Carbon Monoxide – The Invisible Killer

Carbon monoxide (CO) is an invisible, odorless gas. Because you can't see, taste or smell it, CO often goes undetected and can kill you before you know it's there. Exposure to low levels over time can make you sick and exposure to high levels, even for a short period of time can lead to death. More than 400 people in the U.S. die from unintentional CO poisoning every year, according to the Centers for Disease Control and Prevention. More than 20,000 visit the emergency room, and more than 4,000 others are hospitalized. Although CO incidents can occur year round, winter is a prime time for CO poisoning as people turn on their heating systems and mistakenly warm their cars in garages. So as the weather turns colder, it's important to take extra precautions.

Where does carbon monoxide come from?

CO is a by-product of incomplete combustion of fuels. CO can be produced by fuel burning appliances like a furnace, clothes dryer, range, oven, water heater, or space heater. When appliances and vents work properly, and there is enough fresh air in your home to allow complete combustion, the trace amounts of CO produced are typically not dangerous and normally, CO is safely vented outside your home. Problems may arise when something goes wrong. An appliance can malfunction, a furnace heat exchanger can crack, vents can clog, or debris may block a chimney or flue. Fireplaces, wood burning stoves, gas heaters, charcoal grills, or gas logs can produce unsafe levels of CO if they are unvented or not properly vented. Exhaust can seep into the home from vehicles left running in an attached garage. All these things can cause a CO problem in the home.

Why is carbon monoxide so dangerous and what are the symptoms?

CO robs you of what you need most: oxygen, which is carried to your cells and tissue by the hemoglobin in your blood. If you inhale CO, it quickly bonds with hemoglobin and displaces oxygen. This produces a toxic compound in your blood called carboxyhemoglobin (COHb). Carboxyhemoglobin produces flu-like symptoms, and severity varies depending on the level of CO and duration of exposure. Mild symptoms sometimes are mistaken for flu. Low to moderate CO poisoning is characterized by headache, fatigue, shortness of breath, nausea, and dizziness. High-level CO poisoning results in mental confusion, vomiting, loss of muscular coordination, loss of consciousness, brain damage or death. If you think you are experiencing any of the symptoms of CO poisoning, go outside and get fresh air immediately. You could lose consciousness and die if you stay in the home.

When the Carbon Monoxide Alarm Sounds

Never ignore a CO alarm and do not try to find the source of the gas. Instead, follow these steps:

- Immediately move outside to fresh air, do not attempt to ventilate, levels can quickly rise to deadly levels

- Call 9-1-1 and do a head count to account for everyone
- Report any symptoms that you may be experiencing
- Do not reenter the premises until the fire department has given you permission to do so

How you can prevent carbon monoxide poisoning

Having an early warning is important. At a minimum, install battery operated or battery backed-up CO alarms outside each sleeping area and on every level of the home, including the basement. Choose a CO alarm that is tested and listed by a nationally accredited lab such as Underwriters Laboratories. Replace the battery when you change the time on your clocks each spring and fall and replace the detector every five years. Have a qualified appliance technician check all fuel burning appliances, venting and chimney systems at least once a year, or as recommended by the manufacturer. In addition, follow these guidelines to lower the risk of CO exposure:

- Ensure your fireplace damper is open before lighting a fire and well after the fire is out
- When cooking, make sure the vents in your gas oven are not blocked and pots used on the stovetop are properly sized and not causing flames to burn yellow; never use the stove to heat your home
- Don’t use a generator inside your home, basement or garage or less than 20 feet from any window, door or vent; fatal levels of CO can be produced in just minutes, even if doors and windows are open
- Never run a car in a garage that is attached to a house, even with the garage door open; always open the door to a detached garage to let in fresh air when you run a car inside
- During the heating season, clear furnace filters and filtering systems of dust and dirt
- Inspect the pilot lights on natural gas appliances to ensure that the flame is blue. When a flame is mostly yellow in color, it likely is producing CO
- Clean out the lint and debris that builds up in the clothes dryer vent to the outside of the house
- Use barbecue grills only outside and never indoors or in the garage
- Make sure vents for the dryer, furnace, stove and fireplace are clear of snow and other debris

For additional information on fire prevention and fire safety check out www.woodbridgefireprevention.org and www.nfpa.org/Public-Education