

Safe Well Water RI

Trusted, expert information

Tip Sheet 13



“Tip sheets helped us learn about our well water.”

Get Tip Sheets at www.rivelltesting.org:

- 14 Tip Sheets about harmful substances
- 10 Tip Sheets about treatment choices
- 3 Tip Sheets about other topics of concern

Well water is groundwater, meaning that it comes from the water stored in the earth and rocks below ground. Even though groundwater is *under* the surface, substances *on* the surface, such as gas from a lawnmower or animal waste, can seep down and pollute it. Some natural substances stored in rocks and soil can also affect the smell, taste, color, and safety of well water.

Radon in Drinking Water Wells

Radon: A colorless, odorless, and tasteless gas released from uranium in rock and soil that can cause serious health problems

Radon is a radioactive gas that occurs naturally in Rhode Island. It comes from the natural decay of uranium, present in granite rock and soil. It may dissolve into groundwater, the source of well water. The major health concern comes from radon released into the air inside buildings and homes.

Radon gas dissolved in well water can be released into indoor air when family members take showers, wash dishes, or do laundry. The Rhode Island Department of Health urges all homeowners to test indoor *air* levels for radon. If the air level is high, test your water using a State-certified testing lab.

What health problems can too much radon cause?

- **Lung cancer:** *Breathing* in too much radon over time leads to increased chances of lung cancer. Radon is the second leading cause of lung cancer.
- **Other cancers:** *Drinking* water with too much radon over time leads to increased chances of stomach cancer, or other internal organ cancers. This risk is lower than the risk from breathing air high in radon.

How does radon get into home indoor air and well water?

- **Moving up from basement cracks into home indoor air:** Radon results from the decay of uranium in Rhode Island rocks and soil — a natural process. Rhode Island Department of Health data shows that 23% of home air tests statewide show high levels. The national average is just 7%. This is likely due to our large amounts of bedrock granite.
Some older homes also used granite for foundations, which can lead to high indoor air levels. Radon can move up into a home through cracks in the basement or even from a sump pump.
- **From groundwater to well water:** Rhode Island groundwater may have high natural levels of radon.



How will I know if I have too much radon in my air or well water?

You won't know unless you test the air in your home, and if needed, your well water. Radon has no smell or taste. The air in your home will seem fine and your water will taste the same as usual.

1. Testing indoor air: To measure the levels of radon inside your home, contact a registered Radon Testing Business. Find a list of these businesses here: www.health.ri.gov/foodwaterenvironment. Click “Radon Testing” on the right.

- **Indoor air safety limit** for radon set by the United States Environmental Protection Agency (EPA):
4 pCi/L (picocuries per liter)

If your indoor air test shows this level or higher, the EPA recommends you take action to lower the level. Use a Licensed Radon Mitigation Contractor: www.health.ri.gov/foodwaterenvironment. Click “Contractors” on the right.

For more information, call the State's Radon Control Program: 401-222-5960

2. Testing drinking water: If the indoor air level of radon is at 4 pCi/L or higher, test your water too. Use a State-certified testing lab. Find a list here: www.health.ri.gov/find/labs/drinkingwater.

CAUTION: Results of water tests for radon often show high numbers, such as 10,000 pCi/L (picoCuries per liter) or more. The numbers for radon in water are different from the numbers in air. It takes 10,000 pCi/L of radon in *water* to give off just 1 pCi/L in *air*. And remember, it's the total amount of radon in *air* that is of most concern to health.

Whether or not your *water* should be treated for radon depends on the *air* level. If radon is present in your well water as well as in your indoor air, contact a radon mitigation contractor (listed above) to decide next steps.

What can I do about too much radon in my air or well water?

Test your air first for radon levels. If those levels are high, have your water tested at a State-certified lab. Find a list here: www.health.ri.gov/foodwaterenvironment. Click “Radon Testing” on the right.

The design of any treatment system must consider the test results from both your air and your well water. You must use a Licensed Radon Mitigation Contractor to install a treatment system. Find a list here: www.health.ri.gov/foodwaterenvironment. Click “Contractors” on the right.

Whole-house water treatment is most effective to remove radon from your water. This system includes:

- Aeration—Tip Sheet 18

Important: Before you install a treatment system, call us for expert advice. *Before* you buy a system, ask how it will be installed and whether this costs extra. Get at least 3 price quotes. Learn the questions to ask. See Tip Sheet 16. *After* you buy a system, be sure to:

1. Keep all the paperwork and directions.
2. Learn what you must do to maintain the system and do it.

Learn more

Get Tip Sheets about choosing and buying water treatment systems at www.riwelltesting.org.