Smoke / CO Detector

Facts and Information

Most fatalities from fire and CO (Carbon Monoxide) occur between the hours of 2 a.m. and 6 a.m. -- while most people are asleep. Smoke from a fire in the home can and will kill quickly and silently without adequate smoke alarms.

SMOKE DETECTORS

HOW MANY SMOKE DETECTORS ARE ENOUGH?

It is recommended that smoke detectors be installed on every living area of the home, inside each bedroom, and in the main corridor outside of each bedroom. Avoid putting smoke detectors too close to the stove in the kitchen or in bathroom showers.

WHERE SHOULD I MOUNT MY SMOKE DETECTORS?

Mount the smoke detectors in the middle of the ceiling in the area in which they are located. If this is not possible, the smoke detectors may be mounted on the wall, but must be at least three feet from a corner and within 4-6 inches of the ceiling. Keep smoke detectors away from fans and climate control air ducts. Consult the manufacturerõs installation instructions for proper placement of a detector within a given area.

WHAT SERVICE IS TYPICALLY REQUIRED FOR SMOKE DETECTORS?

Smoke detectors may be powered by AC (household) electricity, battery, or both. It is recommended that the battery be replaced in battery powered detectors twice a year. A convenient time to do this is when Daylight Savings time changes - - 'change the clock, change the battery'. Clean the detector at least once a year by removing the grille (if possible) and gently vacuuming dust out of the detector. Test the smoke detectors weekly by pressing and holding the test button until the detector alarms.

WHAT SHOULD I DO IF THE SMOKE DETECTOR GOES OFF?

NEVER ignore it! Follow your predetermined escape plan and crawl on the floor, feeling doors for heat before opening them, and get out of the house. Meet at a predetermined location outside the house and call the fire department from a NEIGHBORS home. DO NOT re-enter a burning building.

CARBON MONOXIDE (CO) DETECTORS

WHAT IS CARBON MONOXIDE AND WHY DO I NEED A CARBON MONOXIDE DETECTOR?

Carbon monoxide is a colorless, odorless, tasteless and toxic gas produced as a by-product of combustion. Any fuel burning appliance, vehicle, tool or other device has the potential to produce dangerous levels of carbon monoxide gas. Examples of carbon monoxide producing devices commonly in use around the home include:

- Fuel fired furnaces (non-electric)
- Gas water heaters
- Fireplaces and woodstoves
- Gas stoves
- Gas dryers

her yard equipment

The Consumer Products Safety Commission (CPSC) reports that approximately **200** people per year are killed by accidental CO poisoning with an additional **5000** people injured. These deaths and injuries are typically caused by improperly used or malfunctioning equipment aggravated by improvements in building construction which limit the amount of fresh air flowing in to homes and other structures.

While regular maintenance and inspection of gas burning equipment in the home can minimize the potential for exposure to CO gas, the possibility for some type of sudden failure resulting in a potentially life threatening build up of gas always exists.

WHAT ARE THE EFFECTS OF CARBON MONOXIDE POISONING AND HOW DO I RECOGNIZE THEM?

Carbon monoxide inhibits the blood's ability to carry oxygen to body tissues including vital organs such as the heart and brain. When CO is inhaled, it combines with the oxygen carrying hemoglobin of the blood to form carboxyhemoglobin. Once combined with the hemoglobin, that hemoglobin is no longer available for transporting oxygen. How quickly the carboxyhemoglobin builds up is a factor of the concentration of the gas being inhaled (measured in parts per million or PPM) and the duration of the exposure. Compounding the effects of the exposure is the long half-life of carboxyhemoglobin in the blood. Half-life is a measure of how quickly levels return to normal. The half-life of carboxyhemoglobin is approximately 5 hours. This means that for a given exposure level, it will take about 5 hours for the level of carboxyhemoglobin in the blood to drop to half its current level after the exposure is terminated.

Since one can't easily measure COHb levels outside of a medical environment, CO toxicity levels are usually expressed in airborne concentration levels (PPM) and duration of exposure. Expressed in this way, symptoms of exposure can be stated as follows:

PPM CO	***Time***	***Symptoms***
35 PPM	8 hours	Maximum exposure allowed by OSHA in the workplace over an eight hour period.
200 PPM	2-3 hours	Mild headache, fatigue, nausea and dizziness.
400 PPM	1-2 hours	Serious headache- other symptoms intensify. Life threatening after 3 hours.
800 PPM	45 minutes	Dizziness, nausea and convulsions. Unconscious within 2 hours. Death within 2-3 hours.
1600 PPM	20 minutes	Headache, dizziness and nausea. Death Within 1 hour.
3200 PPM	5-10 minutes	Headache, dizziness and nausea. Death within 1 hour.
6400 PPM	1-2 minutes	Headache, dizziness and nausea. Death Within 25-30 minutes.
12,800 PPM	1-3 minutes	Death.

HOW MANY CARBON MONOXIDE DETECTORS SHOULD I HAVE AND WHERE SHOULD I PLACE THEM?

The Consumer Product Safety Commission recommends a detector on each floor of a residence. At a minimum, a single detector should be placed on each sleeping floor with an additional detector in

nces such as a furnace or water heater. Installation in these
entially malfunctioning appliances and the ability to hear the
, carbon monoxide detectors should be placed high (near the ceiling) for most effective use. Detectors should also not be placed within five feet of gas fueled appliances or near cooking or bathing areas. Consult the manufacturerôs installation instructions for proper placement of a detector within a given area.

WHAT SHOULD I DO WHEN MY CARBON MONOXIDE DETECTOR GOES OFF?

First and foremost, stay calm. Ask the following question of everyone in the household:

"Does anyone feel ill? Is anyone experiencing the 'flu-like' symptoms of headache, nausea or dizziness?"

If the answer to the above by anyone in the household is true, evacuate the household to a safe location and have someone call 911. Failure to evacuate immediately may result in prolonged exposure and worsening effects from possible carbon monoxide gas. **The best initial treatment for carbon monoxide gas exposure is fresh air.**

If the answer to the above by everyone in the household is no, the likelihood of a serious exposure is greatly diminished. Turn off any gas burning appliances or equipment, ventilate the area and attempt to reset the alarm. If the alarm will not reset or resounds, call 911 and we will come to your home and test for carbon monoxide levels using special portable test equipment. If at any time during this process someone begins to feel ill with the symptoms described above evacuate the household to a safe location and have someone call 911. Please note that there is typically NOT a charge for calling 911 for a CO investigation - your tax dollars already pay for this service!