



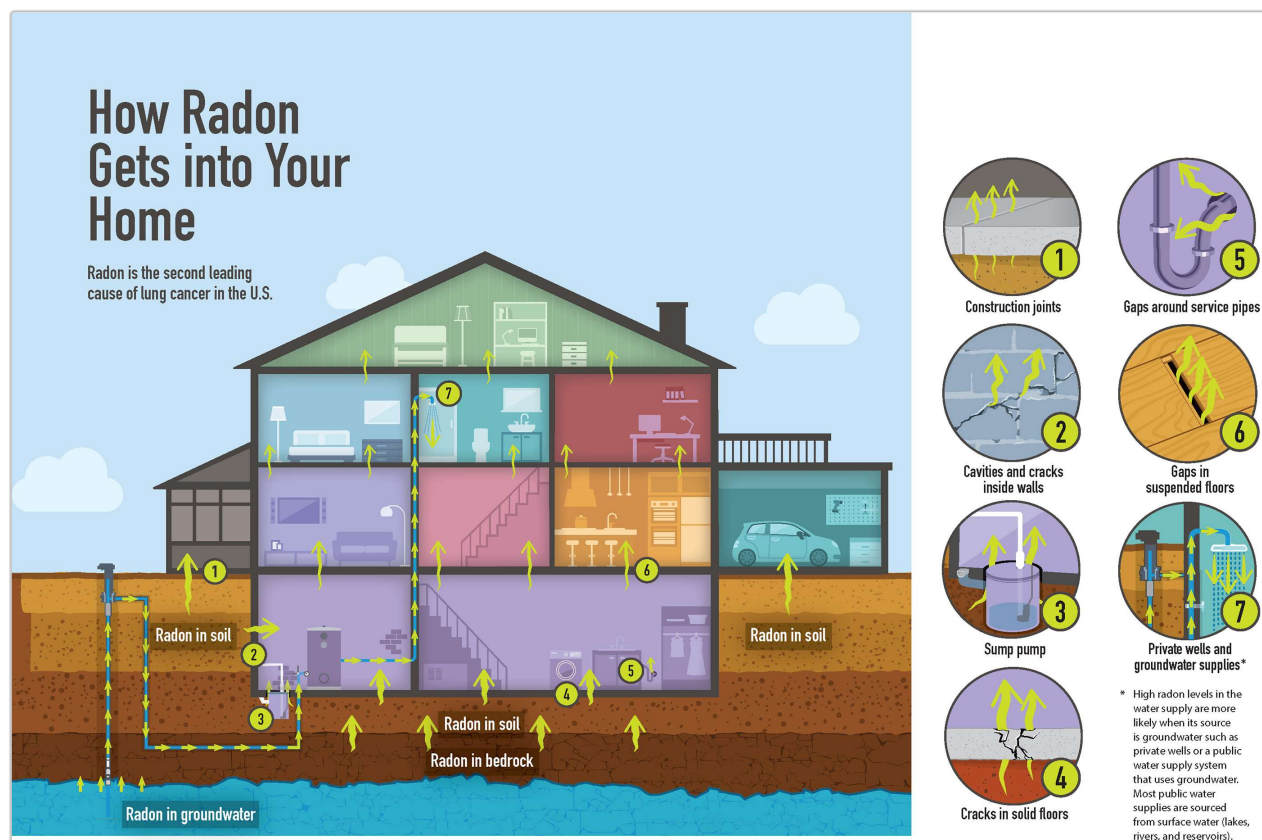
Radon

Radon Home

Get the Facts on Radon

Radon is an odorless and invisible radioactive gas naturally released from rocks, soil, and water. Radon can get trapped inside homes and buildings and build up in the air. Over time, breathing in high levels of radon can cause lung cancer.

Radon in Homes and Buildings



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Test your home



Make repairs

Learn more: www.cdc.gov/radon/index.html

See corresponding [How Radon Gets Into Your Home – Long Description](#) and [animated version](#) [↗](#).

All outdoor and indoor air has some radon in it. Some **building materials** also can release low levels of radon. **Radon can build up in the air in any home or building** whether it has a basement, is sealed or drafty, or is new or old. There is no known safe level of radon and you should always aim to have the lowest level. The U.S. Environmental Protection Agency (EPA) recommends fixing your home if radon levels are above 4 **picoCuries** per liter of air (pCi/L).

Lung Cancer Risk

Radon is the second leading cause of lung cancer after cigarette smoking. The EPA and the Surgeon General's office estimate radon is responsible for more than 21,000 lung cancer deaths each year in the United States.

When you breathe in radon, radioactive particles from the decay of radon gas can get trapped in your lungs. It takes many years for lung cancer to develop. Most people don't have symptoms until lung cancer is advanced and at that point it is harder to treat. For these reasons, it is important to take steps to reduce radon exposure throughout your life to help prevent lung cancer.

Radon by the Numbers



21,000
lung cancer deaths per year

#1

environmental
cause of any cancer



#1

cause of lung cancer among
people who have **never smoked**



10x

risk of lung cancer
among people who
smoke compared with people who
never smoked with same radon exposure



1 in 15

homes in the US have
high radon levels



If radon levels are ≥ 4.0 pCi/L, EPA recommends installing a radon reduction system.

This equals...



200

or

8

chest x-rays per year

cigarettes per day



pCi/L is shorthand for picocuries per liter, the units of measurement of the amount of radon in an air sample.

2 steps

to protect yourself
from radon-associated
lung cancer:

Test your home's
radon levels.

Radon Test Results
Concentration
4.0 pCi/L



Fix your home if radon
levels are
 ≥ 4 pCi/L.



www.cdc.gov/radon

Data sources: Environmental Protection Agency (EPA) and the American Association of Radon Scientists & Technologists

Factors that

Two steps can save 21,000 lives per year. See corresponding [Radon by the Numbers – Long Description](#) with downloadable PDF.

increase your risk of getting lung cancer from radon include the following:

- High radon levels in your home or another building that you regularly spend time in
- High radon levels in the part of the home or building where you spend the most time (Radon levels are often higher in basements and lower levels.)
- Smoking cigarettes, currently or in the past
- Burning wood, coal, or other substances that add particles to air

There is not enough data to show whether children have a higher risk of developing lung cancer from radon exposure than adults. However, children may have higher doses (amount breathed in) of radon than adults even when exposed to the same radon levels for the same amount of time. This is because children have different lung shapes and sizes and faster breathing rates.

What You Can Do

Steps you can take to measure and reduce radon levels include the following:

<p>Purchasing a Radon Test Kit</p> 	<p>Testing Your Home or Office</p> 	<p>Sending the Kit to An Approved Laboratory to Determine Radon Levels</p> 	<p>Fixing Your Home If Radon Levels Are High</p> 
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The only way to know if you have unsafe levels of radon in your home or office is by [testing](#). You can contact your [state radon office](#) [↗](#) for testing or purchase a test kit in a hardware store or online. If your test shows that radon levels are above 4pCi/L or you are interested in reducing radon in your home, contact your state radon office to help you find a qualified or state-certified radon contractor in your area to [fix your home](#). Lowering high radon levels requires technical knowledge and special skills so you should rely only on a qualified professional for these repairs. Test radon levels again after any repairs to be sure they worked.

Ways to Keep Radon Levels Low

Since there is no safe level of radon, reducing radon inside your home or building will always help reduce your risk of lung cancer, even when the level in your home is less than 4 pCi/L.

The [U.S. Department of Housing and Urban Development](#) [↗](#) recommends these actions you can take to reduce your risks of lung cancer and help lower radon levels in your home:

- Increase air flow in your house by opening windows and using fans and vents to circulate air. However, natural ventilation in any type of house is only a temporary strategy to reduce radon.
- Seal cracks in floors and walls with plaster, caulk, or other materials designed for this purpose.

Jackie Nixon is a lung cancer survivor who never smoked. [Watch](#) [↗](#) her and her doctor as they discuss her experience and [read](#) about her story.

- You can cover the earth floor in crawl spaces with a high-density plastic sheet. A vent pipe and fan can be used to blow the radon from under the sheet and vent it to the outdoors

Always test radon levels again after you've made any of these changes to ensure these actions reduced the radon levels.

Smoking and second-hand smoke, combined with exposures to high radon levels, increase your risk of lung cancer. Not smoking and not allowing others to smoke in your house also helps prevent lung cancer. Call 1-800-QUIT-NOW or visit [CDC.gov/quit](https://www.cdc.gov/quit) for free support and resources to help you quit smoking.

Buying a New Home

Ask about [radon-resistant construction techniques](#) if you are buying a new home. It is almost always cheaper and easier to build these features into new homes than to add them later.

Workplaces, Schools, and Other Buildings

EPA provides guidance and resources for [reducing radon in schools](#). Contact your [state radon office](#) for information about testing and reduction strategies in schools, daycare and childcare facilities, and workplaces in your area.

Last Reviewed: December 20, 2022