



What Is Lung Cancer?

Lung cancer is a type of cancer that starts in the lungs. Cancer starts when cells in the body begin to grow out of control. To learn more about how cancers start and spread, see [What Is Cancer?](#)

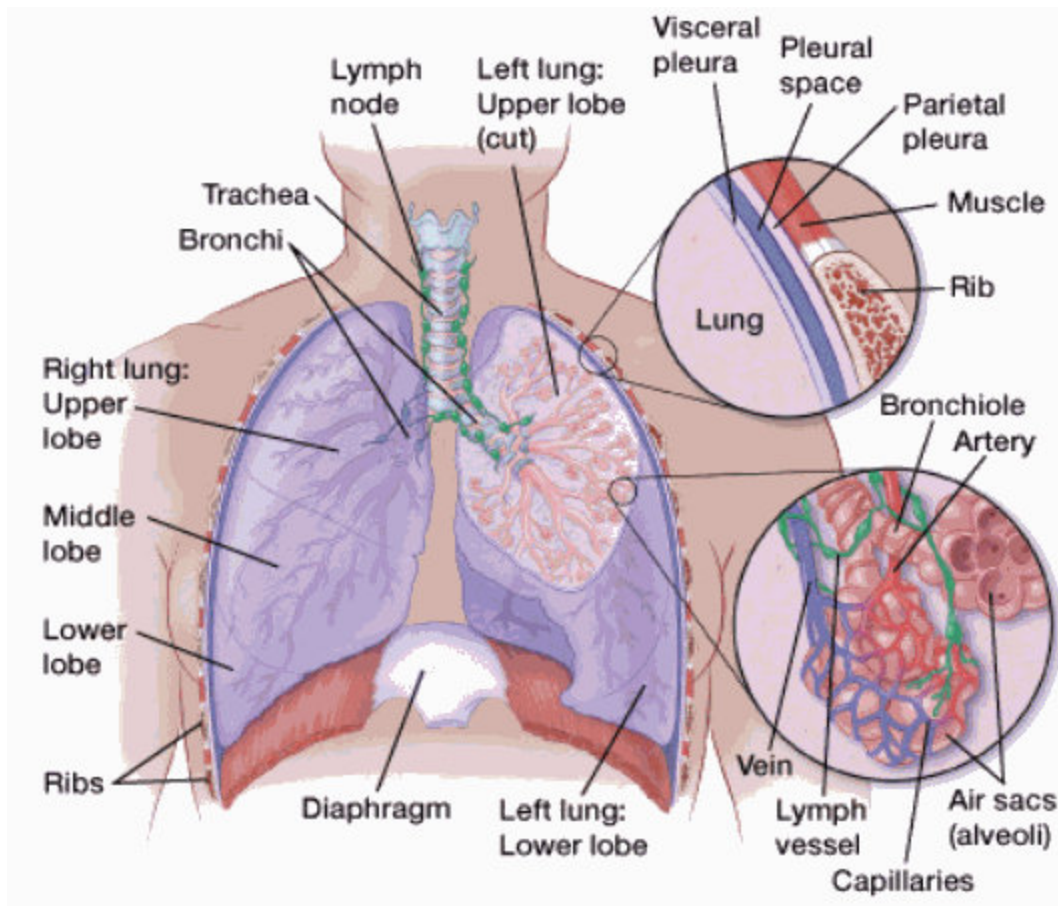
Normal structure and function of the lungs

Your lungs are 2 sponge-like organs in your chest. Your right lung has 3 sections, called **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 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. Taking in oxygen and getting rid of carbon dioxide are your lungs' main functions.

Lung cancers typically start in the cells lining the bronchi and parts of the lung such as the bronchioles or alveoli.



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 chest from the abdomen. When you breathe, the diaphragm moves up and down, forcing air in and out of the lungs.

Types of lung cancer

There are 2 main types of lung cancer and they are treated very differently.

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 (outlook) are often similar.

Adenocarcinoma: Adenocarcinomas start in the cells that would normally secrete substances such as mucus.

This type of lung cancer occurs mainly in people who currently smoke or formerly smoked, 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.

Adenocarcinoma is usually found in the outer parts of the lung and is more likely to be found before it has spread.

People with a type of adenocarcinoma called **adenocarcinoma in situ** (previously called **bronchioloalveolar carcinoma**) tend to have a better outlook than those with other types of lung cancer.

Squamous cell carcinoma: Squamous cell carcinomas start 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**, 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 and it is sometimes called **oat cell cancer**.

This type of lung cancer tends to grow and spread faster than NSCLC. About 70% of people with SCLC will have cancer that has already spread at the time they are diagnosed. Since this cancer grows quickly, it tends to respond well to [chemotherapy](#) and [radiation therapy](#). 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 occur 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](#).

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](#), [pancreas](#), [kidney](#), or [skin](#)) 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).

References

Araujo LH, Horn L, Merritt RE, Shilo K, Xu-Welliver M, Carbone DP. Ch. 69 - Cancer of 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.

Chiang A, Detterbeck FC, Stewart T, Decker RH, Tanoue L. Chapter 48: Non-small cell lung cancer. In: DeVita VT, Lawrence TS, Rosenberg SA, eds. *DeVita, Hellman, and Rosenberg's Cancer: Principles and Practice of Oncology*. 11th ed. Philadelphia, Pa: Lippincott Williams & Wilkins; 2019.

Hann CL, Wu A, Rekhtman N, Rudin CM. Chapter 49: Small cell and Neuroendocrine Tumors of the Lung. In: DeVita VT, Lawrence TS, Rosenberg SA, eds. *DeVita, Hellman, and Rosenberg's Cancer: Principles and Practice of Oncology*. 11th ed. Philadelphia, Pa: Lippincott Williams & Wilkins; 2019.

National Cancer Institute. Physician Data Query (PDQ). Health Professional Version. Non-Small Cell Lung Cancer Treatment. 2019. Accessed at <https://www.cancer.gov/types/lung/hp/non-small-cell-lung-treatment-pdq> on June 12, 2019.

National Cancer Institute. Physician Data Query (PDQ). Health Professional Version. Small Cell Lung Cancer Treatment. 2019. Accessed at <https://www.cancer.gov/types/lung/hp/small-cell-lung-treatment-pdq> on June 12, 2019.

National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology: Non-Small Cell Lung Cancer. V.4.2019. Accessed at https://www.nccn.org/professionals/physician_gls/pdf/nscl.pdf on June 12, 2019.

National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology: Small Cell Lung Cancer. V.1.2019. Accessed at https://www.nccn.org/professionals/physician_gls/pdf/sclc.pdf on June 12, 2019.

Osmani L, Askin F, Gabrielson E, Li QK. Current WHO guidelines and the critical role of immunohistochemical markers in the subclassification of non-small cell lung carcinoma (NSCLC): Moving from targeted therapy to immunotherapy. *Semin Cancer Biol*. 2018;52(Pt 1):103–109.

Last Revised: October 1, 2019

American Cancer Society medical information is copyrighted material. For reprint requests, please see our [Content Usage Policy](#).