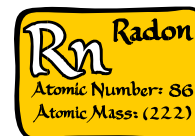




# Radon



## What is Radon?

Radon is a natural gas that is released when uranium decays in soil and water. Radon is a form of radiation that you can't see, smell, or taste.<sup>i</sup>

Radon gets into a building typically by moving up through the ground and then through cracks and other holes in the foundation. A building traps radon inside and the build-up gas can reach a harmful concentration. **Any building (homes, offices, and hospitals) can have a radon problem.**<sup>ii</sup>

## What are the health concerns related to Radon?<sup>ii</sup>

- The U.S. Environmental Protection Agency (EPA) lists indoor radon as one of the most serious environmental health problems in the United States.
- Radon is responsible for up to 20,000 lung cancer deaths each year.
- Radon is the leading cause of lung cancer among nonsmokers, and about 2,900 non-smokers die from lung cancer caused by radon exposure each year.

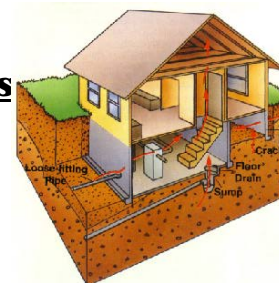
## Radon and Children

There is no conclusive evidence to suggest that children are at higher risk than adults, even though there is a long period between exposure and the development of cancer. However,

- Children have smaller lungs and therefore higher breathing rates.<sup>iii</sup>
- Children spend up to 70% more time indoors than adults on average, so many children will have more exposure to this carcinogen.<sup>iv</sup>
- Radon-related lung cancer is associated with the amount of total lifelong exposure, so any childhood exposure would contribute to the cumulative health risk for that individual.

## Health Care, Child Care, Schools and Home Settings

Any building (such as homes, office buildings and hospitals) can have dangerous levels of radon. According to the EPA, a nationwide survey of radon levels in schools estimates that nearly one in five has at least one schoolroom with a radon level that is higher than the recommended levels.<sup>ii</sup>



U.S. Geological Survey

## What your office or place of practice can do:

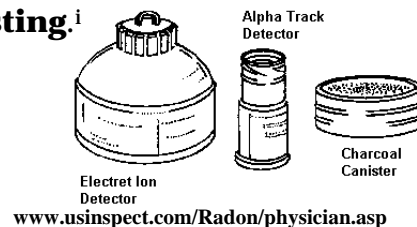
Follow the guidelines below to test your office to ensure there are not dangerous levels of radon in the building. If you find a high level, you should take appropriate radon reduction steps to reduce the radon to a safe level. Considering you and your patients are spending a large amount of time in this area, you want it to be a safe-breathing zone.

## What your patients can do:

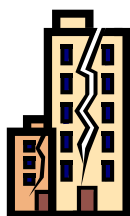
- The EPA and the office of the Surgeon General recommend that all homes be tested and that the annual average radon level at or above 4pCi/L (picocuries per liter) be fixed.<sup>iii</sup>

- **The only way to detect radon is through regular testing.**<sup>i</sup>

- Common test kits: charcoal canisters (short term, 2-7 days), e-perm (short/long term), alpha track detectors (long term, 91-365 days), and charcoal liquid scintillation devices.



- Follow the directions of the kits closely because the length of time the kits can remain open varies.
- Place the test kit in the basement or lowest lived-in level of a home, and after the specified amount of time mail the kit to the manufacturer to be analyzed.
- **Radon levels vary every day.** It is best to do two short-term tests for at least 48 hours, either at the same time or one after one another, to get the average.



- Because **no** level of exposure to radon is considered safe, the EPA also recommends that the public consider fixing their homes if their levels are between 2pCi/L and 4pCi/L.<sup>ii</sup>
- Fixing buildings to reduce radon may involve sealing cracks in the foundation or ventilating the area under the foundation. Expert assistance should usually be obtained when radon reduction is being attempted.

## **Resources**

- US Environmental Protection Agency - [www.epa.gov/iaq/radon/](http://www.epa.gov/iaq/radon/)
  - National Radon Information Hotline: 1-800-SOS-RADON
- Pennsylvania's Department of Environmental Protection (radon videos) [http://www.dep.state.pa.us/brp/Radon\\_Division/Radon\\_Homepage.htm](http://www.dep.state.pa.us/brp/Radon_Division/Radon_Homepage.htm)
- National Safety Council's radon page - [www.nsc.org/ehc/radon.htm](http://www.nsc.org/ehc/radon.htm)
- National Lung Association's radon page - [http://www.lungusa.org/site/pp.asp?c=dvLUK9O0E&b=35395:](http://www.lungusa.org/site/pp.asp?c=dvLUK9O0E&b=35395)
- National Environmental Health Association: Radon Mitigation Providers by Area [www.radongas.org/Description\\_of\\_Radon\\_Mitigation\\_Services.html](http://www.radongas.org/Description_of_Radon_Mitigation_Services.html)



<sup>i</sup> Southface. Radon Resources and FAQ. 2006. Available at [http://southface.org/web/resources&services/radon/sf\\_radon-menu.htm](http://southface.org/web/resources&services/radon/sf_radon-menu.htm). Accessed 28 February 2007.

<sup>ii</sup> U.S. Environmental Protection Agency. Radon. Available at: <http://www.epa.gov/radon/index.html> Accessed 18 October 2007.

<sup>iii</sup> University of Minnesota. Radon for Kids. Available at [www1.umn.edu/eoh/hazards/hazardssite/radon/radonforkids.html](http://www1.umn.edu/eoh/hazards/hazardssite/radon/radonforkids.html) Accessed 26 August 2007.

<sup>iv</sup> University of Minnesota EOH. Radon Risk Assessment. <http://enhhs.umn.edu/hazards/hazardssite/radon/radonriskassessment.html> Accessed 18 October 2007.