

Section Five: Lung cancer treatments

Tekiona Rima

Ngā maimoa matepukupuku
pūkahu



Key points:

- Research shows that if you are a smoker and you quit smoking, your treatment is more effective.
- Depending on the stage of your cancer, your state of health and your preferences, treatment for lung cancer may include:
 - surgery
 - radiation treatment
 - chemotherapy
 - targeted treatments and immunotherapy
 - palliative care and supportive care
- or combinations of any of these.
- Complementary treatments are healing practices or products that can be used alongside medical care.
- Traditional Māori healing methods can include rongoā Māori, romiromi or mirimiri, massage therapy and spiritual healing.

- Traditional Pacific healing treats the whole person, including your mental, emotional, physical and spiritual wellbeing and recognises the importance of community wellbeing.
- If you are thinking about using complementary, traditional Māori or Pacific treatments, please talk about them with your cancer treatment team.

Ngā kōrero matua:

- E ai ki ngā rangahau, mehemea he tangata kai paipa koe, ā, ka mutu tō kai paipa, ka whai kiko o maimoatanga.
- Kei te āhua o te wāhanga o tō matepukupuku, te āhua o tō hauora, me ōu hiahiatanga, tērā pea ka whai tō maimoa i ētahi o ēnei:
 - hāparapara
 - maimoa iraruke
 - hahau
 - Maimoa whakahāngai me te haumanu-taunga
 - Atawhai taurima me te manaaki tautoko, he kōwhiringa rānei o ēnei ruruā.
- He mahi whakaora, he hua rānei ngā maimoatanga kīnaki kīhāi e whai wāhanga i te taha o te manaaki hauora aro whānui.
- Kei roto i ngā mahi whakaoranga Māori taketake ko te rongoā Māori, te romiromi, te mirimiri rānei, te haumanu romiromi me te whakaoranga ā-wairua.
- Ka maimoa te whakaoranga Te moana-nui-ā-Kiwa taketake i te tangata katoa, tae noa ki tō oranga hinengaro, oranga aronganui, oranga tinana, me tō oranga wairua.
- Mehemea e whakaaro ana koe ki te whakamahi i te maimoa whakaoranga Māori taketake, whakaoranga Te-moana-nui-ā-Kiwa, tēnā koa kōrerohia ēnei me tō rōpū maimoa matepukupuku.

Treatment options

Your cancer treatment team will advise you about the possible treatments for your lung cancer. Depending on the stage of your cancer, your state of health and your preferences, treatment may include surgery, radiation treatment, chemotherapy, targeted treatment, immunotherapy and palliative care, or combinations of these.

Sometimes treatment may be offered with the goal of curing the cancer. Your treatment team will talk with you about how likely the treatment is to be successful.

Even when treatment to cure the cancer is not possible, your treatment team may still recommend treatment options that may reduce the symptoms of the cancer and improve your quality of life.

Type of lung cancer	Main treatment options
Non-small cell lung cancer	<ul style="list-style-type: none">• Early-stage cancer may be treated with surgery followed by chemotherapy (adjuvant chemotherapy).• If surgery is not possible, appropriate or acceptable, a combination of radiation treatment and/or chemotherapy may be recommended.• Some types of advanced non-small cell lung cancer may respond to immunotherapy treatment. From 1 April 2023, pembrolizumab (Keytruda), atezolizumab (Tecentriq) and durvalumab (Imfinzi) are funded for patients who meet the Special Authority criteria set by Pharmac.• Targeted therapy can be effective for people with advanced cancer who have a specific gene change.• Palliative treatment and supportive care are available (see page 31).
Small cell lung cancer	<ul style="list-style-type: none">• Treatment is usually with chemotherapy and radiation treatment to the primary tumour in the lung.• You may be offered radiation treatment to the brain to reduce the chance of cancer spreading to the brain.• Surgery is not usually an option for treatment.• Palliative treatment and supportive care are available (see page 31).

Research shows that if you are a smoker and you quit smoking, your treatment is more effective. If you smoke, your treatment team will advise you to stop smoking before you have any treatment.

Speak to your treatment team if you need support to stop smoking.

Surgery

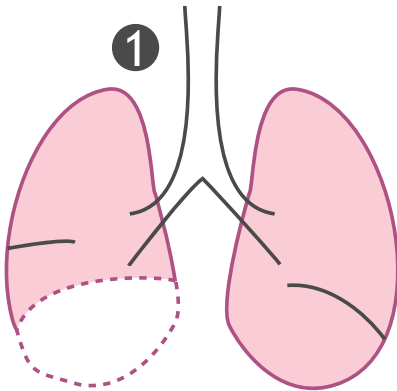
If you have been diagnosed with early-stage, non-small cell lung cancer, you may be offered surgery to remove the cancer.

Sometimes you may have surgery before the diagnosis of lung cancer has been confirmed. While you are under anaesthetic, the surgeon removes a small piece of abnormal tissue (called a 'frozen section') and looks at it under a microscope to confirm if the growth is cancer. If cancer is confirmed, the surgeon will continue with the operation to remove the affected part of your lung.

At the time of your lung cancer surgery, the surgeon will also sample lymph nodes from around the lung and mediastinum to stage your cancer and help decide if any further treatment (such as chemotherapy) is needed.

There are three main types of surgery for lung cancer (see below).

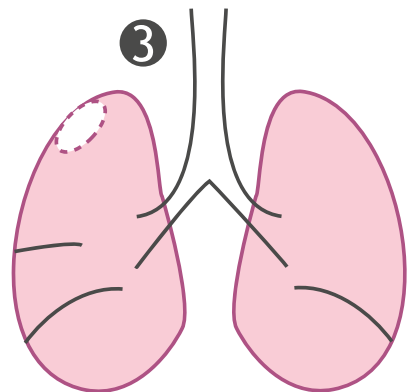
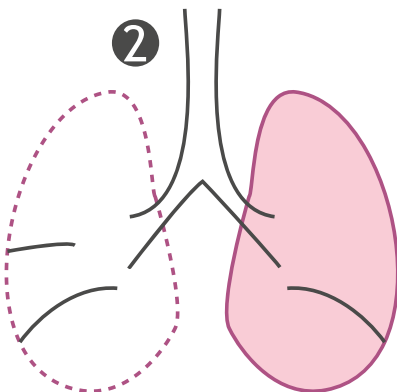
Types of lung surgery



1 **Lobectomy:**
a lobe of the lung is removed

2 **Pneumonectomy:**
one whole lung is removed

3 **Wedge resection or segmentectomy:**
only part of the lung (not a lobe) is removed



Recovering from surgery

Your recovery after surgery will depend on many factors. However, there are two things you can do before surgery to help:

- Increase your physical activity (walking short distances) if you can.
- Current smokers should stop smoking as soon as possible. This will reduce the risk of complications immediately after surgery, help with recovery after surgery and also improve general heart and lung health. Stopping smoking will also reduce the risk of developing another cancer in the future.

After lung surgery, you may feel short of breath. Physiotherapy can help to improve your breathing and mobility and will be an important part of your recovery.

Chemotherapy treatment

Chemotherapy is medication used to kill cancer cells or slow their growth. It affects cells throughout your body.



For more information on chemotherapy, see the Cancer Society's *Chemotherapy, Immunotherapy and Targeted Treatment* booklet, available on our website: cancer.org.nz/chemotherapy

When chemotherapy treatment is given

Chemotherapy may be given:

- before surgery, to try to shrink the cancer and make an operation easier (rarely done)
- before radiation treatment (occasionally done)
- during radiation treatment (chemoradiation) to increase the effectiveness of the radiation treatment (often done)
- after surgery to reduce the chances of the cancer coming back (occasionally done)
- as palliative treatment for a large cancer in the lung or for cancer that has spread outside the lung, to reduce symptoms and improve your quality of life or extend your life (often done)
- as the standard first treatment for most people with small cell lung cancer (often done).

How chemotherapy is given

Chemotherapy is given into a vein (IV) or as tablets.

If it is given into a vein, it may be given through a cannula. A cannula is a small tube that is put into a vein in your arm or the back of your hand and is removed after each treatment.

Some people may need a central venous access device (CVAD) such as a portacath or a Peripherally inserted central catheter (PICC), which stays in place for the whole of your treatment. This is a fine tube placed in your arm or chest that ends in the large veins inside your chest.



For more information on CVADs, see the Cancer Society's *Chemotherapy, Immunotherapy and Targeted Treatment* booklet, available on our website: cancer.org.nz/chemotherapy

IV treatment is usually given to you as an outpatient at your local treatment centre, at regular intervals, over several months. Not all people with lung cancer will receive the same treatment.

Side effects of chemotherapy

Chemotherapy side effects vary depending on the combination of medications you receive. Some of the common side effects that you may experience include:

- increased risk of infection
- increased risk of bleeding or bruising
- reduced immunity
- hair loss
- infertility
- fatigue
- forgetfulness and concentration problems (chemo brain)
- nausea and vomiting
- constipation or diarrhoea
- hearing loss
- numbness and tingling in your hands and feet (peripheral neuropathy)
- sore mouth and ulcers.

Some side effects of chemotherapy can be life threatening. You must contact your treatment team, or go to your nearest hospital emergency department immediately and tell them you are receiving chemotherapy treatment, if you develop any of the following symptoms:

- Fever - a temperature over 38°C
- Chills - shivers or shakes, feeling hot or cold
- Chest pain
- Difficulty breathing
- Vomiting that continues after taking anti-sickness medication
- Severe diarrhoea
- Gum or nose bleeds, or bleeding that doesn't stop
- Pain or burning when passing urine, or blood in urine

It is important that you do not wait until the next morning or after the weekend to seek assistance.

Radiation treatment

Radiation treatment is the use of X-ray beams to destroy cancer cells or slow their growth. Radiation treatment only affects the part of the body that the beams are aimed at.



For more information on how radiation treatment works, see the Cancer Society's *Radiation Treatment/Haumanu Iraruke* booklet, available on our website: cancer.org.nz/radiation-treatment

When is radiation treatment offered?

Radiation can be used:

- on its own to treat early-stage lung cancer to try to cure the cancer
- to treat cancer that has spread to the lymph nodes within the chest, usually together with chemotherapy if the treatment aims to try to cure the cancer
- after surgery to reduce the chances of the cancer coming back in selected circumstances
- to the brain as part of the treatment plan for small cell lung cancer (Prophylactic Cranial Irradiation - PCI)
- to treat cancer that has spread to other organs such as the brain or bones (palliative treatment)
- with or without chemotherapy to reduce symptoms of lung cancer, improve your quality of life or extend your life (palliative treatment).

How radiation treatment is given

External beam radiation treatment is given from outside the body by a machine called a linear accelerator (LINAC). This is the most commonly used type of radiation treatment for lung cancer.

Treatment is given daily or on alternate working days, and your treatment team will provide you with more information about how long your treatment will last. The machine is on for only a few minutes and the total amount of time spent in the treatment room is usually 10 to 20 minutes.

Treatment is carefully planned to do as little harm as possible to your normal body tissue.

Where radiation treatment is provided

Radiation treatment is currently (2022) available at specialist treatment centres in Auckland, Hamilton, Tauranga, Palmerston North, Wellington, Christchurch and Dunedin. If you need to be away from home for your treatment, help may be available for transport and accommodation costs through the National Travel Assistance scheme.

Your treatment centre, hospital social workers, the travel office at your local DHB or your local Cancer Society can advise you on what help may be available.



You can find more information about the National Travel Assistance programme on our website: cancer.org.nz/nta

Side effects of radiation treatment for lung cancer

People react in different ways to treatment. These are the common side effects of radiation treatment for lung cancer. You may experience none, some, or all of these:

- Fatigue (tiredness) - can occur during and after treatment
- Red and dry skin in the area being treated
- Nausea (feeling sick) or vomiting
- Painful swallowing
- Shortness of breath, and a dry cough
- Loss of chest hair
- Chest tightness or pain

The availability of targeted treatment and immunotherapy for advanced lung cancer

There have been recent advances in lung cancer treatment. Unfortunately, these treatments are expensive and not all options that might be helpful for the management of your lung cancer are funded by Pharmac. You may like to ask your oncologist if there are any unfunded treatments or clinical trials available that may be beneficial for you. Your medical oncologist can give you an estimate of the cost involved if you choose to fund your own treatment.

Targeted treatment

Targeted treatment affects the damaged genes or proteins of cancer cells to stop the cancer growing and spreading. It is sometimes called biological therapy.



For more information about targeted treatments, see the Cancer Society's *Chemotherapy, Immunotherapy and Targeted Treatment* booklet, available on our website: cancer.org.nz/targeted-treatments

Targeted treatment medication travels through the bloodstream. Each medication blocks a specific target, for example, a damaged gene or protein, on or within a cancer cell. Blocking these targets can kill cancer cells or slow their growth. The signs and symptoms of cancer reduce or disappear and damage to healthy cells is minimal.

If your cancer contains a change (mutation) in a specific gene or protein that is helping your cancer to grow, you may benefit from targeted treatment.

To find out if your cancer contains these changes, your doctor will take a tissue sample from your cancer and send it to a laboratory for molecular testing. It may take anywhere from a few days to a few weeks to receive the results. Genetic mutations, for example EGFR and ALK, are always tested for in people diagnosed with NSCLC adenocarcinoma of the lung.

In New Zealand, gefitinib (Iressa) and erlotinib (Tarceva) have been approved and funded for use for people with advanced NSCLC (adenocarcinoma) with an EGFR mutation.

Alectinib (Alecensa) has been approved and funded for use for people with advanced NSCLC (adenocarcinoma) with an ALK mutation.

Immunotherapy

Immunotherapy is a type of cancer treatment that helps your own immune system to fight cancer.



For more information about immunotherapy, see the Cancer Society's *Chemotherapy, Immunotherapy and Targeted Treatment* booklet, available on our website: cancer.org.nz/immunotherapy

Your immune system protects you by killing bacteria and diseases. It also helps to

fight cancer. A T-cell is one type of immune cell that does this.

Sometimes a part of your immune system is ‘turned off’, so it no longer recognises the abnormal cell growth that causes cancer. Immunotherapy helps to ‘turn on’ this part of your immune system so that it can identify and attack cancer cells.

Currently, in lung cancer treatment, immunotherapy is mostly used for people who have advanced cancer. Sometimes it is used following chemotherapy and radiation treatment, where the aim of treatment is to cure the cancer. It is not yet as widely used as chemotherapy and radiation treatment.

Immunotherapy is not suitable for everyone, so talk to your treatment team to find out whether you might benefit from it.

Funding of Immunotherapy

In New Zealand, immunotherapies pembrolizumab (Keytruda), atezolizumab (Tecentriq) and durvalumab (Imfinzi) are funded for people who meet the Special Authority criteria set by Pharmac. Pembrolizumab (Keytruda) is funded as a first-line treatment for advanced non-small cell lung cancer, atezolizumab (Tecentriq) is funded as a second or later-line treatment for advanced non-small cell lung cancer, and durvalumab (Imfinzi) is funded for stage 3 non-small cell lung cancer.

Nivolumab (Opdivo) has been approved for use but is not funded by Pharmac.

Palliative treatment and supportive care

Palliative treatment and care is for people with cancer of any stage that focuses on maintaining or improving quality of life rather than cure. Depending on your cancer, radiation treatment, chemotherapy, targeted treatments and immunotherapy can be used to slow the growth of cancer and relieve symptoms you may be experiencing.

Everyone with cancer needs supportive care. Supportive care will mostly be provided by your primary health care team and palliative care team. It includes the management of physical symptoms, cultural, emotional and spiritual support, and guidance to help you plan ahead.

It is a good idea to ask for palliative care early. Being able to manage problems or issues early, rather than waiting until they become too difficult to cope with, can help reduce stress for both you and your whānau.

In general, palliative care services are free. There may be a charge for hiring some equipment for home care. Palliative care and hospice services are funded by both the government and voluntary donations.

Advance care planning

An important part of planning ahead is preparing an advance care plan.

Advance care planning helps you, and the people important to you, talk about the treatments and care you may want towards the end of your life. This will then

guide your whānau and doctors if you can no longer tell them yourself. Advance care planning is voluntary - no one can force you to do it.



More information is available on this website:
<https://www.hqsc.govt.nz/our-programmes/advance-care-planning/>

Traditional treatments

Traditional Māori healing

Traditional healing has been a central part of Māori culture for generations. Values, belief systems and teachings from kaumātua and tohunga have seen Māori focus on total wellbeing, which includes taha tinana, taha hinengaro, taha wairua and taha whānau (the physical domain, the domain of the mind and behaviour, the spiritual domain and the whānau or social domain).

Traditional healing methods can include rongoā Māori, romiromi or mirimiri to name a few customary remedies based on native plants, massage therapy and spiritual healing.



You can find more information on rongoā Māori and providers on our website: cancer.org.nz/traditional-healing/

Hauora Māori Mai rā anō te hauora Māori i noho ai hei wāhanga o te ahurea Māori. Nā ngā uaratanga, te pūnaha whakapono me ngā akoranga a ngā kaumātua me ngā tohunga i kitea ai te arotahi a te Māori ki te oranga kotahi e rarawhi ana i te taha tinana, te taha hinengaro, te taha wairua me te taha whānau.

Ka huri ētahi Māori ki ngā kaupapa hauora Māori i ētahi wā mēnā he uaua ki te whakatau ko tēhea, ko tēhea o ngā momo maimoa me whai. Tae noa rā ki te rongoā Māori, te romiromi, te mirimiri rānei, hei tauira atu. Ka hāngai katoa ki tarutaru otaota whenua me ngā rākau, te haumanu romiromi me te whakaoranga ā-wairua.

Mehemea he uaua ki te kōrero i o hiahia ki ngā kaiwhakarato maimoatanga, rapua tētahi tangata hei kaitaunaki mōu, kia āhei ai ngā tohunga hauora me matanga maimoa o ngā hōhipera ki te mahi ngātahi

Pacific traditional healing

Traditional healing is also important for Pacific peoples to help in their recovery. It also takes a holistic approach to treating the person, where mental, emotional,

physical and spiritual needs are looked after together, rather than as separate parts. The treatment offered to each person can vary, depending on specific needs. Medicinal plants and herbs may be used during the treatment process, as well as stones and massage.

If you are thinking about using these treatments, please talk about them with your cancer treatment team. Both aim to provide you with the best possible care that has minimal side effects. If you have difficulty expressing your needs to your treatment providers, find someone to advocate on your behalf so that traditional healers and hospital treatment specialists can work together to support you on your cancer journey.

Other treatments

It is important to discuss any additional treatments you are using with your treatment team. Some treatments may be harmful if they are taken at the same time as medical treatments, so it is advisable to discuss the benefits, medicine interactions and any safety concerns.

Complementary treatment

Complementary treatments (sometimes called integrative therapy) are healing practices or products that are not usually part of standard medical care. A number of practices are now being used to complement medical treatments. Examples include massage, meditation and acupuncture, which are sometimes used to lessen the side effects of treatment.

Alternative treatment

When these treatments are used instead of medical treatment, they are considered alternative therapies. Some alternative therapists may claim their treatments are cancer cures - this is very unlikely to be true.



You can check for warnings on natural and herbal products on the Medsafe website: www.medsafe.govt.nz

For more information on complementary and alternative medicine, see the Cancer Society's *Complementary and Alternative Medicine* booklet, available on our website: cancer.org.nz/complementary-therapy