

# What If I Have a Spot on My Lung? Do I Have Cancer?

Patient Education Guide



Lung cancer is one of the most common cancers. About 170,000 people in the United States are diagnosed with lung cancer every year. More men than women get lung cancer. But, women are quickly catching up with men, and, in the future, this trend may be reversed. Most people who are diagnosed with lung cancer are in their 50s, 60s, 70s, or older. But, some younger people in their 20s, 30s, 40s, and even teenagers, have been diagnosed with lung cancer.

The greatest risk factor for lung cancer is smoking cigarettes. About 80% of people with lung cancer have smoked. Many of them have smoked for a number of years. Most people started smoking as teenagers or earlier. Other risk factors include having a blood relative with lung cancer. People who are exposed to secondhand smoke, toxic chemicals, such as radon, diesel fuel exhaust, asbestos, and other chemicals are also at greater risk.

There are two major types of lung cancer: small cell and non-small cell lung cancer. Non-small cell lung cancer is by far the most common type of lung cancer. Four out of five people diagnosed with lung cancer will have non-small cell lung cancer. Most lung cancers grow very slowly. Most take a number of years to grow large enough to be found on spiral computed tomography (CT) or chest x-ray.

## Your Lungs

Your lungs are a very important organ. They are used to breathe in the oxygen your body needs for all of its cells. When you exhale, you breathe out the carbon dioxide that is a waste product from the cells in your body. You have one lung on each side of your chest. On the left side, there are two lobes, or sections, of lung. The right side has three lobes. Your heart fits between the two lungs. You also have a large network of lymph glands, or nodes, in the middle of your chest and around the breathing tubes in your lungs. The lymph nodes act as filters to remove bacteria, viruses, and other harmful things that get into your lungs as you breathe.

## What Is a Pulmonary Nodule?

Your doctor has told you that you have a pulmonary nodule. This means that a spot has been found on one of the lobes of your lungs.

Pulmonary is a medical word, meaning lungs. Nodule means a spot on the pictures taken of your lungs that does not look like normal lung tissue or blood vessels. A nodule may also be called a lesion. The pictures of your lungs were either taken with an x-ray, a CT scanner, or another type of machine that can take pictures of your internal organs. The nodule may range in size, from something the size of a grain of rice, if it is found with CT scan, to the size of a walnut or bigger, if it is found with chest x-ray.

The nodule might have been found because you had some symptoms or problems with your lungs. Many people with lung cancer have never been aware of symptoms before their diagnosis. You may have noticed, however, that you were more out of breath climbing stairs or walking fast. You may have had a cough that was different and lasted longer than usual. Or, you may have had a dull pain in your chest that bothered you at times, and your doctor suggested that you have one of these tests taken that can take a picture of your lungs.

People find out about their lung nodules in many ways. The nodule may have been found because you were having surgery or another medical procedure. Your surgeon ordered an x-ray or CT scan before surgery to make sure your lungs were clear. The nodule might have been found by chance, as part of a routine medical exam. Or, it might have been found because you are part of a clinical study that is studying how to find lung cancer in people who are at risk of the disease.

When a pulmonary nodule is found, it is important that your doctors find out if it is cancer or not. To do this, your doctor will ask you to have a number of tests. This is usually a very hard time for most people and their loved ones. You worry about what the test results will show. You hope you don't have cancer. It is important to remember that most nodules found with CT scan and chest x-ray are not types of cancer.

This is a time when you will make many decisions. Do you want to simply follow your doctor's suggestions for all the tests? Do you want to do some research about lung cancer? Do you want to have a wide group of people know what you are going through? Or, do you want to keep this all to yourself, and maybe your immediate family, until you know more? You will have to find time to make, and keep, appointments to have all the tests that will need to be done to determine what this nodule in your lungs really means. In this process, you will be seeing many different doctors.

You may decide to get more information yourself by talking with people you know. You may read about lung cancer in books, brochures, or on the Internet. It is always good to be well informed. Remember, however, that what you read or hear about may not apply to you. Use the information you get to ask your doctors questions. Use the information you get to ask questions about your test results. Try not to worry about information that may have nothing to do with you. Focus on taking one step at a time while a diagnosis is being made. If you do have lung cancer, it may be treated and may even be cured.

## Who Are All These Doctors?

If you know you have a pulmonary nodule, your primary care doctor may have already referred you to a pulmonologist. This specialist is trained to diagnose and treat diseases of the lungs. You may have also met a radiologist who administered your x-rays or scans. If cancer is suspected, you may also meet a thoracic (chest) surgeon. The pulmonologist, radiologist, or possibly the surgeon, may perform a biopsy of your nodule. If you have cancer, then you may be referred to medical and/or radiation oncologists who can provide additional care for you. Some medical and radiation oncologists specialize in treating cancer of the chest. Other doctors work behind the scenes but play very important roles. One of these doctors is the pathologist. This is the doctor who looks through a microscope and determines if you really have cancer or not.

## Finding Out If the Nodule Might Be Cancer

If your nodule was found by chest x-ray, the first thing your doctor will want to do is look at all the previous chest x-rays you have had, if any. Some of these nodules will be about the size of a marble or walnut. Some may be much larger. Your doctor will look for a nodule in the same place on any x-rays taken in the past several years. If your nodule can be seen on any of these x-rays, your doctors will check to see if it has changed. They will also see if it looks like cancer. Large cancerous nodules often look different than nodules that are not cancer. At this point, your doctor will be able to tell you if you need more tests or if there is nothing to be concerned about at this time.

If you haven't had any previous x-rays or the nodule is new or has changed, then your doctor will most likely order a CT scan of your lungs.

If the nodule was first seen on a CT scan, it might be as small as a grain of rice. Or, it could be bigger. Most very small nodules are not cancer. The nodule may be an infection. It might also be scar tissue from a previous infection. If the nodule in your lungs is very small, your doctor might have you take antibiotics for a few weeks to see if the nodule goes away. Whether you take antibiotics or not, for a small nodule, your doctor will want to repeat the CT again in about 3 months or so. A small nodule that grows during this waiting time is more likely to be a cancer.

## Biopsy of the Nodule

The only way to find out if a nodule is really cancer or not is to have a biopsy. Once your doctor has found out that your nodule is probably not scar tissue or an infection, a biopsy will be done. In a biopsy, a piece of tissue from the nodule is removed for examination under a microscope.

There are several ways a biopsy can be done. Your doctors will decide the best way to perform a biopsy on your nodule. This depends on the location and the size of the nodule. In each way, tissue is taken from the nodule. A pathologist will examine the tissue under a microscope. Pathologists are doctors who are trained to know the difference between cancer cells and normal cells. The pathologist will provide you and your doctor with a written report of the findings.

Before deciding what type of biopsy to perform, your doctor might suggest that you have a positron emission tomography (PET) scan. This is another way that images can be taken of your lungs and the areas around your lungs. Your PET scan might even be of your entire body. A PET scan shows you and your doctors exactly where possible cancer cells might be. However, the cancer has to be about the size of a marble before it is visible by a PET scan. Using the PET scan, your doctor will want to know if the lymph nodes in your chest look normal or if they look like they might have cancer in them. If you have cancer and it has spread outside the lungs, one of the first places it will go is to the lymph nodes. A PET scan will also allow your doctor to check your ribs and spine, as well as other organs, such as your liver.

To remove the sample from the nodule, your doctor may send you to another doctor who will do a needle biopsy. This is usually done as an outpatient procedure. In this case, the radiologist or another specialist uses a long, thin needle that inserts between your ribs and into the lungs, to get a sample of the nodule. It may be difficult to do a needle biopsy on a very small nodule. It is also hard to reach some nodules with a needle biopsy.

You may need to undergo surgery to have a biopsy. In this case, the biopsy is usually done through tiny openings in the chest wall. A very small video camera is inserted through one of the openings to help the surgeon find the nodule. The camera also helps the surgeon as he or she removes a piece of the lobe that contains the nodule. If the nodule is, in fact, cancer, the entire lobe is usually removed.

Another way to obtain a biopsy specimen is through the use of a bronchoscope. A bronchoscopy procedure is most often performed when the nodule is in the center of the chest, near the airways. First, you will be given medication to help you relax and to relax your throat muscles. The doctor who does this will insert a small, flexible tube down your throat into your lungs. A very small camera is attached to the end of the tube. With this type of biopsy, the doctor can see exactly what tissue needs to be removed. The doctor can take samples of any tissue that looks as if it might be cancer.

In some cases, the large size or the particular appearance of the nodule will make it very likely to be a type of lung cancer. In this case, it may not be worthwhile to perform a biopsy. Surgery may be the first step. In other cases, the location of the nodule in the lung will make it impossible to perform a biopsy, except through surgery. In these cases, a surgeon will remove the section of the lung that includes the nodule for study by the pathologist.



## What Does This Mean for Me?

If the biopsy shows that you have cancer, and the nodule is smaller than a walnut, then your chance of being cured is very good. Having only one site of the cancer is better than having a number of tumors present. It is good news if there is no sign of cancer in the lymph nodes, bones, or other organs. If you do have cancer, then a single nodule also probably means that you have non-small cell lung cancer.

If your nodule is very small, for example, the size of a grain of rice, a marble, or even a walnut, then surgery to remove the lobe in which the nodule was found may be the only treatment that is needed. Almost everyone who has lung cancer, that is found when it is still this small, is cured by surgery. However, it is very important that you continue to have your doctor check your condition on a regular basis with chest x-rays or CT scans at 3, 6, 12, and 24 months, and annually thereafter.

If your nodule is larger than the size of a walnut, lemon, or even larger, you may need to have more treatment than just the surgery. If your lymph nodes show any signs of cancer, then other treatments will also be recommended. The other tests you have will help your doctor make the best recommendations about what treatments would be best for you. The other treatments might include chemotherapy, radiation, or both. In some cases, your doctor might even suggest that you have other treatment before surgery. This could help shrink a large tumor to a size that is easier to remove.

## What If I Can't Have or Don't Want To Have Surgery?

Some people may have a nodule or tumor too large to remove by surgery. The tumor might also be in a location that makes surgery too difficult. Other people may not be able to have surgery because of certain medical conditions. Some people may not want to have surgery. In this case, other treatments may be the best option.

It is still important that you continue to see your doctor on a regular basis. This will include a chest x-ray or CT scan at 3, 6, 12, and 24 months, at minimum. This way, your doctor can better manage any symptoms that may develop.

## Should I Consider a Clinical Study?

Everything we definitely know about treating lung cancer is a result of people who were willing to take part in clinical studies. A clinical study uses treatments that are thought to be the best approach currently available. Sometimes, a treatment may be available only in a clinical study. The treatment has been carefully thought-out by experts. In general, patients who are treated in a clinical study do better than those who receive similar treatments without being part of a study. This is, in part, because of the care and effort that went into developing the treatment approach. It is also because of the check-ups and monitoring that are part of a study.

Most clinical studies are randomized. This means that you agree ahead of time to be assigned to receive one treatment or another. One is the treatment that is being tested. The other treatment is usually considered to be the standard of care at that time, for your particular condition. The idea of you or your doctor not being able to choose the particular treatment may be bothersome to you. But, you should know that both of the treatments in a randomized study are thought to be good choices for you.

There are clinical studies in every area of cancer therapy. Treatment studies are common ways of testing new drugs or other types of therapies. A surgical study might involve a newer type of surgery. Other studies research new methods for giving radiation. Clinical studies offer cutting-edge treatment that is thought to be the best possible approach. It just may not have been used enough for doctors to be sure. They need to treat enough people with the same treatment to know that it works well.

Many people find hope and gratification when they take part in a clinical study. They know that they are helping themselves, as well as others. Clinical studies offer the advantage of providing the test treatment, often at no cost to you. You will still be responsible for other treatment costs. If you are interested in clinical studies, talk to your doctor or refer to the Resources section listed in this brochure.

## Planning for the Future

If the nodule in your lungs is not cancer, your life will return to normal after the tests. But, if you are at risk for lung cancer because you are a smoker, a former smoker, or because lung cancer runs in your family or you have other risks, talk to your doctor about follow-up checkups.

If you smoke, QUIT! And QUIT NOW! This is very important. Quitting will not prevent you from developing lung cancer if you don't have it now. Because you have smoked, you will always be at increased risk for lung cancer. Quitting smoking, however, does reduce other health risks, such as your risk for heart disease.

If the nodule that has been found in your lungs is not cancer, quitting smoking now will keep your risk of developing lung cancer from going higher and higher.

If your nodule is cancer, then quitting is still very important. If you have surgery, there will be less risk of complications. You will recover faster than if you are still smoking. And, you will help to reduce your risk for further problems with lung cancer and with any other treatments you might have.

If your nodule is cancer, you will need to make many decisions. You and your doctor will need to decide the types of therapies you will have. You will decide how you want to take part in the decision making about those treatments. Do you want your doctors to tell you what to do? Or, do you want to take an active part in finding out about treatments that might be available to you? It will help if you can talk to your doctors and your family about how you think you will be most comfortable as you proceed with your treatment plan.

Whether you have surgery or a combination of treatments for your pulmonary nodule that is cancer, you will be spending much of your time and energy in the next 3 to 6 months or more dealing with the cancer. Your doctors are there to help you. You will get to know them, and the many staff who work with them, very well. You will probably hear all sorts of numbers about patients who survive and those who do not. It is important that you keep in mind that those are just numbers. For you, the important thing is that you get through this unwanted journey in the best possible way—as a lung cancer survivor.

## Resources

### **Alliance for Lung Cancer Advocacy, Support, and Education (ALCASE)**

Toll-free phone number: (800) 298-2436

Internet site: [www.alcase.org](http://www.alcase.org)

### **American College of Chest Physicians (ACCP)**

Toll-free phone number: (800) 343-ACCP

Internet site: [www.chestnet.org](http://www.chestnet.org)

### **American Cancer Society (ACS)**

Toll-free phone number: (800) ACS-2345

Internet site: [www.cancer.org](http://www.cancer.org)

### **Cancer Care**

Toll-free phone number: (800) 813-4673

Internet site: [www.cancercare.org](http://www.cancercare.org)

### **Lungcancer.org**

Toll-free phone number: (877) 646-LUNG

Internet site: [www.lungcancer.org](http://www.lungcancer.org)

### **National Cancer Institute (NCI)**

Toll-free number: (800) 4-CANCER

Internet site: [www.cancer.gov](http://www.cancer.gov)

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**Additional Lung Cancer  
Patient Education  
Guides Available**

**Lung Cancer... Am I At Risk?**

**Living With Lung Cancer**

**Advanced Lung Cancer: Issues To Consider**

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