



**INFORMATION FOR HEALTH CARE PROVIDERS
ON CARBON MONOXIDE**

HEALTH CARE PROVIDERS SHOULD:

- Recognize signs and symptoms of carbon monoxide poisoning and consider carbon monoxide poisoning in the differential diagnosis of patients presenting with nonspecific symptoms during the cold weather season.
- Ask patients with nonspecific symptoms about potential carbon monoxide sources and counsel patients on preventing carbon monoxide poisoning.
- Measure carboxyhemoglobin (COHb) in suspect cases of carbon monoxide poisoning.
- Report carbon monoxide poisonings with COHb level above 10%, plus all other known or suspected poisonings, by calling the New York City Poison Control Center at (212) POISONS (764-7667).

Carbon monoxide (CO) is a colorless, odorless, and nonirritating gas. It is produced through the incomplete combustion of hydrocarbons. CO can cause sudden illness and death.

Sources of Carbon Monoxide Exposure:

CO from fuel burning activities can build up in enclosed or semi-enclosed spaces.

CO poisonings are associated with:

- Poorly maintained or unvented furnaces, boilers, stoves, hot water heaters, or other fuel burning equipment
- Heating homes with gas stoves or ovens
- Clogged chimneys and heating exhaust vents
- Charcoal or propane grills used inside the home, a garage, or a tent
- Kerosene or propane space heaters used indoors
- Operating cars, generators, or gas-powered tools in enclosed areas or near windows and building air intakes
- Starting a car or truck when exhaust pipe is blocked with snow
- Exposure to house fires

Recognizing CO Poisonings:

A thorough history may provide clues that a patient has CO poisoning. Providers should ask patients when they present with non-specific symptoms about potential CO exposures. Ask specifically about the source of heating, cooking and electricity in their homes and whether there has been any recent work to their heating and hot water systems. Cohabitants who present with similar, nonspecific symptoms increase your index of suspicion. People who are sleeping or intoxicated can die from CO poisoning before ever experiencing symptoms.

Clinical Manifestations of Carbon Monoxide Poisoning		
Headache	Tachypnea	Weakness
Nausea	Dizziness	Blurry Vision
Chest Pain	Dyspnea	Confusion
Vomiting	Ataxia	Myocardial Ischemia
Syncope	Cardiac dysrhythmias	

Adapted from: Goldfrank's Toxicologic Emergencies, 8th Edition

Confirming and Reporting CO Poisonings:

Measurement of carboxyhemoglobin (COHb) is indicated whenever CO poisoning is suspected. Providers should immediately report carboxyhemoglobin (COHb) levels above 10% (providing the patient's address and precise location at time of exposure) to the New York City Poison Control Center at 212-POISONS (212-764-7667) or 800-222-1222. This is crucial as the NYC Poison Control Center will then immediately notify the NYC Fire Department to respond at the building to check for others that may be exposed. The NYC Poison Control Center also helps coordinate access to a hyperbaric chamber as needed. This information also allows the Department of Health and Mental Hygiene to track CO poisoning cases across NYC, identify risk factors, and promote interventions to prevent CO poisonings. Reporting of CO poisonings is a requirement of the New York City Health Code.

Preventing CO Poisoning:

CO poisoning can be prevented by avoiding the sources listed above and using carbon monoxide detectors in the home. Carbon monoxide detectors alert families when there are dangerous levels of CO in the home. Most homes and residential buildings in NYC are required by law to have at least one carbon monoxide detector within 15 feet of the primary entrance of each sleeping room. Owners are responsible for installing approved carbon monoxide detectors. Occupants are responsible for keeping and maintaining the carbon monoxide detectors in good repair.

Households should make sure their home has at least one working carbon monoxide detector. They should:

- Test all CO detectors at least once a month.
- Never paint over CO detectors.
- Replace the CO detector's batteries at least twice a year.
- Replace the batteries in the spring and in the fall when clocks are changed for daylight savings time or when there is a low battery signal. Even if the CO detectors are hard-wired, battery back-up is needed in the event of power loss.

If the carbon monoxide detector alarm sounds:

- Leave your home
- Get to fresh air immediately
- Call 911
- Call the New York City Poison Control Center at (212) POISONS (764-7667).

More Information:

Call the New York City Poison Control Center at 212-POISONS or 800-222-1222. Poison specialists are available 24 hours/7 days a week to report poisonings as required by the NYC Health Code and for clinical consultations on clinical management.

To report heating breakdowns, gas leaks or housing maintenance problems in rental housing, call 311.

For more information about the NYC carbon monoxide detector law and the sources of carbon monoxide call 311 or visit www.nyc.gov/health or www.nyc.gov/oem.