

SMOKE KILLS

Hundreds of people die in household fires in Canada each year. It has been conservatively estimated that many of these lives could be saved by the installation of smoke alarms. Although these devices are no substitute for carefully planned fire prevention measures, they are invaluable in providing early warning when fire strikes.

BUILDING AND FIRE CODES

The National Fire Code of Canada recommends that all existing buildings with sleeping accommodations have smoke alarms.

The National Building Code of Canada recommends that all new buildings with sleeping accommodations have smoke alarms or smoke detectors installed as part of the building's electrical system.

Smoke causes the majority of fire-related deaths. Hot flames are low on the list of killers during a fire. Smoke contains deadly gases such as carbon monoxide. Fire consumes life-sustaining oxygen. In many fires that have been extinguished in their early stages, people have been found dead of smoke inhalation without having suffered burns.

A smoldering fire may go undetected for hours, especially when people are asleep. Such a fire will continue to grow, giving off smoke and gases which may not be visible, replacing consumable oxygen with toxic gases. Normally, air is about 21 percent oxygen. When it falls below the 17 percent level, thinking and co-ordination may become difficult. Below 16 percent, a person's behaviour may be irrational and efforts to escape hindered. Breathing becomes impossible when oxygen levels fall below six percent.

Super-heated air and gases rise quickly and produce what is known as a "hot" fire. Temperatures above 370°C (700°F) are common. At such high temperatures, unconsciousness and death can occur within a few minutes. Bedrooms located in the upper floors of residences are frequently subjected to these conditions in the later stages of a fire.

In addition to deadly carbon monoxide, **smoke carries poisons such as hydrogen cyanide plus irritants such as formaldehyde and acetic acid.** Added to this lethal environment are other toxic substances that come from burning synthetic materials commonly found in the home, especially plastics and foams. Oxides of nitrogen, sulphur dioxide and ammonia are just a few examples. **These agents can have a lethal effect before a sleeper is disturbed. An early warning system - smoke alarms - is considered one of the most effective defenses against this situation.**