

How can I prepare for biopsy?



One way to learn about your biopsy is to ask your doctor and care team questions.

Here are some questions you might ask:

- What are the biopsy options available to me?
- Which is best for my situation?
- Are there alternatives to undergoing a biopsy procedure?
- Is a lung biopsy painful?
- Will I receive anesthesia?
- When will I get biopsy results?
- What are the side effects of a biopsy procedure?
- What are the differences among the various biopsy approaches?
- What does robotic-assisted biopsy mean?
- How long does a robotic-assisted biopsy take?
- What happens if I choose not to get a biopsy?

[intuitive.com/ion](https://www.intuitive.com/ion)

What is a lung biopsy?

If your physician found a spot on your lung, commonly called a small mass or nodule, he or she may recommend you have it checked out further. This test is called a lung biopsy. Fewer than 5% of nodules are actually cancer, but your doctor may recommend you find out for sure.²

Biopsy involves obtaining a tissue sample from the suspicious area and examining the cells under a microscope to determine if cancer or another disease is present. There are a number of ways to obtain tissue for biopsy. The biopsy approach your doctor will recommend depends on the size of the nodule, the location within the lung, and your overall health.

For your biopsy, your physician may recommend:

Surgical biopsy

Transthoracic needle aspiration

Manual bronchoscopy with or without electromagnetic navigation

Robotic-assisted minimally invasive lung biopsy with Ion

References

1. Gould MK, et al. Recent trends in the identification of incidental pulmonary nodules. *Am J Respir Crit Care Med*. Nov 15, 2015;192(10):1208-1214. doi:10.1164/rccm.201505-0990OC.
2. What is a Lung Nodule? Patient Education Information Series. American Thoracic Society. Web. 19 June 2020
3. Results based on internal Intuitive testing.

<https://www.thoracic.org/patients/patient-resources/resources/lung-nodules-online.pdf>

Important Safety Information

Risks associated with bronchoscopy through an endotracheal tube and under general anesthesia are infrequent and typically minor, and may include but are not limited to: sore throat, hoarseness, respiratory complications including dyspnea or hypoxemia, airway injury, bronchospasm, laryngospasm, fever, hemoptysis, chest or lung infection including pneumonia, lung abscess or an adverse reaction to anesthesia. Although rare, the following complications may also occur: bleeding, pneumothorax (collapsed lung), cardiac related complications, respiratory failure, air embolism, or death. As with other medical procedures, there may be

additional risks associated with the use of general anesthesia and/or endotracheal intubation which are not listed above; you should consult a health care professional regarding these and other potential risks.

Procedures using the Ion Endoluminal System may be associated with longer procedure and/or longer anesthesia time.

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Flexibility for your lung biopsy

Understand your options for minimally invasive lung biopsy

 by Intuitive

You have options.

If you recently learned you have a suspicious nodule on your lung, you may find yourself struggling to cope with the uncertainty of whether the nodule is benign or cancerous. Study results published in a medical paper in 2012 show that an estimated 1.5 million people every year in the U.S. could have a lung nodule identified. Of those, about 60,000 people could receive a new lung cancer diagnosis within two years of learning about the suspicious nodule.¹

While most nodules may be benign², your doctor may recommend additional procedures to confirm a diagnosis. The important thing to remember is you have options. Your physician can help you understand all of your options including procedures to biopsy the nodule. If he or she suggests robotic-assisted bronchoscopy with Ion, this brochure can help you understand what that means.



What will my physician do?



If you and your doctor decide that robotic-assisted bronchoscopy is right for you, here is what may happen.



During robotic-assisted bronchoscopy with Ion, your physician guides an ultra-thin³ catheter through your airway to the area of your lung for biopsy.



The small, flexible catheter can reach all segments of the lung—even far into the outer lung.³



Once at the location of the nodule for biopsy, the catheter locks in place. Your physician will insert biopsy tools through the catheter to take a sample of your lung tissue.

What is Ion?

Ion is used to perform robotic-assisted bronchoscopy. This system can reach all 18 segments of the lungs and be placed to obtain a biopsy.³ Ion is made by Intuitive, the pioneer in robotic-assisted surgery with da Vinci systems. It features:

Reach

The ultra-thin catheter and integrated vision probe provide the physician direct vision to reach all parts of the lungs.³

Precision

The shape-sensing technology provides precise location and shape information throughout the whole biopsy process. The system holds the catheter in place for precise placement for biopsy tools.³

Flexibility

The catheter can move 180° in all directions and the Flexision™ biopsy needle, a flexible biopsy needle compatible with Ion, help enable biopsy.³

What does it enable?

Be sure to talk with your physician about the outcomes he or she delivers using Ion, as every physician's experience is different. For example, ask about:

- Complication rate
- Success of reaching small nodules in difficult-to-reach locations
- How often they get a diagnosis based on the biopsy sample



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