Hazardous Materials Medical Response Team Procedures

**Cyanide Poisoning**

FORMS: Gas (hydrogen cyanide), liquid (solutions of cyanide salts), and solids (cyanide salts). Hydrogen cyanide gas may be formed when acid is added to a cyanide salt or a nitrile, or as a product of combustion of burning plastics, wool and other synthetic products.

**ROUTES OF EXPOSURE:** Skin and eye, inhalation, ingestion

**SIGNS AND SYMPTOMS:**

- **Cardiovascular:** At first, pulse decreases and BP rises. At later stages, arrhythmias and cardiovascular collapse may occur. Palpitations and tightness of the chest may be felt.

- **Respiratory:** Can cause immediate respiratory arrest. Initially, respiratory rate and depth are increased; at later stages respirations become slow and gasping. Signs of pulmonary edema may be present.

- **CNS:** Can cause immediate coma. Early symptoms can include weakness, headache, confusion. Seizures are common.

- **Gastrointestinal:** Nausea, vomiting and salivation.

- **Eye:** Chemical conjunctivitis.

- **Skin:** Dermatitis and, in some cases, ulcers. Pale or reddish color. Cyanosis is not usually present.

- **Other:** Can be rapidly fatal without early symptoms. Smaller doses may have a delayed onset of symptoms.

**Procedure:**

**Pre Radio Contact**

(MFR/BLS/LALS/ALS)

1. Follow General HazMat Treatment Protocol.
4. Anticipate seizures (BLS/LALS/ALS)
   1. If ingested administer Activated Charcoal 30 - 100 G as a suspension in 1 cup of water.

   (LALS/ALS)
   1. Oral tracheal or nasal tracheal intubation is indicated in the unconscious or respiratory arrest patient.
   2. Start IV of Normal Saline or Lactated Ringers.

   (ALS)
   1. Amyl Nitrite: Break pearls into gauze sponge and hold under patient's nose or Ambu intake valve for 15 to 30 seconds/minute until sodium nitrite solution is ready.

**Orders to Expect**

1. **Sodium Nitrite (3% IV solution):**
   - Adult: 10 ml at 2.5 to 5 ml/minute, or 0.35 ml/kg IV push
   - Child: 0.2 ml/kg, not to exceed 10 ml IV push

2. **Sodium Thiosulfate (25 % solution):**
   - Adult: 12.5 gm (50 cc of 25 % solution) IV push
   - Child: 1.6 to 1.8 ml/kg of 25% solution IV push

**Monitor Blood Pressure during administration of both.**

3. Repeat antidote at 50% of initial dose if symptoms persist after 20 minutes. If symptoms worsen after treatment consider NITRITE TOXICITY causing METHEMOGLOBINEMIA.

**Contact Medical Control.**
Cyanide Poisoning

Other

Treat dysrhythmias according to SEM Regional Cardiac Protocols (3-01 through 3-13).

Consider drug therapy for pulmonary edema and follow Protocol 3-06.

Treat seizures according to Protocol 5-11.