



**GEORGIA  
CANCER CENTER**  
AUGUSTA UNIVERSITY



# Lung Cancer

## Breathe Easier By Reducing Your Risk

### Cancer Information and Awareness

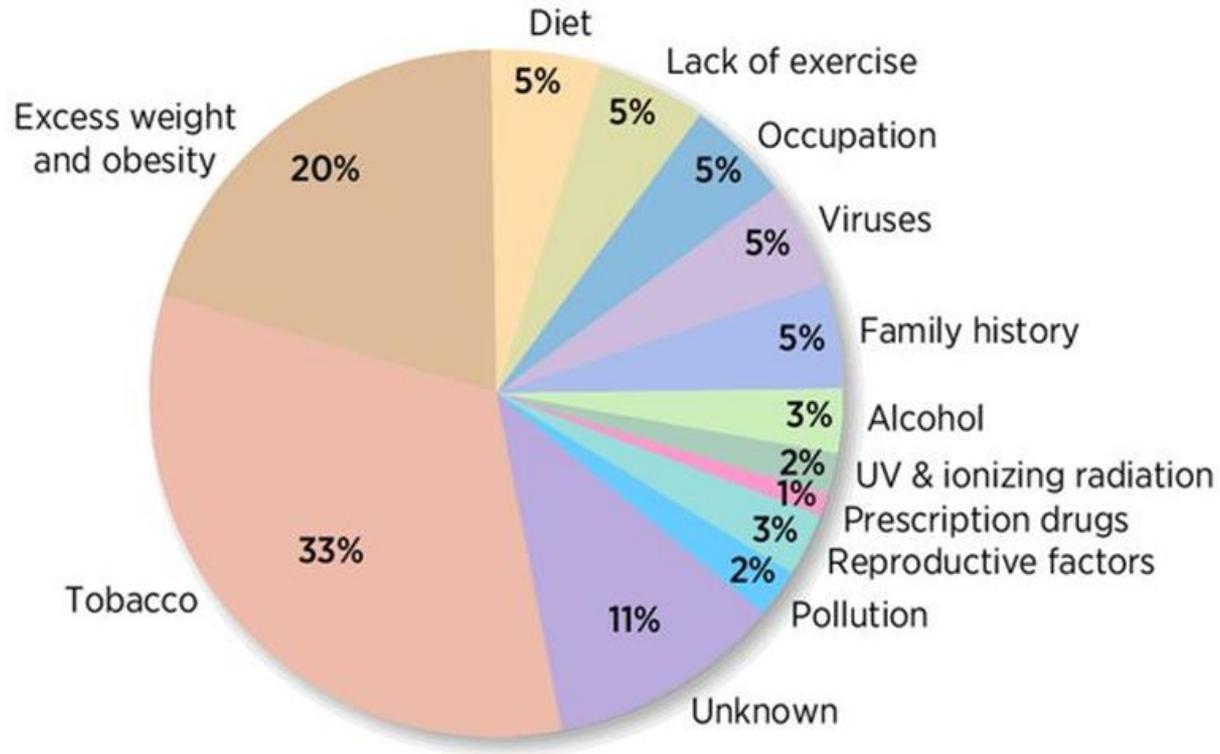
**Christine O'Meara, MA, MPH**  
*Community Outreach Coordinator*

**Maryclaire Regan, MPH**  
*Community Program Coordinator*

**Teledermatology in Rural Georgia**

Funded by the USDA Rural Utilities Service, Distance Learning  
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# Causes of Cancer



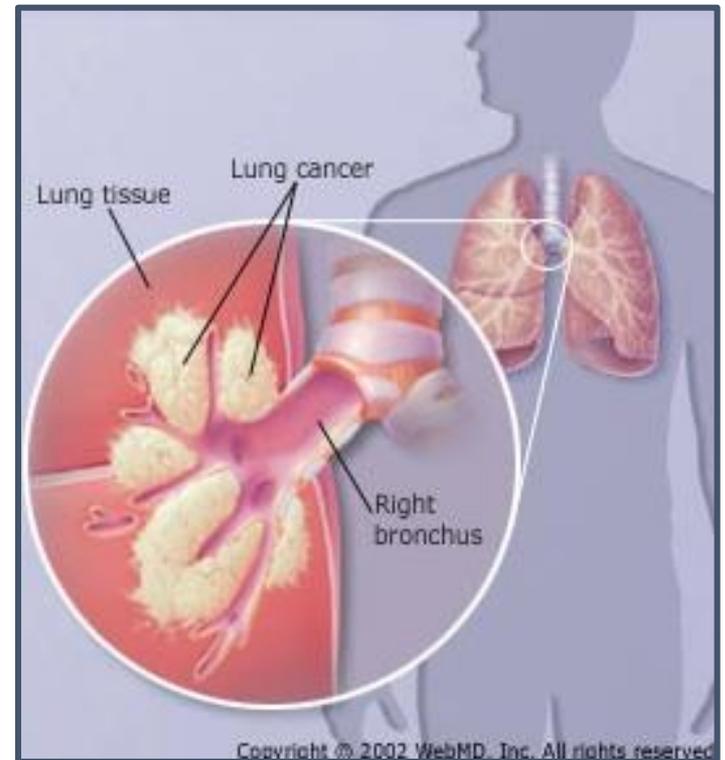
**1/3 to 1/2 of cancer deaths in Western populations are linked to risk factors that can be changed. (2018)**

# What is Lung Cancer?

**Uncontrolled cell growth in the lungs**

## **Two main types:**

- Non-Small Cell Lung Cancer (NSCLC)
  - 82% of lung cancers
- Small Cell Lung Cancer (SCLC)
  - 14% of lung cancers



# The Two Main Types of Lung Cancer

## Non-Small Cell Lung Cancer

- More common
- Grows more slowly
- Higher 5-year survival rate\* (25%)
- Often caused by smoking tobacco
- Less aggressive, often found at later stages

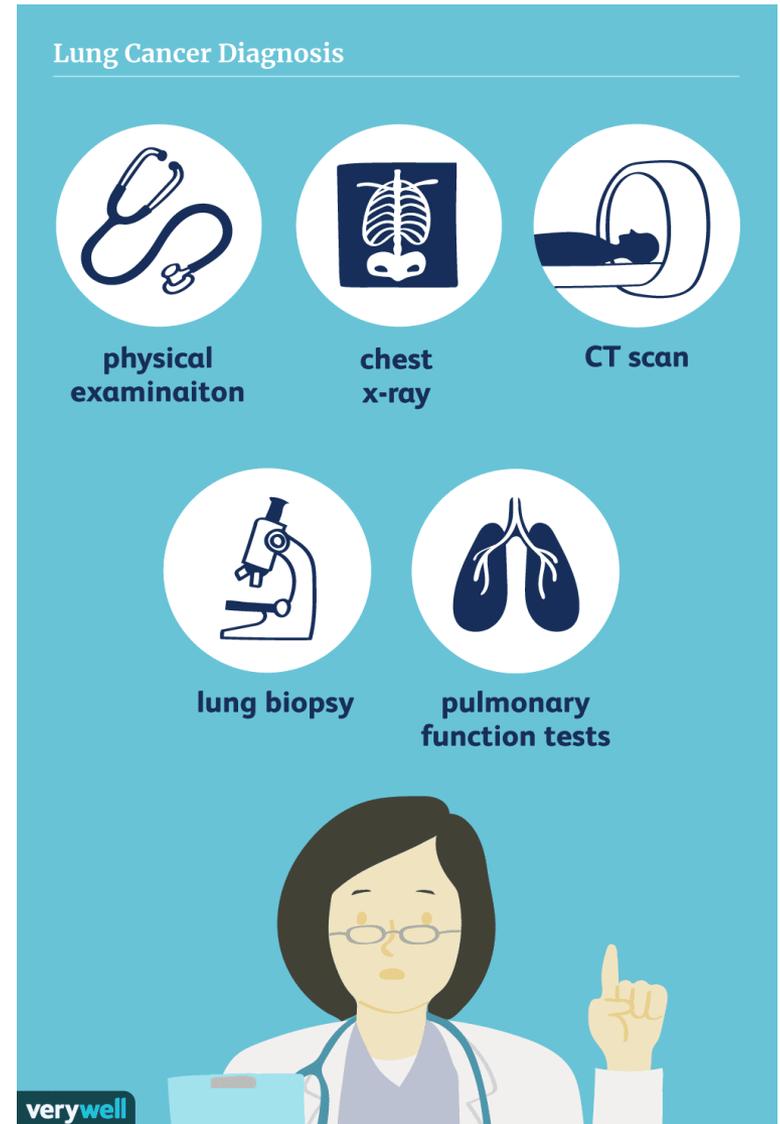
## Small Cell Lung Cancer

- Less common
- Grows quickly
- Lower 5-year survival rate\* (7%)
- More often caused by smoking tobacco
- More aggressive, quickly spreads to other body parts

\*5-year survival: The percentage of people who are alive five years after they were diagnosed with or started treatment for a disease

# Diagnosis

- Tests for lung cancer
- Imaging
  - X-ray
  - CT scan
- Sputum (Spit) Cytology
- Looking at your sputum under the microscope
- Tissue Sample (Biopsy)
- Looking at a sample of cells from your lungs or lymph nodes



# Stages of Lung Cancer

Lung cancer staging tells:

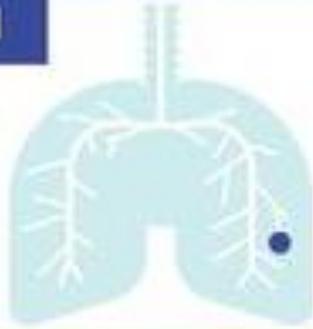
- Where the cancer cells are located
- The size of the tumor(s)
- If and where the cancer has spread

Lung cancer staging helps determine treatment options

so, patients and their doctor can make a plan.

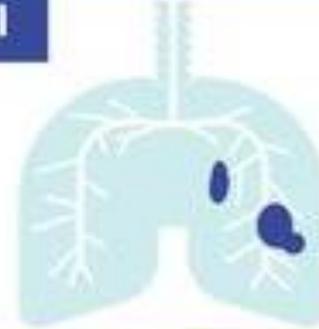
# Stages of Lung Cancer

## Stage I



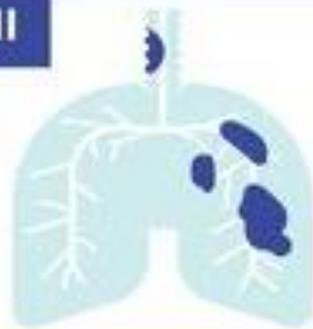
Small tumor, minimally invasive and has not spread at all in one lung.

## Stage II



Tumor grows larger, starts to spread slightly in one lung.

## Stage III



Cancer starts to spread from the lungs to the lymph nodes and to nearby organs, like the esophagus and trachea.

## Stage IV



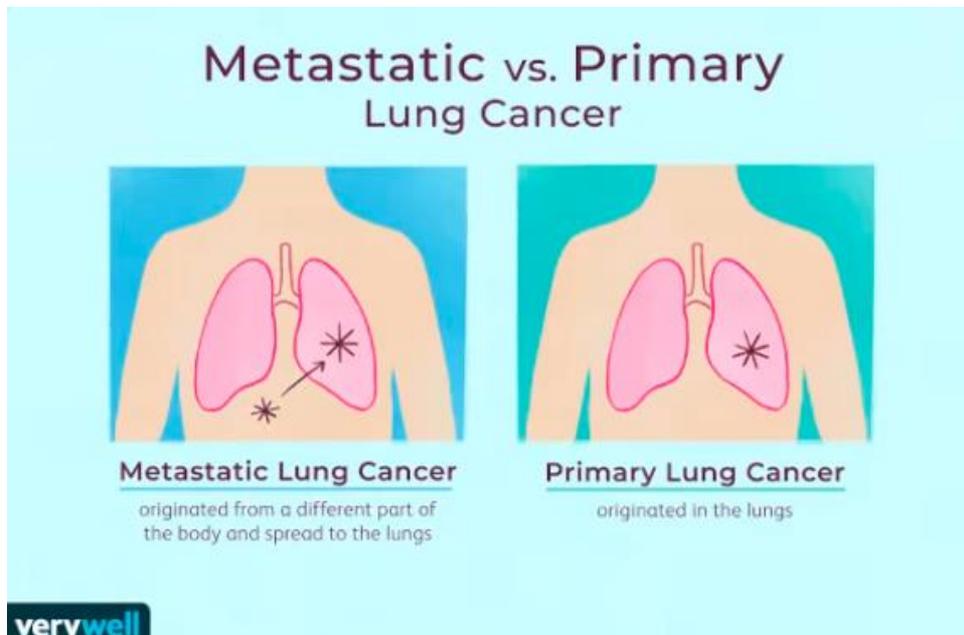
Cancer has spread widely through the lungs and body, and may affect outside organs

Image: Emily Schiff-Slater

# Cancer Spread (Metastasis)

**Cancer cells can break off** from the place they start **and spread** to other parts of the body

- Lung cancer can spread to other body parts, usually the liver, brain, bones, or adrenal glands
- Cancer starting in other body parts can spread to the lungs



# How Common is Lung Cancer in the U.S.?

In the U.S.

**2nd** most common cancer in men and women

- 1 in 15 men
- 1 in 17 women

In Georgia

**3rd** most common cancer

- 7,700 new cases estimated in 2022

In the U.S.

**#1** cause of cancer deaths in men and women

- 25% of cancer deaths

In Georgia

**#1** cause of cancer deaths

- 4,180 deaths estimated in 2022



Image: Rankin

# Lung Cancer Survival Rates

Georgia's death rate from lung cancer is higher than the U.S. rate

Things that affect a person's survival:

- Type of lung cancer
- How much the cancer has spread
- Age, sex, and race
- Pre-existing lung problems
- Access to treatment
- Continued exposure to things that can cause cancer (carcinogens)
- Overall health



# What are Risks and Risk Factors for Cancer?

## Risks

- Anything that increases chances or risk of getting a disease
- Having a risk factor does not mean you will get a specific disease
- Some risk factors can be changed (modified) others cannot be changed

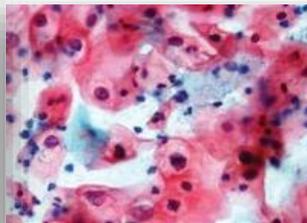
### Genes



### Environment



### Viral and Bacterial infections



### Lifestyle Behavior/Choices



### Social & Economic Factors



# Risk Factors: Cigarettes

## #1 cause of lung cancer

- **80%** of lung cancer deaths result from smoking
- People who smoke are **25 times** more likely to develop lung cancer
- Even **occasional smoking** increases your risk

Smoking is the most  
**PREVENTABLE**  
cause of death in the U.S.



Image: STAND AZ

# Risk Factors: Cigarettes

Light and menthol cigarettes increase your lung cancer risk  
as much as regular cigarettes



# Risk Factors: Other Tobacco Products

Cigars, cigarillos, and pipes increase your lung cancer risk



# Risk Factors: Secondhand Smoke (SHS)

- Causes lung cancer in non-smoking adults
- Kills 7,300 people every year
- 20-30% increased risk of lung cancer



Image: Tobacco Free CA

# Secondhand Smoke and Children

**Can cause serious health problems, including:**

- Sudden Infant Death Syndrome (SIDS)
- Ear infections
- Breathing problems
  - Coughing
  - Wheezing
  - Breathlessness
- Acute illnesses
  - Bronchitis
  - Pneumonia
- More serious and frequent asthma attacks



# Risk Factors: Radon Gas

## #2 risk factor for lung cancer

### Radioactive, natural gas

- You cannot see it or smell it

### People are exposed:

- At home (1 in 15 homes)
  - Especially in basements
- At work
  - Especially in mines, uranium processing factories, or in places with phosphate fertilizers



Image: iStock; Everyday Health

# Risk Factors: Asbestos

Minerals that look like fiber bundles

Found in **older buildings** and **water pipes**

- Was used in many products such as insulation or tile

People are exposed by **breathing** or by **swallowing** asbestos dust or fibers



# Risk Factors: Others

- Personal or family history of lung cancer
- Previous radiation therapy to the chest
- Air pollution
- People who smoke and also take beta-carotene supplements
- Certain metals including chromium, cadmium, and arsenic (can be exposed through well water)

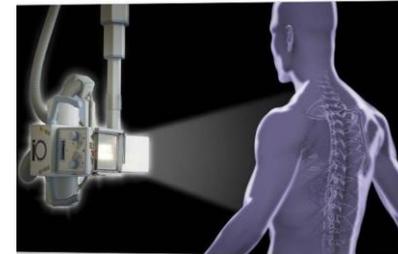
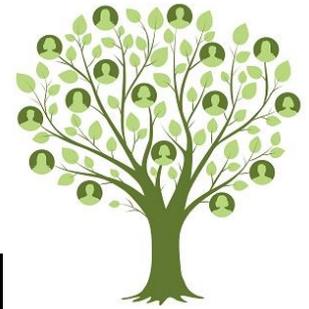


Image: iStock



# Jobs with Increased Risk of Lung Cancer

- Mining
- Rubber manufacturing
- Paving
- Roofing
- Painting
- Chimney sweeping
- People exposed to diesel exhaust, including railroad workers, truck drivers, heavy equipment operators, and miners



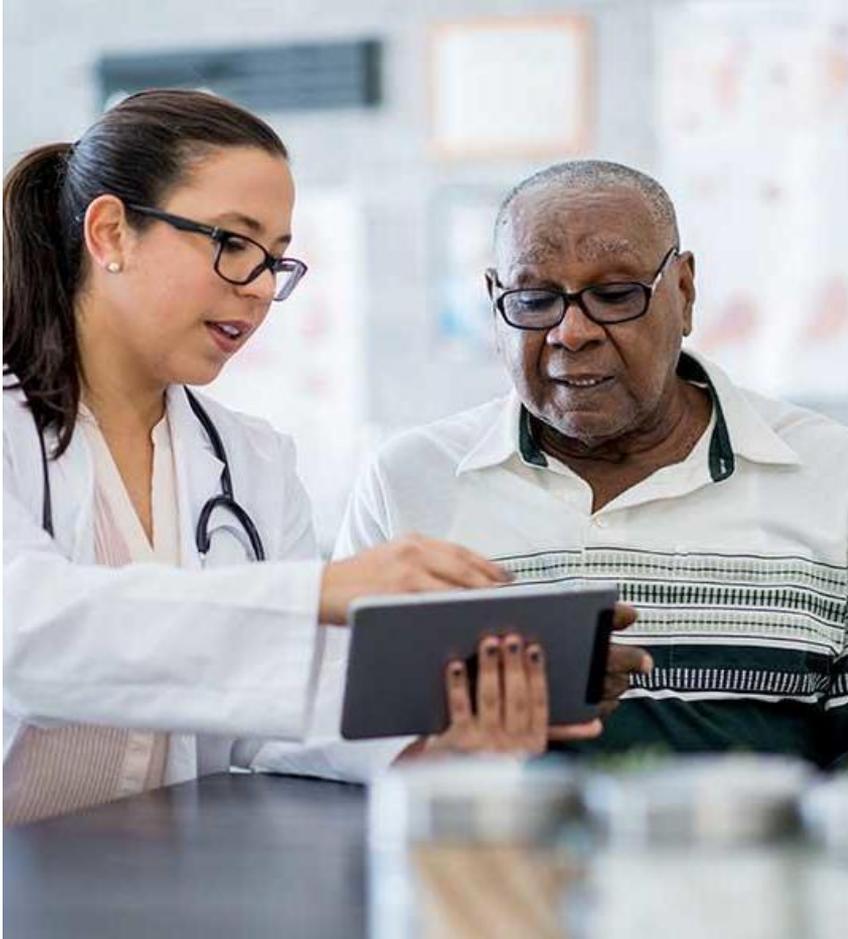
# Signs and Symptoms of Lung Cancer

## Most common symptoms:

- A cough that does not go away or gets worse
- Coughing up blood or rust-colored spit
- Chest pain
- Hoarse voice
- Worsening shortness of breath
- Bronchitis or pneumonia that stay or come back
- Losing weight without trying
- Feeling tired or weak



# If You Notice Lung Cancer Symptoms See Your Doctor Right Away



- Having symptoms does not mean you have lung cancer
- People may mistake lung cancer symptoms for other problems- this can delay lung cancer being found and treated

# Get Screened For Lung Cancer

- Screening can find lung cancer early, even if you do not have symptoms
- Screening once a year is recommended for people who:
  - Currently smoke or have quit in the past 15 years and
  - Are 50-80 years old in good health and
  - Smoked at least a pack a day for 20 year or two packs a day for 10 years

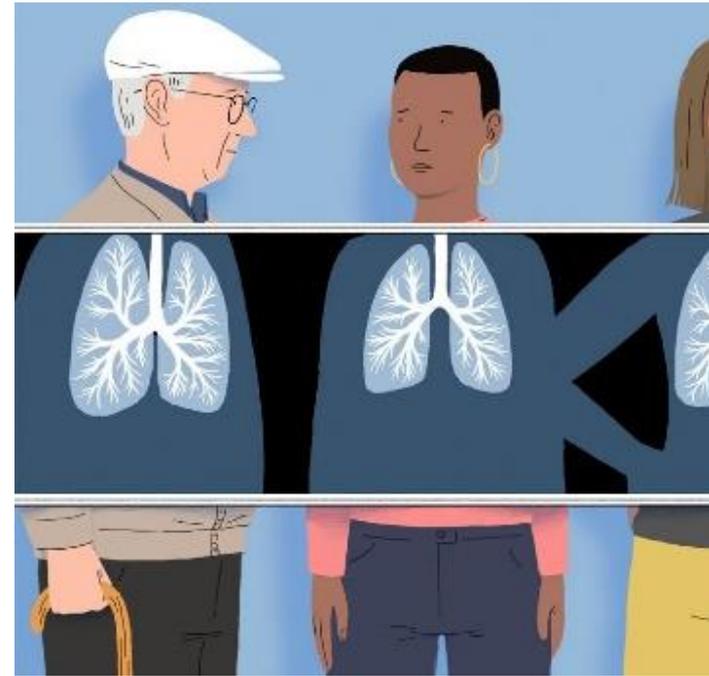
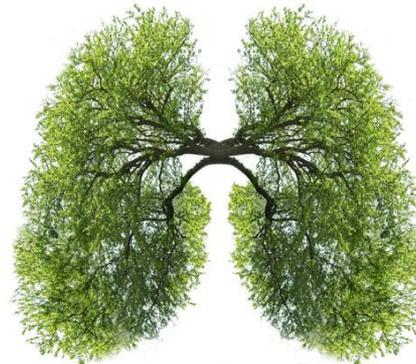


Image: Michael Kirkham

# You Can Lower Your Risk

- Avoid tobacco - be tobacco free
- Protect yourself and your family from secondhand smoke
- If you use tobacco, it is never too late to quit  
For free help:
  - Georgia Quitline: 1-877-270-STOP
  - [smokefree.gov](https://www.smokefree.gov)

BREATHE



E A S Y

Image: Georgia Tech

# You Can Lower Your Risk

Test your home for radon



For more information:

- National Radon Hotline:  
1-800-SOS-RADON
- <https://extension.uga.edu/programs-services/radon-testing.html>

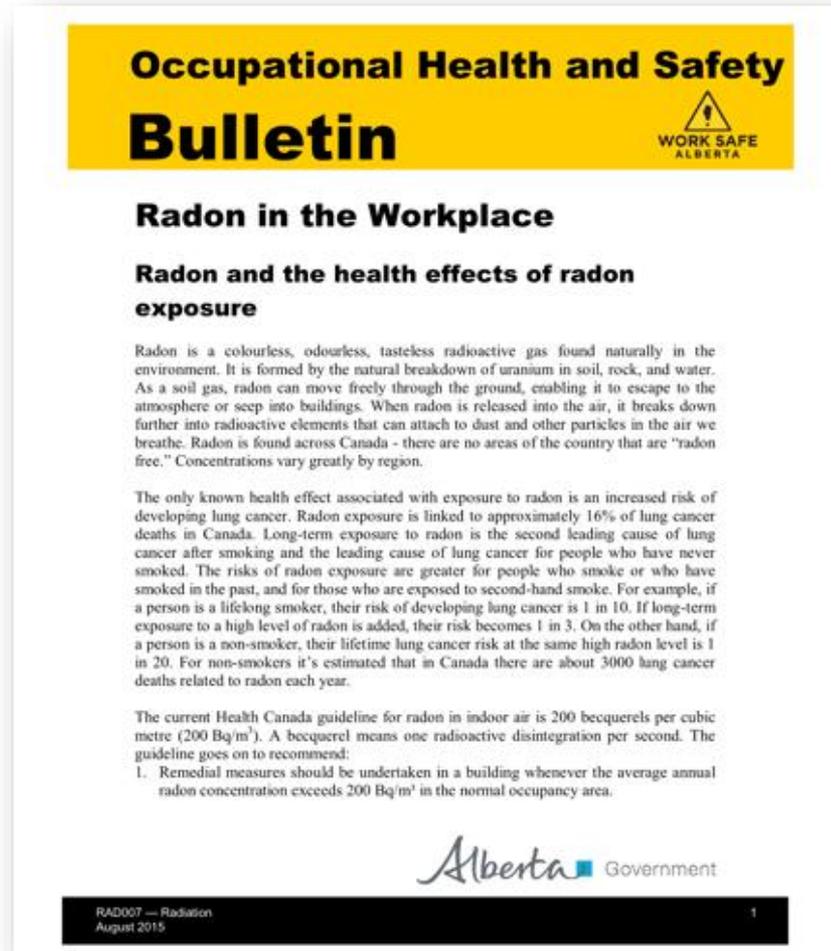


Image: CDC

# You Can Lower Your Risk

Know your risks at work

- Health and safety guidelines at work can help you avoid carcinogens (things that cause cancer)



**Occupational Health and Safety**  
**Bulletin**



**Radon in the Workplace**

**Radon and the health effects of radon exposure**

Radon is a colourless, odourless, tasteless radioactive gas found naturally in the environment. It is formed by the natural breakdown of uranium in soil, rock, and water. As a soil gas, radon can move freely through the ground, enabling it to escape to the atmosphere or seep into buildings. When radon is released into the air, it breaks down further into radioactive elements that can attach to dust and other particles in the air we breathe. Radon is found across Canada - there are no areas of the country that are "radon free." Concentrations vary greatly by region.

The only known health effect associated with exposure to radon is an increased risk of developing lung cancer. Radon exposure is linked to approximately 16% of lung cancer deaths in Canada. Long-term exposure to radon is the second leading cause of lung cancer after smoking and the leading cause of lung cancer for people who have never smoked. The risks of radon exposure are greater for people who smoke or who have smoked in the past, and for those who are exposed to second-hand smoke. For example, if a person is a lifelong smoker, their risk of developing lung cancer is 1 in 10. If long-term exposure to a high level of radon is added, their risk becomes 1 in 3. On the other hand, if a person is a non-smoker, their lifetime lung cancer risk at the same high radon level is 1 in 20. For non-smokers it's estimated that in Canada there are about 3000 lung cancer deaths related to radon each year.

The current Health Canada guideline for radon in indoor air is 200 becquerels per cubic metre (200 Bq/m<sup>3</sup>). A becquerel means one radioactive disintegration per second. The guideline goes on to recommend:

1. Remedial measures should be undertaken in a building whenever the average annual radon concentration exceeds 200 Bq/m<sup>3</sup> in the normal occupancy area.



RAD007 — Radiation  
August 2015

1

Image: OHS- Alberta

# You Can Lower Your Risk & Prevent Cancer

**Avoid tobacco, including secondhand smoke or e-cigarette vapor (aerosol)**

**If you use tobacco, including e-cigarettes or spit tobacco:**

**It's never too late to quit!**



# You Can Lower Your Risk & Prevent Cancer

**Avoid tobacco**



**Protect your skin from the sun**



**Prevent infections (such as HIV/AIDS, HPV, Hepatitis B, and Hepatitis C)**

**Avoid or limit alcohol**



**Follow Cancer Screening Guidelines**

# Promoting Health, Preventing Cancer

**Maintain a healthy weight**



**Eat well balanced meals**  
(fresh fruits, vegetables  
& whole grains)

**Stay physically active**

- Exercise regularly – 4 hrs. week
- 2.5 hours moderate exercise weekly  
or
- 1.25 hours vigorous exercise a week



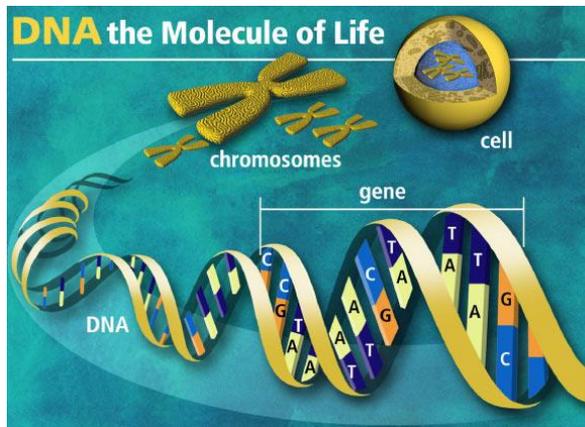
# Promoting Health, Preventing Cancer



**Sleep 8 hours**

## **Know Your Family's Health History**

Cancer risks vary;  
May be related to inherited genes



## **Genetic Counseling**

Assess risk of carrying a gene  
mutation or developing a particular  
disease

# Resources & Support



<https://www.cancer.org/cancer/lung-cancer.html>



<https://www.lung.org/lung-health-diseases/lung-disease-lookup/lung-cancer>



CANCER*care*<sup>®</sup>

[https://www.cancer.org/diagnosis/lung\\_cancer](https://www.cancer.org/diagnosis/lung_cancer)



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<https://www.augustahealth.org/cancer-care/lung-cancer>



**FOUNDATION  
FOR LUNG CANCER**

Empower Everyone. Ignore No One.

<https://go2foundation.org/resources-and-support/>



<https://www.mayoclinic.org/diseases-conditions/lung-cancer/symptoms-causes/syc-20374620>



**NATIONAL CANCER INSTITUTE**

<https://www.cancer.gov/types/lung>



[augusta.edu/cancer/community](http://augusta.edu/cancer/community)

Christine O'Meara 706-721-8353  
[comeara@augusta.edu](mailto:comeara@augusta.edu)

Maryclaire Regan 706-721-4539  
[mregan@augusta.edu](mailto:mregan@augusta.edu)