



## **SURGERY AND RADIATION FOR EARLY-STAGE LUNG CANCER**

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**Lung cancer is the second most common cancer for both men and women in the United States. Finding lung cancer when it is small and has not yet spread makes it easier to treat. The good news is that more and more lung cancers are found at an early stage. Use this guide if you have early-stage lung cancer and are talking to your doctor about your treatment.**

- Surgery and radiation can both treat early-stage lung cancer.

About 80% of people with early-stage lung cancer do not have cancer come back somewhere else in their body, whether or not they choose surgery or radiation.

- Sometimes, surgery is the best choice for a patient. Sometimes, radiation is the best choice for a patient. And sometimes, either one can be a good choice, with different pros and cons.
- You should talk to your health care team about which choice might work best for you, based on what we know about your cancer, your other health issues, and how you feel about the pros and cons of these choices.
- If you have any concerns, or you want more information about your choices, talk to your health care team.

# SURGERY

Surgery is an option for many people to treat their early-stage lung cancer.

**Types of Surgeries:** Early-stage lung cancer surgery can involve taking out different parts of the lung.

- One lobe of the lung (called a lobectomy)
- One segment of the lung (called a segmentectomy)
- One piece or wedge of the lung (called a wedge resection)

**Surgeries can be done in one of two ways. Your surgeon will talk about which one will work best for you.**

- **Open surgery:** a large cut is made to access the cancer
- **Minimally invasive surgery:** surgery that uses tools, cameras, and lights to be able to work with several tiny cuts in your skin

Surgery usually takes about 1-3 hours. You will stay overnight in the hospital for a few days to recover.

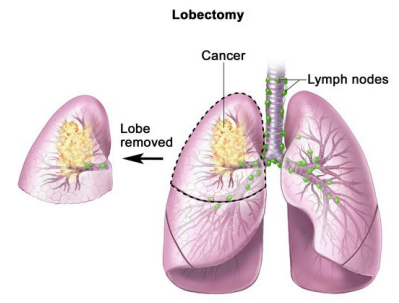
You will need to see a surgeon for follow-up every 6 months for the first 2 years, and then every 12 months for the next 3 years, to check to make sure the cancer does not come back.

## WHAT ARE THE BENEFITS OF SURGERY?

- Surgery removes the tumor from your lungs. Many patients like knowing that the tumor is taken out.
- Doctors can check the margins (or edges) of the tumor to make sure the whole tumor is removed. They also send a sample to be studied to get a more accurate cancer stage. This gives your doctors more information for future treatment if you need it.
- Doctors can also get an accurate cancer stage if your lymph nodes are checked. About 15% of people who were thought to have early-stage lung cancer have a higher stage of cancer and about 10% have cancer in their lymph nodes. If this is the case, your health care team might suggest other treatments like chemotherapy, immunotherapy and/or radiation.
- The chance of your cancer coming back in your chest is likely slightly lower with surgery than with radiation.
- Regular scans will be used to help keep track of the size and spread of the cancer. Doctors can be more certain about what they are seeing in your lung on follow-up scans if you have surgery compared to radiation.

## WHAT ARE THE DRAWBACKS OF SURGERY?

- It takes people about 2-6 weeks to get back to regular activities after surgery. The time varies based on the approach used (minimally invasive or open surgery) and the amount of the lung removed.
- Surgery can be risky for some people who have other health issues in their lungs. The chance of major complications from surgery (such as pneumonia, bleeding, and blood clots) is 5-10% (around 5 to 10 people out of a group of 100 people).
- About 5-10% of people feel long-term pain after surgery.
- People sometimes feel short of breath long-term.
- The chance of dying from surgery is about 1 in 100 (1%).



Source: <https://visualsonline.cancer.gov/details.cfm?imageid=7237>

## **RADIATION THERAPY**

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Radiation is a good option for many people to treat early-stage lung cancer.

- **What is radiation?** Cancer cells are different from normal cells because they divide and make more of themselves very quickly. Radiation uses high energy x-rays to kill the cancer cells by making small breaks in the cell's DNA. Eventually, these breaks cause the cancer cells to die and stop dividing.
- For stage I lung cancer, most people have 3-5 sessions of radiation total, given over 1-2 weeks. Each session lasts 30 minutes. Rarely, people receive as few as 1 session or need up to 12 sessions.
- You do not have any radiation in your body. Radiation does not cause you to lose your hair.
- You will have a scar in your lung from the treatment that needs to be followed.
- You will need to see a radiation oncologist for follow-up every 3 months for the first 2 years, and then every 6-12 months for the next 3 years to check to make sure the cancer does not come back.



### **WHAT ARE THE BENEFITS OF RADIATION?**

- You will not need to stay overnight in the hospital. Radiation is done in an outpatient clinic room.
- You will not need any anesthesia or blood draws.
- You can keep doing all of your regular activities, even if you feel tired.
- Radiation can be done in most people, even if they have other health issues like severe COPD or heart disease. It is easier to recover from radiation than from surgery.
- The chance of major complications is very low.

### **WHAT ARE THE DRAWBACKS OF RADIATION?**

- Radiation does not remove the cancer or sample the lymph nodes to check on its stage or spread. Therefore, you might not know the true stage of your cancer. Regular scans are used to watch for changes. About 15% of people who were thought to have early-stage lung cancer have a higher stage of cancer and about 10% have cancer in their lymph nodes.
- About 5% of patients will develop short-term lung irritation a few months after treatment, which will be treated with steroids.
- People sometimes feel short of breath long-term.
- About 10% of patients will develop short-term pain in the chest 9-12 months after treatment.
- The chance of your cancer coming back in your chest is likely slightly higher than if you had surgery.

## HOW TO DECIDE

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Making a choice between two treatment options can be hard. Please use this guide as a starting point and talk to your health care team about your questions or concerns.

### 1) What are your overall goals of care?

### 2) What worries you the most about this choice?

- a. My overall health
- b. Regular activities (work, child care, etc) that are hard to skip while I recover
- c. Support from others while I recover
- d. Transportation to and from my treatment
- e. Something else
  - i. *Please let us know what else worries you. We might be able to answer questions or refer you to resources to help.*

### 3) Is there someone else you want to talk to about your treatment plan?

## WHERE CAN I GO TO LEARN MORE?

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NCCN Guidelines for Patients



Types of Lung Cancer



Stereotactic Radiation Therapy



## WHO DEVELOPED THIS GUIDE?

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### *Clinical Review:*

Benjamin Kozower, MD, MPH  
Pamela Samson, MD, MPHS  
Kathryn E Engelhardt, MD MS  
Clifford Robinson, MD  
Varun Puri, MD, MSCI

### *Editorial Review:*

Mary C. Politi, PhD



**Surgery**