

# Radon in Utah homes can lead to lung cancer diagnosis

The gas is the second leading cause of the disease nationwide

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COTTONWOOD HEIGHTS — Charlie McQuinn never smoked a single day in his life. Yet, he wound up with lung cancer.

The culprit, he and his doctors believe, is radon gas.

Harmful levels of the radioactive vapor — more than double the acceptable standard — were detected in the basement of his home earlier this year. The 71-year-old has since had half of one of his lungs removed and is now cancer-free. But he says he wouldn't wish lung cancer on anyone, and he advises everyone he knows to test their homes for radon.

"I had heard about it before, but I never thought much about it," McQuinn said. "People here spend a lot of time and effort focusing on preparedness and having food and water storage, but as a community, we haven't focused on radon, which might end up being the biggest disaster of all."

Potentially harmful levels of the radioactive vapor is present in at least one of three homes in the state of Utah and about 17,500 homes have been professionally tested so far. Radon gas is the second-leading cause of lung cancer nationwide, accounting for an estimated 15,000 to 22,000 lung cancer deaths each year, according to the American Lung Association. Nonsmokers make up 2,900 of those who die each year from lung cancer.

As such, officials say that breathing radon over prolonged periods of time can present a significant risk to families.

"Because you can't smell it, see it or taste it, people don't think it exists, but it is there and it can be deadly," said Christine Keyser, indoor radon coordinator with the Utah Department of Environmental Quality's Division of Radiation Control.

The gas develops from the breakdown of uranium and other minerals in soils, rock and water sources, and negative pressure draws it into homes, according to Keyser. Exhaust fans in kitchens and bathrooms, as well as dryer vents, actually help to suck the vapors into a home through cracks and gaps in the foundation, rather than just expel bad air as one would suppose.

"Radon is no respecter of homes, and some homes suck (in) more than other homes," Keyser said.

Newer air conditioning units also impact radon levels, as older, evaporative coolers created a positive pressure environment within the home, circulating air better, Keyser said, adding that, "people don't air out their homes like they used to."

A [statewide map](#) of tested radon levels shows areas of concern all over the state, specifically along the mountain ranges, where granite and uranium deposits are higher, said state epidemiologist Dr. Robert Rolfs.

While radon presents a significant risk, Rolfs said smoking still remains the No. 1 cause of lung cancer in the state and the nation and, like radon, is an entirely preventable cause.

Smoking leads to 90 percent of all lung cancer cases, resulting in more than 160,000 deaths in the U.S. annually, and radon, as well as other environmental exposures, make up for the rest.

Utah's lung cancer rate — 27.8 per 100,000 population — is half that of the national rate of 59.3, but Rolfs said it is still something health officials are concerned about as it is one of the more deadly forms of cancer.

Even for Utahns who don't smoke, he said the radon issue is widespread enough that every home should be tested.

"The simple message is that people should do what they can to make a difference in their health," Rolfs said. Obtaining a radon reading of a home, he added, is "probably below other things, such as other health screenings, in order of importance."

Travis Jewell, owner of RadoVent, a local radon mitigation service company, said a ventilation system can be easily installed to draw the vapors from below a home and exhaust them into the atmosphere above, where they are diluted to the point of being safe enough to breathe.

Depending on the construction of a home, mitigation systems cost roughly \$1,500. Jewell has one in his own home and said it is "well worth the peace of mind to know you're not breathing radioactive radon."

RadoVent also provides electronic radon testing, but doesn't usually test for the homes it ends up servicing, to avoid an apparent conflict of interest, Jewell said. He said the company installs about 200 systems per year and about 60 percent of them are in the Sandy area.

"I don't know what my cancer cost this year, but I would be surprised if it wasn't close to a million after you get through with everything — well, \$1,375 is nothing compared to that and all the pain and all you have to go through and the concern of having cancer and the aftermath of it," McQuinn said.

"I still have a lung and a half that could be affected, but I was mostly concerned about my wife and family. I don't want anybody to get lung cancer."

The U.S. Environmental Protection Agency recommends that mitigation systems be installed on any home with radon levels greater than 4 picocuries per liter, which is the standard measurement of the intensity of radiation.

Local DEQ offices have partnered with an out-of-state laboratory to offer tests to any Utahn for just \$6. They are available to be ordered via a web link, at [www.radon.utah.gov](http://www.radon.utah.gov).

Tests on homes throughout Utah have returned results of either little or no evidence of radon gas, or as high as 375 picocuries per liter in an area of Park City, or 358 in Orem near where Geneva Steel used to be located, according to state DEQ data. Relatively high levels have also been located in parts of Beaver and Carbon counties where mine tailings exist, or in other places throughout the state where former landfills once stood.

But Keyser emphasized that just because one home might have high levels, doesn't mean a neighbor would as well, and vice versa.

She said radon levels tend to be higher during the winter months and they vary throughout the year. Testing should be done in the lowest living area of a home, which is typically a basement, and air should be collected for at least 48 hours. The EPA, she said, advises homeowners to execute two tests to validate the numbers.

McQuinn's wife and children have received chest X-rays that revealed no cancer in their lungs, and having also suffered from non-Hodgkin's lymphoma and completed a round of chemotherapy earlier this year, McQuinn said he's lucky to be alive.

"It doesn't get much worse than lung cancer," he said.

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