Radon – Quick Facts

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

**Radon usually enters the home** through cracks and gaps in the home’s walls and floors, and around service pipes that enter 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 gases 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. The 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 only way to know the level of radon in your home is to test for it every 2-3 years. Low cost, easy to use test kits are available at hardware stores and online. Radon measurement professionals can also be hired to test your home for radon.
- 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. Uranium is also in the soil.
- 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.

[http://www.epa.gov/radon/zonemap.html](http://www.epa.gov/radon/zonemap.html)

**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 lung and continue to decay.
Homes with high radon levels can be fixed.
With today’s mitigation technology, the radon level 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. Mitigating a home to reduce radon levels has the same cost-benefit as using child safety seats for children in automobiles. Installing a mitigation system costs on average between $800-$1200 for existing homes in Illinois.

Radon is a serious health risk.
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, or falls in the home, or drowning or home fires.

Lung cancer is the most preventable cancer.
Lung cancer is the cause of 1 out of every 3 deaths in the U.S. There are 15,000 deaths a year from lung cancer to non-smokers. There are 21,000-25,000 deaths a year from lung cancer caused by radon. There are 159,000 deaths a year from lung cancer in the U.S. In Illinois, there are around 1160 deaths a year from lung cancer caused by radon.

Very 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 cost to treat a person with lung cancer is about $250,000.

It is quick and easy to test for radon.
Reducing the radon levels in homes can be done in less than one day, by installing a radon mitigation system. Licensed radon mitigation professionals can be found on the IEMA website at www.radon.illinois.gov.