

## CARBON MONOXIDE: The Quiet Killer

### What is Carbon Monoxide?

Carbon monoxide (CO) is a colorless, odorless and deadly gas produced by the incomplete burning of fossil fuels. These fuels can be natural gas, oil, kerosene, coal or wood. Carbon monoxide replaces oxygen in the blood, interfering with the transport of oxygen needed by the cells in the body.

### How Can I be Exposed to Carbon Monoxide?

CO is produced by all fuel burning appliances. Sources can be:

- Gas and oil furnaces
- Wood, kerosene, and pellet stoves
- Automobile exhaust
- Charcoal and gas grills
- Water heaters
- Generators that produce electricity
- Gas dryers, stoves/ovens
- Unvented gas fireplaces
- Camp stoves and gas lanterns



### What are Symptoms of CO Poisoning?

The first physical symptoms of CO poisoning may include:

- ▶ headache ▶ fatigue
- ▶ dizziness ▶ nausea

These symptoms can mimic cold or flu symptoms and may be overlooked. If these symptoms go away when you are gone from the home and come back when you return, or if everyone in the home has these symptoms at the same time, this may be a sign of CO poisoning. Higher concentration of CO can cause a loss of consciousness, brain damage and death.

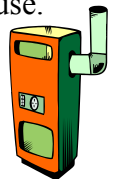
### What should I do if I suspect CO in my home?



1. Leave your home immediately!
2. Call 911 or the Connecticut Poison Control Center (800-222-1222) from a cell phone or a neighbor's house after you have left the house.
3. Call the local fire department to test for CO, or call your fuel supplier or licensed heating contractor for an emergency inspection.

### What can I do to prevent CO poisoning?

- Install a CO detector in your home near the bedrooms. Test alarms frequently; change batteries annually.
- Have your heating systems, chimney flues, gas appliances and generators checked yearly, and cleaned and serviced as needed by qualified heating/appliance contractors.
- DO NOT use alternative heating sources, such as a kerosene heater, inside the house or in the garage.
- DO NOT use a gas oven to heat the house.
- Never go to bed with a fire burning or smoldering.
- Repair or replace faulty car exhaust systems promptly.
- DO NOT run cars, lawn mowers, generators, snow blowers or other gas-powered equipment or tools in enclosed spaces such as a garage, porch, or basement. Opening windows and garage doors does not prevent a build up of CO.
- DO NOT use any equipment or appliances designed for outdoor use inside the house.



## Health Effects of Carbon Monoxide Poisoning

Air concentration	Health Effects	Actions
Outdoor: 0-2 ppm*	Normal outdoor ambient level	None needed
Less than 10 ppm	None	None needed
10-20 ppm	Fatigue in healthy people; Chest pain in people with heart disease	Investigate possible source of CO. Repair when located.
20-75 ppm	Impaired vision and concentration; Headaches, dizziness, confusions, nausea; Symptoms can mimic the flu but clear up after leaving home.	Investigate possible source of CO. Repair when located. Move all residents to fresh air
75-200 ppm	Angina, impaired vision, reduced brain function may result.	Get out of house immediately; call 911 from outside of the house
Greater than 400 ppm	<b>Can be fatal.</b>	Evacuate immediately. Call 911 from outside of the house.

\*parts per million

**Any reading over 10 ppm indicates that there is an unusual source of CO that needs to be investigated.**

### What do I Need to Know about CO Detectors?



- Use only detectors certified by Underwriter Laboratories (UL)
- Choose a digital readout detector
- Detectors can be battery-operated or plug-in with a backup battery system
- Use according to manufacturers instructions
- Place outside sleeping areas
- Replace the detector every 5 years or sooner. The sensor has a limited life span.

#### Connecticut Carbon Monoxide Detector Law

In 2005, the Connecticut legislature passed a law requiring the installation of carbon monoxide detectors in new one or two family buildings and in existing residences where alterations or additions requiring a permit occur. The full text of the law can be found at: <http://www.cga.ct.gov/2005/ACT/PA/2005PA-00161-R00HB-06894-PA.pdf>

### Resources

Connecticut Department of Public Health  
Environmental Health Section  
Epidemiology and Occupational  
Health Assessment Program  
860-509-7742  
[www.ct.gov/dph/co](http://www.ct.gov/dph/co)

Connecticut Poison Control Center  
800-222-1222  
<http://poisoncontrol.uhc.edu>

U.S. Environmental Protection Agency  
<http://www.epa.gov/iaq/co.html>

Underwriters Laboratories, Inc.  
[www.ul.com](http://www.ul.com)

Consumer Product Safety Commission  
[www.cpsc.gov](http://www.cpsc.gov)

