

What is carbon monoxide and who is at risk?

Carbon monoxide (CO) is a colorless, odorless, deadly gas. Because you can't see, taste or smell it, carbon monoxide can kill you before you know it's there. At lower levels of exposure, carbon monoxide causes health problems.

Everyone is at risk for carbon monoxide poisoning. Medical experts believe, however, that some individuals are more vulnerable to poisoning such as unborn babies, infants, children, senior citizens and people with heart or lung problems.

Why is carbon monoxide so dangerous?

The great danger of carbon monoxide is its attraction to hemoglobin in the bloodstream, which normally carries life-giving oxygen to cells and tissues. As even small amounts are breathed in, carbon monoxide quickly bonds with hemoglobin in the blood, displacing the oxygen that organs need to function.

When CO is present in the air, it rapidly accumulates in the blood, forming a toxic compound known as carboxyhemoglobin (COHb). Carboxyhemoglobin causes symptoms similar to the flu, such as headaches, fatigue, nausea, dizzy spells, confusion and irritability. As levels of COHb increase, vomiting, loss of consciousness and eventually brain damage or death can result.

Where does carbon monoxide come from?

Carbon monoxide is a common by-product of combustion, present whenever fossil fuels are burned. It is produced by malfunctioning or unvented home appliances such as gas or oil furnaces, clothes dryers, ranges, ovens, water heaters, space heaters, fireplaces, charcoal grills and wood burning stoves. Fumes from automobiles also contain high levels of carbon monoxide that can enter a home through walls or doorways if a car is left running in an attached garage. All of these sources can contribute to a CO problem in the home.

If a home is vented properly and is free from appliance malfunctions, air pressure fluctuations or venting and chimney blockages, carbon monoxide is usually vented safely to the outside. However, insulation meant to keep indoor air warm during the winter or cool in the summer can help trap CO-polluted air in the home. Additionally, furnace heat exchangers can crack or vents and chimneys can become blocked. If there is an inadequate indoor fresh air supply for combustion, airflow in flues and chimneys may reverse direction causing a downdraft, which traps combustion gases in the home.

How can I protect myself and my family from carbon monoxide poisoning?

The Consumer Product Safety Commission (CPSC) recommends installing at least one carbon monoxide detector with an audible alarm near the sleeping area. If a home has multiple floors a detector on every level provides extra protection. Choose an Underwriters Laboratories Inc. (UL Inc.) listed detector that sounds an audible alarm.

First Alert, the leading brand name in home safety, offers an Extra Sensitive carbon monoxide detector that warns at carbon monoxide levels plug-in models are not designed to detect. This model is battery operated so it continues to protect even in the event of a power outage. The First Alert model uses patented bio-sensor technology, which simulates the body's response to CO. A hardwired AC model with battery back-up is also available.

Plug-in models which fit a standard electrical outlet, including one with a digital display read-out of CO levels, are also available from First Alert. All First Alert carbon monoxide detectors are UL listed.

In addition to installing carbon monoxide detectors as a first line of defense, consumers should have a qualified professional check all fuel burning appliances, furnaces, venting and chimney systems at least once a year or as recommended by the manufacturer.

