

**The research project is organized by the EVICT RADON NATIONAL STUDY team of pan-Canadian cancer researchers, who are located at the BC Cancer Agency, the University of British Columbia, the University of Calgary, Queens University, the University of Waterloo, Dalhousie University, as well as the BC Generations Project, the Alberta Tomorrow Project, and the Atlantic PATH Project, which are all part of the CanPath coalition of longitudinal health studies.**

For administrative purposes, the research ethics approval of this study was provided by the Health Research Ethics Board of Alberta – Cancer Committee.

**STUDY TITLE:**

**Understanding Canadian Environmental Lung Toxicant Exposures, Biomarkers and Health Impacts through Transdisciplinary, Citizen Science Research**

FUNDED BY PEER-REVIEWED RESEARCH and OUTREACH GRANTS FROM:

Health Canada  
The Canadian Cancer Society  
The Canadian Institutes of Health Research  
The Government of Alberta  
The Alberta Real Estate Foundation  
The Canada Foundation for Innovation

Study ID: HREBA.CC-24-0310

Contact Information: [radon@ucalgary.ca](mailto:radon@ucalgary.ca)

**The project lead is Aaron Goodarzi**, and he is joined by the following Senior Investigators from across Canada whose expertise is in (these disciplines): Maria Aristizabal (biology), Darren Brenner (epidemiology), Graham Dellaire (biology), Trevor Dummer (epidemiology), Doreen Ezeife (medicine), Amy Li (engineering), Geoff Maksym (engineering), Victor Martinez (biology), Cheryl Peters (epidemiology), Cathy Ryan (geoscience), Joshua Taron (building science), Alain Tremblay (medicine), Robin Urquhart (epidemiology), Alison Wallace (medicine), Michael Wieser (radiation physics), and Jennifer Vena (epidemiology).

**THANK YOU FOR YOUR INTEREST** in becoming a CITIZEN SCIENTIST participant within the Evict Radon National Study. *Before consenting to become a citizen scientist in our work, we ask that you please read the information below, so that you can become aware of the study terms and conditions.*

Everything you need to know is explained in detail in [this downloadable pdf](#) that you should keep for your records. It is very important that you understand that this is a citizen science-based study that requires you to purchase a specific radon testing kit (offered entirely at cost / nonprofit) to people living in Canada, via this project. We thank you in advance for your time.

## **TERMS AND CONDITIONS of our CITIZEN SCIENCE RESEARCH**

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The **PURPOSE** of this study is to measure radon exposure in Canada to determine how this source of lung cancer is shaped by buildings, geologies, behaviours, and to develop technology needed to assess radon exposure in people. For plain language explanations of radon and its health effects, please visit <https://evictradon.org/radon/>.

The pan-Canadian confederation of researchers who are involved in this work come from many different disciplines, and are working together to use outcomes of this project to develop solutions to Canada's existing and worsening radon exposure problem as it relates to lung cancer risk. You can read more about Canada's radon exposure issue at the most recent Cross-Canada Survey of Radon found at: <https://crosscanadaradon.ca/survey/>.

The research project is organized by the Evict Radon National Study team of pan-Canadian cancer researchers at universities, longitudinal health studies and public health agencies across Canada but is administratively based at the University of Calgary. The project lead is Aaron Goodarzi, and he is joined by the Senior Investigators from across Canada. More information about our researchers may be found at [www.evictradon.org/scientists/](http://www.evictradon.org/scientists/).

The Evict Radon National Study involves **CITIZEN SCIENTIST**-based research, which is a type of research where members of the general public collect information on their environment in collaboration with professional scientists, with each party using some of their own resources to achieve this. In our case, citizen scientists involved in this project are people who willing to purchase an at cost (nonprofit) radon test device to test the indoor air of residential buildings that they own or rent, and share the outcomes of these tests with the research team.

At this time, **THIS STUDY IS OPEN TO ALL ADULTS LIVING IN CANADA** who have the authority (and/or permission from adult occupants within the residential property in question) to perform a radon test; this includes people who may be:

- Interested in radon testing and participating in scientific studies.
- Invited to participate through an opportunity suggested by a lung cancer screening program, oncologist, physician or patient advocate referral.
- A previous participant in the Evict Radon National Study, who consented to be contacted for future radon related research opportunities.
- A part of a Canadian Partnership for Tomorrow longitudinal study cohort.

## WHAT YOU ARE BEING ASKED TO CONSENT TO DO

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For people who are interested in citizen science-based household radon testing, **WHAT YOU HAVE TO DO** is obtain a long term (91+ day) radon test kit via our study. These radon devices are administered and quality-controlled by our C-NRPP (Canadian National Radon Proficiency Program) certified radon testing partner.

1. You will be provided a link to purchase an at-cost (non-profit), research-grade radon test kit via our study team's secure webstore for CAD \$53.99+GST (no matter where in Canada you live). Purchased kits are sent to you directly via Canada Post.
2. On receipt of your radon test kit, you are asked to deploy the test device in your residence for a period of 91 to 365 days and return the test kit in the provided, pre-labelled Tyvek envelope (provided with your kit).
3. Citizen Scientists are asked to complete two short surveys, one when they register the kit online at the start of radon testing, and one when they end the test.
4. At the end of the testing period (which can be anything from 91 to 365 days, as decided by the citizen scientist), you are asked to return kits by pre-paid mail.
5. Within several weeks of the testing laboratory receiving the radon test device, citizen scientists can expect to receive their household radon test outcome by direct email, using the email address they provide. Citizen Scientists may also request these results from our team, by emailing [info@evictradon.org](mailto:info@evictradon.org).
6. Citizen scientists also agree to be contacted by email regarding the ongoing outcomes of this study and closely related research opportunities. For example, citizen scientists can expect free-to-download copies of all annual research outcomes via one annual email sent out near the end of each calendar year.

We wish you to know that, if you are not interested becoming a citizen scientist, radon test kits are widely available for sale via private retailers. We do not endorse any commercial entity and therefore cannot recommend alternative devices directly.

## WHAT IS IN THE CITIZEN SCIENCE RADON TEST KITS?

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Your non-profit Evict Radon National **STUDY TEST KIT** includes a long-term alpha track test device (called a RadTrak<sup>3</sup>), pre-paid return shipping from anywhere in Canada to our Canada-based test collection hub, the return envelope, kit deployment instructions, and the pre-paid radon test device analysis processing fee at the laboratory.

### ***Other things you should know about the test kits include:***

- To deliver kits across Canada, we have elected to use Canada Post letter mail, which provides the most cost effective and reliable method of delivering parcels across all areas of Canada, no matter how remote.
- You should place your radon test in your residence for a minimum of 91 days, ideally between September and the end of May. Tests deployed between April and August should be deployed for 180 days. As indicated above, it is your choice how long to test for. That said, please be aware that tests of less than 90 days in duration are not considered a reliable measure of radon in Canada (per advice from Health Canada).

- If purchasing multiple radon tests for the same property, please register each kit separately and fill out the building metric, activity pattern and demographic surveys for each kit.
- If purchasing multiple radon tests for different properties, please register each separately and fill out different building metric, activity pattern and demographic surveys for each property.
- Within a 6-8 weeks of shipping your kit to the return address, your property's radon test results will be sent to you directly using the email address that you used to register the kit.

### **IMPORTANT INFORMATION ABOUT THE RADON TESTING PROCESS:**

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Prior to selecting a test device for this study, our researchers evaluated a number of products currently on the market and determined that RadTrak<sup>3</sup> long term radon test device manufactured by Radonova was the best fit to offer the most scientifically reliable results to all parties. Radonova Inc. labs are a radon test provider with ISO 17025, 14000 and 9001 Certifications – meaning they are one of two radon test manufacturers and testing laboratories certified to meet these international standards that specify rigorous requirements for a quality management system. For research that is to have global reach and recognition, using devices with these certifications is essential.

Radon testing in Canada must also be managed by C-NRPP (Canadian National Radon Proficiency Program) certified professionals, regardless of device. Our researchers work with C-NRPP professionals at Radon West Ltd to ensure radon test device quality controls and distribution meets current national standards.

The above information does not constitute an endorsement by any of the researchers involved in this project (or their home universities) for either Radon West Ltd or Radonova or any of their products or services. Outside the context of this research study, we are not in a position to certify the quality or reliability of any equipment sold by Radon West Ltd or Radonova.

**The DIRECT BENEFIT of being a citizen science participant in this work** is receiving your residence's long-term radon reading via our quality-controlled radon testing process (e.g. use of duplicates, blanks, and controlled positives) that ensures the most reliable readings possible. Having radon results enhanced by these quality controls is not typically available through retail radon testing, but is integral to research.

### **The POTENTIAL or INDIRECT BENEFITS of participation include:**

1. Increasing your personal knowledge of the origins and modifiers of the Canadian radon exposure problem.
2. Carrying out work that allows Canadian cancer research teams to better develop and recommend solutions to reduce and/or prevent radon exposures now and in the future, something predicted to reduce the future burden of lung cancer in Canada.
3. Carrying out work that allows Canadian cancer research teams to develop a method to determine lifetime radon exposure that may be helpful to ensure more people who need early screening for lung cancer are able to access these programs.

**There are NO KNOWN DIRECT RISKS** of physical harm connected with participation in performing a radon test as part of this study. The **POTENTIAL or INDIRECT RISKS** associated participation in this work may include learning that the building you are testing contains radon levels that you or others may identify as being a health concern – this is true of obtaining radon information from any test device.

Please be aware that, in Canada, it is entirely your choice to act upon your radon test results to protect your health, and there are effective solutions to permanently reduce high radon exposure. If you decide to pursue mitigation there may be financial costs associated with installation of these systems. For radon levels at or over 200 Bq/m<sup>3</sup>, you are advised to reduce levels below this amount before selling your house to another person or, if no action is taken at all, at least disclose this outcome during a real estate transaction. For more information, we refer you to the most up to date facts via [Health Canada](#) and/or the [C-NRPP](#).

## **PRIVACY AND CONFIDENTIALITY**

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If you chose to participate as a Citizen Scientist in the Evict Radon National Study, then **PLEASE BE ASSURED** that all information entered in the following survey will be kept 100% confidential and stored in secured servers, subject to Canadian and EU general data protection regulation privacy laws.

- Identifiable data will never be shared with any third party and, once linked to your residence's radon reading, will be de-identified so that you can never be personally traced within the data.
- Your specific address will never be published in any format, and specific residences and individual neighbourhoods are never linked to given radon readings.
- We take exceptional measures to ensure your privacy is maintained throughout this process. If you have any questions or concerns regarding this consent information or, if at any point you wish to withdraw from our study, please us at contact [radon@ucalgary.ca](mailto:radon@ucalgary.ca).

## **WHAT ARE MY RIGHTS AS A PARTICIPANT IN THIS STUDY?**

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Your rights to privacy are legally protected by federal and provincial laws that require safeguards to ensure that your privacy is respected. By providing your consent to join this study, you do NOT give up any of your legal rights.

## **WHAT IF MY RESIDENCE IS FOUND TO HAVE HIGH RADON THROUGH THIS STUDY?**

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You will learn the level of radon of the residential building that you have radon tested for 91 days or more (measured in Bq/m<sup>3</sup>, the unit that radon is evaluated in Canada). If your residence is found to have levels of radon above Health Canada's administrative action guideline of 200 Bq/m<sup>3</sup>, it is still your personal choice whether to take action (such as the installation of a professional radon reduction) or not.

The Evict Radon National Study does not provide radon mitigation estimations or services, and the research team (and their families) are NOT directly affiliated with anyone who offers these

services. If you deem your household radon levels to be of concern to your health, we do provide up to date information on our [website for those who are seeking information on mitigation](#).

For independent information on radon mitigation, please see the [Canadian Nation Radon Proficiency Program](#) and/or [Health Canada](#), and both of these groups may be contacted by phone or email. Radon testing is not unique to the Evict Radon National Study and you are also able to learn this through many other radon testing options that are available to the public.

## **ARE THERE ANY CONFLICT OF INTERESTS RELATED TO THIS STUDY?**

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No. There are no conflicts of interest relating to this study. The researchers and their families have no known personal connection to any for-profit group relating to this work. Funding for this study comes from public sector agencies including those listed on the first page of this informed consent document. Additionally:

- The researchers involved in this study ([www.evictradon.org/scientists/](http://www.evictradon.org/scientists/)) and their home institutions do NOT benefit in any way from the sale of test kits and have no financial stake in or relationship with either Radon West Ltd or Radonova, nor any other private radon testing or mitigation retail or industrial entity.
- Identifiable information from surveys or radon tests are not shared with any 3<sup>rd</sup> party. Citizen scientists agree to provide researchers with the radon data for the property they have chosen to test for radon, which will be linked to the associated property metrics, demographics and activity patterns provided through online questionnaires.
- For the purposes of study support, follow-up, reporting outcomes, and further information about radon-related research, citizen scientists agree that our team may contact them using the email address provided during informed consent. Citizen scientists may opt out of this contact list at any time.
- Once again, please be assured that your information will remain completely confidential and, in turn, is helping Canadian researchers understand and develop solutions to our radon problem.

**If you have any questions about your rights as a participant**, or about ethical issues related to this study, and you would like to talk to someone who is not involved in the conduct of the study, please contact the Office of the *Health Research Ethics Board of Alberta - Cancer Committee* at:

- Telephone: 1 780 423 5727
- Toll Free: 1 877 423 5727

## **DECLARATION OF INFORMED CONSENT**

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Thank you for reading the informed consent information above and for your interest in becoming a citizen scientist participant in the Evict Radon National Study. ***If you decide to participate in this study as a citizen scientist, you will need to respond "YES" to the specific***

***informed consent statements below.*** If you want additional information before answering these question, please contact the study lead directly at [radon@ucalgary.ca](mailto:radon@ucalgary.ca).

**Consent Statement 1: I understand that I have been asked to take part in a research study and why it is being done.**

- ☐ (Yes I understand)

**Consent Statement 2: I understand what I am to do (If I decided to take part) and how the information collected will only be used for this study.**

- ☐ (Yes I understand)

**Consent Statement 3: I understand the potential benefits and risks associated with this study and that I am free to leave this study at any time, without reason or penalty.**

- ☐ (Yes I understand)

**Consent Statement 4: I understand that I do NOT give up any of my legal rights by participating in this study.**

- ☐ (Yes I understand)

First Name	Last Name
Enter your contact email address here	Re-enter your contact email address here

**CLICK TO CONSENT AND JOIN THIS STUDY**

**By entering your full name, email address and clicking the consent button above, you will be directed to the secure webstore where you can purchase your at-cost kit.** A list of answers to Frequently Asked Questions may be found at [www.evictradon.org/FAQ](http://www.evictradon.org/FAQ) and you can always email us at [info@evictradon.org](mailto:info@evictradon.org). If at any point you wish to withdraw from our study, or have any concerns about the nature of this research study, please us at contact [radon@ucalgary.ca](mailto:radon@ucalgary.ca). The review and approval of this national study was performed by the Health Research Ethics Board – Cancer Committee, which is based in Alberta, Canada. Study Ethics ID = HREBA.CC-24-0310