Carbon Monoxide is Among Winter’s Deadliest Hazards

Safety Talk

Carbon monoxide, also known as CO, is a deadly gas. It’s colorless, odorless and tasteless, making it impossible to detect by human senses. When CO is breathed in, it quickly replaces the oxygen in the bloodstream. Various stages of illness can easily lead up to unconsciousness and death.

What’s at Stake

Carbon monoxide is produced when fuels are burned incompletely. These fuels can include wood, oil, gasoline, propane, natural gas and others.

Low levels of carbon monoxide exposure can cause subtle symptoms such as headache, shortage of breath, dizziness, confusion and a dull feeling. These symptoms may be incorrectly chalked up to the flu or another illness. One clue that carbon monoxide may be the problem is if the person feels better when he leaves work and gets out into the fresh air.

Higher CO exposures can cause nausea, rapid pulse and breathing, heart palpitations and possibly hallucinations, while exposures greater than 800 parts per million can cause convulsions and heart failure, followed by coma and death. Even if the victim survives, he or she may suffer from permanent brain damage.

What Can Go Wrong

One of Japan’s worst mining disasters had a strong link to carbon monoxide poisoning. On Nov. 9, 1963, an accidental explosion at the Mitsui Miike coal mine in Kyushu, Japan killed 458 miners, with 96 percent of the victims perishing as a result of carbon monoxide poisoning.

How to Protect Yourself

Your job may require special training to prevent exposure. You may also be protected by monitoring devices, including personal exposure badges. There may also be alarms in your workplace to warn you if the carbon monoxide content of the air rises above a certain level.
In addition to your special training, remember these general guidelines for preventing carbon monoxide poisoning:

- Follow the manufacturer's instructions when operating any fuel-burning device.
- Do not run a fuel-burning heating device or engine unless the area is properly ventilated. Do not run gasoline engines or propane heaters in enclosed areas.
- Maintain fuel-burning equipment regularly and do not operate it if it is defective. A damaged heat exchanger on a furnace, a leaky chimney or a poorly tuned engine can result in carbon monoxide exposure.
- Be aware of the signs of carbon monoxide poisoning. These include headaches, weakness, dizziness, sleepiness, disorientation and unusually red cheeks.
- If you experience these symptoms or you observe them in a co-worker, get to fresh air immediately and call for medical help, even in mild cases.

If necessary, and if you are trained, perform CPR (cardiopulmonary resuscitation) until medical personnel arrive.

- Alarm systems are in place in many work areas where there is a possibility of carbon monoxide leaking into the air. If this is the case in your work area, learn what the alarm signals mean and do not interfere with the alarm system in any way.
To reduce the risk of CO poisoning at home:
- Never use your kitchen stove as a heater, even in an emergency;
- Never grill with propane or charcoal indoors;
- Have an expert conduct a pre-winter inspection of common CO sources, including your furnace, fireplace and hot water

heater; and,

- Install at least one carbon monoxide detector in your home. Larger or multi-level homes should probably have more than one unit.

Final Word

Carbon monoxide is a deadly gas that cannot be detected by sight or smell. So you need to be aware of other safeguards to prevent exposure.