

Carbon Monoxide and Your Family

by PJ Wade

Do you know why you will not be killed or maimed by carbon monoxide? What steps have you taken to ensure this toxic, odourless, colourless gas -- universally known as The Silent Killer -- does not become an unwanted guest in the spaces you consider safe?

You may have taken precautions in one area, but all these essential locations must be equally safe: your home, garage, cottage, ski chalet, car, recreational vehicle and workplace. The same cautions apply when staying with friends or away on holiday.

Each year, adults, children and families fall prey to this deadly gas. Symptoms of this fatal invisible contaminant have often been mistaken for those of flu by family members and physicians. Even exposure to low levels of CO can cause health problems, brain damage or death. What specific actions have you taken to be sure tasteless, toxic CO cannot leak into your sleeping rooms and other spaces where you live, work, play and breath?

The blood test for exposure to CO detects the degree of poisoning by measuring the level of carboxyhemoglobin, a compound formed when CO combines with red blood cells to replace oxygen in your blood. This reaction reduces the oxygen supplied to the brain, heart, vital organs and other body tissues. CO poisoning symptoms include:

- Headache, dizziness, blurred vision
- Nausea or vomiting
- Muscle weakness
- Confusion and compromised judgement
- Fatigue and extreme sleepiness

Infants, small children, pregnant women, unborn fetuses, frail or unwell adults, people suffering from heart or respiratory problems, and pets may succumb to poisoning more quickly and exhibit symptoms sooner.

Carbon monoxide is a by-product of incomplete combustion of fossil fuels, that is, there is not enough oxygen available to completely consume gas, oil, coal or wood. CO is produced in car exhaust, poorly-ventilated gas heaters, indoor fires and tobacco smoke. You're vulnerable if you are near, or you breath air that is near, a fuel-burning gas furnace, boiler, engine, water heater, open fire or oil burner.

The danger from CO is two fold:

1. Poor installation or maintenance, or equipment breakdown can produce this invisible gas.
2. Poor ventilation can cause the gas to accumulate or to enter areas of human activity.

The solution is to attack both these failings in all the spaces you and your family use. Which of the following safety steps have you taken to protect yourself and your family?

- Visual and auditory alarms that sound *before* dangerous or fatal CO levels are reached are essential. Install officially-approved CO detectors with low-level alarms, according to manufacturer recommendations, inside

bedrooms and on every level. Maintain the detector by regularly testing each unit, replacing non-rechargeable batteries and cleaning as directed by the manufacturer. (Smoke detectors are not CO detectors. Avoid installation in areas where conditions may trigger false alarms, like humid bathrooms or directly above fuel-burning appliances which may release CO on start-up.)

- Insist on proof that all fuel-burning equipment and required flues are properly installed, according to manufacture guidelines and building codes.
- Read the manuals to learn which annual check ups and what regular maintain is recommended by manufacturers of furnaces and other equipment. Do not try to save money by do-it-yourself maintenance when you have not been trained to service fuel-burning appliances. For instance, professionals know how to read flame colour on a natural gas furnace, water heater or stove to be sure combustion does not produce CO. Hire professionals to inspect flues, pipes and connections annually and to keep them clear of animal nests, rust, cracks, leaves or ice.
- Ensure proper ventilation for fuel-burning appliances, particularly in newer homes with higher standards of insulation and air exchange, so unwanted gases cannot accumulate inside.
- Make sure your appliances are not time-bombs since out-dated appliances and furnaces may not just be energy hogs, they can also produce CO.
- Never operate a charcoal barbeque, gas-fueled chain saw, fueled camping gear or other equipment that could produce CO inside your home, garage or tent.
- Never leave a car running in an attached garage, particularly with the door closed, and ensure the house is sealed against garage fumes.
- Never use a gas stove or oven as a heating source even in an electrical black out.
- If you are a tenant, make sure your landlord does all of the above or call your local municipal office to find out what you can do to ensure your living space is CO free. (Many municipalities have CO detector installation bylaws.)
- If you are a landlord, make sure you carry out all of the above, and instruct tenants on how to continue the CO safety zone into their own unit.
- Pay attention to complaints of nausea, muscle pain, headaches, dizziness and fatigue from yourself, family and guests.
- Carry out regular drills (perhaps when you practice fire escape routes). Then, if a CO alarm sounds, everyone knows what to do—get outside, breath fresh air as quickly as possible and then call 911. Because the gas has no smell, treat every alarm as a danger warning.

Compliance with this CO prevention and detection list, in all the spaces you enjoy with your family and friends, will allow everyone to breath freely and safely.

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