

**REGION I EMERGENCY MEDICAL SERVICES
STANDING MEDICAL ORDERS
BLS**

SMO: Hydrogen Cyanide

Revised Date:

Overview: Hydrogen cyanide (HCN) is a pale-blue liquid at 78 degrees Fahrenheit; at higher temperatures it is a colorless gas. It has a “bitter almond” odor; however, 20 to 40 percent of individuals cannot detect the odor of HCN. Cyanide is well absorbed by inhalation and can cause death within minutes. Substantial absorption can occur through intact skin. Death usually occurs due to profound acid-base disorders. All suspected or confirmed cases of hydrogen cyanide intoxication must be reported to the local department of public health and the Illinois Department of Public Health.

INFORMATION NEEDED

- Is the scene safe for EMS personnel
- What form does the cyanide take? Liquid/solution or gas
- How many patients

OBJECTIVE FINDINGS

- **In general, the clinical signs of significant intoxication would be rapid knockdown, bradycardia, hypotension, and tachypnea**
 - **CNS: Excitement, dizziness, nausea, vomiting and headache may be noted initially. Severe symptoms may include coma and seizures**
 - **Cardiovascular: Early findings may include hypertension and tachycardia. Bradycardia and hypotension are more commonly seen and are considered later findings.**
 - **Pulmonary: Dyspnea, chest tightness, tachypnea, progressing to cyanosis and pulmonary edema may occur**
 - **Metabolic: High anion gap metabolic acidosis secondary to lactic acidosis**

BLS

- Patients who have been exposed to gas only and do not have skin or ocular irritation, do not need decontamination
- Patients who have been exposed to cyanide-containing liquid or solution should be decontaminated with water; a mild soap may be used as well but is not essential. Liquid cyanide can be off-gas and patients should be decontaminated prior to entry to the hospital.
- Gloves, gowns, masks, eye protection are required for the EMS personnel
- Assess the patient for any medical or trauma issues
- Provide supplemental oxygenation by nasal cannula at 2-6 LPM or by non-rebreather mask at 10-15 LPM
- Assist ventilations as needed
- Assess the patient for airway patency and provide a manual or mechanical airway if the patient is unable to protect their airway
- Vital signs
- Call for ILS or ALS support

Documentation of adherence to protocols:

- History related to the illness
- Oxygen provided
- Airway maneuvers
- Decontamination procedures provided

Medical Control Contact Criteria

- | |
|---|
| <ul style="list-style-type: none"><input type="checkbox"/> • Contact Medical Control as soon as possible and provide information as to number of patients and decontamination procedures being taken<input type="checkbox"/> • Contact Medical Control and ask for ILS or ALS support with patient or patients |
|---|

PRECAUTIONS AND COMMENTS

Remember that substantial absorption can occur through the skin and is well absorbed via inhalation. The EMS personnel must be fully aware of decontamination procedures and policies of their local, area and state guidelines and could very well need to be decontaminated, also.

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ALS**

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- Assess the patient for any medical or trauma issues
- Provide supplemental oxygenation by nasal cannula at 2-6 LPM or by non-rebreather mask at 10-15 LPM
- Cardiac monitor
- IV of N.S.
- Assist ventilations as needed
- Assess the patient for airway patency and provide a manual or mechanical airway if the patient is unable to protect their airway
- Vital signs

___ In the presence of pulmonary edema, Furosemide, 40 mg IVP

Documentation of adherence to protocols:

- ___ History related to the illness
- ___ Oxygen provided
- ___ Airway maneuvers
- ___ Decontamination procedures provided
- ___ Medications provided
- ___ ECG rhythm strip

Medical Control Contact Criteria

- | |
|---|
| <ul style="list-style-type: none">___ • Contact Medical Control as soon as possible and provide information as to number of patients and decontamination procedures being taken___ • Prior to providing Furosemide in the presence of pulmonary edema, contact Medical Control |
|---|

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