

You may want to have a say in this decision, or you may simply want to follow your doctor's recommendation. Either way, this information will help you understand what your choices are so that you can talk to your doctor about them.

Lung Cancer: Should I Have Screening?

Here's a record of your answers. You can use it to talk with your doctor or loved ones about your decision.

1. Get the facts
2. Compare your options
3. What matters most to you?
4. Where are you leaning now?
5. What else do you need to make your decision?

1. Get the Facts

Your options

- Have a lung cancer screening test every year. This test is a low-dose CT scan.
- Do not have this yearly test.

This decision aid is for people at high risk for lung cancer. This includes people age 55 and older who have a heavy smoking history and who have smoked within the last 15 years. In general, screening is more helpful for people who have smoked more and longer, because they are at the highest risk.

Key points to remember

- Lung cancer screening is a way to find some lung cancers early, when the cancer is more treatable. Screening with CT scans has been shown to lower the risk of dying from lung cancer in some older people who are or were heavy smokers.
- Screening will miss some lung cancers. And many cancers that are found may still be fatal, even with treatment.
- Screening is done with a CT scan. It uses X-rays, or radiation, to make detailed pictures of your body. Having the test every year means being exposed to this radiation on a regular basis.
- For many people, CT scans show spots on the lungs that aren't cancer. This leads to more tests to make sure you don't have cancer. These extra tests can sometimes cause harm or cause a lot of worry.

- Some lung cancers found on CT scans are harmless and would not have caused a problem if they had not been found through screening. But because doctors can't tell which ones will turn out to be harmless, most will be treated. This means that you may get treatment-including surgery, radiation, or chemotherapy-that you don't need.
- If you are a smoker, stopping smoking is the best way to lower your chance of getting and dying from lung cancer. Not smoking helps more than lung cancer screening does.

FAQs

What is lung cancer?

Lung cancer starts when abnormal cells grow out of control in the lung. They can invade nearby tissues and form tumors.

The cancer cells can spread, or metastasize, to the lymph nodes and other parts of the body.

Most lung cancer is caused by smoking.

What is lung cancer screening?

Lung cancer screening is a way to find some lung cancers early, when a cure is more likely.

Screening is done with a CT scan. It uses X-rays, or radiation, to make detailed pictures of your body. Experts recommend that these scans be done in medical centers that focus on finding and treating lung cancer.

When is lung cancer screening done?

Lung screening is only recommended for people age 55 and older who are or were heavy smokers. That means people with a smoking history of at least 30 pack years. A pack year is a way to measure how much you have smoked.

To figure out your pack years, multiply how many packs a day (assuming 20 cigarettes per pack) you smoke by how many years you have smoked. For example:

- If you smoked 1 pack a day for 15 years, that's 1 times 15. So you have a smoking history of 15 pack years.
- If you smoked 1½ packs a day for 20 years, that's 1.5 times 20. So you have a smoking history of 30 pack years.
- If you smoked 2 packs a day for 15 years, that's 2 times 15. So you have a smoking history of 30 pack years.

The U.S. Preventive Services Task Force (USPSTF) recommends annual lung cancer screening if: ¹

- You are 55 to 80 years old. (In the United States, Medicare pays for annual screening only until age 77.)
- **And** you have a smoking history of at least 30 pack years.
- **And** you still smoke, or you quit within the last 15 years.
- **And** you are in good health overall. (Having a serious health problem might mean that you couldn't or wouldn't want to have treatment for lung cancer. The treatment could be too high-risk, and it might not help you live longer.)

The USPSTF also recommends that you no longer need lung cancer screening if you have not smoked for 15 years or if you have a serious health problem.

What kind of results can lung cancer screening show?

An abnormal (positive) CT scan can be the first warning sign of lung cancer. And it means you'll need more tests. These may include more CT scans and invasive testing like a lung biopsy.

In a biopsy, the doctor takes a sample of tissue from inside your lung so it can be looked at under a microscope. A biopsy is the only way to tell if you have lung cancer. If the biopsy finds cancer, you and your doctor will have to decide how or whether to treat it.

The scan can suggest a problem when there is not one. This is called a false-positive result. It's common to get an abnormal result from this test even when you don't have cancer. Several things can cause an abnormal result, including small growths (nodules) that would never cause any harm. But without further tests, your doctor can't tell whether an abnormal finding is cancer, a harmless nodule, or something else.

The scan may also fail to find cancer that is there. This is called a false-negative result.

Your scan may also be normal (negative).

What does lung cancer screening NOT tell you?

A lung cancer screening test can't tell if you have lung cancer. The CT scan only shows whether there is something other than normal tissue in the lungs.

What can you do to prevent lung cancer?

Don't smoke. Most lung cancers are caused by smoking. If you have already quit smoking, you've taken the best step you can to prevent lung cancer. And if you still smoke, the best way to lower your chance of getting or dying from lung cancer is to quit. Your doctor may recommend medicines that can help you quit.

Screening doesn't prevent lung cancer. It can only find some cancers early, when treatment may be more likely to work.

What are the benefits of screening?

Screening has been shown to lower the risk of dying from cancer in older people who were heavy smokers.

The higher your risk (the more you smoked and the longer you smoked), the more likely it is that annual screening will prevent death from lung cancer.

What are the risks of screening?

False-positive results

CT screening for lung cancer isn't perfect. It can show an abnormal result when it turns out there was not any cancer. This is called a false-positive result. This means you may need more tests to make sure you don't have cancer. These tests can be harmful and cause a lot of worry.

Overdiagnosis

Some lung cancers grow so slowly that they will never cause a problem and don't need treatment. You might have this type of lung cancer, but a CT scan can't tell whether it's harmless. So you may get treatment-including surgery, radiation, or chemotherapy-even though you don't need it. This is called overdiagnosis, or overtreatment.

Radiation exposure

Lung cancer screening is done with a CT scan that uses a low dose of X-rays, or radiation, to make detailed pictures of your lungs. A CT scan exposes you to less radiation than most of us are exposed to each year from the natural radiation around us. But some people then need one or more follow-up scans, which use higher doses.

Each time you have the screening and any needed follow-up scans will add to your total radiation exposure.

Radiation from X-rays is known to cause cancer in a very small number of people. Still, for most people who are at high risk for lung cancer, the benefit of getting screened every year outweighs the risk of getting cancer from radiation.

What do the numbers tell us about the benefits and risks of lung cancer screening?

The National Lung Screening Trial (NLST) studied older people with a history of heavy smoking. The tables below show how the results of the NLST study might affect a group of 1,000 people who are at high risk for lung cancer and who choose to have yearly screening with CT scans.²

Benefits of yearly lung cancer screening*

	Annual screening for 3 years	No annual screening
People who died of lung cancer within 6½ years	18 out of 1,000	21 out of 1,000

*Based on the best available evidence (evidence quality: high)

Risks of yearly lung cancer screening*

	Annual screening
People who got abnormal test results that proved to be wrong after more testing (false-positives)	365 out of 1,000
People who had an invasive procedure because of a false-positive result	25 out of 1,000
People who had a major complication from a procedure they had because of a false-positive result	3 out of 1,000
Estimated number of people who would get cancer treatment they didn't actually need (overdiagnosis)	About 4 out of 1,000 ^{3, 1}

*Based on the best available evidence (evidence quality: high)

Benefits

The quality of the evidence about the benefits of lung cancer screening is moderate.

For heavy smokers who qualify for annual screening, having this regular test offers them a better chance of not dying of lung cancer.

Take two groups of 1,000 people . One group has annual screening for 3 years, and one group does not. About 6½ years later, about 18 people in the screening group and about 21 people in the non-screening group will have died of lung cancer. That means the group that did not have annual screening had 3 more lung cancer deaths than the screening group.

But this is just an average. The higher your cancer risk, the more likely it is that annual screening will prevent death from lung cancer. The more pack years in your smoking history, the higher your lung cancer risk.

Risks

The quality of the evidence about lung cancer screening risks is moderate.

False-positive result and follow-up. A CT scan will find nodules or other problems that aren't cancer. This is called a false-positive result. This could cause you to have other tests or treatments that it turns out you didn't need, and they could cause their own problems.

Take a group of 1,000 people who have annual lung cancer screening . About 365 of them will have at least one false-positive result. Of the 1,000 people tested, 25 will have an invasive procedure, such as a lung biopsy, because of a false-positive result. And 3 out of 1,000 will have a major complication because of that procedure. Major complications include collapsed lung, major bleeding, and, in rare cases, death.

Overdiagnosis. Screening may find cancers that might never be life-threatening. This is called overdiagnosis. It could cause you to have treatment you don't need. And that treatment could cause its own problems.

Take a group of 1,000 people who have annual lung cancer screening . Experts estimate that about 4 of them will get cancer treatment they didn't actually need.

Radiation-caused cancer. There is a very small chance that the extra radiation exposure from annual lung cancer screening could cause a fatal cancer.

Understanding the evidence

Some evidence is better than other evidence. Evidence comes from studies that look at how well treatments and tests work and how safe they are. For many reasons, some studies are more reliable than others. The better the evidence is-the higher its quality-the more we can trust it.

The information shown here is based on the best available evidence.⁴ The evidence is rated using four quality levels: high, moderate, borderline, and inconclusive.

Another thing to understand is that the evidence can't predict what's going to happen in your case. When evidence tells us that 2 out of 100 people who have a certain test or treatment will have a certain result and that 98 out of 100 will not, there's no way to know if you will be one of the 2 or one of the 98.

Why might your doctor offer annual screening?

Your doctor may offer annual screening if:

- You are 55 to 80 years old.
- **And** you have a smoking history of at least 30 pack years. **And**
- you still smoke, or you quit within the last 15 years.
- **And** you are in good health overall. (Having a serious health problem might mean that you couldn't have treatment for lung cancer. The treatment could be too high-risk, and it might not help you live longer.)
- **And** you think the risks (false positives, invasive procedures, overdiagnosis) are worth the benefit of finding cancer early.

2. Compare your options

	Have an annual CT scan	Don't have an annual CT scan
What is usually involved?	<ul style="list-style-type: none"> ▪ You will lie on a table connected to the CT scanner. The table slides into the opening in the machine, and the scanner moves around your body. The test takes about 30 minutes. ▪ If your results are abnormal, you may need follow-up scans or a lung biopsy. ▪ If you still smoke, you can try to quit. Your doctor may recommend medicines that can help you quit. 	<ul style="list-style-type: none"> ▪ Instead of having an annual CT scan, you see your doctor as needed. ▪ If you still smoke, you can try to quit. Your doctor may recommend medicines that can help you quit.
What are the benefits?	<ul style="list-style-type: none"> ▪ For some people who are at high risk, having this test every year lowers the risk of dying from lung cancer. 	<ul style="list-style-type: none"> ▪ You avoid the hassle and worry of yearly testing. ▪ You avoid the risk of having follow-up tests and getting cancer treatments you may not need. These tests and treatments may be harmful.
What are the risks and side effects?	<ul style="list-style-type: none"> ▪ Screening may show an abnormal result when it turns out there was not any cancer. This means you may need more tests to make sure you don't have cancer. Some of these tests are procedures that can have costs, cause discomfort, be harmful, and cause a lot of worry. 	<ul style="list-style-type: none"> ▪ You may be more likely to die of lung cancer without annual screening.

2. Compare your options continued

	Have an annual CT scan	Don't have an annual CT scan
What are the risks and side effects?	<ul style="list-style-type: none">▪ Screening may find lung cancers that would not have caused a problem if you had not known about them.▪ This can lead to cancer treatment that you may not have needed. Each time you have the screening and any needed follow-up scans will add to your total radiation exposure.	

Personal stories

Personal stories about considering lung cancer screening

These stories are based on information gathered from health professionals and consumers. They may be helpful as you make important health decisions.

"I smoked at least a pack a day for 45 years. I know that puts me at high risk for lung cancer. Even though I've finally quit smoking, I'm going to have this test. I know there are downsides, but I want to find any lung cancer as soon as possible." — Skip, age 63

"I've been smoking about a half a pack a day for most of my life. My doctor talked to me about lung cancer screening and said it was an option for me. But having any kind of medical test really stresses me out. Waiting for the results makes me worry, and my doctor said that with this test, the results are often wrong. So I'm going to skip the test and work on quitting smoking instead." — Shawna, age 75

"I smoked all my life. I've tried to quit lots of times. I'm still trying. But meanwhile the scary threat of lung cancer is a constant part of my life. I had my first lung cancer test last year and got an abnormal result. It turned out to be nothing, which was a huge relief. I think the worry was worth the chance of finding any lung cancer. I'm planning to do this yearly test again." — Binh, age 55

"My last lung cancer screening came back "positive," so my doctor recommended a biopsy to see whether or not I had lung cancer. I didn't, which is great. But that biopsy was no fun. My lung collapsed and the doctor had to insert a chest tube. I had to stay in the hospital for 3 days. I'm definitely done with annual screenings."

— Venturo, age 68

3. What matters most to you?

Your personal feelings are just as important as the medical facts. Think about what matters most to you in this decision, and show how you feel about the following statements.

Reasons to have annual lung cancer screening.

Reasons not to have annual lung cancer screening.

If I have lung cancer, I want to know.

I don't want to know if I have lung cancer if it hasn't caused a problem.

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More important

Equally important

More important

I'm willing to have screening every year.

I'm not willing to have the screening every year.

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More important

Equally important

More important

I want to do everything I can to reduce my chance of dying of lung cancer.

I don't want to take the risks of screening.

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More important

Equally important

More important

If screening found cancer, I would get treatment for it.

If screening found cancer, I would not get treatment.

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More important

Equally important

More important

Reasons to have annual lung cancer screening.

Reasons not to have annual lung cancer screening.

If there is something in my lungs, I want to know about it, even if it's not going to hurt me.

If there is something in my lungs that's not going to hurt me, I don't want to know about it.

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More important

Equally important

More important

My other important reasons:

My other important reasons:

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More important

Equally important

More important

4. Where are you leaning now?

Now that you've thought about the facts and your feelings, you may have a general idea of where you stand on this decision. Show which way you are leaning right now.

Having annual lung cancer screening			NOT having annual lung cancer screening			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leaning toward		Undecided		Leaning toward		

5. What else do you need to make your decision?

Check the facts

1. If I have annual lung cancer screenings, I won't die of lung cancer.

True

False

I'm not sure

You're right. Lung cancer screening can prevent some lung cancer deaths, but not all of them.

2. An abnormal ("positive") screening test result doesn't always mean that I have cancer.

True

False

I'm not sure

That's right. An abnormal ("positive") screening only tells you and your doctor that something abnormal was seen in a lung. It may or may not be cancer. Only a biopsy can tell for sure.

3. The best way to lower my chance of dying from lung cancer is to stop smoking.

True

False

I'm not sure

You're right. Not smoking will reduce your chance of dying from lung cancer even more than lung cancer screening will.

Decide what's next

1. Do you understand the options available to you?

Yes

No

2. Are you clear about which benefits and side effects matter most to you?

Yes

No

3. Do you have enough support and advice from others to make a choice?

Yes

No

Certainty

1. How sure do you feel right now about your decision?

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Not sure at all

Somewhat sure

Very sure

2. Check what you need to do before you make this decision.

I'm ready to take action.

I want to discuss the options with others.

I want to learn more about my options.

Use the following space to list questions, concerns, and next steps.

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Credits

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References

Citations

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