

Indoor air quality and why it matters

Canadians spend 90% of their day indoors, with about 70% at home and 20% at work or school. The air we breathe indoor can contain particulates, gases, allergens and fumes that can significantly impact our health in both the short and long term. Knowing the main indoor air pollutants, their sources, how to reduce them are key to reducing -harm to our health.

What are the common sources of pollutants inside the home?

Pollutants found inside the home can originate from the outside and then enter buildings through windows, door, and even cracks in the foundation. Others indoor air toxics are generated from sources and behaviors that occur in the home.

In British Columbia, some of the more important outdoor pollutants than can enter buildings and lead to health problems include

- Traffic related air pollutants including diesel from vehicles,
- Fire smoke from forest fires or wood stoves,
- Radon gas from uranium decay,
- Pollens and allergens from plants and trees.

The consumer products, activities and behaviors that can causes problems inside of homes include:

- Volatile organic compounds from cleaning products, hobby supplies, candles, air fresheners furniture and carpets
- Moulds from damp or poorly built or ventilated spaces
- Second hand smoke from cigarette/cigar/vaping
- Fumes from cooking practices, natural gas appliances or kerosene space-heaters
- Smoke from indoor wood-burning stoves and fireplaces

What are the Health Effects from indoor air pollution?

Some indoor air pollutants can cause immediate health effects, such as difficulty breathing, headaches, dizziness, allergic responses, fatigue and even death in the case of carbon monoxide. Long term exposure to air pollutants such as radon gas or formaldehyde can lead to cancers of the lung or blood. Heart and respiratory disease

and neurological problems can also result from chronic exposure to the particulates generated by vehicles, certain cooking techniques, wood smoke and consumer products. People with existing health conditions such as COPD or asthma may be particularly sensitive to exposure to poor indoor air quality. Indoor air problems can occur in both older homes and brand new houses so everyone needs to pay attention to what is in the air around them.

Who is most vulnerable?

Everyone indoors can be affected by indoor air pollutions. Infants and children, those with pre-existing heart and lung diseases are susceptible to the health effects from indoor air pollution.

What influences whether pollutants are found inside your home? The pollutants found inside homes depend on several factors such as:

- **Location** - how close a home is to highways, industrial facilities or forest fires
- **Geology** - if the home is in a region with higher amounts of uranium in the soils around or near the home.
- **Design features** such as ventilation systems, fire-places, insulation type, vents, air conditioning and even renovations can influence how contaminants enter and remain indoors.
- **Activities** like high temperature frying, burning wood or candles
- **Consumer products** such as furniture, paints, cleaning products and plants can also contribute to problems in indoor air.

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