

Healthy Homes, Healthy People

Radon – Why You Should Test



Before We Get Started....



ANTHC Introduction



The Alaska Native Tribal Health Consortium's (ANTHC) Vision:
Alaska Native people are the healthiest people in the world



Environmental Conditions

Alaskans spend an average of 90% of their times indoors. Indoor environmental conditions affect the individual health and quality of life



Respiratory Health

Alaska Native children have some of the highest rates of respiratory illness ever documented

Causes:

- Poor indoor air quality
- Lack of in-home piped water services
- Overcrowding



Respiratory Health

In fact, Alaska Native/American Indian children bear higher burdens of respiratory disease and hospitalizations

Respiratory Disease

1.6 X general US child rate

Hospitalizations under 5

3 X general US child rate

Hospitalizations (infants)

3.7 X general US child rate



Program Introduction

The Air Quality and Healthy Homes program is just one of many environmental programs within the Alaska Native Tribal Health Consortium (ANTHC).

- Provide educational materials and tools to Tribes and members.
- Help improve home environments by improving indoor air quality and reducing indoor air pollutants.
- Provide technical assistance and training to local coordinators and residents.
- Conduct home assessments.



Tribal Air Quality and Healthy Homes Goal

Improve the respiratory health of Alaska Native children, and provide a model to be used in indigenous communities in Alaska and across North America



7 Principles of a Healthy Home



Trivia Break

What is the average time Alaskan's spend indoors?

90%

What are causes of AN children's respiratory illnesses?

Poor indoor air quality
Lack of piped water
Overcrowding

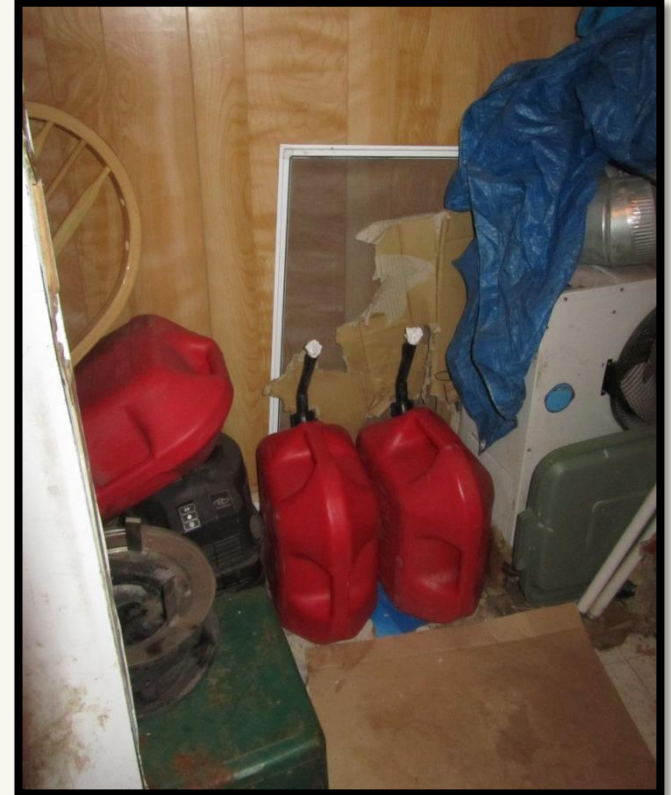
What are 2 of the principles of a Healthy Home?

Pest-Free
Safe
Contaminant Free
Clean
Dry
Maintained
Ventilated



Contaminant Free

- Volatile Organic Compounds (VOC's)
- Wood Smoke
- Tobacco Smoke
- Mold / Moisture
- Lead
- Carbon Monoxide
- Ventilation
- **Radon**



Radon

Radon is an element and part of our natural environment

noble gases

Produced by the radioactive decay of uranium

Found in some bedrock, radon leaches upward through airspaces
in the soil and is released



Radon



Homes built into the ground (basement) or directly on the ground, are susceptible for radon gas entering the home through small cracks, gaps and sometimes well water.



Image: Madison Weekly Website @
<http://madisonweeklynews.com/testing-for-radon-the-silent-killer-could-save-lives/>



Radon

Homes built above ground with no soil contact are safe from radon home exposure.



Mitigation



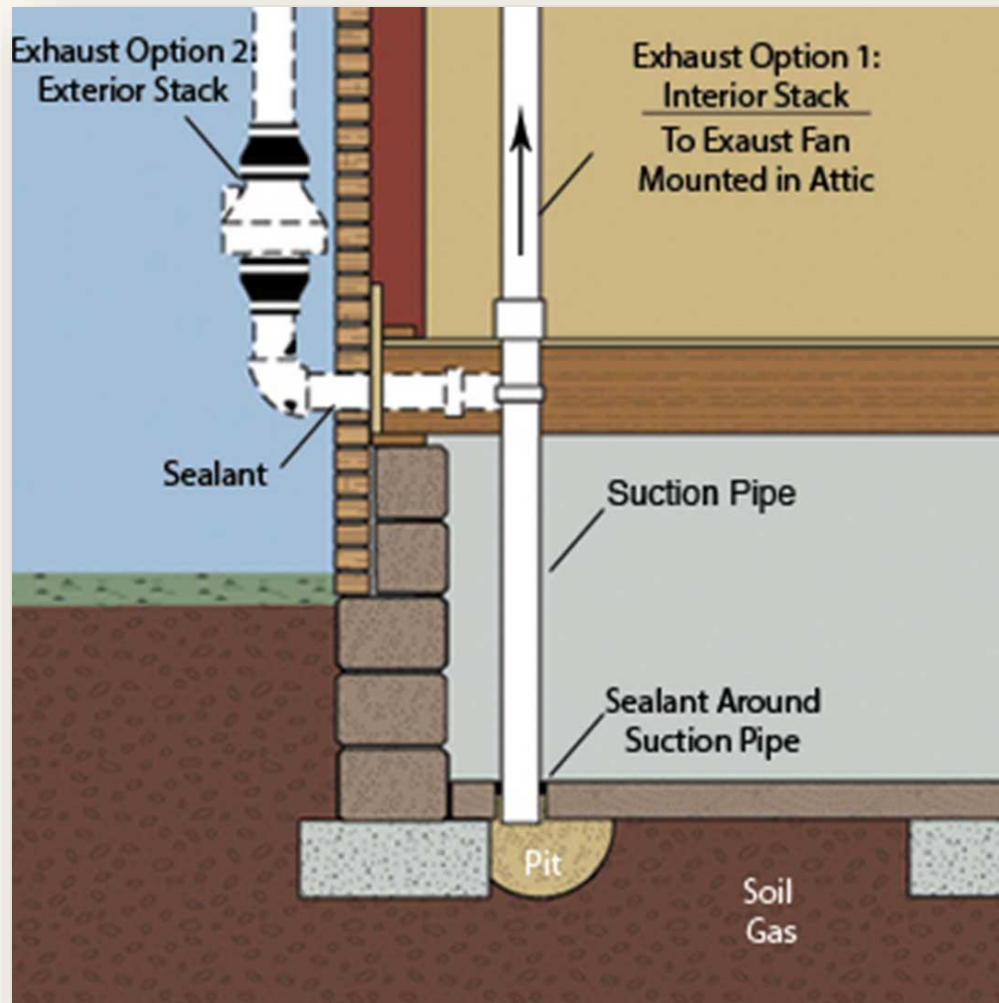
Image: Family Handyman
<https://www.familyhandyman.com/smart-homeowner/diy-radon-reduction-system/view-all/>



Image: Basement Systems <https://www.basementsystems.com/crawl-space/crawl-space-insulation.html>

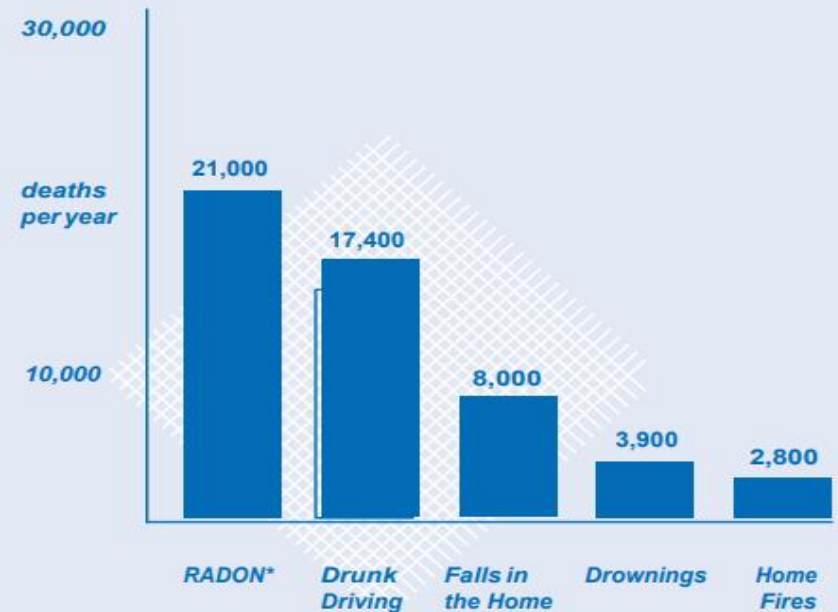
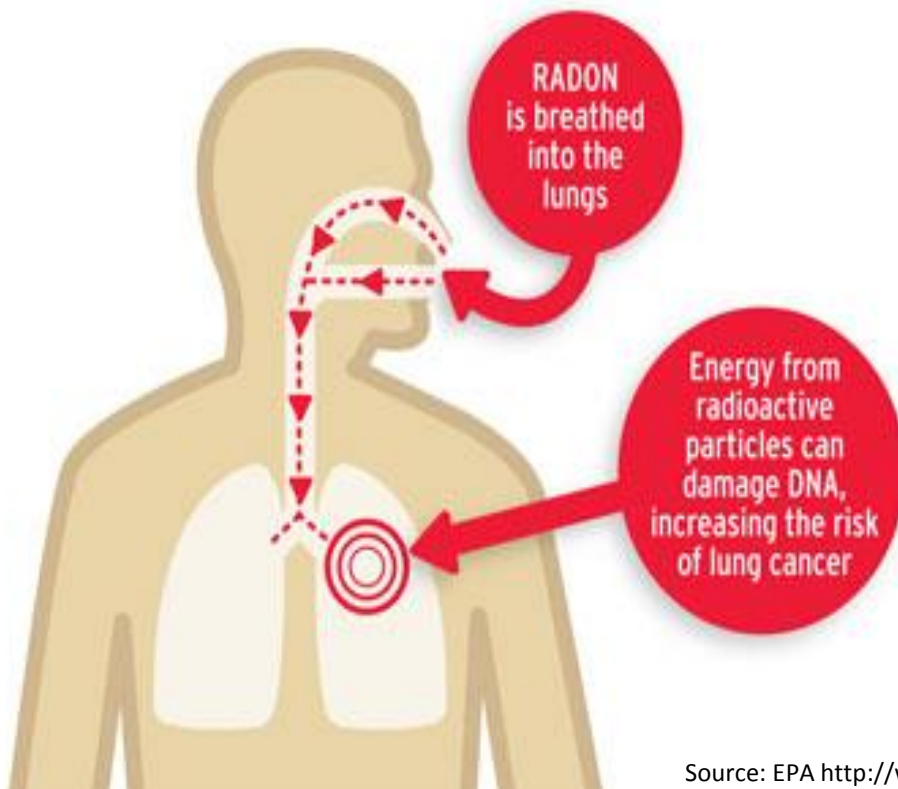


Subslab Depressurization



Radon Health Effects

Radon is inhaled through the lungs and is the **primary** cause of cancer in non-smokers and the **2nd** leading cause of lung cancer in smokers.



*Radon is estimated to cause about 21,000 lung cancer deaths per year, according to EPA's 2003 Assessment of Risks from Radon in Homes (EPA 402-R-03-003). The numbers of deaths from other causes are taken from the Centers for Disease Control and Prevention's 1999-2001 National Center for Injury Prevention and Control Report and 2002 National Safety Council Reports.

Radon Levels

Set EPA Action level is 4pCi/L

Radon Risk If You Have Never Smoked

Radon Level	If 1,000 people who never smoked were exposed to this level over a lifetime*...	The risk of cancer from radon exposure compares to**...	WHAT TO DO:
20 pCi/L	About 36 people could get lung cancer	35 times the risk of drowning	Fix your home
10 pCi/L	About 18 people could get lung cancer	20 times the risk of dying in a home fire	Fix your home
8 pCi/L	About 15 people could get lung cancer	4 times the risk of dying in a fall	Fix your home
4 pCi/L	About 7 people could get lung cancer	The risk of dying in a car crash	Fix your home
2 pCi/L	About 4 person could get lung cancer	The risk of dying from poison	Consider fixing between 2 and 4 pCi/L
1.3 pCi/L	About 2 people could get lung cancer	(Average indoor radon level)	(Reducing radon levels below 2 pCi/L is difficult.)
0.4 pCi/L		(Average outdoor radon level)	

Note: If you are a former smoker, your risk may be higher.

* Lifetime risk of lung cancer deaths from EPA Assessment of Risks from Radon in Homes (EPA 402-R-03-003).

** Comparison data calculated using the Centers for Disease Control and Prevention's 1999-2001 National Center for Injury Prevention and Control Reports.

Radon Risk If You Smoke

from "[A Citizen's Guide to Radon: The Guide to Protecting Yourself and Your Family From Radon](#)"

Radon Level	If 1,000 people who smoked were exposed to this level over a lifetime*...	The risk of cancer from radon exposure compares to**...	WHAT TO DO: Stop smoking and...
20 pCi/L	About 260 people could get lung cancer	250 times the risk of drowning	Fix your home
10 pCi/L	About 150 people could get lung cancer	200 times the risk of dying in a home fire	Fix your home
8 pCi/L	About 120 people could get lung cancer	30 times the risk of dying in a fall	Fix your home
4 pCi/L	About 62 people could get lung cancer	5 times the risk of dying in a car crash	Fix your home
2 pCi/L	About 32 people could get lung cancer	6 times the risk of dying from poison	Consider fixing between 2 and 4 pCi/L
1.3 pCi/L	About 20 people could get lung cancer	(Average indoor radon level)	(Reducing radon levels below 2 pCi/L is difficult.)
0.4 pCi/L	About 3 people could get lung cancer	(Average outdoor radon level)	

Note: If you are a former smoker, your risk may be lower.

* Lifetime risk of lung cancer deaths from EPA Assessment of Risks from Radon in Homes (EPA 402-R-03-003).

** Comparison data calculated using the Centers for Disease Control and Prevention's 1999-2001 National Center for Injury

Radon Testing

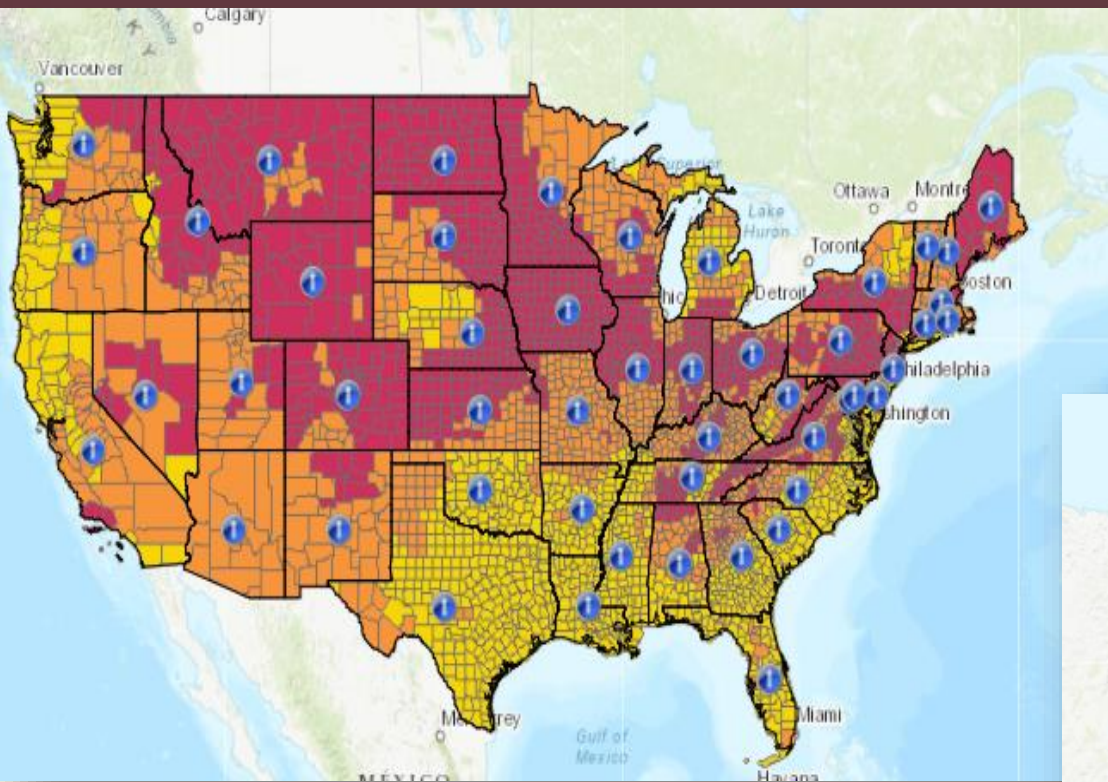
Much like carbon monoxide, you cannot see, smell or taste radon



The only way to know if there is a radon problem is to test your home.



Radon Testing



Radon Zones by County

Radon Data

- Zone 1: Counties with predicted average indoor radon screening levels greater than 4 pCi/L
- Zone 2: Counties with predicted average indoor radon screening levels from 2 to 4 pCi/L
- Zone 3: Counties with predicted average indoor radon screening levels less than 2 pCi/L

Images: EPA Website
<https://www.epa.gov/radon/find-information-about-local-radon-zones-and-state-contact-information#radonmap>



Trivia Break

How does radon get into a home?

Cracks, gaps, and sometimes well water

What type of home is safe from radon exposure?

Pilings / Above ground with no enclosure

What does radon smell like?

Nothing, odorless

