



## What Is Radon Gas?

Radon occurs naturally when uranium breaks down in rock and soil. It is an invisible, odourless and tasteless gas.

When radon leaves the ground it is usually diluted in air and is relatively harmless. However, radon can seep into your home through small cracks and openings where the building contacts the soil. In some homes it can accumulate in higher concentrations, posing a health risk.

Radon testing is easy and techniques to lower radon levels are effective and can save lives.

Daycares are a particular concern in preventing radon exposure. Radon has a disproportionate effect on young children due to their fast breathing, little lungs and rapidly dividing cells. Most childcare facilities in British Columbia are not tested for radon, thereby leaving children and staff potentially exposed to harmful levels of a known carcinogen.

## BRITISH COLUMBIA LUNG ASSOCIATION

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Daycares have a responsibility to test for radon and fix the problem— stemming from general duties to create a safe environment for children and employees. Health authorities, Worksafe BC and the Ministry of Health have an important role to play in clarifying the law.

## Radon and Health

Radon is naturally occurring radiation and when breathed in it can cause lung cancer. Radon gas is the #1 cause of lung cancer in non-smokers. High radon causes approximately 3,360 deaths per year in Canada. Health Canada research estimates that with lifetime exposure at 800 Bq/m<sup>3</sup>, the lifetime lung cancer risk would be one in 20 for non-smokers, and one in three for smokers.

Health Canada has set a [National Radon Guideline](#) of 200 becquerels per metre (Bq/m<sup>3</sup>) for regularly occupied indoor spaces. Radon levels measuring more than 200 Bq/m<sup>3</sup> can pose a risk to your health.

## Radon is Easy to Test and Fix

The only way to know the radon level is to test. About 7% of homes in Canada have radon over the National Radon Guideline of 200 Bq/m<sup>3</sup>. In some communities in British Columbia more than half of homes have high radon. Radon testing is easy and techniques to lower radon levels are effective and can save lives.

Health Canada has developed a [radon risk map](#) but more data is still needed to estimate radon risks for each community. Radon levels can be very different from building to building even within the same community.

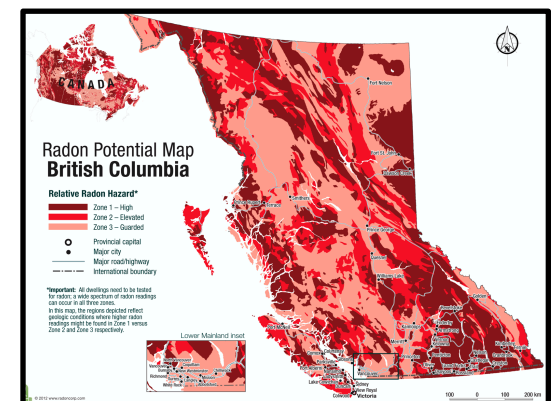
It is easy and inexpensive to test for radon using home testing kits that cost \$20 to \$60. These are available at leading retailers or from the British Columbia Lung Association at our [website](#), by email: [info@bc.lung.ca](mailto:info@bc.lung.ca) or by phone: 604.731.LUNG (5864).

We also have a [Library Lending Program](#) which allows people in some communities to check out detectors from their library.

If the radon levels are higher than 200 Bq/m<sup>3</sup> professional radon mitigators can put a system in place in one or two days. The [Canadian National Radon Proficiency Program](#) (C-NRPP) has lists of certified radon mitigation professionals by community.

## Childcare Operators

Rules and guidelines for licensed childcare facilities are found in the *Community Care and Assisted Living Act* (CCALA), the Child Care Licensing Regulation (CCLR) and the standards of practice. There are many provisions that relate to health and safety of children. A licensee must operate a daycare in a manner that will promote the health, safety and dignity of persons in care (CCALA s. 7(1) (b)). A licensee must ensure that a healthy and safe environment is provided at all times while



children are under the supervision of employees” (CCLR, s. 13(1)). As well, a licensee must ensure that children do not have access to any object or substance that may be hazardous to the health or safety of a child (CCLR, s. 17).

While we would hope that childcare providers would see these provisions as binding them to test and, if necessary, mitigate for radon, it is likely that more specific guidance and enforcement measures will be needed.

## Duty of Care

Children in daycares will also be covered by the laws of occupier liability and negligence. The *Occupiers Liability Act*, provides that an occupier of premises owes a legal duty to take reasonable care to see that those who use or are present on the premises are reasonably safe. While lawsuits are unlikely, there remains a chance that children could develop lung cancer, or adults could trace the effects back to their daycare.

## Occupational Health and Safety

The people who work in daycares are covered by the *Workers Compensation Act* (WCA) and the Occupational Health and Safety Regulation (OHSR).

**Radon is ionizing radiation.** The OHSR has detailed provisions covering ionizing radiation (s. 7.19 to 7.25). Like many safety laws that cover radiation, this specifies that normal workers should not receive an effective dose greater than 1 millisievert (mSv). If a workplace ensures that radon levels are under 200 Bq/m<sup>3</sup> this will approximate this limit.

**General duty clauses.** The OHSR provides that “despite the absence of a specific requirement, all work must be carried out

without undue risk of injury or occupational disease to any person” (s. 2.2) These broad measures are sufficient to cover radon.

[Ontario's guidance on Radon in the Workplace](#) has adopted the formal policy that the ‘general duty clause’ includes protection from radon over 200 Bq/m<sup>3</sup>.

Daycares are required under the WCA to regularly inspect their premises to avoid unsafe working conditions. If daycares are not testing for radon, employees can [make complaints with WorksafeBC officers](#) .

We hope in the future that WorksafeBC will draw attention to this issue through new guidance or policies.

## Public Health and Childcare Licensing

BC's Health Authorities have general powers to raise the issue around radon in daycares. They can produce fact sheets and guidance, and help daycares to test for radon.

BC's Health Authorities have the power to make radon testing a licensing requirement. CCALA empowers medical health officers to attach terms and conditions to a license (s. 11) and to revoke licenses if there is a risk to persons in the care of such facilities (s. 14). Once there are licensing requirements, health officers can inspect as part of the licensing process (s. 19 (2)(b)).

In May 2017 Interior Health Authority (IHA) began to use these powers to address radon. IHA invoked CCLR s. 17 of the Regulation and mandated that day cares test as a condition of licensing.

## Its Time for Provincial Action

Many governments around the world have taken special steps to ensure radon is tested and mitigated in daycares, including 11 states in the USA.

In British Columbia, the Ministry of Health can make this happen without new legislation or regulation. The Ministry, through the Director of Licensing could also order Health Authorities to make investigations and reports about radon in daycares in their geographic areas (s. 4(1)(a) to (d)).

The Ministry of Health could issue guidance stating that elevated radon violates the CCALA and CCLR. Similar guidance has already happened for [lead in water](#). The Director of Licensing has the power to specify policies and standards of practice for all daycares (CCALA s. 4(e)). This in turn could drive all Health Authorities in the province to tie radon testing to licensing.

## Further Information

This is an abridged version of a more detailed legal report, titled **Radon and Daycares: British Columbia Law** which includes further information, resources, and legal analysis. To learn more please visit our website on [Radon: Rights and Duties](#) or contact us at [healthyindoor@bc.lung.ca](mailto:healthyindoor@bc.lung.ca)

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