



American Cancer Society Circle Of Life[™] Cancer Education and Wellness for American Indian and Alaska Native Communities

Wellness Along the Cancer Journey:

Cancer Types
Revised October 2015

Chapter 5: Lung Cancer

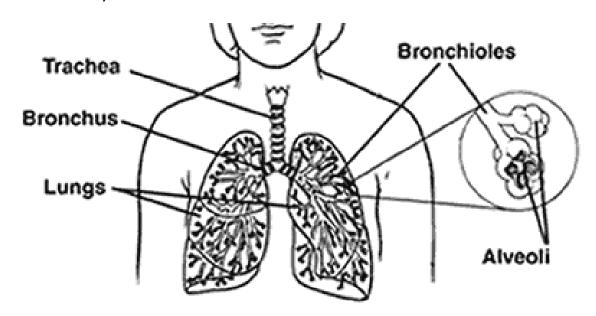


Lung Cancer

Group Discussion		True	False	Not Sure
1.	Most lung cancers are small cell cancers.			
2.	Tests can find lung cancers early in some people.			
3.	Breathing second-hand smoke can cause lung			
	cancer.			

Cigarette smoking is the single most preventable cause of cancer in the U.S. The major cause of lung cancer is habitual tobacco use, which is not the same as the traditional use of ceremonial tobacco among American Indian and Alaska Native peoples. According to a 2008 report habitual smoking was higher among Native peoples, especially in the Northern Plains and Alaska, where 40% or more were current smokers (Steele, Cardinez, Richardson, Tom-Orme, & Shaw, 2008) . It is important to learn about lung cancer and its risk factors. Risk can be reduced by using only ceremonial tobacco in traditional ways, healthy eating, and exercise.

The lungs are two sponge-like organs found in the chest. The right lung has three sections, called lobes. The left lung has two lobes. The left lung is smaller because the heart takes up more room on that side of the body. The lungs bring air in and out of the body.



The lining around the lungs, called the pleura, helps to protect the lungs. It also allows them to move easily within the chest during breathing. The windpipe (or trachea) brings air down into the lungs. The windpipe divides into tubes called bronchi. Each bronchus divides into even smaller tubes called bronchioles. At the ends of the bronchioles are tiny air sacs called alveoli.

Most lung cancer starts in the lining of the bronchi (breathing tubes), but it can also start in other parts of the lung. Lung cancer often takes many years to develop. First, there may be areas of pre-cancer cells in the lung. These changes do not start out as a mass or tumor. The pre-cancers cannot be seen on x-ray and does not cause symptoms. As with breast cancer, lung cancer cells may break off and invade the lymph system, thus spreading to other parts of the body.

Types of Lung Cancer

There are two main types of lung cancer: non-small-cell lung cancer (NSCLC) and small cell lung cancer (SCLC). Most lung cancer cases are non-small cell type.

Non-Small Cell Lung Cancer Types: Squamous cell carcinoma makes up about 25%-30% of all lung cancers. This type is linked to smoking and is often found in the middle of the lungs, near a bronchus.

A second type of non-small cell lung cancer is an adenocarcinoma, found in the outer part of the lung. This type tends to grow more slowly. It is found mainly in people who smoke or used to smoke, but is often found in non-smokers too. Adenocarcinomas make up about 40% of all lung cancers.

The third type of non-small cell lung cancer is called large-cell or undifferentiated carcinoma. This type accounts for about 10%-15% of lung cancers. Large-cell carcinoma tends to grow and spread quickly, which makes it hard to treat.

Small Cell Lung Cancer: About 10 to 15% of all lung cancers are the small cell type. This cancer often starts near the bronchi, in the middle of the lungs. These cancer cells are small but they grow quickly, forming large tumors. These cancer cells can spread throughout the body. The type and spread of the small cell lung cancer means that surgery is very rarely an option for treatment. Other treatments, like radiation and chemotherapy, must be used to treat widespread disease.

Risk Factors

A risk factor is anything that affects a person's chance of getting a disease such as cancer. Different cancers have different risk factors. But risk factors don't tell us everything. Many people with one or more risk factors never get cancer, while others with cancer may have had no known risk factors.

Risk Factors Someone Cannot Change	Risk Factors Someone May be able to Change		
 Having a lung cancer in your family, or having had lung cancer yourself. Having radiation to the lungs. 	Habitual smoking is the leading cause of lung cancer death, causing nearly 9 out of 10 lung cancer deaths in men and about 7 out of 10 in women.		
	 Second-hand smoke – breathing the smoke from other people's tobacco – leads to higher risk for lung cancer. 		
	 Houses in some parts of the United States can have high indoor radon levels (especially in basements). 		
	 Workplace exposure to asbestos fibers is an important risk factor for lung cancer. 		
	High levels of arsenic from drinking water (more common in well water) and in some pesticides may increase the risk of lung cancer.		

Cigar smoking and pipe smoking are almost as likely to cause lung cancer as cigarette smoking. Smoking low tar or "light" cigarettes raise a person's lung cancer risk as much as regular cigarettes.

If a person stops smoking before a cancer starts to grow, their damaged lung tissue starts to repair itself. No matter what a person's age or how long they have smoked, quitting may help them live longer. People who stop smoking before age

50 cut their risk of dying in the next 15 years in half compared with those who keep smoking.

Early Detection

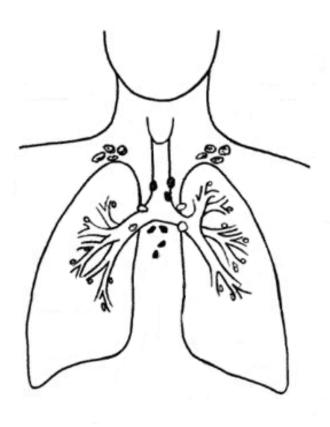
Since most people with early lung cancer do not have symptoms, lung cancer has been rarely found at an early stage. Lung cancer often spreads beyond the lungs before symptoms appear, and a test to find lung cancer early could save lives. The National Lung Screening Trial (NLST) looked at whether a low-dose spiral CT scan – a scan that takes 2- and 3- dimensional pictures of the lungs – could find cancer early enough to save lives. This clinical trial found that people who were heavy smokers or or had been heavy smokers lived longer, on average, if they had low-dose computed tomography (CT) scans done each year to detect lung cancer. The American Cancer Society reviewed the subject of lung cancer screening and issued guidelines that are aimed at doctors and other health care providers:

- Patients should be asked about their smoking history. People who have smoked a pack of cigarettes per day for at least 30 years, or the equivalent (2 packs a day for at least 15 years; or 1½ pack per day for 45 years, for example) might be candidates for lung cancer screening. They must be:
 - o 55 to 74 years old,
 - In good enough health to have part of a lung removed if cancer is found
 - o Have smoked 30 pack years or more (as discussed earlier), AND
 - o Are either still smoking or have quit smoking within the last 15 years.

These criteria were based on what was used in the NLST. Even though screening is available, smokers should quit smoking to reduce their risk of lung cancer.

Activity

On the picture below, identify the bronchioles and list one to two risk factors someone may be able to change to reduce their risk of lung cancer.



Risk Factors Someone May be Able to Change:

1.		
2.		

See Appendix D to further test your knowledge about lung cancer.

Story of Hope

"For years my husband, who was seventy one at the time, and I, then sixty-four, had been very much into walking and eating a healthy diet. Although it didn't prevent my getting cancer, I really believe that being in good physical condition went a long way toward my healing so fast. I wanted to be able to walk in my favorite park as soon as possible, so I worked hard every day in building my strength to reach that goal. Today, I'm as strong as I ever was."--Judy, Lung Cancer Survivor

(Silver, J.K. (Ed.), (2009). *What Helped Me Get Through: Cancer Survivors Share Wisdom and Hope.* Atlanta: American Cancer Society.)

Key Messages

- Habitual smoking is the single most preventable cause of cancer in the U.S.
 Smoking is much higher among many Native people than in Whites (Steele, et al., 2008).
- There are currently guidelines for screening tests for people at high risk for lung cancer. Most people do not have symptoms in the early stages.
- If a person stops smoking before lung cancer starts, the lung tissue slowly starts to repair itself.
- Stopping smoking at any age lowers the risk of lung cancer and death.