

MEDfacts

An Educational Health Series From National Jewish Health®



Small Cell Lung Cancer

Small cell lung cancer (SCLC) affects 15% of all lung cancer patients. SCLC is the most aggressive type of lung cancer. It may be treated with chemotherapy and radiation. SCLC has two stages: limited stage and extensive stage. People with limited stage SCLC have cancer in one lung and possibly the surrounding lymph nodes and tissue between the lungs, but the cancer has not spread (metastasized) to other parts of the body. People with SCLC that has spread to the brain and other parts of the body have extensive stage SCLC. More than 60% of people diagnosed with SCLC have extensive stage disease at the time of diagnosis.

Who is at risk for developing lung cancer?

A risk factor for developing lung cancer is something that increases your chance of developing lung cancer. You have an increased risk of developing lung cancer if you:

- **Smoke** – Smoking is the most common risk factor for developing lung cancer. The longer a person smokes and the more often he or she smokes, the higher the risk of developing lung cancer. Your doctor quantifies your smoking exposure by calculating the number of years you have smoked multiplied by the average number of packs of cigarettes you smoked per day to come up with “Pack-Years.” The risk of developing lung cancer is lowered after you stop smoking.
- Are exposed to **second hand smoke** – Second hand exposure to smoke or being around smoke increases the risk of developing lung cancer.
- Are exposed to radon gas, often in the home or in mining work - Radon is a radioactive colorless, odorless gas that comes from uranium found in granite. Radon is more common in certain parts of the country.
- Have a history of lung cancer in your immediate family.
- Have a personal history of a previous lung cancer.
- Had radiation therapy for another type of cancer, especially if the radiation therapy was in the chest area.

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Having several risk factors further increases your risk of developing lung cancer. For example, if a person who smokes is exposed to asbestos, the risk of developing lung cancer is increased.

What are the symptoms of lung cancer?

People with lung cancer may experience symptoms of the disease. These symptoms may be similar to having a chest cold or a mild flu. Symptoms may include:

- Coughing that doesn't go away or gets worse
- Shortness of breath
- Frequent lung infections
- Coughing up blood
- Fatigue
- Weight loss

These are common symptoms of a variety of lung diseases. Testing is done to make a diagnosis and determine the best treatment plan.

How is lung cancer diagnosed?

The evaluation for lung cancer often includes:

- Complete history and physical exam
- Chest x-ray
- Chest CT scan (a specialized x-ray that produces detailed pictures of the lungs)
- Other imaging studies. PET scans may be needed to determine the lung cancer stage.
- Breathing tests, called pulmonary function tests. These detect emphysema and asthma as well as their impact on airflow out of the lungs.
- Biopsy of the suspicious lung tissue. Obtaining a tissue sample to view under a microscope allows a pathologist to determine if the cells are normal, abnormal, or cancerous.

Using Bronchoscopy to obtain a biopsy. Obtaining a biopsy using bronchoscopy is done as an outpatient procedure without any cutting, sutures or needles. During bronchoscopy you will be sedated and your mouth and throat will be numbed. A small tube (bronchoscope) with an even smaller video camera on the end will be placed through the nose, past your throat, through your vocal cords, and into your lungs. The bronchoscope will be guided by the doctor operating the instrument based on the location on the chest x-ray or CT, and often at National Jewish Health using a computer assisted guidance system. A biopsy of the lung tissue is taken and examined by a pathologist.

Using a CT scan to obtain a fine needle biopsy. A sample of the suspicious lung nodule is obtained using a fine needle biopsy. This is an outpatient procedure. A fine needle will be inserted into the skin, which is numbed. The doctor guides the needle to the lung nodule by observing repeated CT scans during the procedure. The needle is guided into the lung nodule, and then the biopsy is taken. The biopsy is examined as described above.

Using Video Assisted Thoracic Surgery (VATS) to obtain a biopsy. A biopsy may need to be taken from the lymph nodes that are in the area between the lungs (mediastinum). This procedure is called a mediastinoscopy. It is a small operation that is performed in an operating room. You will be put to sleep for the procedure. During a mediastinoscopy a small incision will be made above the sternum or the main bone in your chest. A small tube with an even smaller video camera on the end will be placed through the incision. This will be guided to the lymph nodes by the doctor operating the instrument, based on the location on the chest x-ray or CT.

Occasionally a surgical biopsy of the lung must be performed. This operation will be performed in an operating room. A small incision is made between the ribs, the lung is deflated and a small camera is inserted into the chest cavity. When the area or nodule to be biopsied is identified, small surgical instruments are inserted through 2-3 other small incisions (less than an inch) between the ribs and the nodule is biopsied or removed. The instruments are removed, the lung is reinflated, and any incisions are sutured shut.

If the lung biopsy confirms a cancer diagnosis, a few more studies will be performed to determine if the cancer has spread. These may include specialized radiographic scans of your body and brain, and potentially biopsies of other areas. You will be referred to a cancer specialist, called an oncologist, who will recommend a treatment plan based on your stage and sub-type of cancer.

What are the stages of small cell lung cancer?

The stage of lung cancer guides the best treatment option. When lung cancer is diagnosed, the next step is to determine the stage of your lung cancer. Small cell lung cancer stages include:

- Limited Stage - Cancer is found in one lung and lymph nodes between the lungs.
- Extensive Stage - Cancer has spread outside the lungs to other parts of the body.
- Recurrent – The cancer has come back after treatment. The cancer may come back in the lungs or another part of the body.

How is small cell lung cancer treated?

Treatment

The Lung Cancer team, which consists of medical oncologists, radiation oncologists, nurses, pulmonologists, and radiologists will work closely to determine the best treatment plan for you, and bring in other specialists as needed for optimal care. Your care team may include a dietician, physical therapist, psychologist, and social worker.



Small cell lung cancer treatment often includes chemotherapy and radiation therapy.

Chemotherapy

Chemotherapy is the use of medications to kill the cancer cells and stop them from growing. Chemotherapy is often given through a vein in an IV (intravenous) catheter, or through a large catheter, called a port, that is surgically implanted in a large blood vessel in the chest. This will prevent you from having a needle inserted in a vein each time you need medicine. Chemotherapy is less irritating to the blood vessels when it is given in a large vein through a port. Chemotherapy is called systemic therapy because it moves throughout the body to kill cancer cells. Some newer chemotherapy medications may be given in pill form.

Chemotherapy is typically given in cycles. These cycles last approximately three weeks, although this may vary depending on the chemotherapy regimen. Chemotherapy may be given several times during the three-week cycle. Then your body is given a chance to rest before another cycle is started. The number of cycles may vary, but often four to six cycles of chemotherapy are given.

Two to three chemotherapy medications are often given together to treat lung cancer. The combination of medication is selected by your oncologist to best control your lung cancer.

Chemotherapy can affect normal cells that duplicate quickly. Side effects of chemotherapy for lung cancer may include: hair loss, sores in the mouth, loss of appetite, nausea and vomiting, increased chance of infection, bruising easily, bleeding, anemia/low blood count, and general fatigue. Talk with your health care provider about techniques to treat the side effects. Your chemotherapy may need to be adjusted based on your side effects and your response to the chemotherapy.

Radiation Therapy (Radiotherapy)

Radiation therapy is used to kill cancer cells and/or keep cancer cells from growing where the radiation is provided. Radiation therapy is aimed from a machine outside the body that targets the tumor. People with SCLC often receive concurrent chemotherapy and radiation therapy. Radiation therapy may be used to help prevent the spread of lung cancer to the central nervous system.

Advances in radiation therapy are able to provide higher doses of radiation and avoid normal tissue. Radiation may affect normal cells that duplicate quickly and are near the radiation area. You may experience these side effects: redness, dryness and irritation to the skin where the radiation is given; general fatigue; and trouble swallowing if the radiation is given near the esophagus; and damage to healthy lung tissue resulting in scarring. Talk with your radiation oncologist about helpful techniques to treat the side effects. National Jewish Health does not have a radiation oncology center, so radiation treatment will be performed at another hospital or radiation center. You will return to National Jewish Health for follow-up care with your oncologist.

Your oncologist will consider many factors to determine the best treatment plan for you. These factors include your age, the specific type of cancer you have, the stage of cancer, your general health and your history of any past treatments given for cancer. In

addition to your cancer treatment, supportive care – known as palliative care – is important, and is offered when you begin treatment. Members of your cancer center team will be involved in aspects of palliative care, which is focused on identifying your goals of care and helping you feel as well as you can feel while and after you receive treatment.

What about a healthy lifestyle?

A healthy lifestyle is important for everyone, especially for people who are receiving treatment for cancer. Here are some tips to consider:

- Exercise regularly as directed by your health care provider. You may feel general fatigue due to the lung cancer and treatment. Your exercise program can be modified based on how you are feeling. Ask your health care provider about being seen in the pulmonary rehabilitation program at National Jewish Health. A physical therapist can be very helpful when planning an exercise program, learning breathing techniques, and addressing non-medication pain management strategies.
- Eat a well-balanced diet and drink plenty of fluid. Ask your health care provider about being seen by a registered dietician at National Jewish Health. A registered dietician can be helpful when thinking of strategies to address the nutrition issues related to lung cancer and treatment.
- Give up smoking and avoid exposure to passive smoke. Ask your health care provider for techniques to help you give up smoking.
- Get a flu shot every year in the fall. Get a pneumococcal vaccine every 5 to 6 years as recommended by your health care provider.



What is the role of National Jewish Health?



What do we do? The Oncology Division is dedicated to the diagnosis, treatment, and long-term follow-up and surveillance of individuals with known or suspected lung or thoracic cancers. We are pleased to participate in your evaluation at any point; evaluation of an abnormal x-ray, state-of-the-art therapy if a cancer diagnosis has been made, or providing a second opinion regarding a diagnosis or recommendation.

Why National Jewish Health? We achieve optimal care through a interdisciplinary team combining lung specialists, medical oncologists, pathologists specifically trained in cancers of the lung, expert radiologists capable of interpreting all types of radiologic images, radiation oncologists to deliver needed radiation therapy, surgeons that focus exclusively on lung surgery, and dedicated nurses to guide you through the process from diagnosis to therapy and ongoing evaluation. This expert group, through frequent meetings to review patient progress, ensures that state-of-the-art care is provided to everyone.

Note: This information is provided to you as an educational service of **LUNG LINE® (1-800-222-LUNG)**. It is not meant to be a substitute for consulting with your own physician.

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