

# LUNG NODULES

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LUNG CANCER ALLIANCE

1-800-298-2436

[LungCancerAlliance.org](http://LungCancerAlliance.org)

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# CONTENTS

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What is a Nodule? .....	2
Finding Nodules .....	3
If a Nodule is Found .....	4
What Happens Next? .....	6
Questions to Ask about Your Results .....	7
For More Information .....	8

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# WHAT IS A NODULE?

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**CONGRATULATIONS** ON TAKING THIS IMPORTANT STEP AND MANAGING YOUR HEALTH BY GETTING SCREENED FOR LUNG CANCER. THE FACT IS, FOR MANY PEOPLE WHO ARE SCREENED, LUNG CANCER WILL NOT BE FOUND. WHEN SOMETHING IS FOUND, IN MOST CASES IT IS NOT CANCER. BUT IF YOU ARE AT RISK, SCREENING IS THE BEST WAY TO CATCH IT EARLY WHEN IT IS EASIER TO TREAT.

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Lung nodules are abnormal spots that may show up on your lung cancer screening scan. Doctors may call them lesions, coin lesions or solitary pulmonary nodules (SPN). Lung nodules are very common – at least 50% of people have them by the time they are 50 years old. The challenge is figuring out which nodules are or will become cancer.

All lung cancer starts with a nodule but 95% of lung nodules are not cancer. Nodules that are not cancer may be the result of a bacterial or fungal infection in the past that causes inflammation and scarring in the lungs. For the small group of people who are screened and have lung cancer, it is usually found in the earliest, most curable stages.

## FINDING NODULES

**Q: WHAT IS SCREENING AND HOW IS IT DONE FOR LUNG CANCER?**

Screening is a process that looks for disease in a person who has no symptoms. It is done to find disease as early as possible. With cancer, especially lung cancer, the earlier it is found, the better chance there is for a cure.

Lung cancer screening uses an imaging scan called low-dose computerized tomography (LDCT). The scan looks for abnormalities in the lungs that could be, or turn into, cancer. A LDCT takes a 3-dimensional image of your lungs and can show nodules as small as a grain of rice.

**Q: WHAT IF NOTHING IS FOUND?**

Even if no nodules are found, yearly scans are suggested because lung cancer can still develop over time. If nothing is found, a new LDCT scan is typically done every year according to guidelines. You may have a yearly scan that remains clear every year it is performed. If a nodule shows up on a follow-up scan, it may be watched more closely over time to determine if it is cancer. If it starts to grow or change and is cancer, it will be caught as early as possible.

**Q: WHAT IF SOMETHING IS FOUND?**

Because LDCT scans are so sensitive, they often show changes in the lungs that are not always cancer.

Some nodules will need to be followed over time to see if they grow or change. If they do, they could be cancer. The larger the nodule is, the more likely it is to be cancer. Imaging tests can tell a lot about a nodule. They can help the health care team decide how likely a nodule is to be cancer and if a biopsy is needed. A biopsy is the removal of a sample of tissue or fluid for testing (see page 6).

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# IF A NODULE IS FOUND

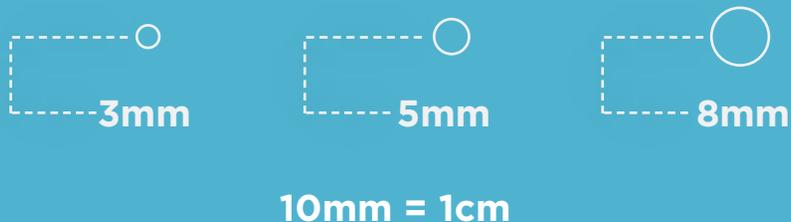
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When a nodule is found, your doctor may want to find out more. What happens next depends on what the nodule looks like in size and structure.

## SIZE OF THE NODULE

Most benign (not cancerous) nodules are small (less than 5mm) in size. Most nodules between 5-10mm will need additional imaging unless they are unlikely to be cancer based on the way they look. For example, a type of nodule that is unlikely to be cancer is a calcified granuloma. A granuloma is an area of inflammation that may be the result of an infection. A calcified granuloma contains calcium deposits.

Larger nodules require more careful evaluation and examination including additional imaging tests and possibly a biopsy. Nodules less than 8mm are usually too small for a biopsy.



## MARGIN (OR EDGE) OF THE NODULE

The margin is the place where the nodule is in contact with normal lung tissue. The margins of many cancers are uneven, look spiky and are described as "spiculated." Most nodules that are not cancer have very smooth or rounded margins.

## COMPOSITION OF THE NODULE

In the most basic terms, there are calcified nodules and non-calcified nodules.

Calcified nodules contain deposits of calcium which are visible on imaging scans. This can happen when the body responds to infections such as tuberculosis and usually means a nodule is not cancer.

Non-calcified nodules are classified as ground glass opacities, partially solid or solid nodules. Ground glass opacities (GGO) look like a hazy (not clear) area on a CT scan, like ground glass. This may be the result of inflammation caused by infection or other lung damage, but could also be a sign of a type of lung cancer that is slow-growing.

Most small non-calcified nodules are followed through yearly follow up screening. Depending on the size, the screening team may recommend a follow up LDCT scan or other imaging tests earlier than a year. If the nodule grows, further testing may be needed to see if it is cancer. If it does not change or grow it is probably not cancer.

## WHAT HAPPENS NEXT?

Large nodules or those that have changed over time will need more immediate testing such as imaging tests like positron emission tomography (PET), combination PET/CT or a biopsy.

**PET** shows how cells use glucose (also known as sugar). Since cancer cells usually use more glucose than the cells around it, they appear as “hot spots” (bright areas) on the scan.

**PET/CT** allows both types of scans to be done at the same time and can provide more information than either test alone.

**BIOPSY** A biopsy is done to see if the nodule in question is cancer. In a biopsy, small pieces of the nodule are removed from the body and examined under a microscope by a doctor called a pathologist. If the biopsy indicates there is cancer present, it also identifies the type of cancer. If it is lung cancer, the biopsy should show the type of lung cancer, either non-small cell or small cell.

There are a number of ways that tissue or fluid can be removed by biopsy. The type of procedure is determined by the size of the nodule, where it is located in the lung and your overall health. All tests and procedures have risks.

Talk with your treatment team to understand the risks and benefits of the procedure that is recommended for you. For more information please see our brochure, “Understanding Lung Cancer Biopsies.”

# QUESTIONS TO ASK ABOUT YOUR RESULTS

WHAT WAS FOUND?

A SINGLE NODULE OR MORE THAN ONE?

WHERE IS IT/ARE THEY LOCATED?

WHAT DOES THIS RESULT MEAN?

WHAT CAN YOU TELL ABOUT THE NODULE FROM MY SCAN?

WHAT FOLLOW UP DO YOU RECOMMEND AND WHY?

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# WHERE CAN I GO FOR MORE INFORMATION?

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For more information about lung cancer and current treatments, to discuss support options or for referral to other resources, please contact us:

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**HELPLINE** | 1-800-298-2436

**CLINICAL TRIAL  
MATCHING SERVICE** | 1-800-698-0931

**WEBSITE** | [lungcanceralliance.org](http://lungcanceralliance.org)

**E-MAIL** | [support@lungcanceralliance.org](mailto:support@lungcanceralliance.org)

**MAIL** | 888 16th Street NW, Suite 150, Washington, DC 20006

## WHAT WE DO

- Offer personalized support, information and referral services at no cost through a team of trained, dedicated staff members to help patients, their loved ones and those at risk.
- Advocate for increased lung cancer research funding and equitable access, coverage and reimbursement for screening, treatment, diagnostics and testing.
- Conduct nationwide education campaigns about the disease, risk and early detection.



**LUNG CANCER ALLIANCE**

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SAVING LIVES AND ADVANCING RESEARCH BY  
EMPOWERING THOSE LIVING WITH AND AT RISK FOR  
LUNG CANCER

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