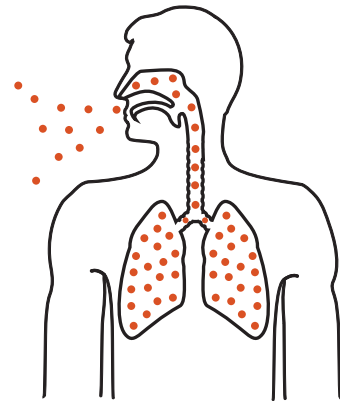


RADON RISKS AND REALITIES

RADON AND THE LUNGS

Radon is invisible and odourless,¹ and radon can kill.²

- Once radon enters a building, it can break down to produce radioactive particles.
- Once inhaled, these particles irradiate the lining of the lungs.
- Irradiation can damage the lungs and result in the development of cancer.

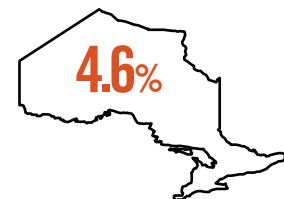


LOWER LEVELS ARE BETTER

Any exposure to radon poses some risk to Ontarians.³ However, there are benefits to reducing exposure to as low as possible.

200 Bq/m³

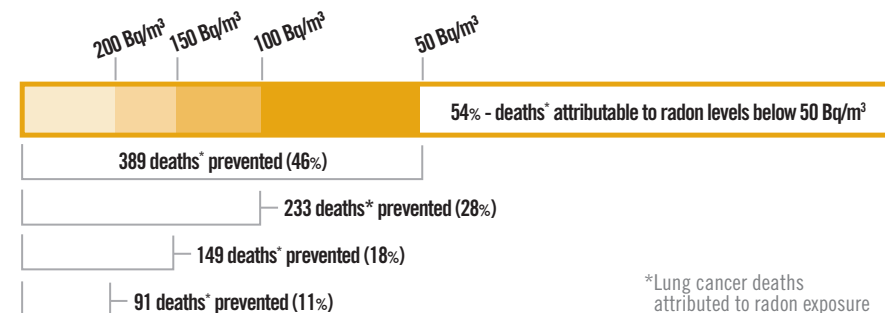
Health Canada recommends action be taken above this level.^{4,5}



The estimated percentage of Ontarians who lived in homes with radon concentrations greater than 200 Bq/m³ in 2009-2011.⁴

Becquerel (Bq) = The unit used to measure the number of radioactive decays of a radon atom

Radon-attributable lung cancer deaths that could be prevented each year if all homes above these levels were at background level (10-30 Bq/m³), Ontario, 2007³

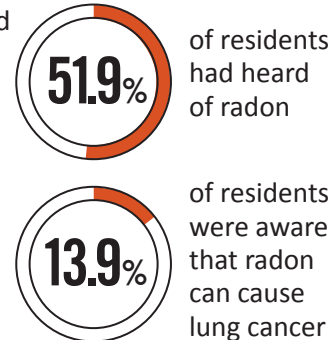


Radon is a naturally occurring radioactive gas found in soil, water and outdoor air, and can enter buildings and accumulate in indoor air.¹ Classified as a carcinogen by the International Agency for Research on Cancer, radon is one of the leading causes of lung cancer.² Reducing exposure to indoor radon would result in fewer lung cancers in Ontario.

Lung cancer is the leading cause of cancer mortality in Ontario.^{6,7} Among non-smokers, radon is the primary cause of lung cancer and it is the second leading cause among current or former smokers.¹

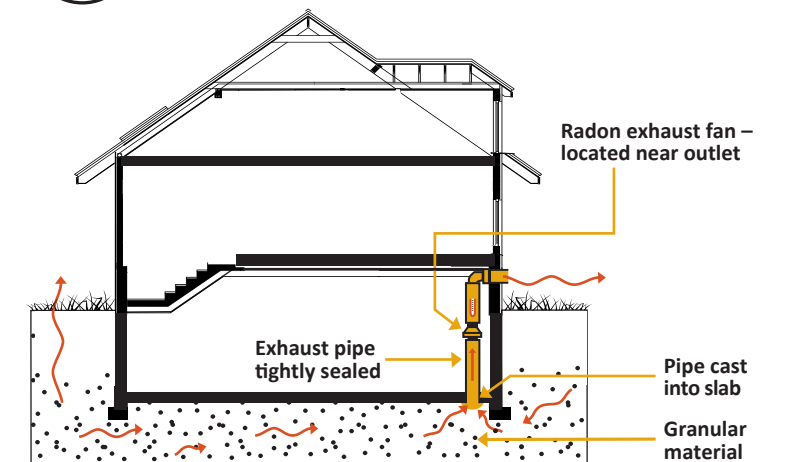


A survey conducted in one region of Ontario showed:⁸



RADON AND BUILDINGS

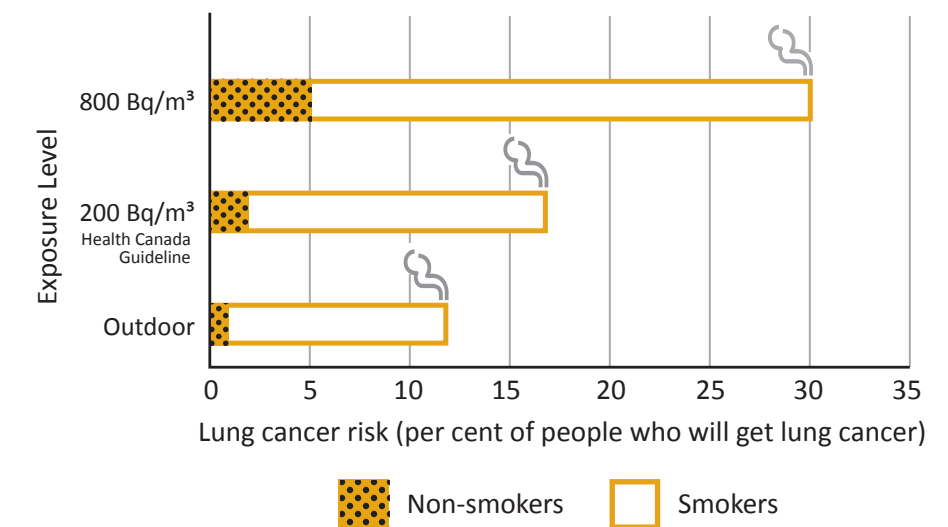
- Radon can enter a building through cracks and holes in the foundation and will accumulate in enclosed spaces.⁹
- Highest radon concentrations in buildings are found below the second floor.
- Changes to building code requirements could produce structures with radon levels well below the current action level.
- There are effective ways to test for radon and reduce indoor levels.⁹



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SMOKING AND RADON: WORSE TOGETHER

Estimated per cent of people who will get lung cancer by lifetime exposure to radon at the following levels, Ontario, 2006⁵



1. World Health Organization. WHO handbook on indoor radon: a public health perspective. Geneva, Switzerland: WHO; 2009 [cited 2013 Oct 28]. Available from: http://whqlibdoc.who.int/publications/2009/9789241547673_eng.pdf 2. Committee on Health Risks of Exposure to Radon (BEIR VI), National Research Council. Health effects of exposure to radon: BEIR VI. Washington, DC: National Academies Press; 1999 [cited 2013 Oct 28]. Available from: http://www.nap.edu/catalog.php?record_id=5499 3. Peterson E, Aker A, Kim J, Li Y, Brand K, Copes R. Lung cancer risk from radon in Ontario, Canada: how many lung cancers can we prevent? Cancer Causes Control. 2013 [cited 2013 Oct 28];24(11):2013-20. Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3824583/pdf/10552_2013_Article_278.pdf 4. Health Canada. Cross-Canada survey of radon concentration in homes: final report. Ottawa, ON: Her Majesty the Queen in Right of Canada, represented by the Minister of Health; 2012 [cited 2013 Oct 28]. Available from: http://www.hc-sc.gc.ca/ewh-sent/alt_formats/pdf/radiation/radon/survey-sondage-eng.pdf 5. Radon Working Group. Report of the Radon Working Group on a new radon guideline for Canada. Submitted to the Federal Provincial Territorial Radiation Protection Committee. Ottawa, ON: Her Majesty the Queen in Right of Canada, represented by the Minister of Health; 2006 [cited 2013 Nov 20]. Available from: http://www.mtpinnacle.com/pdfs/WG_Report_2006-03-10_en.pdf 6. Cancer Care Ontario. Cancer in Ontario: overview, a statistical report. Toronto, ON: Queen's Printer for Ontario; 2010 [cited 2013 Oct 28]. Available from: <https://www.cancercare.on.ca/common/pages/UserFile.aspx?fileid=81843> 7. Canadian Cancer Society's Advisory Committee on Cancer Statistics. Canadian cancer statistics 2013. Toronto, ON: Canadian Cancer Society; 2013 [cited 2013 Oct 28]. Available from: <http://www.cancer.ca/~media/cancer.ca/CW/publications/Canadian%20Cancer%20Statistics/canadian-cancer-statistics-2013-EN.pdf> 8. Data source: Rapid Risk Factor Surveillance System (September 2012 - December 2012). Institute for Social Research, York University. Extracted 2013 Apr 29 9. Health Canada. Radon: reduction guide for Canadians. Ottawa, ON: Health Canada; 2013 [cited 2013 Dec 23]. Available from: http://www.hc-sc.gc.ca/ewh-sent/alt_formats/pdf/pubs/radiation/radon_canadians-canadiens/radon_canadians-canadiens-eng.pdf