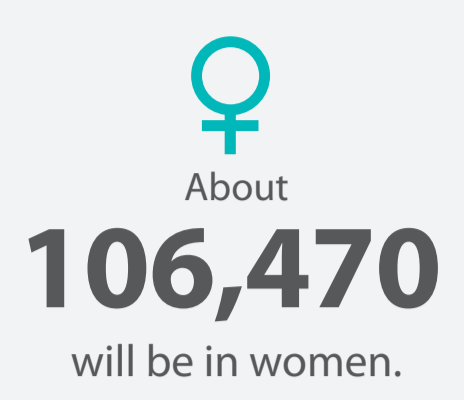
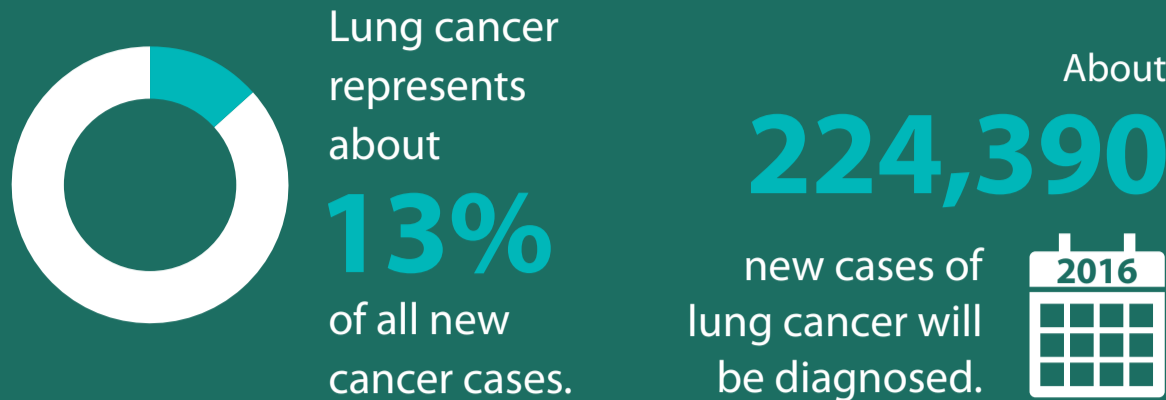


What You Should Know About LUNG CANCER

Lung cancer is the second most common non-skin cancer among American men and women, after prostate cancer in men and breast cancer in women. It is also the leading killer, causing more deaths than colorectal, breast and prostate cancers combined. Early diagnosis and advances in treatment mean more people can expect to beat the disease.



The **lifetime risk** of developing lung cancer is about:



- ▶ These numbers include both smokers and non-smokers.
- ▶ The risk is much higher for smokers and lower for non-smokers.

RISK FACTORS

SMOKING

Smoking is the leading cause of lung cancer. It causes about **9 out of 10 cases** of lung cancer in men and about 8 out of 10 cases of lung cancer in women.

SECONDHAND SMOKE

People who **inhale secondhand smoke** are **exposed** to the same cancer-causing agents as smokers.



AGE

About **2 of 3** lung cancers are diagnosed in people over age 65. **The average age at diagnosis is 70.**



FAMILY HISTORY

People with a relative who has or had lung cancer may be **twice as likely** to develop the disease.



EXPOSURE TO RADON GAS

Radon is a colorless, scentless radioactive gas found in some houses. **Radon exposure is a leading cause of lung cancer.**



EXPOSURE TO ASBESTOS OR OTHER POLLUTANTS

Carcinogenic chemicals in the workplace increase lung cancer risk, especially if you smoke.



DIETARY SUPPLEMENTS

Taking beta carotene supplements increases lung cancer risk, especially in smokers who smoke one or more packs a day.

TREATMENT OPTIONS

Most lung cancers are treated with surgery, chemotherapy or radiation therapy, or a combination of the three. Targeted therapy is an important advancement because it treats the cancer by zeroing in on a specific gene mutation in tumor cells. A well-rounded treatment plan can include interventional pulmonology procedures for diagnosis, treatment and symptom relief.



Surgery

For lung surgery, or thoracotomy, a surgeon makes an incision in the side of the chest and spreads apart the ribs to be able to remove cancerous tissue. Common types of lung cancer surgery are:

- **Wedge resection and segmentectomy:** Removal of cancerous tissue from the lung. In cases where more tissue is removed, the thoracotomy procedure is called a segmentectomy.
- **Lobectomy:** Removal of an entire lobe from the lung. The right lung has three lobes and the left lung has two.
- **Pneumonectomy:** Removal of an entire lung.
- **Video-assisted thoracic surgery (VATS):** A minimally invasive technology used to perform a lobectomy or wedge resection without opening up the chest. The surgeon removes cancerous tissues using images from a camera and small surgical instruments inserted into the chest.



Chemotherapy

Lung cancer chemotherapy treatments are used in three primary ways:

- **Neoadjuvant or primary systemic lung cancer chemotherapy:** Used before surgery to destroy cancer cells.
- **Adjuvant chemotherapy:** Used after surgery or radiation therapy to target cancer cells that were not removed during lung cancer surgery. It helps prevent the cancer from spreading to other parts of the body.
- **Systemic chemotherapy:** The circulation of chemotherapy drugs through the bloodstream to cancer cells through the body. Mainly used to treat locally advanced or metastatic lung cancer.



Radiation therapy

There are two primary types of radiation therapy for lung cancer:

- **External beam radiation therapy (EBRT):** Delivers high doses of radiation to lung cancer cells from outside the body, using a variety of machine-based technologies.
- **High dose rate (HDR) brachytherapy:** Delivers high doses of radiation from implants placed close to or inside the tumor(s) in the body.

These advanced radiation therapy techniques can target the tumor while sparing healthy tissue. Advanced radiation therapy technologies include the CyberKnife® VSI™ Robotic Radiosurgery System, TomoTherapy® and TrueBeam™.



Genomic testing

It examines a tumor at the genetic level to identify DNA alterations that are driving the growth of cancer. These findings help oncologists better understand what caused the tumor and tailor treatment options to the patient. Genomic testing is part of the standard care for patients with non-small cell lung cancer.



Immunotherapy

This therapy uses medicine to stimulate the body's immune system to search out and destroy cancer cells. Because only the cancer cells are attacked, immunotherapy treatments typically have fewer side effects than standard chemotherapy and are generally more tolerable.



Targeted therapy

Attempts to prevent cancer cells from dividing or to destroy cancer cells directly. As an example, Iressa™ (gefitinib) and Tarceva® (erlotinib) are two targeted drugs used for patients with non-small cell lung cancer whose tumor cells have a specific gene mutation.

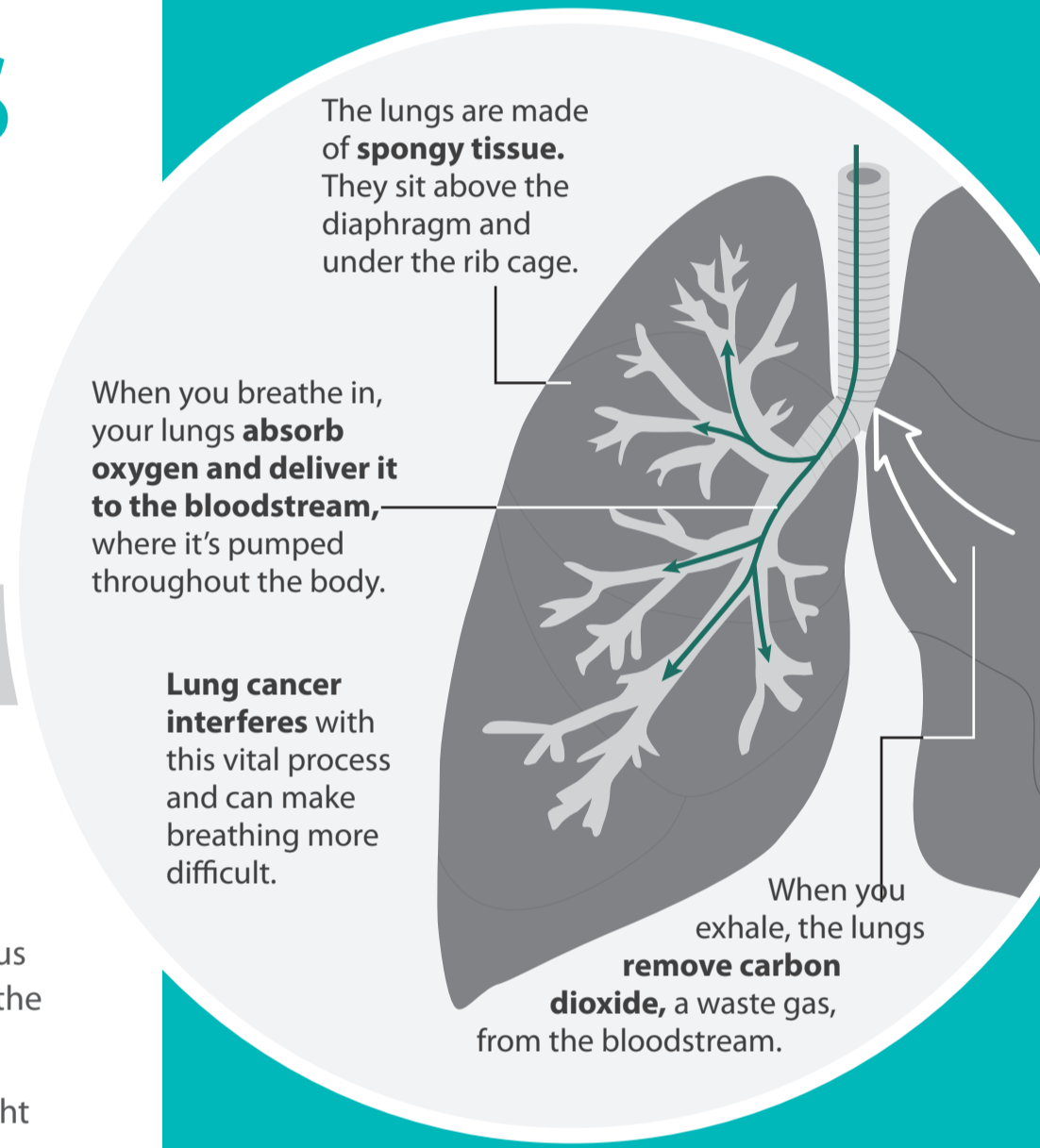
The goal of targeted therapy is to interfere with genetic molecules involved in tumor growth. Targeted therapy is a type of chemotherapy, but targeted drugs do not affect all cells in the body as chemotherapy does. They are typically used for advanced lung cancers, either with chemotherapy or alone.



Interventional pulmonology

Used to diagnose lung cancer, treat tumors and relieve symptoms that limit breathing or cause pain. It addresses four primary areas:

- **Central airway obstruction:** Advanced techniques are used to locate and clear central airway obstructions.
- **Advanced airway diagnostics:** Imaging technology is used to identify the cause of symptoms such as wheezing, coughing and labored breathing.
- **Pleural effusion:** Minimally invasive techniques are used to remove excess fluid buildup and restore more comfortable breathing.
- **Treatment-related side effects:** Procedures are used to treat symptoms, and to distinguish between a side effect of treatment and the progression of the cancer.



UNDERSTANDING THE DISEASE

There are **two** main types of lung cancer: small cell lung cancer (SCLC) and non-small cell lung cancer (NSCLC). Both are classified according to cell size and type. Treatment options will differ based on the type of lung cancer.

SMALL CELL LUNG CANCER

Tends to be more aggressive and spread more rapidly than NSCLC. There are two stages of small cell lung cancer: limited and extensive.

The stage of small cell lung cancer will be determined during the testing and staging process.

NON-SMALL CELL LUNG CANCER

Accounts for nearly **9 out of every 10** cases. There are three main types NSCLC:



- **Squamous cell:** It accounts for about 30 percent of all non-small cell lung cancers and is generally linked to smoking. It's found centrally in the lung.
- **Adenocarcinoma:** It's the most common form of lung cancer, accounting for 30-35 percent of all lung cancers and about half of all non-small cell lung cancers. It is found in the outer region of the lung.
- **Large-cell undifferentiated carcinoma:** It grows and spreads quickly, and usually accounts for 10-15 percent of all cases. It can be found anywhere in the lung.

Common lung cancer signs and symptoms:

- A persistent cough that doesn't go away or changes to a chronic "smokers' cough" with more coughing and pain
- Coughing up blood
- Shortness of breath, wheezing or noisy breathing
- Loss of appetite
- Fatigue
- Recurring infections, such as bronchitis or pneumonia

PREVENTION AND SCREENING GUIDELINES

PREVENTION

BE SMOKE-FREE

Don't smoke and avoid second-hand smoke. Damaged lung tissue gradually repairs itself after smokers quit.

REDUCE RADON EXPOSURE

Have your home tested and, if needed, treated.

EAT A HEALTHY DIET

Research suggests that a diet high in fruits and vegetables may help prevent lung cancer.

SCREENING

Low-dose CT scans are recommended for current and former smokers ages 55-74 and who have a smoking history of at least 30 pack-years. (One pack a day for 30 years, two packs a day for 15 years, etc.)

For more information, call 1-800-296-9333.

SOURCES
cancercenter.com, cancer.gov, cancer.org, lung.org