

Lung Cancer

Lung Adenocarcinoma

Definitions

Adenocarcinoma:

A type of cancerous, or malignant, tumor that forms glandular structures.

Lobe: A spongy, saclike respiratory compartment in the lung that removes carbon dioxide from the blood and supplies it with oxygen. The right lung has three lobes, and the left has two.

Malignant: Cancerous and capable of spreading.

Pathologist: A physician who examines tissues and fluids to diagnose disease in order to assist in making treatment decisions.

Biopsy: Removal of a tissue sample.

Sputum: Mucus coughed up from the lungs.

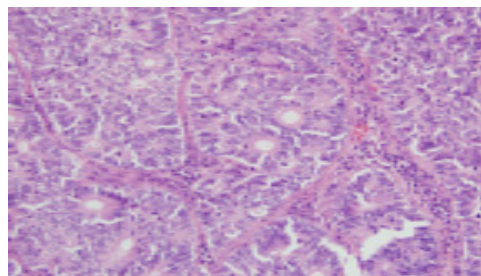
What is lung adenocarcinoma?

Lung adenocarcinoma is the most common kind of lung cancer, both in smokers and non-smokers and in people under age 45. Adenocarcinoma accounts for about 30 percent of primary lung tumors in male smokers and 40 percent in female smokers. Among non-smokers, these percentages approach 60 percent in males and 80 percent in females. This disease also is more common among Asian populations.

Overall, less than 10 percent of people with primary lung cancer survive five years after diagnosis. However, five-year survival rates can be as high as 35 to 40 percent for those who have localized lung cancer removed in its early stages. These five-year survival rates approach 85 percent for patients under age 30.

Who is most likely to have lung adenocarcinoma?

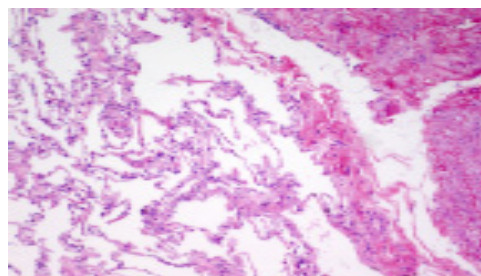
Smoking frequently causes this type of cancer. Both how much and how long a time you smoke increase the chances of lung cancer. If you quit smoking, your risk decreases over time. Secondary risk factors include age, family history, and exposure to secondhand smoke, mineral and metal dust, asbestos, or radon.



Lung adenocarcinoma is a slow-growing cancer that can take years to develop into invasive cancer.

What characterizes lung adenocarcinoma?

This type of non-small cell lung cancer usually develops in the peripheral portion of the lungs. Lung adenocarcinoma cells form recognizable glandular patterns. This type of cancer is more likely than other kinds of lung cancer to be contained in one area of the body. Slow growing, lung adenocarcinoma can take years to develop from a confined tumor to metastatic cancer. Symptoms develop slowly as well. They include coughing, shortness of breath, wheezing, chest pain, and bloody sputum. Sometimes, this illness may appear to be pneumonia or a collapsed lung.



Normal lung cells.

What tests can help to identify lung adenocarcinoma?

The practical first steps are a thorough physical examination and the testing of a sample of sputum for bacteria, infectious organisms, and cancer cells. If the sputum test does not provide a definite diagnosis, your primary care physician may prescribe further tests, which may include a **chest x-ray** or **bronchoscopy**. A chest x-ray can detect a mass in the lungs or enlarged lymph nodes in the chest. Bronchoscopy is an examination of the windpipe and lung branches with a flexible scope.

If there appears there may be a mass in your lungs, your primary care physician or cancer specialist may order a **CT** or **MRI scan** or a **needle biopsy**. CT (computed tomography) or MRI (magnetic resonance imaging) scans produce chest images that assist physicians to better determine the nature, position, or extent of the mass. CT is used to guide a needle biopsy, which gathers cell samples from a suspicious area using a slim, hollow needle attached to a syringe.

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What kinds of questions should I ask my doctors?

Ask any question you want. There are no questions you should be reluctant to ask. Here are a few to consider:

- Please describe the type of cancer I have and what treatment options are available.
- What is the stage of my cancer?
- What are the chances for full remission?
- What treatment options do you recommend? Why do you believe these are the best treatments?
- What are the pros and cons of these treatment options?
- What are the side effects?
- Should I receive a second opinion?
- Is your medical team experienced in treating the type of cancer I have?
- Can you provide me with information about the physicians and others on the medical team?

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How does a pathologist diagnose lung adenocarcinoma?

Your pathologist reviews the results of the sputum sample or biopsy. Through this review, your pathologist is able to confirm a diagnosis of cancer.

What else does the pathologist look for?

Your pathologist may examine additional blood tests ordered by your primary care physician or specialist. These tests identify lung cancer **markers**—elements in the blood associated with lung cancer. Finding particular types of markers helps the pathologist determine the exact type of cancer. Also, if fluid has accumulated in the chest, a pathologist may examine a sample obtained through a procedure called **thoracentesis**, in which a needle withdraws a fluid sample.

How do doctors determine what surgery or treatment will be necessary?

If cancer is found by the pathologist, your primary care physician or specialist may order a bone scan to see if the cancer has spread into your bones. If the cancer has not spread, a procedure called **mediastinoscopy** may be recommended. In this procedure, a physician examines tissues and organs in the middle chest with an **endoscope**, which is a small, flexible device with a camera. The endoscope is inserted into the chest through a small incision at the top of the breastbone. Lymph nodes from the middle chest area are usually removed during this procedure. If the pathologist does not find cancer cells in these nodes, your primary care physician or specialist may recommend surgery.

After reviewing the results of all your tests and procedures, your pathologist assigns a pathologic **stage** to your lung cancer. Stage 1 lung adenocarcinomas are small and confined to the lungs, and stage 4 tumors have spread beyond tissues and organs near the lungs. Stages between 2 and 3 describe conditions in between these two extremes.

Once the stage has been determined, your primary care physician or cancer specialist will discuss treatment options with you. If the cancer is located only in the lungs, **surgery** is generally recommended. Common lung cancer surgical procedures include **thoractomy** (opening the chest wall) or **median sternotomy** (cutting through the breastbone) during which lung tissue, one lobe, or an entire lung will be removed, depending on the size of the tumor. Recently, surgeons have developed less-invasive procedures to remove cancerous tissue. Most appropriate for stage 1 and 2 cancers localized in the chest area, **video-assisted thoracic surgery (VATS)** enables surgeons to remove tissue through smaller incisions.

For aggressive and widespread tumors, physicians recommend **chemotherapy** and **radiation therapy**. Chemotherapy delivers drugs throughout the body, slows the cancer's progression, and reduces pain. Chemotherapy can be used before and after surgery and can be combined with other treatments. Radiation therapy—pinpointed high-energy beams—can be used to shrink tumors or to destroy cancer cells that remain after surgery. This treatment is also used to relieve the symptoms of advanced lung cancer.

Clinical trials of new treatments for lung adenocarcinoma may be found at www.cancer.gov/clinicaltrials. These treatments are highly experimental in nature but may be a potential option for advanced cancers.

For more information, go to www.cancer.gov (National Cancer Institute) or www.cancer.org (American Cancer Society). Type the keywords **lung adenocarcinoma** or **lung cancer** into the search box.