

Simple steps to guard against radon gas

BY VALERIE WARD
Citizen advertising features

Freelance medical writer Isabella Steffensen was doing research for a client when she made an alarming discovery. According to U.S. and European studies, exposure to radon gas in the home accounts for a significant percentage of lung cancer deaths. In fact, U.S. figures show that it is the second leading cause of lung cancer in that country after smoking, causing more than 20,000 deaths each year. A radioactive gas you can't see or smell, radon is caused by the breakdown of uranium in the soil and seeps into buildings through cracks in the foundation.

The mother of two young girls, Ms. Steffensen had heard stories about high radon levels in her rural Kanata neighbourhood and rented two detection kits to find out how safe her own home was. The results confirmed her fears: radon levels measured 477 becquerels per cubic metre. While this falls below Health Canada's recommended action guideline of 800 becquerels, it's well above the U.S. standard of 150 becquerels, and also above levels set by Great Britain, Sweden, and the World Health Organization.

The Canadian guideline is based on 1970s research that found no direct link between indoor radon levels and lung cancer. However, this past year, Health Canada participated in a North American study that does show direct evidence of such a link. Dr. Bliss Tracy, a research scientist at Health Canada's radiation protection branch, says

the new study is being looked at carefully. "The results may well have an implication for our guidelines," he notes. In the meantime, he points to a section of the current guideline that says homeowners may wish to reduce radon levels "as low as practicable" because there is some risk at any level of exposure.

One of the difficulties with radon is that concentrations can vary from house to house in the same neighbourhood depending on the type of soil your home is built on, the condition of the foundation, the time of year, and other factors. Experts agree the only way to find out what your levels are is to test them using passive detectors you leave in your home for days or weeks. Testing is essential if you plan to finish your basement, says Phil Bottriel of the Property Inspection Network. "If there's a problem, it's much less expensive to deal with at this stage."

There are a variety of detectors available, from lower cost, mail order charcoal canisters to alpha track and electret ion products. Phil Bottriel recommends the E-Perm, an electret ion chamber he says is

more reliable than charcoal devices. Rental of two E-Perm units from the Property Inspection Network costs \$80, including results analysis.

If testing shows higher radon levels than you're comfortable with, conduct a second, longer test to confirm the results. If you need to take correction action, the good news is that it's fairly simple and relatively inexpensive. The basic steps include improving ventilation in the house or below the foundation, and sealing cracks and openings in walls and floors, and around pipes and drains. "Of the hundreds of homes I've tested, all but three customers were able to solve the problem with caulking," Phil Bottriel says.

Caulking wasn't an option for Isabella Steffensen, whose basement is fully finished. Instead, for about \$650, she's having a custom vent installed in the basement sub-floor. She has also purchased an air exchanger, but stresses that this shouldn't be your main strategy. "Tackle pollutants at the source," she says. "With radon, that means closing the major entry routes, usually through the foundation."

For more information about radon, check out these sources:

- It's Your Health – Radon, Health Canada,
- www.hc-sc.gc.ca/english/iyh/environment/radon.html
- Radon: A Guide for Canadian Home Owners, CMHC and Health Canada, www.hc-sc.gc.ca/hecs-sesc/rpb/pdf/radoneng.pdf or call 1 800 668- 2642
- Radiation Safety Institute of Canada, www.radiationsafety.ca
- World Health Organization, www.who.int/ionizing_radiation/env/radon/en