

Even Low Levels of Radon May Raise Children's Risk for Leukemia

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HEALTHDAY

FRIDAY, Oct. 4, 2024 (HealthDay News) — Growing up in a city with pockets of high radon levels, Matthew Bolzigar wondered whether the radioactive gas might have anything to do with the high rates of cancer he saw around him, especially in young people.

"As an epidemiologist, I started considering possible environmental causes," said [Bolzigar](#), an assistant professor of health at Oregon State University in Corvallis. His hometown is Portland, Ore.

That led to a groundbreaking new study conducted in more than 700 counties in 14 states that links childhood leukemia to levels of decaying radon gas.

The finding is significant because few risk factors for childhood cancer have been established and environmental contributors have been little studied, Bolzigar said.

Radon is a naturally occurring gas present in certain rocks and soils. A byproduct of uranium decay, it can get into the air and emit radioactive particles that may then lodge within the body. The gas is colorless, odorless and can easily reach dangerous levels.

It is a significant risk factor for cancer. Leukemia, which affects the blood and bone marrow, is the most common childhood cancer, with about 3,000 new cases a year in the United States.

Bolzigar and his team used statistical modeling to look at radon levels and cancer in 727 counties around the United States. Even at concentrations below levels where federal officials recommend

steps to reduce radon exposure, they saw links between childhood leukemia and radon.

The U.S. Environmental Protection Agency says no level of radon is safe and recommends mitigation efforts when concentrations reach 148 becquerels per cubic meter of air.

The new study considered concentrations as low as half of that, Bozigar pointed out.

"Our study design only allows us to identify statistical associations and to raise hypotheses, so studies that can better determine whether radon exposure causes childhood leukemia are needed," he said in a university news release.

The study -- billed as the largest of its kind in the United States -- looked at counties in Washington, California, Idaho, Utah, New Mexico, Iowa, Louisiana, Kentucky, Michigan, Georgia, New York, New Jersey, Connecticut and Massachusetts.

It did not include Bozigar's native Oregon, where he originally noticed what seemed to be a high incidence of cancer. Several of his friends and family members were among those diagnosed.

He hopes further research will confirm the findings on an individual level and lead to informed decision-making about health risks posed by radon around the world.

"We are working on many different radon studies," Bolzinger said, "And we are continuing to find harmful effects are not limited to the lungs in adults."

The findings were published recently in the journal [*Science of The Total Environment*](#).

More information

The National Safety Council has more about the dangers posed by [radon](#).

SOURCE: Oregon State University, news release, Oct. 2, 2024

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