

Localised Non-Small Cell Lung Cancer – For localised lung cancers, treatment consists of surgery with or without chemotherapy, radiation alone or combined chemotherapy and radiation.

- **Surgery** – Surgery for lung cancer involves the removal of tissues that contain the tumour and nearby lymph nodes.
- **Radiation Therapy** – Radiation therapy (also called radiotherapy) uses high energy rays to kill cancer cells. It affects cells only in the treated area.
- **Chemotherapy** – Chemotherapy uses anticancer drugs to shrink/kill cancer cells. This is usually given as an infusion. The drugs enter the bloodstream and can affect cancer cells all over the body.

Advanced Non-Small Cell Lung Cancer – When non-small cell lung cancer has spread to distant organs, the aim of the treatment is to control the cancer, improve symptoms and quality of life and prolong survival. The possible treatment modalities include chemotherapy and immunotherapy.

- **Targeted Therapy** – Targeted therapy uses drugs to block the growth and spread of cancer cells. For example, some lung cancer cells have too much EGFR which is a protein on the surface of cells which helps the cells grow and divide faster. Drugs called EGFR inhibitors (erlotinib, afatinib, gefitinib, osimertinib) can block the signal from EGFR and stop the lung cancer cells from growing. The drugs enter the bloodstream and can affect cancer cells all over the body. Some patients with non-small cell lung cancers with EGFR mutation positive that has spread will receive targeted therapy.
- **Immunotherapy** – Immunotherapy refers to a type of cancer treatment designed to enhance one's body's immune system to fight cancer cells. Cancer cells have the ability to 'camouflage' themselves in such a way that our body's immune system is unable to detect these 'rogue cells' to destroy them. Immunotherapy helps by boosting the immune system so that it can detect and destroy these "rouge" cancerous cells more easily. As a result, in certain cancers, it had been shown to be able to control and keep things at bay for a longer period of time, compared to other treatments.

Screening

Screening refers to looking for cancer before a person has any symptoms. The aim is to detect cancers early so that it can be treated at an early stage. Screening tests are tests that may help doctors find and treat cancer early. Several methods of detecting lung cancer have been studied as possible screening tests such as low dose CT lung scans. However, this is only found to be effective in high risk people.

Hence it is important to talk with your doctor about your own risk factors and the possible benefits and harms of being screened for lung cancer. Like many other medical decisions, the decision to be screened is a personal one. Your decision may be easier after learning the pros and cons of screening.

What Kind of Support is Available?

CanHOPE is a non-profit cancer counselling and support service provided by Parkway Cancer Centre, Singapore. CanHOPE consists of an experienced, knowledgeable and caring support team with access to comprehensive information on a wide range of topics in education and guidelines in cancer treatment.

CanHOPE provides:

- Up-to-date cancer information for patients including ways to prevent cancer, symptoms, risks, screening tests, diagnosis, current treatments and research available.
- Referrals to cancer-related services, such as screening and investigational facilities, treatment centres and appropriate specialist consultation.
- Cancer counselling and advice on strategies to manage side effects of treatments, coping with cancer, diet and nutrition.
- Emotional and psychosocial support to people with cancer and those who care for them.
- Support group activities, focusing on knowledge, skills and supportive activities to educate and create awareness for patients and caregivers.
- Resources for rehabilitative and supportive services
- Palliative care services to improve quality of life of patients with advanced cancer.

The CanHOPE team will journey with patients to provide support and personalised care, as they strive to share a little hope with every person encountered.



CanHOPE Counsellors contact:
Cancer counselling hotline:
(65) 6738 9333
Email: enquiry@canhope.org
www.canhope.org

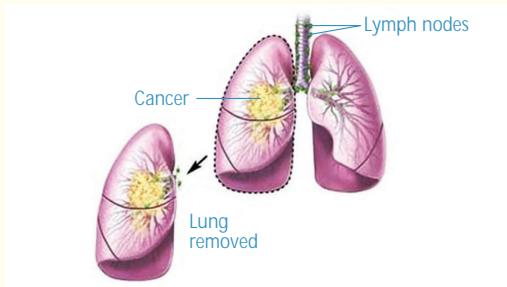


Lung Cancer

Lung cancer originates from tissues of the lung, usually from cells lining the air passages



www.parkwaycancercentre.com



What is Lung Cancer?

Lung cancer originates from tissues of the lung, usually from cells lining the air passages. The two main types are small cell lung cancer (SCLC) and non-small cell lung cancer (NSCLC). This is diagnosed based on how the cells look under a microscope.

- **Non-small cell lung cancer (NSCLC)**

NSCLC is the more common type of lung cancer, comprising of approximately 80% of lung cancers. It is less aggressive than SCLC. If discovered early, surgery and/or radiation therapy, chemotherapy may offer a chance of cure.

- **Small cell lung cancer (SCLC)**

SCLC is fast-growing and rapidly spreads through the bloodstream and lymphatics to other parts of the body. It is often advanced at diagnosis. It is usually treated with chemotherapy alone or in combination with radiotherapy.

What Causes It?

Doctors cannot always explain why one person develops lung cancer and another does not. However, we do know that a person with certain risk factors may be more likely than others to develop lung cancer.

Smoking is the major risk factor for lung cancer. It is responsible for more than 80% of all lung cancer worldwide. Harmful substances in smoke damage lung cells. Over time, the damaged cells may become cancerous. This is why smoking cigarettes, pipes, or cigars can cause lung cancer. Inhaling secondhand smoke can also cause lung cancer in non-smokers. The more a person is exposed to smoke, the greater the risk of lung cancer. Similarly, the earlier in life a person smokes and the more years he smokes, the greater the risk of lung cancer.

Other risk factors for lung cancer include being exposed to radiation such as radon (a radioactive gas), asbestos, arsenic, chromium, nickel, soot and tar in workplaces, living in places with air pollution and getting older. People with family members who had lung cancer may be at slightly increased risk of the disease. People who have had lung cancer are at increased risk of developing a second lung tumour.

THE BEST WAY TO PREVENT LUNG CANCER IS TO QUIT, OR NEVER START, SMOKING!

Symptoms

Early lung cancer often does not cause symptoms. But as the cancer grows, common symptoms may include:

- A cough that gets worse or does not go away
- Breathing trouble, such as shortness of breath
- Constant chest pain
- Coughing up blood
- A hoarse voice
- Frequent lung infections, such as pneumonia
- Feeling very tired all the time
- Weight loss with no known cause

Usually these symptoms are not due to cancer as other health problems can cause some of these symptoms. However, anyone with such symptoms which persists should see a doctor to be diagnosed and treated as early as possible.

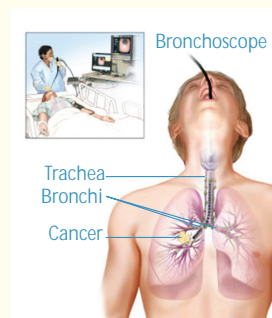
Diagnosis

If you have symptoms that suggests lung cancer, your doctor must find out whether it is truly likely cancer or other health conditions. You may be required to do some blood tests and X-rays or scans.

- Physical Examination
- Chest X-ray
- Computed Tomography (CT) Scan

Your doctor may then order one or more of the following tests to collect samples to confirm the diagnosis if there is a high suspicion of lung cancer:

- **Sputum cytology:** Thick fluid (sputum) is coughed up from the lungs. The lab checks samples of sputum for cancer cells.
- **Bronchoscopy:** The doctor inserts a thin, lighted tube (a bronchoscope) through the nose or mouth into the lung. The doctor may take a sample of cells with a needle, brush, or other tool. The doctor also may wash the area with water to collect cells in the water.



- **Fine-needle aspiration:** The doctor uses a thin needle to remove tissue or fluid from the lung or lymph node.
- **Open biopsy:** In cases where the tumour tissue is difficult to obtain, direct biopsy of the lung tumour or lymph nodes through an incision in the chest wall may be needed.

After lung cancer has been diagnosed, tests are done to determine if the cancer cells have spread from the lungs to other parts of the body.

To plan the best treatment, apart from the type of lung cancer, your doctor needs to know the extent (stage) of the disease. Staging, usually done with CT scans, PET-CT scans or MRI, is to find out whether the cancer has spread, and if so, to what parts of the body. Lung cancer spreads most often to the lymph nodes, brain, bones, liver, and adrenal glands.

Stages of Small Cell Lung Cancer

- **Limited stage:** Cancer is found only in one lung and its nearby tissues.
- **Extensive stage:** Cancer is found in tissues outside of the lung in which it originated from or in distant organs.

Stages of Non-Small Cell Lung Cancer

- **Occult (hidden) stage:** The cancer is not seen in the lungs by imaging or bronchoscopy. Lung cancer cells are found in sputum or in bronchial washings, a sample of water collected from the airways during bronchoscopy.
- **Stage 0:** Cancer cells are found only in the innermost lining of the lung. The tumour has not grown through this lining. A Stage 0 tumour is also called carcinoma in situ.
- **Stage I:** The tumour is in the lung only and has not spread to the lymph nodes.
- **Stage II:** The cancer has spread to lymph nodes, chest wall, diaphragm, lining of the lungs, or the outer lining that surrounds the heart.
- **Stage III:** Cancer has spread to the lymph nodes in the area of the chest between the heart and lungs. Blood vessels in this area may also be affected. Cancer may also have spread to the lower neck.
- **Stage IV:** Cancer has spread to the other parts of lungs or to other areas in the body.

Treatment

What treatment is offered?

Depending on the stage of the lung cancer, the aims of treatment may be for cure, control of disease for prolongation of survival or management of symptoms and prevention of complications to improve quality of life. The following treatment modalities may be used singly or in combination.