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Carbon Monoxide and Winter Safety

As wintery weather continues across our state, carbon monoxide (CO) incidents will be on the rise, especially in the home. The West Virginia State Fire Marshal's Office and the U.S. Consumer Product Safety Commission (CPSC) offer these questions and answers to help warn West Virginians of the dangers of carbon monoxide poisoning.

What is carbon monoxide and how is it produced in the home?

Carbon monoxide (CO) is a colorless, odorless, poisonous gas. It is produced by the incomplete burning of solid, liquid, and gaseous fuels. Appliances fueled with natural gas, liquefied petroleum (LP gas), oil, kerosene, coal, or wood may produce CO. Burning charcoal produces CO. Running cars produce CO.

How many people are unintentionally poisoned by CO?

Every year, over 200 people in the United States die from CO produced by fuel-burning appliances (furnaces, generators, ranges, water heaters, room heaters). Others die from CO produced while burning charcoal inside a home, garage, vehicle or tent. Still others die from CO produced by cars left running in attached garages. Several thousand people go to hospital emergency rooms for treatment of CO poisoning.

What are the symptoms of CO poisoning?

The initial symptoms of CO poisoning are similar to the flu (but without the fever). They include:

- Headache
- Fatigue
- Shortness of breath
- Nausea
- Dizziness

Many people with CO poisoning mistake their symptoms for the flu or are misdiagnosed by physicians, which sometimes results in tragic deaths.

What should you do to prevent CO poisoning?

Install appliances according to manufacturer's instructions and local building codes. Most appliances should be installed by professionals.

Have the heating system (including chimneys and vents) inspected and serviced annually. Chimneys and flues should be checked for blockages, corrosion, partial and complete disconnections, and loose connections.

Install a CO detector that meets the UL® (Underwriters Laboratories) requirements. A carbon monoxide detector can provide added protection--but is no substitute for proper use and upkeep of appliances that produce CO.

Install a CO detector in the hallway near every separate sleeping area of the home. Make sure the detector cannot be covered up by furniture or draperies.

Never leave a car running in an attached garage, even with the garage door open.

Never service fuel-burning appliances without proper knowledge, skills, and tools. Always refer to the owner's manual when performing minor adjustments or servicing fuel-burning appliances.

Never use gas appliances such as ranges, ovens, or clothes dryers for heating your home.

Never operate unvented fuel-burning appliances in any room with closed doors or windows or in any room where people are sleeping.

What CO level is dangerous to your health?

The health effects of CO depend on the level of CO and the length of exposure, as well as each individual's health condition. The concentration of CO is measured in parts per million (ppm). Health effects from exposure to CO levels of approximately 1 to 70 ppm are uncertain, but most people will not experience any symptoms. Some heart patients might experience an increase in chest pain. As CO levels increase and remain above 70 ppm, symptoms may become more noticeable (headache, fatigue, nausea). As CO levels increase above 150 to 200 ppm, disorientation, unconsciousness, and death are possible.

What should you do if you are experiencing symptoms of CO poisoning?

If you think you are experiencing 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 is causing your problems. 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 person checks them for malfunction.

What should you do when the CO detector/alarm sounds?

Never ignore an alarming CO detector. If the detector sounds:

- Operate the reset button.
- Call your emergency services (fire department or 911).
- Immediately move to fresh air – outdoors or by an open door/window.