Connecticut Department of Public Health
Environmental Health Section - Radon Program
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Radon in Your Well Water

Radon in your water can increase your risk of developing cancer.
Read this fact sheet for information on radon in drinking water.

What is radon?

Radon is:

- a natural element found in soil and rocks all over the world
- a radioactive gas formed from the decay of uranium, another natural element
- colorless, odorless and tasteless
- the leading cause of lung cancer in nonsmokers

Why is radon a health concern?

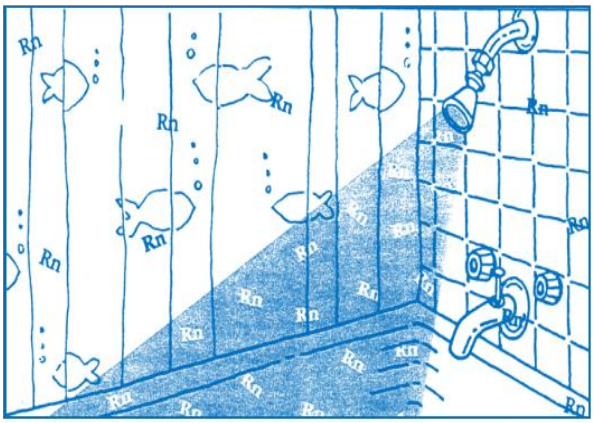
If you breathe in air with radon, your risk of lung cancer increases. If you smoke and are exposed to radon, your risk of lung cancer is even greater. Radon in the water you drink can also increase your risk of stomach cancer. However, research has shown that your risk of lung cancer from breathing radon in air is much larger than your risk of developing stomach cancer from drinking water with radon in it.

How can radon get into my water?

Radon can dissolve and build up in water from underground sources. If your water comes from a well, it may contain radon. Radon in the water dissolves and escapes into the air during household water use, especially when it is heated. Radon levels in the air will increase for a short period of time when you use your dishwasher, washing machine, shower and bath.

Should I test my water for radon?

The Connecticut Department of Public Health (CT DPH) recommends testing for radon in your water if your home is served by well water. It is possible to have elevated radon levels in your water even if the radon level in your indoor air is low. The only way to know for sure is to test for radon in both air and water.



Radon from your water can enter the air you breathe.

Should I test my indoor air for radon?

The CT DPH recommends that all homes in Connecticut be tested for radon in the air. The most common source of radon in a home comes from soil and rock surrounding a building's foundation. Elevated radon levels in indoor air are usually a greater health risk than radon levels in water. Refer to the CT DPH Basic Radon Facts publication for information on radon in indoor air.

When should I consider reducing the level of radon in my water?

Radon laboratory results are reported in picocuries per liter (pCi/L), a unit of measure for radioactivity. The CT DPH has established a recommended action level of 5,000 pCi/L for radon in water. Take action to reduce radon in your water if the average radon level of two water samples (drawn simultaneously from the same location) is equal to or above 5,000 pCi/L. Radon concentrations in water vary from one test to another due to many reasons including water usage and seasonal fluctuations in the water table. Therefore, you may choose to test your water more than once.

How can I reduce radon in my water?

There are two types of systems to reduce radon levels in your water. If the average radon test result is 5,000 pCi/L or higher, one of the following systems is recommended. The CT DPH recommends hiring a nationally certified radon mitigation professional to install a system to reduce radon in your water.

- ### Granular Activated Carbon (GAC) System

GAC systems reduce radon effectively when levels are below 10,000 pCi/L. These systems contain a fiberglass tank filled with granular activated carbon, a fine material that traps radon as the water passes through it. The carbon also captures other contaminants, which is beneficial, but it shortens the life of the carbon. The carbon eventually becomes saturated and can no longer trap radon. Replacement of the carbon is essential for the GAC system to effectively reduce radon. Service periods vary based on the amount of carbon, household water usage, and radon level. Hire a nationally certified radon mitigation professional to replace the GAC system's carbon on a regular basis. The cost for a GAC system installation is between $1,500 and $3,000. For more information, please refer to DPH Private Well *Publication No.1: Activated Carbon Treatment of Private Drinking Water Systems*.

- ### Aeration System

Aeration systems are the only effective method for reducing radon levels that are at or above 10,000 pCi/L. These systems aerate or agitate water to allow radon to escape so it can be captured and vented to the outside away from your home. Other water quality issues, such as iron and manganese, need to be taken into account when considering installation of an aeration system. There are different models of aeration systems with varying specifications. A radon mitigation professional can help you decide which system is best for your home. The cost for an aeration system installation is between $3,500 and $5,000. For more information, please refer to DPH Private Well *Publication No.2: Aeration Treatment of Private Drinking Water Systems*.

How can I find qualified radon professionals?

The CT DPH maintains lists of nationally certified radon professionals on the Radon Program website. These individuals are trained in EPA protocols and maintain national certification in radon measurement or mitigation. Refer to the Measurement Professional list to find individuals who can collect water samples to submit to CT DPH Approved Laboratories for radon in water analysis. Refer to the Mitigation Professional list to find individuals who can install systems to reduce radon in your home.

For more information, visit the CT DPH Radon Program website: www.ct.gov/dph/radon

CT DPH Private Well Program website: www.ct.gov/dph/privatewells

If you require aid/accommodation to fully and fairly benefit from the contents of this document, please contact: 860-509-7293