

## **Lincoln Board of Health: Radon Information Session**

**Board of Health attendees: Dr. Fred Mansfield, Dr. Steven Kanner, Melanie Dineen (Public Health Director) & Tricia McGean BSN, RN (staff)**

**Thursday, January 26, 2023 6:30pm**

**Held in-person at the Lincoln Public Library and virtually via Zoom**

This is a summary of the information shared at the Radon Information session held at the Lincoln Public Library on January 26, 2023, led by Michael Feeney, director of indoor air quality program for the Massachusetts Department of Public Health. The meeting was intended to teach residents about radon, its health risks, and testing options.

Radon can affect any building, particularly homes, and it has to do with the geology of what we're sitting on top of. Radon is a gas that is tasteless, odorless, colorless, naturally occurring, and radioactive. In Massachusetts, many homes are sitting on top of granite and inside of that granite is uranium which decays and eventually releases the (radon) gas that has evolved from it.

Health risks from radon exposure depend on how much and how long you are exposed to. This is why air testing is so important. Radon decay particles can enter and become trapped in your lungs when you breathe. Radon is a known carcinogen and can increase your risk of lung cancer. It is the number one cause of lung cancer for non-smokers and believed to be the number two cause of lung cancer overall. The EPA estimates that radon causes 21,000 cancer deaths in the US each year. Geography cannot be used to predict the outcome of the testing, thus the EPA recommends that each home be tested. The suggested target radon levels are less than 2 pCi/L and the EPA recommends that residents consider remediation for their homes when radon levels are between 2 pCi/L and 4 pCi/L. With levels over 4 pCi/L, the EPA suggests remediating the home.

One out of four homes may have radon levels that exceed the EPA action level. In Massachusetts, 650,000 homes are estimated to have radon levels above 4 pCi/L and 34,000 homes with levels above 20 pCi/L. The highest radon level ever measured in a building was 1,981 pCi/L which was the City View School in Michigan. The EPA has a map which shows the distribution of homes with radon concentrations greater or equal to 4 pCi/L by county. Some areas are considered higher risk than others, however as said before you cannot predict whether your home will have radon based on geography. The highest levels are believed to be in Worcester County, Middlesex County and Essex County.

The US surgeon general recommends all homes be tested for radon gas. It is believed that in the Commonwealth, there are an estimated 628 radon related cancers occurring annually. Other than monitoring a person for changes in their health, there are no ways to diagnose exposure to radon.

Radon can enter a home through different pathways. The usual ways are through the basement or walls that are in contact with soil because that is where the radon is. For example, that could be in an old building with cracks or dirt floors. As we all know, heat rises and in a basement, when the heat rises, it is replaced by colder air coming in through cracks, crevices and holes in the walls, which is where the radon would get in. This is why we prefer to do testing when heat is in use.

Testing should be done in any room or space where there is contact with soil. It is important to remember that a neighbor's radon levels will not predict your radon levels. You can contact the MDPH for a test kit while supplies last as well as purchase them at hardware stores. There's also a state radon hotline where you can get advice on radon test kits. If you do not own your home, you can ask your landlord to test for radon, but if your landlord will not test, you can do the test yourself. It is easy to do and takes very little time.

Testing season is November 1st through March 31st, when weather conditions are typical for this time of the year. Testing should be done in the lowest livable level or spaces where people could spend time and done in closed conditions. The reason for this is that you want to have your testing done at a time that reflects your maximum exposure. Do not do testing during storms, times of high winds (above 30 mph) or during changes in barometric pressure, when there are unseasonably warm temperatures or in kitchens, laundry, bathrooms or closets. These conditions can give you an artificial change in testing that would not reflect what's truly going on.

Before testing you should leave all doors and windows in the home closed except for normal entry and exit points for 12 hours. You should maintain these conditions during testing. The heat should be on as well. The radon test should be placed 20 inches off the floor, 1 ft from exterior walls, 3 ft from exterior walls with openings, away from drafts, heat, or humidity and away from pets or people who can disturb the test. They also should be kept away from sources of heat such as a radiator, fireplace or vent and sources of humidity such as gas fired water heaters, washers, dryers, kitchens or bathrooms. In addition, nothing should be within 4 inches of the testing vial.

When you are using the kits, follow the manufacturer's instructions. Tests are sent into the laboratory for analysis, who will send the results to the homeowner. If you are hiring a radon mitigation specialist, make sure that they are certified by the American Association of Radon Scientists and Technologists or the National Radon Safety Board. You can go onto [www.aarst-nrpp.com/wp/](http://www.aarst-nrpp.com/wp/) or [www.nrsb.org](http://www.nrsb.org) to find a list of certified testers and radon mitigation installers.

If you are a renter, it is usually the building owner, not the tenant who makes the repairs. If you are a renter, you can tell the building owner in writing about your test results and ask what steps the owner will take to fix the problem. If you live in an apartment building, you can share your radon information with other residents. Your neighbors may want to test their own units or discuss the issue with the owner.

Radon mitigation systems are located outside of the occupied space, insulated, have signage and a pressure gauge. They work to intercept the radon before it gets into your home and vent the gas outdoors. Once it's installed, you should re-test your home with a certified radon professional and afterwards, test annually.

Radon Information sheets can be found and downloaded on [mass.gov](http://mass.gov); they are available in English, Spanish, Portuguese, Chinese and Vietnamese. You can connect with Mass DPH online at [www.mass.gov/dph](http://www.mass.gov/dph), via their blog at <https://blog.mass.gov/publichealth> as well as through Twitter for further information.