

Understanding Head and Neck Cancers

A guide for people with cancer, their families and friends.



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Note to reader

Before commencing any health treatment, always consult your doctor. This booklet is intended as a general introduction to the topic and should not be seen as a substitute for your own doctor's or health professional's advice. All care is taken to ensure that the information contained here is accurate at the time of publication.

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Building a
Cancer Smart
Community



Introduction

This booklet has been prepared to help you understand more about head and neck cancer.

‘Head and neck cancer’ is a general term that refers to a range of different cancers that occur in areas such as the mouth, nose and throat. For more information about the areas of the head and neck covered in this booklet, see page 7.

Many people feel understandably shocked and upset when told they have a type of head and neck cancer. We hope this booklet will help you understand how head and neck cancers are diagnosed and treated. We also include information about support services.

We cannot advise you about the best treatment for you. You need to discuss this with your doctors. However, we hope this information will answer some of your questions and help you think about more questions you want to ask your doctors or other health carers.

You may like to give this booklet to your family and friends for their information.

This booklet does not need to be read from cover to cover – just read the parts that are useful to you.

Some medical terms that may be unfamiliar are explained in the glossary.

If you’re reading this booklet for someone who doesn’t understand English, contact the Cancer Council Helpline for services available in different languages (see page 90).



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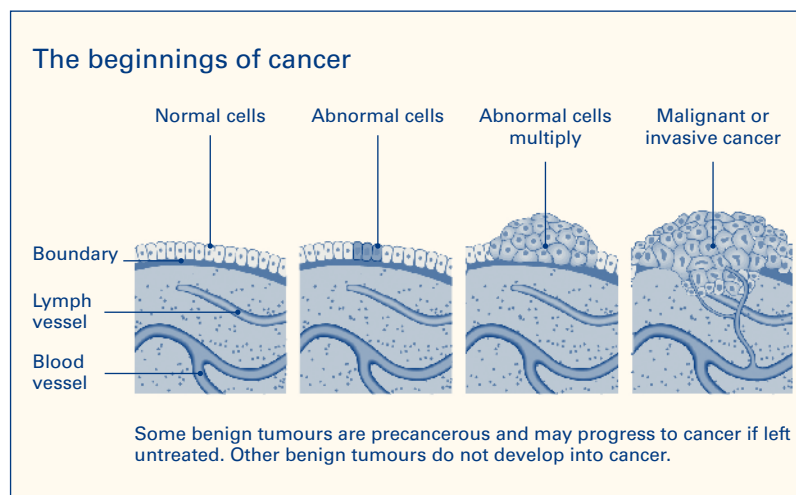


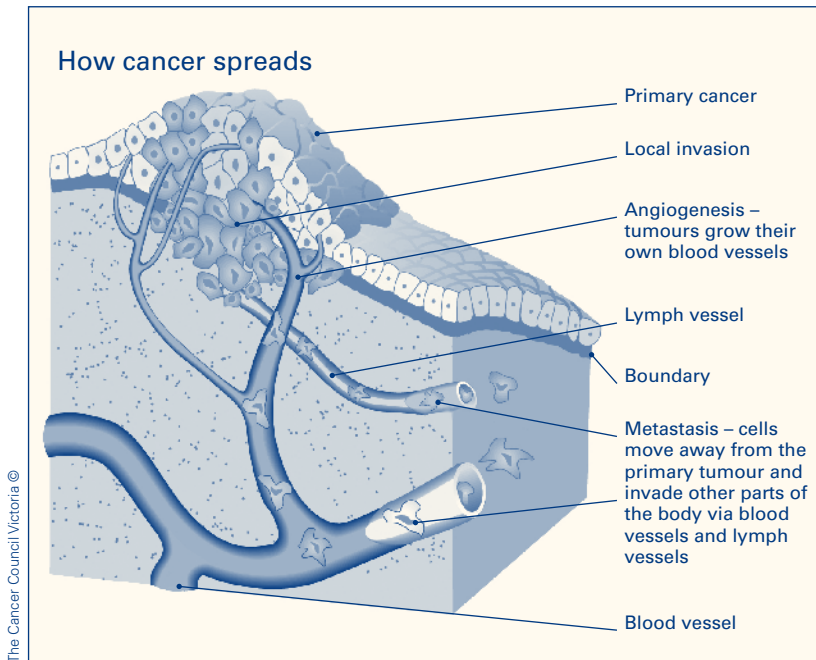
What is cancer?

Cancer is a disease of the body's cells, which are the body's basic building blocks. Our bodies constantly make new cells: to help us to grow, to replace worn-out cells, or to heal damaged cells after an injury.

Normally, cells grow and multiply in an orderly way, but sometimes something goes wrong with this process and cells grow in an uncontrolled way. This uncontrolled growth may result in abnormal blood cells or develop into a lump called a tumour.

A tumour can be benign (not cancer) or malignant (cancer). A benign tumour does not spread outside its normal boundary to other parts of the body. However, if a benign tumour continues to grow at the original site, it can cause a problem by pressing on nearby organs.





The Cancer Council Victoria ©

A malignant tumour is made up of cancer cells. When it first develops, this malignant tumour may not have invaded nearby tissue. This is known as a cancer in-situ (or carcinoma in-situ). As the tumour grows, it invades surrounding tissue, becoming invasive cancer. An invasive cancer that has not spread to other parts of the body is called a primary cancer.

Sometimes cells move away from the original (primary) cancer and invade other organs and bones. When these cells reach a new site, they may continue to grow and form another tumour at that site. This is called a secondary cancer or metastasis.



The head and neck region

The head and neck region refers to several different organs of the body found above the shoulders and excluding the brain and spinal cord. The head and neck region includes:

- oral cavity (mouth)
- salivary glands
- pharynx (throat)
- larynx (voice box)
- nose, nasal cavity and paranasal sinuses
- ears
- eyes
- skin
- thyroid and parathyroid glands.

Oral, pharyngeal, laryngeal and nasal cavity cancers mainly arise in the internal (mucosal) lining of the head and neck.

Information in this booklet

This booklet provides information about four main types of head and neck cancer: oral, pharyngeal, laryngeal and nasal cancers. The treatments and side effects of these head and neck cancers are distinct, so they are addressed in separate sections, as well as in the *Managing side effects* section:

Oral cancer treatment	Pages 28 to 34
Pharyngeal cancer treatment, including cancer of the nasopharynx, oropharynx and hypopharynx	Pages 35 to 41
Laryngeal cancer treatment	Pages 42 to 47
Nasal and paranasal sinus cancer treatment	Pages 48 to 53

Information about ear, eye, skin and thyroid cancer is not included in this publication. However, patients with advanced cancer that has spread to the lymph nodes in the neck may still find this booklet useful.

Facts about the diagnosis and treatment of skin cancer can be found in the *Understanding Melanoma* and *Understanding Skin Cancer* booklets. Some types of eye cancer are classified as ocular lymphoma, so the *Understanding non-Hodgkin's Lymphoma* booklet may be relevant. For more information on brain cancer, see *Understanding Brain Tumours*.

To request free copies of these booklets and find out more about other cancers, such as thyroid or ear cancer, call the Cancer Council Helpline on 13 11 20.

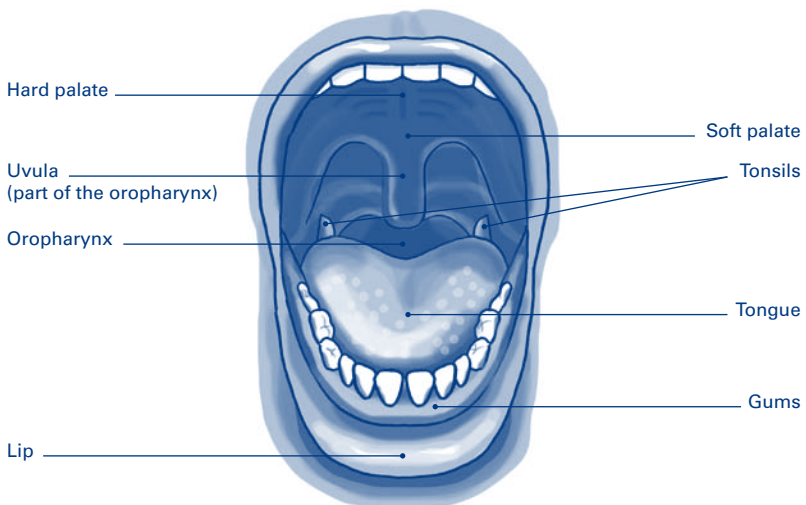
The oral cavity

The term ‘oral cavity’ refers to the mouth region.

The tongue is the largest structure in the mouth and is made of muscular tissue. The section of the tongue visible when looking into your mouth is part of the oral cavity. The part of the tongue that continues out of sight down the throat is called the tongue base. It forms the front wall of the throat (oropharynx). Cancers of the oral cavity and oropharynx are often treated differently.

The roof of the mouth is formed by the hard palate. The soft palate, which is an arch of muscle, is located behind the hard palate, and is part of the throat (oropharynx). The oral cavity also includes the lips, gums, cheeks, floor of the mouth and jaw.

Saliva (spit) is the substance released into the mouth from the salivary glands, which are under the tongue, inside the cheeks (near the ears) and under the jawbone. Saliva protects the teeth and the lining of the mouth and throat (mucosa). It also lubricates food, making it easy to chew and swallow.



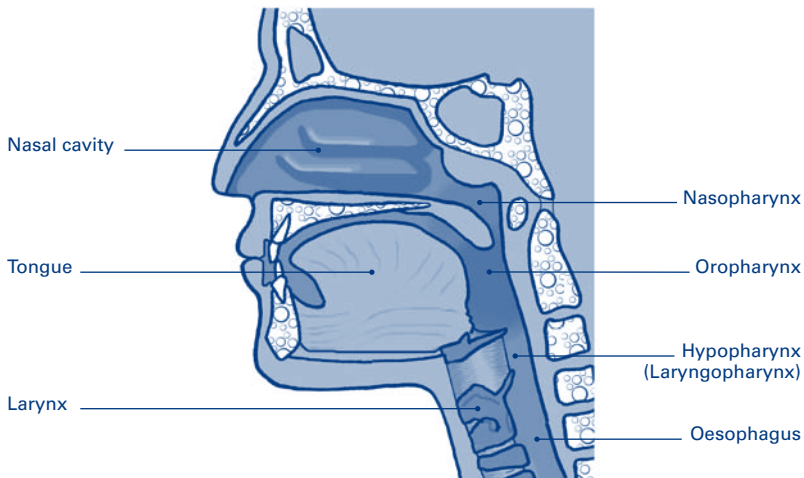
The pharynx (throat)

The pharynx, or throat, is the tube that runs from the back of the nose to the oesophagus and trachea (windpipe). The pharynx is divided into three parts:

1. **nasopharynx:** the open cavity that lies behind the nose and above the soft palate
2. **oropharynx:** the area from the soft palate and base of the tongue to the back of the mouth, near the tonsils
3. **hypopharynx or laryngopharynx:** the lowest part of the back of the throat, behind the larynx (voice box).

The most common part of the throat to develop cancer is the oropharynx. This includes the tongue base (front wall); tonsils and lateral pharyngeal wall (side wall); soft palate and uvula (dangling muscular ball, which can be seen if you look into your mouth); and posterior pharyngeal wall (back wall).

Halfway down the neck, the throat branches into two tubes: the oesophagus is the tube that carries food to the stomach, and the trachea is the tube that brings air into and out of the lungs.

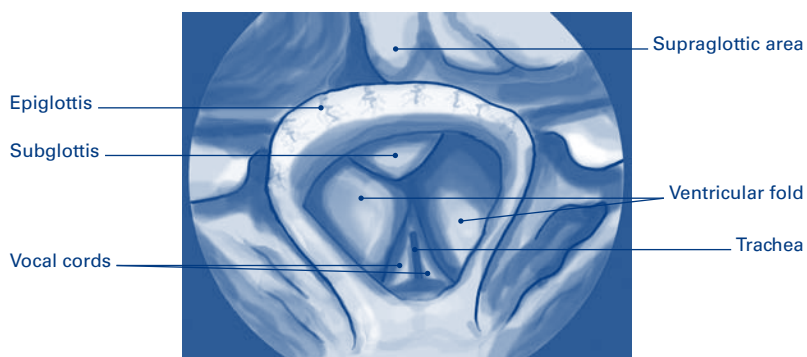


The larynx (voice box)

The larynx is also known as the voice box. It sits on top of the trachea (the airway that goes into the lungs).

The larynx houses the vocal cords, which vibrate on air coming up from the lungs to allow you to produce the sounds required for speech. The vocal cords are also called the glottis. The area above the glottis is called the supraglottis, which contains the epiglottis. The epiglottis is a small cartilage flap that prevents food from going into the trachea when a person swallows. The area below the glottis is called the subglottis.

A view into the larynx

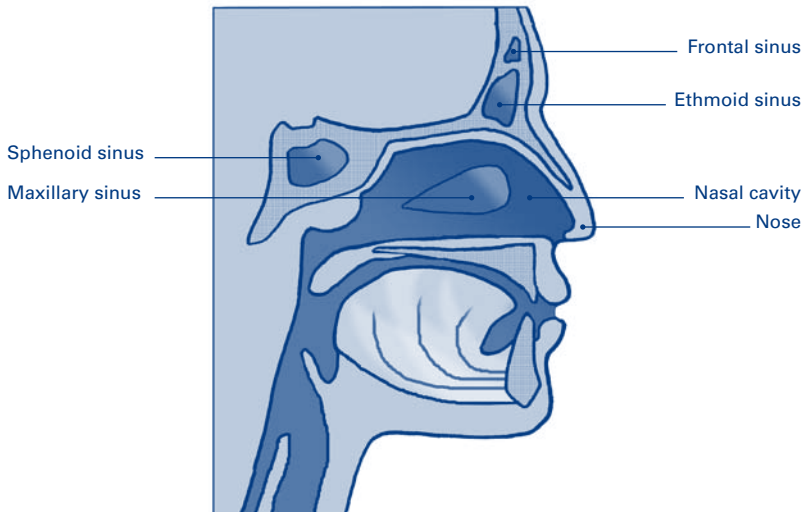


The nose, nasal cavity and paranasal sinuses

The nose is the main passage for breathing. The nasal cavity is the large, air-filled space located behind the nose and in the middle of the face. The nose and upper respiratory tract warm, humidify (moisten) and filter the air you breathe.

Paranasal sinuses are air-filled spaces within the head which help to lighten the weight of the skull. There are four types of paranasal sinuses, located in different areas of your head:

1. **frontal sinuses:** located behind your forehead
2. **ethmoid sinuses:** located within your ethmoid bone, which is the bone located between your eyes
3. **sphenoid sinuses:** located at the centre of the base of your skull
4. **maxillary sinuses:** located under your eyes and within your maxillary (cheek) bones.



Functions of the head and neck region

Areas of the head and neck play important roles in functions that most people take for granted, such as smelling, eating and drinking, speaking, breathing, seeing and hearing.

Eating and drinking

Many parts of the head and neck region are involved in eating and drinking. In the mouth, food is combined with saliva.

When you chew, the tongue moves food around and collects it together into a soft ball. When the food moves to the back of the tongue, a swallow is triggered by the pharynx (throat).

When you swallow, the soft palate lifts up, closing off the nasopharynx to stop food going upwards and outwards through the nose. The pharynx then squeezes the food down to the oesophagus. The muscle at the top of the oesophagus relaxes to let the food in, while its muscular walls continue to squeeze the food down to the stomach.

At the same time, your larynx acts as a valve to close off the trachea (windpipe). This prevents the food and drink from going into the lungs. The valve is formed by two folds of tissue (the vocal cords) coming together and the epiglottis closing over the vocal cords.

Speaking

Areas of the head and neck play an important role in speech. When you speak, the air you breathe out pushes up beneath your vocal cords and causes them to vibrate. This produces vocal sounds (your voice).

Your voice resonates throughout your pharynx and nasal cavities, like sound in a concert hall, and the tongue, lips and jaw shape it into the sounds of speech.

Breathing

People breathe through their mouth or nose, so the oral and nasal passages are essential parts of the respiration (breathing) process.

The larynx also plays an important part in respiration, by protecting the lungs from food and saliva. If your larynx is completely removed (total laryngectomy), there is no longer a valve to protect the lungs. The surgeon has to disconnect the windpipe from the throat and connect it to a small hole in the neck (called a tracheostomy), which is created to allow you to breathe. For more information about tracheostomies, see pages 68 to 69.



Head and neck cancer – your questions answered

What is head and neck cancer?

The term ‘head and neck cancer’ may seem confusing or misleading because so many areas of the head and neck can develop cancer. Cancerous cells in any part of the head and neck can grow in an abnormal and uncontrolled manner, and it is the location and type of cancerous cells that determine the type of head and neck cancer you have. Thus, oral cancer may be diagnosed and treated differently to laryngeal cancer, although both of these cancers are classified as a head and neck cancer.

Symptoms

There are many possible symptoms of head and neck cancer. You may have a sore or swelling in your mouth, neck, throat or jaw that does not go away, or difficulty chewing or swallowing. These symptoms, along with pain in your head and neck region, are common to all of the four types of head and neck cancer discussed in this book.

In addition to experiencing the above symptoms, you may have one or more of the symptoms on the opposite page.

It is important to note that these symptoms are common to many medical conditions. You should consult your doctor if you are experiencing any symptoms.

Oral cancer

- a white patch on your gums, tongue or lining of your mouth (leukoplakia)
- a red patch on your gums, tongue or lining of your mouth (erythroplakia)
- a change in your speech or difficulty pronouncing words
- difficulty swallowing food, or food that gets 'stuck'
- a lump in the neck
- loose teeth or dentures that no longer fit well

Pharyngeal cancer

- a persistent sore throat or cough
- coughing up bloody phlegm
- difficulty swallowing
- a change in the sound of your voice, or hoarseness
- a feeling that your air supply is blocked
- dull pain around your breastbone
- a lump in the neck
- an earache

Laryngeal cancer

- a change in the sound of your voice, or hoarseness
- a lump in the neck
- difficulty swallowing
- a persistent sore throat

Nasal and paranasal sinus cancer

- a persistent blocked nose, particularly in one nostril
- a decreased sense of smell
- nosebleeds
- mucus drainage in the back of your nose or throat
- frequent headaches or a feeling of sinus pressure
- a bulging or watery eye
- complete or partial loss of your eyesight
- double vision
- a lump on your face, or in your nose or mouth
- loose or painful teeth
- pressure or pain in your ears

Risk factors

Many factors may place a person at risk for developing head and neck cancer. The main risk factor of head and neck cancers (excluding skin cancer in this region) is tobacco use. Tobacco or marijuana use, such as smoking cigarettes or pipes, using chewing tobacco and dipping snuff, accounts for about 85% of all head and neck cancers.

Alcohol use is also strongly linked to head and neck cancer. People who drink alcohol may be at risk for head and neck cancer, and a person's risk increases with the amount of alcohol consumed.

Using both tobacco and alcohol together further increases a person's risk.

Other risk factors for head and neck cancer include:

- age: head and neck cancer is most common in people aged 55 or older
- gender: men are 2.8 times more likely to develop head and neck cancer
- race: people from some cultural backgrounds may be more likely to develop certain types of head and neck cancer. For example, Caucasian men are more likely to develop lip cancer, and people from certain parts of China may have an increased risk of nasopharyngeal cancer
- sun exposure: the ultraviolet (UV) radiation in sunlight may cause lip cancer and is the main cause of skin cancer of the head or neck
- inhalation of certain chemicals or dusts: breathing in sulphuric acid mist, asbestos fibres, dry-cleaning solvents, certain types of paint or nickel may increase your risk

- chewing Betel nut or paan: the International Agency for Research on Cancer regards Betel nut as a carcinogen, known to cause oral cancer
- diet: some studies suggest a diet low in beta-carotene (found in some fruits and vegetables) may be a slight risk factor.

Certain medical conditions may also increase a person's risk for developing head and neck cancer. These include:

- leukoplakia (white patches in the mouth) or erythroplakia (red patches in the mouth): it is important to receive specialist advice on these benign conditions, as they may develop into a type of oral cancer
- the Human Papillomavirus (HPV): there are some types of HPV that may be associated with head and neck cancer, in particular cancer of the tonsil
- the Epstein-Barr Virus (EBV): this virus may cause nasopharyngeal cancer.

Though there are several risk factors for head and neck cancer, the presence of one or many of these factors does not necessarily mean you will get cancer. Some patients do not have an identifiable cause of their cancer.

If you have a type of head and neck cancer, tell your doctors if you use any drugs, such as tobacco or alcohol. Your doctors will understand this and consider it when caring for you, and they may help you to quit. Research indicates that quitting smoking will improve your chances of responding to treatment. If you need help to quit, call Quitline on 13 18 48.

How common is head and neck cancer?

According to the latest (2005) statistics from the Cancer Institute NSW, which include all pharyngeal, laryngeal and nasal cancers and some oral cancers, approximately 900 people (645 men and 255 women) in NSW are diagnosed each year. This accounts for 3.4% of all male cancers and 1.7% of all female cancers.

Statistically, lip cancer is considered separately. In 2005, there were about 180 new cases of lip cancer (130 male and 50 female). This accounts for 0.7% of all male cancers and 0.3% of all female cancers.





Diagnosing head and neck cancer

Most people first consult their general practitioner (GP) if they think they have symptoms of head and neck cancer (see pages 14 to 15 for information about symptoms). Your GP or specialist will perform diagnostic tests to determine if you have a type of head and neck cancer.

Several types of diagnostic tests are used to diagnose oral, pharyngeal, laryngeal or nasal cancer. Depending on your symptoms, you may undergo one or more of the following tests.

Physical examination

Your GP or specialist will do an examination of your head and neck. This may include your mouth, parts of the oropharynx such as the tonsils and soft palate, neck, ears and eyes. Examination of other areas such as the nasopharynx, tongue base and hypopharynx require specialist equipment and/or anaesthesia.

Tell your doctor if you have experienced any specific symptoms.

Nasendoscopy

A nasendoscopy is an examination of your nose and upper airways using a flexible fibre-optic tube called an endoscope. The tube will have a light or lens so tissues are visible, and images may be projected onto a TV monitor.

A nasendoscopy is usually a relatively brief procedure. Your doctor may give you a local anaesthetic, which numbs the back of your nose and throat. The doctor will then insert the endoscope into your nose and look carefully at your nasal cavity, nasopharynx, oropharynx, hypopharynx and/or larynx until the numbness wears off.

During the examination, you may be asked to make vocal noises. Your doctor may also take small tissue samples (biopsies) to send to the laboratory for examination under a microscope.

If your specialist suspects you have oral cancer, you may have an endoscopy, which is an examination of the airways and upper digestive tract.

After the procedure, you should avoid eating and drinking for 30 minutes, because your mouth will be numb. You will be able to go home after the procedure is finished.

Laryngoscopy

A laryngoscopy is a procedure that allows a specialist to closely examine your larynx and pharynx. In most cases, a laryngoscopy is performed to diagnose laryngeal cancer.

Laryngoscopies can be performed in two ways:

- **indirect laryngoscopy:** your specialist inserts a mirror into the back of your throat to look at the larynx
- **direct laryngoscopy:** your specialist inserts a laryngoscope (a tube with a light on it) into your throat to examine the larynx. This is usually done under general anaesthesia.

During a direct laryngoscopy, your specialist may take a tissue sample (biopsy) of your voice box.

Biopsy

Your doctor may remove tissue samples from your head and neck area for examination by a specialist doctor who interprets test results to diagnose disease (pathologist). This will help confirm whether there is cancer present, and what type of cancer it is.

This biopsy, which may require an anaesthetic or sedation, may be performed during a physical examination, nasendoscopy or laryngoscopy. If a neck lump requires a biopsy, this is performed with a needle and often under the guidance of an ultrasound (see page 24 for more information about ultrasounds).

Results of the biopsy are usually available in a week.

Imaging and scans

CT scan

A computerised tomography (CT) scan is a procedure that uses x-ray beams to take pictures of the inside of your body. Unlike a standard x-ray, which takes a single picture, a CT scan uses a computer to compile many pictures of areas of your body, such as your head.

You may have an injection of a special dye into your veins before the scan. This injection will help make the scan pictures clearer. It may make you feel flushed or hot for a few minutes. Rarely, more serious reactions occur, such as breathing difficulties or low blood pressure.



You will be asked to lie still on a table while the CT scanner, which is large and round like a doughnut, slowly moves around you. This is painless and though the scan itself takes only a few minutes, preparation time will take about 10 to 30 minutes. You will be able to go home when the scan is complete.

MRI scan

A magnetic resonance imaging (MRI) scan uses a combination of magnetism and radio waves to build up detailed cross-section pictures of the body. This test involves lying on a couch in a metal cylinder – a large magnet – that is open at both ends.

As with a CT scan, a special dye may be injected into your veins before the scan.

Some people feel anxious lying in the narrow metal cylinder when they are having an MRI. Talk to your health care team before the scan if you are claustrophobic. It may be helpful to take a mild sedative or talk to the person operating the scan through an intercom.

The special dye that is used for a CT or MRI scan is called a contrast solution and may contain iodine. If you are allergic to iodine, fish or dyes, let the person performing the scan know in advance.

Though the MRI scanner can feel tightly enclosed and noisy, the test is painless and is usually complete in about one hour. You will be able to go home when the scan is complete.

People who have a pacemaker or certain other metallic objects in their body cannot have an MRI due to the effect of the magnet.

X-rays

Your doctor may order x-rays of your head and neck to determine if you have oral cancer. These x-rays help identify tumours or damage that may indicate cancer.

Before the x-rays, you may have a blood test to check how well your kidneys are functioning. Afterwards, x-rays will be taken. This is a quick, safe and painless procedure that only takes a few minutes.

If you have already been diagnosed with cancer, your doctor may take x-rays of other parts of your body to see if the cancer has metastasised (spread). For example, many patients have a chest x-ray, and some have an orthopantomogram (OPG), which is a specialised dental x-ray.

PET scan

A positron emission tomography (PET) scan is a specialised imaging test, which is available at some hospitals. A PET scan, which is usually performed to diagnose oral, pharyngeal or laryngeal cancer, may also be used to assess if the cancer has spread (metastasised).

In this test, you are given a radioactive glucose solution. Active cancer cells will have an increased uptake of this solution.

It takes 30 to 90 minutes for the glucose solution to go through the body, and during this time you will be asked to sit silently. It is important not to talk, eat or move, as this may result in false test results. Your body will then be scanned for high levels of radioactive glucose.

If you are diabetic, you will have to follow a special protocol for your PET scan. Tell the hospital staff when booking your PET scan.

The test is usually done on an outpatient basis, however it takes several hours to prepare for and undergo the scan.

Ultrasound

An ultrasound is a non-invasive, painless scan that uses soundwaves to build up a picture of part of your body. It is occasionally used to diagnose pharyngeal cancer, however an ultrasound may be performed in other cases to see if you have cancer that has spread (metastasised).

You usually will be asked not to eat or drink for about four hours before an ultrasound. A gel is spread over the area where your doctor is scanning (such as your throat or neck) to conduct the soundwaves. A paddle-shaped device is moved over the area for a few minutes and a picture will be formed on a computer.

The ultrasound is usually performed as an outpatient scan.

Understanding cancer staging

If the biopsy and the results of other diagnostic tests detect a type of head and neck cancer, your doctor will assign a stage to indicate how far it has spread. An international staging system called TNM is used to stage different types of cancer based on certain standard criteria. The T refers to the tumour, the N to the lymph glands (or nodes) and the M to metastasis, or how far the cancer has spread.

In the TNM system, each letter is assigned a number that indicates how advanced the cancer is. Staging the cancer helps your health care team decide what type of treatment is best for you.

If you are confused about the stage of your cancer, ask your doctor or nurse to explain cancer staging in plain English. You can also call the Cancer Council Helpline on 13 11 20 for more information about staging head and neck cancer.

Understanding your prognosis

Prognosis means the expected outcome of a disease. You will need to discuss your prognosis with your doctor, but it is not possible for any doctor to give you a 100% accurate prediction on the course of the illness. Test results, the rate and depth of tumour growth, how well you respond to treatment, and other factors such as age, fitness and your medical history are all important factors in assessing your prognosis.

Health professionals you may see

Your GP will usually arrange the first tests to assess your symptoms. This can be a worrying and tiring time, especially if you need several tests. If these tests do not rule out cancer, you will usually be referred to a specialist who will arrange further tests and advise you about treatment options.

You will be cared for by a range of health professionals who specialise in different aspects of your treatment. This is called a multidisciplinary team. Head and neck cancer often affects several areas of your body, so you may see some of the following health professionals, listed in alphabetical order:

- **audiologist:** diagnoses and treats hearing problems
- **cancer nurse coordinator or clinical nurse consultant:** coordinates your care, supports you throughout treatment and answers your questions
- **dentist or oral medicine specialist:** evaluates and treats your mouth, particularly focusing on the side effects of treatment to your mouth
- **dietitian:** supports and educates patients about nutrition and diet during treatment and recovery, including tube feeding
- **ENT specialist:** diagnoses and treats disorders of the ear, nose and throat
- **gastroenterologist:** specialises in the digestive system and its disorders, and inserts a gastronomy feeding tube if required
- **head and neck surgeon:** operates on cancer in the head and neck region
- **medical oncologist:** plans and administers chemotherapy
- **oral (maxillofacial) surgeon:** specialises in reconstructive surgery to the face and jaws

- **ophthalmic surgeon:** deals with surgery affecting the eyes and visual pathways
- **prosthodontist:** a dentist who specialises in replacing missing teeth
- **psychologists and counsellors:** help you manage your feelings and cope with changes to your life as a result of cancer or its treatments
- **reconstructive surgeon:** restores, repairs or restructures the appearance and function of your body using surgery
- **radiation oncologist:** plans and administers radiotherapy
- **social worker:** helps provide emotional support and practical assistance to patients and carers
- **speech pathologist:** rehabilitates patients with communication and swallowing disorders.





Oral cancer treatment



The most common treatments for cancers of the oral cavity are surgery and radiotherapy. Other types of treatment, such as chemotherapy, are also used, either as the sole treatment for cancer or in combination with other treatments.

Deciding on what kind of treatment to have may be very difficult. Sometimes your doctor may strongly recommend a particular type of treatment. In other cases, two different treatments may be equally effective and reasonable. Recommendations for treatment are usually made by a multi-disciplinary team of health professionals.

See *Making treatment decisions* on pages 74 to 77 for some suggestions about how to weigh up your options. You should also consider the possible side effects of your treatment options, which are described in more detail on pages 55 to 73.

Surgery

The aim of a surgical procedure is to remove cancerous tissue and to preserve the important functions of the head and neck. In some people, the surgeon needs to remove only a small area, and healing is fast, with few long-term side effects. For others, the operation is more extensive.

When you have surgery to your mouth area, you will be under a general anaesthetic. Surgeons will work to carefully cut out the cancerous tissue. In many cases, the raw area can be left to heal by itself or will be closed with sutures. If the removed tissue requires replacement (reconstruction), skin or tissue from another part of your body is used to rebuild the area. This will be done by a reconstructive surgeon, who will work with your head and neck surgeon.

Many specialist head and neck surgeons are also experts in reconstructive surgery, however the surgery may be performed by two teams if it is long and/or complicated. This type of surgery may take six to 14 hours.

Following surgery on your mouth, there will be swelling. If the swelling is likely to interfere with your breathing, a temporary tracheostomy (breathing tube in the neck) will be required. This will usually be removed in a few days when the swelling goes down (see page 68 for more information).

In some cases, usually when a patient has early stage cancer, surgeons will use a laser to remove the cancer. The intense light beam works like a knife to cut out the tissue. Laser surgery can be done under a local or general anaesthetic, depending on the circumstances.

You may be anxious about having oral surgery. However, your surgeon will not necessarily know what you are most concerned about. Tell the surgeon your concerns and ask questions if you want more information.

Some types of oral surgery include:

- **glossectomy:** removal of part or all of the tongue
- **mandibulectomy:** removal of part or all of the lower jaw
- **maxillectomy:** removal of part or all of the hard palate (upper jaw)
- **transoral primary tumour resection:** removal of the tumour through the mouth
- **mandibulotomy:** cutting through the lower jaw.

If the oral cancer has spread, or if there is a chance it will, your surgeons may remove some lymph nodes in your neck. This is called a neck dissection or lymphadenectomy.

Side effects

The side effects of oral surgery depend on what parts are removed, so it is important to discuss the surgery in detail with members of your medical team.

- **Speaking, swallowing and chewing:** If your doctor has to remove a tumour from your tongue or mouth, your ability to speak and swallow may be seriously affected. This may be due to the insertion of a skin flap in your mouth, side effects such as a dry mouth, or teeth extractions.

If you have tongue surgery, a flap of skin may be taken from your leg or arm and inserted into your mouth to replace the portion of the tongue that has been removed. Because this skin flap will not have any muscle or sensation, you will have to re-train the remaining portion of your normal tongue to compensate for the flap. The degree of success depends on many factors and needs to be discussed with your surgeon and speech pathologist.

In other cases, some or all of your teeth may need to be removed. This is likely if you receive radiotherapy treatment after surgery. It is unlikely that you will be able to replace teeth that are removed, so it is important for you to discuss teeth extractions with your surgeon or oral medicine specialist. The specialist will also discuss what type of food you will be able to eat after the procedure.

If your ability to speak, swallow or chew has been impaired, this can usually be improved with therapy. See the *Managing side effects* section (pages 55 to 73) for more information.

- **Cosmetic appearance:** If you undergo oral surgery, you will need to discuss how this will affect the way you will look. Though the cosmetic results of head and neck surgery have improved due to reconstruction, you should not expect to look exactly as you did before surgery.

In many cases, the scarring from surgery will be initially visible, but the scars will probably become difficult to see after a year or two. However, if your jaw or skin is removed, it may be difficult for a reconstructive surgeon to treat you. This may mean your appearance is altered significantly as a result of surgery.

It is normal to feel upset about changes in your appearance as a result of surgery. See *Changing body image* on page 84.

- **Fatigue and lifestyle changes:** Fatigue can be a major problem after surgery. You will probably feel very tired, and this can persist for several months, depending on the extent of your treatment. See page 71 for more information.

You will also have to talk to your health carers about how surgery will affect other aspects of your life, such as your sex life. The *Sexuality, intimacy and cancer* section (pages 85 to 86) discusses this in more detail.

- **Neck dissection side effects:** If you have a neck dissection, there are a number of likely side effects. These include neck stiffness, persistent skin numbness and weakness, and pain in your shoulder. Also, you may have some scarring or a change in the contour (shape) of your neck.

Radiotherapy

Radiotherapy is the use of high-energy x-rays or electrons to kill or damage cancer cells. It can be used alone, before or after surgery, or with or without chemotherapy.

Before your treatments begin, your doctors will schedule a planning (simulation) session. During this session, your doctor will measure you and take x-rays to determine the precise area to be treated. You may be fitted for a mask which you will wear during treatment. You will be able to see and breathe

If you have radiotherapy after surgery, it is likely to worsen or intensify your side effects. For example, radiotherapy causes scar tissue to form, and combined with a dry mouth, this can make swallowing very difficult. Talk to your doctor about managing your side effects, or see pages 55 to 73.

through the mask, but it will immobilise you so that the radiation beams always treat the correct areas of your head or neck. In the simulation session, you may have to wear the mask for up to an hour, but during treatment, you will only wear the mask for about 10 minutes at a time. Let your doctor know if you are claustrophobic.

If you receive radiotherapy, you will usually have an outpatient treatment session once a day, Monday to Friday, for about six to seven weeks. However, there are some other specialised types of radiotherapy that some patients may have. These include:

- **intensity modulated radiation therapy (IMRT):** the use of multiple beams of radiation to target the tumour more closely
- **brachytherapy or internal radiotherapy:** when small radioactive seeds are placed near the cancerous tissue
- **hyperfractionated radiotherapy:** two or more radiotherapy treatments per day, Monday to Friday, during a designated treatment period

- **accelerated radiotherapy:** receiving a higher dose of radiotherapy in a shortened period of time
- **stereotactic radiosurgery:** a way to deliver radiotherapy directly to a small area of the head or neck, by putting a frame around the skull and using CT and MRI scans to aim the radiation beams. This rare and specialised form of treatment is often used if the tumour is located next to areas that need to be spared from high doses of radiation, such as the eyes or brain.

Oral problems

You should visit a dentist or oral medicine specialist about two to three weeks before your radiotherapy treatment begins, if possible. This is because radiotherapy can cause some oral problems. One such problem is dry mouth (xerostomia), which makes your teeth more susceptible to tooth decay. Another potential problem is a breakdown of bone tissue, called osteoradionecrosis (ORN). If necessary, your dentist or oral medicine specialist may try to prevent ORN by ordering an x-ray and removing some teeth prior to your radiotherapy treatment. For more information about dry mouth or ORN, see pages 55 and 64, respectively.

At your consultation, your dentist may also create a fluoride tray, which should be worn at night to strengthen your teeth and prevent future dental problems.

You should maintain good oral hygiene and follow up with your dentist regularly during and after treatment.

Side effects

Radiotherapy has many side effects. Significant side effects usually tend to peak about one to three weeks after treatment. The majority of side effects are temporary and disappear, however it is possible for some side effects to be present for a few years after treatment, or permanently.

Side effects can include:

- dry mouth
- the presence of thick mucus (phlegm) instead of saliva
- sores in the mouth or throat (mucositis) and tissue damage
- difficulty swallowing
- difficulty opening the mouth fully (trismus)
- nausea or gagging due to phlegm in the mouth
- loss of sense of taste or altered taste
- loss of appetite
- skin soreness, redness or ulceration
- dental problems
- osteoradionecrosis (damage to the bone of the jaw)
- blocked or swollen salivary glands
- fatigue or tiredness
- loss of hair (particularly facial hair)
- weight loss
- an underactive thyroid gland.

In some cases, it may be beneficial for you to have a feeding tube to manage your food and drink intake. See page 61 for more information about feeding tubes.

Consult your health carers, see *Managing side effects* (pages 55 to 73), and read *Understanding Radiotherapy* (available from the Cancer Council Helpline) to learn how to manage temporary or permanent side effects and your follow-up care.

Pharyngeal cancer treatment



Pharyngeal cancer is usually treated with radiotherapy, chemotherapy or surgery. Radiotherapy treatment is often preferred because surgical access to the throat can be difficult. Radiotherapy is also usually necessary after surgery. This chapter provides some information about your treatment options.



It may be difficult to decide on what kind of treatment to have. See *Making treatment decisions* on pages 74 to 77 for some suggestions about how to weigh up your treatment options. You should also consider the possible side effects of your treatment options, which are described in more detail on pages 55 to 73.

Surgery

The aim of surgery is to remove cancerous tissue. For some patients, the surgeon removes only a small area, and healing is quick, with few long-term side effects. However, most pharyngeal cancers are large or advanced before they are diagnosed, so the operation may be more extensive.

Surgical procedures for throat cancer are performed under a general anaesthetic. Surgeons (and reconstructive surgeons, if necessary) will work to remove cancerous tissue and rebuild the area affected by the surgery.

If surgery is recommended, this will usually involve a temporary tracheostomy (see page 68) and the removal of lymph nodes from your neck (neck dissection). A neck dissection is performed because there is a high chance that pharyngeal cancer will spread to the lymph nodes.

For patients with early stage cancer, surgeons may use a laser to remove the cancer. The intense light beam works like a knife to cut out the tissue and is performed under general anaesthesia.

In some patients, surgery is used if the cancer recurs after radiotherapy treatment. This is called surgical salvage.

Some types of pharyngeal surgery include:

- **pharyngectomy:** removal of part or all of the pharynx (throat)
- **mandibulotomy:** cutting through the lower jaw
- **mandibulectomy:** removal of part or all of the lower jaw
- **maxillectomy:** removal of part or all of the upper jaw
- **laryngopharyngectomy:** removal of part or all of the voice box (larynx) and pharynx.

Side effects

The side effects of surgery depend on what area must be removed, so it is important to discuss the surgery in detail with your health carers. Your carers will not necessarily know what you are most concerned about, so you should tell them about your concerns and ask questions if you want more information.

Your side effects may include difficulty swallowing or talking, but it will depend on the type of surgery you have had, and what part of your body has been affected.

- **Swallowing:** If your doctor has to remove a tumour from your throat, your ability to swallow may be seriously affected. This may be due to the insertion of a skin flap in your mouth, reduced movement and sensation, side effects such as dry mouth, or teeth extractions.

If you have a skin flap, you may have to re-learn how to swallow. This is usually improved with therapy, but the degree of success depends on many factors and needs to be discussed with your surgeon and speech pathologist.

- **Speaking and breathing:** When pharyngeal surgery is performed, surgeons usually create a temporary breathing tube in the lower neck (temporary tracheostomy). This is removed when the swelling goes down after a few days.

If the cancer involves your tongue base or soft palate, surgery may affect the way you sound when you talk. If the cancer is in the hypopharynx or larynx, the voice box may need to be removed. If this happens, it is likely you will need speech therapy and a permanent tracheostomy. See pages 68 to 69 for information about tracheostomies and pages 64 to 67 to learn more about communication side effects.

- **Cosmetic appearance:** If you undergo surgery, you will need to discuss how this will affect the way you will look. Though the cosmetic results of head and neck surgery have improved due to reconstruction, you will not necessarily look like you did before surgery.

In some cases, your surgeon will have to cut through the jaw (mandibulotomy) and reconstruct it with a plate. This involves a cut through the chin and lip, and the scars will be visible for some time.

It is normal to feel upset about changes in your appearance as a result of surgery. See page 84 for more information about changing body image and self-esteem.

- **Neck dissection side effects:** If you have a neck dissection, there are a number of likely side effects. See page 31 for more details.
- **Fatigue and lifestyle changes:** Fatigue and other side effects can significantly affect your life. See the *Managing side effects* section on pages 55 to 73 for more information. You may also want to refer to the *Life after treatment* chapter (pages 81 to 86).

Radiotherapy

Radiotherapy, or the use of high-energy x-rays or electrons to kill or damage cancer cells, is a common treatment for pharyngeal cancer.

For information about how your doctor will plan your therapy and how it will be administered, see *Radiotherapy* on page 32. This section also discusses how radiotherapy to the oral region may affect your teeth.

If you receive radiotherapy, you will usually have an outpatient treatment session once a day, Monday to Friday, for about six to seven weeks.

Side effects

There are many possible side effects of radiotherapy for pharyngeal cancer. These side effects are similar to those that occur when radiotherapy is administered for oral cancer. For a list of possible side effects, see page 34.

Significant side effects of radiotherapy usually tend to peak about one to three weeks after treatment. The majority of side effects are temporary, however it is possible for some side effects to be present for a few years after treatment, or permanently.

If you have radiotherapy after surgery, it is likely to worsen or intensify your side effects. For example, radiotherapy causes scar tissue to form, and combined with a dry mouth, this can make swallowing very difficult. Talk to your doctor about managing your side effects, or see pages 55 to 73.

Chemotherapy

Chemotherapy is the treatment of cancer with anti-cancer (cytotoxic) drugs. The aim of chemotherapy is to kill cancer cells while doing the least possible damage to healthy cells.

In some cases, chemotherapy is administered to try to shrink a tumour before surgery. This treatment, called neoadjuvant chemotherapy, is not standard. However, chemotherapy can also be given while you are receiving radiotherapy (chemoradiation) or as the only treatment for pharyngeal cancer.

Chemotherapy is usually given by injection into a vein (intravenously). You will probably have sessions of chemotherapy over several weeks, however your medical team will determine your treatment schedule.

Side effects

There are many possible side effects of chemotherapy, depending on the drugs that you are given. Some of these side effects include tiredness and lethargy; nausea and vomiting; diarrhoea; hair loss; hearing loss; mouth sores and ulcers; a tingly feeling (nerve or muscle damage); and anaemia.

For strategies on dealing with side effects, see the *Managing side effects* section on pages 55 to 73. You can also read *Understanding Chemotherapy*, available for free from the Cancer Council Helpline.

Other treatments

Though pharyngeal cancer is primarily treated with surgery and radiotherapy, there are some other types of treatment you may receive. These treatments are not available at all hospitals, and may not be suitable for all types of pharyngeal cancer. Other treatments for throat cancer include:

- **monoclonal antibody therapy:** using antibodies to treat a person's cancer.
- **radiosensitisation:** a treatment that involves giving drugs with radiotherapy to make cancer cells more sensitive to radiation.

Some of these treatments may be available in clinical trials. For more information about clinical trials, see page 77.



Laryngeal cancer treatment



Laryngeal cancer is commonly treated with radiotherapy (with or without chemotherapy), particularly if it is early stage disease. It may also be treated with surgery.

Deciding on what kind of treatment to have may be very difficult. See *Making treatment decisions* on pages 74 to 77 for some suggestions about how to weigh up your options. You may also consider the possible side effects of your treatment options, which are described in more detail on pages 55 to 73.

Radiotherapy

Radiotherapy, or the use of high-energy x-rays or electrons to kill or damage cancer cells, is a common treatment for laryngeal cancer. This treatment may be given alone, with chemotherapy, or before or after surgery.

Radiotherapy can be administered externally or internally, however it is almost always given externally for laryngeal cancer. This means a machine outside the body sends radiation beams towards the cancer. Before your treatments begin, your doctors will schedule a planning (simulation) session to measure you and take x-rays to determine the precise area to be treated. See page 32 for more information on how doctors prepare you for treatment.

The number of radiotherapy sessions you have will depend on your personal circumstances. Ask your medical team about your treatment schedule.

Side effects

There are many possible side effects of radiotherapy for laryngeal cancer. The main side effects of radiotherapy are tiredness; a sore throat; pain or difficulty swallowing; loss of taste or altered taste, a dry mouth; redness and soreness of the skin; and a hoarse or changed voice.

Significant side effects of radiotherapy usually tend to peak about one to three weeks after treatment. The majority of side effects are temporary, however it is possible for some side effects to be present for a few years after treatment, or permanently.

See *Managing side effects* on pages 55 to 73 to learn how to manage temporary or permanent side effects.

Chemotherapy

Chemotherapy is the treatment of cancer with anti-cancer (cytotoxic) drugs. The aim of chemotherapy is to kill cancer cells while doing the least possible damage to healthy cells. For some more information about chemotherapy, see page 40.

Chemotherapy for cancer of the larynx is usually given by injection into a vein (intravenously). Your medical team will determine your treatment schedule.

Side effects

There are many possible side effects of chemotherapy, depending on the drugs that you are given. Some of these side effects include tiredness and lethargy; nausea and vomiting; diarrhoea; hair loss; mouth sores and ulcers; a tingly feeling (nerve or muscle damage); and anaemia. See pages 55 to 73.

Surgery

Though surgery is very effective for laryngeal cancer, it is usually avoided if it would seriously affect your voice or if it would necessitate removal of the voice box (total laryngectomy). Surgery is usually recommended if the cancer is advanced because radiotherapy may be unlikely to cure the cancer or enable good quality breathing, speaking and swallowing.

If the cancer was found at an early stage, laser surgery may be suitable. The results of laser surgery depend on how big the cancer is and where it is located in the larynx.

There are many types of surgical procedures for laryngeal cancer. One procedure is a total laryngectomy, or surgery to remove the whole larynx and separate the trachea (windpipe) from the oesophagus. You will no longer be able to speak

Some patients have surgery after radiotherapy if the cancer comes back. This is called surgical salvage.

using natural voicing after this procedure, but you will work with a speech pathologist to learn effective ways to communicate. Some patients also have their thyroid gland removed during this operation.

The other type of laryngeal surgery is a partial laryngectomy. This is surgery to remove part of the larynx, which may preserve your ability to speak in a rough or hoarse voice. Some types of partial laryngeal operations include:

- **laser surgery:** the use of a laser beam to cut off cancerous areas of your larynx, which will preserve some or all of your natural voice.
- **cordectomy:** surgery to remove one of your vocal cords. This usually results in an altered (hoarse) natural voice.
- **supraglottic laryngectomy:** surgery to remove the upper part of the larynx above the vocal cords (supraglottis). After the surgery, most patients are able to speak naturally, but need swallowing rehabilitation with a speech pathologist.
- **supracricoid laryngectomy:** surgery to remove the upper part of the larynx, including the vocal cords. After the surgery your voice will be significantly different and you will need swallowing rehabilitation with a speech pathologist.
- **hemilaryngectomy:** surgery to remove the left or right half of the larynx, which usually results in a hoarse or raspy voice.

Your surgeon will work with your speech pathologist to try to choose a surgical procedure that will allow you to preserve as much of your voice and swallowing ability as possible.

Side effects

The side effects of your laryngeal surgery depend on what kind of procedure you undergo. If you have questions about any side effects, talk to your doctors and nurses about your concerns.

- **Speaking:** Many people who have surgery to their larynx are confronted by the possibility that they will not be able to speak after the operation. Even if your voice box (or part of it) is surgically removed, you can still communicate. Some people are able to learn how to speak in other ways. Others can use an electronic voice aid, called an electrolarynx, to speak. See pages 64 to 67 for more information about speaking after a laryngectomy or similar surgery.
- **Breathing and smelling:** When laryngeal surgery is performed, your surgeon will usually create a breathing hole in your lower neck (tracheostoma). For patients undergoing a total laryngectomy this will be a permanent opening, and they will lose their sense of smell; patients undergoing partial laryngeal surgery usually have a temporary tracheostoma, and their sense of smell will not be affected. A tracheostomy is not required for most laser operations.

For information about tracheostomies, see pages 68 to 69.

- **Swallowing:** If part of your voice box is removed this may affect your ability to swallow. This is because the protective valve that stops food and saliva going into the lungs (epiglottis) may be altered by the surgery.

Many people who have part of their voice box removed will inhale liquid or food particles into their lungs (aspirate) to some degree, but this can usually be improved with speech therapy. For example, certain foods (such as thin liquids) pass into the trachea easily and should be avoided. Your speech pathologist can teach you certain manoeuvres, such as head turning, that may improve your swallowing.

The degree of success will depend on many factors and cannot always be correctly predicted before the operation. You should discuss this with the surgeon and speech pathologist.

See the *Managing side effects* section (pages 55 to 73) for more information.

- **Cosmetic appearance:** If you undergo laryngeal surgery, you will need to discuss how this will affect the way you will look. The changes in your physical appearance depend on the type of surgery you have. For example, if you have laser surgery, it probably will not affect your appearance, but if you have open laryngeal surgery, scarring of the neck will be visible.

If you have a total laryngectomy, this will change the appearance of your neck and make your face swell temporarily. You will have a small hole in your lower neck (tracheostoma) and some scarring.

It is normal to feel upset about changes in your appearance. See page 84 for some more information about changing body image and self-esteem issues.

- **Neck dissection side effects:** If you have a neck dissection, there are a number of likely side effects. See page 31 for more details.
- **Fatigue and lifestyle changes:** Fatigue and other side effects can significantly affect your life. See the *Managing side effects* section for more information. You may also want to refer to *Life after treatment* (pages 81 to 86).

If you have radiotherapy after surgery, it is likely to worsen or intensify your side effects. Talk to your doctor about managing your side effects, or see pages 55 to 73.



Nasal and paranasal sinus cancer treatment



Nasal and paranasal sinus cancer is commonly treated with surgery, radiotherapy and/or chemotherapy. Your doctors will discuss your treatment options and work with you to decide on the best option, depending on the size, type and position of the cancer.

Deciding on what kind of treatment to have may be very difficult. See *Making treatment decisions* on pages 74 to 77 for some suggestions about how to weigh up your options. You may also consider the possible side effects of your treatment options, which are described in more detail on pages 55 to 73.

Surgery

The surgical removal of cancerous tumours is a common option for many types of nasal cancer. Because the nose and paranasal sinuses are close to your brain, eyes and major blood vessels, your doctors will plan surgery carefully in order to avoid healthy tissues. They will also take into account your appearance and abilities to breathe, speak, chew and swallow.

There are a wide variety of different operations used for cancers of the nasal cavity and paranasal sinuses depending on the exact location of the tumour. Some cancers require major 'open' operations with a cut along the edge of your nose and through any soft tissue and bone around the cancer.

Other cancers can be removed using endoscopic surgery (surgery using a thin, flexible tube with a light). The surgeon will insert the endoscope into your nasal cavity or sinus and remove cancerous tissue without any cuts on your face.

Less commonly, surgery will involve a temporary tracheostomy (see page 68) or the removal of lymph nodes in your neck (neck dissection). A neck dissection is performed when there is a high chance that the cancer has spread to your lymph nodes.

Some types of nasal cavity and sinus surgery include:

- **maxillectomy:** removal of part or all of the upper jaw, possibly including upper teeth, part of the eye socket and/or the nasal cavity
- **craniofacial resection:** removal of cancer between the eyes, requiring a cut along the side of the nose
- **lateral rhinotomy:** a cut along the edge of the nose to gain access to the nasal cavity and sinuses
- **orbital exenteration:** removal of the eye and contents of the orbit (eye socket)
- **rhinectomy:** removal of part or all of the nose
- **endoscopic sinus surgery:** removal of part of the nasal cavity or sinuses using an endoscope and instruments via the nostrils
- **midface degloving:** gaining access to your nasal cavity or sinuses using a cut under the upper lip.

If surgeons have to remove part or all of your nose, reconstructive surgeons will consult with you about making a cosmetic prosthesis (an artificial replacement of a missing body part). This prosthesis may be made of tissues from other parts of your body, or from synthetic materials.

Surgery for paranasal sinus cancers varies, depending on which sinuses are affected.

After surgery, you may have radiotherapy or chemotherapy treatment. These treatments, called adjuvant therapies, are performed to destroy any remaining cancer cells.

Side effects

The side effects of nasal cancer surgery depend on the type of surgery you have. Your abilities to see, hear, breathe or swallow may be affected, however your medical team will try to preserve your ability to perform these functions.

- **Speaking and swallowing:** Most operations on the nasal cavity and sinuses do not affect talking and swallowing in a significant way. However the quality of your voice may change if your nose is blocked following surgery.

When the upper jaw is removed (maxillectomy), it needs to be replaced with either synthetic material (a prosthesis or obturator) or a flap of tissue from elsewhere in your body. This material will function well, but will not perform exactly as your jaw did before surgery.

- **Smelling and tasting:** In most operations, your sense of smell and taste will not be affected. However, if you have a craniofacial resection, the nerves from your brain that enable smell may be removed. This means you may lose your sense of smell, and your sense of taste will be affected. See *Managing side effects* (pages 55 to 73) for more information.

- **Vision:** In operations near your eyes, swelling after the surgery may cause double vision. This is usually temporary.

Some aggressive cancers can invade the eye socket, causing your surgeon to remove one eye (orbital exenteration). If this occurs, you will still be able to see, but your depth perception will not be as good. Your empty eye socket can be replaced with synthetic material (a prosthesis) or tissue from somewhere else in your body (a flap). This will not replace the visual function of the eye.

It is very unlikely that your surgeon would remove both eyes.

- **Cosmetic appearance:** If you undergo nasal surgery, you will need to discuss how this will affect your appearance. The nose, eyes, cheekbones and lips are important (in terms of your appearance) and though some operations will cause minimal or no alteration to your appearance, most operations alter at least one of these areas of your body.

Reconstructive surgery may require many operations over a long period of time. You should discuss with your head and neck surgeon how an operation will alter your appearance.

You may consider seeing a counsellor or psychologist to talk about changes in your appearance. See page 84 for some more information about changing body image.

- **Fatigue and lifestyle changes:** Fatigue and other side effects can significantly affect your life. See the *Managing side effects* section or *Life after treatment* (pages 81 to 86).

If you have radiotherapy after surgery, it is likely to worsen or intensify your side effects. Talk to your doctor about managing your side effects, or see pages 55 to 73.

Radiotherapy

Radiotherapy, or the use of high-energy x-rays or electrons to kill or damage cancer cells, can be used to treat nasal cancer. It may be given on its own, with chemotherapy, before or after surgery, or simply to control symptoms.

Before your treatments begin, your doctors will schedule a planning (simulation) session and create a mask for you to wear during treatment. You may also visit a dentist, who may extract some teeth and give you a fluoride tray to wear while you sleep. See page 32 for more information about how doctors prepare you for radiotherapy treatment.

If you receive radiotherapy, you will usually have an outpatient treatment session once a day, Monday to Friday, for about six to eight weeks.

Side effects

Radiotherapy has many side effects, but significant side effects usually don't begin until you have been having treatment for a few weeks. Side effects may be temporary and appear only while you are undergoing treatment, but some may be present for a few years after treatment, or permanently.

Radiotherapy side effects can include dry mouth; a loss of sense of taste or appetite; difficulty or pain swallowing; difficulty opening the mouth fully (trismus); damage to your sight or eye function; changes in your sense of smell; hearing loss; fatigue or tiredness; sores in your mouth or throat; skin redness or soreness; dental problems; and osteoradionecrosis (bone damage).

See pages 55 to 73 for suggestions on adjusting to side effects.

Chemotherapy

Chemotherapy is the treatment of cancer with anti-cancer (cytotoxic) drugs. The aim of chemotherapy is to kill cancer cells while doing the least possible damage to healthy cells.

For nasal cancer, chemotherapy is usually given with radiotherapy, which is called chemoradiation treatment. Chemotherapy may also be given to try to shrink a tumour before surgery. This is called neoadjuvant chemotherapy.

Your health care team will determine your treatment schedule, which will probably include staggered sessions of chemotherapy over several weeks.

Side effects

There are many possible side effects of chemotherapy, depending on the drugs that you are given. Some of these side effects include tiredness and lethargy; nausea and vomiting; diarrhoea; hair loss; mouth sores and ulcers; feeling tingly (nerve or muscle damage); and anaemia.

These side effects are usually temporary, but they can greatly impact your day-to-day life. See the *Managing side effects* section on pages 55 to 73 and the *Understanding Chemotherapy* booklet.



Palliative treatment

Palliative treatment is particularly important for people with advanced cancer. It helps improve people's quality of life by alleviating symptoms of cancer, without trying to cure the disease. Often treatment is concerned with pain relief and stopping the spread of cancer, but it can also involve the management of other physical and emotional problems. Treatment may include radiotherapy, chemotherapy or other medication.

Palliative treatment can help with pain management – it is not just for people who are about to die.

For more information on palliative treatment or advanced cancer, call the Helpline for free copies of *Understanding Palliative Care* or *Living with Advanced Cancer*, or view them online at www.cancercouncil.com.au.





Managing side effects

Head and neck cancers and their treatments can cause several different side effects. This section lists some of the possible side effects and discusses ways to manage these changes, whether they are temporary or permanent. For information about how to cope with loss of your self-esteem and confidence due to changes in your appearance, see page 84.

Strategies on managing side effects of chemotherapy and radiotherapy are discussed in detail in the *Understanding Chemotherapy* and *Understanding Radiotherapy* booklets, available free from the Cancer Council Helpline (13 11 20).

Nutrition concerns

Cancer and some of its treatments can cause changes to your mouth. Dry mouth, a decreased sense of taste and appetite, difficulty swallowing and mouth sores may change the way you eat and speak.

See the *Food and Cancer* booklet or a dietitian for suggestions about managing side effects that impact on your eating.

Dry mouth

Radiotherapy treatment to the head and neck can affect the salivary glands, which produce the saliva (spit) in your mouth.

If you have dry mouth (also called xerostomia), you can try to keep your mouth moist by sucking on sugar-free lollies or ice cubes, sipping drinks throughout the day and between mouthfuls at mealtimes, or eating foods such as soft or puréed fruits and yoghurt. Eating foods that are soft and moist, such as minced meat and soft-cooked vegetables with sauce or gravy, may help you. Avoid dry foods such as toast.

If eating cold or hot food is painful, you can try to prepare foods that you can eat at room temperature.

Drinking alcohol and caffeine and smoking can aggravate your dry mouth. Ask your dentist to recommend an alcohol-free brand of mouthwash that will keep your mouth clean.

Doctors, dentists or oral medicine specialists can help some people with temporary dry mouth by prescribing drugs to stimulate saliva production. Your specialists will explain the side effects of these medications, which include sweats and headaches. Artificial saliva, which is another way to moisten the mouth, is available in the form of sprays, gels, tablets or pastilles. Though its effects are temporary, artificial saliva may help you eat or sleep more comfortably.

Dry mouth can cause a loss of appetite or eating difficulties. See the next page to learn about how to boost your appetite.

Oral hygiene suggestions

Dry mouth increases your risk of developing tooth cavities, which is why many health professionals encourage patients to choose sugar-free alternatives to food, drink and chewing gum where possible. Avoiding excess sugar consumption and maintaining good oral hygiene can prevent osteoradionecrosis (see page 33).

Consumption of some substances with sugar-free sweeteners may cause other effects, such as diarrhoea. Talk to your dietitian or health care team about choosing sugar-free alternatives to certain foods.

Altered sense of taste and appetite

During and after treatment, you may experience loss or alteration of your sense of taste, which will affect your appetite. It may take several months or years for your sense of taste to return, and there may be some permanent changes to the way things taste. You may consider the following strategies to help boost your appetite:

- Eat small amounts of food at a time, and try to snack throughout the day.
- Try to consume whatever foods taste good to you. These may not be the foods that used to be your favourites.
- If you no longer like the taste of a certain food, wait a few months and try it again. You may have regained your sense of taste and the food may become appealing once again.
- Add more flavour to food if it tastes dull or metallic, but be sure not to irritate your mouth or digestive system by adding too many spices.
- Eat with plastic utensils to help reduce bitter flavours. Try not to drink out of soft drink cans or metallic containers if you already have a metallic taste.
- Drink nutritional supplements (such as Ensure or Sustagen) to increase your nutritional intake.

A dietitian can help you plan meals and choose nutritional supplements that satisfy your dietary needs. Your doctors or nurses should be able to put you in touch with a qualified dietitian.

See *Food and Cancer* for more suggestions on dealing with changes to your sense of taste and appetite. Call 13 11 20 for a free copy.

Mucus in the mouth

After radiotherapy, you may have thick mucus (phlegm) in your mouth. This will probably affect your appetite. Your doctor can give you advice about reducing this problem.

Nausea, vomiting and weight loss

Feeling sick and vomiting are sometimes side effects of chemotherapy treatment. While not everyone feels nauseous after chemotherapy, some people do feel sick before, during or after treatment. The nausea can last from a few hours to up to a few days.

Feeling sick can affect your appetite, and you may lose weight if you have trouble eating. Weight loss may also be the result of changes in your sense of taste or ability to swallow (see pages 57 and 60, respectively).

It is important to eat, if possible, so you should try to consume small, frequent snacks. Eating small amounts of soft foods or sipping fluids like water, soda water, dry ginger ale or weak tea may help you. You should ask your doctor for anti-nausea medication if your nausea is severe.

Your dietitian may advise you to drink nutritional supplements to help you put on weight and increase your nutritional intake. These drinks come in a variety of flavours, and are available at your local supermarket or chemist.

The Cancer Council's book *Food and Cancer* has more information about managing nausea, vomiting and weight loss. Call the Helpline on 13 11 20 for a free copy.

Mouth sores and ulcers

Mouth sores are common during chemotherapy and radiotherapy treatment. The sores, which can form on any soft tissue in your mouth, make it difficult to eat, talk, swallow and breathe.

If you have sores, your doctor can treat them by giving you medicines that minimise the mouth pain you feel while eating, drinking or speaking. You may also use painkillers that can be applied directly to your mouth sores to numb them.

You can reduce pain by avoiding spicy and acidic foods (like curries and orange juice), staying away from sharp foods (like hard pretzels) and eating foods that are not too hot or cold. Eating soft, moist meals with added sauce or gravy, cutting your food into small pieces and using a straw can also keep food and drink from irritating your sores. Finally, keep your mouth clean by gently brushing your teeth and using a non-alcoholic mouthwash.

If your mouth sores become infected or bleed, talk to your doctor. Your health care team should also make sure mouth sores aren't causing you to lose too much weight.

Difficulty swallowing

Some people have difficulty swallowing, which is called dysphagia. This is usually a result of radiotherapy or surgery to the head and neck, which can cause pain in your mouth or a sore throat.

After surgery and during radiotherapy treatment, you may work with a speech pathologist, who can assess how you swallow and make modifications to your diet to prevent food and drink from

Before treatment, your difficulty swallowing may be due to the tumour in your mouth or throat.

entering your lungs. Your speech pathologist will work with you to minimise the discomfort you may feel when swallowing. If necessary, they will arrange further tests to assess your swallowing.

If you feel pain when you swallow, be sure to ask your doctor about taking painkillers. You may also be able to use other types of soothing agents to prevent your mouth and throat from becoming too irritated.

It is important your body is nourished so it can recover from cancer and its treatments, so try to continue gently swallowing and eating as much as possible, as recommended by your speech pathologist and dietitian.

If your doctors believe your side effects are severe, they may recommend tube feeding (also known as enteral feeding). See the following section for more information.

Tube feeding

Some people who have surgery, chemotherapy or radiotherapy to treat head and neck cancer have significant trouble eating. Temporary or permanent tube feeding may be essential to help you stay well-nourished.

If you are experiencing temporary difficulty swallowing, your doctor or nurse can insert a feeding tube through your nasal passageway for short-term use (usually a few weeks). This is called a nasogastric (NG) tube.

When medium- to longer-term tube feeding is required, a percutaneous endoscopic gastronomy (PEG) tube is most commonly used. The PEG tube is inserted through your abdomen into your stomach while you are anaesthetised.

If you have a PEG tube, about eight to 10 centimetres of flexible tubing will protrude from the small hole in your abdomen, which you will use for feeding. The nurses and dietitians who are caring for you can help you (and your family members) learn how to keep the tube clean and in place.

Your dietitian will also advise you about the type and amount of feeding formula that is most suitable for you and specific methods to prevent blockages and other side effects.

A feeding tube requires some maintenance: you will have to take care to keep it clean. PEG tubes have a lifespan of about one year, so your tubing will be examined and replaced as necessary. This will prevent wear and leakage.

A feeding tube can help you maintain weight and stay hydrated. It can also aid your recovery from treatment.

Having a feeding tube inserted is a significant life change, and you may feel upset about it. You may feel self-conscious about the feeding tube under your clothes, or you may feel like you are missing out on eating with friends and family.

However, some people may feel their feeding tube eases the pressure and discomfort of eating in public, so they can focus on the company of others during mealtimes. Gently taping the tube to your body will make it undetectable under most clothing. Once it is in place and you become accustomed to it, you may find that your feeding tube gives you more control over nutrition, hydration and overall well-being.

Talking to your loved ones, a counsellor, dietitian or nurse about having a feeding tube may help you adjust to the change. You can discuss how you feel about social eating rituals and any other concerns you have.

Bone and teeth damage

Radiotherapy to the head and neck can impact on your teeth and bones. In most cases, your health care team will include a dentist who will take measures to prevent damage before treatment begins.

Dental effects

You should visit a dentist before you commence radiotherapy treatment, because radiotherapy can cause dry mouth (xerostomia). The lack of saliva, which normally breaks down food caught in the teeth and protects teeth from bacteria, can lead to tooth decay.

During the consultation, your dentist will probably remove or repair any decayed teeth. Your dentist may also create dental fluoride trays, which you should wear when you are sleeping, to strengthen teeth and prevent future dental problems.

After treatment, you should follow up with your dentist regularly. Oral medicine specialists or dentists usually recommend that you schedule appointments every three months after your treatment. If you have a dry mouth, you will be at a higher risk for infections or cavities.

An oral medicine specialist can advise you on how to manage your dry mouth maintaining good oral hygiene.

Bone damage

Osteoradionecrosis (ORN) is the breakdown of bone due to radiotherapy treatment. This may occur because radiotherapy can damage the arteries that provide nutrients to the bones, which can cause them to disintegrate and die over time. ORN usually affects the lower jaw (mandible).

Your dentist or oral medicine specialist may recommend that you have some teeth extracted prior to commencing radiotherapy, to prevent ORN. They may extract teeth that are broken, decayed, impacted by gum disease or unlikely to withstand radiotherapy. You should avoid getting teeth removed during or after your radiotherapy treatment because this can cause ORN. If you must have a tooth removed, talk to your dentist, oral medicine specialist and doctor about how to reduce your chance of bone damage.

ORN may be managed by your doctors with surgery, antibiotics and/or hyperbaric oxygen treatment, which delivers oxygen to the bone and may help it heal.

Communication and speech

Communication is one of the most important parts of life. When unimpaired, people take their ability to communicate verbally for granted. If you lose your ability to speak or hear, you will probably find this very distressing.

For example, if your voice or speech has changed, other people might pretend to understand what you are trying to say, so they don't upset you. Also, some people are not prepared to take the extra time required to communicate with someone who cannot talk naturally, and sometimes you may feel uncomfortable or alienated in your daily interactions.

If the way you communicate has changed, it will be important for your family and friends to provide you with understanding and support. Your hospital health care team, including a speech pathologist and counsellor, can help explain new ways to communicate and address any problems or frustrations you have.

Loss of speech

Talking is a fundamental part of everyday life for most people. Some people lose the ability to speak due to surgery, such as surgery to the tongue, or the removal of their voice box. The following sections should provide you with information about adjusting to life after surgery.

Until you begin to speak again after surgery, you can communicate in other ways. You may find it helpful to:

- have pads of paper and pens handy
- write notes on a whiteboard
- carry a picture board to point to
- if possible, gesture, point, nod, smile, or mouth words silently
- create a board with words you are likely to need, so you can point to them
- use a laptop or handheld electronic device (such as a mobile phone) to type messages which can be displayed on screen, printed out, or read aloud by someone else
- ring a bell to call people.

Post-laryngectomy

If you are learning to speak after a total laryngectomy, there are three main methods your speech pathologist may suggest and trial with you:

- **oesophageal speech:** swallowing air and then forcing it up through your oesophagus, which produces a voice like a low-pitched burp. This is difficult to master but can result in excellent quality speech.
- **tracheoesophageal speech:** forcing air between a surgically-created segment in the pharynx (throat), which creates a vibrating sound that can be used to form speech.
- **mechanical speech:** using an battery-powered device (such as an electrolarynx) to create vibrating sounds. Some of these devices are held against the neck or face, operated by remote control, or placed inside the mouth.

No matter what method you use, it will take time and practice to be able to speak using these methods. Not every method is suitable for every person – you may have to attempt to speak using a few different methods before you choose the most effective method for you.

You will also have to get used to the way your new voice sounds. How natural your voice sounds will depend on the type of surgery you have and the new speech method you employ. If you are feeling self-conscious about these changes, counselling may help you.

Oral reconstruction

Some people who have head and neck cancer have oral surgery to remove cancerous cells. Many of these patients also have reconstructive surgery to repair the affected area or replace tissue. Though reconstructive surgery usually improves the tissue's cosmetic appearance, it may impair your ability to speak because the new flap of tissue can get in the way.

If your oral area (such as the lining of your mouth, your jaw or your tongue) has been reconstructed, you will probably work with a speech pathologist to learn how to speak naturally again. Losing your ability to speak normally can be very frustrating, but most people who have had surgery are able to learn strategies that will help them communicate verbally again.

Hearing impairment

Some treatments can cause hearing loss. For example, some chemotherapy drugs can cause the loss of the ability to hear high-pitched sounds or can cause a continuous ringing in the ears, called tinnitus. Radiotherapy may also cause some hearing impairment.

If you notice any changes in your hearing, let your doctor know. You may be referred to an audiologist, who can help you regain your hearing or adjust to these changes.

Tracheostomy

When laryngeal or pharyngeal cancer becomes advanced, it can block the airways. If this occurs, a tracheostomy may need to be performed before treatment begins. A tracheostomy is an operation to create an opening (stoma) in the windpipe. This opening, which looks like small hole, allows a person to breathe through a tracheostomy tube.

A tracheostomy is performed under local or general anaesthesia. If you are undergoing another surgical procedure, the tracheostomy may be performed at the same time. The

Tracheostomy tubes can block without regular cleaning and suctioning. Your health care team will do this, or they will show you how to keep the tubes clean.

surgeon will make an incision in your neck and cut into your trachea to allow a breathing passage in your lower neck, called a tracheostomy. This may be temporary or permanent.

Temporary tracheostomy

If you are recovering from surgery, you will probably have a temporary tracheostomy. In this case, your windpipe is not sutured (attached) to the skin on your neck, and plastic tubes are inserted. An outer tube stays in the hole to keep it from closing and a replaceable inner tube can be removed for cleaning.

After a tracheostomy, it is unlikely that you will initially be able to speak. This is because for most patients, air will not pass through the voice box and mouth. However, some patients who have a small tube or a tube with a hole for speaking (fenestrated tracheostomy tube) will be able to speak.

After a recovery period, doctors will remove your breathing tubes and your tracheostomy will close up. Though your voice may be weak and hoarse, you should be able to speak.

Permanent tracheostomy

Patients who have a total laryngectomy will breathe through a permanent tracheostoma (where the trachea is sutured to an opening at the front of the neck). Initially, your surgeon may insert a silicone tracheostomy tube into the stoma. You will probably be able to remove this tube for periods of time, and after a while, it is likely that you will no longer need the tube.

Your speech pathologist or nurses will teach you and your carers how to clean the tube, prevent water from going into your lungs (aspiration), suction the tube and use a humidifier to prevent mucus build-up. You can also get covers to protect the opening of your tracheostoma.

People with stomas can do nearly all the things they used to do before, however they are no longer able to hold their breath. This can make it dangerous to participate in water sports because water can get into the lungs and cause drowning. Some people with a stoma choose to participate in water sports using special equipment and taking extra precautions.

If you have a permanent tracheostomy, you will lose some or all of your sense of smell. This will alter your sense of taste (see page 57). You should also be sure to have a smoke detector in your home, as you may no longer be able to smell smoke or fire. Try to abide by the use-by date on foods (such as dairy products), as you may not be able to smell if the food is spoiled.

Some people feel self-conscious about the way the stoma makes them look and speak. Addressing these concerns may help you deal with them. See page 89 for some information about dealing with your feelings.

It can be very distressing if you lose your ability to speak naturally due to a laryngectomy. See the *Loss of speech* section (page 65) for some more information about communication.

Other side effects

You may experience several other side effects from head and neck cancer treatment:

Anaemia

Anaemia can be a side effect of some cancer treatments. This is a condition that occurs when you do not have enough red blood cells, or when these cells are not sufficiently carrying a particular protein (haemoglobin) to your organs.

If you notice symptoms such as pale skin, weakness, breathlessness or a racing heart, talk to your doctors. A blood test will determine if you are anaemic, and your doctor may manage your anaemia by changing your treatment schedule or giving you blood transfusions.

Diarrhoea

Some treatments affect the digestive system and cause diarrhoea. In most cases, diarrhoea can be treated with medication at home. Ask your doctor to recommend some medication that will help you.

The Cancer Council's publications, *Food and Cancer*, *Understanding Chemotherapy* and *Understanding Radiotherapy*, provide tips about how to manage diarrhoea. These tips include drinking plenty of fluids and avoiding certain kinds of food that may aggravate diarrhoea. Call 13 11 20 for free copies of these booklets.

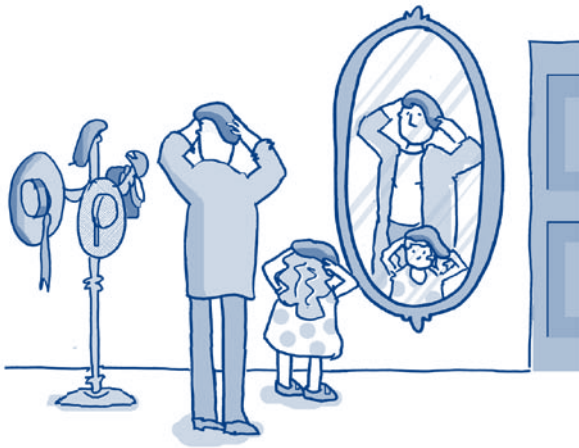
Fatigue and tiredness

Feeling tired and lacking energy is the most common side effect of chemotherapy and radiotherapy. The *Understanding Radiotherapy* and *Understanding Chemotherapy* books discuss in detail how you can cope with fatigue. Call the Cancer Council Helpline on 13 11 20 for free copies.

Hair loss

Hair loss is a common side effect of chemotherapy, because treatment damages your healthy hair follicles. If you have lost hair due to chemotherapy, your hair will probably begin to regrow in about eight weeks. You may experience some permanent hair loss if you have had radiotherapy treatment.

Unfortunately, there is nothing you can do to prevent hair loss. However, there are several strategies for dealing with hair loss. For some helpful suggestions, see the *Understanding Chemotherapy* booklet.



Hypothyroidism

The treatment for head and neck cancer may damage your thyroid gland, which is located just behind your larynx. The thyroid is a small, butterfly-shaped gland that produces hormones and regulates your body temperature and metabolism.

If you are fatigued but not sleeping well, ask your doctor or nurse before taking any medications to help you sleep. Some sleep medications interact with chemotherapy drugs.

It is possible to develop hypothyroidism (underactive thyroid) several months or years after radiotherapy treatment.

Hypothyroidism is a condition that occurs when the thyroid no longer produces enough hormones. The symptoms of hypothyroidism include fatigue, muscle aches, weight gain, hair loss, constipation and a puffy face. If you are experiencing any of these symptoms, talk to your doctor.

Hypothyroidism can be detected with a blood test, and once it is diagnosed, it is relatively straightforward to treat. Your doctor will prescribe a thyroid hormone replacement that will cause your symptoms to ease or disappear.

Nerve and muscle effects

Medication and operations can cause tingling and the loss of sensation in your face, fingers and toes. If this happens, tell your doctor or nurse. Your treatment may need to be changed or your health carers may carefully monitor effects on your nerves and muscle.

If you have particular problems moving the muscles in your face due to a tumour or your treatment, this may cause changes in your facial expressions. Telling friends and family members about any changes to your non-verbal communication may help them understand what you are going through.

Skin redness and soreness

Some treatments cause skin to become red, dry, itchy or sore. In some cases, you can use non-perfumed lotions or creams to soothe the area, but this may not be allowed if you are having radiotherapy. Your radiation oncologist can prescribe or suggest lotions or creams to manage your side effects.

See the *Understanding Radiotherapy* booklet for more information about skin problems.

After treatment such as chemotherapy or radiotherapy, your skin may be more sun sensitive. If you are outdoors, take extra care to protect your skin from sun exposure.

Vision impairment

Some people who undergo facial surgery have vision impairment. This is because many cancers of the head are close to the brain and the optic nerve, which transmits visual images from the eyes to the brain.

If your eyesight has been affected, working with an ophthalmologist (a doctor specialising in diseases and surgery of the eye) may help you regain your vision, obtain a prosthetic (glass) eye or adjust to being vision-impaired. This can be frightening or upsetting, and talking to a nurse, occupational therapist, counsellor or loved one may help you address your feelings.



Making treatment decisions

Sometimes it is difficult to decide on the right treatment. You may feel that everything is happening so fast that you don't have time to think things through, but there is usually time for you to consider what sort of treatment you want.

Waiting for test results and for treatment to begin can be difficult. While some people feel overwhelmed with information, others feel they don't have enough. You need to make sure you understand enough about your illness, the treatment and side effects to make your own decisions.

If you are offered a choice of treatments, you will need to weigh the advantages and disadvantages of each treatment. If only one type of treatment is recommended, ask your doctor to explain why other choices have not been offered.

Some people with more advanced cancer will choose treatment, even if it only offers a small chance of cure. Others want to make sure the benefits of treatment outweigh any side effects so they have the best possible quality of life. Some people choose not to have treatment to eradicate cancer, but instead optimise their physical and emotional well-being by managing their symptoms.

You always have the right to find out what a suggested treatment means for you, and the right to accept or refuse it.

Decision-making steps

1. Take the time to consider all treatment options.
2. Weigh up the advantages and disadvantages of each treatment.
3. Consider how important each side effect is to you – particularly those that affect your lifestyle. If you have a partner, discuss the side effects with them.
4. If only one type of treatment is recommended, ask your doctor if other treatment choices are available.
5. Find out more about the treatment choices offered to you – speak to your doctor, get a second opinion, look at the recommended Internet sites on page 92, talk to your family and friends and to other people who have received these treatments.
6. If you are not happy with the information you are given – or how it is given – tell the doctor about your concerns, or seek a second opinion.

Talking with doctors

When your doctor first tells you that you have cancer, it is very stressful and you may not remember very much. It is often difficult to take everything in, so you may want to see the doctor a few times before deciding on treatment. Your doctor may use medical terms you don't understand; it's okay to ask your doctor to explain something again. You can also check a word's meaning in the glossary at the end of this booklet.

Before you see the doctor, it may help to write down your questions – see the list of suggested questions on page 94. Taking notes during the session or recording the discussion can also help. Many people like to have a family member or friend go with them, to take part in the discussion, take notes or simply listen.

Talking with others

Once you have discussed treatment options with your doctor, you may want to talk them over with family or friends, nursing staff, the hospital social worker or chaplain, your own religious or spiritual adviser, a cancer support group or the Cancer Council Helpline on 13 11 20. Talking it over can help sort out the right course of action for you.

A second opinion

You may want to get a second opinion from another specialist. Some people feel uncomfortable asking their doctor for a second opinion, but specialists are used to patients doing this.

A second opinion can be a valuable part of your decision-making process. It can confirm or clarify your doctor's recommended treatment plan and reassure you that you have explored all of your options. A second specialist can also answer any questions you may still have.

Your original specialist or family doctor can refer you to another specialist and you can ask for your initial results to be sent to the second-opinion doctor.

You may later decide you would prefer to be treated by the doctor who provided the second opinion, and this is your right.

You can ask for a second opinion even if you have already started treatment or still want to be treated by your first doctor.

Taking part in a clinical trial

Your doctor may suggest you consider taking part in a clinical trial. Doctors conduct clinical trials to test new or modified treatments and see if they are better than current treatments.

Before deciding whether or not to join the trial, you may wish to ask your doctor:

- What treatments are being tested and why?
- What tests are involved?
- What are the possible risks or side effects?
- How long will the trial last?
- Will I need to go into hospital for treatment?
- What will I do if problems occur while I am in the trial?
- Has an independent ethics committee approved the trial?

If you are unsure about joining the trial, ask for a second opinion from an independent specialist.

If you decide to join a randomised clinical trial, you will be given either the best existing treatment or a promising new treatment. You will be chosen at random to receive one treatment or the other.

Being in a trial gives you important rights. You have the right to withdraw at any time. Doing so will not jeopardise your treatment for cancer.

For more information about clinical trials – and how to find a trial that may be suitable for you – call the Helpline for a free copy of *Understanding Clinical Trials*.



Looking after yourself

When you find out you have cancer and while you are undergoing treatment, your body is put through a great deal of physical and emotional strain. It is crucial that you take steps to enhance your well-being at this time to help you adapt to the stress that you are facing. Nurturing your body and mind by consuming nourishing food, doing some enjoyable physical activity, and taking some time out to relax can help you to feel more balanced and improve your vitality.

Healthy eating

Eating nutritious food will help you keep as well as possible and cope with the cancer and treatment side effects. You should aim to eat a variety of foods for as long as possible before and during treatment. Depending on your treatment and side effects, you may have special dietary needs.

A dietitian can help to plan the best foods for your situation – ones that will nourish your body and help it recover. If you have had surgery, your decisions about what to eat will be guided by your surgeon or dietitian. A dietitian can also educate you about tube feeding. See pages 61 to 62 for more information about tube feeding.

If you are considering taking vitamin or antioxidant supplements, consult your dietitian or doctor. Although a low-dose multivitamin supplement may be of benefit, high doses of some dietary supplements may not be appropriate (see page 80).

The Cancer Council Helpline can send you information on nutrition during and after cancer treatment. Call the Helpline for free copies of *Food and Cancer* and *After Your Cancer Treatment: a guide for eating well and being active*.

Being active

You will probably find it helpful to stay active and to exercise regularly if you can. Physical activity – even if gentle or for a short duration – helps to improve circulation, reduce tiredness, decrease joint or muscle pain, and elevate mood. The amount and type of exercise you do will depend on what you are used to, how well you feel and what your doctor advises.

Start by making small changes to your daily activities, such as walking to the shops. Even gardening can be beneficial. If you want to do more vigorous exercise, ask your doctor what is best for you.

Relaxation techniques

Some people find relaxation or meditation helps them feel better by releasing tension and anxiety. Often, relaxation exercises can also help reduce pain and increase energy levels. The hospital social worker or nurse will know whether the hospital or a community health centre runs any programs.

You may also enjoy exploring relaxation techniques in the comfort of your own home using audiovisual material such as CDs or DVDs. Contact your local library or the Cancer Council Library to access these resources.

Complementary therapies

Complementary therapies may help you enhance your general well-being and cope better with side effects such as pain. They may also increase your sense of control over what is happening to you, decrease your stress and anxiety, and improve your mood.

There are many types of complementary therapies, including acupuncture, massage, hypnotherapy, relaxation, yoga, herbal medicine and nutrition.

Be sure to let your doctor know about any complementary therapies you are using or thinking about trying. This is important, as some therapies may not be appropriate, depending on your conventional treatment. For example, some herbs and nutritional supplements may interact with your medication, resulting in harmful side effects. Massage and exercise therapies may also need to be modified to accommodate the changes in your body.

Call the Helpline for a copy of the Cancer Council's latest publication on complementary therapies.





Life after treatment

Many people find it helps to give themselves time to recover from treatment. You will find you must cope with both physical and emotional changes.

You need time to get your strength back. If you're responsible for the house, you'll need some help for a while. If you work, you'll need to ease back into it slowly, rather than rushing back the week after leaving hospital.

You might have to remind your family and friends that for a while you won't be fit enough to do all your usual activities.

After treatment is over it is common for people to feel anxious rather than more secure. While you were having treatment, you were busy with appointments and now you are facing life again with an uncertain future. Adjusting to life after cancer can be difficult if people around you expect your life to return to the way it was before you were diagnosed.

Everyone will eventually re-establish their daily routine, but it will be at their own pace. It may take some time to balance the need for regular checkups with resuming day-to-day activities and making plans for the future. Talking to someone who has had the same type of head and neck cancer can help you deal with this uncertainty. For more information see page 89.

Will the cancer come back?

After treatment finishes, you might feel pressure to get back to 'normal life'. Many people feel that life will never be the same after an experience with cancer – indeed, some people have even reported that they have a new perspective on life and that they see things with a new clarity.

Still, fear of cancer returning can feel like a shadow on your life. You might worry about every ache and pain and wonder if it is the cancer coming back. Talking to your doctor and asking about what to expect if the cancer were to return might reassure you.

This is a difficult time and it will take time to readjust. If you have continued feelings of sadness, have trouble getting up in the morning or have lost motivation for things that previously gave you pleasure, talk to your doctor. You might be clinically depressed and there are ways that your doctor can help you.



Strengthening your relationships

The strong emotions you experience as a result of cancer may affect your relationships with people close to you. Your experiences can cause you to develop a new outlook on your values, priorities and life in general. It may help to share those thoughts and feelings with your family, friends and work colleagues.

It may be uncomfortable to talk about your feelings; take your time and approach others when you are ready. You may feel relieved when you have talked to them. People usually appreciate insight into how you are feeling and guidance on how they can best support you during and after treatment. This open and honest approach can strengthen your relationships.

While you are giving yourself time to adjust to life after cancer, remember to do the same for your friends and family. Everyone will react in a different way – by putting on a happy face, playing down your anxiety, or even ignoring you. They are also adjusting to changes in their own way. If someone's behaviour upsets you, it will probably help to have a discussion about how you both feel about the situation.

If your physical appearance is different as a result of cancer or the side effects of treatment, this may affect your relationships with some people. See page 84 for some more information on body image and appearance.

Changing body image

Cancer treatment can change the way you feel about yourself (your self-esteem). You may feel less confident about who you are and what you can do. This is more common if your body (particularly your face) has changed physically, but even if it has not, you may still be affected by lowered self-esteem.

Give yourself time to adapt to these changes and try not to focus solely on the parts of you that have changed. Seeing yourself as a whole person (your body, mind and personality) can help to increase your self-esteem. You may eventually adjust to and come to accept any physical changes.

It is common for people with head and neck cancer who have had facial surgery to feel uncomfortable in public or embarrassed because of physical changes. If you feel this way, you may benefit from speaking to a counsellor, social worker or psychologist. You can also consult a reconstructive surgeon,

Look Good...Feel Better is a program that helps people restore their self-esteem by managing appearance-related side effects. Call 1800 650 960 or visit www.lgfb.org.au.

who may be able to make physical changes (such as scars) look less obvious.

For more information about hair loss, weight changes and other physical changes, see *Managing side effects* (pages 55 to 73) or call the Helpline.

Sexuality, intimacy and cancer

The role that sexuality and intimacy play in people's lives is ever changing and depends on one's age, environment, health, relationships, culture, beliefs and interest. As individuals, people not only have different ways of expressing and defining sexuality and intimacy, but they also place their own importance on these needs.

Having cancer can affect your sexuality in both physical and emotional ways. The impact of these changes depends on many factors, such as your treatment and its side effects, the way you and your partner communicate, and your self-confidence. Knowing the potential challenges and addressing them if they affect you personally will help you overcome or adjust to changes. Some challenges include:

- **change in libido:** your sexual desire may be reduced due to psychological or physical factors. Talking with your partner may help you regain sexual desire or adjust to these changes.
- **change in appearance:** because people can be sexually stimulated by their partner's physical appearance, sometimes a change in appearance may affect relationships. If this is impacting on you, consider sharing your concerns with your partner, a friend or a counsellor. See page 89 for more information.
- **change in physical ability:** sexual intercourse may not always be possible, but closeness and sharing are vital to a healthy relationship.
- **difficulty kissing:** some side effects caused by head and neck cancer treatments (such as dry mouth, bad breath due to changes in oral bacteria, poor tongue and lip movement, scars or a stiff neck and jaw) can make kissing difficult. Surgery to your mouth may cause a loss of sensation in the tongue or lips, and this can affect the enjoyment and stimulus from kissing.

It is common for people who have had head and neck cancer treatment to be self-conscious about kissing. Some people and their loved ones adapt to the changes in the way they kiss. Others regain some movement or choose to express their feelings in other ways, such as hugging, holding hands, or touching someone cheek-to-cheek. What you decide to do will depend on what you are comfortable with, and what you are able to do physically.

You may find it helpful to talk openly with your partner about whether or not the physical changes are unpleasant, and what is pleasurable for you both. You may also talk to a counsellor about ways to express love, desire and affection.

More information about sexuality for men and women is available. Call 13 11 20 for copies of the Cancer Council's sexuality booklets.



YOU CAN STILL MAKE MUSIC ...
TO THE BEAT OF A DIFFERENT DRUM



Seeking support

When you are first diagnosed with cancer, it is normal to experience a range of emotions, such as fear, sadness, depression, anger or frustration. If anxiety or depression is ongoing or severe, tell your doctor about it as counselling or medication can help.

It may help to talk about your feelings with others. Your partner, family members and friends are a good source of support or you might prefer to talk to:

- members of your treatment team
- a hospital counsellor, social worker or psychologist
- your religious or spiritual adviser
- a support group – see page 89
- the Cancer Council Helpline.

If you have children, the prospect of telling them you have cancer can be frightening and unsettling. The Cancer Council booklet *When a Parent Has Cancer: how to talk to your kids* can help you prepare for this difficult conversation.

You may find that your friends and family don't know what to say to you. In time, you may feel able to approach your friends directly and tell them what you need. Some people prefer to ask a family member or a friend to talk with others and coordinate any offers of help.

Some people may feel so uncomfortable that they avoid you. They may expect you to 'lead the way' and tell them what you need. This can be difficult to handle and can make you feel lonely.

The Cancer Council's booklet *Emotions and Cancer* may help at this stressful time. Ring 13 11 20 for a copy or download it from the Cancer Council's website, www.cancercouncil.com.au.

Practical and financial help

A serious illness often causes practical and financial difficulties. You don't need to face these alone.

Many services are available to help:

- Financial assistance, through benefits and pensions, can help pay for the cost of prescription medicines and for travel to medical appointments.
- Home nursing care is available through community nursing services or through the local palliative care services.
- Meals on Wheels, home care services, aids and appliances can make life easier.

To find out more, contact the hospital social worker, occupational therapist or physiotherapist, or the Cancer Council Helpline.

Understanding Cancer program

If you want to find out more about cancer and how to cope with it, you may find the Cancer Council's Understanding Cancer program helpful. The program offers practical information and discussions about many of the issues people experience after a diagnosis of cancer. Topics covered include: what cancer is, cancer symptoms and side effects, treatment, palliative care, diet, exercise and complementary therapies. Courses are held frequently at hospitals and community organisations throughout NSW. Call the Helpline to find out more.

Talk to someone who's been there

Getting in touch with other people who have been through a similar experience to you can be very beneficial. There are many ways you can get in contact with others for mutual support and to share information.

In these support settings, most people feel they can speak openly, share tips with others, and just be themselves. You will probably find that you feel comfortable talking about your diagnosis and treatment, your relationships with friends and family, and your hopes and fears about the future.

Support services are available for patients, carers and family members. They include:

- face-to-face support groups, which are often held in community centres or hospitals
- tumour- or situation-specific telephone support groups, which are facilitated by trained counsellors
- online discussion forums where people can connect with each other any time
- Cancer Council Connect, a program that matches you with a volunteer who has been through a similar cancer experience, and who understands how you're feeling.

Ask your nurse or social worker to tell you about support groups in your area. Go to www.cancercouncil.com.au to access the Cancer Services Directory or join the online discussion, or call the Helpline on 13 11 20 to find out how you can connect with others.

The Cancer Council Helpline 13 11 20 Monday to Friday 9am to 5pm

The Cancer Council Helpline is a telephone information and support service provided by the Cancer Council NSW for people affected by cancer.

For the cost of a local call, you can talk about your concerns and needs confidentially with specialised oncology health professionals. Helpline consultants can send you written information and put you in touch with appropriate services in your area. You can also request services in languages other than English.

You can call the Cancer Council Helpline, Monday to Friday, 9am to 5pm. If calling outside business hours, you can leave a message and your call will be returned the next business day.

If you have difficulty communicating over the phone, contact the National Relay Service, a Government initiative to assist people who are hearing and/or speech impaired (www.relayservice.com.au). This service will help you to communicate with a Cancer Council Helpline consultant.



Caring for someone with cancer

You may be reading this booklet because you are caring for someone with cancer. Being a carer can be very stressful, especially when the person you are looking after is someone you love very much. Look after yourself during this time. Give yourself some time out, and share your worries and concerns with somebody neutral such as a counsellor or your doctor.

Many cancer support groups are open to carers as well as people with cancer. A support group can offer a valuable opportunity to share experiences and ways of coping.

There are several support services that can help you in your caring role, such as Home Help, Meals on Wheels or visiting nurses. There are also many organisations and groups that can provide you with information and support, such as Carers NSW. Phone 1800 242 636 to talk about your needs, or visit www.carersnsw.asn.au.

Call the Cancer Council Helpline to find out more about different services or to obtain a free copy of the *Caring for Someone with Cancer* booklet.

Information on the Internet

The Internet can be a useful source of information, although not all websites are reliable. The websites listed below are good sources of reliable information.

Australian

The Cancer Council NSW www.cancercouncil.com.au

The Cancer Council Australia www.cancer.org.au

Cancer Institute NSW www.cancerinstitute.org.au

Health Insite – an Australian

Government initiative www.healthinsite.gov.au

Commonwealth Department

of Health and Ageing www.health.gov.au

NSW Health www.health.nsw.gov.au

Australian and New Zealand

Head and Neck Society www.anzhns.org

The Laryngectomee Association of NSW www.stilltalking.org

International

American Cancer Society www.cancer.org

MacMillan Cancerbackup www.cancerbackup.org.uk

American Head and

Neck Society www.headandneckcancer.org

Support for People with Oral and

Head and Neck Cancer www.spohnc.org

US National Cancer Institute www.cancer.gov

Cancer information library

Following a cancer diagnosis, many people would like to access information about new types of treatment, the latest research findings, and stories about how other people have coped.

The Cancer Council Library has more than 3,000 resources in the collection, including books, videos, DVDs and a large range of current cancer medical journals.

You can visit the library at 153 Dowling Street, Woolloomooloo (9am-5pm Monday-Friday), borrow by post or ask your local librarian to organise an inter-library loan. Contact the librarian on 13 11 20 or email library@nswcc.org.au.

Related publications

You might also find the following publications relevant:

- *Emotions and Cancer*
- *Understanding Chemotherapy*
- *Understanding Radiotherapy*
- *Sexuality for Men/Women with Cancer*
- *Understanding Palliative Care*
- *Living with Advanced Cancer*
- *When a Parent Has Cancer: how to talk to your kids*
- *Caring for Someone with Cancer*
- *Food and Cancer*
- *After Your Cancer Treatment: a guide to eating well and being active.*

Call the Helpline for free copies of any of these Cancer Council booklets, or download them from our website, www.cancerCouncil.com.au/cancerinformation.



Question checklist

You may find this checklist helpful when thinking about the questions you want to ask your doctor about your illness and treatment. If your doctor gives you answers that you don't understand, it is okay to ask for clarification.

- 1 What type of head and neck cancer do I have?
- 2 How extensive is the cancer?
- 3 What treatment do you recommend and why?
- 4 Are the latest tests and treatments for my type of cancer available in this hospital?
- 5 Are there other treatment choices for me? If not, why not?
- 6 What are the risks and possible side effects of each treatment?
- 7 Will I have to stay in hospital?
- 8 How long will treatment take? How will it affect what I can do?
- 9 How much will treatment cost?
- 10 Will I have a lot of pain with the treatment? What will be done about this?
- 11 Will the treatment affect my sex life?
- 12 How frequently will I have checkups?
- 13 Are there any clinical trials of new treatments for this type of cancer?
- 14 Are there any complementary therapies that might help me?

Glossary



accelerated radiotherapy

Receiving a higher dose of radiotherapy in a shortened period of time.

advanced cancer

Cancer that has spread deeply into the surrounding tissues or away from the original site (metastasised), and is less likely to be cured.

anaemia

A condition that occurs when you don't have enough oxygen, or haemoglobin, an oxygen-carrying protein, in your body.

anaesthetic

A drug that is taken to stop a person feeling pain during a medical procedure. A local anaesthetic numbs part of the body; a general anaesthetic causes temporary loss of consciousness.

aspiration

Inhaling food or drink into the lungs.

benign

Not cancerous. Benign lumps do not spread like cancerous tumours.

biopsy

The removal of a small sample of tissue from the body, for examination under a microscope, to help diagnose a disease.

brachytherapy

Internal radiotherapy. When small radioactive seeds are placed near the cancerous tissue.

cells

The building blocks of the body. A human is made of millions of cells, which are adapted for different functions.

chemoradiation

Treatment that combines chemotherapy with radiotherapy.

chemotherapy

The use of drugs to treat cancer by killing cancer cells or slowing their growth.

cordectomy

Surgery to remove one of your vocal cords.

craniofacial resection

Surgical removal of a tumour requiring an approach (cut) through the face, and with a neurosurgical approach.

CT scan

A computerised tomography scan. This is a procedure that uses x-ray beams to build a picture of the inside of your body.

dysphagia

Difficulty swallowing.

epiglottis

The small cartilage flap that prevents food from going into the trachea when a person swallows.

Epstein-Barr Virus (EBV)

A common human virus in the herpes family that may cause nasopharyngeal cancer.

erythroplakia

A red velvety spot or patch in the mouth. This may be precancerous.

ethmoid sinuses

Sinuses located behind the ethmoid bone in the skull.

fenestrated tracheostomy

A type of tracheostomy tube with an opening allowing air to flow through the voice box.

frontal sinuses

Sinuses located behind the forehead.

glossectomy

The surgical removal of part of all of the tongue.

hemilaryngectomy

Surgery to remove the left or right half of the larynx.

Human Papillomavirus (HPV)

A common virus that may be associated with tonsil cancer.

hyperfractionated radiotherapy

Receiving two or more radiotherapy treatments each day, Monday to Friday, during a designated treatment period.

hypopharynx

Also called the laryngopharynx. The lowest part of the back of the throat.

hypothyroidism

A condition that occurs when the thyroid no longer produces enough hormones.

intensity modulated radiation therapy (IMRT)

The use of multiple beams of radiation to target a tumour.

intravenous

Inserted into a vein.

laryngectomy

The surgical removal of the larynx. In a partial laryngectomy, only part of the larynx is removed.

laryngopharyngectomy

The surgical removal of part or all of the larynx and pharynx.

laryngopharynx

See hypopharynx.

laryngoscopy

A procedure that allows the doctor to closely examine the larynx and pharynx using a laryngoscope (a tube with a light on it) or a mirror.

larynx

The voice box. The larynx houses the vocal cords and connects the pharynx with the trachea. When swallowing occurs, the larynx prevents food and drink from entering the lungs (aspiration).

laser surgery

The use of a laser beam to remove cancerous tissue.

lateral rhinotomy

A cut along the edge of the nose to gain access to the nasal cavity and sinuses.

leukoplakia

A white spot or patch in the mouth. This may be precancerous.

lymph nodes

Also called lymph glands. Small, rounded masses that make up the body's lymphatic system. The lymph nodes collect and destroy bacteria and viruses.

lymphatic system

A network of tissues, capillaries, vessels, ducts and nodes that removes excess fluid from tissues, absorbs fatty acids and transports fat, and produces immune cells.

malignant

Cancer. Malignant cells can spread (metastasise) and eventually cause death if they cannot be treated.

mandible resection

Removal of part of the lower jaw (mandibulectomy) or upper jaw (maxillectomy).

mandibulotomy

Cutting the lower jaw to give access to the mouth or throat.

maxillary sinuses

Sinuses located under your eyes and within your maxillary (cheek) bones.

mechanical speech

The use of a battery-powered device (such as an electrolarynx) to create vocal sounds.

metastasis

Also known as a secondary cancer. A cancer that has spread from another part of the body.

midface degloving

The surgical access to the nasal cavity or sinuses using a cut under the upper lip.

MRI scan

A magnetic resonance imaging scan. This uses a combination of magnetism and radio waves to build up detailed cross-section pictures of the body.

mucoisitis

Sores in the mouth or throat.

nasal cavity

The large, air-filled space located behind the nose and in the middle of the face.

nasendoscopy

Also called a nasoendoscopy. An internal examination of your nose and upper airways using a long, flexible tube called an endoscope.

nasogastric (NG) tube

A plastic feeding tube that passes in through the nasal passageway and directly into the stomach.

nasopharynx

The open cavity that lies behind the nose and above the soft palate.

neck dissection

An operation that removes lymph nodes and some surrounding structures in the neck (such as muscle, fat or nerves).

obturator

A special prosthesis or plate that is used to close a gap in the palate, to form a new roof of the mouth.

oesophageal speech

Forcing air into the top of your oesophagus and then out again to produce a voice.

oesophagus

The tube that carries food from the throat into the stomach.

oral

Referring to the mouth region, including the lips, gums, cheeks, floor of the mouth, front of the tongue, and inside area of the jaws.

orbital exenteration

The surgical removal of the eye and other contents of the orbit.

oropharynx

The area of your throat including the soft palate and tongue base.

osteoradionecrosis (ORN)

A breakdown of bone tissue due to radiotherapy treatment.

palliative treatment

Medical treatment for people with advanced cancer to help them manage pain and other physical and emotional symptoms of cancer.

paranasal sinuses

Air-filled spaces within the head which lighten the weight of the skull.

parathyroidectomy

The removal of the parathyroid glands, which regulate calcium in the body.

pathologist

A specialist doctor who interprets the results of tests (such as a biopsy or blood count).

percutaneous endoscopic gastronomy (PEG) tube

A feeding tube inserted directly into the stomach through the abdomen wall.

percutaneous endoscopic jejunostomy (PEJ) tube

A feeding tube inserted through the abdomen directly into the small bowel (jejunum), bypassing the stomach.

PET scan

A positron emission tomography scan. This is a specialised imaging test that uses a radioactive glucose solution to identify cancer cells in the body.

pharyngectomy

The surgical removal of part or all of the pharynx.

pharynx

The throat. This is a muscular tube about 10 centimetres long that extends from the back of the nose to the top of the larynx and oesophagus.

phlegm

Thick mucus in the mouth.

prognosis

The likely outcome of a person's disease.

radiotherapy

The use of high-energy x-rays or electrons to kill cancer cells or injure them so they cannot grow and multiply. Radiotherapy may be administered externally or internally (brachytherapy).

radiosensitisation

A treatment that involves giving drugs with radiotherapy to make cancer cells more sensitive to radiotherapy treatment.

rhinectomy

The surgical removal of part or all of the nose.

saliva

Also called spit. The watery substance released into the mouth from the salivary glands.

sphenoid sinuses

The sinuses located at the centre of the base of the skull.

staging

Tests to find out how far the cancer has spread.

stereotactic radiosurgery

A way of delivering radiotherapy directly to a small area of the head or neck, by putting a frame around the skull and using CT and MRI scans to aim the radiation beams.

supracricoid laryngectomy

Surgery to remove the upper part of the larynx, including the vocal cords.

supraglottic laryngectomy

Surgery to remove the upper part of the larynx above the vocal cords (supraglottis).

thyroid gland

A small, butterfly-shaped gland that produces hormones and regulates body temperature and metabolism.

tinnitus

Continuous ringing in the ears.

tonsils

Small masses of lymphatic tissue on either side of the back of the mouth which help to fight infection.

trachea

The windpipe. The trachea is the airway that brings air inhaled from the nose and mouth into the lungs.

tracheoesophageal speech

When a person forces air between a surgically-created valve between the trachea and oesophagus to create a voice-like sound.

tracheostomy

An operation in which a hole is made at the base of the neck into the trachea, and through which a tube is passed, in order to create a clear airway. The hole is called a tracheostomy, but it is sometimes referred to as a tracheostoma.

trismus

Difficulty opening the mouth fully.

tumour

A new or abnormal growth of tissue in or on the body. A tumour may be benign or malignant.

ultrasound scan

The use of soundwaves to build up a picture of part of the body.

vocal cords

Also called the glottis. The part of the larynx that vibrates to produce the sounds required for speech.

xerostomia

Dry mouth.



How you can help

At the Cancer Council NSW we're dedicated to defeating cancer. As well as funding more cancer research than any other charity in the state, we advocate for the highest quality of care for cancer patients and their families, and create cancer-smart communities by empowering people with knowledge about cancer, its prevention and early detection. We also offer direct financial assistance for those people in hardship as a result of having cancer. These achievements would not be possible without community support, great and small.

Join a Cancer Council event: join one of our community fundraising events like Daffodil Day, Australia's Biggest Morning Tea, Relay For Life, Girls Night In and Pink Ribbon Day, or hold your own fundraiser or become a volunteer.

Make a donation: any donation whether large or small will make a meaningful contribution to our fight to defeat cancer.

Buy your sun protection products from our website or our retail stores: every purchase helps you prevent cancer and contributes financially to our work.

Help us speak out and create a cancer-smart community: the Cancer Council is a leading advocate for cancer prevention and improved patient services. You can help us speak out on important cancer issues and help us defeat cancer by living and promoting a cancer-smart lifestyle.

To find out more about how you or your family and friends can help, please call 1300 780 113.

Regional offices



Northern Sydney and Central Coast Region

The Hive, Erina Fair
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Ph: (02) 4367 5895
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Alstonville NSW 2477
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The Cancer Council is the leading cancer charity in NSW. It plays a unique and important role in the fight against cancer through undertaking high-quality research, advocating on cancer issues, providing information and services to the public and people with cancer, and raising funds for cancer programs.

This booklet is funded through the generosity of the people of NSW and the Cancer Institute NSW. To make a donation to help defeat cancer, visit the Cancer Council's website at www.cancercouncil.com.au or phone 1300 780 113.

Cancer Council Helpline 13 11 20

For support and information on cancer and cancer-related issues, call the Cancer Council Helpline. This is a free and confidential service.

For further information and details please visit our website:

www.cancercouncil.com.au



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*Building a
Cancer Smart
Community*