



# UNDERSTANDING

## Small Cell Lung Cancer

A Guide for the Patient



\*Lung Cancer Alliance

LUNG LOVE LEARN

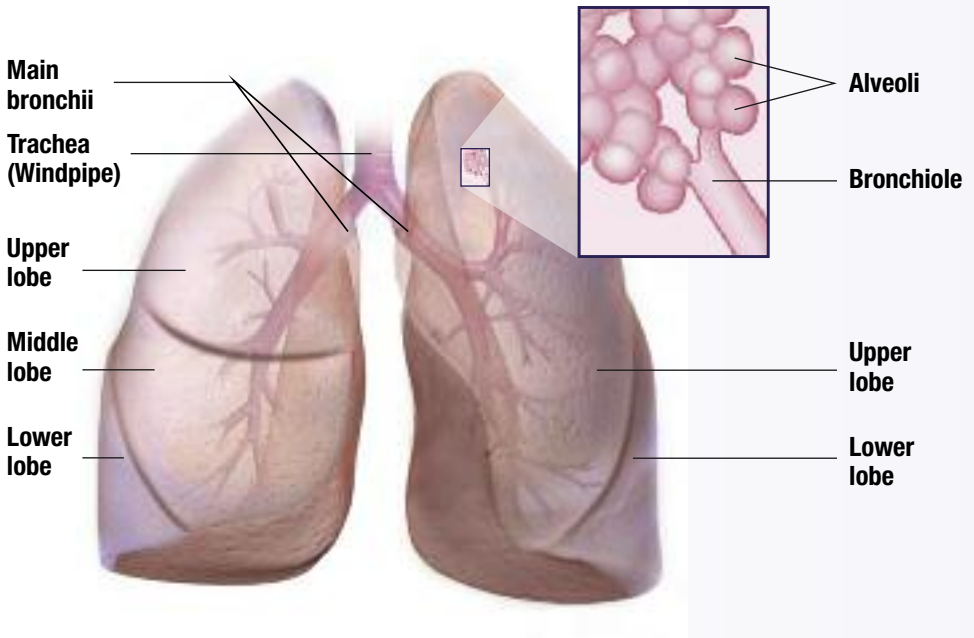
THE LUNG LOVE PROJECT™

The goal of this brochure is to help you better understand:

- Small cell lung cancer
- Available treatment options
- The role of your healthcare team
- The importance of clinical trials

The following image shows different parts that make up your lungs. Please use this picture to help guide you through the topics discussed in this brochure.

## Anatomy of the Lungs



The content of this publication is for informational purposes only and is not intended to be a substitute for professional medical advice, diagnosis, or treatment. Only your doctor can provide you with advice on what is safe and effective for you.

Models used in this brochure are for illustrative purposes only.

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# Small Cell Lung Cancer (SCLC)

Cancer is a group of diseases in which normal cells change, grow, and divide out of control.

Cancer that begins in the lungs — lung cancer — is one of the most commonly diagnosed cancers in the United States. There are two main types: small cell lung cancer (SCLC) and non-small cell lung cancer (NSCLC). SCLC is the less common of the two, making up about 15% of lung cancer diagnoses. It is a type of cancer that spreads quickly.

## What Causes Lung Cancer?

There is so much we don't know. What we do know is that a history of smoking is the main risk factor for developing lung cancer. Cigarettes contain many carcinogens, which are substances that cause lung cancer.

Other risk factors include:

- Exposure to secondhand smoke (passive smoking)
- Exposure to radon, an invisible, odorless, radioactive gas that occurs naturally in soil and rocks and may build up in the lower levels of some homes with poor ventilation
- A family history of lung cancer
- Prior radiation therapy to the chest
- Lung illnesses such as tuberculosis, emphysema, or chronic obstructive pulmonary disease (COPD)
- Exposure to industrial chemicals including asbestos, arsenic, beryllium, and uranium

# Diagnosing Small Cell Lung Cancer

## IMAGING

A number of tests provide information on areas of the lungs that do not appear normal. Doctors sometimes refer to these areas as tumors, spots, lesions, nodules, or masses. Imaging can help doctors learn if a suspicious area is not cancerous (benign) or cancerous (malignant)

Some imaging tools include the following:

- **Chest x-ray:** A picture that shows where a tumor is located, if it is large enough and not hidden behind bone.
- **CT (computed tomography) or “CAT” scan:** A series of detailed pictures, taken from different angles and put together by computer to show areas inside the body. A CT scan can show tumors that may not be visible on a chest x-ray.
- **PET (positron emission tomography) scan:** A scan using a special glucose (sugar) solution. Areas on the scan that use more glucose “light up” as hot spots in the images. Cancer cells use more glucose so areas that light up may be cancer.
- **EBUS (endobronchial ultrasound):** A procedure which uses a camera that goes through the mouth or nose into the airways to explore lymph nodes in the central area of the chest to see if cancer has spread. See page 6 for more information on the lymphatic system.
- **MRI (magnetic resonance imaging):** A scan that creates detailed images of the body and helps doctors determine whether a tumor has spread beyond its original location. Used in small cell lung cancer to check for tumors in the brain.



## Lymphatic System

The lymphatic system is a collection of organs, vessels, and nodes that are found throughout the body. The two major functions of the lymphatic system are to: (1) collect excess fluid and return it to the blood, and (2) fight infection.

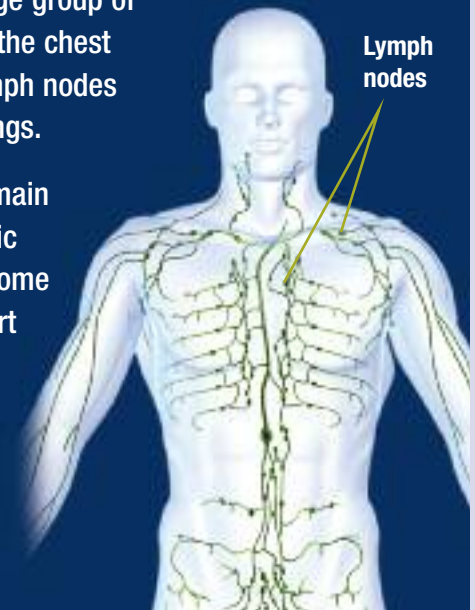
Lymph vessels are similar to blood vessels, and help to circulate lymph fluid throughout the body. Lymph fluid contains white blood cells, which help to fight infection.

Lymph nodes are small and oval-shaped. Their purpose is to trap and collect invading organisms in the lymph fluids so that the organisms can be destroyed by white blood cells.

Clusters of lymph nodes are found behind the knee and elbow joints and in the groin, armpits, and neck. A large group of them are also found in the center of the chest (the mediastinum). These are the lymph nodes that drain lymph vessels from the lungs.

Cancer cells can break off from the main tumor and travel through the lymphatic system. Some of these cells can become trapped within a lymph node and start to grow.

Determining if there are cancer cells in lymph nodes can help a doctor estimate if and how far the cancer may have spread.



## BIOPSIES

A biopsy is a procedure during which tissue is removed from the body for testing. The tissue can help doctors diagnose cancer and provide specific information about the suspicious area.

There are several types of biopsy procedures:

- **Fine needle aspiration:** Use of a thin, hollow needle to remove tissue
  - Depending on the location of the tumor, fine needle aspiration can be done during a bronchoscopy procedure (in which a camera-equipped tube is inserted through the nose or mouth to view the windpipe or other areas)
- **Core needle biopsy:** Use of a wider needle to remove tissue. More tissue can be removed with this procedure than with fine needle aspiration
- **Surgical biopsy:** Tissue is removed during a surgical procedure
  - Smaller tissue samples may be removed surgically during a bronchoscopy, while larger samples may require traditional surgery
- **Thoracentesis:** A hollow needle is inserted into the chest to remove fluid from the space around the lungs (pleura)

## STAGING

Cancer needs to be staged so that the best treatment can be suggested. The stage indicates if the cancer has spread (metastasized). This is important when choosing the best treatment.

SCLC is usually staged in two stages: limited or extensive. Some doctors use the same four stage (I-IV) system as is used in non-small cell lung cancer.

In limited stage\*, the cancer is generally found in the following areas:

- One lung
- Tissue between the lung
- Nearby lymph nodes only

Extensive stage\* SCLC has spread outside the lung in which it began, or to other parts of the body.

*\* No universally accepted definition of these stages exists. Some patients will not clearly fit into one stage or the other.*

# Treatment Options

Treatment options for SCLC include one or more of the following:

- Chemotherapy
- Radiation
- Surgery
- Prophylactic cranial irradiation (PCI, see box on page 14)
- Clinical trials

Treatment options for SCLC will depend upon the following:

- The stage of the cancer
- How well your lungs are working
- Other health concerns such as the presence of diabetes, heart disease, or high blood pressure
- Your ability to perform activities of daily living (such as eating, bathing, dressing) without assistance



## CHEMOTHERAPY

Chemotherapy is a treatment that kills cancer's rapidly growing and dividing cells. It is typically a combination of drugs, given at the same time.

Chemotherapy drugs most often used to treat newly diagnosed SCLC are:

- Platinol (cisplatin) and VP-16 (etoposide) or
- Paraplatin (carboplatin) and VP-16 (etoposide)

Other drugs sometimes used if SCLC returns within six months of initial treatment include the following:

- Hycamtin (topotecan), oral or by injection
- Taxol (paclitaxel)
- Taxotere (docetaxel)
- Gemzar (gemcitabine)
- Navelbine (vinorelbine tartrate)
- Adriamycin (doxorubicin)
- Oncovin (vincristine)

## COMMON SIDE EFFECTS OF CHEMOTHERAPY

The goal of chemotherapy is to kill cancer cells, which are fast growing. Because the cells that make up the hair and the lining of the digestive system are also rapidly growing, chemotherapy can damage them too and cause many common side effects. Not everyone will have the same reaction to chemotherapy. Discuss any side effects you have with your health care team because, in many cases, they can be managed.

Common side effects may include:

- Loss of appetite (anorexia)
- Nausea and vomiting
- Hair loss
- Diarrhea
- Constipation
- Shortness of breath (dyspnea)
- Tiredness (fatigue)
- Numbness or tingling in the hands or feet, with or without pain (neuropathy)
- Low red blood cell count, also called anemia (can cause severe fatigue)
- Low white blood count (can increase the likelihood of infection)

## RADIATION THERAPY

Radiation therapy is a treatment that uses high energy x-rays to kill or shrink cancer cells, to manage pain, or to prevent cancer from spreading to the brain, as in the case of prophylactic cranial irradiation (PCI, see box on page 14).

SCLC is usually treated with general external beam radiation, which uses carefully aimed doses of radiation at specific sections of the lungs or surrounding areas.

Common side effects of radiation therapy to the chest include:

- Tiredness (fatigue)
- Loss of appetite (anorexia)
- Skin irritation
  - Redness
  - Itching
  - Dryness
  - Infection
- Inflammation of the esophagus (esophagitis)
- Inflammation of the lung (pneumonitis)

There are ways to manage side effects you experience. Be sure to talk with your healthcare team about your side effects.

When SCLC has spread to the brain, whole brain radiation therapy (WBRT) is typically used as treatment. Tiredness and skin irritation are common, additional side effects may include:

- Hair loss
- Headache
- Nausea
- Fever
- Vomiting
- Short term memory changes

Be sure to talk with your healthcare team about ways to manage side effects you may experience.

## COMBINATION THERAPY

A combination approach of chemotherapy and radiation at the same time is often used to treat SCLC. Your healthcare team will decide if combination therapy is best for your situation.

## SURGERY

Surgery is not a common treatment for SCLC. For a small number of patients, if the cancer is found very early, is small and has not spread to lymph nodes, or the tumor is a mixture of SCLC and NSCLC (non-small cell lung cancer), surgery may be an option.

When surgery is considered for SCLC, learning as much as possible about the size and location of the cancer is especially important. In some situations, surgery may be an option after chemotherapy and/or radiation.



## PROPHYLACTIC CRANIAL IRRADIATION (PCI)

### What is PCI and why should I consider it?

SCLC often spreads (metastasizes) to the brain. After successful treatment with chemotherapy, preventive radiation is done with the goal of killing cancer that may be in the brain but is too small to see on imaging tests. Studies show PCI can reduce the chance that SCLC will spread to the brain by 30 to 50%.

### When is it done and how long does it last?

PCI usually starts three to four weeks after chemotherapy ends. It is given five times a week for two to three weeks (10 to 15 sessions). The procedure only lasts three to four minutes but a visit can take 30 to 40 minutes.

### What can I expect?

During PCI, the head must stay still so the radiation is given the same way each time. To help, a plastic mask is made before treatment starts. It takes 15 to 20 minutes to make the mask and do a test (“dry run” or simulation) so that the radiation beams are properly aimed.

The doses of radiation used in PCI are smaller than those used to treat the cancer if it spreads to the brain. Anxiety or fear of being closed in can be helped by medication. Some centers have ways to help patients stay calm during PCI, such as playing music.

### What about short-term side effects?

Due to the low dose of radiation used, side effects are usually mild. Tiredness and hair loss are the most common. Unless tiredness is an issue, or anti-anxiety medications are used, a patient may drive home after PCI. Many people are able to work while in PCI treatments.

### What about long-term effects?

Some people worry that PCI will affect their memory and how they think later in life. Major long-term effects are unlikely. Similar to the normal aging process, concentration and short-term memory seem to be the most affected.

*The idea of radiation to the brain can be scary, especially when no cancer has been found there. Your doctor should talk with you about the risks and benefits of PCI. Be sure to ask questions and discuss any concerns you have.*

## CHALLENGES

While SCLC can be more challenging to treat than some other cancers, it is important to note that it often responds well to initial treatment.

Unfortunately, sometimes SCLC does not respond to treatment, or responds at first and then stops responding. In other cases, the treatment works, but the cancer comes back later. If any of these things happens, your treatment options will vary depending on whether your cancer responded to initial treatment or if it stopped working and when. Chemotherapy drugs that you received in the past may be used again or you may receive treatment with drugs you haven't had before.

Long-term SCLC survivors should be aware that, in addition to possible recurrence of SCLC, there is an increased risk for second primary tumors which are commonly NSCLC (non-small cell lung cancer). This risk increases over time. It is important to know that if lung cancer is detected at a later time, it may not be SCLC.

## CLINICAL TRIALS

Clinical trials are available for people diagnosed with SCLC, and should be considered as a option every time a treatment decision is made. Clinical trials allow patients to receive promising new treatments or combinations of treatment that are still being evaluated by doctors and researchers. Ask your doctor if a clinical trial is right for you.

### Lung Cancer Clinical Trial Matching Service

Lung Cancer Alliance works with EmergingMed to offer a free clinical trial matching service. By providing information about your diagnosis, such as the stage and kind of lung cancer you have, your treatment history, and other information, a Clinical Trial Navigator will identify specific clinical trials for which you may be eligible. These recommendations can help you begin a discussion with your doctor to determine if enrolling in a clinical trial is right for you.

Lung Cancer Clinical Trial Matching Service: 1-800-698-0931  
<http://www.emergingmed.com/networks/LungCancerAlliance/>



# Your Healthcare Team

Members of your healthcare team may include the following:

■ **INTERVENTIONAL RADIOLOGIST**

A doctor who specializes in performing minor surgical procedures using guidance from imaging techniques

■ **MEDICAL ONCOLOGIST**

A doctor who specializes in diagnosing and treating cancer

■ **ONCOLOGY NURSE**

A nurse who specializes in helping patients with cancer. An oncology nurse may further specialize in the surgical or medical management of a patient's care

■ **ONCOLOGY SOCIAL WORKER OR COUNSELOR**

A specialist in helping patients and loved ones cope with the emotional impact of cancer and who may help to identify needed resources

■ **PATHOLOGIST**

A doctor who specializes in diagnosing and classifying cancer by studying tissue, fluid, or blood samples

■ **PATIENT NAVIGATOR**

A nurse, social worker, or trained lay person who assists patients and loved ones on their journey through the healthcare system

■ **PULMONARY REHABILITATION SPECIALIST**

A professional who uses special exercises to reduce symptoms caused by lung cancer and helps to manage treatment side effects that affect the lungs

■ **PULMONOLOGIST**

A doctor who specializes in diagnosing and treating all diseases and conditions involving the lung, including cancer

■ **RADIATION ONCOLOGIST**

A doctor who specializes in treating cancer using radiation

■ **THORACIC SURGEON**

A doctor who performs surgeries in the chest region. Some thoracic surgeons further specialize in lung cancer

# For More Information

Be sure to ask your healthcare team about the following:

- Support groups available to you, your loved ones, and your caregivers
- Where you can get financial assistance
- Where you can get treatment-related assistance, such as transportation to appointments
- Where you can get more information about lung cancer

Lung Cancer Alliance can provide you with more information about lung cancer and current treatments. We can also help in discussing support options or providing referrals to other resources such as financial and legal assistance. Please contact us using the following information:

- **Information Line**

1-800-298-2436

Monday through Friday, 9 a.m. to 5 p.m. Eastern Time

- **Web site**

[www.lungcanceralliance.org](http://www.lungcanceralliance.org)

- **E-mail**

[support@lungcanceralliance.org](mailto:support@lungcanceralliance.org)

- **Lung Cancer Alliance**

888 16th Street, NW

Suite 150

Washington, DC 20006

## ABOUT LUNG CANCER ALLIANCE



Lung Cancer Alliance (LCA) is the only national nonprofit organization dedicated solely to providing support and education for people living with, or at risk for, lung cancer. LCA offers unique education and support programs focused on helping people directly affected by this disease.

Our mission is clear — Leading the movement to reverse decades of stigma and neglect by **empowering patients, elevating awareness, and changing health policy.**



## HOW CAN I QUIT SMOKING?

If you smoke, quitting is one of the single most important lifestyle changes you can make to improve your health. Even if you have lung cancer, quitting may help how you respond to treatment. If you want to quit, help is available. Ask your healthcare team for information or call the National Network of Tobacco Cessation Quitlines at their toll-free number 1-800-QUIT-NOW (1-800-784-8669) for support in reaching your goal. More than 45 million former smokers have been successful in breaking their addiction. You can do it too! It's never too late.



Lung Cancer Alliance's (LCA) services are made possible by generous support from people like you. Please consider giving back so that others may continue to receive these free services. LCA is a 501(c)(3) nonprofit organization. All donations are tax-deductible to the full extent permitted by law.

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