

## Lung cancer

The lungs are two large spongy organs located inside the chest cavity. Air is breathed into the trachea (windpipe) and moves down two tubes called bronchi, each going to a lung. These tubes divide into bronchioles and then into tiny air sacs called alveoli. Lung cancers usually start in the cells lining the airways. There are different types of lung cancer, depending on which cells are affected.

Over 2,370 Victorians are diagnosed with lung cancer every year. Lung cancer occurs most often in adults between the ages of 40 and 70 who have smoked cigarettes for at least 20 years. We do not know the cause in all cases, however up to nine out of 10 lung cancers are caused by smoking. Lung cancer is the most common cause of death from cancer in Australia.

### Different types of lung cancer

A cancer that starts in the cells lining an organ is known as a carcinoma. There are different types of lung cancer, depending on which cells are affected. The two main types are:

- **Small cell carcinoma** or 'oat cell carcinoma', named after its cell shape. Around 15 per cent of lung cancers are small cell carcinomas. This type of cancer spreads early and shows few early symptoms. This type of lung cancer is strongly linked with cigarette smoking.
- **Non-small cell carcinoma** – these cancers affect the cells that line the main bronchi (airway passages into the lungs).

### Different types of non-small cell cancer

Some of the different types of non-small cell cancer include:

- **Squamous cell carcinoma** – it is generally discovered earlier than other lung cancers and has the best outcome after treatment
- **Adenocarcinoma** – it is now the most common type in both males and females. The increasing incidence may be related to changing patterns of smoking including filtered cigarettes
- **Large cell carcinoma** – this gets its name from the large, rounded cells that are seen when they are examined under the microscope. It is sometimes known as undifferentiated carcinoma
- **Bronchiolo-alveolar cell carcinoma** – it is one of the less common types of cancer.

Sometimes it is not possible to tell which type someone has – when the cells are looked at under a microscope, they are not developed enough.

### Symptoms of lung cancer

Common symptoms of lung cancer include:

- Persistent cough or a new or changed wheeze (or all)
- Breathlessness
- Blood-streaked phlegm (mucus)
- Pains in the chest, when coughing or taking a deep breath
- Recurring pneumonia or chest infections
- Recurring bronchitis
- Excessive tiredness (fatigue)
- Unexplained weight loss.

Less common symptoms can include:

- Hoarse voice
- Difficulty swallowing
- Swelling of the face or neck
- Pleural effusion – fluid around the lungs causing shortness of breath
- Changes in the shape of your fingers and nails known as ‘finger clubbing’.

All of these symptoms can be caused by other diseases apart from lung cancer.

## Diagnosis of lung cancer

Lung cancer is diagnosed using a number of tests, which may include:

- **Chest x-rays** – cancers as small as one centimetre can be spotted on x-rays.
- **Sputum cytology** – a sample of sputum (phlegm) is examined under a microscope to check for abnormal cells.
- **Bronchoscopy** – a flexible tube is inserted through the mouth or nose and down the trachea, allowing the doctor to look at the lung tissue and take a small sample of tissue and phlegm.
- **Fine needle aspiration** – a small sample of tissue is removed using a needle inserted through the chest wall.
- **Mediastinoscopy** – a flexible tube is inserted into a cut in the neck and down to the lymph nodes to check for cancer cells in the lymph nodes.
- **Video-assisted thoracoscopic surgery** – instruments similar to bronchoscopes are inserted into the chest wall under general anaesthetic and tissue samples may be taken.
- **Computed tomography (CT) scan** – a specialised x-ray taken from many different angles, to build a three-dimensional picture of your body.
- **Fluoro-Deoxy Glucose (FDG) Positron Emission Tomography (PET) scan** – used in diagnosis and staging of lung cancer. This test involves having an injection of a small amount of radioactive material. Using the signals from this radioactive injection, a scanner can build up a picture of the body.
- **Other tests** – including bone scans, to see if the cancer has spread to other parts of the body.

Test results can take a few days to come back. It is very natural to feel anxious waiting to get your results. It can help to talk to a close friend or relative about how you are feeling. You can also contact the Cancer Council Helpline on 13 11 20 and speak with a cancer nurse.

## Treatment of lung cancer

Lung cancer is categorised into stages according to its spread. This helps the doctors to decide on appropriate treatments. For some people several treatments are used together to get the best results. Treatment options include:

- **Surgery** – to remove the affected part of the lung (lobectomy) or an entire lung (pneumonectomy). This offers the best chance of cure if the cancer has not spread beyond the lungs.
- **Radiotherapy** – the use of x-rays to target and kill cancer cells. Radiotherapy may be used against some early stage lung cancers and to stop cancer in the lymph nodes from spreading further. Prophylactic brain radiotherapy is often offered to people with small cell lung cancer to reduce the risk of their lung cancer spreading to their brain.
- **Chemotherapy** – anti-cancer drugs are given to stop cancer cells from multiplying. This treatment is most effective for small cell carcinoma.
- **Targeted therapy (biological agents)** – use of small molecules, often in tablet form, that may be used after chemotherapy.
- **Clinical trials** – participation in a clinical trial that investigates the safety and effectiveness of novel drugs may be offered.

- **Complementary and alternative therapies** – It's common for people with cancer to seek out complementary or alternative treatments. When used alongside your conventional cancer treatment, some of these therapies can make you feel better and improve quality of life. Others may not be so helpful and in some cases may be harmful. Details of the Cancer Council Victoria's booklet *Complementary and alternative cancer therapies* are in the **Where to get help** section.

## When a cure isn't possible

As with most cancers, the results are best if the cancer is diagnosed in its earliest stages. However, some lung cancers aren't diagnosed until they are quite advanced. This means you cannot cure the cancer but you may be able to help control its symptoms. This is known as 'palliative care'. This may involve:

- **Radiotherapy and chemotherapy** – to help control the cancer.
- **Medications** – including pain relievers and anti-sickness drugs.
- **Surgery** – to remove any blockages in the airways caused by the cancer or to seal bleeding blood vessels.
- **Quit smoking programs** – depending on their disease status, people diagnosed with cancer have seen benefits ranging from increased longevity (length of life) and improved quality of life once they quit smoking.

## Caring for someone with cancer

Caring for someone with cancer can be a difficult and emotional time. If you or someone you know is caring for someone with lung cancer they may find it helpful to download and read some of the Cancer Council Victoria information booklets.

## Where to get help

- Your doctor
- Cancer Council Helpline Tel. 13 11 20
- Australian Lung Foundation Tel. 1800 654 301
- Quitline Tel. 13 78 48
- Multilingual Cancer Information Line, Victoria Tel. (03) 9209 0169
- Palliative Care Victoria Tel. (03) 9662 9644
- Cancer Council Victoria's booklet *Complementary and alternative cancer therapies*.

## Things to remember

- Over 2,370 Victorians are diagnosed with lung cancer every year.
- Most lung cancers are caused by cigarette smoking.
- There are different types of lung cancer, depending on which cells are affected.

**This page has been produced in consultation with, and approved by:**

Cancer Council Victoria

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