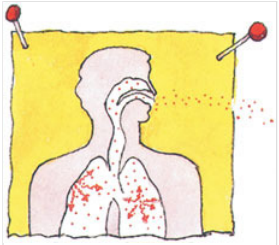
Radon

Why is radon the public health risk that it is?



Read EPA's Citizen's Guide to Radon: The Guide to Protecting Yourself and Your Family From Radon

EPA estimates that about 21,000 lung cancer deaths each year in the U.S. are radon-related. Exposure to radon is the second leading cause of lung cancer after smoking. Radon is an odorless, tasteless and invisible gas produced by the decay of naturally occurring uranium in soil and water. Radon is a form of ionizing radiation and a proven carcinogen. Lung cancer is the only known effect on human health from exposure to radon in air. Thus far, there is no evidence that children are at greater risk of lung cancer than are adults.

Radon in air is ubiquitous. Radon is found in outdoor air and in the indoor air of buildings of all kinds. EPA recommends homes be fixed if the radon level is 4 pCi/L (picocuries per liter) or more. Because there is no known safe level of exposure to radon, EPA also recommends that Americans consider fixing their home for radon levels between 2 pCi/L and 4 pCi/L. The average radon concentration in the indoor air of America's homes is about 1.3 pCi/L. It is upon this level that EPA based its estimate of 21,000 radon-related lung cancers a year upon. It is for this simple reason that EPA recommends that Americans consider fixing their homes when the radon level is between 2 pCi/L and 4 pCi/L. The average concentration of radon in outdoor air is .4 pCi/L or 1/10th of EPA's 4 pCi/L action level.

For smokers the risk of lung cancer is significant due to the synergistic effects of radon and smoking. For this population about 62 people in a 1,000 will die of lung-cancer, compared to 7.3 people in a 1,000 for never smokers. Put another way, a person who never smoked (never smoker) who is exposed to 1.3 pCi/L has a 2 in 1,000 chance of lung cancer; while a smoker has a 20 in 1,000 chance of dying from lung cancer. Figure A compares the risks between smokers and never smokers; smokers are at a much higher risk than never smokers, e.g., at 8 pCi/L the risk to smokers is six times the risk to never smokers.

The radon health risk is underscored by the fact that in 1988 Congress added Title III on Indoor Radon Abatement to the Toxic Substances Control Act. It codified and funded EPA's then fledgling radon program. Also that year, the Office of the U.S. Surgeon General issued a warning about radon urging Americans to test their homes and to reduce the radon level when necessary (U.S. Surgeon General).

Unfortunately, many Americans presume that because the action level is 4 pCi/L, a radon level of less than 4 pCi/L is "safe". This perception is altogether too common in the residential real estate market. In managing any risk, we should be concerned with the greatest risk. For most Americans, their greatest exposure to radon is in their homes; especially in rooms that are below grade (e.g., basements), rooms that are in contact with the ground and those rooms immediately above them.

It's never too late to reduce your risk of lung cancer. Don't wait to test and fix a radon problem. If you are a smoker, stop smoking. Consider quitting. Until you can quit, smoke outside and provide your family with a smoke-free home. (www.epa.gov/smokefree).

About the Indoor Environments Division

The EPA's Indoor Environments Division (IED) is responsible for conducting research and educating the public about indoor environmental issues, including health risks and the means by which human exposures can be reduced. IED educates the public about health risks associated with a variety of indoor environmental pollutants, including radon, secondhand smoke, indoor wood smoke, and other asthma triggers. Contact Us!

For Information on Radon Health Risks:

- Health Risks
- Radon Frequently Asked Questions
- EPA's Updated 2003 Radon Risk Assessment
- EPA's Radiation Protection Division

Test Your Home for Radon, It's Easy and Inexpensive

The U.S. Surgeon General and EPA recommend that all homes be tested. Read about radon health risks.

Fix your home if you have a radon level of 4 pCi/L or more.
You can test your home yourself or hire a professional. Find a service professional near you.

If you have further questions about Radon, please call your State Radon Contact.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BASIC RADON FACTS

The U.S. Surgeon General recommends ALL homes be tested for radon gas.

Breathing radon in your home can cause lung cancer

Radon has been found in every state

You should test for radon

Radon is a serious health risk. It can be reduced easily and cost-effectively. Take action today. Encourage your friends and family members to do the same!

Download this recently revised customizable fact sheet!
(PDF, 2 pp, 150 K)
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Federal Radon Action Plan
Health Risks
Hotlines & Resources
Test or Fix Your Home

Kids, Students and Teachers
Map of Radon Zones
Media Campaigns
National Radon Action Month

Radon-Resistant New Construction
Radon and Real Estate
Radon in Drinking Water
Radon Leaders Saving Lives

State Radon Contacts
State Indoor Radon Grants
Indoor airPLUS
Indoor Air Quality

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