

## EMS Guidelines and Policies

These are the current REMSA Guidelines and Policies for ambulance service. The **Trauma Guideline**, **Drug-assisted Intubation Guideline** and the **Documentation of Intubation Policy** have been revised. Please discard your old copies. November 2011.

- I. Required Equipment
  - A. Sioux Falls REMSA Ambulance Equipment and Medication List ( 2011)
- II. Medical Guidelines
  - A. General Guideline (1.10)
  - B. Cardiac Arrest Guideline (5.30)
    - 1. Asystole and PEA Guideline (1.00)
    - 2. Ventricular Fibrillation Guideline (4.20)
  - C. Bradycardia/Heart Block Guideline (4.20)
  - D. Chest Pain Guideline (4.40)
  - E. Tachycardia (With Pulse) Guideline (1.20)
  - F. Seizure Guideline (4.50)
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  - I. Respiratory Distress Guideline (3.30)
  - J. Airway Management Guideline (1.30)
  - K. Blood Glucose Measurement Guideline (3.00)
  - L. Pain Management Guideline (2.00)
  - M. Nausea and Vomiting Guideline (1.10)
- III. Trauma Guidelines
  - A. **Trauma Guideline (3.20)**
  - B. Spinal Immobilization Guideline (1.00)
- IV. Environmental and Chemical Guidelines
  - A. Drowning/Hypothermia Guideline (3.10)
  - B. Guideline for Response to Organophosphate/ Carbamate/ Chemical Nerve Agent Exposure (1.00)
- V. OB/PEDS Guidelines
  - A. Obstetrical Emergencies Guideline (2.11)
  - B. Gynecological Emergencies Guideline (2.01)
  - C. Neonatal Resuscitation Guideline (2.30)
- VI. Policy/Procedure
  - A. Communication System Failure Policy (1.00)
  - B. EMS System Cancellation Policy (1.20)
  - C. EMS System Destination Policy (1.30)
  - D. EMS System Certification Policy (5.10)
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  - G. Comfort One Guideline (1.00)
  - H. Patient Refusal of Care and Non-transport Policy (3.00)
  - I. Trauma Team Activation Policy (2.00)
  - J. MCI Policy - Guideline for EMS Branch Operations (1.00)
  - K. IV Procedure (2.00)
  - L. IO Procedure (1.00)
  - M. Cricothyrotomy Procedure (1.00)
  - N. Chest Decompression Procedure (2.10)
  - O. Implanted Port Access Procedure (2.10)
  - P. Restraint Policy (2.10)
  - Q. **Drug-assisted Intubation Guideline (1.20)**
  - R. **Documentation of Intubation Policy (2.40)**
  - S. 12 Lead EKG Policy (1.30)
  - T. Eye Irrigation Using the Morgan Lens (1.00)
  - U. Intervention Guideline for Patients Transported to the Veteran's Hospital (3.00)

## **GENERAL GUIDELINE**

### I. Purpose

- A. To establish medically sound guidelines for patient assessment and initial care

### II. Policy

- A. The Emergency Medical Technician - Basic: National Standard Curriculum is hereby included for basic EMT interventions and procedures.
- B. The Emergency Medical Technician - Paramedic: National Standard Curriculum is hereby included for paramedic interventions and procedures unless covered in these guidelines.

## CARDIAC ARREST GUIDELINE

### Notes:

**CPR and defibrillation are of primary importance. Keep interruptions to chest compressions as minimal as possible.**

**Avoid over-ventilation, both in rate and volume.**

**Changing equipment should not interfere with the proper execution of resuscitative efforts.**

**When possible, use manual mode for defibrillation to avoid long pauses for analysis.**

**The patient should not be moved or transported during the resuscitation effort unless the scene becomes unsafe for rescuers or unless transport is specifically ordered by on-line medical control**

**IV or IO drug administration is preferred. Lidocaine, atropine, epinephrine and naloxone may be administered via ET tube at twice the IV/IO dose.**

**While beginning resuscitation, search for and treat possible causes: hypovolemia, hypoxia, acidosis, hypo/hyperkalemia, hypoglycemia, hypothermia, toxins, cardiac tamponade, tension pneumothorax, thrombosis, trauma**

- I. Determine unconsciousness and absence of breathing
- II. Evaluate and establish a patent airway. If unable to establish an airway, go to Airway Management Guideline
- III. When airway is established, support ventilations and administer maximum flow oxygen as soon as possible. If ventilations are not considered effective, proceed to intubation when feasible.
- IV. Determine presence or absence of pulse
  - A. If pulse is absent and patient is unconscious, begin CPR, determine rhythm and run ECG strip
    1. If rhythm is ventricular fibrillation, go to VF guideline.
    2. If rhythm is asystole, go to asystole guideline
    3. If rhythm is VT without a pulse, go to **VF** guideline
    4. If there is a rhythm but no pulse, go to PEA guideline
    5. If rhythm is unclear, reassess patient and equipment
  - B. If pulse is absent and patient is conscious, treat for shock and follow the appropriate dysrhythmia guideline
  - C. If pulse is present
    1. If rhythm is tachycardia, go to the tachycardia with pulse guideline
    2. If rhythm is bradycardia or heart block, go to the bradycardia/heartblock guideline
- V. Post ROSC care
  - A. Administer oxygen in the post-resuscitation phase in a controlled manner to maintain oxygen saturation 95% or higher with the lowest required oxygen flow.
  - B. Perform a 12-lead EKG as soon as feasible after ROSC to detect ACS or STEMI
  - C. Post arrest hypothermia
    1. Inclusion criteria
      - a. Sustained ROSC after arrest
      - b. 18 years or older
      - c. Collapse to ROSC < 60 minutes
      - d. Comatose (GCS <10) after ROSC
      - e. Arrest etiology appears to be cardiac
      - f. Central pulses present
    2. Exclusion criteria
      - a. CPR for > 45 minutes
      - b. Known pre-existing coagulopathy
      - c. Recurrent VF or VT in spite of appropriate therapy
      - d. Pregnancy

3. Procedure
  - a. When time allows, place 5 chemical cold packs as follows:
    - i. One on the neck covering both carotid arteries
    - ii. One in each of the axillae
    - iii. One over each femoral artery in the groin
  - b. May also provide cooling by removing patient's clothing, adding AC in the patient compartment and directing air flow over the patient.
  - c. Notify receiving hospital
  - d. If shivering is noted, contact online Medical Control for orders

#### VI. DNR Criteria

- A. Do Not Resuscitate (DNR) orders are written by physicians to withhold cardiopulmonary resuscitation on patients in cardiac or respiratory arrest. DNR orders are compatible with maximal therapeutic care and the patient may receive vigorous support, including transport to the hospital, up until the point of cardiac or respiratory resuscitation.
- B. In Nursing Homes, the DNR order must be written in the medical chart or on a transfer form.
- C. In the absence of a signed DNR order, when the family members express that the patient's wishes are for no resuscitation, contact Medical Control for further orders.
- D. If a patient with a valid DNR order expires during transport to the hospital, continue transport and the patient will be registered as an emergency department patient at the receiving hospital for pronouncement of death.

#### VII. Comfort One (South Dakota's Cardiopulmonary Resuscitation Directive Program) see COMFORT ONE GUIDELINE

#### VIII. DOA Criteria

- A. The medical standard of care is to promptly institute cardiopulmonary resuscitation for individuals who suffer cardiac arrest. CPR may be withheld, however, if an individual is found without pulse and respiration and any of the following exists:
  1. Lividity, rigor or decomposition
  2. Obviously fatal trauma
  3. The patient fails to respond to an adequate trial of resuscitation (see Policy for Discontinuing Resuscitation in the Field)
  4. A properly documented DNR order is present
  5. Trauma Arrest Considerations:
    - a. Resuscitation efforts may be withheld in any *blunt* trauma patient who, based on out-of-hospital personnel's thorough primary patient assessment, is found apneic, pulseless, and without organized electrocardiographic (ECG) activity upon the arrival of emergency medical services (EMS) at the scene.
    - b. Victims of *penetrating* trauma found apneic and pulseless by EMS, based on their patient assessment, should be rapidly assessed for the presence of other signs of life, such as pupillary reflexes, spontaneous movement, or organized ECG activity. If any of these signs are present, the patient should have resuscitation performed and be transported to the nearest emergency department (ED) or trauma center. If these signs of life are absent, resuscitation efforts may be withheld.
    - c. Special consideration must be given to victims of drowning and lightning strike and in situations where significant hypothermia may alter the prognosis.

**Contact Medical Control at any time for clarification or assistance**

Revision 5.30  
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## ASYSTOLE AND PEA GUIDELINE

- I. Verify asystole in two leads
- II. Continue CPR
- III. Start IV and intubate when feasible, minimizing breaks in chest compressions.
- IV. Administer fluid bolus of up to 1000 ml in adults (20ml/kg in peds) for PEA
- V. Epinephrine
  - A. Adult - 1 mg (10 ml of 1:10,000) IV/IO, or 2 to 3 mg ET
  - B. Peds (up to age 8) - 0.01 mg/kg (0.1 ml/kg of 1:10,000) IV/IO, 0.1 mg/kg (0.1 ml/kg of 1:1,000) ET
  - C. Repeat epinephrine every 3-5 minutes
- VI. Search for and treat possible causes of PEA, including hypovolemia, hypoxia, acidosis, hypo/hyperkalemia, hypoglycemia, hypothermia, toxins, cardiac tamponade, tension pneumothorax, thrombosis, trauma. When tension pneumothorax is recognized, decompress chest per procedure.
- VII. Continue CPR, administration of epinephrine as above and other ACLS as appropriate until either
  - A. Rhythm changes (go to appropriate guideline), OR
  - B. Resuscitation becomes futile. See Policy for Discontinuing Resuscitation in the Field.

**Contact Medical Control** at any time for clarification or assistance.

Version 1.00  
(Replaces Pulseless Electrical Activity Guideline 3.10 and Asystole Guideline 4.10)  
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## VENTRICULAR FIBRILLATION GUIDELINE

- I. Initial defibrillation and CPR
  - A. For witnessed arrest with shockable rhythm, defibrillate once at 200 joules (2 joules/kg in peds) and then immediately start CPR with supplemental oxygen.
  - B. For unwitnessed arrest with shockable rhythm or down time known to be over several minutes with shockable rhythm, deliver 5 cycles of CPR with supplemental oxygen and then defibrillate once at 200 joules (2 joules/kg in peds). Immediately resume CPR.
- II. After 5 cycles of CPR, check rhythm.
  - A. If non-shockable, go to the appropriate guideline.
  - B. For a shockable rhythm, continue CPR while charging the defibrillator and then defibrillate at 300 joules (4 joules/kg in peds). Immediately resume CPR.
  - C. Start IV and intubate when feasible, minimizing breaks in chest compressions..
- III. Epinephrine
  - A. Adult -- 1 mg (10 ml of 1:10,000) IV/IO, or 2 to 3 mg ET(use 1:1000, dilute with saline to total of 10 ml) ET
  - B. Peds (up to age 8) -- 0.01 mg/kg (0.1 ml/kg of 1:10,000) IV/IO, or 0.1 mg/kg (0.1 ml/kg of 1:1,000) ET
  - C. Repeat epinephrine every 3-5 minutes
- IV. After 5 cycles or two minutes of CPR, check rhythm.
  - A. If non-shockable, go to the appropriate guideline.
  - B. For a shockable rhythm, continue CPR while charging the defibrillator and then defibrillate at 360 joules (4 joules/kg in peds). Immediately resume CPR.
- V. Antiarrhythmics
  - A. Amiodarone 300 mg IV/IO for adults, 5 mg/kg for peds, repeat 150 mg in 10 minutes OR
  - B. Lidocaine 1 -1 .5 mg/kg IV/IO for adults, 1 mg/kg for peds, repeat half dose in 5 minutes OR
  - C. For torsades de pointes, start magnesium loading dose of 1-2 grams IV for adults, 25 - 50 mg/kg IV for peds.
  - D. If no antiarrhythmics were used in resuscitation, do not begin antiarrhythmics without contacting medical control.
  - E. Lidocaine drip -- If lidocaine was used and Ventricular Fibrillation was successfully terminated, begin a lidocaine drip
    - 1. 2 mg/min for adults
    - 2. 20 mcg/kg/min in peds. Continue CPR, epinephrine and defibrillation as above, and other ACLS as appropriate until either
  - F. Rhythm changes (go to appropriate guideline), OR
  - G. Resuscitation becomes futile. See Policy for Discontinuing Resuscitation in the Field.

**Contact Medical Control** at any time for clarification or assistance.

## **BRADYCARDIA/HEARTBLOCK GUIDELINE**

- I. Assess and support ABCs
  - A. Administer oxygen, titrate to lowest flow that will keep O<sub>2</sub> sat 95% or higher
  - B. Assist ventilations as necessary
  - C. Determine presence of pulse and blood pressure
  - D. Monitor rhythm and perform 12-lead when feasible to better define rhythm
  - E. Identify and treat reversible causes
- II. Symptomatic bradycardia (hypotension, pulmonary edema, marked decrease in level of consciousness, chest pain, dyspnea, PVCs, syncope, shock, seizures)
  - A. Consider CPR
  - B. Consider intubation
  - C. Start IV TKO
  - D. If signs of hypovolemia, give fluid bolus of 250 cc NS IV, reassess, repeat as needed.
  - E. Adult
    1. For 2nd degree type II block and third degree block
      - a. Consider immediate pacing and transport as soon as possible.
        - i. Consider sedation before pacing if patient is conscious and it will not delay pacing. For adult, may administer Versed (midazolam) up to 2 mg IV or intranasal and fentanyl up to 50 mcg IV or intranasal.
        - ii. Consider atropine 0.5 mg IV/IO while setting up pacer. May repeat every 3-5 minutes to total dose of 3 mg
    2. For other bradycardias
      - a. Atropine 0.5 mg IV/IO, may repeat every 3 - 5 minutes to total dose of 3 mg
      - b. Consider pacing if atropine isn't effective
    3. If atropine and/or pacing aren't effective, contact medical control for dopamine drip or other orders
  - F. Peds (up to age 8)
    1. Start CPR if pulse is less than 60 and there is poor perfusion
    2. Epinephrine 0.01 mg/kg (0.1 ml/kg of 1:10,000) IV/IO, or 0.1 mg/kg (0.1 ml/kg of 1:1000) ET, may repeat every 3-5 minutes
    3. For primary heart block or increased vagal tone, administer atropine 0.02 mg/kg IV/IO (preferred) or 0.03 mg/kg ET, may repeat once if needed (minimum 0.1 mg, maximum 0.5 mg for child and 1 mg for adolescent)
    4. Consider pacing
      - a. Consider sedation before pacing if patient is conscious and it will not delay pacing. For peds, may administer Versed (midazolam) up to 0.1 mg/kg IV or intranasal (maximum 2 mg), and fentanyl up to 1 mcg/kg IV or intranasal (maximum 50 mcg )
    5. If epinephrine, atropine and/or pacing aren't effective, contact medical control for epinephrine drip or other orders
- III. Stable or asymptomatic bradycardia
  - A. Start IV TKO
  - B. Monitor and transport

**Contact Medical Control** at any time for clarification or assistance.

## CHEST PAIN GUIDELINE

- I. General treatment for chest pain
  - A. Monitor and support ABC's
  - B. Titrate O<sub>2</sub> to lowest flow that will maintain O<sub>2</sub> sats of 95% or higher
  - C. Monitor rhythm. If a dysrhythmia is present, go to the appropriate guideline.
  - D. Start IV TKO or a saline lock.
- II. Treatment of chest pain of suspected cardiac origin or cardiac symptoms indicative of possible myocardial infarction
  - A. Follow general steps in I above
  - B. Scene time for patients with suspected acute MI should be 15 minutes or less
  - C. Give 0.4 mg (1/150 gr.) Nitroglycerin SL
    1. If BP < 90, contact medical control prior to administering NTG
    2. May repeat every five minutes to total of three doses
  - D. If pain not relieved by NTG and BP > 90 systolic, may give morphine sulfate up to 5 mg IV
    1. If BP < 90, contact Medical Control before giving morphine
  - E. If signs of shock or hypovolemia and lungs are clear, give a 250 cc bolus of NS IV, reassess, repeat as needed.
  - F. If the patient is not allergic to aspirin, give 4 baby aspirin po (total of 320 mg). Give even if patient states they've already taken aspirin. Give even if pain is relieved by O<sub>2</sub>, Nitroglycerin, or morphine.
  - G. Prophylactic antiarrhythmics are not recommended for patients with ACS or MI prehospital.
  - H. Timely transport to hospital for definitive diagnosis and treatment
- III. Treatment of chest pain due to suspected pneumonia
  - A. Follow general steps in I above
  - B. Place patient in position of comfort
  - C. Suction as needed
  - D. If unstable respiratory status or abnormal vital signs, contact Medical Control
- IV. Treatment of chest pain due to suspected pulmonary embolus
  - A. Follow general steps in I above
  - B. Place patient in position of comfort
  - C. Suction as needed
  - D. If unstable respiratory status or abnormal vital signs, contact Medical Control
- V. Treatment of chest pain due to suspected thoracic aneurysm
  - A. Follow steps in I above **except**
    1. Start 2 IVs of NS per procedure in a manner not to delay transport
    2. Titrate IVs to maintain systolic BP 80-100
    3. May contact medical control to request SL NTG if BP elevated
- VI. Treatment of chest pain due to suspected pneumothorax
  - A. Follow general steps in I above
  - B. Place patient in position of comfort
  - C. Suction as needed
  - D. For specific treatment of tension pneumothorax, see CHEST DECOMPRESSION PROCEDURE.

**Contact Medical Control** at any time for clarification or assistance.

## TACHYCARDIA (WITH PULSE) GUIDELINE

- I. Assess and support ABCs
  - A. Administer oxygen, titrate to lowest flow that will keep O<sub>2</sub> sat 95% or higher
  - B. Assist ventilations as necessary
  - C. Determine presence of pulse and blood pressure
  - D. Save ECG strip
  - E. Identify and treat reversible causes
  - F. Ask patient for history of WPW. If there is history of WPW, contact Medical Control before giving antiarrhythmics.
- II. Stable patient
  - A. Start IV TKO
  - B. Do 12 lead EKG
  - C. Specific treatment if needed (if patient is or becomes unstable, go immediately to III, below)
    1. Narrow QRS and regular rhythm
      - a. May try one trial of valsalva maneuver, run continuous rhythm strip
      - b. Consider adenosine (select IV site as proximal as possible, at least at antecubital fossa)
        - i. Adult - 6 mg fast IV push, may repeat up to two times with 12 mg fast IV push
        - ii. Peds - 0.1 mg/kg (up to 6 mg per dose) fast IV push, may repeat up to two times with 0.2 mg/kg (up to 12 mg per dose) fast IV push
    2. Narrow QRS and irregular rhythm
      - a. Contact Medical Control if patient is symptomatic and antiarrhythmics are needed
    3. Wide QRS and regular rhythm -- apparent VT
      - a. Consider amiodarone
        - i. Adult - 150 mg IV, give over 10 minutes, may repeat once
        - ii. Peds - 5 mg/kg (up to 150 mg per dose) IV, give over 10 minutes, may repeat once
    4. Wide QRS and regular rhythm of unknown origin
      - a. Consider adenosine (select IV site as proximal as possible, at least at antecubital fossa)
        - i. Adult - 6 mg fast IV push, may repeat up to two times with 12 mg fast IV push
        - ii. Peds - 0.1 mg/kg (up to 6 mg per dose) fast IV push, may repeat up to two times with 0.2 mg/kg (up to 12 mg per dose) fast IV push
      - b. If no conversion with adenosine, consider amiodarone
        - i. Adult - 150 mg IV, give over 10 minutes, may repeat once
        - ii. Peds - 5 mg/kg (up to 150 mg per dose) IV, give over 10 minutes, may repeat once
    5. Wide QRS and irregular rhythm
      - a. For torsades de pointes, start magnesium 1-2 g IV loading dose of magnesium (25-50 mg/kg IV in peds)
      - b. For other rhythms, contact Medical Control if patient is symptomatic and antiarrhythmics are needed
  - D. Contact Medical Control if further orders are needed
  - E. Monitor and transport
- III. Unstable patient (altered mental status, chest pain, hypotension, pulmonary edema, shock)
  - A. Start IV TKO
  - B. Consider sedation if patient is conscious and it will not delay cardioversion
    1. Adult - may administer Versed (midazolam) up to 2 mg IV or intranasal and fentanyl up to 50 mcg IV or intranasal
    2. Peds - may administer Versed (midazolam) up to 0.1 mg/kg IV or intranasal (maximum 2 mg) and fentanyl up to 1 mcg/kg IV or intranasal (maximum 50 mcg)
  - C. Synchronized cardioversion
    1. SVT and atrial flutter
      - a. Adult - 50 joules
      - b. Peds - 0.5 joules/kg
    2. Atrial fib
      - a. Adult 120-200 joules
      - b. Peds - 1 joule/kg
    3. VT
      - a. Adult - 100 joules
      - b. Peds - 1 joule/kg

4. Repeat cardioversion as needed with increasing energy levels.
- D. If unable to sync due to polymorphic VT, treat as V fib (go to Ventricular Fibrillation Guideline).
- E. Contact Medical Control for possible antiarrhythmic orders after rhythm is converted or if unable to successfully cardiovert.
- F. Monitor and transport

**Contact Medical Control** at any time for clarification or assistance.

## SEIZURE GUIDELINE

- I. Management of a Single Seizure
  - A. Consider evidence of trauma and protect C-spine as indicated
  - B. Protect patient and manage airway
  - C. Administer titrated O<sub>2</sub>; support ventilations if needed.
  - D. Start IV TKO or saline lock (IV may be deferred if seizure is over and patient is becoming arousable, be prepared to intervene if seizure activity resumes)
  - E. Check a blood sugar if diabetic or if under 8 years of age, treat hypoglycemia if present
    1. If alcohol abuse is suspected, give 100 mg of Thiamine IV before giving dextrose
    2. If blood sugar < 60 administer D<sub>50</sub>, 50 cc (25 grams) IV push in adults (in peds, use D<sub>25</sub>: dilute D<sub>50</sub> 1:1 with sterile water for injection or NS and administer 2ml/kg)
    3. If unable to establish an IV give glucagon 1 mg IM in adults (0.5 mg in peds up to 20 kg)
  - F. Contact receiving hospital and transport
- II. Management of Status Epilepticus (single seizure longer than 3 minutes or multiple seizures)
  - A. Protect patient and manage airway
  - B. Use bag-valve-mask with 100% O<sub>2</sub> to assist ventilations.
  - C. Start IV TKO or saline lock.
  - D. Check blood sugar and treat hypoglycemia if present
    1. If alcohol abuse is suspected, give 100 mg of Thiamine IV before giving dextrose
    2. If blood sugar < 60 administer D<sub>50</sub>, 50 cc (25 grams) IV push in adults (in peds, use D<sub>25</sub>: dilute D<sub>50</sub> 1:1 with sterile water for injection or NS and administer 2ml/kg)
    3. If unable to establish an IV give glucagon 1 mg IM in adults (0.5 mg in peds up to 20 kg)
  - E. If blood glucose is over 60 or if no response to treatment of hypoglycemia, give medication as follows
    1. Adult- ativan IV, up to 4 mg IV push over at least 2 minutes, may repeat up to 4 mg once if seizure is not stopped.
    2. Peds- ativan IV up to 0.1 mg/kg (up to 4 mg) IV push over at least 2 minutes, may repeat once at 0.05 mg/kg if seizure is not stopped.
    3. If unable to start IV, administer one of the following:
      - a. Versed (midazolam) intranasal 0.2 mg/kg up to 10 mg adults and peds, limiting total volume per nostril to 1 ml. OR
      - b. Ativan IM, 4 mg in adult, 0.1 mg/kg (up to 4 mg) in peds.
    4. If seizures continue after maximum medication dose given, contact Medical Control
  - F. If narcotic overdose is suspected, administer naloxone IV, may administer IM or intranasal if unable to establish an IV
    1. Adult and children over age 5, naloxone 0.4 mg to 2 mg with dose selection based on respiratory status
    2. Children under age 5, naloxone 0.1 mg/kg

**Contact Medical Control at any time for clarification or assistance**

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## ALTERED MENTAL STATUS GUIDELINE

- I. Treatment
  - A. Restrain if necessary (see RESTRAINT POLICY).
  - B. Check a blood sugar (see BLOOD GLUCOSE MEASUREMENT POLICY).
  - C. If patient is not alert
    - 1. Use airway adjuncts and suction as needed.
    - 2. Administer titrated oxygen; support ventilations if needed.
    - 3. Establish IV TKO or saline lock.
    - 4. Cardiac monitor
- II. Specific treatment in addition to I above
  - A. Syncope
    - 1. 12 lead EKG
  - B. Trauma with altered level of consciousness is a load and go situation. Follow TRAUMA GUIDELINE
  - C. Hypotension
    - 1. Give IV bolus of 250 cc in adults (10 cc/kg in peds), may repeat as needed if no response.
  - D. Hypoglycemia
    - 1. If patient is alert and able to take fluids on their own, and signs of hypoglycemia are present, administer oral high calorie fluid (may use D50 orally).
    - 2. If alcohol abuse is suspected, give 100 mg Thiamine IV before giving dextrose.
    - 3. Always check a blood sugar in patients with suspected head trauma and/or symptoms of cerebral ischemia before giving dextrose. Do not give dextrose to these patients unless warranted by documented hypoglycemia .
    - 4. If blood sugar < 60, administer D50, 50 cc (25 grams) IV push in adults (in peds, use D25: dilute D50 1:1 with sterile water for injection or NS and administer 2 ml/kg).
    - 5. If blood sugar > 90, do not administer dextrose.
    - 6. If blood sugar is between 60 and 90 and symptoms of hypoglycemia are present, contact medical control for orders.
    - 7. If unable to establish an IV, and blood sugar is < 60, administer Glucagon 1 mg IM in adults (0.5 mg in peds up to 20kg, in peds over 20 kg use adult dose).
  - E. CVA
    - 1. Do not give dextrose to patients with symptoms of cerebral ischemia unless warranted by documented hypoglycemia.
    - 2. These patients are often frightened or confused. Provide a calm and reassuring environment.
  - F. If narcotic overdose is suspected, administer naloxone IV, May administer IM or intranasal if unable to establish an IV
    - 1. Adult and children over age 5, naloxone 0.4 mg to 2 mg with dose selection based on respiratory status
    - 2. Children under age 5, naloxone 0.1 mg/kg
  - G. Overdose of other drugs or medications
    - 1. Supportive care and contact Poison Control as time allows.
  - H. Seizures (go to SEIZURE GUIDELINE)

**CONTACT MEDICAL CONTROL at any time for clarification or assistance**

## **ALLERGIC REACTION AND ANAPHYLAXIS GUIDELINE**

- I. Monitor and support ABCs
  - A. Administer titrated oxygen
  - B. If ventilations are not adequate, assist ventilations and proceed with endotracheal intubation.
- II. Start an IV, rate determined by vital signs.
- III. Monitor cardiac rhythm and save strip.
- IV. Medications
  - A. For Anaphylaxis
    - 1. Epinephrine 0.3 - 0.5 mg 1:1000 SQ (0.01 mg/kg in peds, up to 0.3 mg), may repeat in 5-10 minutes if hypotension unresolved or symptoms recur.
    - 2. Diphenhydramine 50 mg slow IV push (2 mg/kg in peds, up to 50 mg).
    - 3. SoluMedrol 125 mg IV (2 mg/kg in peds, up to 125 mg)
  - B. For allergic reaction without symptoms of anaphylaxis
    - 1. Diphenhydramine 50 mg slow IV push or IM (2 mg/kg in peds, up to 50 mg)

### **CONTACT MEDICAL CONTROL**

## RESPIRATORY DISTRESS GUIDELINE

- I. General treatment for respiratory distress
  - A. Monitor and support ABC's
  - B. Administer titrated O<sub>2</sub>
  - C. For patients in extremis or in near respiratory arrest, use 100% oxygen with BVM and prepare to intubate if necessary.
  - D. Monitor rhythm
  - E. Start IV TKO or a saline lock
- II. Treatment of respiratory distress due to bronchospasm
  - A. General treatment as above
  - B. Albuterol
    - 1. Adults and peds over the age of 2 years: 2.5 mg/ 3 ml
    - 2. Peds under the age of 2 years: 1.25 mg/1.5 ml, add normal saline to total at least 3 ml
  - C. Albuterol may be repeated one time before contacting Medical Control.
  - D. In known COPD exacerbation or with known history of intubation for bronchospasm, may give Solu-medrol (methylprednisolone) 125 mg IV.
  - E. Document pre and post treatment assessment of respiratory status, vital signs, cardiac rhythm, oxygen saturation and lung sounds.
- III. Treatment of respiratory distress due to pulmonary edema
  - A. General treatment as above
  - B. For adult patients in respiratory distress due to apparent pulmonary edema, give up to 60 mg lasix IV and up to 2 mg morphine IV. May also administer Nitroglycerine 0.4 mg SL if systolic BP is >100. Monitor carefully. May repeat NTG every five minutes to total of three doses.
  - C. Document pre and post treatment assessment of respiratory status, vital signs, cardiac rhythm, oxygen saturation and lung sounds.

CONTACT MEDICAL CONTROL at any time for clarification or assistance

## **AIRWAY MANAGEMENT GUIDELINE**

### I. Purpose

- A. To assure proper airway assessment, management and ventilation.
- B. The following techniques outline general steps to follow when airway or ventilations may be compromised.

### II. Adult Airway Management

#### A. Airway

1. Open the airway with head tilt and chin lift or jaw thrust, or if trauma is suspected use jaw thrust without head tilt.
2. Use suction to clear airway if necessary.
3. Insert oropharyngeal airway in unconscious patients. Use nasopharyngeal airway if gag reflex is intact or teeth are clenched.

#### B. Ventilations

1. If breathing is adequate (normal rate and depth) and patient is able to protect airway, apply oxygen titrated at the lowest flow that maintains O<sub>2</sub> sats of 95%.her mask.
2. If rate or depth of breathing are inadequate, or signs of hypoxia are present, assist ventilations with bag-valve-mask and 100% O<sub>2</sub>.
3. If breathing is present but patient is not able to protect their airway, ventilate with 100% O<sub>2</sub> and proceed to intubation.
4. If breathing is absent, ventilate with 100% O<sub>2</sub> and proceed to intubation.
5. Continue high flow oxygen during resuscitation. Post-resuscitation, titrate oxygen to lowest flow that maintains O<sub>2</sub> sats of 95%.
6. A combitube may be used as a rescue airway.
7. A cricothyrotomy may also be performed if needed, see CRICOTHYROTOMY PROCEDURE.
8. Combitubes
  - a. If a combitube is already in place and you are able to ventilate adequately through the tube, do not remove the combitube. Continue to use the combitube for ventilation.
  - b. If you are not able to ventilate adequately through the combitube, deflate the pharyngeal balloon, push the tube to the left and attempt intubation. If unsuccessful, may remove combitube to intubate. Have suction available.
9. If breathing and pulse are absent begin CPR and follow CARDIAC ARREST GUIDELINE.

### III. Peds Airway Management

#### A. Airway

1. Open the airway with head age appropriate tilt and chin lift or jaw thrust, or if trauma is suspected use jaw thrust without head tilt. Padding may be necessary under the torso to maintain neutral position.
2. Use suction to clear airway if necessary.
3. Insert oropharyngeal airway if unconscious. Use nasopharyngeal airway if gag reflex intact or teeth are clenched.

#### B. Ventilations

1. If breathing is adequate (normal rate and depth) and patient is able to protect airway, apply 100% O<sub>2</sub> via appropriate size non-rebreather mask.
2. If rate is depressed or very rapid, respirations are very shallow or signs of hypoxia are present, assist ventilations with appropriate size bag-valve-mask with 100% O<sub>2</sub>.
3. If breathing is present but patient is not able to protect their airway, ventilate with 100% O<sub>2</sub> and proceed to intubation.
4. If breathing is absent, ventilate with 100% O<sub>2</sub> and proceed to intubation.
5. Once airway is secured, titrate oxygen to lowest flow that maintains O<sub>2</sub> sats at 95% or higher.
6. A cricothyrotomy may also be performed if needed, see CRICOTHYROTOMY PROCEDURE.
7. If breathing and pulse are absent, begin CPR and follow CARDIAC ARREST GUIDELINE.

### IV. Obstructed Airway Procedure

- A. Follow the current American Heart Association Guidelines for removal of obstruction.
  - B. If attempts to remove obstruction are unsuccessful, ALS providers should attempt removal of object with laryngoscope and Magill forceps.
  - C. If above procedures fail to relieve obstruction, ALS providers should consider cricothyrotomy. See CRICOTHYROTOMY PROCEDURE.
- V. Notes/Precautions
- A. Use a pulse oximeter when available to assist in determining need for more aggressive airway/ventilation management.
  - B. Consider use of the recovery (side) position in non-trauma patients who do not require ventilatory assistance but who could have a problem with secretions or vomiting (i.e. intoxication, overdose, post-ictal, awake CVA, etc.)
  - C. Suction applied for more than 10 seconds may cause hypoxia and arrhythmias.
  - D. Ventilation should be delivered slowly over 1.5-2.0 seconds for adults, 1.0-1.5 seconds for infants and small children. Allow time for spontaneous expiration to take place.
  - E. ET tube placement should be documented after initial placement and again whenever the patient is moved. See DOCUMENTATION OF INTUBATION POLICY.

## **BLOOD GLUCOSE MEASUREMENT GUIDELINE**

### I. Procedure

- A. A baseline blood glucose should be measured in:
  - 1. All patients with altered mental status
  - 2. All patients age 8 and under when and IV/IO is started
  - 3. Known diabetics with symptoms of illness
  - 4. Any patient with symptoms of hypoglycemia (see [Altered Mental Status Guideline](#))
  - 5. Patients with symptoms of cerebral ischemia, before giving dextrose containing solutions for altered mental status
- B. Follow manufacturer's instructions for use of blood glucose monitor, including documented quality control checks.

### II. Dextrose administration

- A. When glucose is  $< 60$ , follow Altered Mental Status Guideline for administering dextrose
- B. If glucose is  $> 90$ , do not give dextrose
- C. If glucose is between 60 and 90, and symptoms of hypoglycemia are present, contact Medical Control for orders.

## PAIN MANAGEMENT GUIDELINE

- I. Purpose
  - A. For management of moderate to severe pain
- II. Procedure
  - A. Assess the level of pain and any contraindications to opioids.
  - B. If not contraindicated, administer fentanyl IV. May give intranasal if unable to start IV.
    - 1. Adult -- fentanyl up to 50 mcg
    - 2. Peds -- fentanyl up to 1 mcg/kg (maximum 50 mcg)
    - 3. May repeat in 10 - 15 minutes if needed. If further pain medication is needed, CONTACT MEDICAL CONTROL.
  - C. May consider Versed (midazolam) IV prior to positioning and/or splinting severe orthopedic injuries. May give intranasal if unable to start IV.
    - 1. Adult - Versed (midazolam) up to 2 mg
    - 2. Peds - Versed (midazolam) up to 0.1 mg/kg (maximum 2 mg)
    - 3. Monitor carefully
  - D. Assessment and documentation
    - 1. Monitor vital signs, monitoring carefully for respiratory depression
    - 2. Assess effectiveness of pain control
    - 3. Document on the PCR the pre- and post- medication administration pain assessment as well as doses and times

Revision 2.00  
Approved by SFREMSA Medical Board 4-14-2011  
Adopted by SFREMSA 4-25-2011

## NAUSEA/VOMITING GUIDELINE

- I. Purpose
  - A. To treat severe nausea and/or vomiting
- II. Procedure
  - A. Monitor and support ABC's
  - B. Administer titrated O2 if indicated
  - C. Start IV, consider saline bolus
  - D. Administer ondansetron (Zofran)
    - 1. Adults and peds over the age of 12 years: 4 mg IV OR IM
    - 2. Peds under the age of 12 years: 0.15 mg/kg (maximum of 4 mg) IV OR IM

Revision 1.10  
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Adopted by SFREMSA 4-25-2011

## TRAUMA GUIDELINE

- I. Purpose
  - A. To provide prompt appropriate prehospital care and rapid transport to definitive treatment in cases of serious injury or where the potential for serious injury is suggested by mechanism of injury.
- II. Goals of prehospital trauma care
  - A. Prevention of additional injury
  - B. Rapid treatment of life or limb threatening injuries
  - C. Advance notification of definitive treatment center
  - D. Rapid transportation to definitive treatment
- III. Initial assessment and treatment
  - A. Scene safety -- protect rescuers and victims.
  - B. Stabilize cervical spine, open airway with chin lift or jaw thrust, determine level of consciousness.
    1. Initiate spinal precautions if altered level of consciousness or if mechanism of injury indicates possible spinal injury.
    2. Establish a patent airway, using adjuncts as appropriate.
      - a. Consider intubation, maintaining cervical spine immobilization at all times. Nasotracheal intubation should not be used when facial injuries are present.
  - C. Assess adequacy of oxygenation and ventilation.
    1. Administer high flow oxygen as indicated.
    2. Assist ventilations if respiratory rate < 10 or > 24 per minute.
  - D. Assess adequacy of perfusion.
    1. Level of consciousness.
    2. Pulses, capillary refill, BP when able.
  - E. Control major bleeding.
    1. Direct pressure and elevation.
    2. Tourniquets may be considered for significant extremity bleeding.
- IV. Transport decision and critical interventions
  - A. Load and Go
    1. Criteria
      - a. Significant blunt trauma with any one of the following:
        - i. Respiratory distress.
        - ii. inadequate perfusion (shock).
        - iii. Altered level of consciousness.
      - b. Penetrating trauma to the head, neck, chest or abdomen.
      - c. Trauma resulting in life or limb threat
    2. There are certain situations that require immediate intervention if the patient is expected to have any chance for survival. Rapid extrication should be performed, at the senior paramedic's discretion, at the earliest opportunity. Critical interventions include:
      - a. Spinal precautions when indicated.
      - b. Airway control requiring intubation or surgical management.
      - c. Begin CPR in cardiac arrest.
      - d. Consider bilateral chest decompression on patients with penetrating trauma to the torso who present in cardiac arrest. (see Chest Decompression Procedure)
    3. Oxygen by non-rebreather mask or BVM.
      - a. Decompress tension pneumothorax (see Chest Decompression Procedure).
      - b. Seal sucking chest wounds.
      - c. Stabilize flail chest with manual pressure.
      - d. Stabilize protruding foreign objects.
      - e. IVs are not critical interventions.
    4. Procedures must be weighed against the time it will take to perform and the ETA to the hospital.

5. Notify receiving hospital of Load and Go, mechanism, injuries, tourniquets placed (time and location) and ETA at the earliest possible time. Activate trauma team.
  6. IMMEDIATE TRANSPORT (expected maximum scene time 10 minutes). Rapid transport of the hypotensive trauma patient to the operating room for control of bleeding remains of paramount importance, any delay increases mortality.
  7. Do not delay transport to start IVs on scene in load and go trauma. IVs may be started enroute.
    - a. For penetrating trauma, titrate rate to achieve systolic BP of no greater than 80 mm Hg.
    - b. For blunt trauma, titrate rate to achieve systolic BP of no greater than 100 mm Hg.
    - c. Attempting to achieve a higher blood pressure is not necessarily better and may be harmful.
  8. Cardiac monitor may be used, save rhythm strip.
  9. Complete secondary survey.
  10. Apply dressings or splints as time allows.
  11. Monitor for change in condition.
- B. Potentially serious trauma
1. Criteria: potential for serious injury is not found on primary survey.
  2. Spinal precautions when indicated.
  3. Transport in a timely fashion (expected maximum scene time 10 minutes).
  4. An IV may be started enroute.
    - a. For penetrating trauma, titrate rate to achieve systolic BP of 80 mm Hg.
    - b. For blunt trauma, titrate rate to achieve systolic BP of 100 mm Hg.
    - c. Attempting to achieve a higher blood pressure is not necessarily better and may be harmful.
  5. Cardiac monitor may be used, save rhythm strip.
  6. Complete secondary survey.
    - a. If tender distended abdomen, pelvic instability, or bilateral femur fractures are found on secondary survey, the patient becomes a load and go.
  7. Apply dressings or splints as time allows.
  8. Monitor for change in condition.
  9. Notify receiving hospital of mechanism, injuries, tourniquets placed (time and location), and ETA at the earliest possible time.
- V. Specific interventions
- A. Intubation
1. Assess the need for intubation.
  2. Use a bougie on all oral intubation attempts to maximize success.
  3. If intubation is indicated, take one look with the laryngoscope without RSI (may use topical medications) to assess airway status and LOC. If able, go ahead and intubate.
  4. If unable to intubate, package and move to ambulance.
  5. Reassess the need for airway intervention. Consider BVM, surgical airway and nasal intubation.
  6. RSI if it will provide the best chance of success.
  7. Make one intubation attempt.
  8. If unsuccessful, initiate transport and continue airway management en route, Options may include BVM ventilation, further laryngoscopy, nasal intubation, combitube, and/or surgical airway.
- B. Amputations
1. Control hemorrhage with direct pressure and elevation, tourniquet may be used.
  2. After bleeding is controlled, apply a sterile dressing and ace wrap to the stump to replace hand pressure, monitor for recurrence of bleeding.
  3. If the amputation is a degloving injury, apply a sterile dressing soaked in saline.
  4. Care of the amputated part
    - a. Do not waste time searching for the part--assign someone to search and do not neglect patient care.
    - b. Separate the part from dirt and other foreign matter.
    - c. Rinse the part with saline, do not immerse.

- d. Dry the part and wrap in a dry dressing, sheet or towel, covering the open end with a saline dressing.
  - e. Place the part in a plastic bag, seal it shut and place inside a second bag.
  - f. Place the sealed bags in ice or ice water.
  - g. Transport the part with the patient whenever possible, notify the receiving hospital of injuries at the earliest opportunity.
- C. Burns
1. Stop the burning process.
  2. Pay particular attention to airway, noting signs of smoke inhalation. Intubate when indicated. Consider early intubation before airway edema progresses.
  3. Remove constricting clothing or jewelry in or distal to the burned area.
  4. Apply dressings (sterile sheets for large areas, dry dressings for smaller areas).
  5. May use sterile saline-soaked dressings if there is material adhering to the skin that could continue the burning process.
  6. For moderate or severe burns (> 15% 2nd degree or > 2% 3rd degree), start IV enroute if possible, run wide open.
  7. Chemical burns
    - a. Remove contaminant.
    - b. For chemicals in the eyes, flush with saline solution during transport if possible.
  8. Electrical burns
    - a. Ensure rescuer safety.
    - b. Monitor cardiac rhythm and save strips.
    - c. Monitor frequently.
- D. Extremity injuries
1. Protect the injury from excessive movement.
  2. Assess circulation, motion and sensation distal to the injury.
  3. If CMS is absent distal to a suspected fracture or dislocation, contact Medical Control.
  4. Whenever splints or pressure dressings are used, reassess and document CMS after application.

## **SPINAL IMMOBILIZATION GUIDELINE**

### I. Purpose

- A. To assure appropriate and adequate immobilization of patients with suspected or potential spinal injuries.

### II. Procedure

- A. In general, full spinal immobilization (as defined below) is required for any patient with a history of trauma or found in the setting of potential trauma including near drowning. At the discretion of the paramedic, immobilization can be deferred in absence of all of the following signs and symptoms:
  - 1. Neck or back pain (age and language barriers must be considered)
  - 2. Mid line posterior neck or back tenderness
  - 3. Altered mental status (GCS < 15 or evidence of intoxication)
  - 4. Numbness/weakness not obviously explained by an existing extremity fracture
  - 5. An injury or situation distracting the patient from possibly identifying neck or back pain/tenderness, or unexplained numbness/weakness
  - 6. Restricted or painful range of motion with slow movement of the head from side to side and front to back (should only be attempted with absence of all of the first 5 areas)
- B. Patients with onset of signs and symptoms (1-6 above) after the initial assessment or during transport should be immobilized as indicated.
- C. Children injured in a motor vehicle accident should be immobilized and transported in their own car seat whenever possible. If not in a car seat, the child should be immobilized in a pediatric immobilization device with padding under the torso, as necessary, to maintain neutral alignment.
- D. Full spinal immobilization is defined as a long backboard with three (3) body straps, a properly fitting cervical collar, and full head immobilization.

### III. Documentation

- A. Document signs and symptoms discovered during initial spinal assessment and any immobilization performed.
- B. Document absence of signs and symptoms when deferring immobilization.
- C. Document changes in signs and symptoms from initial assessment and any immobilization performed.
- D. Document circulation, motor, and sensory functions before and after immobilization.

## DROWNING/HYPOTHERMIA GUIDELINE

- I. Assessment
  - A. ABC's
    - 1. Establish airway, provide high-flow O<sub>2</sub> and ventilate if needed with BVM
    - 2. If pulse is absent, initiate CPR
    - 3. Defibrillate one time if in V fib
    - 4. Endotracheal intubation if inadequate spontaneous ventilation
    - 5. Observe spinal precautions if suggested by mechanism of injury or if unknown
- II. Management
  - A. Place patient in a warm and dry environment.
  - B. Remove wet garments.
  - C. Start IV with warm solution if possible, run IV at TKO.
  - D. Run ECG strip and save.
  - E. If patient is in cardiac arrest, continue CPR and obtain rectal temperature, using hypothermia thermometer.
    - 1. If temperature is above 86 degrees, go to the appropriate guideline
    - 2. If temperature is below 86 degrees, continue CPR and transport

### **CONTACT MEDICAL CONTROL**

## **GUIDELINE FOR RESPONSE TO ORGANOPHOSPHATE / CARBAMATE / CHEMICAL NERVE AGENT EXPOSURE**

### **Guidelines for initial response**

1. The safety of the crew must be considered the highest priority. Do Not enter any scene or area that has been identified as contaminated or may become contaminated
2. All providers must wear the appropriate level of Personal Protective Equipment as dictated by the conditions on scene and the incident commander.
3. If a first arriving unit and scene conditions indicate that a chemical release may have occurred, withdraw to a safe distance and notify dispatch for additional resources.
4. If the crew becomes exposed upon arrival, withdraw to a safe area and await decontamination. Crew members should monitor themselves and each other for signs of exposure and treat appropriately
5. If the crew is NOT exposed, set up EMS Branch Operations a safe distance from the hot zone, upwind and uphill of the incident. Use Attachment A to assist in developing specialized medical treatment areas for this type of event.
6. All providers should have appropriate escape PPE on their person while operating at a Hazardous Materials incident that includes organophosphate type agents.
7. During intentional incidents, staging should be set up at safe distances than the actual EMS branch or medical treatment areas so as to protect incoming units in the event of a secondary device.
8. Advise all incoming EMS resources to report to the staging area and NOT to the scene or to identified medical treatment areas.
9. Make immediate contact with the Incident commander or the command post to assist in development of the incident action plan and to coordinate deployment of chempaks.
10. Notify all area hospital emergency departments of the event.

Criteria for implementation of this protocol

1. Confirmation of organophosphate or nerve agent release by responder agency equipped with appropriate detection equipment  
AND / OR
2. Single or multiple patients exhibiting signs and symptoms of organophosphate, carbamate or nerve agent toxicity (SLUDGEM)

<b>S</b>	<b>Salivation</b>
<b>L</b>	<b>Lacrimation (tearing)</b>
<b>U</b>	<b>Urination</b>
<b>D</b>	<b>Defecation or Diarrhea</b>
<b>G</b>	<b>GI upset (abdominal cramps)</b>
<b>E</b>	<b>Emesis (vomiting)</b>
<b>M</b>	<b>Muscle activity (twitching, "bag of worms")</b>
<b>+</b>	
Respiration	Difficulty breathing/Distress (shortness of breath, wheezing)
and	
Agitation	Confusion, disorientation, seizures, coma

**NOTE: Responders should be aware that other chemical agents may produce signs and symptoms that mimic that of organophosphate exposure. Responders should be relatively certain that an organophosphate or nerve agent exposure has occurred before requesting or administering nerve agent antidotes.**

**Adult Patient triage for patients exposed to organophosphates, Carbamates or chemical nerve agents**

1. Using the existing triage tag system, patients will be triaged by the following method

Tag Color	Criteria
<b>BLACK TAG</b>	<ul style="list-style-type: none"> <li>▪ No response to noxious stimulus triage (NST)</li> <li>▪ In the hot zone</li> <li>▪ No movement</li> </ul>
<b>RED TAG</b>	<ul style="list-style-type: none"> <li>▪ Non-ambulatory</li> <li>▪ *Severe Respiratory Distress*</li> <li>▪ AMS (agitation, CNS changes)</li> <li>▪ SLUDGEM</li> <li>▪ Warm zone</li> </ul>
<b>YELLOW TAG</b>	<ul style="list-style-type: none"> <li>▪ Ambulatory patients</li> <li>▪ <b>Respiratory Distress</b> <ul style="list-style-type: none"> <li>• to a limited degree</li> </ul> </li> <li>▪ SLUDGEM</li> <li>▪ Cold zone after decontamination</li> </ul>
<b>GREEN TAG</b>	<ul style="list-style-type: none"> <li>▪ Ambulatory patients</li> <li>▪ No Exposure or</li> <li>▪ Asymptomatic</li> </ul>

## Pediatric Patient triage for patients exposed to organophosphates, Carbamates or chemical nerve agents

Only three triage categories should be used

Tag Color	Criteria
<b>BLACK TAG</b>	<ul style="list-style-type: none"> <li>▪ No response to noxious stimulus triage (NST)</li> <li>▪ In the hot zone</li> <li>▪ No movement</li> </ul>
<b>RED TAG</b>	<ul style="list-style-type: none"> <li>▪ Ambulatory or non ambulatory</li> <li>▪ Exposed</li> <li>▪ Symptomatic</li> </ul>
<b>GREEN TAG</b>	<ul style="list-style-type: none"> <li>▪ Ambulatory patients</li> <li>▪ No Exposure or</li> <li>▪ Asymptomatic</li> </ul>

Based on Triage Tag Colors, the following **INITIAL ADULT** treatment modalities are indicated.

Tag Color	Signs & Symptoms	Atropine Dose	2-PAM Dose
<b>RED</b>	Severe Respiratory Distress Agitation <b>SLUDGEM</b>	3 auto-injectors 6 mg  Monitor Q 3 - 5 Mins	3 auto-injectors 1.8 grams
<b>YELLOW</b>	Respiratory Distress <b>SLUDGEM</b>	2 auto-injectors 4 mg  Monitor Q 3 - 5 Mins	2 auto-injector 1200 mg
<b>GREEN</b>	Asymptomatic	Monitor for clinical Signs & symptoms Q 3 - 5 mins	Monitor for clinical Signs & symptoms Q 3 - 5 mins.

Note: Use the following self- treatment modalities only if you are symptomatic and no personnel trained in the use of auto injectors are available.

<b>FORCE</b>	Symptomatic Seek Immediate Attention	1 Auto-injector 2 mg Self Administered	1 Auto-Injector 600 mg Self Administered
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After initial treatments, patients should be re-evaluated every 3 to 5 minutes. If patients are still symptomatic, the following **ADULT** extended treatment guidelines should be initiated at the medical treatment area(s)

Tag Color	Signs & Symptoms	Atropine Repeat Dosing	2-PAM Repeat Dosing
<b>RED</b>	Severe Respiratory Distress Agitation <b>SLUDGEM</b>	1 auto-injector 2 mg  administer q 3-5 mins as needed	Up to a maximum of 1.8 grams  3 auto-injectors
<b>YELLOW</b>	Respiratory Distress <b>SLUDGEM</b>	1 auto-injector 2 mg  administer q 3 - 5 mins as needed	Up to a maximum of 1200 mg  2 auto-injectors
<b>GREEN</b>	Asymptomatic  Up-triage is symptoms develop	Monitor for clinical Signs & symptoms Q 3 - 5 mins	Monitor for clinical Signs & symptoms Q 3 - 5 mins.

In **pediatric patients** the following dosing chart should be used

Tag Color	Exposure (and / or Signs of Respiratory Distress, Agitation, SLUDGEM)	Atropine and 2-PAM Dosing And Monitor Interval	
<b>RED</b>	Yes	Age <1 Years  Less than 10 kg (22 Pounds)	.5 mg Atropine IM, Q3 mins PRN or, if not available 1 atropine auto-injector (2mg)  Pralidoxime 50mg/kg IM or, if not available 1 2-Pam Auto-Injector (600mg)
		Age 1 – 9 Years	1 atropine auto-injector 2mg atropine IM, Q3 mins PRN  1 2-PAM auto-injector (600 mg)  <b>Repeat once PRN</b>
<b>GREEN</b>	NO  Up triage if patient exhibits signs / symptoms	Monitor for clinical Signs & symptoms Q 3 - 5 mins	

## Attachment A

### Setting up appropriate medical treatment areas

The concept of medical treatment for patients exposed to nerve agents is to decontaminate all of these exposed and deliver nerve agent antidote in a timely fashion.

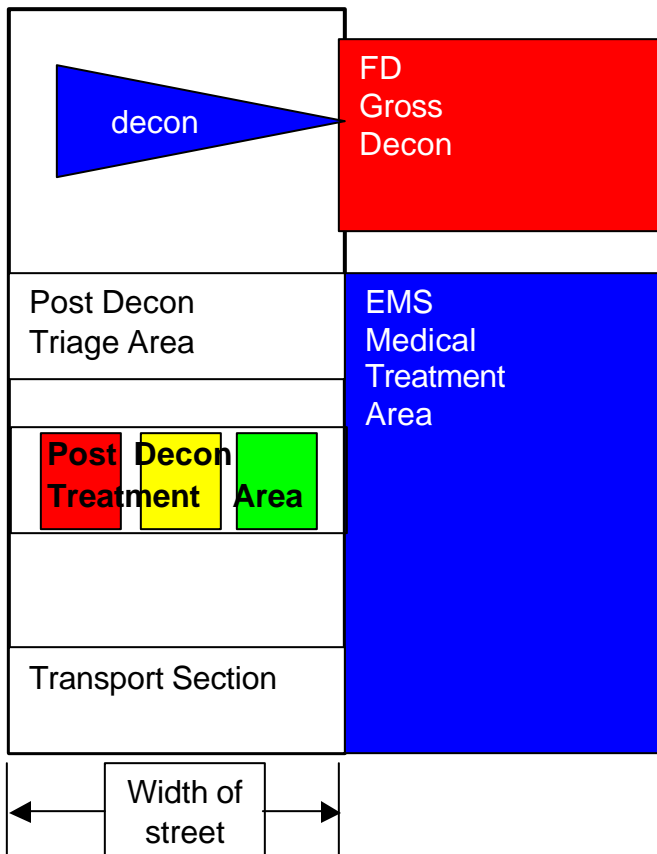
In an effort to provide a secure environment for responders, it is suggested that several treatment areas are set up in different areas to allow for the following

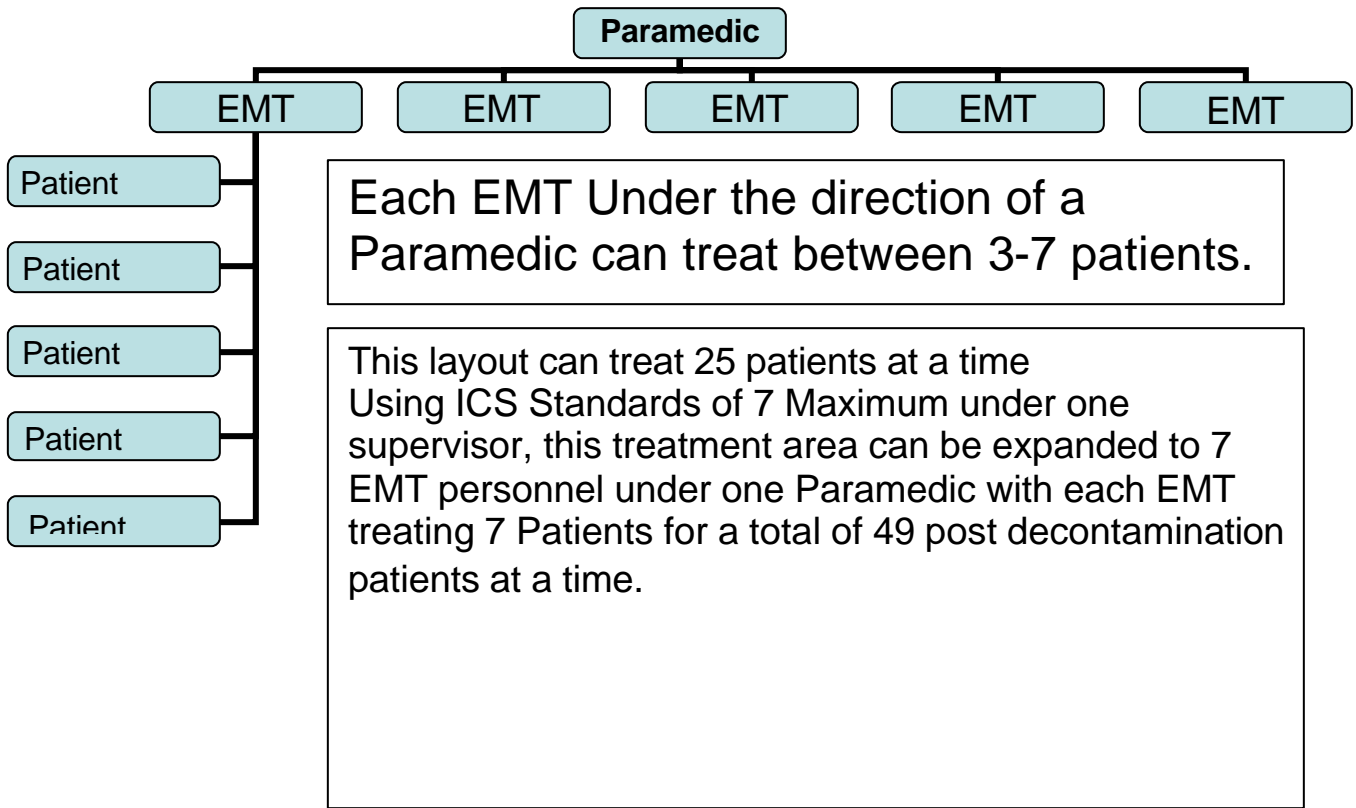
1. Rapid patient decontamination
2. Force protection so as all providers are not located in the same area in the event of secondary device
3. Covered routes of exit so that affected persons cannot leave the scene without passing a decon/treatment area

A treatment area should consist of at least one paramedic to oversee the treatment area operation. A suggested treatment area would be a paramedic crew, a basic crew and one fire crew.

The fire crew would establish gross decon and assist in administration of Mark 1 Antidote Kits

See Diagram





## OBSTETRICAL EMERGENCIES GUIDELINE

- I. Trauma in Pregnancy
  - A. Management -- follow trauma guidelines with the following additions
    1. Avoid placing the patient on her back -- if not contraindicated, turn patient on her left side. If on a long board, elevate the head of the board 10 to 15° and place six inch towel rolls under right edge of board. May also manually shift uterus to the left.
    2. MAST may be used, do not inflate the abdominal section if the patient is in the third trimester.
    3. Administer high flow oxygen whenever the mechanism of injury suggest the potential for serious trauma.
- II. Preeclampsia and Eclampsia
  - A. Management
    1. ABC's
    2. Administer high flow O<sub>2</sub>
    3. Keep environment quiet and calm.
    4. Place the patient on her left side.
    5. If any signs of preeclampsia other then elevated BP are present,
      - a. Start IV TKO.
      - b. Cardiac monitor, save rhythm strip.
      - c. Contact medical control.
    6. If seizures are present
      - a. Manage airway
      - b. Administer ativan IV, up to 4 mg IV push over at least 2 minutes and contact Medical Control regarding use of magnesium sulfate (usual loading dose is 4 grams in 100 cc D5W given at 10ml per minute)
    7. Monitor and transport
- III. Labor
  - A. Management
    1. Immediate transport is indicated for: hypotension, heavy vaginal bleeding, abnormal presentation, fetal bradycardia.
    2. When delivery is imminent (crowning):
      - a. Set up delivery area using OB kit.
      - b. Start high flow O<sub>2</sub>.
      - c. If time permits, start IV TKO.
      - d. Coach the mother to breath deeply between contractions and to push with contractions.
      - e. Using sterile gloves, control the infant's head as it crowns.
      - f. As soon as the head is clear of the vagina, use a bulb syringe to clear the infant's mouth and nose (remove amniotic sac if needed).
      - g. After the head is delivered, look and feel to see if the cord is around the baby's neck. If it is and it is loose, slide it gently over the baby's head, If the cord is snug around the neck, clamp the cord twice and cut between.
      - h. Support the head as it rotates, deliver one shoulder and then the other.
      - i. Stimulate the baby.
      - j. Suction the baby's mouth and nose again.
      - k. Dry and wrap the baby, placing on its side in a slightly head down position to allow secretions to drain.
      - l. Note the time of delivery.
      - m. Keep the baby above the level of the vagina and apply clamps 10 cm from the baby and again 5 cm further from the baby, then cut the cord between the clamps.
      - n. Note APGAR at one and five minutes.
      - o. Apply direct pressure on any perineal tears.
      - p. Monitor mother and baby and transport.

- q. If the placenta delivers, transport it with the mother.
- r. After delivery of the placenta, massage the uterine fundus until it feels hard.
- 3. Abnormal Deliveries
  - a. Breech
    - i. Allow buttocks and trunk to deliver spontaneously, then support the baby's body on the palm of your hand and arm, allowing the head to deliver.
    - ii. If the head doesn't deliver within three minutes, place your gloved hand in the vagina with your palm towards the baby's face. Form a "V" with your fingers and push the vaginal wall away from the baby's face.
    - iii. Transport safely and rapidly to the hospital with mother in the knee- chest position or with buttocks elevated on pillows, maintaining the baby's airway, as described, throughout transport.
  - b. Prolapsed cord
    - i. Place mother in knee-chest position or supine with hips elevated on a pillow.
    - ii. Administer high flow O<sub>2</sub> .
    - iii. With gloved hand, gently push the baby up the vagina several inches to release. pressure on the cord. DO NOT attempt to push the cord back.
    - iv. Transport, maintaining pressure on the presenting part.
  - c. Limb presentation
    - i. Place mother in knee-chest position or supine with hips elevated on a pillow.
    - ii. Administer high flow O<sub>2</sub> .
    - iii. Transport immediately.

## GYNECOLOGICAL EMERGENCIES GUIDELINE

- I. Traumatic Vaginal Bleeding
  - A. Direct pressure on punctures or lacerations to control bleeding.
  - B. If shock is present
    - 1. Elevate legs.
    - 2. Administer high flow O<sub>2</sub>.
    - 3. Start IV
      - a. For penetrating trauma, titrate IV to achieve systolic BP of no greater than 80 mm Hg.
      - b. For blunt trauma, titrate IV to achieve systolic BP of no greater than 100 mm Hg.
  - C. Monitor and transport.
- II. Non-traumatic Vaginal Bleeding
  - A. If shock is present
    - 1. Elevate legs.
    - 2. Administer high flow O<sub>2</sub>.
    - 3. Start IV, titrate to achieve systolic BP of no greater than 100 mm Hg.
  - B. Monitor and transport.
- III. Sexual Assault
  - A. After ABC's, psychological support is paramount.
  - B. Adopt a non-judgemental approach.
  - C. Avoid questions about the event.
  - D. The patient should not change clothes, eat or drink, use the bathroom, wash, or bathe until after the exam at the hospital.
  - E. Treat vaginal bleeding as traumatic bleeding.

## NEONATAL RESUSCITATION GUIDELINE

- I. When prehospital delivery is imminent, follow the Obstetrical Emergencies Guideline for delivery of the infant
- II. Resuscitation Procedure (for potentially viable fetus, contact on-line medical control for guidance if needed)
  - A. Stimulation
    1. If suctioning, drying and warming, as part of the delivery process, do not produce adequate stimulation to induce effective respiratory effort, provide tactile stimulation by either flicking the soles of the feet, or rubbing the infant's back.
    2. Breathing rate and depth should increase immediately with brief stimulation, do not take the time to stimulate the infant more than twice.
  - B. Assessment
    1. Respiratory Effort
      - a. If respiratory response is adequate, proceed with assessment of heart rate.
      - b. If respiratory response is not adequate, begin positive pressure ventilations immediately.
    2. Heart Rate
      - a. If heart rate is > 100 and spontaneous respirations are present, proceed with assessment.
      - b. If heart rate is < 100, begin positive pressure ventilations immediately.
    3. Color
      - a. Peripheral cyanosis is common in the first few minutes of life. No intervention is necessary.
      - b. If central cyanosis is present despite spontaneous respirations and an adequate heart rate, administer blow-by oxygen. If color does not improve, begin positive pressure ventilations.
    4. Apgar Score
  - C. Positive pressure ventilation
    1. Indications
      - a. Apnea
      - b. Heart rate < 100.
      - c. Persistent central cyanosis despite oxygen administration.
    2. Ventilate
      - a. Use a BVM with 100% oxygen.
      - b. Begin with small tidal volumes and rapidly increase volume in small increments.
      - c. Rate of 40-60 breaths per minute.
      - d. If unable to adequately ventilate, repeat suction and reposition the infant. If still unable to adequately ventilate, place an ET tube.
    3. Reassess after 15-30 seconds of ventilation.
      - a. If heart rate is > 100 and adequate respiratory effort is present, stop ventilation. Provide gentle tactile stimulation, if necessary, to maintain spontaneous respirations.
      - b. If heart rate is < 60, or 60-80 and not rapidly increasing, begin chest compressions.
  - D. Chest compressions
    1. Indications
      - a. Heart rate < 60 despite adequate ventilations.
      - b. Heart rate 60-80 and not increasing despite adequate ventilations.
    2. Compressions
      - a. Always accompany chest compressions with positive pressure ventilations with 100% oxygen at 40-60 per minute.
      - b. Compress at a depth of 1/2 to 3/4 inch, ratio of 3 compressions to 1 ventilation, target rate of 90 compressions and 30 ventilations per minute.
    3. Reassess
      - a. Stop compressions when heart rate reaches 80.
      - b. If heart rate remains < 80, despite adequate ventilation and chest compressions, intubate and then administer epinephrine.
  - E. Epinephrine
    1. Indication: asystole or heart rate < 80, despite adequate ventilation and chest compressions.
    2. Dose: 0.1mg/kg (0.1ml/kg of 1:1000 solution) via ET.
    3. May repeat in 3-5 minutes.

### **CONTACT MEDICAL CONTROL**

## **COMMUNICATION SYSTEM FAILURE POLICY**

- I. If On-line Medical Control is not available due to a communication failure
  - A. The senior paramedic should continue treating the patient according to his/her best understanding of the standard of care and initiate transport when able.
  - B. Document the circumstances of the communication system failure and the steps taken to provide treatment. Forward to the Medical Director.

Revision 1.00  
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Adopted by SFREMSA 6/18/2008

## **EMS SYSTEM CANCELLATION POLICY - FOR ADULTS**

- I. Purpose
  - A. To provide guidelines for first responder and ambulance cancellation decisions.
- II. First Responder Cancellation
  - A. A senior paramedic may cancel first responders after making patient contact and assessing the need for additional personnel.
- III. Ambulance Cancellation
  - A. No Patient
    - 1. First Responders should request Metro Communications cancel the ambulance if the report of an ill or injured patient proves to be false.
    - 2. First Responders should request Metro Communications cancel the ambulance if the patient is leaving or has left the scene.
  - B. Patients refusing treatment and transportation
    - 1. First Responders shall not request cancellation of the responding ambulance if there is an ill or injured patient on scene.
    - 2. First Responders may request Metro Communications downgrade a response when a patient is refusing treatment and transportation.
    - 3. The senior paramedic may use discretion in response decisions when they have a report of a patient refusing treatment while other calls are pending. Document on the PCR.
- IV. Non-emergency situations
  - A. The first EMS personnel on scene should assess the situation and update Metro Communications so that other responders can be downgraded or canceled as appropriate.

**EMS SYSTEM DESTINATION POLICY**  
**(FOR CALLS WITHIN THE CITY OF SIOUX FALLS)**

- I. Purpose
  - A. To provide guidelines for ambulance destination decisions for calls other than interfacility transfers, within the city of Sioux Falls,
- II. Non-Cardiac Patients
  - A. Transport the patient to the acute care hospital of their choice, or if the patient has no preference, transport to Avera McKennan Hospital and University Medical Center if east of Minnesota Avenue and to Sanford USD Medical Center if on or west of Minnesota Avenue.
  - B. Serious and potentially serious trauma (see TRAUMA GUIDELINE) must be transported to a verified trauma center.
- III. Cardiac Patients
  - A. Definition
    1. < 30 yr. of age with c/o chest pain with a history of heart disease or 1 or more of the following classic symptoms of acute MI:
      - a. Diaphoresis
      - b. Nausea/vomiting
      - c. Shortness of breath
      - d. Lightheadedness
      - e. Weakness
      - f. Dizziness
      - g. Syncope
    2. > 30 yr. of age with c/o chest pain
    3. > 65 yr. of age with dyspnea
  - B. Transport the patient to the acute care hospital of their choice, or if the patient has no preference, transport as follows:
    1. East of Minnesota Avenue and North of 41st Street -- Avera McKennan Hospital and University Medical Center
    2. West of Minnesota Avenue and North of 41st Street -- Sanford USD Medical Center
    3. South of 41st Street -- Avera Heart Hospital of South Dakota
- IV. Multiple patients transported in the same ambulance must be transported to the same hospital. This takes priority over an individual patient's preferred destination. If the patients prefer differing hospitals, follow the guidance in sections II. and III., above to determine the destination as appropriate. Inform the patients that they can later be transferred to their hospital of choice.
- V. Avera Behavioral Health Center Transports
  - A. For transfers to the Avera Behavioral Health Center (ABHC), call the Avera Behavioral Health Assessment Program (322-4065) to verify the admission. The Assessment staff will notify Avera Behavioral Health Security, who will assist with access into the Behavioral Health Center and the appropriate inpatient unit. If unable to contact the Assessment Program, contact ABHC Security (322-5909). Use the back loading dock for entrance.
  - B. Transfer care to nursing staff and document on the PCR.
  - C. When transporting a person from ABHC to another facility, go to the sending Avera Behavioral Health Unit and receive medical report information, any hard copy information, from unit staff before transporting the person.
- VI. The senior paramedic may use discretion in destination decisions because of traffic, weather, road conditions or other unforeseen circumstances. Document on the PCR.
- VII. Online Medical Control may be contacted for destination issues.

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Adopted by SFREMSA 6-16-2010

## EMS SYSTEM CERTIFICATION POLICY

- I. Purpose
  - A. To provide for the establishment of minimum standards to be met by those providing care in the Sioux Falls Regional EMS system, so as to promote the health and safety of the people of the region.
- II. Certification is required for all EMS providers to provide patient care within the system. Loss of certification equates with the loss of privilege to practice. See Incident Investigation and Management Policy.
- III. Requirements for initial certification and biannual recertification for all providers:
  - A. Successful completion of provider-specific requirements as listed in IV below.
  - B. Completion of a background check prior to initial certification, with no felony convictions or conviction of a crime that would constitute a felony in South Dakota. Other information discovered during a background check will be considered by the Medical Board and may be the basis for a decision by the Medical Board as to whether an applicant will be certified.
  - C. Once certified, the provider must notify the Medical Board of any felony charges or convictions, or charges or convictions in another jurisdiction that would constitute a felony in South Dakota. See Incident Investigation and Management Policy.
  - D. Application for certification must be made in writing to the Medical Director, and must include proof that all prerequisites are met, as well as a recommendation for certification by the agency's trainer/FTO.
  - E. Recommendation of the Medical Director and approval of the Medical Board.
- IV. Requirements for specific providers in addition to III, above:
  - A. Emergency Medical Dispatcher
    1. Initial certification and recertification requires BLS for Healthcare Providers or Heartsaver certification (or equivalent) and NAEMD certification.
    2. Recertification requires completion of continuing education as specified in the EMD policy.
    3. Completion of requirements for provisional certification as specified in Metro Communications' Medical Priority Dispatch Certification Policy.
  - B. First Responder Police
    1. Initial certification requires completion of Medical Board approved first aid course including BLS for Healthcare Providers or Heartsaver AED certification (or equivalent)
    2. Recertification requires current first aid certification.
  - C. EMT First Responder
    1. Initial certification and recertification requires
      - a. State EMT certification.
      - b. Current BLS for Healthcare Providers certification (or equivalent)...
      - c. Recommended: successful completion of ITLS/PHTLS course within the past 2 years.
  - D. EMT Ambulance
    1. Initial certification and recertification
      - a. State EMT certification.
      - b. Current BLS for Healthcare Providers certification (or equivalent).
      - c. Recommended: successful completion of ITLS/PHTLS course within the past 2 years.
  - E. EMT Intermediate and Advanced
    1. Initial certification
      - a. State EMT-Intermediate or Advanced certification and SBMOE licensure.
      - b. Current BLS for Healthcare Providers certification (or equivalent).
      - c. Successful completion of ITLS/PHTLS course within the past 2 years (or equivalent).
      - d. Successful completion of an oral exam administered by the Medical Director.
      - e. Successful completion of an approved field training program (submit documentation to REMSA).
      - f. Successful completion of skills validation program.
    2. Recertification
      - a. State EMT-Intermediate or Advanced certification and SBMOE licensure.

- b. Current BLS for Healthcare Providers certification (or equivalent).
  - c. Successful completion of ITLS/PHTLS course within the past 2 years (or equivalent).
  - d. Successful completion of skills validation program within the past 6 months.
  - e. ALS skills competence as evidenced by skills validation and CQI.
- F. EMT Paramedic
- 1. Initial certification
    - a. State EMT-P certification and SBMOE licensure.
    - b. Current BLS for Healthcare Providers certification (or equivalent)..
    - c. Successful completion of ITLS/PHTLS course within the past 2 years (or equivalent).
    - d. Successful completion of ACLS course within the past 2 years (or equivalent).
    - e. Successful completion of PALS course within the past 2 years (or equivalent).
    - f. Successful completion of an oral exam administered by the Medical Director.
    - g. Successful completion of an approved field training program (submit documentation to REMSA).
    - h. Successful completion of skills validation program including RSI training.
  - 2. Recertification
    - a. State EMT-P certification and SBMOE licensure.
    - b. Current BLS for Healthcare Providers certification (or equivalent).
    - c. Successful completion of ITLS/PHTLS course within the past 2 years (or equivalent).
    - d. Successful completion of ACLS course within the past 2 years (or equivalent).
    - e. Successful completion of PALS course within the past 2 years (or equivalent).
    - f. Successful completion of skills validation program including RSI training within the past 6 months.
    - g. ALS skills competence as evidenced by skills validation and CQI.
- G. Senior EMT Paramedic
- 1. Initial certification
    - a. One year of full-time (or pro-rated) experience as an EMT-P. If the candidate has practiced in another system within the past year, (s)he must sign a letter requesting release of information from the previous medical director.
    - b. Current certification as an EMT Paramedic within the system.
    - c. Successful completion of an approved senior paramedic field training program (submit documentation to REMSA).
    - d. A written request from the employer that includes an assessment of the candidate's clinical and leadership skills.
    - e. A written request from the candidate that includes a self assessment of clinical and leadership skills.
    - f. State EMT-P certification and SBMOE licensure.
    - g. Current BLS for Healthcare Providers certification (or equivalent).
    - h. Successful completion of ITLS/PHTLS course within the past 2 years (or equivalent).
    - i. Successful completion of ACLS course within the past 2 years (or equivalent).
    - j. Successful completion of PALS course within the past 2 years (or equivalent).
    - k. Successful completion of an exam administered by the Medical Director to include medication doses/calculations, guidelines, chest decompression, RSI, surgical airway management, megacode, trauma management.
    - l. Successful completion of skills validation program including RSI training within the past 6 months.
    - m. ALS skills competence as evidenced by skills validation and CQI.
  - 2. Recertification
    - a. State EMT-P certification and SBMOE licensure.
    - b. Current BLS for Healthcare Providers certification (or equivalent).
    - c. Successful completion of ITLS/PHTLS course within the past 2 years (or equivalent).
    - d. Successful completion of ACLS course within the past 2 years (or equivalent).
    - e. Successful completion of PALS course within the past 2 years (or equivalent).
    - f. Successful completion of skills validation program including RSI training within the past 6 months.
    - g. ALS skills competence as evidenced by skills validation and CQI.
- V. Skill Validation, Training and Continuing Education for paramedics in RSI approved services

- A. Biannual skill validation to include proficiency in the following areas:
  - 1. Drug-Assisted Intubation
  - 2. Surgical Cricothyrotomy with the use of pig necks
  - 3. Needle Cricothyrotomy
  - 4. Chest Decompression
  - 5. Intraosseous Lines
  - 6. Endotracheal Intubation (Adult, Child and Infant)
  - 7. End-tidal CO<sub>2</sub> Monitor
  - 8. Cardiac Monitoring, 12 lead EKG's and STEMI Recognition
  - 9. Supraglottic Airways

VI. Certification Process

- A. Notice of Certifications to be considered by the REMSA Medical Board will be given by posting the candidates name and certification sought on the REMSA Medical Board Meeting Agenda. Candidates may appear before the Medical Board if they wish.
- B. The Medical Director will present the candidate's credentials and test results, if applicable, to the Medical Board, along with his recommendation for certification or denial of certification.
- C. If certification is not recommended by the Medical Director, the candidate will be notified of that fact in writing at least 7 days prior to the Medical Board meeting at which their certification will be considered. The candidate may appear before the Medical Board to provide information.
- D. The Medical Board may grant or deny certification, or may ask for further information before ruling. The Medical Board may request that the candidate appear before the Medical Board to provide information.
- E. Appeal Process
  - 1. Denial of certification by the Medical Board will be communicated to the individual in writing and will state the reason for the denial. Copies will be given to the employer and the Executive Director of REMSA.
  - 2. An individual or agency may appeal the denial of certification to REMSA by filing a written request with the Executive Director within 7 days of receipt of notification of denial of certification.
  - 3. REMSA will hold a hearing within 7 days of receipt of a written request to appeal a decision on certification. After a hearing, REMSA may affirm the Medical Board's decision, remand for further proceedings, or reverse and remand if the Medical Board's decision is found to be clearly erroneous in light of the entire evidence, or arbitrary, or capricious, or an abuse of discretion.
  - 4. A REMSA decision may be appealed to Circuit Court.
  - 5. In the event of an appeal, the decision of the Medical Board is in effect until the completion of the appeals process.

VII. Revocation of Certification — see Incident Investigation and Management Policy.

## **EMS SYSTEM INCIDENT INVESTIGATION AND MANAGEMENT POLICY**

- I. Purpose
  - A. To assure high quality prehospital care within the EMS system.
  - B. To provide an opportunity for remediation and retraining of providers when necessary.
  - C. To protect the public from unsafe prehospital care.
  - D. To provide for due process in disciplinary decisions.
- II. Definitions
  - A. Emergency Medical Services: the full spectrum of health care provided to the patient, including bystander action, dispatch and pre-arrival instructions, first response service, ambulance services, transportation to and between medical facilities, on-line medical control, entry at the medical facility and quality assurance of the entire program.
  - B. Probation: an individual provider's privilege to participate in patient care within the EMS system is restricted as stipulated for a specific period of time.
  - C. Suspension: an individual provider's privilege to participate in patient care within the EMS system is withdrawn for a specific period of time.
  - D. Revocation: an individual provider's privilege to participate in patient care within the EMS system is withdrawn permanently.
- III. The Medical Director, at the direction of the Medical Board, is responsible for the quality of care given by prehospital providers, both individuals and agencies, within the EMS system. **Class I incidents as specified below and variations from accepted practice will be reported to the Medical Director for possible action, which may include retraining, temporary suspension of certification, or permanent loss of certification as specified below.**
  - A. Incidents will be classified as class I and class II. See attached lists.
- IV. Class I incidents
  - A. When a report is made to the Medical Director which may be a Class I incident, the Medical Director will initiate an incident investigation form to establish if, in fact, there is sufficient evidence to suggest that any offense occurred and that it falls into the class I category.
  - B. The Medical Director will then determine if there is sufficient cause to believe that the Emergency Medical Dispatcher, First Responder, EMT, EMT Intermediate, EMT Advanced, or EMT Paramedic, involved in the incident was responsible for the offense.
  - C. After his initial investigation and determination, the Medical Director will notify the head of the department employing the individual(s) involved. The Medical Director then may:
    1. Elect to close the case with no further action taken, with a report to the Medical Board.
    2. Suspend the individual's privilege to practice in the EMS system for a period of no longer than 72 hours or three shifts, AND/OR
    3. Place the individual on probation for a period of not more than 90 days, with notification within 7 days to the Medical Board, after which time the actions of the individual while on probation will be reviewed by the Medical Board. During the probationary period, the individual may be restricted as follows:
      - a. The individual will not be permitted to participate in direct patient care without the direct supervision or observation by senior or supervisory personnel not involved in the incident leading to the disciplinary action. Personnel supervising the individual shall complete an evaluation of the individual's performance for the Medical Board.
      - b. The individual will participate in prescribed remediation, the length and type to be determined by the Medical Board.
      - c. Both *a* and *b* above.
  - D. The Medical Director will call a special meeting of the Medical Board within 10 days to review the case. The individual involved and the individual's department head will be notified in writing of the action and given the opportunity to meet with the Medical Board and/or provide written documentation.
  - E. The Medical Board, after review, may
    1. Close the case.
    2. Continue the suspension until additional information is provided.

3. Place or continue the individual on probation for a period of not more than 90 days, after which time the actions of the individual while on probation will be reviewed by the Medical Board. During the probationary period, the individual may be restricted as follows:
  - a. The individual will not be permitted to participate in direct patient care without the direct supervision or observation by senior or supervisory personnel not involved in the incident leading to the disciplinary action. Personnel supervising the individual shall complete an evaluation of the individual's performance for the Medical Board.
  - b. The individual will participate in prescribed remedial training, the length and type of which to be determined by the Medical Board.
  - c. Both *a* and *b* above.
4. Impose a temporary suspension of the individual's privileges to practice in the EMS system, to be accompanied by prescribed remedial training, the length and type of which to be determined by the Medical Board, after which time the actions of the individual while on suspension will be reviewed by the Medical Board.
5. Impose a permanent revocation of the individual's privileges to practice in the EMS system.

V. Class II Incidents

- A. When a report is made to the Medical Director which may be a Class II incident, the Medical Director will initiate an incident investigation form to establish if, in fact, there is sufficient evidence to suggest that any offense occurred and that it falls into the class II category.
- B. The Medical Director will then determine if there is sufficient cause to believe that the Emergency Medical Dispatcher, First Responder, EMT Basic, EMT Intermediate, EMT Paramedic, or On-line Physician involved in the incident was responsible for the offense.
- C. After his initial investigation and determination, the Medical Director will notify the head of the department employing the individual(s) involved. The Medical Director then may :
  1. Elect to close the case with no further action taken, with a report to the Medical Board.
  2. Issue a warning letter to the individual with a copy to the employer.
  3. Place the individual on probation (as in IV.C.3.a) until the Medical Board meets to review the case.

VI. Appeal Process

- A. All disciplinary actions will be communicated to the individual in writing and will state the reason for the action. Copies will be given to the employer and the Executive Director of REMSA.
- B. An individual or agency may request an appeal of a Medical Director decision to the Medical Board by filing a written request with the Executive Director within 7 days of receipt of the decision of the Medical Director.
- C. An individual or agency may request an appeal of the Medical Board's decision to the Commissioners of the Regional EMS Authority (REMSA), by filing a written request with the Executive Director within 7 days of receipt of the decision of the Medical Board.
- D. REMSA will hold a hearing within 7 days of the request for an appellate review. After a hearing, REMSA may affirm the Medical Board's decision, remand for further proceedings, or reverse and remand, if the Medical Board decision is found to be clearly erroneous in light of the entire evidence, or arbitrary, or capricious, or an abuse of discretion.
- E. A REMSA decision may be appealed to Circuit Court.
- F. In the event of an appeal, the decision of the Medical Board is in effect until the completion of the appeals process.

## **CLASS I Incidents**

### For all providers

Misrepresentation of information in order to obtain certification

Conviction of a felony, or a crime in another jurisdiction that constitutes a felony in South Dakota, or **conviction of a crime which affects the provider's ability to continue to practice competently or safely**

Engaging in or permitting the performance of unacceptable patient care by himself or auxiliaries working under his supervision due to his deliberate or negligent act or acts or failure to act

Continuing to practice although the provider has become unfit to practice his profession competently or safely. Examples could include professional incompetence, failure to keep abreast of current professional theory or practice, physical or mental disability, or addiction or severe dependency upon or use of alcohol or other drugs which endanger the public by impairing a provider's ability to practice safely

Engaging in lewd or immoral conduct in connection with a delivery of emergency medical care to patients

Employing, assisting or enabling in any manner an unlicensed or uncertified person to provide emergency medical services

Failing to maintain adequate safety and sanitary conditions for the provision of emergency medical services in accordance with the standards established by the rules of the board

Engaging in false or misleading advertising

Willful neglect of a patient

Abandonment of a patient, (recognizing that scene and provider safety may be a first priority)

Being under the influence of any drug or intoxicant while on duty or while participating in patient care (each agency's policies for drug testing will be used, results to be provided to the Medical Director)

Breach of confidentiality

Intentional falsification of patient care records, or quality assurance or improvement records

More than 3 class II incidents, resulting from separate patient contacts, in a three month period

Any other offense of similar severity not listed at the discretion of the Medical Director

### Emergency Medical Dispatcher

Failure to determine location

Failure to determine consciousness

Failure to determine breathing

Failure to assign correct response code

Failure to give correct instructions

Failure to report hazards

### Police First Responder

Actions that put patients, the public, or other providers at risk of illness or injury

Failure to complete primary survey

Failure to recognize cardiac arrest or impending arrest

Failure to assure adequate airway, breathing, and/or circulation

Failure to implement spinal precautions

First Responder EMT

Actions that put patients, the public, or other providers at risk of illness or injury  
Failure to complete primary and secondary survey  
Failure to recognize cardiac arrest or impending arrest  
Failure to administer O<sub>2</sub> to patient with compromised respiratory status  
Failure to assure adequate airway, breathing, and/or circulation  
Failure to implement spinal precautions  
Failure to follow AED SOG

For Ambulance EMT

Actions that put patients, the public, or other providers at risk of illness or injury  
Failure to complete primary and secondary survey  
Failure to recognize cardiac arrest or impending arrest  
Failure to administer O<sub>2</sub> to patient with compromised respiratory status  
Failure to assure adequate airway, breathing, and/or circulation  
Failure to implement spinal precautions

EMT Intermediate and EMT Advanced

Actions that put patients, the public, or other providers at risk of illness or injury  
Failure to complete primary and secondary survey  
Failure to recognize cardiac arrest or impending arrest  
Failure to administer O<sub>2</sub> to patient with compromised respiratory status  
Failure to assure adequate airway, breathing, and/or circulation  
Failure to implement spinal precautions

EMT Paramedic

Actions that put patients, the public, or other providers at risk of illness or injury  
Failure to complete primary and secondary survey  
Failure to recognize cardiac arrest or impending arrest  
Failure to administer O<sub>2</sub> to patient with compromised respiratory status  
Failure to assure adequate airway, breathing, and/or circulation  
Failure to implement spinal precautions  
Failure to follow patient care guidelines without documented reason for deviation  
Failure to obey a legitimate on-line physician's order either by omission or commission in the presence of good communication

Senior EMT Paramedic

Actions that put patients, the public, or other providers at risk of illness or injury  
Failure to complete primary and secondary survey  
Failure to recognize cardiac arrest or impending arrest  
Failure to administer O<sub>2</sub> to patient with compromised respiratory status  
Failure to assure adequate airway, breathing, and/or circulation

Failure to implement spinal precautions

Failure to follow patient care guidelines without documented reason for deviation

Failure to obey a legitimate on-line physician's order either by omission or commission in the presence of good communication

Failure to assume control of patient care situation, resulting in risk to patient or providers

### **Class II Incidents**

Failure of the individual to respond within 72 hours, without good cause, (excluding weekends and holidays) to a written request for information or documentation regarding an incident under investigation by the Medical Director or his designee

Abuse of equipment

Documentation errors

Inadequate patient assessment

Medication errors

Failure to check equipment leading to an inability to communicate with medical control, inability to administer appropriate medications, or otherwise negatively affecting the ability of the individual to function at his/her level of certification

Failure to appear before the Medical Director, Medical Board or REMSA when so requested

Failure to show respect to patients or the public while on duty or while participating in prehospital care

Improper or unprofessional radio conduct

Improper or unprofessional conduct towards other EMS providers

Other offenses similar in severity as determined by the Medical Director

## POLICY FOR DISCONTINUING RESUSCITATION IN THE FIELD

- I. Purpose
  - A. To allow for discontinuation of resuscitation in the prehospital setting.
  - B. To establish medically sound guidelines for discontinuing resuscitation in the prehospital setting
- II. Policy
  - A. The medical standard of care is to promptly institute cardiopulmonary resuscitation for individuals who suffer cardiac arrest. DOA patients and patients with properly documented DNR orders are exceptions. See CARDIAC ARREST GUIDELINE for DOA and DNR criteria.
  - B. Once instituted, resuscitation may be discontinued for one of the following reasons only:
    - 1. Persistent non-perfusing rhythm despite an adequate trial of ALS.
    - 2. A valid no-CPR, DNR, or Comfort One order is presented to the rescuers. See CARDIAC ARREST GUIDELINE.
    - 3. The environment in which the resuscitation effort is taking place becomes unsafe for the rescuers.
  - C. A senior paramedic may stop a resuscitation if the following criteria are met:
    - 1. Adult patient
    - 2. Persistent non-perfusing rhythm despite an adequate trial of ALS or guidelines have been exhausted with no improvement
    - 3. There is no known potentially reversible cause for the arrest
    - 4. The patient is not hypothermic
  - D. In all other circumstances, the decision to stop resuscitation should be made after consultation with online medical control. Prolonged resuscitation efforts and transport should be considered in special resuscitation situations such as hypothermia, drug overdose, or suspected SIDS.
  - E. If Medical Control has been contacted during the resuscitation, Medical Control must also be involved in the decision to stop resuscitation.
  - F. Family members present should not be asked their opinion/preference regarding discontinuation of resuscitation.
  - G. The ALS provider will provide a well-documented prehospital care report to include:
    - 1. Documentation of ALS activities, including medications, procedures, and rhythm strips
    - 2. Documentation of special circumstances
    - 3. Documentation of stop-resuscitation decision and if an on-line medical control order, by whom and time
    - 4. Documentation of contact with coroner, by whom and time
    - 5. Documentation of disposal of body, by whom, where, and time

## COMFORT ONE GUIDELINE

- I. Definition
  - A. Comfort One is South Dakota's Cardiopulmonary Resuscitation Directive Program
  - B. If a person wishes to direct emergency medical service personnel to withhold resuscitation attempts when the person is in cardiopulmonary arrest, the person may complete a standard form for an EMS cardiopulmonary resuscitation directive as provided by SDCL 34-12F
- II. Procedure for all EMS responders
  - A. If you are presented with the **Comfort One** form or encounter a patient wearing a **Comfort One** bracelet, South Dakota law requires that you follow the **Comfort One**/South Dakota EMS Cardiopulmonary Resuscitation Directive protocols.
  - B. For a **Comfort One** patient, emergency medical services personnel **WILL**:
    - 1. Assist in maintenance of an open airway, **excluding** advanced airway procedures such as the insertion of PtL, combitubes or endotracheal intubation;
    - 2. Provide suction;
    - 3. Provide oxygen;
    - 4. Provide pain medications as directed by patient's physician, physician assistant, or nurse practitioner;
    - 5. Control bleeding;
    - 6. Provide comfort care; and
    - 7. Be supportive to patient and family.
  - C. If someone else has already begun resuscitating a **Comfort One** patient prior to your arrival you **WILL WITHHOLD OR WITHDRAW**:
    - 1. Chest Compressions;
    - 2. Defibrillation;
    - 3. Advanced airway procedures;
    - 4. Assisted breathing; or
    - 5. Resuscitation medications.

## REFUSAL OF CARE AND NON-TRANSPORT POLICY

- I. Whenever an ambulance is requested and patient contact is made, it is the purpose of the EMS system to treat and transport that patient with his/her consent. Treatment and/or transport by ambulance should always be offered to a patient.
- II. Policy
  - A. If care is refused, EMS personnel should attempt to assess the patient for severity of illness or injury.
  - B. If the senior paramedic agrees with the patient (or responsible adult) that treatment and/or ambulance transportation to an acute care hospital are not necessary, go to **IV** below.
  - C. If the senior paramedic believes that treatment and ambulance transportation are necessary, due to the severity or the illness or injury, and the patient (or responsible adult) is refusing treatment or transportation, the paramedic must assess the patient (or responsible adult) for mental competence.
  - D. Mentally competent adults (18 years of age or older) are allowed by law to refuse care or ambulance transport for themselves, regardless of the severity of their illness or injury.
  - E. A person is mentally competent if (s)he:
    1. Appears to understand the benefits of treatment and/or transportation and the risks of refusal, AND
    2. Appears to understand the potential consequences of his/her decision, AND
    3. Is able to communicate his/her decision
  - F. When a patient or responsible party refuses transport or care that the senior paramedic believes is necessary, it is the responsibility of the senior paramedic to:
    1. Assess the patient.
    2. Assess the competence of the patient (or responsible adult).
    3. Contact the appropriate supervisory, law enforcement and/or medical control personnel.
    4. Assure that the refusal is informed.
    5. Ask the patient (or responsible adult) to sign a Refusal of Care Form and obtain witnesses signatures.
    6. Carefully document patient assessment and instructions or advice regarding refusal of treatment.
  - G. QI process
    1. Calls will be reviewed as part of the standard QI process. Forward any calls needing special review to the supervisor on duty and REMSA Medical Director.
- III. Refusal Procedure
  - A. Assess the patient, including the severity of the illness or injury. Assess the competence of the patient (or responsible adult).
  - B. If the patient (or responsible adult) appears to be mentally competent (seems to understand the consequences of their refusal of treatment), obtain a refusal signature and witness signature(s). If the individual refuses to sign, document and witness the refusal.
  - C. If the patient (or responsible adult) does not appear mentally competent or able to understand the consequences of their refusal, the senior paramedic should do the following: Attempt to persuade the patient (or responsible adult) to accept treatment and/or transport. If unsuccessful, then
    1. Enlist the aid of family in persuading the patient (or responsible adult) to accept treatment and/or transport. If unsuccessful, then
    2. Seek the aid of law enforcement in persuading the patient (or responsible adult) to voluntarily accept treatment and/or transport. If unsuccessful, then
    3. Contact supervisor, who will attempt to persuade the patient (or responsible adult) to accept treatment and/or transport and to document this effort. If unsuccessful, then
    4. Contact on-line medical control. The physician will talk to the patient (or responsible adult) to attempt to persuade the patient (or responsible adult) to accept treatment and/or transport.

- a. If the physician is unable to persuade the patient (or responsible adult) and the patient (or responsible adult) seems to have the capacity to make a reasonable and knowledgeable refusal, the physician may have the senior paramedic discontinue efforts.
  - b. If the physician feels that the patient (or responsible adult) does not have the capacity for making such a decision, the physician may ask police to aid in involuntary transport to an acute care hospital.
- D. If there is any doubt about the advisability of refusal of care, contact direct medical control.
- E. Document:
1. Patient's refusal.
  2. Patient assessment, including the reason for call, age, skin color/condition, LOC, and mental status. If assessment is refused, note in the PCR.
  3. That risks/benefits and potential consequences were explained to the patient (or responsible adult) and understood (competence).
  4. Any treatment given.
  5. Contact with direct medical control, supervisor, and/or law enforcement, if any.
  6. Any home care instructions given.

#### IV. Non-transport Procedure

- A. Assess the patient, including the severity of the illness or injury.
- B. If the senior paramedic agrees that ambulance transportation is not necessary, the patient (or responsible adult) and senior paramedic may agree to forego ambulance transportation. Do not ask the patient for a refusal signature.
- C. Document:
  1. Assessment, including the reason for call, age, skin color/condition, LOC, and mental status.
  2. That patient and senior paramedic agree that ambulance transportation is not necessary.
  3. Any treatment given.
  4. Contact with direct medical control, if any.
  5. Any home care instructions given.
- D. If there is any doubt about the advisability of non-transport, contact direct medical control.

**“The EMS system does not allow a competent patient to refuse care,  
rather patients allow the EMS system to provide care.”**

## TRAUMA TEAM ACTIVATION POLICY

- I. Purpose
  - A. To identify patients who will require maximum trauma resuscitation resources immediately upon arriving at area emergency departments.
  - B. To assure prior notification of the arrival such patients.
- II. Procedure
  - A. Using the standard PHTLS approach, evaluate all trauma patients to ascertain the presence of the following:
    - 1. Signs of shock: systolic BP < 90 or pulse > 120, or physiologic signs of hypotension in a child
    - 2. Respiratory distress: rate < 10 or > 29, or symptoms and signs of respiratory distress in a child
    - 3. Altered mental status: GCS < 10 attributed to trauma
    - 4. Penetrating injury to the head, neck, torso, groin, or extremities proximal to the knee or elbow
    - 5. Combination of trauma and burns
    - 6. Flail chest
    - 7. Amputation proximal to the wrist or ankle
    - 8. Pelvic fracture
    - 9. Two or more proximal long bone fractures
    - 10. Limb paralysis attributed to trauma
  - B. The presence of any of the above criteria indicates the need to assemble the Trauma Team and therefore should be reported to the emergency department when enroute (or sooner if able to do so without prolonging scene time). If time does not permit communication of a full report to the emergency department, the paramedic, in the presence of any of the above criteria, should advise the receiving hospital to activate its trauma team.
  - C. The following information may also impact the receiving hospital's decision to assemble the Trauma Team and should be ascertained and relayed enroute:
    - 1. Death of occupant in the same vehicle
    - 2. Extrication time greater than 20 minutes
    - 3. Fall greater than 20 feet
    - 4. Patient ejected from vehicle
    - 5. High energy/high speed
    - 6. Pedestrian thrown or run over
    - 7. Vehicle-pedestrian/vehicle-bicycle with significant impact
    - 8. Significant ATV, motorcycle, bicycle or farm equipment incident
    - 9. Significant injury associated with farm animals
    - 10. Pregnancy
    - 11. Age less than 5 or over 55
    - 12. Presence of chronic medical problems including cardiac, respiratory, metabolic or coagulopathy disease; immunosuppression; cirrhosis; morbid obesity; and patients taking anticoagulants.
  - D. Responsibility for trauma team activation and for level of response rests with the receiving hospital.

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Adopted by SFREMSA 6/18/2008

# Guideline for EMS Branch Operations

## ***I. Purpose***

To provide a basic expandable system for managing a large number of patients at an emergency incident.  
This process will standardize EMS Operations

## ***II. Definitions***

### **A. Mass Casualty Incident (MCI)**

1. Any incident that stresses the EMS resources of the city of Sioux Falls at any given time

OR

2. Any incident that has the potential to be prolonged and that will require a unified command structure

### **B. Mutual Aid**

1. Any agreement between two or more responder agencies to provide resources (human or logistical) during a mass casualty or other incident that overwhelms the abilities of the first due responder agencies.

### **C. Triage**

1. The sorting of injured patients by prioritizing injury status. The START Method of triage will be the accepted standard of triage for all events.

### **D. Incident Command System**

1. A process designed to provide an organizational core for crisis management

### ***III. Scope***

**A. MCI – 1    5 to 15 patients.**

1. Implement EMS Branch Operations as necessary to ensure adequate resource management for appropriate patient care and transportation.

**B. MCI - 2    16 to 50 patients.**

1. Implement EMS branch operations
2. Consider need for mutual aid

**C. MCI - 3    Greater than 50 patients**

1. Implement EMS branch operations
2. Consider need for mutual aid
3. Request special ops radio channel

**NOTE:**    **Any incident that requires decontamination resources will have a “Decon” suffix added. For example; a HAZMAT incident producing 25 “dirty” patients would be referred to as an “MCI 2 Decon”**

### ***IV. Establishing the operation***

**A.    Setting up the EMS Branch**

1. If a fire officer is not assigned as EMS branch director, the first senior paramedic will advise the incident commander of his presence and availability to command the EMS Branch. If assigned, the Senior Paramedic should then identify themselves as EMS Branch director and request appropriate resources from the IC, including a liaison that has a portable radio to ensure communications continuity within all branches.
2. The first fire officer assigned to the EMS Branch and first senior paramedic on scene (see MCO Below) should work together to manage EMS branch operations. This may be done face to face, or by radio, possibly using a special operations channel.

**B. The EMS branch director will initiate the following actions based on the scope of the incident**

**1. Joint actions with first arriving unit**

- a. Conduct initial size-up of EMS operation
- b. Establish command post as per section B
- c. Request additional units if needed
- d. Activate medical communications officer role
- d. Initiate primary triage role
- e. Direct arriving EMS personnel to appropriate areas

**2. Medical communications officer**

- a. First arriving EMS unit, crew member 1
  - 1. Identify triage area
  - 2. Identify treatment sector
  - 3. Identify transport sector
  - 4. Identify staging area
  - 5. Advise EMS branch commander of sector locations
  - 6. Establish communications with hospitals

**3. Triage sector**

- a. First arriving EMS unit, crew member 2
  - 1. Implement START triage process using tag system
  - 2. Report progress / needs to EMS branch commander
  - 3. Limit treatment to
    - i. Positional airway management
    - ii. Severe hemorrhage control
    - iii. Shock by position
  - 4. Move patient's, by priority, to treatment sector

**4. Treatment sector**

- a. Second arriving EMS unit, crew member 1
  - 1. Limit access of non-essential personnel
  - 2. Obtain police assistance in securing perimeter
  - 3. Establish sector
    - i. As close to incident as to ensure operational safety
    - ii. Accessible to vehicles
  - 4. Re-Triage patients on arrival to sector
  - 5. Group patients by priority
  - 6. Limit medical care to urgent needs only

**5. Transport sector**

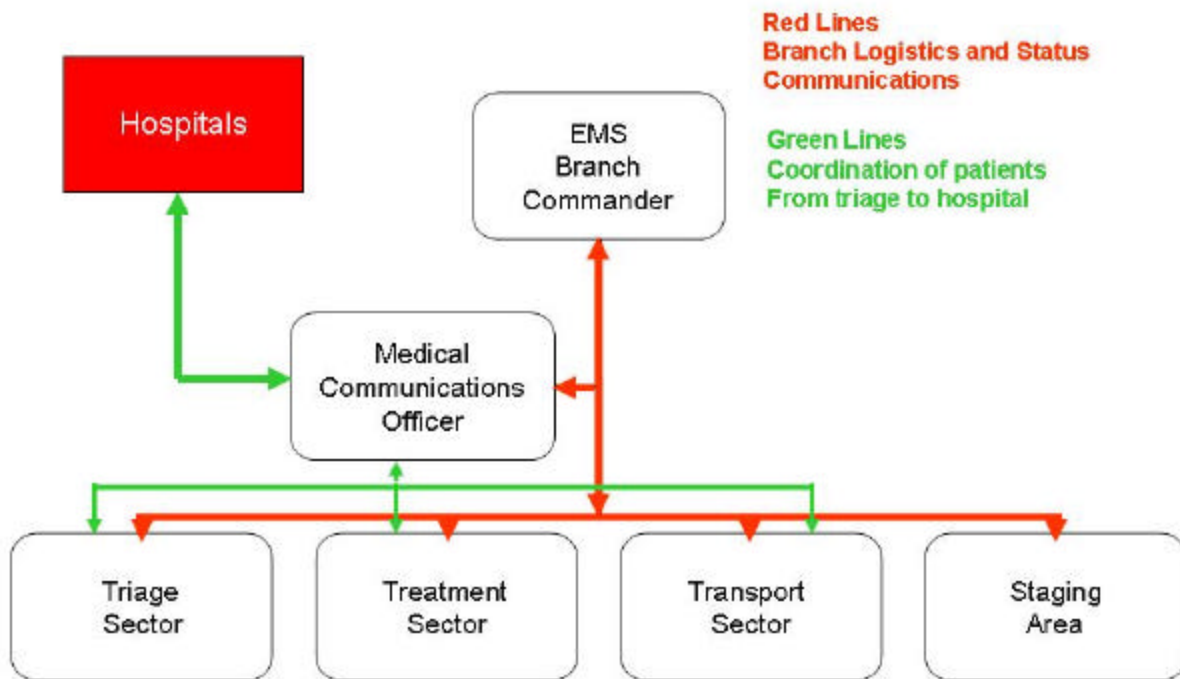
- a. Second arriving EMS unit, crew member 2
  - 1. Transport by medical priority
  - 2. Coordinate with Medical Communications Officer to:
    - i. Track patients and hospital destinations
    - ii. Confirm hospital availability status
    - iii. Distribute patients evenly to avoid hospital overload
    - iv. Advise EMS Branch commander of resource needs

**6. Staging area**

- a. First available non-assigned personnel
  - 1. Establish sufficient distance from scene
  - 2. Avoid unit gridlock
  - 3. Provide incoming units with best access routes
  - 4. Maintain keys to all units in sector
  - 5. Request police assistance to maintain security

***V. Continued Operations***

- A. Continued operations will be dictated by the scope of the incident and utilizing existing communications and care procedures.
- B. EMS sections will deliver status messages and requests for logistical support to the command post by way of communications with the EMS branch command.
- C. Patient Triage, Treatment and Transportation will be managed by the assigned supervisors for each sector.
- D. Sector supervisors will communicate with the medical communications officer.
- E. The medical communications officer will communicate with the EMS Branch Director and the area hospitals.
- F. The EMS branch director will communicate with the incident commander.



## **VI. References**

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## IV PROCEDURE

- I. Purpose
  - A. To administer medications
  - B. Fluid resuscitation
- II. IVs should be established in these situations:
  - A. Cardiac emergencies with chest pain, rhythm disturbances, dyspnea, or abnormal vital signs
  - B. Respiratory emergencies with chest pain, rhythm disturbances, dyspnea, or abnormal vital signs
  - C. Intra-abdominal emergencies with severe pain, GI bleeding, or abnormal vital signs
  - D. Altered level of consciousness or seizure activity
  - E. Toxic poisoning or drug overdose with possible adverse effects
  - F. Obstetrical emergencies (exception: early active labor with stable vital signs)
  - G. Suspected diabetic emergencies
  - H. When fluid resuscitation may be needed
  - I. Patients who may need pain medication
- III. Standards for IV attempts
  - A. Two attempts per ALS provider
  - B. Four attempts total
  - C. Exceptions to A and B must be determined by the ALS provider. Weigh carefully the patient's need for an IV versus the number of available sites and the time required.
  - D. Acceptable IV success rates
  - E. 80% of the time an ALS provider will establish an IV on the first attempt
  - F. 90% of the time, an ALS provider will have established an IV by the second attempt.
- IV. Establishing an IV
  - A. Prepare equipment
    1. IV catheter
    2. Gloves
    3. IV solution and tubing (or lock and saline flush)
    4. Betadine and/or alcohol swabs
    5. Tourniquet or BP cuff
    6. Tape and sterile dressing
  - B. Wear gloves
  - C. Apply tourniquet or BP cuff, select vein
  - D. Prep the site with a Betadine and/or alcohol swab, wait 30 seconds (do not use Betadine in cases of iodine allergy)
  - E. Insert the IV catheter
  - F. Connect the IV tubing or lock
  - G. Adjust flow of solution or flush lock
  - H. Secure the IV site, maintaining aseptic technique at the insertion site
  - I. Monitor the patients
  - J. Document intervention
- V. Saline lock
  - A. A saline lock may be initiated instead of a TKO IV except in the following situations
    1. Cardiac arrest
    2. Trauma
    3. Hypotension or orthostatic hypotension
    4. Childbirth
  - B. If medications are administered via a saline lock, flush with at least 2 cc of saline after medication administration

NOTE: Aseptic technique is preferred. If not possible, report to the receiving facility.

## INTRAOSSSEOUS PROCEDURE

- I. Purpose
  - A. To establish vascular access for medication or fluid administration in the following situations:
    1. In children under five years of age who are in critical condition and where IV cannulation has been unsuccessful.
    2. As the primary vascular access for pediatric arrests.
- II. Precautions
  - A. Do not perform on known or suspected fractured bones.
  - B. Possible complications include:
    1. Subperiosteal or subcutaneous infusion
    2. Injury to bone growth plate
    3. Osteomyelitis
    4. Fat embolism
    5. Leaking at the puncture site
- III. Procedure
  - A. Prepare equipment
    1. Illinois Sternal/Iliac Aspiration Needle
    2. IV catheter
    3. Gloves
    4. IV solution and tubing
    5. Betadine and alcohol swabs
    6. Tape and sterile dressing
  - B. Select site
    1. Preferred site: 1 - 2 fingerwidths (child's) inferior to tibial tubercle on anteromedial aspect of tibia.
    2. Alternative site: 1 - 2 fingerwidths (child's) above lateral condyles in femur midline.
  - C. Wear gloves
  - D. Prep the site with a Betadine and alcohol swab (do not use Betadine in cases of iodine allergy).
  - E. If child is conscious, administer local anesthesia by infiltrating insertion site with up to 1 cc 1% lidocaine.
  - F. Insert the needle by puncturing with the trochar in place and adjust guard for needle depth.
  - G. Angle needle approximately 75-80 degrees off surface:
    1. Tibia: direct towards the feet and away from joint surface.
    2. Femur: direct towards the head away from joint surface.
  - H. Once in contact with periosteum, use a firm pushing and boring motion to penetrate the cortical surface. (With penetration of cortex the needle suddenly "gives way".)
  - I. Adjust guard to skin surface and continue manual stabilization of needle.
  - J. Remove trochar and attach 10 cc syringe containing NS.
  - K. Aspirate marrow:
    1. Inject entire contents of aspirate and normal saline into bone marrow.
    2. If aspiration unsuccessful, but normal saline injects easily, the needle is placed appropriately.
  - L. Attach IV tubing to needle and tape securely, maintaining aseptic technique at the insertion site.
  - M. Adjust and monitor flow of solution.
    1. Flow rates of up to 1200 cc/hr can be achieved with pressure infusion.
  - N. If initial site fails, utilize other tibia or femur, using new needle for each site.
  - O. All medications and fluids used in peripheral lines may be given IO.
  - P. Document procedure on PCR.

## CRICOTHYROTOMY PROCEDURE

- I. Indication
  - A. To provide an airway when standard airway procedures have failed or cannot be performed in unforeseen circumstances where the procedure may provide a lifesaving airway.
- II. Policy
  - A. Surgical cricothyrotomy may be used for a patient > 8-10 years old
  - B. Cricothyrotomy may be performed by a senior paramedic or by a staff paramedic under the direct supervision of a senior paramedic.
  - C. Notify the receiving hospital of the procedure as soon as possible as the airway may need to be converted to a tracheotomy upon arrival at the hospital.
- III. Needle cricothyrotomy
  - A. Equipment
    1. Large bore IV catheter (usually 12 or 14 gauge) with syringe attached
    2. Betadine prep pads or swabs
    3. Tape or umbilical tape (ties)
    4. Sterile dressings
    5. Needle cric adapter
    6. Bag-valve
  - B. Procedure
    1. Place the patient supine with the shoulders elevated if possible. Maintain spinal immobilization if appropriate.
    2. Stabilize the larynx using the thumb and middle finger of one hand. With the other hand, palpate the depression below the thyroid cartilage ("Adam's apple"), sliding the index finger down to locate the cricothyroid membrane
    3. Prep the area with betadine swabs.
    4. Maintaining sterile technique, insert the needle downward through the midline of the cricothyroid membrane at a 45 to 60 degree angle, applying negative pressure to the syringe during insertion. When air enters the syringe, the needle is in the trachea.
    5. Advance the catheter over the needle toward the carina and remove the needle and syringe.
    6. Secure the hub of the needle, attach the adapter, and ventilate with the bag-valve.
    7. Verify tube placement by auscultating the lung fields and by noting chest rise.
    8. Control any bleeding with direct pressure.
    9. Apply sterile dressings as needed.
    10. Monitor for subcutaneous emphysema, abnormal bleeding, or other unexpected results.
    11. Document the date, time and result on the PCR.
- IV. Surgical cricothyrotomy
  - A. Equipment
    1. Scalpel blade
    2. Suction
    3. Oxygen
    4. Bag-valve
    5. Appropriate sized cuffed ET tube and syringe
    6. ET holder, umbilical tape or other mechanism for securing the tube
    7. Sterile dressings
    8. Betadine prep pads or swabs
  - B. Procedure
    1. Place the patient supine with the shoulders elevated if possible. Maintain spinal immobilization if appropriate.
    2. Stabilize the larynx using the thumb and middle finger of one hand. With the other hand, palpate the depression below the thyroid cartilage ("Adam's apple"), sliding the index finger down to locate the cricothyroid membrane.
    3. Prep the area with betadine swabs.

4. Maintaining sterile technique, make a 1.5 cm inch vertical incision over the cricoid cartilage, incising the skin and subcutaneous tissue.
5. Next, make a transverse stab through the cricothyroid membrane into the trachea.
6. Open the hole with a nasal speculum or by inserting the knife handle and turning
7. Insert the cuffed ET tube into the trachea.
8. Inflate the cuff, attach a bag-valve and ventilate.
9. Secure the tube.
10. Verify tube placement by auscultating the lung fields and by noting chest rise.
11. Control any bleeding with direct pressure.
12. Apply sterile dressings as needed.
13. Monitor for subcutaneous emphysema, abnormal bleeding, or other unexpected results.
14. Document the date, time and result on the PCR.

## CHEST DECOMPRESSION PROCEDURE

- I. Indications
  - A. A senior paramedic or a staff paramedic in consultation with a senior paramedic may perform chest decompression if a tension pneumothorax exists with any one of the following:
    1. Respiratory distress and cyanosis
    2. Loss of consciousness
    3. Difficulty bagging or ventilating despite a properly placed ET tube
  - B. A senior paramedic or a staff paramedic in consultation with a senior paramedic should consider performing bilateral chest decompression on patients with penetrating trauma to the torso who present in cardiac arrest.
- II. Procedure
  - A. Equipment
    1. Betadine swabs
    2. 16 gauge or larger IV catheter
    3. Tape and dressing
    4. Flutter valve (finger from rubber glove)
  - B. Procedure
    1. Administer high flow oxygen and ventilatory assistance.
    2. Locate site (on the same side as the pneumothorax)
      - a. 2nd or 3rd intercostal space (corresponds with angle of Louis) on the midclavicular line
      - b. alternate: 4th or 5th intercostal space (corresponds with the nipple) on the midaxillary line;
    3. Prep area with betadine
    4. Insert the IV catheter with flutter valve, **over the top of the rib**, advance until air rushes out.
    5. Regardless of results, withdraw the needle and leave the catheter in place.
    6. Flutter valve may be eliminated if the patient is intubated and ventilated.
    7. Secure the catheter and apply a dressing.

## IMPLANTED PORT ACCESS PROCEDURE

- I. Purpose
  - A. To administer necessary IV fluids or medications to the prehospital patient with an implanted port
- II. Procedure
  - A. Equipment
    - 1. Alcohol swabs
    - 2. Betadine swabsticks
    - 3. 19 gauge 90 degree bent implanted port needle (Huber needle) with attached 6 inch extension tubing
    - 4. IV dressing
    - 5. Syringe containing 10 cc's NS
  - B. Procedure
    - 1. Assess the site for signs of infection. If present, do not access port.
    - 2. Palpate site to determine the location of the portal septum into which the needle will be inserted.
    - 3. Cleanse the site with 3 alcohol swabs, one at a time, working outward in a circular motion, and allow to dry.
    - 4. Cleanse the site with 3 betadine swabsticks, one at a time, working outward in a circular motion, and allow to dry.
    - 5. Flush the air out of the extension tubing using 5 cc's NS, clamp the tubing.
    - 6. Insert needle perpendicular to the septum and push it firmly through the skin and portal septum until it hits the back of the portal chamber.
    - 7. Release clamp on extension tubing and aspirate to check for blood return.
      - a. Flush with remaining 5 cc's NS.
      - b. If unable to inject solution, ask patient to cough, raise his/her arms, or reposition. If still unable to inject solution, apply IV dressing and notify physician.
      - c. If unable to aspirate blood but fluids free flow with no localized swelling at the site, the implanted port may be used.
    - 8. Clamp extension tubing and remove syringe, attach extension tubing to IV system and proceed with fluid or medication administration.
    - 9. Apply sterile IV dressing.
  - C. Documentation
    - 1. Assessment of the site
    - 2. Needle used
    - 3. Any difficulty in withdrawing blood or injecting fluid

## RESTRAINT POLICY

- I. Purpose
  - A. To safely restrain an ill or injured person, who due to his illness, is behaving in such a manner as to interfere with assessment, treatment and/or transportation, to an extent that he endangers his life and/or the safety of emergency providers.
  - B. To safely restrain and transport an individual on a hold at the request of a law enforcement officer.
- II. Procedure
  - A. For physical restraint
    - 1. Attempt to encourage the patient's cooperation
    - 2. If the patient is not cooperative, use only the amount of force necessary while maintaining a calm manner
    - 3. Control the patient and apply soft or well padded restraints
    - 4. Restrain in a manner that allows the patient to be positioned for airway management. Observe for possible vomiting or respiratory distress.
    - 5. Assess the patient's CMS after restraints are applied and frequently throughout transport.
    - 6. Stay with a restrained patient at all times.
    - 7. Notify medical control as early as possible.
  - B. For chemical restraint, contact Medical Control if possible. If immediate chemical restraint is needed, consider the following options,
    - 1. Ativan IV
      - a. Adult- ativan IV, up to 4 mg IV push over at least 2 minutes, may repeat up to 4 mg once
      - b. Peds- ativan IV up to 0.1 mg/kg (up to 4 mg) IV push over at least 2 minutes, may repeat once at 0.05 mg/kg
    - OR
    - 2. Versed (midazolam) intranasal 0.2 mg/kg up to 10 mg adults and peds, limiting total volume per nostril to 1 ml OR
    - 3. Ativan IM, 4 mg in adult, 0.1 mg/kg (up to 4 mg) in peds
- III. Documentation
  - A. Document initial efforts at gaining the patient's cooperation.
  - B. If a patient is on a hold, document who placed the hold.
  - C. If restraints are used to safely restrain and transport an individual on a hold at the request of a law enforcement officer, document the law enforcement officer's name or badge number.
  - D. Carefully document that the patient endangered his/her life, or the safety of emergency providers, by interfering with assessment, treatment, and/or transportation.
  - E. Document the patient's CMS after restraints applied
  - F. Document all assessment findings and treatment

## DRUG-ASSISTED INTUBATION

- I. Topical medications
  - A. Nasal phenylephrine, 1-2 sprays, may be administered for vasoconstriction prior to insertion of nasal airway or performing nasal intubation.
  - B. Lidocaine hydrochloride jelly 2% may be used as an anesthetic lubricant for nasal airway or intubation.
  - C. Topical anesthetic spray (cetacaine) may be used prior to intubation.
- II. Sedation for Intubation
  - A. Purpose
    - 1. To facilitate intubation in the conscious and anxious patient
    - 2. To facilitate safe and effective ventilation of the intubated patient who is awake/aware and suffering from anxiety and/or pain
  - B. Procedure
    - 1. For RSI, see III below
    - 2. For non-RSI sedation for intubation, administer versed as follows:
      - a. Adult - versed IV, 2 - 5 mg
      - b. Peds - versed IV, 0.03 to 0.05 mg/kg (maximum of 2.5 mg)
    - 3. Post sedation assessment
      - a. Monitor rhythm, vital signs, oxygen saturation, and end-tidal CO<sub>2</sub>
      - b. Monitor effectiveness of sedation
    - 4. Document on the PCR reason for sedation, medications and time as well as on-going assessment
- III. RSI
  - A. Purpose
    - 1. RSI is a procedure in which a sequence of medications is used to facilitate endotracheal intubation by inducing skeletal muscle paralysis.
  - B. Indications: RSI is indicated to facilitate intubation of the patient with a compromised airway when standard methods have failed or would delay care.
  - C. Contraindications absolute/relative:
    - 1. There is no advantage to using rapid sequence intubation in a patient with cardiac arrest or in a deeply comatose patient.
    - 2. Massive facial trauma that affects jaw integrity or large amounts of facial hair that could impede ability to ventilate may be relative contraindications to rapid sequence intubation.
    - 3. Patients in which cricothyrotomy cannot be performed, i.e. loss of landmarks.
    - 4. Hypersensitivity to any of the rapid sequence intubation medications.
    - 5. Personal or family history of malignant hyperthermia.
    - 6. Unstable arrhythmias such as wide-complex tachycardias and/or supraventricular tachycardia.
    - 7. Known digoxin toxicity.
    - 8. Patients with multiple sclerosis, muscular dystrophy, or patients with myasthenia gravis (this requires significant increased doses of succinylcholine), those who have sustained recent spinal cord injury.
    - 9. Patients with organophosphate poisoning.
    - 10. Hyperkalemia
  - D. Side effect monitoring:
    - 1. Cardiovascular: bradycardia, V-tach, hypotension
    - 2. Prolonged apnea and bronchospasm
    - 3. Musculoskeletal: fasciculations
    - 4. GI: increasing intragastric and intra-abdominal pressure
    - 5. Metabolic: malignant hyperthermia
    - 6. Hyperkalemia
  - E. Special considerations and concerns:
    - 1. Do not mix succinylcholine with any alkaline solutions.
    - 2. Succinylcholine should be refrigerated to remain stable. Vials are stable at room temperature for 30 days.
    - 3. Neuromuscular blockade medications have no effect on the patient's level of consciousness and have no sedative effects.

4. Patients are conscious and will need adequate amnestic/pain control for sedation (Versed, morphine).
- F. RSI Procedure
1. Consider all airway options and the time/distance to the hospital.
  2. Rapid sequence intubation will be performed by senior paramedics who have successfully completed RSI validations. Staff paramedics may assist as directed by the senior paramedic.
  3. Obtain medical history and perform neuro assessment prior to RSI. Document.
  4. Prepare
    - a. Establish patent IV.
    - b. Have all material and equipment checked, assembled and ready to use. (BVM, laryngoscope with appropriate blades, ET with intact cuff).
    - c. Suction equipment
    - d. Cardiac monitor
    - e. End tidal CO<sub>2</sub> monitor
    - f. Pulse oximeter
    - g. Syringe for cuff inflation
    - h. All medications drawn and labeled
    - i. Combitube
    - j. Cricothyrotomy equipment readily available
  5. Continually monitor the patient's cardiac status and oxygen saturation.
  6. Preoxygenate
    - a. If the patient is spontaneous breathing, pre-oxygenate at 100% for 4-5 minutes using a nonrebreather mask or placing the BVM without ventilating the patient.
    - b. Manual ventilation may result in gastric distention creating potential for aspiration. If manual ventilation becomes necessary, the Sellick's maneuver should be performed.
    - c. If inadequate or ineffective ventilation, ventilate the patient with high flow (100%) O<sub>2</sub> using the BVM and manually ventilate for at least 2-3 minutes.
  7. Medication Administration
    - a. Versed 2 - 5 mg IV for adults, 0.03 to 0.05 mg/kg for peds, maximum dose of 5 mg for adults and 2.5 mg for peds.
    - b. Succinylcholine 1 to 1.5 mg/kg IV push for adults and 2 mg/kg IV push for peds.
      - i. Peds dose should be preceded by atropine 0.02 mg/kg.
      - ii. If relaxation is not adequate, continue ventilation, reassess, and contact online medical control.
  8. Adjunct medications:
    - a. Atropine
      - i. Administer for children under the age of 8 unless the child is severely tachycardiac.
      - ii. Dosage is 0.5 mg IV push for adults and 0.02 mg/kg IV push for pediatrics (minimum 0.1 mg and maximum of 0.5 mg).
    - b. Morphine sulfate.
      - i. Indicated for sedation for the patient with pulmonary edema.
      - ii. Dosage, 2 to 10 mg IV push for adults, 0.1 to 0.2 mg/kg IV push for pediatric patients up to 10 mg.
    - c. Fentanyl
      - i. Indicated for sedation for pain (without pulmonary edema)
      - ii. Dosage up to 50 mcg IV push for adults and 1 mcg/kg, up to 50 mcg, for peds
  9. Intubate approximately 45-60 seconds post medication administration.
    - a. Maintain cervical spinal immobilization if indicated.
    - b. Maintain cricoid pressure until the patient is intubated.
    - c. Each attempt should last only approximately 20 to 30 seconds or until saturations drop to a level of 94% or below. The patient should be ventilated between attempts using BVM and 100% oxygen for 30 seconds or until saturations increase to above 98%.
    - d. Once the cords are visualized, place ET tube and confirm placement via vapor columns, tube fogging, symmetrical chest rise, bilateral auscultated breath sounds, absence of abdominal sounds, colorimetric change or positive reading on ETCO<sub>2</sub>.
    - e. If unable to intubate after three attempts, ventilate using the BVM and consider alternative airways including Combitube as second line rescue airway. Cricothyrotomy may be performed if needed. If bradycardia develops, give atropine.

- IV. Post-intubation medication administration if indicated
    - A. Vecuronium (discuss with medical control before using in trauma)
      - 1. Indicated for paralysis
      - 2. Dosage 0.10 mg/kg, adults and peds
    - B. Versed (midazolam)
      - 1. Indicated for sedation
      - 2. Dosage
        - a. Adult 2 - 5 mg
        - b. Pediatrics 0.1 mg/kg (maximum 2.5 mg)
    - C. Morphine sulfate.
      - 1. Indicated for sedation for the patient with pulmonary edema.
      - 2. Dosage
        - a. Adult 2 to 10 mg
        - b. Pediatrics 0.1 to 0.2 mg/kg up to 10 mg

OR

  - D. Fentanyl
    - 1. Indicated for sedation for pain (without pulmonary edema)
    - 2. Dosage
      - a. Adult up to 50 mcg
      - b. Peds up 1 mcg/kg (maximum 50 mcg)
- V. Quality assurance process
    - A. Prospective: The medical director will evaluate each senior paramedic for knowledge and skills including reviewing indications, contraindications, and complications. Skills validation will include review of pharmacology, the actions, the dosages, the side effects, and complications of the procedure, rescue airways and surgical airways. .
    - B. Concurrent: Review with the receiving physician at the time of transfer of care is strongly encouraged.
    - C. Retrospective: All pediatric RSI, all difficult airways (greater than three attempts) and RSI failure will be reviewed by the the REMSA Medical Director.

CONTACT MEDICAL CONTROL at any time for clarification or assistance

## DOCUMENTATION OF INTUBATION POLICY

- I. Purpose
  - A. To provide adequate standardized documentation of endotracheal tube, nasotracheal tube, Combitube or cricothyrotomy tube placement.
- II. For ETI or NTI, include in documentation at least four of the following seven items:
  - A. Visualization of vocal cords during intubation
  - B. Tube fogging noted with exhalation
  - C. Bilateral breath sounds noted on auscultation of the chest
  - D. Absence of breath sounds noted on auscultation of the stomach
  - E. Chest rise noted with inspiration
  - F. Positive reading noted with use of end-tidal CO<sub>2</sub> detector
  - G. Results of use of EIDB
- III. For Combitube, document the following:
  - A. Bilateral breath sounds noted on auscultation of the chest
  - B. Absence of breath sounds noted on auscultation of the stomach
  - C. Chest rise noted with inspiration
  - D. Positive reading noted with use of end-tidal CO<sub>2</sub> detector
- IV. For cricothyrotomy tube, document the following:
  - A. Bilateral breath sounds noted on auscultation of the chest
  - B. Chest rise noted with inspiration
  - C. Positive reading noted with use of end-tidal CO<sub>2</sub> detector
- V. After intubation is complete, monitor tube placement with continuous electronic capnography and document on the PCR.
- VI. Document tube placement after insertion and again after each time the patient is moved, if there is any occurrence that could potentially dislodge the airway, or if patient condition changes. Document tube placement on transfer of care.

## **12 LEAD EKG GUIDELINE**

- I. Purpose
  - A. To assure appropriate and timely utilization of prehospital 12 lead EKG.
- II. Procedure
  - A. 12 lead ECG should be performed in the presence of the following:
    - 1. Chest pain, pressure, aching, burning, tightness, or heaviness, with or without arm, jaw, neck, shoulder or back radiation
    - 2. Epigastric discomfort or indigestion
    - 3. Unexplained syncopal episodes
    - 4. Unexplained respiratory distress
    - 5. Generalized weakness, diaphoresis, nausea, or dizziness which is unexplained
    - 6. Other situations at the paramedic's discretion
  - B. Follow manufacturer's recommendations for capture and transmission of EKG.
- III. Documentation
  - A. The paramedic should document their provisional interpretation on the PCR and on the provider's copy of the EKG.
  - B. Give the receiving facility an original of any EKGs.

## EYE IRRIGATION USING THE MORGAN LENS

- I. Purpose
  - A. To irrigate the eye to treat chemical and thermal burns or to remove non-embedded foreign materials in the eye.
- II. Contraindications
  - A. The Morgan Lens should not be used when there are imbedded foreign objects or penetrating injuries to the eye.
- III. Procedure
  - A. Remove contact lenses if present.
  - B. Rinse area with water to remove excess contamination.
  - C. Administer ophthalmic anesthetic, 1-2 drops per affected eye. May repeat every 5-20 minutes if needed, up to 3 total doses.
  - D. Instill Morgan Lens into affected eye(s) and run isotonic IV solution through the lens.
  - E. Be aware that the initial runoff may be noxious. Take appropriate steps to contain runoff and protect providers from contamination.

## **INTERVENTION GUIDELINE FOR PATIENTS TRANSPORTED TO THE VETERAN'S HOSPITAL**

- I. In general, patients in need of advanced life support measures should be transported to the emergency department at an acute care hospital.
- II. The following categories of patients should not be transported to the VA Hospital:
  - A. Patients in cardiac arrest or with unstable cardiac rhythms:
    1. Asystole
    2. Ventricular fibrillation
    3. Ventricular tachycardia
    4. Supraventricular tachycardia with rate over 150 beats per minute
  - B. Patients in need of an urgent/emergent airway, for example a patient who has been intubated in the field or who needs a secured airway and attempts in the field have been unsuccessful.
  - C. Patients who are hypotensive (systolic BP less than 100).
  - D. Multiple trauma patients.
  - E. Patients with life or limb threatening injuries.
  - F. Patients who are actively seizing.
  - G. Patients who are unconscious ( $GCS \leq 8$ ).
  - H. Patients who are unstable or who are deteriorating from a cardiovascular or respiratory perspective.
- III. Patients who refuse to be transported unless taken to the Veteran's Hospital but are in need of advanced life support, and do not fall into one of the categories in II above, may be treated per the Sioux Falls REMSA guidelines. If orders are needed beyond the REMSA guidelines, the patient should be transported to an acute care hospital. If patient refuses, contact on-line Medical Control.