

# Is Lung Cancer Screening Right for Me?

## A decision aid for people considering lung cancer screening with low-dose computed tomography

If you have smoked for many years, you may want to think about screening (testing) for lung cancer with low-dose computed tomography (LDCT). Before deciding, you should think about the possible benefits and harms of lung cancer screening. This decision aid will help prepare you to talk with your health care professional about whether lung cancer screening is right for you.

### What are the facts about lung cancer?

- » Lung cancer is the leading cause of cancer death in the United States. Each year, about 220,000 people are diagnosed with lung cancer and 150,000 people die from lung cancer.
- » About half of the people diagnosed with lung cancer are 70 years of age or older. The typical age of death from lung cancer is 72 years.

### Who should be screened for lung cancer?

The United States Preventive Services Task Force (USPSTF) is made up of experts in preventive medicine. Without pay, they review the current research to make recommendations about clinical preventive services such as screening, counseling, and preventive medications.

The USPSTF recommends lung cancer screening for individuals who:

- » Are 55 to 80 years old
- » Do not have any signs or symptoms of lung cancer (diagnostic testing may be recommended for people who do have signs or symptoms of lung cancer)
- » Have not had lung cancer before
- » Currently smoke or quit less than 15 years ago
- » Are or were heavy smokers (30 pack-years history such as those who smoked 1 pack per day for 30 years or 2 packs per day for 15 years)

The USPSTF does not recommend lung cancer screening for individuals who:

- » Have a condition that greatly limits how long they may live
- » Are not willing to have surgery for lung cancer

### What is lung cancer?

Lung cancer happens when abnormal cells form in the lungs and grow out of control. These cells can form a tumor and can spread to other parts of the body.

Lung cancer is often diagnosed once it has spread outside the lungs. About 9 out of every 10 people with lung cancer die from the disease because it is found after it has spread.

### Possible signs and symptoms of lung cancer

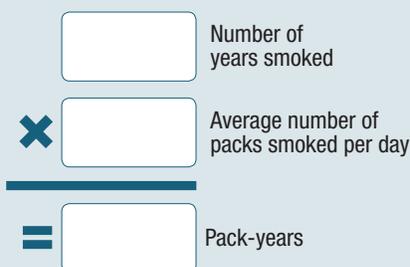
- » A new cough that does not go away or gets worse
- » Chest pain that is often worse when you breathe deeply, cough, or laugh
- » A hoarse voice
- » Unexplained weight loss and loss of appetite
- » Coughing up blood or rust-colored spit or phlegm
- » Shortness of breath
- » Infections such as bronchitis and pneumonia that do not go away or keep coming back
- » Wheezing

Many patients with lung cancer do not have any symptoms when the cancer first starts. It is best to find lung cancer early before symptoms start, when the cancer is more easily treated. This is why screening is important.

**If you have any signs or symptoms of lung cancer, be sure to tell your health care professional.**

### Calculating pack-years\*

(20 cigarettes = 1 pack)



\* Your health care professional can help you determine the number of pack-years you have smoked.

**Remember, the best way to lower your chances of dying from lung cancer is to stop smoking.**

More than 8 out of every 10 lung cancer cases in the United States are from smoking.

Lung cancer screening should not be done instead of quitting smoking. If you currently smoke, talk to your health care professional or call the nationwide quit line at

**1-800-QUIT-NOW**  
(1-800-784-8669).



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# What are the possible benefits and harms of lung cancer screening with LDCT?\*

## **BENEFIT:** Greater chance of not dying from lung cancer

- » If 1,000 people are not screened with LDCT for lung cancer, **21 will die from lung cancer.**
- » If 1,000 people are screened with LDCT once a year for 3 years, **18 will die from lung cancer.**
- » This means that with LDCT screening, **3 fewer people will die from lung cancer.**

## **BENEFIT:** Greater chance of not dying from any cause (not just lung cancer)

- » If 1,000 people are not screened with LDCT for lung cancer, **75 will die from any cause.**
- » If 1,000 people are screened with LDCT once a year for 3 years, **70 will die from any cause.**
- » This means that with LDCT screening, **5 fewer people will die from all causes.**

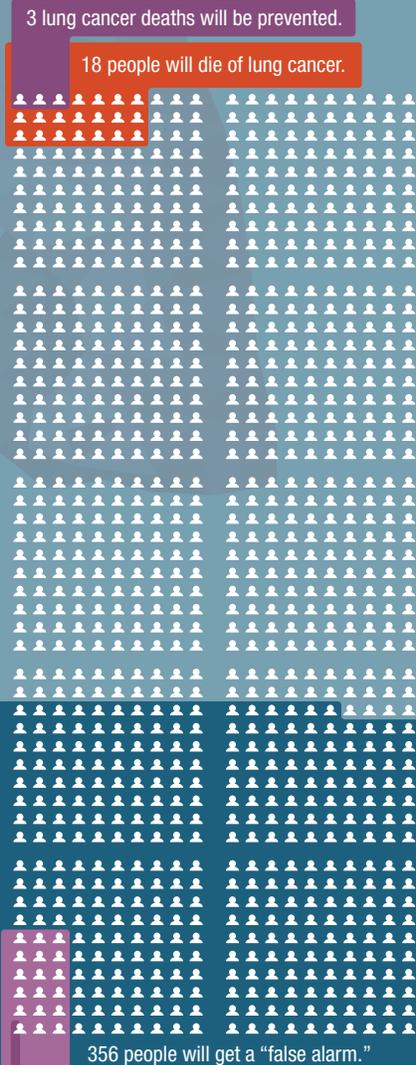
## **HARM:** False alarms and unneeded additional testing

A false alarm happens when a person has a positive screening test but does not actually have lung cancer.

- » If 1,000 people are screened every year for 3 years, about **356 will have a false alarm.**
- » Of these 356 people with a false alarm, **18 will have an invasive procedure** such as a biopsy (a tiny piece of lung tissue is removed to test for cancer).
- » Of these 18 people, **less than 1 will have a major complication** as a result of the procedure, such as bleeding in the lung, a collapsed lung, or an infection.

If you have a positive screening test, but your followup imaging tests and biopsy do not show cancer, you could still get lung cancer in the future. So it is important for you and your health care professional to discuss lung cancer screening every year.

### Out of 1,000 people screened with LDCT for lung cancer:

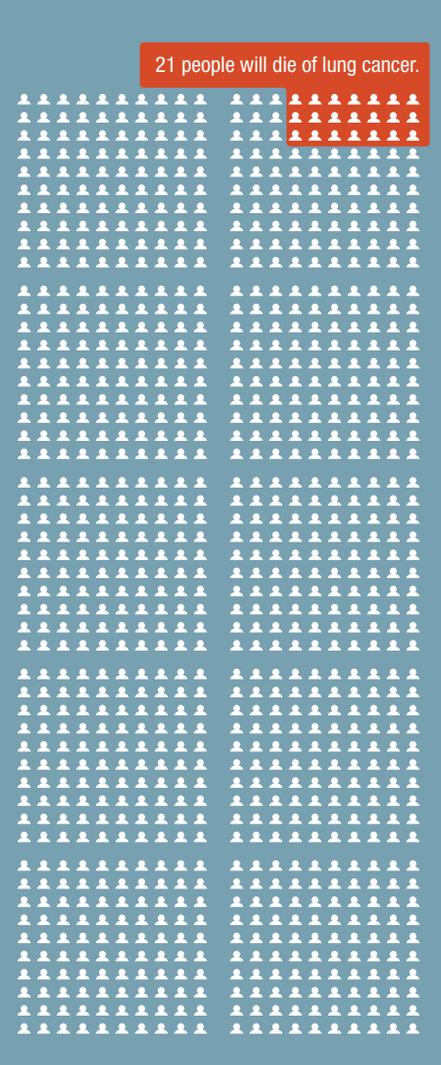


18 of the people who get a "false alarm" will have an invasive procedure like a biopsy.

Less than 1 of the 18 people who have an invasive procedure will have a major complication (e.g., infection, bleeding in lung, collapsed lung).

**The benefits of lung cancer screening** may be greater if your lung cancer risk is higher. For example, current smokers who smoke more than one pack a day have a higher risk for lung cancer than smokers who quit 10 years ago.

### Out of 1,000 people not screened with LDCT for lung cancer:



\* For people screened once a year for 3 years and followed for an average of 6.5 years. This information applies to people who are at high risk of lung cancer because of their smoking history and age.

**The harms of lung cancer screening** may be greater if you have other health problems, such as heart disease or severe lung disease like asthma or chronic obstructive pulmonary disease (COPD). The risk of problems from biopsies may be higher in these people.

## What is lung cancer screening with low-dose computed tomography?

During an LDCT scan, you lie on a table and an x-ray machine uses a low dose (amount) of radiation to make detailed images of your lungs. The scan only takes a few minutes and is not painful.

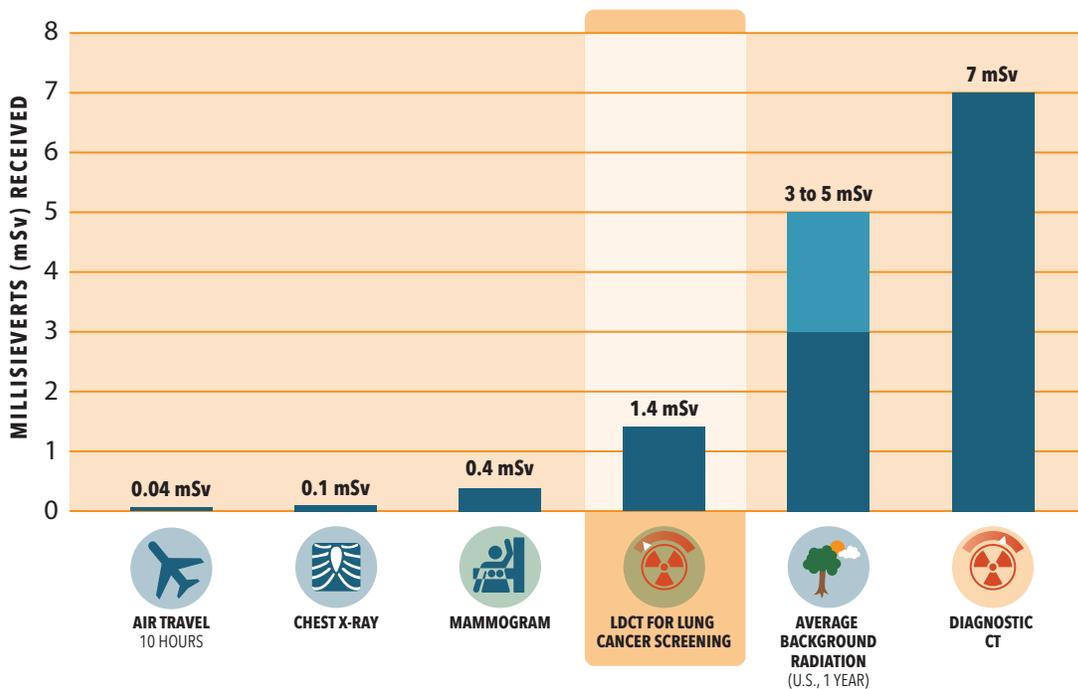
## HARM: Overdiagnosis

Lung cancer screening may find a lung cancer that would not have ever caused symptoms or harmed the patient in his or her lifetime if the cancer had not been found. This could lead to treatment of people who do not really need treatment. At the time of diagnosis, there is no way for health care professionals to know if the lung cancer will cause health problems over a lifetime. For this reason, almost all people who are diagnosed with lung cancer are treated. Researchers found that out of every 10 people diagnosed with lung cancer after an LDCT scan, about 1 to 2 of those people are treated for cancer that likely never would have harmed them.

## HARM: Radiation exposure

Exposure to radiation increases a person's chance of developing cancer. LDCT screening for lung cancer exposes a person to radiation. If the screening test is positive, additional testing may involve higher doses of radiation. Researchers do not know how being exposed to radiation from LDCT scans and additional diagnostic imaging tests may affect people. The figure below shows the amount of radiation from one LDCT scan compared with other sources of radiation.

### COMPARING SOURCES OF RADIATION



mSv=millisievert, a measure of the amount of radiation absorbed by the body.

## Finding other things that are not lung cancer

Screening can find heart disease or thickened tissue in the lungs from scarring. Researchers do not know the possible benefits or harms of finding other things about your health through lung cancer screening.

## What is the difference between screening and diagnostic testing?

**Screening** is a medical term for testing to find a disease *before it causes any symptoms or problems*. Lung cancer screening is done to find lung cancer before it has spread.

**Diagnostic testing** is not the same as screening. Diagnostic testing is done when someone has signs or symptoms of lung cancer or when a screening test finds something that looks like cancer. In both cases, there is a higher chance the person has lung cancer, and additional testing is done to get a final diagnosis. It is different from screening because it can involve scans with higher amounts of radiation, other tests to look at the lungs, and taking samples of lung tissue.

## WHAT IS IMPORTANT TO YOU WHEN DECIDING ABOUT SCREENING FOR LUNG CANCER?

There are many things to think about when deciding whether lung cancer screening is right for you. Below is a list of questions that may help you decide.

	Favors Screening			Favors No Screening	
<b>How important is:</b>	Very Important			Not Important	
Finding lung cancer early when it may be more easily treated?	<input type="radio"/>				
<b>How concerned are you about:</b>	Not Concerned			Very Concerned	
Having a false alarm?	<input type="radio"/>				
Having other tests if you have a positive screening test?	<input type="radio"/>				
Being exposed to radiation from lung cancer screening?	<input type="radio"/>				
Being treated for lung cancer that never would have harmed you?	<input type="radio"/>				
Being harmed by the treatments you receive for lung cancer?	<input type="radio"/>				

### TALKING WITH YOUR HEALTH CARE PROFESSIONAL ABOUT LUNG CANCER SCREENING

Making the decision to be screened for lung cancer is a personal decision. You should talk with your health care professional and make the decision based on what is right for you.

Below are some questions to think about at your visit with your health care professional. Keep in mind the possible benefits and harms that are most important to you.

- Am I eligible for lung cancer screening?
- What happens if I decide not to be screened for lung cancer?
- Does my insurance cover lung cancer screening?
- Where should I go for lung cancer screening?
- Do I have to do anything to prepare for screening?
- How soon will I know the results of screening?
- What happens if the lung cancer screening shows something of concern?

### WHAT OTHER QUESTIONS DO YOU HAVE?

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### WHAT IS YOUR DECISION ABOUT LUNG CANCER SCREENING?

- Screening is right for me.
- Screening is not right for me.
- I am unsure about screening.

### WHAT ABOUT INSURANCE COVERAGE FOR LUNG CANCER SCREENING?

Private insurance plans cover lung cancer screening for people age 55 through 80, with no out-of-pocket costs.

Medicare pays for lung cancer screening with no out-of-pocket costs for people up to age 77 if you meet the following criteria:

- » You must have a written order from your health care professional (your doctor, nurse practitioner, or physician assistant).
- » Your visit with your health care professional must be a “shared decisionmaking visit.” In this visit your health care professional must use one or more decision aids and must discuss benefits and harms. Your health care professional must also talk about followup diagnostic testing, overdiagnosis, false alarms, and total radiation exposure from screening.
- » You must go to a screening facility that participates in the lung cancer screening registry set up for Medicare patients.

Ask your health care professional about the criteria if you have Medicare coverage.

There may be additional costs for followup tests and/or treatments after the initial screening exam. Contact your insurance company to see if the procedures are covered and what the cost to you would be.

### INFORMATION FOR CONSUMERS

- » **Understanding Lung Cancer**  
[www.cancer.gov/types/lung](http://www.cancer.gov/types/lung)
- » **Screening for Lung Cancer: Consumer Guide**  
[www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/lung-cancer-screening](http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/lung-cancer-screening)
- » **Find an Approved Screening Facility**  
[www.cms.gov/Medicare/Medicare-General-Information/MedicareApprovedFacilitie/Lung-Cancer-Screening-Registries.html](http://www.cms.gov/Medicare/Medicare-General-Information/MedicareApprovedFacilitie/Lung-Cancer-Screening-Registries.html)

