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About Lung Cancer

Get an overview of lung cancer and the latest key statistics in the US.

Overview and Types

If you have been diagnosed with lung cancer or are worried about it, you likely have a lot of questions. Learning some basics is a good place to start.

- [What Is Lung Cancer?](#)

Research and Statistics

See the latest estimates for new cases of lung cancer and deaths in the US and what research is currently being done.

- [Key Statistics for Lung Cancer](#)
- [What's New in Lung Cancer Research?](#)

What Is Lung Cancer?

Lung cancer is a type of cancer that starts in the lungs.

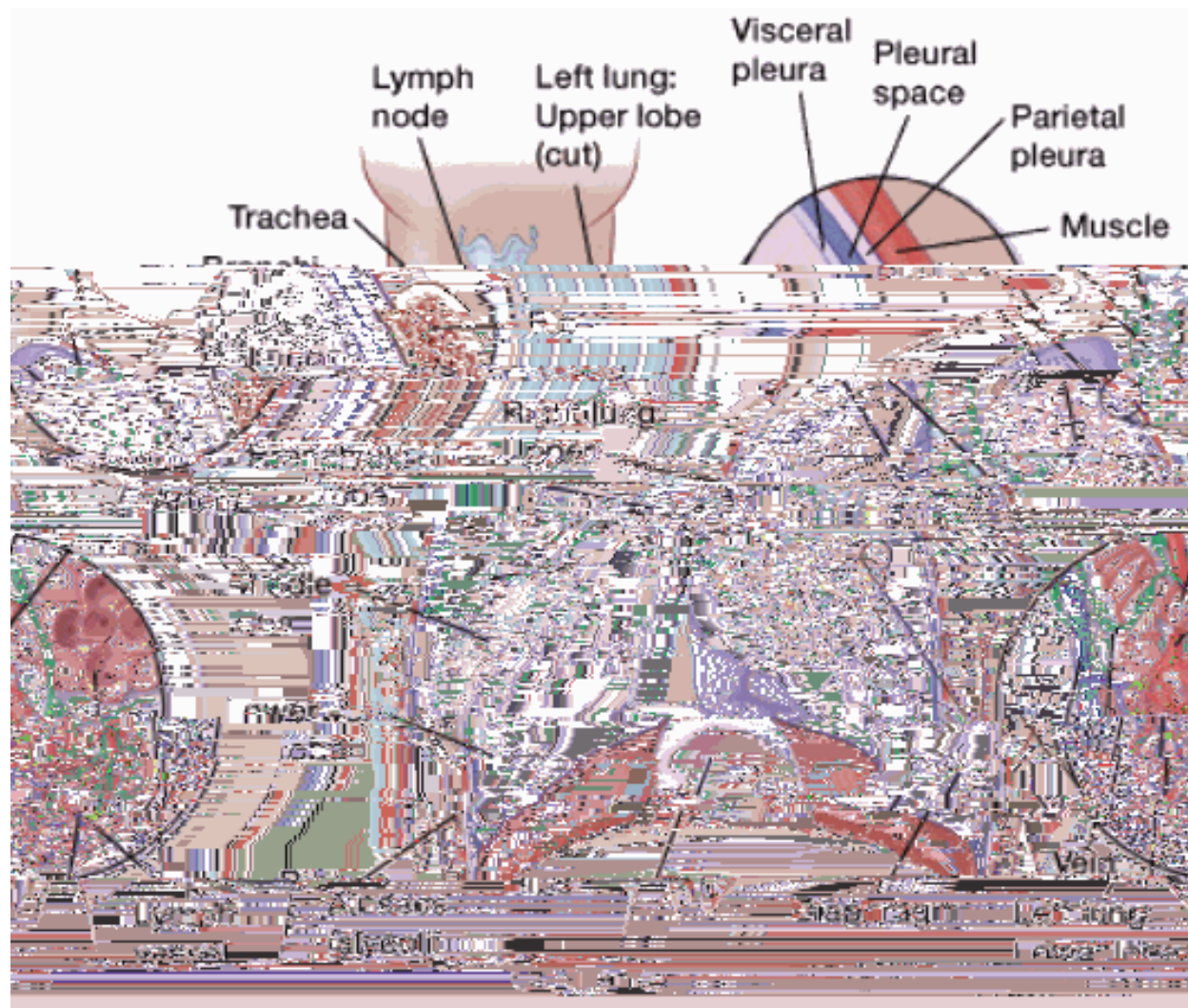
- [Normal structure and function of the lungs](#)
- [Types of lung cancer](#)
- [Other types of lung tumors](#)

Normal structure and function of the lungs

Your lungs are 2 sponge-like organs in your chest that are separated into sections called **lobes**. Your right lung has 3 **lobes**. Your left lung has 2 lobes. The left lung is smaller because the heart takes up more room on that side of the body.

When you inhale (breathe in), air enters through your mouth or nose and goes into your lungs through the **trachea** (windpipe). The trachea divides into tubes called **bronchi**, which enter the lungs and divide into smaller bronchi. These divide to form smaller branches called **bronchioles**. At the end of the bronchioles are tiny air sacs known as **alveoli**.

The alveoli absorb oxygen into your blood from the inhaled air and remove carbon dioxide from the blood when you exhale (breathe out). Taking in oxygen and getting rid of carbon dioxide are your lungs' main functions.



A thin lining layer called the **pleura** surrounds the lungs. The pleura protects your lungs and helps them slide back and forth against the chest wall as they expand and contract during breathing.

Below the lungs, a thin, dome-shaped muscle called the **diaphragm** separates the

Types of lung cancer

The main types of lung cancer are: non-small cell lung cancer (NSCLC) and small cell lung cancer (SCLC).

Non-small cell lung cancer (NSCLC)

About 80% to 85% of lung cancers are NSCLC. The main subtypes of NSCLC are adenocarcinoma, squamous cell carcinoma, and large cell carcinoma. These subtypes, which start from different types of lung cells, are grouped together as NSCLC because their treatment and prognoses (outlooks) are often similar.

Adenocarcinoma: Lung adenocarcinoma starts in cells in the lung that make mucus, called epithelial cells. Epithelial cells line the surface of the lungs. Adenocarcinoma is the most common type of non-small cell lung cancer

Lung adenocarcinoma occurs mainly in people who smoke or used to smoke, but it is also the most common type of lung cancer seen in people who don't smoke. It is more common in women than in men, and it is more likely to occur in younger people than other types of lung cancer.

Squamous cell carcinoma: Squamous cell carcinoma starts in squamous cells, which are flat cells that line the inside of the airways in the lungs. They are often linked to a history of smoking and tend to be found in the central part of the lungs, near a main airway (bronchus).

Large cell (undifferentiated) carcinoma: Large cell carcinoma can appear in any part of the lung. It tends to grow and spread quickly, which can make it harder to treat. A subtype of large cell carcinoma, known as **large cell neuroendocrine carcinoma (LCNEC)**, is a fast-growing cancer that is very similar to small cell lung cancer.

Other subtypes: A few other subtypes of NSCLC, such as adenosquamous carcinoma and sarcomatoid carcinoma, are much less common.

Small cell lung cancer (SCLC)

About 10% to 15% of all lung cancers are SCLC.

This type of lung cancer tends to grow and spread faster than NSCLC. In most people with SCLC, the cancer has already spread beyond the lungs at the time it is diagnosed. Since this cancer grows quickly, it tends to respond well to [chemotherapy](#)³ and [radiation](#)

[therapy](#)⁴. Unfortunately, for most people the cancer will return at some point.

Other types of lung tumors

Along with the main types of lung cancer, other tumors can develop in the lungs.

Lung carcinoid tumors: Carcinoid tumors of the lung account for fewer than 5% of lung tumors. Most of these grow slowly. For more information about these tumors, see [Lung Carcinoid Tumor](#)⁵.

Other lung tumors: Other types of lung cancer, such as adenoid cystic carcinomas, lymphomas, and sarcomas, as well as benign lung tumors such as hamartomas, are rare. These are treated differently from the more common lung cancers and are not discussed here.

Cancers that spread to the lungs: Cancers that start in other organs (such as the [breast](#)⁶, [pancreas](#)⁷, [kidney](#)⁸, or [skin](#)⁹) can sometimes spread (metastasize) to the lungs, but these are not lung cancers. For example, cancer that starts in the breast and spreads to the lungs is still breast cancer, not lung cancer. Treatment for metastatic cancer to the lungs is based on where it started (the primary cancer site).

Hyperlinks

1. www.cancer.org/cancer/understanding-cancer/what-is-cancer.html
2. www.cancer.org/cancer/understanding-cancer/anatomy-gallery/respiratory-system.html
3. www.cancer.org/cancer/types/lung-cancer/treating-small-cell/chemotherapy.html
4. www.cancer.org/cancer/types/lung-cancer/treating-small-cell/radiation-therapy.html
5. www.cancer.org/cancer/types/lung-carcinoid-tumor.html
6. www.cancer.org/cancer/types/breast-cancer.html
7. www.cancer.org/cancer/types/pancreatic-cancer.html
8. www.cancer.org/cancer/types/kidney-cancer.html
9. www.cancer.org/cancer/types/skin-cancer.html

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the Lung: Non-small cell lung cancer and small cell lung cancer. In: Niederhuber JE, Armitage JO, Doroshow JH, Kastan MB, Tepper JE, eds. *Abeloff's Clinical Oncology*. 6th ed. Philadelphia, Pa: Elsevier; 2020.

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Last Revised: January 29, 2024

- Black men are about 12% more likely to develop lung cancer than White men. The rate is about 16% lower in Black women than in White women.
- Black and White women have lower rates than men, but the gap is closing. The lung cancer rate has been dropping among men over the past few decades, but only for about the past decade in women.
- Despite their overall risk of lung cancer being higher, Black men are **less** likely to develop SCLC than White men.

Statistics on survival in people with lung cancer vary depending on the type of lung cancer, the stage (extent) of the cancer when it is diagnosed, and other factors. For survival statistics, see [Lung Cancer Survival Rates](#)⁶.

Hyperlinks

1. www.cancer.org/cancer/types/skin-cancer.html
2. www.cancer.org/cancer/types/prostate-cancer.html
3. www.cancer.org/cancer/types/breast-cancer.html
4. www.cancer.org/cancer/types/colon-rectal-cancer.html
5. www.cancer.org/cancer/risk-prevention/tobacco.html
6. www.cancer.org/cancer/types/lung-cancer/detection-diagnosis-staging/survival-rates.html

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Last Revised: January 16, 2025



What's New in Lung Cancer Research?

Diet, nutrition, and medicines

Researchers are looking for ways to use vitamins or medicines to prevent lung cancer in people at high risk, but so far none have been shown to clearly reduce risk.

Some studies have suggested that a diet high in fruits and vegetables may offer some protection, but follow-up studies have not confirmed this. While any protective effect of fruits and vegetables on lung cancer risk is likely to be much smaller than the increased risk from smoking, following the [American Cancer Society dietary recommendations](#)⁵ (such as getting to at a healthy weight and eating a diet high in fruits, vegetables, and whole grains) may still be helpful.

Early detection

As mentioned in [Can Lung Cancer Be Found Early?](#)⁶, low-dose helical CT (LDCT) is used for lung cancer screening. People who used to or continue to smoke tobacco for a long period of time are considered to be at “high risk” and recommended for screening. Screening lowers the risk of death from lung cancer.

Ongoing studies are looking at new ways to improve early detection of lung cancer:

1. Ways to use molecular markers from your body fluid (i.e., sputum or blood) for lung cancer screening
2. Ways to use new forms of bronchoscopies for lung cancer screening, such as autofluorescence bronchoscopy

Diagnosis

At present, a diagnosis of lung cancer is based on tissue biopsy. Researchers are continuing to look for other ways to help patients achieve an earlier diagnosis, for example:

- Ways to look at blood samples to find tumor cells or parts of tumor cells
- Ways to look at sputum samples to find tumor cells or parts of tumor cells

Treatment

There continues to be focus and interest in looking at how we can better understand

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