

Carbon Monoxide: *Silent and Deadly*

Carbon monoxide, known by the chemical formula “CO”, is a poisonous gas that kills over 500 people in the United States every year. Of that number, around 200 die from carbon monoxide emitted from a consumer product, like a stove or water heater. Appliances fueled with natural gas, liquified petroleum (LP gas), oil, kerosene, coal, or wood may produce CO. You can't hear, taste, see or smell this gas. It's nicknamed the “silent killer” because it sneaks up on its victims and can take lives without warning.

Sources of CO

CO is a by-product of incomplete burning. CO sources can include malfunctioning appliances — furnaces, stoves, ovens and water heaters — that operate by burning fossil fuels such as natural or liquefied petroleum (LP). When malfunctioning appliances aren't adequately ventilated, the amount of CO in the air may rise to a level that can cause illness or even death. Other CO sources include cigarette smoke, vehicle exhaust, blocked chimney flues, fuel-burning cooking appliances used for heating purposes, and charcoal grills used in the home, tent, camper, garage or other unventilated areas.

CO affects on the Human Body

Carbon Monoxide (CO) inhibits the blood's ability to carry oxygen to body tissues and vital organs such as the heart and brain. When CO is inhaled, it combines with the

oxygen carrying hemoglobin of the blood to form carboxyhemoglobin. Once this combination occurs, that hemoglobin is no longer available for transporting oxygen. How quickly the carboxyhemoglobin builds up relates to the concentration of CO in the air (the concentration of CO is measured in parts per million or ppm) and the duration of the exposure.

In addition, carboxyhemoglobin has a half-life of approximately 5 hours. That means that it will take **five hours** for the level of carboxyhemoglobin in the blood to reduce by **one-half** which still may not be normal.

Symptoms of CO Poisoning

The following symptoms are related to carbon monoxide poisoning and should be discussed with all members of the household:

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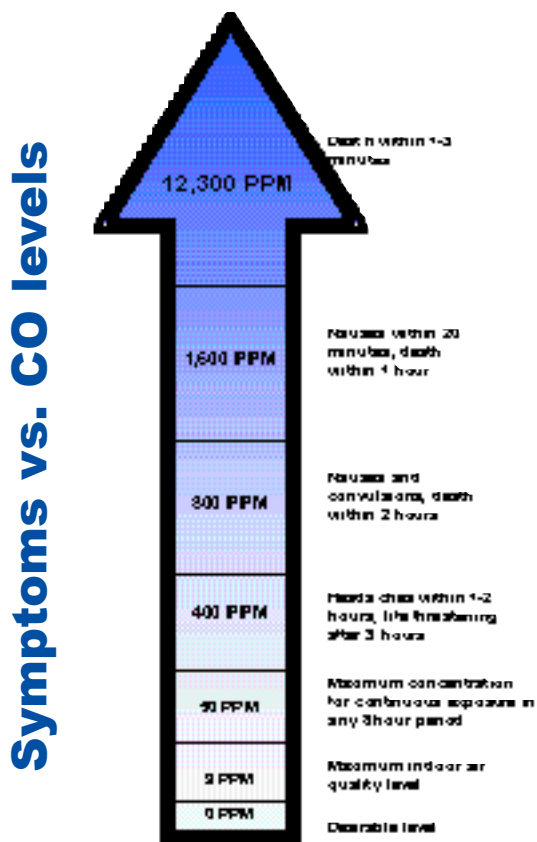
- **Carbon Monoxide:
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- **“Smooth Sailing” 14th Annual
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Mild exposure: Often described as flu-like symptoms, including slight headache, nausea, vomiting, fatigue.

Medium exposure: Severe throbbing headache, drowsiness, confusion, fast heart rate.

Extreme exposure: Unconsciousness, convulsions, cardiorespiratory failure, death.



Many cases of reported carbon monoxide poisoning indicate that while people are aware they are not well, they become so disoriented, that they are unable to save themselves by either exiting the building or calling for assistance. Young children and household pets are typically the first affected.

If you think you are experiencing any of the symptoms of CO poisoning, get fresh air **IMMEDIATELY!** Open windows and doors for more ventilation, turn off any combustion appliances, and leave the house. Call your fire department and report your symptoms. You could lose consciousness and die if you do nothing. It is also important to contact a doctor immediately for a proper diagnosis. Tell your doctor that you suspect CO poisoning. Prompt medical attention is important if you are experiencing any

symptoms of CO poisoning when you are operating fuel-burning appliances. Before turning your fuel-burning appliances back on, make sure a qualified service technician checks them for any type of malfunction.

Preventing CO Poisoning

The most important steps are preventive ones.

- Have a qualified service professional inspect your fuel-burning appliances at least once a year. The inspector should also check chimneys and flues for blockages, corrosion, any type of disconnections, and/or loose connections.
- Avoid using charcoal grills inside the home, tent or camper, or an unventilated garage.
- Never leave a car running in an attached garage, even with the garage door open. Prevent vehicle exhaust from entering the home.
- Never use gas appliances such as ranges, ovens, or clothes dryers to heat your home.
- Do not use gasoline-powered tools and engines indoors.
- Install UL Listed CO alarms outside of sleeping areas and near all fuel-burning appliances.

CO Detectors and Alarms

Carbon monoxide alarms are intended to alarm at carbon monoxide levels below those that cause a loss of ability to react to the danger of carbon monoxide exposures. Consult the manufacturer's instructions for the number of detectors needed and their placement in the home.

If your CO monitor alarms, first and foremost, stay calm. Many situations resulting in an alarm are not life threatening. To be on the safe side, do the following:

- Immediately operate the reset/silence button and call your emergency services (fire department or 911).
- Move to fresh air - either go outside or move to an open door or window.
- Check to make sure that everyone in your household is accounted for.
- Do not re-enter the premises nor move away from the open door or window until the emergency services have arrived, the premises have been

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Smooth SailingSM

14th Annual Cruise for Respiratory Patients

coordinated by

American Respiratory Alliance of Western Pennsylvania



Cruise to Alaska

aboard Holland America's MS Westerdam

Saturday, September 13 through Monday, September 22, 2008

Tour includes:

- Roundtrip motorcoach transportation to departing airport
- Roundtrip non-stop air from either Newark or Cleveland
- 2 extra nights (Pre- and Post cruise) in Seattle including breakfast & City Tour
- 7 night Alaskan Cruise aboard the MS Westerdam
- Cruise Glacier Bay National Park and 4 Ports of Call: Juneau, Sitka, Ketchikan, and Victoria, British Columbia
- All on-board meals
- Shipboard gratuities (a \$70 value/person) and all driver gratuities
- Oxygen and Equipment, if needed

Respironics® will provide the EverGo™ portable oxygen concentrator, at no additional cost, in support of this program!

- Educational seminars (optional)
- Volunteer Medical Staff
- Port and Departure taxes, security fees, and government taxes
- All baggage handling

Inside stateroom (Category L-Deck 5) is \$2,899 per person/double occupancy (pp/do); Oceanview stateroom (Category C-Deck 1) is \$3,219 pp/do; and Balcony/verandah stateroom (Category VF-Deck 5) is \$3,249 or (Category VC-Deck 5) is \$3,349. Oxygen, other respiratory equipment (except vents, BiPAP and CPAP), and standard wheelchairs will be provided free of charge. **Details about portable oxygen can be found in the complete registration packet.** Taking the trip cancellation insurance is strongly encouraged. You qualify for a waiver of the pre-existing medical conditions clause when you make your reservation and enroll at that time.

To receive a cruise packet with reservation and insurance forms, please call:

1-800-220-1990



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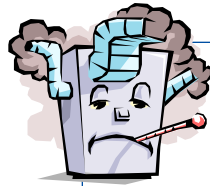
sufficiently aired out, and your CO alarm remains in its normal condition.

- If your CO alarm reactivates within a 24-hour period, operate the reset button, call you emergency services and move to fresh air.
- Do not ignore a beeping monitor.
- If alarm is battery operated, replace batteries yearly, whether needed or not.
- Call a qualified technician to examine and/or turn off your fuel-burning appliances or other sources of combustion. It's crucial that the source of the CO is determined and appropriate repairs are made.

Remember that an alarm indicates elevated levels of CO in your home. CO is called the "silent killer" because it cannot be seen or smelled. Some people can be exposed to dangerous levels of CO and not feel any symptoms. Regardless of whether you feel symptoms, never ignore the alarm.

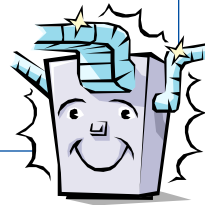
ALWAYS REACT TO A CARBON MONOXIDE DETECTOR THAT HAS ALARMED!

Sources: Centers for Disease Control and Prevention (CDC)
National Center for Environmental Health
Environmental Protection Agency (EPA)
U.S. Consumer Product Safety Commission (CPSC)



SIGNS OF A POTENTIAL CO PROBLEM

- Streaks of carbon or soot around the service door of your fuel-burning appliances;
- Absence of a draft in your chimney (indicates blockage);
- Excessive rusting on flue pipes or appliance jackets;
- Moisture collecting on windows and walls of furnace rooms;
- Fallen soot from the fireplace;
- Small amounts of water leaking from the base of the chimney, vent or flue pipe;
- Damaged or discolored bricks at the top of your chimney; and
- Rust on the portion of the vent pipe visible from outside your home.



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