



Est. 1974

# NYC REMAC

Advisory No.	2016-08		
Title:	<b>Revised Haz-Tac Protocols</b>		
Issue Date:	December 1, 2016		
Effective Date:	Immediately		
Supersedes:		Page:	1 of 20

The Regional Emergency Medical Advisory Committee (REMAC) of New York City is responsible to develop, approve and implement prehospital treatment and transport protocols for use within the five boroughs of the City of New York. The Regional Emergency Medical Advisory Committee (REMAC) of New York City operates under the auspices of Article Thirty of the New York State Public Health Law.

Haz-Tac Protocols have been revised as follows:

1. Instead of using a regular nebulizer, a Breath-Actuated nebulizer is to be used in all Haz-Tac protocols (more appropriate for hazmat scenarios).
2. The dosing of nebulized calcium gluconate for HF (Hydrogen Fluoride / Hydrofluoric Acid) exposure has been specified (5 ml of 10% solution (1gram), followed by a repeat of 5 ml of 10% solution, the maximum total dose is 5 grams).
3. Side-stream nasal capnography was added to the ALS Initial Assessment section (and numbering was adjusted accordingly).

## **These General Operating Procedures Apply ONLY to FDNY Haz-Tac EMTs and Paramedics**

Current and Updated Protocols can be accessed at the Regional EMS Council website: [www.nycremsco.org](http://www.nycremsco.org).

Owners/operators of Ambulance and ALS First Response Services providing prehospital medical treatment within the five boroughs of the City of New York are responsible to provide copies of the NYC REMAC Prehospital Treatment Protocols to their personnel, and to ensure that Service Medical Directors and EMS personnel are informed of all changes/updates to the NYC REMAC Prehospital Treatment Protocols.

Josef Schenker, MD, FACEP  
Chair, Regional Emergency Medical Advisory  
Committee of New York City

Marie C. Diglio, EMT-P, CIC  
Executive Director Operations, Regional Emergency  
Medical Services Council of New York City

# THE REGIONAL EMERGENCY MEDICAL SERVICES COUNCIL OF NEW YORK CITY, INC.

## *Haz-Tac EMT & Paramedic (EMT-P) Protocol Revisions*

### HAZARDOUS MATERIALS EMERGENCY MEDICAL TECHNICIAN EMT BASIC & PARAMEDIC PROTOCOLS

---

#### **These General Operating Procedures Apply ONLY to FDNY HazTac EMTs and Paramedics**

#### **Preamble**

The hazardous materials (Haz-Mat) environment is potentially harmful to victims and rescuers. The inexperienced or untrained rescuer may potentially expose themselves to serious health consequences. The goal of these protocols is to allow for the delivery of pre-hospital medical care while allowing for a standardized approach to medical interventions, procedures and destination decisions without unnecessary risk to the medical provider.

#### **Purpose**

To establish protocols defining the scope of the New York City Fire Department's EMT Basic and Advanced Emergency Medical Technician-Paramedic (AEMT-Ps) units operating as Hazardous Material Tactical Units (HazTac). These parameters set forth for standing orders and discretionary orders are only to be used on the scene of a declared hazardous materials incident.

**NOTE: ONLY HAZ-TAC CERTIFIED EMTs AND PARAMEDICS OPERATING UNDER A DECLARED HAZARDOUS MATERIALS INCIDENT BY COMPETENT AUTHORITY MAY USE THE PROTOCOLS LISTED HERE. ALL OTHER PROVIDERS AT A SUSPECTED HAZARDOUS MATERIALS INCIDENT SHALL OPERATE UNDER ESTABLISHED REMAC PROTOCOLS FOR THEIR LEVEL OF CERTIFICATION. UNDER NO CIRCUMSTANCES MAY HAZARDOUS MATERIAL TECHNICIANS PROVIDE TREATMENT USING DISCRETIONARY PROTOCOLS WITHOUT CONTACTING AND RECEIVING DIRECTION FROM AN FDNY OMA PHYSICIAN**

#### **Scope**

The New York City Fire Department has extensively trained a limited number of EMTs and AEMT-Ps capable of performing pre-hospital emergency medical care within the exclusion zone of a hazardous materials environment. The New York City Fire Department has established specific protocols to be used exclusively by these EMTs and AEMT-Ps as specified in the emergency response plan and under the discretion of the FDNY Office of Medical Affairs (OMA) Response Physician (5M) and the Haz-Mat Branch Director. These protocols are medical operational guidelines that should be used in conjunction with good clinical judgment relative to the presenting toxidrome signs and symptoms and available information.

**NOTE: THE FIRE DEPARTMENT, CITY OF NEW YORK (FDNY) IS RESPONSIBLE FOR COORDINATION OF PATIENT CARE RESOURCES AT THE SCENE OF A HAZARDOUS MATERIAL (HAZ-MAT) SITUATION. CFRs/EMTs/AEMT-Ps MUST NOTIFY FDNY IN SITUATIONS INVOLVING HAZARDOUS MATERIAL INCIDENTS WHICH REQUIRE DECONTAMINATION**

# THE REGIONAL EMERGENCY MEDICAL SERVICES COUNCIL OF NEW YORK CITY, INC.

## Haz-Tac EMT & Paramedic (EMT-P) Protocol Revisions

### Training

All Haz-Tac Officers, EMTs, and AEMT-Ps must possess a valid New York State DOH Bureau of Emergency Medical Services EMT or EMT Paramedic certification. NYS certified paramedics must also possess a valid Regional Emergency Medical Services Committee of New York City (REMAC) certification. In addition, all members must successfully complete an 80-hour basic hazardous materials medical technician course and participate in scheduled sustainment training throughout the year. Training programs will be based in accordance with OSHA1910.120 (HAZWOPER) and relevant best practices and recommendations as specified in NFPA standards 472 and 473.

### SPECIALIZED EQUIPMENT AND MEDICATIONS:

(This is in addition to general ALS medications and equipment.)

<u>Equipment</u>	<u>Medications / Solutions</u>
Multi Gas Meter	Calcium Gluconate (Solution and Gel)
SCOTT PAPR with CBRN and P100 Canister	Potassium Iodide (KI) Tablets
Radiological Dosimetry	Methylene Blue
Self-Contained Breathing Apparatus	Pyridoxine (Vitamin B6)
Chemical Protective Clothing	Ketamine
Emergency Decontamination Kit	Prussian Blue
	Tetracaine

### FDNY Hazardous Materials Tactical Unit Protocols

These protocols are to be utilized only by personnel trained in the use of Chemical Protective Clothing (CPC) as directed by the highest ranking Haz-Mat officer and with consultation of a Haz-Tac officer by either face-to-face communication, radio, or other electronic media.

**NOTE: If significant resources are not on scene, the arriving Haz-Tac units must operate as an EMS resource until instructed otherwise by a competent authority on scene**

# THE REGIONAL EMERGENCY MEDICAL SERVICES COUNCIL OF NEW YORK CITY, INC.

## *Haz-Tac EMT & Paramedic (EMT-P) Protocol Revisions*

### **Standard Approach to all Hazardous Material Incidents**

1. Remain uphill and upwind from the incident and remain cognizant of changes in wind direction.
2. Continuous personal atmosphere metering is mandatory throughout the assignment.

### **NOTE: AT NO POINT SHALL HAZ-TAC MEMBERS OPERATE IN ANY SUSPECTED OR CONFIRMED LOWER EXPLOSIVE LIMIT (LEL) ENVIRONMENT**

3. Attempt to make a tentative identification of the product or hazard utilizing the following resources.
  - a. U.N. ID placard number, NFPA Diamond, MSDS, shipping papers, bill of lading, information from on scene personnel (civilian, FD, PD, DEP, etc.)
4. Determine and report the potential size and scope of incident(s) including but not limited to;
  - a. Number of actual or potential victims (inhabitants/occupants vs. actual exposures or contaminated), children, adults, special needs, etc.
  - b. If not already on scene contact the on-duty Haz-Tac officer and provide a preliminary report.
5. Ascertain appropriate respiratory protection and chemical protective clothing (CPC) if necessary as established by the FDNY Haz-Mat Group Leader
6. Determine if the incident is involving a chemical exposure or contamination.
  - a. If chemical exposure attempt to remove victims from the source of exposure if possible. Consider “off-gassing” of toxic fumes from the patient’s clothing and/or body.
  - b. If chemical contamination has occurred attempt to remove contaminate from the patient if possible. Perform immediate emergency decontamination if necessary. Request appropriate additional resources through Emergency Medical Dispatch.
7. Attempt to identify a toxidrome.
  - a. Clinical signs and symptoms secondary to an acute and/or chronic exposure.

### **Examples of Substances with a High Risk for Secondary Contamination**

- Acids, Alkalis, and Corrosives (if concentrated)
- Asbestos (large amounts, crumbling, airborne)
- Cyanide salts, hydrogen cyanide and related compounds (e.g., nitriles)
- Hydrofluoric acid solutions
- Nitrogen containing oxidizers or other oxidizers which may produce Methemoglobinemia (aniline, aryl amines, aromatic nitro-compounds, chlorates, etc.)
- Pesticides
- PCBs (polychlorinated biphenyls)
- Phenol and phenolic compounds
- Other oily or adherent toxic dusts or liquids.

## *Haz-Tac EMT & Paramedic (EMT-P) Protocol Revisions*

### **Examples of Substances with a Low Risk for Secondary Contamination**

- Most gases and vapors, unless they condense in significant amounts on clothing, skin, or hair
- Weak acids, alkalis, and corrosives in low concentrations (excluding Hydrofluoric acid)
- Weak acids or alkali vapors (unless clothing soaked)
- Arsine gas
- Carbon Monoxide gas (CO)
- Gasoline, Kerosene, and related hydrocarbons
- Phosphine gas
- Smoke/combustion products (excluding chemical fires)
- Small quantities of hydrocarbon solvents (e.g., toluene, xylene, paint thinner, ketones, chlorinated degreasers)

### **Initial Management**

1. Begin Basic Life Support Procedures
  - Refrain from making direct contact with patients until decontamination procedures have been completed.
2. Establish a patent airway and support as needed. Administer Oxygen if appropriate.
  - Approval must be obtained from the Haz-Mat group prior to any oxygen use
3. Ensure that breathing is adequate and support as needed.
  - Use supplemental oxygen with a bag valve mask or non-rebreather mask.
    - i. Mouth to mouth or mouth to mask is strictly **PROHIBITED**.
  - Use SCBA face piece and mask with air bottle in oxygen rich (>22.5%) or oxygen deficient (<19.5%) atmosphere.
  - Protect the patient's airway from particulates using any of the following:
    - i. N95 Mask
    - ii. P100 Mask
    - iii. Non-rebreather mask (if administering oxygen)
    - iv. Face shield
    - v. SCBA face piece if utilizing

*Haz-Tac EMT & Paramedic (EMT-P) Protocol Revisions*

**NOTE: EXTREME CAUTION MUST BE EXERCISED WHEN OPERATING IN A POTENTIAL LEL ENVIRONMENT. CONSULTATION WITH THE HAZ-MAT GROUP LEADER IS REQUIRED PRIOR TO HAZ-TAC PERSONNEL OPERATING IN THESE ENVIRONMENTS. A RISK VERSUS BENEFIT ANALYSIS MUST BE CONDUCTED AND PATIENT CARE CONDUCTED ACCORDINGLY. IT MAY BE APPROPRIATE TO DELAY CERTAIN PATIENT CARE PROCEDURES UNTIL THE PATIENT AND CREW MEMBERS ARE IN A SAFER ENVIRONMENT.**

4. Verify that adequate signs of circulation exist and support as needed.
  - Compression only CPR should be performed if ventilator support is not feasible in the exclusion zone.
  - Only life threatening hemorrhage should be treated in the exclusion zone.
5. Consider the need for spinal precautions.
  - If necessary this should be done as expeditiously as possible.
  - Immobilization device should not inhibit extrication or decontamination.
  - Consider reverse isolation for radiologically contaminated patients.
6. Determine if Advanced Life Support assistance is required.
7. Maintain body temperature and protect the patient from cross contamination.
8. Treat the patient according to the appropriate REMAC Hazardous Material Technician Protocol
9. Transport the patient to the nearest appropriate facility.
10. During transport if possible obtain a focused medical history, complete a detailed physical exam as the patient's condition dictates, and provide continuous emotional support.

**Advanced Life Support Initial Management**

1. Monitor patients for signs of upper airway compromise, severe respiratory distress, or impending respiratory failure/arrest. If necessary, perform advanced airway management as per NYC REMAC protocol.
2. Monitor rhythm and record 12 lead EKG; assess and evaluate for rhythm abnormalities or signs of exposure induced chemical cardio toxicity.
3. Begin pulse oximetry monitoring and monitor for possible oxygen desaturation.
4. Start IV/IO of 0.9% Normal Saline KVO/Wide open as appropriate.
5. Treat patients exhibiting an Altered Mental Status in accordance with NYC REMAC Protocol 511 with special consideration of a chemically induced condition.
6. Treat Chemical Eye Injuries as per NYC REMAC Protocol 527.
7. Nasal Capnography should be used on all patients if available.

# THE REGIONAL EMERGENCY MEDICAL SERVICES COUNCIL OF NEW YORK CITY, INC.

## Haz-Tac EMT & Paramedic (EMT-P) Protocol Revisions

8. Pain management should be considered for adult and pediatric patients with pain secondary to exposure, by direction of physician control (5M on or off scene or through OLMC contact):
  - a. Monitor vital signs every 5 minutes.
  - b. Administer Morphine Sulfate, for patients with a systolic blood pressure greater than 110mmHg, 0.1mg/kg (not to exceed 5mg), IV/IO/IM. For continued pain, repeat dose of 0.1mg/kg (not to exceed 5mg) may be repeated five minutes following the initial dose. (Maximum total dose is 10mg.)  
OR
  - c. Administer Fentanyl 1 mcg/kg (max 100 mcg), IV/IO or 2 mcg/kg IN/IM (max 100 mcg).  
OR
  - d. Administer Ketamine 0.3 mg/kg IV/IO, or 1 mg/kg IM/IN. Repeat as needed.

**NOTE: IF HYPOVENTILATION DEVELOPS, ADMINISTER NALOXONE, TITRATE IN INCREMENTS OF 0.5 MG UP TO RESPONSE, UP TO 4 MG, IV/IO/IN/IM**

9. For adult and pediatric patients with muscle spasms secondary to exposure, by direction of physician control (5M on or off scene or through OLMC contact):
  - a. Monitor vital signs every 5 minutes.
  - b. Administer Diazepam 0.1 mg/kg (not to exceed 5 mg), IV/IO, slowly over 2 minutes.
  - c. If unable to obtain IV/IO administer Midazolam:
    - Administer adults 10 mg, IM/IN
    - Administer pediatrics 0.2 mg/kg, IM/IN (Maximum dose is 5 mg, IN is the preferred route of administration)
10. For adult and pediatric patients with severe nausea/persistent vomiting secondary to exposure:
  - a. Monitor vital signs every 5 minutes.
  - b. Assess 12 lead EKG for prolonged QT interval, and if prolonged do not administer Ondansetron.
  - c. Administer Ondansetron 0.1 mg/kg (not to exceed 4 mg), IV/IO, slowly over 1-2 minutes. For continued vomiting, a repeat dose of Ondansetron 0.1 mg/kg (not to exceed 4 mg) may be administered. Maximum total dose is 8 mg.

### Sub-Protocols

- A: CHLORINE/CHLORAMINE AND RELATED COMPOUNDS  
B: HYDROGEN FLUORIDE (HF)/ HYDROFLUORIC ACID (HF)  
C: HYDROGEN SULFIDE  
D: METHEMOGLOBINEMIA  
E: ORGANOPHOSPHATES  
F: HYDRAZINE POISONING WITH SEIZURES G: AMMONIA  
H: CYANIDE TOXICITY  
I: HYDROCARBON PRODUCTS/SOLVENTS J: UNKNOWN HAZARDOUS PRODUCT  
K: RADIATION TREATMENT



---

A  
**CHLORINE/CHLORAMINE AND RELATED COMPOUNDS**

---

**Acute exposure symptoms may be immediate or delayed for a few hours.**

1. Begin BLS initial management procedures.
2. Protect the patient's airway and administer 100% oxygen via non-rebreather mask, humidified if available. Assist ventilations if signs of respiratory insufficiency develop.
3. If ingested allow the patient to drink 5 ml/kg of water. **(DO NOT USE SALINE)**
4. For bronchospasm; administer Albuterol Sulfate 0.083% one-unit dose via breath actuated nebulizer at a flow administration rate over 5-15 minutes
5. Begin transport.

**NOTE: FOR PATIENTS IN SEVERE RESPIRATORY DISTRESS, CALL FOR ADVANCED LIFE SUPPORT ASSISTANCE.**

6. If symptoms persist, Albuterol Sulfate 0.083% may be repeated until the patient shows improvement.

**ALS ONLY:**

7. Administer Ipratropium Bromide 0.02% (one-unit dose of 2.5 ml), by breath actuated nebulizer, in conjunction with the first three (3) doses of Albuterol Sulfate.
8. Begin ALS initial management protocols if applicable.

Fluid should be administered cautiously.

**OMA Physician Approval required**

---

- Option A: If respiratory burning persists; administer Sodium Bicarbonate via breath actuated nebulizer (7.5% 3 ml mixed with 3 ml normal saline for adult patients or 4.2% 3 ml mixed with 3 ml normal saline for pediatric patients)
- Repeat every 20 minutes as needed (maximum 3 doses)

**NOTE: FOR NON-CARDIOGENIC ACUTE PULMONARY EDEMA PROVIDE ADEQUATE OXYGENATION AND VENTILATION VIA BAG-VALVE MASK OR CPAP. DO NOT ADMINISTER FUROSEMIDE OR NITROGLYCERIN.**



---

**B:**  
**HYDROGEN FLUORIDE (HF)/ HYDROFLUORIC ACID (HF)**

---

**Acute effects may progress for several days before symptoms appear**

1. Begin BLS initial management procedures.
2. If ingested allow the patient to drink 5 ml/kg of water. **(DO NOT USE SALINE).**

**FOR DERMAL EXPOSURE:**

3. Rapid decontamination is critical.
4. Apply pre mixed Calcium Gluconate gel to topically burned skin and leave in place. Vigorously massage burned areas with gel until pain is relieved.
  - a. Reapply if pain reoccurs.
  - b. For burn to the hand(s) place hand in a glove filled with this gel.

**FOR OCULAR CONTAMINATION:**

5. Instill 2 drops of Tetracaine HCl 0.5% solution to the affected eye(s).
6. Irrigate the affected eye(s) as per current REMAC protocols.

**ALS ONLY:**

7. Irrigate the affected eye(s) with 1% Calcium Gluconate solution (Do Not Use Calcium Chloride) Prepare this solution by mixing 50 ml of 10% Calcium Gluconate in 500 ml of Normal Saline. Repeat if necessary.
8. Begin ALS initial management protocols if applicable.

**Specific treatment depends on the body system affected**

---

**OMA Physician Approval required (Respiratory)**

- Option A:** Calcium Gluconate 1 gram via breath actuated nebulizer, administered as 5 ml of a 10% solution followed by a repeat of 5 ml of a 10% solution. Maximum total dose is 5 gm.

---

**OMA Physician Approval required (Cardiovascular)**

- Option B:** Calcium Gluconate 1 gm of 10% solution slowly IV/IO/ over 5 minutes.  
**Pediatric:** 0.5 gm of 10% solution slowly IV/IO/ over 5 minutes.

**NOTE:** **PATIENT MUST BE EXHIBITING SIGNS OF HYPOCALCAEMIA AND/OR HYPERKALEMIA DURING 12 LEAD ECG, SUCH AS PEAKED T WAVES OR PROLONGED QT SEGMENT**

---

**C**  
**HYDROGEN SULFIDE**

---

**Fatalities have occurred to rescuers entering the hot zone**

**Olfactory fatigue may occur and consequently may not provide  
adequate warning of hazardous concentrations**

1. Begin BLS initial management procedures.
2. For bronchospasm; administer Albuterol Sulfate 0.083% one unit dose via breath actuated breath actuated nebulizer at a flow administration rate over 5-15 minutes
3. Begin transport.

**NOTE: FOR PATIENTS IN SEVERE RESPIRATORY DISTRESS, CALL FOR ADVANCED LIFE SUPPORT ASSISTANCE.**

4. If symptoms persist, Albuterol Sulfate 0.083% may be repeated until the patient shows improvement.

***ALS ONLY:***

5. Administer Ipratropium Bromide 0.02% (1 unit dose of 2.5 ml), by breath actuated nebulizer, in conjunction with the first three (3) doses of Albuterol Sulfate.
6. Begin ALS initial management protocols if applicable.

**OMA Physician Approval required**

---

- Option A: Administer Sodium Bicarbonate 1 mEq/kg IV/IO For adult patients use Sodium Bicarbonate 7.5%. For pediatric patients use Sodium Bicarbonate 4.2%

**D**  
**METHEMOGLOBINEMIA**

**This treatment protocol should only be used when ALL Methemoglobinemia criteria is met**

- Known or suspected exposure to oxidizing agents (nitrates, nitrites, chlorates, etc.) including:

Amyl Nitrate	Aniline Dye Derivatives	Butyl Nitrite
Chlorobenzene	Isobutyl Nitrite	Naphthalene
Nitrophenol	Nitrous Gases	Sodium Nitrite

- Central or Peripheral Cyanosis
- Signs and symptoms of significant (>20%) methemoglobinemia
- Chocolate brown colored blood in flash chamber of IV catheter

<b>Clinical Levels of Methemoglobinemia and Associated Signs/Symptoms</b>	
<15%	Asymptomatic
20-30%	Headache, fatigue, cyanosis, AMS, dizziness, syncope,
30-50%	Dyspnea, headache
50-70%	Lethargy, stupor, dysrhythmias, seizure, coma
>70%	Death

1. Begin BLS initial management procedures.
2. Begin ALS initial management protocols if applicable.
  - SPO2 reading may not be accurate in these patients.
3. Administer Methylene Blue 2 mg/kg of a 1% solution IV/IO slowly over 5 minutes followed by 50 ml of normal saline. Observe for hypertension, nausea, or disorientation.

**NOTE: Administer high concentration oxygen for at least 2 hours following Methylene Blue administration**

4. Repeat Methylene Blue in 30-60 minutes if cyanosis or severe methemoglobinemia symptoms persist.

# THE REGIONAL EMERGENCY MEDICAL SERVICES COUNCIL OF NEW YORK CITY, INC.

## *Haz-Tac EMT & Paramedic (EMT-P) Protocol Revisions*

**NOTES:**      ***GLUCOSE 6 PHOSPHATE DEHYDROGENASE DEFICIENCY (G6PD) IS A RELATIVE CONTRAINDICATION FOR METHYLENE BLUE ADMINISTRATION***

***PRIOR TO ADMINISTRATION OF METHYLENE BLUE, OBTAIN THREE BLOOD SAMPLES USING THE TUBES PROVIDED IN THE METHEMOGLOBIN TOXICITY KIT***

---

**E**  
**ORGANOPHOSPHATES**

---

***Refer to Protocol 400 (Weapons of Mass Destruction Nerve Agent Exposure Protocol) of the Regional Emergency Medical Advisory Committee Prehospital Basic Life Support Protocols***

1. Begin ALS initial management protocols if applicable.

---

**F**  
**HYDRAZINE POISONING WITH SEIZURES**

---

1. Begin BLS initial management procedures.
2. Begin ALS initial management protocols if applicable.
  - SPO2 reading may not be accurate in these patients if methemoglobinemia develops.
3. Administer 25 mg/kg Pyridoxine (Vitamin B6) IV/IO slowly over 5 minutes for seizures not controlled with Diazepam or Midazolam. If seizures persist, a single repeat dose may be administered. Maximum combined dose 5 gm of pyridoxine.
4. If methemoglobinemia develops, administer Methylene Blue 2 mg/kg of a 1% solution IV/IO slowly over 5 minutes followed by 50 ml of normal saline. Observe for hypertension, nausea, or disorientation.
  - a. Administer high concentration oxygen for at least 2 hours following Methylene Blue administration.
5. For bronchospasm; administer Albuterol Sulfate 0.083% one unit dose via breath actuated nebulizer and/or BVM as needed, at a flow administration rate over 5-15 minutes
6. Begin transport.

**NOTE: FOR PATIENTS IN SEVERE RESPIRATORY DISTRESS, CALL FOR ADVANCED LIFE SUPPORT ASSISTANCE.**

7. If symptoms persist, Albuterol Sulfate 0.083% may be repeated until the patient shows improvement.

***ALS ONLY:***

8. Administer Ipratropium Bromide 0.02% (1 unit dose of 2.5 ml), by breath actuated nebulizer, in conjunction with the first three (3) doses of Albuterol Sulfate.

**NOTES: FOR NON-CARDIOGENIC ACUTE PULMONARY EDEMA PROVIDE ADEQUATE OXYGENATION AND VENTILATION VIA BAG-VALVE MASK OR CPAP. DO NOT ADMINISTER FUROSEMIDE OR NITROGLYCERIN**

**PRIOR TO ADMINISTRATION OF METHYLENE BLUE, OBTAIN THREE BLOOD SAMPLES USING THE TUBES PROVIDED IN THE METHEMOGLOBIN TOXICITY KIT**

---

**G**  
**AMMONIA**

---

1. Begin BLS initial management procedures.
2. Begin ALS initial management protocols if applicable.
3. If ingested allow the patient to drink 5 ml/kg of water. (***DO NOT USE SALINE***)
4. For bronchospasm; administer Albuterol Sulfate 0.083% one unit dose via breath actuated nebulizer and/or BVM as needed, at a flow administration rate over 5-15 minutes
5. Begin transport.

**NOTE:**        ***FOR PATIENTS IN SEVERE RESPIRATORY DISTRESS, CALL FOR ADVANCED LIFE SUPPORT ASSISTANCE.***

6. If symptoms persist, Albuterol Sulfate 0.083% may be repeated until the patient shows improvement.

***ALS ONLY:***

7. Administer Ipratropium Bromide 0.02% (1 unit dose of 2.5 ml), by breath actuated nebulizer, in conjunction with the first three (3) doses of Albuterol Sulfate.

**NOTE:**        ***FOR NON-CARDIOGENIC ACUTE PULMONARY EDEMA PROVIDE ADEQUATE OXYGENATION AND VENTILATION VIA BAG-VALVE MASK OR CPAP. DO NOT ADMINISTER FUROSEMIDE OR NITROGLYCERIN***



---

**H**  
**CYANIDE TOXICITY**

---

*Refer to Protocol 500-A and 500-B (Smoke Inhalation or Cyanide Exposure) of the Regional Emergency Medical Advisory Committee Prehospital Advanced Life Support (Paramedic) Protocols*

---

I

**HYDROCARBON PRODUCTS/SOLVENTS**

---

1. Begin BLS initial management procedures.
2. Begin ALS initial management protocols if applicable.
3. Provide care directed to the patients symptoms as per Regional Emergency Medical Advisory Committee Prehospital Basic Life Support or Advance Life Support Protocols.

***NOTE: TREATMENT FOR NON-CARDIOGENIC PULMONARY EDEMA SHOULD INCLUDE POSITIVE PRESSURE VENTILATION VIA BAG VALVE MASK OR CPAP***

***AVOID EPINEPHRINE, ALBUTEROL AND OTHER BETA-ADRENERGIC AGENTS IF POSSIBLE EXCEPT IN CASES OF CARDIAC ARREST OR REFRACTORY AIRWAY DISEASE. THESE MAY INDUCE FATAL ARRHYTHMIAS IN THE MYOCARDIUM SENSITIZED BY HYDROCARBONS***

---

**J**

**UNKNOWN HAZARDOUS PRODUCT**

---

1. Begin BLS initial management procedures.
2. Begin ALS initial management protocols if applicable.
3. Provide care directed to the patients symptoms as per Regional Emergency Medical Advisory Committee Prehospital Basic Life Support or Advance Life Support Protocols.

**NOTE: FOR NON-CARDIOGENIC ACUTE PULMONARY EDEMA PROVIDE ADEQUATE OXYGENATION AND VENTILATION VIA BAG-VALVE MASK OR CPAP. DO NOT ADMINISTER FUROSEMIDE OR NITROGLYCERIN**

**K**  
**RADIATION TREATMENT**

*Prior to use of these protocols the specific isotope must be identified.*

*All radioactive contaminated patients pose a secondary contamination risk and exposure to the providers*

1. Begin BLS initial management procedures.
  - Green and Yellow tag patients should immediately be sent for initial screening and decontamination.
  - Red tag patients should be transported prior to decontamination following all reverse isolation procedures.
2. Begin ALS initial management protocols if applicable.

**NOTES: THE ALARA (AS LOW AS REASONABLY ACHIEVABLE) PRINCIPLE MUST BE UTILIZED WHILE OPERATING AT SCENES OF POSSIBLE RADIOACTIVE EXPOSURE.**

**SPECIFIC TREATMENT DEPENDS ON THE ISOTOPE IDENTIFIED**

**OMA Physician Approval required (Radioactive Iodine)**

Option A: For suspected radioactive iodine exposures administer Potassium Iodide (KI) as follows:

Newborns from birth to 1 month of age	16.25 mg (5 ml of Potassium Iodide Liquid Mixture)
Infants and Children from 1 month to 3 years of age	32.5 mg (10 ml of Potassium Iodide Liquid Mixture)
Children from 3 years to 18 years of age	65 mg (half 130 mg tablet or 20 ml of Potassium Iodide Liquid Mixture)
Adults up to 40 years of age	130 mg (one 130 mg tablet or two 65 mg tablets or 40 ml of Potassium Iodide Liquid Mixture)
<i>To prepare Potassium Iodide Liquid Mixture, grind one 130 mg tablet into powder and mix with 40 ml of sterile water. This will result in a concentration of 16.25 mg per 5 ml. Reference this chart for proper dosing.</i>	

**NOTES:** Potassium Iodide should be withheld in adults over 40 years of age

Women who are pregnant or breastfeeding should take the 130 mg dose regardless of age

**OMA Physician Approval required (Suspected Ingestion of Radioactive Cesium and Thallium)**

Option A: For suspected radioactive cesium or thallium internal contamination, administer Prussian blue orally. If unable to swallow the capsule, break open the capsule and mix with water.

- Administer Adult 2 gms (4 capsules)
- Administer Pediatrics greater than 2 years old 1 gm (2 capsules)

**NOTE: PRUSSIAN BLUE MAY BE GIVEN TO ADULTS AND CHILDREN GREATER THAN 2 YEARS OLD. PREGNANT WOMEN MAY ALSO TAKE PRUSSIAN BLUE. ADMINISTER WITH CAUTION TO PATIENTS WHO HAVE HAD CONSTIPATION, BLOCKAGES IN THE INTESTINES, OR SIGNIFICANT STOMACH PROBLEMS**