

Radon – Quick Facts

Radon is a colorless, odorless, radioactive gas that occurs naturally from the decay of uranium and radium in the ground.

Radon is a serious health risk.

Radon is the leading cause of cancer to non-smokers and the 2nd leading cause for smokers. There are more lung cancer deaths a year caused by radon gas than the following cancers: liver, brain, stomach, melanoma, oral, gallbladder, and bone cancer. More people die from lung cancer caused by radon than the people who die from drunk driving, falls in the home, drowning or home fires.

How people get lung cancer from radon.

Radon in the home attaches to particles in the air, like dust, and are breathed in by people and pets in the home. It only takes one alpha particle, which is emitted from radon gas as it decays, to damage the DNA in one of the cells in the lungs. If the damaged cell survives and can't repair itself, it can develop into lung cancer. Heavy metals, like lead and polonium, will remain in the lungs and continue to decay.

Everyone should test their home for radon.

It is the only way to know the level of radon in your home. Testing is simple and affordable with the radon test kits available from retail stores and online. There are also licensed radon measurement professionals who can do the testing for a fee. A list of these professionals in Illinois can be found at www.radon.illinois.gov .

Radon gas can enter the home through cracks and gaps in the home's walls and floors, and around service pipes that enter the home. It can enter through sump pits and plumbing penetrations in the home.

The radon level in the home is always fluctuating. When the indoor air pressure is lower than the outside air pressure, radon and other soil gasses will be sucked into the home like a vacuum. Any time the furnace or air conditioner is running, it creates a negative air pressure in the home. Weather affects radon levels in the home, too. Weather related conditions of high winds, the ground soaked with heavy rains, or snow covered ground, can cause more radon to enter the home.

There is no safe level of radon.

- [The current average radon level in homes in Illinois is 4.4 pCi/L.](#)
- 40 % of the homes in Illinois that are tested for radon by radon measurement professionals were found to have radon levels of 4.0 pCi/L or more.
- The national indoor average radon level is 1.3 pCi/L.
- [At a radon level of 4.0 pCi/L, 7 people out of 1000 non-smokers could get lung cancer.](#) For people who smoke, the figure would be higher, at a rate of 62 people out of every 1000. The higher the exposure to radon, the higher the risk of getting lung cancer.

- The average outdoor radon level is **0.4** pCi/L. In uranium mines, the radon level is around 70.0 pCi/L. Uranium decays into radium and then into radon gas.
- The areas of the U.S. with high potential for radon correlate with the location of coal veins. These areas are shown on the EPA Map of Radon Zones. About half of Illinois is in zone 1 for a high potential for radon. Much of the rest of Illinois is in the medium potential for radon, according to new information from the Illinois Emergency Management Agency.

<http://www.epa.gov/radon/zonemap.html>

http://www.radon.illinois.gov/iema/radon/pdf/Radon_Status_Report_2006.pdf

Homes with elevated radon levels can be fixed.

With today's radon mitigation technology, the radon level in homes can often be reduced to below 2.0 pCi/L. A radon level of 4.0 pCi/L is equal to smoking a pack of cigarettes a day. Installing a mitigation system costs on average between \$800-\$1200 for existing homes in Illinois. Reducing the radon levels in homes can be done in less than one day, by installing a radon mitigation system. Licensed radon mitigation professionals in Illinois can be found at this website: www.radon.illinois.gov .

Lung cancer is one of the most preventable cancers.

There are 15,000 deaths a year from lung cancer to non-smokers. One out of every 7 lung cancer deaths from radon are to non-smokers. There are 21,000-25,000 deaths a year in the U.S. from lung cancer caused by radon. **In Illinois, there are around 1160 deaths a year from lung cancer caused by radon.** Test for radon. Mitigate to reduce high radon levels and reduce the risk of lung cancer.

Few people survive lung cancer. That is because lung cancer is usually diagnosed at the stage 4 level. At stage 4, the cancer will have spread beyond the lungs to other organs. Doctors will try to prolong life and relieve the symptoms and treat it with chemotherapy. The average cost to treat a person with lung cancer and extend their life for a year is about \$403,000, based on an article in the Sept. 23, 2010 *U.S. News and World Report*. Each additional year of survival costs another \$143,000 or more depending on the type of lung cancer a person has. It is more cost effective to reduce the level of radon in the home.

Learn more about radon at this website: www.TakeActionOnRadon.illinois.edu

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