Experts add radon test to 'must-dos' for home safety—as important as smoke and carbon monoxide detectors

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Pointing to startling statistics on lung cancer risks, child health and other experts in Canada are ramping up calls for families nationwide to test their homes for radon gas contamination. While homeowners generally all know about the need to maintain a smoke detector and install a carbon monoxide monitor, there's a third point on the fundamental safe home checklist: conduct a long-term (three months or longer) do-it-yourself radon test, or hire a radon specialist to measure the radon level. Credit: Canadian Partnership for Children's Health and

Pointing to startling statistics on lung cancer risks, child health and other experts in Canada are ramping up calls for families nationwide to test their homes for radon gas contamination.

Radon is a gas that comes from uranium in the ground. It can enter homes through cracks and gaps in the foundation and build up to harmful levels in indoor air.

On average, 1 in 15 Canadian homes (up to 1 in 5 in some provinces) have a high level of radon gas in the air. And at least one in 20 people living long-term in such a home can expect to develop lung cancer, even if they've never smoked tobacco.

Odds of lung cancer for a smoker living long-term in a high radon-contaminated house is 1 in 3.

"This is a national concern for the long-term health and well-being of our children that hasn't had the kind of attention it deserves," says Erica Phipps, Executive Director of the Canadian Partnership for Children's Health and Environment (CPCHE).

"Parents all know about the need to maintain a smoke detector and install a carbon monoxide monitor. But there's a third-point on the fundamental safe home checklist: Conduct a long-term (three months or longer) do-it-yourself radon test during the colder months when windows and doors are mostly closed, or hire a radon specialist to measure the radon level."

Partners with CPCHE in the new radon awareness campaign are Health

Canada, the Canadian Association of Fire Chiefs, the Canadian Lung Association, and Parachute, a national charitable organization devoted to preventing injuries and saving lives.

"The dangers associated with house fires, CO poisoning and radon exposure are high but the preventive measures are relatively simple," says J.P. Cody-Cox, Executive Director of the Canadian Association of Fire Chiefs. "We're encouraging parents to devote a couple of hours on a Saturday morning to getting these three items checked off the list – for their kids' sake."

Radon awareness, testing and child care

In Quebec, schools and child care facilities are required to test for radon.

CPCHE and the Canadian Child Care Federation are conducting a vanguard initiative to promote radon awareness and testing throughout the Canadian child care sector.

A small group of child care facilities in Winnipeg has been recruited to promote radon awareness and home testing among client families. They will also test their facilities for radon.

"Our sector is all about caring for kids. When I first learned about the health risks of radon exposure, I knew we needed to take action," says Don Giesbrecht, CEO of the Canadian Child Care Federation. "Child care professionals interact with young families every day. We're well-positioned to help make sure families are aware of radon and know how to test their homes. We can also safeguard kids by making sure they are not exposed to elevated radon during the hours they spend at the child care centre."

Radon is a radioactive gas formed by the breakdown of uranium in soil,

rock and groundwater. The odourless gas seeps into homes through cracks and other openings in the foundation and can build up to harmful levels in indoor air. The radioactive particles can be breathed into the lungs, where they damage cells and potentially lead to lung cancer.

In enclosed spaces, radon gas can accumulate into a health risk: exposure is the leading cause of lung cancer after tobacco smoking, accounting for 16 per cent of lung cancer deaths, says Health Canada.

"As radon breaks down, it forms radioactive particles that can get lodged into your lung tissue as you breathe. The radioactive particles then release energy that can damage your lung cells. When lung cells are damaged, they have the potential to result in cancer. Not everyone exposed to radon will develop lung cancer, and the time between exposure and the onset of the disease can take many years."

"If you smoke or have smoked and your home has high radon levels, your risk of lung cancer is especially high," Health Canada says.

Canada's guideline for acceptable radon levels was lowered in 2007 from 800 to 200 becquerels per cubic metre (Bq/m3). This falls within the World Health Organization's recommended range of 100-300 Bq/m3. Higher levels within this range are considered acceptable if the ideal of 100 Bq/m3 cannot be achieved due to country-specific conditions.

An Ontario study last year attributed 847—some 13.6 %—of annual lung cancer deaths in the province to radon, adding that if all homes with readings above 200 Bq/m3 were remediated, 91 lung cancer deaths could be prevented each year; 233 could be avoided if remediation was performed at 100 Bq/m3.

Radon levels may vary from home to home depending on conditions of soil and the home's foundation, construction type, weather and air

circulation.

"Because there are so many factors, it is not possible to predict the radon level in a home. The only way to know for sure is to test," says Barbara Mackinnon, a radon spokesperson for the Canadian Lung Association. "Radon is a major cause of lung cancer yet many people are not familiar with the risks or what to do. We're working in communities across Canada to raise awareness and facilitate access to test kits." To find out where you can purchase a low-cost radon test kit online, visit the Take Action on Radon website.

According to Health Canada, radon levels in most homes can be reduced by more than 80% for about the same cost as replacing a furnace, air conditioner or other common home repairs: on average $1,500 to $3,000 to seal a foundation, for example, or for a system to suction the gas away.

CPCHE's Phipps notes that making radon testing and remediation accessible to all families, including low-income tenants, is an unmet challenge. "As a society, we need to find ways to ensure all housing in Canada is free from elevated radon. This is important for reasons of equity. It is also a smart investment in the prevention of lung cancer, a costly and devastating disease."

Concentrations differ but radon is found Canada-wide—usually higher in areas with more uranium in underlying rock and soil.

A nation-wide Health Canada survey, involving almost 14,000 homes in 2009-2011, showed 6.9% had radon levels above the 200 Bq/m3 guideline.

The highest proportion of problem homes were those in New Brunswick and Manitoba, where more than 1 in 5 showed radon levels above 200

Bq/m^3. (From the Cross-Canada Survey, available in full at http://bit.ly/1jy4xVz).

More information: Visit the campaign webpage via this link: www.healthyenvironmentforkids.ca

Provided by Canadian Partnership for Children's Health and Environment

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