

Reducing Radon Exposure

– Protecting Canadians from Lung Cancer



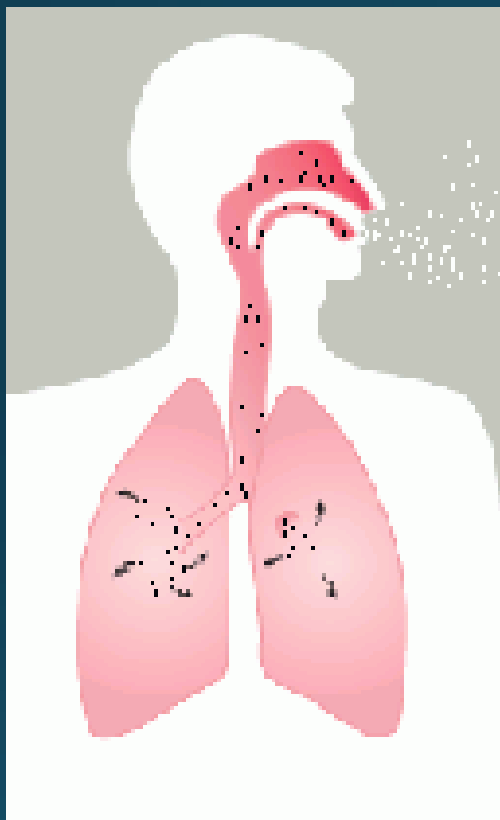
Intro to RADON



- Radon and radon decay product classified as a Group A Carcinogen (like asbestos) in 1988 (based on miner data)
- #1 cause of lung cancer for non-smokers (16% of all lung cancer deaths)
- Health Canada estimates that approximately 3,200 lung cancer deaths are attributed to **radon** every year (compares to 5000 people dying of breast cancer)

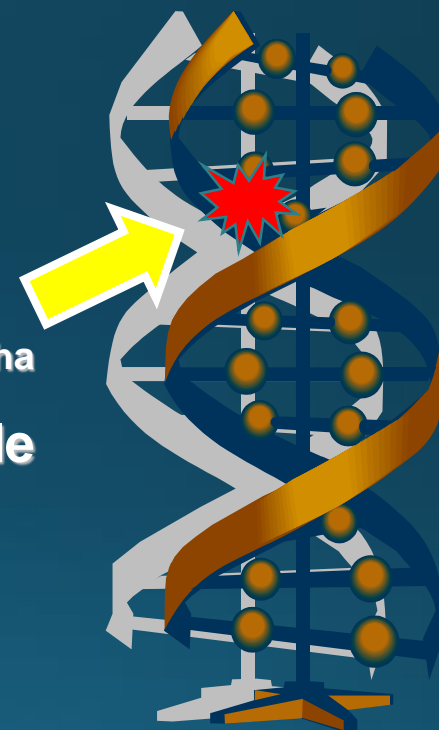


Biological Mechanism - Radon Health Effects



**Inhalation of
Radon and
Radon decay
products**

**Alpha
Particle**



**Radiation Damage
to DNA**

Courtesy of Health Canada

http://www.hc-sc.gc.ca/ewh-semt/pubs/radiation/radon_brochure_profession/index-eng.php

Damage to DNA = Mutation = Cancer



Uranium Decay Chart



Radon



Radium



Uranium



Cross-Canada Survey

14,000 Homes tested in 2010

- 7% of homes across the country tested high
- Every health region in the 10 provinces had homes that tested above the guideline
- New Brunswick was the province with the highest percentage of homes above guideline, Manitoba was 2nd leading province.

The collage consists of four brochures, each with a different color scheme and layout, providing information about radon testing and mitigation in different Canadian provinces.

- Top Left Brochure (Orange/White):** Titled "RADON IN NOVA SCOTIA". It includes sections on "HEALTH EFFECTS OF RADON", "HOW TO TEST FOR RADON", and "REDUCE YOUR EXPOSURE TO RADON". It features a map of Nova Scotia with a highlighted region.
- Top Right Brochure (Purple/White):** Titled "RADON IN PRINCE EDWARD ISLAND". It includes sections on "HEALTH EFFECTS OF RADON", "HOW TO TEST FOR RADON", and "REDUCE YOUR EXPOSURE TO RADON". It features a map of Prince Edward Island.
- Bottom Left Brochure (Orange/White):** Titled "RADON IN ONTARIO". It includes sections on "HEALTH EFFECTS OF RADON", "HOW TO TEST FOR RADON", and "REDUCE YOUR EXPOSURE TO RADON". It features a map of Ontario with a highlighted region.
- Bottom Right Brochure (Purple/White):** Titled "REDUCING THE AMOUNT OF RADON IN YOUR HOME IS EASY AND CAN SAVE LIVES!". It includes sections on "COMMON MITIGATION METHODS", "CERTIFIED PROFESSIONALS", and "REDUCING THE AMOUNT OF RADON IN YOUR HOME IS EASY AND CAN SAVE LIVES!". It features a map of Manitoba.

Each brochure includes the Health Canada logo and the text "Your health and safety... our priority" / "Votre santé et votre sécurité... notre priorité".

PARTNERS





How do we Protect Canadians?

Measure Homes



Can't smell it, taste it or see it.

The only way to know if a home has radon, is to test.

Detectors use the radioactive properties of the radon to determine levels.



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Mitigate High Levels

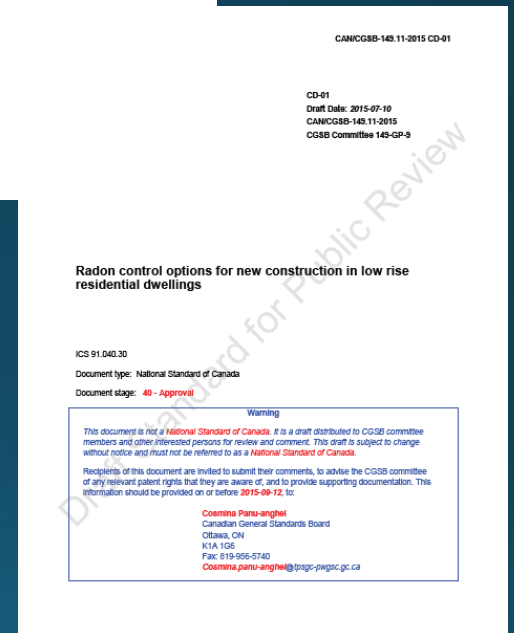
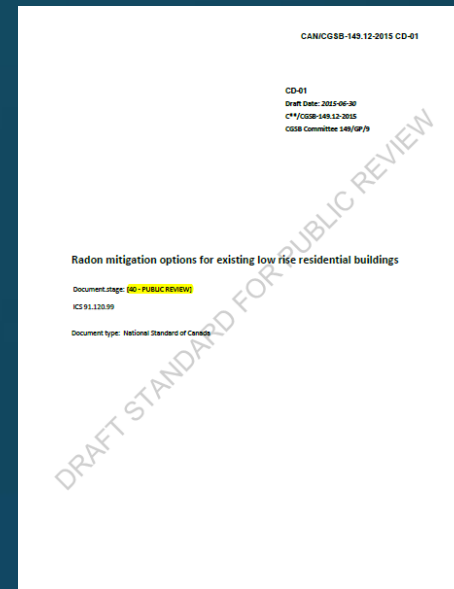
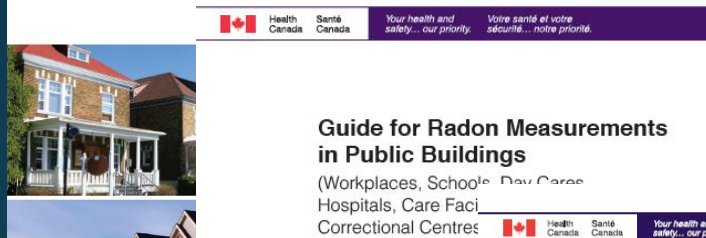
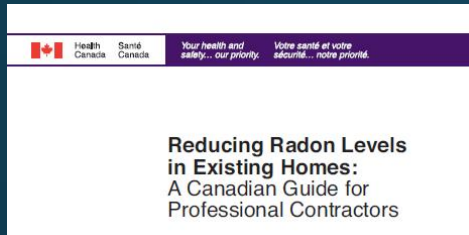


All buildings with elevated levels can be fixed.

- Active Sub-Slab Depressurization System
- Takes gas from below a home's foundation and vents it outside where it is quickly diluted with outside air.



Radon Standards



C-NRPP



Canada's National Certification program

- *Trains professionals to measure residential and commercial buildings*
- *Trains professionals to fix buildings*
- *Trains professionals in how to build according to the national building code*

C-NRPP encourages and seeks compliance with recognized standards of practice to protect public health and safety. We encourage our certified professionals to reflect these high standards and ethics in their work and services and to communicate accurately to consumers about the harmful effects of radon gas, as well as the methodologies used to measure and reduce radon levels within their living and work environments.

CRNCH Certified: Controlling Radon in New Canadian Homes



Controlling Radon in New Canadian Homes (CRNCH) Installer – A person who is trained in the design, installation and/or inspection of methods to resist the leakage of radon and other soil gases from the ground into a new low-rise dwellings.

To Qualify:

- take a course (4-6 hours)
- Pass a proctored exam (with course or One-Write basis)
- Submit an application and pay certification fee \$200



National Building Codes – Soil Gas



What's in the code?

- Gravel sub-membrane layer
- Poly membrane beneath the slab - sealed
- Properly located radon rough-in or passive pipe
- Proper sealing
- Properly sealed sump pit

Issues:

- Research shows builders are not properly locating, sealing or labelling rough-in pipe
- Homeowner's don't understand the need to test after occupancy
- BC has enhanced their provincial code by recommending a rough-in

Examples of Municipalities



- Helping residents Measure
 - Lung Association of Quebec test kits, \$50
 - Copy of results
- Conduct testing to develop a map
- Raising awareness – community information nights
- Residents come to Town Hall for permits, well water testing or visit the library
- Paper documents available at Town Hall
- Info on our website





Examples of Municipalities



- Amended building codes to include radon control and reduction measures
- Hosted community awareness forums
- Ensured Building officials are aware and not issuing permits until measures are followed properly
- Testing and mitigating with certified professionals
- Information on their website





Ideas for Municipalities

- Building Codes
 - amend to include radon control measures and mandatory testing
- Host community awareness forums
 - include medical experts and certified professionals
- Provide grants or low interest loans for homeowners to help them afford mitigation
- Provide residents with information
 - Libraries
 - town halls
 - Information on your website
 - Mailers in utility bills
- Proper Training
 - For building officials
 - Testing and mitigating with certified professionals
- Conduct surveys to help decision makers with policy decisions
- Test all public buildings; ensure schools, daycare testing





For More Information

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C-NRPP Executive Director

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