

CARBON MONOXIDE (CO) GAS **POISONING**



*Information **YOU** need to
know about CO poisoning
and CO Alarms.*



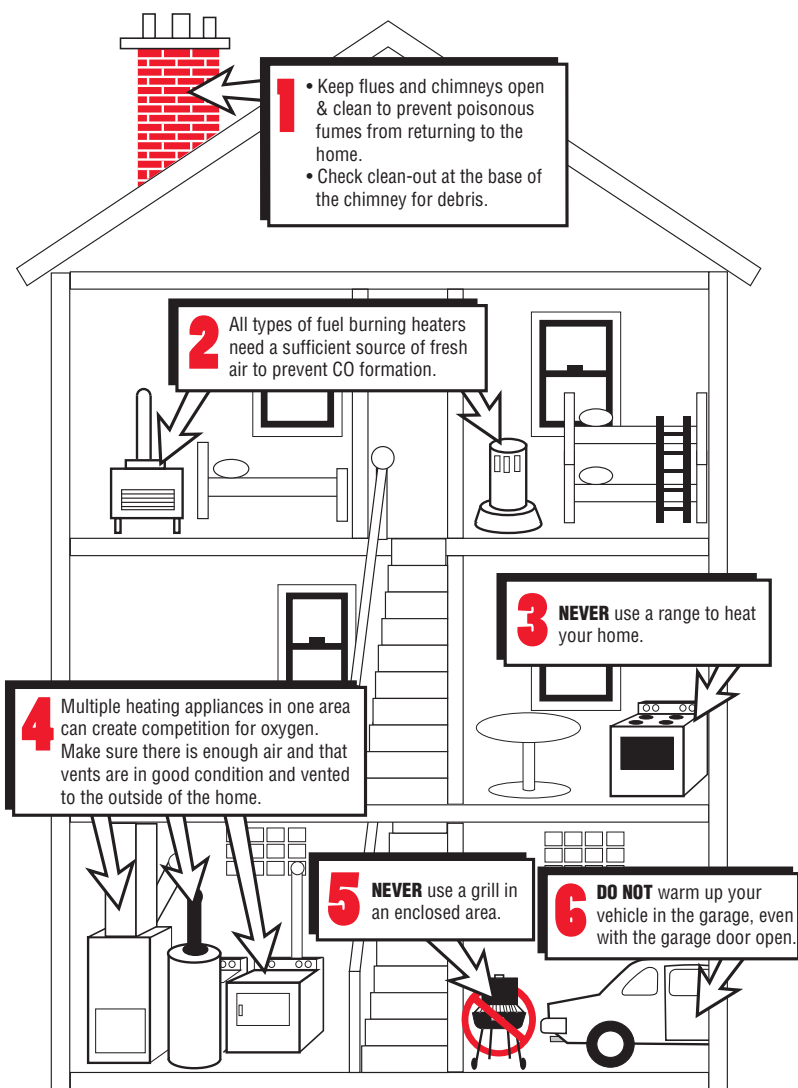
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24 HOUR INFORMATION

1-800-222-1222

Drug and Poison Information Center
Children's Hospital Medical Center

Carbon Monoxide (CO)

Gas Poisoning

The National Safety Council reports 200 to 300 unintentional injury deaths a year due to carbon monoxide poisoning.

Often called the silent killer, carbon monoxide is an invisible, odorless and colorless gas created when fuels (such as gasoline, wood, coal, natural gas, propane, oil and methane) burn incompletely. In the home, heating and cooking equipment that burn fuel are potential sources of carbon monoxide. Vehicles and generators running in an attached garage can also produce dangerous levels of this deadly gas.

As the weather gets colder, the risk of carbon monoxide (CO) poisoning increases. As many as 25 percent of patients who go to emergency rooms with flu-like or more severe symptoms may actually have been exposed to CO. High exposures may even cause brain damage or death.

According to the National Fire Protection Association, municipal fire departments responded to an estimated 61,100 carbon monoxide incidents in 2005, excluding incidents where nothing was found or fire was present. A monthly breakdown of incidents shows that December and January are the peak months and the peak time of day is between 6 p.m. and 9:59 p.m. for CO poisoning to occur. Overall, 75 percent of non-fire carbon monoxide incidents are reported between the hours of 9 a.m. and 10:59 p.m.

Carbon Monoxide Hazards

Most people associate CO with older homes, but this deadly gas can also be a problem in new homes. Carbon monoxide levels can climb in new homes because of energy-saving devices used in heating and air conditioning systems. These climate control devices also keep pollutants inside.



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CO poisonings can occur in the following ways:

- Most common CO problems occur inside houses. These problems include: closed chimney's, fuel burning heaters, grills being used indoors, vehicles being warmed up inside garages, and multiple heating appliances being used in close proximity to each other. PLEASE SEE DIAGRAM FOR MORE INFORMATION.
- Indoor use of gas powered engines and tools (pressure washers and generators)
- Cracked or loose furnace exchangers
- Lawnmowers
- Propane lift trucks
- Indoor motor sports

REMEMBER: NEVER leave a vehicle running in a garage or use a charcoal grill indoors. High levels of CO can also be found in garages, cabins, campers and tents.

Signs and Symptoms of CO Poisoning

The dangers of CO exposure depend on a number of variables, including the victim's health and activity level. Infants, pregnant women and people with physical conditions that limit their body's ability to use oxygen (i.e. emphysema, asthma, and heart disease) can be more severely affected by lower levels of CO than healthy adults will be.

People exposed to CO often report having flu-like symptoms such as headache, fatigue, feeling sick to the stomach, dizziness and/or:

- Vomiting
- Shortness of breath
- Slower motor function
- Poor judgment
- Chest pain
- Slower reaction time
- Weakness and confusion
- Poor memory

High levels of CO exposure may often cause brain damage or death.

The effects of CO can increase over time. Longer exposures to lower amounts may actually be worse than a short duration of a higher amount. The victim's state could be compounded by the duration of time in the area.

Other Facts about Carbon Monoxide

- Carbon monoxide created by fuel-burning devices sends more than 5,000 people to hospital emergency rooms for treatment.
- The elderly are at high risk of CO poisoning because of their pre-existing health problems and their tendency to stay indoors during the winter to avoid bad weather.
- A pregnant woman's unborn child is at greater risk of CO poisoning and 50 percent of these pregnant women will miscarry when exposed to CO.
- Children (particularly under the age of four) are at high risk due to their size and age.
- The effects are also higher in people who perform manual labor and in people who are working in high temperatures or altitudes above 2,000 feet.
- People with a heart and/or lung condition are also at an increased risk.
- Long-term low exposure may also affect your heart and cause nerve damage.

How can you protect yourself from CO poisoning?

Suggestions from the National Safety Council:

- **INSTALL A CO ALARM IN YOUR HOME.**
- Never run a vehicle or other fueled engines or motors indoors, even if the garage doors are open.

REMEMBER: If a vehicle is running in an attached garage, CO can still escape into the house even if the garage doors are open.

- If you start to have any symptoms of CO poisoning while driving, open the window and have your vehicle checked for exhaust leaks.
- Have a professional inspect fuel burning household heating equipment (wood stove, space heaters, etc.) every year before cold weather begins.
- Have chimneys checked for cracks, blocks and leaks.
- Have chimneys cleaned by a professional chimney sweep.
- When purchasing a home, make sure a qualified technician from the gas company, building department or a heating contractor checks the spaces between the house and garage and checks the heating and cooking systems.
- While camping, use battery-powered heaters and flashlights in tents, trailers and motor homes.

Carbon Monoxide Alarms

Carbon monoxide alarms measure how much CO has collected in the air and then sounds an alarm that will provide early warning before the deadly gas builds to harmful levels.

Install CO alarms inside your home to provide early warning of accumulating CO. Carbon monoxide alarms should be installed in a central location outside each separate sleeping area. If bedrooms are spaced apart, each area will need a CO alarm.

If you install only one CO alarm, place the alarm near bedrooms and not in the basement or furnace room. Follow the manufacturer's recommendations for mounting the alarm. It is important that CO alarms be heard throughout the house. Carbon monoxide alarms can be purchased at any local hardware or home improvement stores. If you cannot afford a CO alarm, contact your local fire department or the Cincinnati Area Chapter of the American Red Cross at (513) 579-3000.

REMEMBER: CO alarms do not take place of your smoke alarm nor is one a substitute for the safe use and maintenance of heating and cooking equipment! **Also, look for the "UL" label when purchasing an alarm.**

If your alarm goes off . . . CALL 911.

If your CO alarm goes off, get everyone out of the house quickly and call 911. **DO NOT SPEND TIME OPENING DOORS AND WINDOWS.** This task will add time to your exposure to the poison and will make it more difficult for the fire department to find the source of the CO leak. The fire department will then confirm the presence of CO and find the source. The fire department will then instruct you what to do next.

For further assistance, contact your local emergency services.

Sources:

American Red Cross

Carbon Monoxide Task Force

National Fire Protection Association

NFPA's "Non-Fire Carbon Monoxide Incidents Reported in 2005" report, by Jennifer D. Flynn, June 2007.

NFPA's "Burns and Toxic Gases in Non-Fire Situations" report, by John R. Hall Jr., June 2006.

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