

Bayfield-Ashland Counties EMS TOXINS / ENVIRONMENTAL Environmental Exposure	EE-2 CARBON MONOXIDE / SMOKE INHALATION
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Carbon monoxide (CO) is a colorless, odorless gas which has a high affinity for binding to red cell hemoglobin, thus preventing the binding of oxygen to the hemoglobin. This leads to hypoxia, despite the fact the SpO<sub>2</sub> may be normal.

People in a fire may be exposed to cyanide from combustion of synthetic materials. Cyanide toxicity should be considered in the hemodynamically unstable patient removed from a fire. (See [Cyanide guideline \[EC-4\]](#))

**SYMPTOMS**

**MILD INTOXICATION**

- a. Nausea
- b. Fatigue
- c. Headache
- d. Vertigo
- e. Lightheadedness

**MODERATE to SEVERE INTOXICATION**

- a. Altered mental status
- b. Tachypnea
- c. Tachycardia
- d. Convulsion
- e. Cardiopulmonary arrest

**ASSESSMENT and TREATMENT**

**ALL LEVELS**

- 1. Confirm that patient has removed themselves from hazardous environment or assure removal of the patient based on training and/or equipment including respiratory protection.
- 2. Assess ABCDs and, if indicated, expose patient and re-cover to assure retention of body heat.
- 3. Obtain pertinent history.
- 4. Repeat early assessment of patient’s mental status and motor function.

**EMR-O; EMT-R**

- 5. Obtain and monitor vital signs (pulse, respirations and blood pressure) including SpO<sub>2</sub>. [SpO<sub>2</sub> may be inaccurate due to CO binding with hemoglobin.]
- 6. Administer 100% oxygen via non-rebreather mask, bag valve mask or advanced airway as indicated.
- 7. Check blood glucose level.
- 8. Consider transporting patients with severe carbon monoxide poisoning directly to a facility with hyperbaric oxygen capabilities, if feasible. (Hennepin County Medical Center is the nearest hyperbaric capable facility. If needed, strongly consider air medical.)

**EMT-O**

- 9. Acquire ETCO<sub>2</sub>.

**INT-O**

- 10. Monitor ETCO<sub>2</sub> for respiratory decompensation.