Radon Information and Health Hazards – EPA Recommends Testing Your Home

What is radon?
Radon is a naturally occurring radioactive gas. It is produced in the ground through the normal decay of uranium and radium. As it decays, radon produces new radioactive elements called radon daughters or decay products. Radon and radon daughters cannot be detected by human senses because they are colorless, odorless, and tasteless.

How does radon get into homes?
Radon moves through small spaces in the soil and rock on which a house is built and can seep into a home through dirt floors, floor drains, sump pits, joints, or tiny cracks and pores in hollow-blockwalls. As a result, radon concentrations tend to be greater in the lower levels of a home, such as the basement.

Is exposure to indoor radon harmful?
When radon undergoes radioactive breakdown, it decays into other radioactive elements called radon daughters. Radon daughters are solids, not gases, and stick to surfaces such as dust particles i n the air. If contaminated dust is inhaled, these particles can adhere to the airways of the lung. As these radioactive dust particles break down further, they release small bursts of energy which can damage lung tissue and therefore increase the risk of developing lung cancer. In general, the risk increases as the level of radon and the length of exposure increases.

Radon itself, on the other hand, is almost chemically inactive and an inhaled radon atom is very likely to be exhaled before it decays. Thus, the main health risk from radon is exposure to its decay products.

What can be done to reduce exposure to indoor radon?
Although there are no Massachusetts state or federal regulations for naturally occurring radon or radon daughters, the Environmental Protection Agency (EPA) has recommended guidelines for taking action. Concentrations of radon gas are measured as "picocuries per liter" (pCi/l). The EPA suggests that if an initial screening measurement results in a reading greater than 4 pCi/l, further measurements should be taken to determine the annual average exposure to radon and that action be taken within a reasonable period of time. The Massachusetts Department of Public Health's Radiation Control Program **(800-723-6695)** will assist you in obtaining further measurements. You can obtain a testing kit from the local hardware store.

High levels of radon are reduced through a mitigation system installed into the home. The most common type of system is called sub-slab depressurization. The EPA does not advocate the sealing of cracks in the basement floor as a single approach to solving a radon problem.

EPA Recommends

- Test your home for radon — it's easy and inexpensive.
- Fix your home if your radon level is 4 picocuries per liter, or pCi/L, or higher.

- Radon levels less than 4 pCi/L still pose a risk, and in many cases may be reduced

EPAs Citizen's Guide to Radon:
http://www.epa.gov/radon/pubs/citguide.html#contacts

Radon Fact Sheet:
http://www.mass.gov/eohhs/gov/departments/dph/programs/environmental-health/exposure-topics/radiation/radon/public-health-fact-sheet-on-radon.html