Chemical Exposure

Purpose: To provide guidance for the treatment of chemical exposure patients.

Assessment/Management – Chemical Agents
If there is a confirmation of, or symptoms indicative of, a chemical incident, utilize appropriate protective suits and respirators (PAPR) with Organic Vapor/HEPA cartridges should be donned.

I. Nerve Agents & Cyanide Compounds – refer to **Nerve Agent/Organophosphate Pesticide Exposure-Special Operations Protocol** and **Cyanide Exposure-Special Operations Protocol.**

II. Choking Agents (e.g., Phosgene, Chlorine, Chloropicrin)
   A. Exposure Route: Inhalation
   B. Signs and symptoms:
      1. Cough, dyspnea, irritation of mucous membranes, pulmonary edema
   C. Patients should be promptly removed from the area to a clean atmosphere.
   D. Treatment
      1. Assist ventilations, as necessary.
      2. Provide 100% oxygen
      3. If wheezing, administer **albuterol** 2.5 mg/3ml **NS** nebulized per **Nebulized Bronchodilators-Medication Protocol** (Per MCA selection may be EMT skill)

Nebulized **albuterol** administration
☑ EMT

         a. 4 puffs from patient's own prescribed albuterol metered dose inhaler (with spacer if available)
      3. For severe exposure consider early interventional airway and aggressive ventilatory support (including CPAP per **CPAP-Procedure Protocol**)
      4. If eye exposure,
         a. Eye irrigation
            i. Remove contact lenses
            ii. Flush with 1000cc of **NS** each eye
         b. For eye pain, use **tetracaine hydrochloride** 1-2 drops in each eye, if available.

III. Vesicant Agents (Blister agents)
   A. Examples: Sulfur Mustard (HD), Nitrogen Mustard (HN), Lewisite, Phosgene Oxime (CX) Vesicant agents are named for their tendency to cause blisters.
   B. Exposure Route: Dermal/Inhalation
   C. Decontamination is critical:
      1. Medical providers will require the proper PPE as determined by unified command before decontaminating patient.

2. Remove patient's clothing, if necessary.
3. Patients may begin self-decontamination by removing clothing and using soap (if available) and water.
4. Decontaminate by blotting and cleansing with soap (if available) and water.
5. Remember that time is critical for effective mustard decontamination.

D. Management/Treatment
   1. Immediate attention should be directed toward:
      a. Assisted ventilation
      b. Administration of 100 % oxygen
   2. Symptomatic treatment per protocol.

IV. Lacrimator Agents (Tear Gas)
   A. Information: Lacrimator (tearing) agents are widely used by law enforcement, the military, and widely available to the public.
   B. Exposure Route: Inhalation/Ocular
   C. Signs and Symptoms: The most common effects are nasal and ocular discharges, photophobia, and burning sensations in the mucous membranes.
   D. Decontamination:
      1. Patients should be decontaminated with soap and water.
      2. Medical providers require protective masks and clothing for patient management since lacrimator agents are transmitted by physical contact.
      3. Decontaminate by blotting and cleansing with soap (if available) and water.
   E. Treatment
      1. Symptomatic treatment per protocol (no specific antidote).
      2. Eye irrigation
         a. Remove contact lenses
         b. Flush with 1000cc of **NS** each eye
         c. Use **Tetracaine hydrochloride**, if available, 1-2 drops in each eye.

<u>Medication Protocols</u>
Albuterol
Tetracaine hydrochloride