery page 34-35).

B. Do Not Leave Unattended.

IV. Pediatric Considerations

A. Attempt to determine cause; i.e. hypoglycemia, poisoning, post seizure, infection, head trauma, hypoperfusion.

B. See above (III. A & B) for Emergency Care.

BEHAVIORAL EMERGENCY

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

I. General Orders (see page 4-5)

II. Causes, Signs and Symptoms

- A. Situational stresses, mind altering substances - alcohol and drugs, psychiatric problems, psychological crises, bizarre thinking and behavior, danger to self, danger to others, diabetic emergencies.

III. Role of First Responder/Emergency Medical Care

- A. Identify yourself and let the person know you are there to help
- B. Inform person of what you are doing
- C. Ask questions in a calm, reassuring voice
- D. Maintain a comfortable safe distance
- E. Encourage the patient to state what is troubling him/her
- F. Do not make quick moves
- G. Respond honestly to patient's questions
- H. Do not threaten, challenge, or argue with disturbed patients
- I. Tell the truth; Do not lie to the patient
- J. Do not "play along" with visual or auditory disturbances of the patient
- K. Involve trusted family members or friends
- L. Be prepared to stay at scene for a long time, always remain with the patient
- M. Avoid unnecessary physical contact, call additional help if needed
- N. Use good eye contact

CARDIAC COMPROMISE

I. General Orders (see page 4-5.)

II. Signs & Symptoms

A. Squeezing, dull pressure, chest pain often radiating down the arms or to the jaw, epigastric pain, back pain.
B. Sudden onset of sweating (diaphoresis) – this in and of itself is a significant finding
C. Difficulty breathing (dyspnea), shortness of breath
D. Anxiety, irritability
E. Feeling of impending doom
F. Abnormal pulse rate (may be irregular)
G. Abnormal blood pressure
H. Epigastric pain
I. Nausea/Vomiting
J. Change in skin color

Note: it is possible to have heart failure/heart attack with no chest pain

III. Role of the First Responder/Emergency Medical Care

A. Circulation – pulse absent
    1. CPR (Follow American Heart Standards for CPR and AED)
        a. DNR order=do not start resuscitative measures.
    2. Provide Oxygen and/or ventilatory assistance as necessary, if not done during initial patient assessment (see Oxygen Delivery page 34-35).
B. Responsive patient with a known history – cardiac
    1. Place patient in position of comfort
    2. Provide Oxygen and/or ventilatory assistance as necessary, if not done during initial patient assessment (see Oxygen Delivery page 34-35)
    3. Assess **O – P – Q – R – S – T**
        a. **O**nset, **P**rovocation, **Q**uality, **R**adiation, **S**everity, **T**ime

    Note: Unresponsive patient with a pulse present, refer to the Altered Mental Status protocol (see page 6.)

HEAT EXPOSURE

I. General Orders (see page 4-5)
II. Signs, and Symptoms
    A. Muscular cramps
    B. Weakness or exhaustion
    C. Dizziness or faintness
    D. Rapid heart rate
    E. Altered mental status (see page 6)
III. Role of the First Responder/Emergency Medical Care
    A. Remove patient to a cooler location
    B. Place in recovery position
    C. Place cold packs in armpits, groin area, and back of neck

HYPOTHERMIA

I. General Orders (see page 4-5.)
II. Signs, and Symptoms
    A. Obvious exposure
    B. Subtle exposure
        1. Underlying illness
        2. Overdose/poisoning/Alcohol/Drugs
        3. Ambient temperature decreased (i.e. cool home of elderly patient)
    C. Cool/cold skin temperature
    D. Shivering
    E. Decreasing mental status or motor function - correlates with the degree of hypothermia
        1. Poor coordination/Dizziness
        2. Memory disturbances/confusion
        3. Reduced or loss of touch sensation
        4. Mood changes
        5. Less communicative and speech difficult
    F. Stiff or rigid posture and muscular rigidity
    G. Poor judgment - patient may actually remove clothing
    H. Complaints of joint/muscle stiffness
III. Role of the First Responder/Emergency Medical Care
    A. Assess pulses for 10-15 seconds
        1. If no pulse, start CPR (follow American Heart standards for CPR and AED)
    B. Remove the patient from the cold environment
    C. Protect the patient from further heat loss
        1. Cover the patient with a blanket
        2. Remove any wet clothing
        3. Protect the patient's modesty and ask bystanders to leave the area
    D. Handle the patient gently
    E. Do not allow the patients to walk or exert themselves
    F. Do not put anything in the patient's mouth, except as necessary to assure patency of airway
        1. Do not allow the patient to eat or drink stimulants or smoke
    G. Do not massage extremities

LOCAL COLD EMERGENCIES

I. General Orders (see page 4-5.)
II. Signs & Symptoms
    A. Early or Superficial injury
        1. Blanching of the skin – palpation of the skin in which normal color does not return
        2. Loss of feeling and sensation in the injured area
        3. Skin remains soft
        4. If re-warmed, tingling sensation
    B. Late or deep injury
        1. White, waxy skin
        2. Firm to frozen feeling upon palpation
        3. Swelling may be present
        4. Blisters may be present
        5. If thawed or partially thawed, the skin may appear flushed with areas of purple and blanching or may be motled and cyanotic
III. Role of the First Responder/Emergency Medical Care
    A. Remove the patient from the environment
    B. Protect the cold-injured extremity from further injury
    C. Remove wet or restrictive clothing or jewelry
    D. If early or superficial injury
        1. Manually stabilize the extremity
        2. Cover the extremity
        3. Do Not rub or massage the extremity
        4. Do Not re-expose to the cold
    E. If late or deep injury
        1. Cover with dry clothing or dressings
        2. Do Not:
            a. Break blisters
            b. Rub or massage the area
            c. Apply heat
            d. Re-warm
            e. Allow the patient to walk on the affected extremity

RESPIRATORY EMERGENCIES

I. General Orders (see page 4-5.)
II. Signs, and Symptoms
    A. Anxious/restless
    B. Decreased breathing rate/Shortness of Breath (SOB) or increased breathing rate (gasping, grunting)
    C. Skin color changes (cyanotic, pale/clammy, redness/flushing)
    D. Abnormal airway noises (stridor, ineffective cough, wheezing, gurgling, snoring)
    E. Increased breathing effort (gasping, grunting)
    F. Inadequate chest wall motion
    G. Slow heart rate associated with slow respirations
III. Role of First Responder/Emergency Medical Care
    A. Patient c/o SOB/inadequate respirations
        1. Remove obstruction if any (follow American Heart Association)
        2. Provide supplemental oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment, (See Oxygen Delivery, page 34-35.)
        3. Allow patient to achieve position of comfort (POC)
            a) Consider parent's lap for pediatric patient
    B. Pediatric Considerations
        1. Airway obstruction (follow American Heart Association)
            a) Use infant/child foreign body airway procedures if complete obstruction
            b) If incomplete obstruction:
                (1) Do not agitate patient
                (2) Allow patient position of comfort
            c) Provide supplemental oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment, (see Oxygen Delivery, page 34-35.)
            d) Allow patient to achieve position of comfort (parents lap, except during transport)

        Note: Do not attempt to visualize oropharynx

CEREBROVASCULAR ACCIDENT (CVA)

I. General Orders (see page 4-5.)
II. Signs & Symptoms
    A. Altered Mental Status
    B. Severe Headaches
    C. Drooping eyelid and mouth on one side of face.
    D. Paralysis or weakness on one or both sides of the body; face, arm or leg.
    E. Rapid or irregular breathing.
    F. Elevated blood pressure.
    G. Slow, bounding pulse.
    H. Loss of bowel or bladder control.
    I. Change in personality.
    J. Pupils unequal in size.
    K. Loss of vision, dimness, or double vision.
    L. Difficulty speaking or slurred speech.
    M. Inability to speak.
    N. Nausea or vomiting.
    O. Possible seizures.
III. Role of the First Responder/Emergency Medical Care
    A. Follow orders for Altered Mental Status (see page 6.)
    B. Protect airway, be prepared to provide ventilation.
    C. Provide supplemental Oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Oxygen Delivery page 33-34.)
    D. Take pulse at both carotid and radial locations on both sides of the body, note any differences.
    E. Do not give any suspected CVA patient anything to eat or drink.
    F. Remain Calm and reassure patient.
    G. If patient is seizing, follow Seizure protocol (see page 14.)

SEIZURES

I. General Orders (see page 4-5)

II. Signs, and Symptoms

Chronic medical conditions, fever, infections, poisoning including drugs and alcohol, low blood sugar, head injury, decreased levels of oxygen, brain tumors, complications of pregnancy, precardiac arrest, and unknown causes

Note: Support the patient; Do not worry about determining the cause of the seizure

III. Role of the First Responder/Emergency Medical Care

A. Protect the patient from the environment

B. Protect modesty - ask bystanders to leave the area

C. Provide oxygen and ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Oxygen Delivery, page 34-35.)

D. After the seizure place patient in the recovery position if no possibility of spine trauma

E. Never restrain the patient

F. Do not put anything in the patient's mouth

G. Have suction available, suction as necessary

H. Describe the seizure activity to the next level of care (i.e. time & length of seizure, number of seizures, etc.)

Note: Refer to pediatric seizures (see page 28.)

BLEEDING

External bleeding
I. General Orders (see page 4-5.)
II. Signs & Symptoms
    A. Arterial
        1. The blood spurts from the wound
        2. Bright, red, oxygen rich blood
    B. Venous
        1. The blood flows as a steady stream
        2. Dark, oxygen poor blood
    C. Capillary
        1. The blood oozes from a capillary and is dark red in color
        2. The bleeding often clots spontaneously
III. Role of the First Responder/Emergency Medical Care
    A. Provide supplemental oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment, (See Oxygen Delivery, page 34-35.)
    B. Control Bleeding
        1. Direct pressure
        2. Elevation
        3. Pressure point pressure
        4. Pressure dressing and bandage
    C. Monitor and Treat for Shock (see Shock page 19.)

Internal Bleeding
I. General Orders (see page 4-5.)
II. Signs & Symptoms
    A. Discolored, tender swollen or hard tissue
    B. Increased respiratory and pulse rates
    C. Pale, cool skin
    D. Nausea and vomiting
    E. Thirst
    F. Mental status changes
III. Role of the First Responder/Emergency Medical Care
    A. Provide supplemental oxygen and/or ventilatory assistance as necessary, if not done during Initial Patient Assessment, (See Oxygen Delivery, page 34-35.)
    B. Manage external bleeding, if present
    C. Position of Comfort
    D. Monitor and Treat for shock (see shock page 19.)

BONE OR JOINT INJURIES

I. General Orders (see page 4-5.)
II. Signs, and Symptoms
    A. Deformity or angulation
    B. Pain and tenderness
    C. Crepitus
    D. Swelling
    E. Bruising (discoloration)
    F. Exposed bone ends
III. Role of First Responder/Emergency Medical Care
    A. Provide supplemental oxygen and/or ventilatory assistance as necessary, if not done during the Initial Patient Assessment (see Oxygen Delivery, page 34-35.)
    B. After life threats have been controlled, check PMS and splint injuries in preparation for transport, check PMS after splinting.
    C. Application of cold pack to area of painful, swollen, deformed extremity to reduce swelling
    D. Elevate the extremity, after splinting
    E. Monitor and Treat for Shock (see Shock page 19.)

BURNS

I. General Orders (see page 4-5.)
II. Classifications
- A. Superficial only involves the outer layer of the skin
- B. Partial thickness involves the outer and middle layer of the skin
- C .Full thickness involves all layers of the skin
- D. Smoke inhalation symptoms include:
  1. Difficulty breathing, coughing
  2. Breath that has a "smoky" smell
  3. Black residue in mouth, sputum or nose
  4. Nose hairs singed

III. Role of the First Responder/Emergency Medical Care
- A. Stop the burning process initially with water or saline
- B. Remove the smoldering clothing or jewelry
  1. Be aware that some clothing may have melted to the skin
  2. If resistance is met when removing the clothing, it should be left in place
  3. Protect modesty – ask bystanders to leave the area
- C. Provide supplemental oxygen and/or ventilatory assistance as necessary, if not done during the Initial Patient Assessment (see Oxygen Delivery, page 34-35.)
- D. Cover the burned area with a dry sterile dressing
- E. Do Not use any type of ointment, lotion or antiseptic
- F. Do Not break blisters
- G. Monitor continuously for shock and treat as necessary (see shock page 19.)
- H. Special Considerations:
  1. Chemical Burns
     a. Scene Safety
     b. Gloves and eye protection
     c. Brush off dry powder
     d. Flush with large amounts of water
     e. Consider eye burns if splash injury
  2. Electrical Burns
     a. Scene safety
     b. Often more severe than external indications
     c. Monitor patient closely for respiratory or cardiac arrest
  3. Infant and Child Considerations:
     a. Greater surface area in relation to the total body size results in greater fluid and heat loss
  4. Smoke inhalation Considerations:
     b. Ensure patient is safely removed from area of smoke by qualified personnel (fire department)
     c. Provide High Flow O_2 via Non-rebreather mask to patient (see Oxygen Delivery, page 34-35.)

HEAD INJURIES

I. General Orders (see page 4- 5.)
II. Signs and Symptoms
    A. Open injuries may present with bleeding
    B. Closed injury may present
        1. Swelling
        2. Depression of skull bones
        3. Increased brain pressure (see Altered Mental Status, page 6)
        4. Scalp may bleed excessively because of the large number of blood vessels in the scalp
    C. Injury to the brain - injury of brain tissue or bleeding inside the skull may increase pressure on the brain
        1. Patient may be combative.
        2. Acting abnormally.
        3. Raccoon eyes and/or Battle signs
        4. Unequal pupil sizes
III. Role of the First Responder/Emergency Medical Care
    A. Initial assessment with cervical and spinal immobilization should be done on scene with a complete detailed physical exam enroute
    B. Provide supplemental oxygen and/or ventilatory assistance as necessary, if not done during the Initial Patient Assessment (see Oxygen Delivery, page 34-35.)
    C. Closely monitor the airway, breathing, pulse, and mental status for deterioration
    D. Control bleeding (see External Bleeding, page 15.)
        1. Do not apply pressure to an open or depressed skull injury
        2. Dress and bandage open wound as indicated in the treatment of soft tissue injuries
    E. If a medical injury or non-traumatic injury exists, place patient on the left side

SHOCK (HYPOPERFUSION)

I. General Orders (see page 4-5.)
II. Signs & Symptoms
- A. Extreme thirst
- B. Restlessness, anxiety
- C. Rapid, weak pulse
- D. Rapid, shallow respirations
- E. Mental Status Changes
- F. Pale, cool, moist skin

III. Role of the First Responder/Emergency Medical Care
- A. Provide supplemental oxygen and/or ventilatory assistance as necessary, if not done during the Initial Patient Assessment (see Oxygen Delivery, page 34-35.)
- B. Prevent further blood loss
- C. Keep patient calm, in position of comfort
- D. Protect the patient from heat loss
    1. Remove wet clothing, if any:
        a. Protect modesty – ask bystanders to leave area
    2. Cover with blanket
- E. Do Not give food or drink
- F. Provide care for specific injuries
- G. Elevate lower extremities if no possibility of spinal trauma (Trendelenburg)

SPECIFIC TRAUMATIC INJURIES

I. General Orders (see page 4-5.)
II. Types
    A. Abrasion
    B. Laceration
    C. Penetration/puncture
III. Role of the First Responder/Emergency Treatment
    A. Provide supplemental oxygen and/or ventilatory assistance as necessary, if not done during the Initial Patient Assessment (see Oxygen Delivery, page 34-35.)
    B. Management of open soft tissue injuries
        1. Expose the wound
        2. Control the bleeding
        3. Prevent further contamination
        4. Apply sterile dressing to the wound and bandage securely in place
    C. Special Treatment Considerations
        1. Chest injuries -
            a) An occlusive dressing should be applied to penetrating wounds and sealed on three sides
            b) Position of comfort if no spinal injury suspected
            c) Flail Chest will be demonstrated by paradoxal motion of a segment of the chest. Treat by taping a bulky dressing over the area and positioning the patient on the affected side. You may also place your hand over the affected area.
        2. Impaled objects
            a) Do not remove the impaled object unless it is through the cheek or it would interfere with airway management or chest compressions
            b) Manually secure the object
            c) Expose the wound area
            d) Control bleeding
            e) Utilize a bulky dressing to help stabilize the object
        3. Eviscerations
            a) Open injury with protruding organs
            b) Do not attempt to replace protruding organs
            c) Cover with thick moist dressing
        4. Amputations
            a) Involves the extremities and other body parts
            b) Massive bleeding may be present or bleeding may be limited
            c) Locate and preserve the amputated part
                (1) Wrap severed part in a moist saline sterile dressing
                (2) Place the part in a plastic bag
                (3) Keep cool
                    (a) Place the plastic bag containing the part in a larger bag or container with ice and water

(b) Do not use ice alone
(c) Do not use dry ice

5. Eye injuries

a) If eye is impaled by an object, stabilize object with a cup – Do Not remove the object – and patch both eyes.

b) If eye is extruded, use sterile, moist dressings to cover extruded eyeball and cover with a cup – Do Not attempt to reinsert eyeball to socket – patch both eyes.

SPINE INJURIES

I. General Order (see page 4-5.)
II. Signs & Symptoms
Note: The ability to walk, move extremities or feel sensations, or lack of pain to spinal column does not rule out the possibility of spinal column or cord damage.

- A. Tenderness in the area of injury
- B. Pain associated with moving
- C. Tell the patient not to move while asking questions
- D. Pain independent of moving or palpation
    1. Along the spinal column
    2. Lower legs
    3. May be intermittent
- E. Obvious deformity of the spine upon palpation
- F. Soft tissue injuries associated with trauma
    1. Head and neck to cervical spine
    2. Shoulders, back or abdomen – thoracic, lumbar
    3. Lower extremities – lumbar, sacral
- G. Numbness, weakness or tingling in the extremities
- H. Loss of sensation or paralysis below the suspected level of injury
- I. Loss of sensation or paralysis in the upper or lower extremities
- J. Incontinence
- K.Priapism

III. Role of the First Responder/Emergency Medical Care

- A. Establish and maintain in-line immobilization
- B. Perform initial assessment
    1. Assess pulse, motor and sensation in all extremities
    2. Assess the cervical region and neck
- C. Apply a rigid cervical immobilization device
- D. Immobilize the patient to a long spine board

CHILDBIRTH

I. General Orders (see page 4-5.)
II. If crowning is present, prepare for delivery
III. Role of the First Responder/Emergency Medical Care
- A. Use body substance isolation
- B. Do Not touch the vaginal area except during delivery
- C. Do Not let the mother go to the bathroom
- D. Do Not hold the mothers legs together
- E. If the head is not the presenting part this may be a complicated delivery
    5. Tell the mother not to push
    6. Update the responding EMS resources
    7. Calm and reassure the mother
- F. Delivery procedures:
    1. Have the mother lie on her back with knees drawn up and legs spread apart.
    2. Place absorbent, clean materials (sheets, towels, etc.) under the patients buttocks.
    3. Elevate the patients buttocks with blankets or a pillow.
    4. When the infants head appears, place the palm of your hand on top of the delivering baby's head and exert gentle pressure to prevent explosive delivery.
    5. As the infant's head is being born, determine if the umbilical cord is around the infant's neck, if so, contact Medical Control.
    6. After the infant's head is born, support the head
    7. Suction the mouth first, then the nostrils two or three times with the bulb syringe.
        a) Use caution to avoid contact with the back of the baby's mouth
    8. As the torso and full body are born, support the infant with both hands.
    9. Do Not pull on the infant.
    10. As the feet are delivered, grasp the feet.
    11. When the umbilical cord stops pulsating, it should be clamped (one at 7" from the infant and one at 10" from the infant). Cut cord between the clamps, and place the infant on the mother's abdomen.
    12. Wipe blood and mucus from the baby's mouth and nose with sterile gauze; suction the mouth and then the nose again.
    13. Dry the infant.
    14. Rub the baby's back or flick the soles of it's feet to stimulate breathing.
    15. Wrap the infant in a warm blanket and place the infant on it's side, head slightly lower than trunk.
    16. Keep the infant warm and wait for additional EMS resources.
    17. Record the time of delivery.
    18. If there is a chance of multiple births, prepare for the second delivery.
    19. Observe for delivery of placenta. This may take up to 30 minutes.
    20. If the placenta is delivered, wrap it in a towel with the umbilical cord and place in plastic bag provided in kit.

21. Place sterile pad over vaginal opening, lower the mother's legs, help her to hold them together.
22. Post delivery care of the mother:
    a) Keep contact with the mother throughout the process
    b) Monitor respirations and pulse
    c) Keep in mind that delivery is an exhausting procedure
    d) Replace any blood soaked sheets and blankets while awaiting transport

G. Vaginal bleeding following delivery
1. Up to 300-500 mL blood loss is well tolerated by the mother following delivery but with continued blood loss, massage the uterus.
    a) Use hand with your fingers fully extended
    b) Place the palm of your hand on lower abdomen above the pubis
    c) Massage (knead) over area
2. If bleeding continues, check massage technique.
3. Try to have baby nurse.

IV. Initial Care of the Newborn

A. Assessment of the infant is done with the APGAR scoring sheets found in the OB Kit
B. Position, dry, keep warm, and stimulate the newborn to breathe
C. Wrap newborn in a blanket and cover it's head
D. Repeat suctioning if necessary
E. Continue to stimulate newborn if not breathing
    1. Rub the infant's back
    2. Flick the soles of feet
F. If newborn does not begin to breathe or continues to have breathing difficulty after one minute, the First Responder must consider the need for additional measures.
G. Provide Oxygen and ventilatory assistance as necessary, if not done during initial patient assessment (see Oxygen delivery, page 34-35.)
    1. Ventilate at a rate of 40 breaths per minute
    2. Reassess after one minute, if heart rate is less than 80 beats per minute, a second rescuer should perform chest compressions (or if alone, begin one person CPR)

Assessment of Infants and Children

I. General Orders (see page 4-5.)

II. Assess ABC
   - A. Airway – Do not hyperextend or hyperflex child's neck
   - B. Breathing – Check for Obstructions
   - C. Circulation – Check capillary refill, skin color, temp & condition

   Note: Consider possible domestic violence or abuse by adults

III. Anatomical and Physiological Concerns
   - A. Small airways are easily blocked by secretions and airway swelling
   - B. Tongue is large relative to small mandible and can block airway in an unresponsive infant or child.
   - C. Positioning the airway is different in infants and children. Do not hyperextend the neck.
   - D. Infants are nose breathers, so suctioning a secretion-filled nasopharynx can improve breathing problems in an infant.
   - E. Children can compensate well for short periods of time for respiratory problems and shock.
     1. Compensate by increasing breathing rate and increasing effort of breathing
     2. Compensation is followed rapidly by decompensation due to rapid respiratory muscle fatigue and general fatigue.
   - F. Risk of hypothermia; keep them warm.

COMMON PROBLEMS IN INFANTS AND CHILDREN

PARTIAL AIRWAY OBSTRUCTION

I. General Orders (see page 4-5.)

II. Signs, and Symptoms

- A. Infant or child who is alert and sitting
- B. Stridor (high pitched inspiratory sound), crowing, or noisy
- C. Retractions on inspiration
- D. Pink
- E. Good peripheral perfusion
- F. Still alert, not unresponsive

III. First Responder Responsibilities/Emergency medical care

- A. Allow position of comfort; assist younger child to sit up; Do not lay down, may sit on parent's lap
- B. Clear airway and Refer to Foreign Body Airway Obstruction (follow American Heart Association)
- C. Do not agitate child

COMPLETE OBSTRUCTION

I. General Orders (see page 4-5)

II. Signs, and Symptoms

- A. No crying or speaking and cyanosis
- B. Child's cough becomes ineffective
- C. Increased respiratory difficulty accompanied by stridor (high pitched inspiratory sound)
- D. Patient loses responsiveness
- E. Altered mental status

III. First Responder Responsibilities/Emergency Medical Care

- A. Clear airway and Refer to Foreign Body Airway Obstruction (follow American Heart Association)
- B. Provide oxygen and ventilatory assistance as necessary, if not done during Initial Patient Assessment (see Oxygen Delivery, page 34-35.)

RESPIRATORY EMERGENCIES

I. General Orders (see page 4-5.)

II. Signs, and Symptoms of Respiratory Distress

- A. Precedes respiratory failure and is indicated by any of the following:
- B. Respiratory rate greater than 60 in infants (See Newborn, page 24.)
- C. Respiratory rate greater than 30/40 in children
- D. Nasal flaring
- E. Intercostal retraction (between the ribs), supraclavicular (neck muscles), subcostal retractions (below the margin of the rib)
- F. Stridor (high pitched inspiratory sound)
- G. Cyanosis
- H. Altered mental status (combative, decreased mental status, unresponsive)
- I. Grunting

III. Causes, Signs, and Symptoms of Respiratory Failure/Arrest

A. Breathing rate less than 10 per minute in a child
B. Breathing rate of less than 20 per minute in an infant
C. Limp muscle tone
D. Unresponsive
E. Slower, absent heart rate
F. Weak or absent distal pulses
G. Cyanosis and a slow heart rate

CIRCULATORY FAILURE

I. General Orders (see page 4-5.)
II. Signs, and Symptoms of circulatory failure
    A. Increased heart rate
    B. Unequal central and distal pulses
    C. Poor skin perfusion
    D. Mental status changes
III. Role of the first responder
    A. Provide supplemental oxygen and/or ventilatory assistances as necessary, if not done during the initial Patient Assessment (see Oxygen Delivery, Page 34-35.)
    B. Observe for signs of cardiac arrest
    C. Begin CPR if not provided during initial Patient Assessment (follow the American Heart standards for CPR). DNR order, do not start resuscitation measures.

SEIZURES

Note: Seizures, including seizures caused by fever (febrile), should be considered potentially life-threatening.
I. General Orders (see page 4-5.)
II. Role of the First Responder/Emergency Medical Care
    A. Protect the patient from the environment
    B. Ask bystanders (except parents) to leave the area.
    C. Place patient in the recovery position, if no possibility of spine trauma
    D. Never restrain the patient
    E. Do Not put anything in the patients mouth.
    F. Have suction available, suction as necessary.
    G. Report assessment findings to additional EMS responses
    H. Patients who are actively seizing, bluish, and breathing inadequately should be ventilated. Provide supplemental oxygen and/or ventilatory assistance as necessary, if not done during the initial Patient Assessment (see Oxygen Delivery, page 34-35.)
Note: Seizures (see page 14.)

ALTERED MENTAL STATUS

I. General Orders (see page 4-5.)
II. Role of the First Responder/Emergency Medical Care
    A. Provide oxygen and ventilatory assistance as necessary, if not done during initial Patient Assessment (see Oxygen Delivery, page 34-35.)
    B. Have suction available, suction as necessary
    C. Place in recovery position

GERIATRIC EMERGENCIES

I. Observe For
- A. General cleanliness of the environment
- B. Availability of food and water
- C. Hazards in the home
- D. Observe for signs of physical abuse/neglect (see page 30.)
- E. If many medications, take them or a list of them to the hospital

II. Role of First Responder/Emergency Medical Care
- A. Determine
  1. Establish quick and effective rapport with patient and family
  2. Level of function with his/her own function prior to problem
  3. Past medical history to assess present condition and anticipate effect of one disease on another
  4. If in long-term care, determine reason for their being there and present condition requiring EMS
- B. Emergency Medical Care
  1. Medical
     a) Altered Mental Status (see page 6)
     b) Behavioral Emergencies (see page 7)
     c) Cardiac Compromise (see page 8)
     d) Heat and cold emergencies (see pages 9-11)
  2. Trauma
     a) Cause of trauma may be medical
     b) Age > 45 at higher risk for mortality and morbidity
     c) Treat according to trauma treatment protocols for specific injury (see pages 20-21.)

ABUSE AND NEGLECT

I. General Orders (see page 4-5.)
II. Signs and symptoms of abuse
    A. Multiple bruises in various stages of healing
    B. Injury inconsistent with mechanism described.
    C. Patterns of injury
        1. Cigarette burns
        2. Whip marks
        3. Hand prints
    D. Repeated calls to the same address
    E. Fresh burns
        1. Not just any burns
            a) Scalding
            b) Glove, dip pattern
        2. Burns inconsistent with the history presented
        3. Untreated burns
    F. Caregiver seem inappropriately unconcerned
    G. Conflicting stories
    H. Fear discussing how the injury occurred
    I. CNS injuries – shaken baby syndrome.
        1. Unresponsive/seizure
        2. Sever internal injuries
        3. No evidence of external injuries
III. Causes, Signs and symptoms of neglect
    A. Lack of supervision
    B. Malnourished appearance
    C. Unsafe Living environment
    D. Untreated chronic illness; i.e. asthmatic with no medications
    E. Untreated soft tissue injuries
IV. Role of the First Responder/Emergency Medical Care
    A. Do Not accuse in the field
        1. Accusation and confrontation delays transportation
        2. Report objective information to the transporting unit
    B. Reporting required by State Law
        1. Local Regulations
        2. Remain Objective
            a) Report what you see and what you hear
            b) Do Not comment on what you think
V. Need for First Responder Debriefing
    A. Especially in cases of abuse/neglect.
    B. Serious injury/death of a child.
    C. Principles for assessing behavioral emergency patients

APPENDIX

CORE BODY TEMPATURE

CORE BODY TEMP (F°/C°)		SYMPTOMS
99-96 F°	37.0-35.5 C°	Shivering
95-91 F°	35.5-32.7 C°	Intense shivering. If conscious patient has difficulty speaking.
90-86 F°	32.0-30.0 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.
85-81 F°	29.4-27.2 C°	Irrational. Loses contact with environment drifts into a stuporous state. Muscular rigidity continues. Pulse and respirations are slow and cardiac arrhythmias may develop.
80-78 F°	26.6-20.5 C°	Patient loses consciousness and does not respond to spoken words. Most reflexes cease to function. Heart beat becomes erratic.

DEAD ON ARRIVAL (DOA) – Updated 9/05

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. Rigor Mortis
4. Decomposition

B. Do Not Resuscitate orders and no pulse or respirations

1. DOA victims will be reported to the appropriate authorities based on local procedures.
2. DO NOT leave body unattended
3. Consider critical incident stress debriefing for EMS personnel when involved with sudden, unexpected, accidental, traumatic and/or unexplained deaths, particularly if children are involved.

C. Check pulse and auscultate Heart and Lungs (airway)

OXYGEN ADMINISTRATION REFERENCE CHART		
Method	Flow Rate (in liter/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) *(4)	100	100

*(1) Deliver system of choice for patients with inadequate breathing and patients who are cyanotic, cool ,clammy, short of breath, or suffering chest pain, suffering severe injuries, or displaying an altered mental status, or being transported.
*(2) This is accomplished by occluding breathing port with thumb
*(3) Depends on the 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 cannula 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 in 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	3200	10 hrs.	5 hrs.	3 hrs. 20 min.
G	5300	17 hrs. 40 min.	8 hrs. 50 min.	5 hrs. 53 min.
H	6900	23 hrs.	11 hrs. 30 min.	7 hrs. 40 min.

1. The above values are based on full bottle (2000-2200 p.s.i.) @ 70 degrees F.
2. Allow for pressure drop of 5 p.s.i. for every 1 degree drop in temperature below 70 degrees F.

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: Patients Age + 100 (up to 150 mm/Hg) Diastolic: 60 to 90 mm/Hg
6-7 years	100/56	Female Adult	Systolic: Patients Age + 90 (up to 140 mm/Hg) Diastolic: 50-80 mm/Hg

Note:

The systolic values given above may vary up or down form 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

1°	Primary, first degree	Ga.	Gauge
2°	Secondary, second degree	GI	Gastrointestinal
3°	Tertiary, third degree	gr	Grain
<	Less than	gtt	Drop
≤	Less than or equal to	HA	Headache
>	Greater than	HTN	Hypertension
≥	Greater than or equal to	Hx	History
≡	Approximately equal to	LOC	Level of Consciousness
α	Alpha	♂	Male
_a	Before	MI	Myocardial Infarction
abd	Abdomen	min	Minute
ASA	Aspirin	N&V	Nausea and Vomiting
_c	With	NTG	Nitroglycerin
c/o	Complaining of	_p	After
CNS	Central Nervous System	po	By mouth, orally
CHF	Congestive Heart Failure	prn	As needed
COPD	Chronic Obstructive Pulmonary disease	_q	Every
Cx	Chest	Rx	Prescribed for
Dx	Diagnosis	s	Without
♀	Female	↓	Decreased
Fx	Fracture	↑	Increased
g, gm	Gram	Δ	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, electrical current or certain chemicals

- Superficial – A burn affecting only the outer skin layers
- Partial Thickness – A partial thickness burn penetrating beneath the superficial skin layers, producing edema and blistering.
- Full thickness – 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 CNS 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 Cardio-Pulmonary 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 performed 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.

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.

EMERGENCY MEDICAL TECHNICIAN (EMT) A person certified to provide emergency care.

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 calf. Compare flexion.

EXTRAVASATION Leakage of intravenous fluid into surrounding tissues.

FEBRILE Characterized by fever.

FLAIL CHEST The condition in which several ribs are broken, each in at least two places, or in which there is a 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 salt and water 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.

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 DIRECTOR The physician in each county certified by the Department of Health to carry out the duties of the Medical Director.

MENSTRUATION The process by which the uterine lining is shed each month by women between the ages of puberty and menopause.

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.

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.

POSTICAL 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 deliver in which the umbilical cord appears at the vaginal orifice before the head of an 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 Medical Director that directs the out-of-hospital emergency care.

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.

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.

S.A.M.P.L.E. 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.

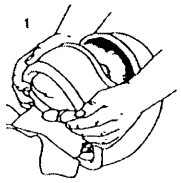
TRENDELENBURG POSITION The position in which the patient is placed on his/her back with legs raised and head lowered.

VENTRICULAR FIBRILLATION (VF OR V-FIB) A disorganized series of electrical stimulations which disrupts the hearts pumping and cuts off the cardiac output.

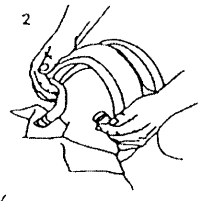
VITAL SIGNS Pulse, blood pressure, respiration, skin color, and pupil size/reaction.

HELMET REMOVAL

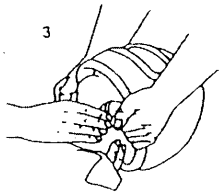
1. One rescuer applies in-line traction by placing his or her hands on each side of the helmet with the fingers on the victims mandible. This position prevents slippage if the strap loosens.



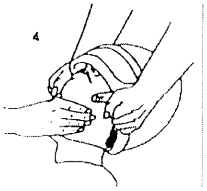
2. The rescuer cuts or loosens the straps or the D-rings while maintaining in-line tension.



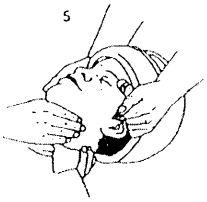
3. A second rescuer places one hand on the mandible, at the angle, with the thumbs on one side and the long and index fingers on the other. With the other hand, the second rescuer also applies pressure from the occipital region. This maneuver transfers the in-line traction responsibility to the second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



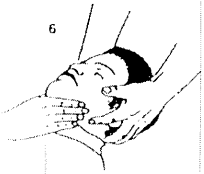
4. The rescuer at the top removes the helmet. considering these three factors: A. The helmet is egg shaped and must be expanded laterally to clear the ears; B. Glasses must be removed prior to helmet removal; C. If the helmet provides full facial coverage, it must be raised over the nose and moved backwards.



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

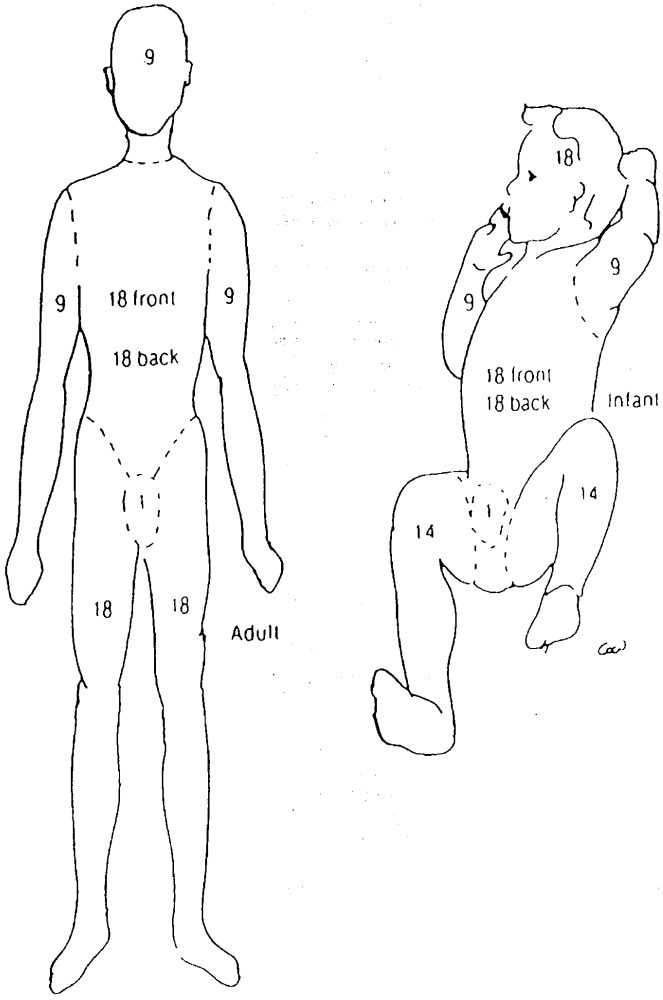


6. After the helmet is removed the rescuer at the top places his or her hands on either side of the victim's head with the palms over the ears.



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

RULE OF NINES - ESTIMATING BURNS



APPROVAL BY THE MEDICAL DIRECTOR

I have reviewed the above Kanabec County First Responder Team, Incorporated protocols and do hereby approve of them.

Signed Date

Dr. Terry A. Johnson, M.D.