Understanding Head and Neck Cancers

A guide for people with cancer, their families and friends
Understanding Head and Neck Cancers
A guide for people with cancer, their families and friends
First published July 2008; Abridged February 2010

Acknowledgements
We thank the Cancer Institute NSW for their support and acknowledge the NSW Oncology Group (NSWOG) Head & Neck for their clinical review of the original edition of this booklet: Dr G Morgan, Surgeon; C Baxter, Senior Speech Pathologist; C Bullivant, NSWOG Project Officer; J Dahlstrom, Anatomical Pathologist; L Dall’Armi, Cancer Nurse Coordinator; M Findlay, Senior Oncology Dietitian; Dr D Forstner, Radiation Oncologist; Dr A Goldrick, Medical Oncologist; R Hield, Consumer; Dr J Hill, Radiation Oncologist; M Nutt, Nurse Care Coordinator; K Pronk, Senior Oncology Dietitian; T Simpson, Social Worker; Dr C Wratten, Chairman and Director, Radiation Oncology; and Dr SC Yeoh, Staff specialist, Oral Medicine & Pathology.

We also thank the additional reviewers: K Chapman, Nutrition Program Manager, Cancer Council NSW; Dr J Clark, Head of Fellowship, Sydney Head & Neck Cancer Institute; B & C Gardner, Laryngectomee Association of NSW; C Julien, Clinical Nurse Consultant; A Moloney, Cancer Nurse Coordinator.

We acknowledge Dr K Shannon, Chairman, Cancer Institute NSW Oncology Group (NSWOG) Head & Neck, for approving this abridged booklet.

Cancer Council NSW wishes to acknowledge Cancer Council Victoria for kindly permitting its resource Cancers of the Mouth, Nose and Throat to be used as the main source for this booklet, and for the adaptation of its illustrations on pages 4-5. The book 100 Questions and Answers About Head and Neck Cancer (E Carper NP, K Hu, MD, E Kuzin, NP; Jones and Bartlett Publishers; 2008) was also used as a source for this booklet.


Note to reader
Always consult your doctor before beginning any health treatment. This booklet is intended as a general introduction to the topic and should not be seen as a substitute for your doctor’s or health professional’s advice. However, you may wish to discuss issues raised in this booklet with them. All care is taken to ensure that the information in this booklet is accurate at the time of publication.

Cancer Council NSW 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. To make a donation to help defeat cancer, phone 1300 780 113.
This booklet has been prepared to help you understand more about head and neck cancers.

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. This booklet covers four main types of head and neck cancer: oral, pharyngeal, laryngeal and nasal cancers. For information about other types of cancer occurring in the head or neck, call the Helpline on 13 11 20.

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 cancer is 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 questions you want to ask your doctors or other health carers.

You may like to pass 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 terms that may be unfamiliar are explained in the glossary.
Contents

What is cancer? ................................................................. 4

The head and neck region .................................................. 6

Head and neck cancer – key questions .......................... 8
What is head and neck cancer? ......................................................... 8
What are the symptoms? ................................................................. 8
How common is it? ............................................................................ 9
What are the risk factors? ................................................................. 10

Diagnosing head and neck cancer ........................................... 12
Physical examination and Biopsy................................................. 12
Laryngoscopy and Nasendoscopy ................................................. 13
Scans and x-rays ............................................................................. 14
Cancer staging ................................................................................. 16
Which health professionals will I see? .............................................. 17

Treatments ....................................................................... 19
Oral cancer treatment ................................................................. 19
Pharyngeal cancer treatment ......................................................... 24
Laryngeal cancer treatment ......................................................... 29
Nasal and paranasal sinus cancer treatment ............................. 34
Palliative treatment ........................................................................... 40

Managing side effects............................................................. 41
Dry mouth ......................................................................................... 41
Changes in taste and appetite ......................................................... 42
Nausea, vomiting and weight loss .................................................. 43
Mouth sores and ulcers ................................................................. 44
Difficulty swallowing and Tube feeding ................................. 45
Bone and teeth damage ................................................................. 46
Communication and speech .......................................................... 47
Tracheostomy ................................................................................. 49
Other side effects ........................................................................... 51

Making treatment decisions ......................................................... 52
Talking with doctors ..................................................................... 53
A second opinion .......................................................................... 53
Taking part in a clinical trial ......................................................... 54

Looking after yourself ................................................................. 55
Healthy eating ............................................................................... 55
Being active .................................................................................. 55
Complementary therapies ............................................................ 56
Strengthening your relationships ............................................... 57
Sexuality, intimacy and cancer .................................................... 57
Changing body image .................................................................... 59
Life after treatment ...................................................................... 60

Seeking support ........................................................................... 61
Practical and financial help .......................................................... 62
Understanding Cancer program .................................................. 62
Talk to someone who’s been there .............................................. 63
Caring for someone with cancer ................................................ 64

Cancer Council Helpline ............................................................. 65
Useful websites ............................................................................ 66
Cancer Council library ................................................................. 67
Question checklist ........................................................................ 68
Glossary ....................................................................................... 69
What is cancer?

Cancer is a disease of the cells, which are the body’s basic building blocks. Our bodies constantly make new cells: to help us 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 may 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 problems by pressing on nearby organs.

A malignant tumour is made up of cancerous cells that grow out
of control and are able to spread to other parts of the body. When it first develops, a malignant tumour may not have invaded nearby tissue. This is known as a cancer in-situ (carcinoma in-situ) or localised cancer. As the tumour grows, it may invade surrounding tissue, becoming invasive cancer.

Cancers grow their own blood vessels in a process known as angiogenesis. This allows the cancer cells to get a direct supply of oxygen and other nutrients.

Sometimes cells move away from the original (primary) cancer site and spread to 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.

A metastasis keeps the name of the original cancer. For example, nasal cancer that has spread to the brain is still called nasal cancer, even though the person may be experiencing symptoms caused by cancer cells in the brain.
The head & neck region

Mouth (oral cavity)
The largest organ in the mouth is the tongue. The muscles of the tongue base continue into the upper throat (oropharynx).

The roof of the mouth is called the hard palate. The soft palate is an arch of muscle behind the hard palate, going into the throat (oropharynx).

Throat (pharynx)
The throat (pharynx) is the tube running from the back of the nose to the gullet (oesophagus) and windpipe (trachea). Its three parts are the nasopharynx, oropharynx and hypopharynx.

- **nasopharynx** – cavity behind the nose and above the soft palate
- **oropharynx** – area from the soft palate and tongue base to the back of the mouth, including the tonsils
- **hypopharynx/laryngopharynx** – the lowest part of throat, behind the voice box (larynx)
**Voice box (larynx)**

The voice box (larynx) sits on top of the windpipe (trachea). It houses the vocal cords (glottis), which vibrate to produce speech.

The area above the glottis is the supraglottis, which has a small flap to prevent food from going into the trachea when you swallow. The area below the glottis is called the subglottis.

**Nose, nasal cavity & paranasal sinuses**

The nasal cavity is the large, air-filled space located behind your nose. The nose and upper respiratory tract warm, moisten and filter the air you breathe.

Paranasal sinuses are air-filled spaces within your head that help to lighten the weight of your skull. There are four types.

- **frontal sinuses** – behind your forehead
- **ethmoid sinuses** – between your eyes
- **sphenoid sinuses** – at base of your skull
- **maxillary sinuses** – under your eyes and within your cheek (maxillary) bones
**Head & neck cancer – key questions**

**Q: What is head and neck cancer?**
**A:** Many areas of the head and neck can develop cancer. The name of the cancer is determined by the location and type of cancerous cells. Different types of head and neck cancer are diagnosed and treated differently.

**Q: What are the symptoms?**
**A:** There are many possible symptoms of head and neck cancer.

<table>
<thead>
<tr>
<th>Oral cancer</th>
<th>Pharyngeal cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>mouth pain</td>
<td>throat pain</td>
</tr>
<tr>
<td>sore or swelling in your mouth or jaw that doesn’t go away</td>
<td>a persistent sore throat or cough</td>
</tr>
<tr>
<td>white patches on your gums, tongue or mouth (leukoplakia)</td>
<td>coughing up bloody phlegm</td>
</tr>
<tr>
<td>red patches on your gums, tongue or mouth (erythroplakia)</td>
<td>voice changes or hoarseness</td>
</tr>
<tr>
<td>changes in speech or difficulty pronouncing words</td>
<td>dull pain around your breastbone</td>
</tr>
<tr>
<td>difficulty chewing or swallowing food</td>
<td>difficulty swallowing</td>
</tr>
<tr>
<td>a lump in your neck</td>
<td>a lump in your neck</td>
</tr>
<tr>
<td>loose teeth or dentures that no longer fit</td>
<td>an earache</td>
</tr>
<tr>
<td></td>
<td>feeling that your air supply is blocked</td>
</tr>
</tbody>
</table>
Q: How common is it?

A: About 900 people in NSW (70% men and 30% women) are diagnosed with a type of head and neck cancer each year.

Head and neck cancer accounts for about 4% of all male cancers and 2% of all female cancers. Men are about three times more likely to be diagnosed with head and neck cancer.

The average age at diagnosis is 63 for women. The average age for men is 67.

Statistically, lip cancer is considered separately. There are about 180 new cases of lip cancer (130 male and 50 female) diagnosed each year.

<table>
<thead>
<tr>
<th>Laryngeal cancer</th>
<th>Nasal &amp; paranasal sinus cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>swelling in your neck or throat</td>
<td>decreased sense of smell</td>
</tr>
<tr>
<td>a persistent sore throat</td>
<td>a persistent blocked nose, particularly one nostril</td>
</tr>
<tr>
<td>a change in the sound of your voice, or hoarseness</td>
<td>nosebleeds</td>
</tr>
<tr>
<td>difficulty or painful swallowing</td>
<td>mucus drainage in the back of your nose or throat</td>
</tr>
<tr>
<td>a lump in the neck</td>
<td>frequent headaches or sinus pressure</td>
</tr>
<tr>
<td></td>
<td>difficulty swallowing and loose or painful teeth</td>
</tr>
<tr>
<td></td>
<td>a lump on/in your face, nose or mouth</td>
</tr>
<tr>
<td></td>
<td>pressure or pain in your ears</td>
</tr>
<tr>
<td></td>
<td>a bulging or watery eye, double vision or complete or partial loss of your eyesight</td>
</tr>
</tbody>
</table>
**Q: What are the risk factors?**

**A:** Many factors can place someone at risk for developing head and neck cancer. Having one or more of the following factors doesn’t mean you’ll get cancer, or that your cancer was caused for that reason.

<table>
<thead>
<tr>
<th>RISK</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco or marijuana use</td>
<td>Smoking cigarettes or pipes, using chewing tobacco and dipping snuff causes about 85% of all head and neck cancers.</td>
</tr>
<tr>
<td>Alcohol use</td>
<td>A person’s risk increases with the amount of alcohol consumed. Using both tobacco and alcohol further increases the risk.</td>
</tr>
<tr>
<td>Age</td>
<td>Head and neck cancer is most common in people aged 55 or older.</td>
</tr>
<tr>
<td>Sex</td>
<td>Men are about three times more likely to get head and neck cancer.</td>
</tr>
<tr>
<td>Race</td>
<td>People from some cultural backgrounds may be more likely to develop certain types of head and neck cancer. For example, people from certain parts of China may have an increased risk of nasopharyngeal cancer.</td>
</tr>
<tr>
<td>Sun exposure</td>
<td>Ultraviolet (UV) radiation may cause lip cancer and is the main cause of skin cancer of the head and neck.</td>
</tr>
</tbody>
</table>
Tell your health care team if you use tobacco, alcohol or other drugs. Your doctors will consider it when caring for you, and they may help you quit. Quitting smoking will improve your chances of responding to treatment. If you need help or advice, call Quitline on 13 78 48.

<table>
<thead>
<tr>
<th>RISK</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation of certain chemicals or dusts</td>
<td>Breathing in sulphuric acid mist, asbestos fibres, dry-cleaning solvents, certain types of paint or nickel may increase the risk.</td>
</tr>
<tr>
<td>Chewing areca nut (known as betel nut or paan)</td>
<td>Chewing this type of palm tree seed, often wrapped in leaves, may cause oral cancer.</td>
</tr>
<tr>
<td>Diet</td>
<td>Some studies suggest a diet low in beta-carotene (found in some fruits and vegetables) may be a slight risk factor.</td>
</tr>
<tr>
<td>Human Papillomavirus (HPV)</td>
<td>HPV may be associated with head and neck cancer (particularly tonsil cancer).</td>
</tr>
<tr>
<td>Leukoplakia or erythroplakia</td>
<td>Having white or red patches in your mouth may lead to oral cancer.</td>
</tr>
<tr>
<td>Epstein-Barr Virus (EBV)</td>
<td>EBV may cause nasopharyngeal cancer.</td>
</tr>
</tbody>
</table>
Diagnosing head & neck cancer

If you have symptoms, you might see your general practitioner (GP) to get checked out. Your GP will probably refer you to a specialist who will perform some diagnostic tests.

Depending on your symptoms, you may have one or more of the following tests.

**Physical examination**
Your doctor may examine your mouth, oropharynx (tonsils and soft palate), neck, ears and eyes.

Looking at other areas, such as the nasopharynx, tongue base and hypopharynx, requires special equipment and/or anaesthesia (drugs to block nerve sensations).

**Biopsy**
A biopsy is when the doctor removes tissue for examination under a microscope. This will show whether cancer cells are present and what type of cancer it is.

A biopsy can be performed during a physical examination, nasendoscopy or laryngoscopy. You may have an anaesthetic.

Results of the biopsy are usually available in about a week.
Laryngoscopy
A laryngoscopy is a procedure that allows a doctor to 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** – a mirror is inserted into the back of your throat to look at the larynx
- **direct laryngoscopy** – a tube with a light on it (laryngoscope) is inserted into your throat, usually under general anaesthesia.

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

Nasendoscopy
A nasendoscopy is an examination of your nose, pharynx and larynx using a flexible fibre-optic tube with a light on the end (endoscope).

You may have a local anaesthetic to numb the back of your nose and throat. The doctor will insert the endoscope into your nose and look at your nasal cavity, nasopharynx, oropharynx, hypopharynx and/or larynx. Images from the endoscope may be projected onto a TV screen.

You will be asked to breathe lightly through your mouth, and you may have to make some vocal noises. The doctor may take some tissue samples (biopsies).

The examination will take 5–15 minutes. Afterwards, you should avoid eating and drinking for about 30 minutes. You can go home after the test is finished.
CT scan

A computerised tomography (CT) scan is a procedure that uses x-ray beams to take pictures of the body.

Before the scan, you may have dye called contrast solution injected into your veins. This dye will make scan pictures clearer, but you may feel flushed or hot for a few minutes – if you have a serious reaction, like breathing difficulties, tell your doctor immediately.

You will lie still on a table while the CT scanner, which is large and round like a doughnut, slowly moves around you. This is painless. The CT scan itself takes a few minutes, but the preparation takes 10-30 minutes. You can probably go home when the scan is complete.

MRI scan

Magnetic resonance imaging (MRI) uses magnetism and radio waves to build up detailed cross-section pictures of the body. As with a CT scan, a dye called contrast solution may be injected into your veins before the scan. You will lie in a narrow metal cylinder during the scan. If you are worried about being in a confined space, talk to your health care team. An MRI is painless and is over in about an hour. You can go home when the scan is done.

Before a CT or MRI scan, tell the doctor if you are allergic to iodine, fish or dyes.

If you have a pacemaker or other metallic object in your body, you can’t have an MRI scan due to the effect of the magnet.
Ultrasound scan
An ultrasound is a non-invasive, painless scan that uses soundwaves to create a picture of part of your body. Ultrasounds are sometimes used to diagnose pharyngeal cancer, or to see if the cancer has spread (metastasised).

You will usually be asked not to eat or drink for about four hours before an ultrasound. A gel is spread over the area of your body that will be scanned. A paddle-shaped device called a transducer is moved over your body and a picture is shown on a computer.

The ultrasound is usually performed as an outpatient scan.

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

You will be given a radioactive glucose solution that takes 30–90 minutes to go through the body. Afterwards, you will be scanned for high levels of radioactive glucose – active cancer cells will have an increased uptake of this solution.

You probably won’t have to stay in hospital for the PET scan, but it will take several hours to prepare for and undergo the scan.

X-rays
Your doctor may order x-rays of your head and neck to identify tumours or damage to the body. Before the x-rays, you may have a blood test to check your kidney function. The x-rays themselves are quick, safe and painless.
Cancer staging
If diagnostic tests show you have cancer, your doctor will assign the cancer a stage to tell how far it has spread. Staging will also help you and your health care team decide on the best type of treatment.

An international staging system called TNM is used to stage different types of cancer. 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. Each letter is assigned a number that indicates how advanced the cancer is.

If you are confused about the stage of your cancer, ask your doctor or nurse to explain it in plain English.

Assessing 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 predict the exact course of your illness.

Test results, the type of head and neck cancer you have, how well you respond to treatment, and other factors such as age, fitness and medical history are all important factors in assessing your prognosis.
Which health professionals will I 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.

Head and neck cancer often affects several areas of your body, so you may see some of the following health professionals:

- **audiologist** – diagnoses and treats hearing problems
- **cancer nurse coordinator or clinical nurse consultant** – coordinates your care and supports you throughout your course of treatment
- **dentist or oral medicine specialist** – evaluates and treats your mouth and teeth
- **dietitian** – supports and educates patients about nutrition, diet and tube feeding
- **ENT specialist** – treats disorders of the ear, nose and throat
- **gastroenterologist** – specialises in the digestive system and its disorders, and inserts a 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
• **prosthodontist** – a dentist who specialises in replacing any missing teeth

• **psychologists and counsellors** – help you manage your feelings and cope with changes to your life as a result of cancer or its treatment

• **reconstructive surgeon** – restores, repairs or reconstructs the appearance and function of your body using surgery

• **radiation oncologist** – plans and administers radiotherapy

• **social worker** – provides emotional support and practical assistance to patients and carers

• **speech pathologist** – rehabilitates patients with communication and swallowing disorders.

---

**Multidisciplinary care**

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.
The most common types of treatment for cancers of the oral cavity are surgery and radiotherapy. Chemotherapy is also sometimes used in combination with another type of treatment.

Your medical team will help you decide what type of treatment to have. For information on making treatment decisions, see page 52.

**Surgery**

You may have surgery to remove cancerous tissue. In some cases, the surgeon only needs to cut out a small area, but the operation may be more extensive.

Surgery can take up to 6–12 hours under a general anaesthetic. If the surgeon uses a laser to cut out the cancer, you may have a local anaesthetic.

Some types of oral surgery include:

- **glossectomy** – removal of part/all of the tongue
- **mandibulectomy** – removal of part/all of the lower jaw
- **maxillectomy** – removal of part/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 cancer has spread, or if there is a chance it will, your surgeon may also remove some lymph nodes in your neck. This is called a neck dissection or lymphadenectomy.
The healing time and side effects depend on what operation you have. The area may heal by itself or it may be closed with sutures. If the tissue requires reconstruction, the surgeon will use skin or tissue from another part of your body to rebuild the area.

If your mouth is swollen and it interferes with breathing, you will have a temporary breathing tube (tracheostomy) until the swelling goes down. See page 49.

**Surgery side effects**
The side effects of surgery depend on the operation you have, so talk to your doctor about what to expect. For more information about side effects, see pages 41–51.

**Speaking, swallowing and chewing** Some types of surgery seriously affect your ability to speak and eat. For example, if you have tongue surgery, a flap of skin may be taken from your leg or arm and used to replace part of your tongue. This tissue won’t have any muscle or sensation, so you will work with a speech pathologist to re-train the remaining portion of your tongue so you can speak and swallow.

If some or all of your teeth are removed, they probably won’t be replaced, so talk to your surgeon or oral medicine specialist about what to expect.

**Cosmetic appearance** Talk to your doctors about how surgery and reconstruction will affect your appearance. You shouldn’t expect to look exactly as you did before surgery. Scarring from
surgery is usually visible at first, but these scars will fade. If part of the jaw or skin is removed, your face will probably look very different. See page 59 for information about body image.

**Other side effects**

- If you have a neck dissection, you may have stiffness, scarring, numbness and pain.
- Fatigue can persist for several months, depending on the extent of your treatment. Ask your health care team for information.
- Surgery may also affect other aspects of your life, such as your sex life – see page 57.

**Radiotherapy**

Radiotherapy is the use of high-energy x-rays or electrons to kill or damage cancer cells. It can be used alone or with another treatment.

Before radiotherapy, you may visit a dentist or oral medicine specialist. This is because radiotherapy can cause dry mouth (xerostomia) or the breakdown of bone tissue (osteoradionecrosis or ORN). Your specialist may try to prevent future problems by removing teeth or giving you a fluoride tray to wear at night. You will probably have to follow up with a dentist regularly.

You will also have a planning (simulation) session before treatment begins. The staff will measure you and take x-rays to determine the treatment area. You will probably be fitted for a mask to wear during treatment so that the same area is always treated. You will wear the mask for up to an hour during the planning session, but you will only wear it for about 10–30 minutes at a time during treatment. Tell your doctor if you are claustrophobic.
In most cases, you will have external radiotherapy. This means you will lie on a table under a machine that will send radiation into your body. This painless procedure is usually given as outpatient treatment, daily, Monday to Friday, for 6–7 weeks.

Some people have internal radiotherapy (brachytherapy). This is when small radioactive seeds are placed near the cancer. For more information on this type of radiotherapy, see Cancer Council's *Understanding Radiotherapy* booklet.

**Radiotherapy side effects**
The side effects of radiotherapy are mostly temporary, and they will probably ease 1–3 weeks after treatment. However, some side effects may be present for a longer period of time, or permanently.

**Side effects can include:**
- dry mouth
- thick mucus (phlegm) instead of saliva
- difficulty swallowing, or difficulty opening the mouth fully (trismus)
- changes in sense of taste and appetite, and nausea
- skin soreness, redness or ulceration, or sores in the mouth or throat (mucositis)
- dental problems
- damage to the jaw bone (osteoradionecrosis)
- blocked or swollen salivary glands
- fatigue
- hair loss (e.g. facial hair)
- weight loss
- an underactive thyroid gland (hypothyroidism).

For more information, see page 41, talk to your medical team or call the Cancer Council Helpline for a free copy of the *Understanding Radiotherapy* booklet.
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.

Chemotherapy can be given during the course of radiotherapy (chemoradiation). In other cases, chemotherapy is administered to try to shrink a tumour before surgery or radiotherapy. This treatment is called neoadjuvant chemotherapy.

You may receive chemotherapy by injection into a vein (intravenously). You will probably have treatment sessions over several weeks.

Chemotherapy side effects
There are many possible side effects of chemotherapy, depending on the drugs that you are given.

Side effects can include:
- tiredness and lethargy
- nausea and vomiting
- diarrhoea
- hair loss
- hearing loss
- mouth sores
- nerve or muscle damage
- anaemia
- an increased risk of infection.

For more information, see page 41, talk to your medical team or call the Helpline for a free copy of Understanding Chemotherapy.
Pharyngeal (throat) cancer is usually treated with radiotherapy, chemotherapy or surgery. Radiotherapy treatment is often used because it can be difficult to do surgery on the throat. Radiotherapy may be used after surgery to kill any remaining cancer cells.

Your medical team will help you decide what type of treatment to have. For information on making treatment decisions, see page 52.

**Surgery**

If you have surgery, your surgeon will cut out as small an area as possible. However, if the pharyngeal cancer is large or advanced when it is diagnosed, the operation will be more extensive.

Types of pharyngeal surgery include:

- **pharyngectomy** – removal of part or all of the pharynx
- **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.

You will have a general anaesthetic during surgery. Sometimes a laser is used to cut out smaller cancers. The length of the operation depends on how extensive your surgery is. If necessary, lymph nodes
will be removed from your neck to prevent the cancer spreading. Your surgeons will reconstruct the area affected by the surgery.

**Surgery side effects**
Side effects of surgery depend on the operation you have, so talk to your doctor about what to expect. For more information, see the *Managing side effects* section on page 41.

**Swallowing** Your ability to swallow may be affected by the insertion of a skin flap in your mouth, or by other side effects such as dry mouth or teeth extractions.

If you have a skin flap, you might work with a speech pathologist to re-learn how to swallow. Therapy will usually improve your ability to swallow.

**Speaking and breathing** You’ll probably have a temporary breathing tube in your neck (temporary tracheostomy). This will be removed after a few days, when the swelling goes down.

If the cancer involves your tongue base or soft palate, surgery will affect your speech. If the cancer is in the hypopharynx or larynx, the voice box may need to be removed. If this happens, you will need speech therapy and you will have a tracheostomy. See page 49 for information about tracheostomies and page 47 to learn more about communication side effects.

**Cosmetic appearance** Talk to your doctors about how surgery and reconstruction will affect your appearance – you shouldn’t expect to look exactly as you did before surgery.

In some cases, your surgeon will have to cut through your jaw (mandibulotomy) and reconstruct it with a plate. This involves a cut through your chin and lip, and the scars will be visible for some time.
It is normal to feel upset about changes in your appearance. See page 59 for more information.

**Other side effects**

- If you have a neck dissection, you may have stiffness, scarring, numbness and pain.

- Fatigue can persist for several months, depending on the extent of your treatment. Ask your health care team for information.

- Surgery may also affect other aspects of your life, such as your sex life – see page 57.

**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.

Before radiotherapy, you may visit a dentist or oral medicine specialist. This is because radiotherapy to your throat can affect your mouth, and it may cause dry mouth (xerostomia) or the breakdown of bone tissue (osteoradionecrosis). You will probably have to follow up with a dentist regularly.

You will also have a planning (simulation) session before treatment begins. The staff will measure you and take x-rays to determine the treatment area. You may be fitted for a mask to wear during treatment, so the same area is always treated. Usually, the mask is worn for up to an hour during the planning session, but only for about 10–30 minutes at a time during treatment. Tell your doctor if you are claustrophobic.

During treatment, you will lie still on a table under a machine that will send painless radiation into your body. You will usually have a treatment session daily, Monday to Friday, for 6–7 weeks.
Radiotherapy side effects
The side effects of radiotherapy are mostly temporary, and they will probably ease 1–3 weeks after treatment. However, some side effects may be present for a longer period of time, or permanently.

**Side effects can include:**

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

For more information, see page 41, talk to your medical team or call the Helpline for a free copy of Understanding Radiotherapy.

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.

Chemotherapy can be given during your course of radiotherapy (chemoradiation). In other cases, chemotherapy is administered to
try to shrink a tumour before surgery or radiotherapy. This type of treatment is called neoadjuvant chemotherapy.

You may receive chemotherapy by injection into a vein (intravenously). You will have treatment sessions over several weeks.

**Chemotherapy side effects**

There are many possible side effects of chemotherapy, depending on the drugs that you are given.

<table>
<thead>
<tr>
<th>Side effects can include:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• tiredness and lethargy</td>
</tr>
<tr>
<td>• nausea and vomiting</td>
</tr>
<tr>
<td>• diarrhoea</td>
</tr>
<tr>
<td>• hair loss</td>
</tr>
<tr>
<td>• hearing loss</td>
</tr>
<tr>
<td>• mouth sores</td>
</tr>
<tr>
<td>• nerve or muscle damage</td>
</tr>
<tr>
<td>• anaemia</td>
</tr>
<tr>
<td>• an increased risk of infection.</td>
</tr>
</tbody>
</table>

For more information, see page 41, talk to your medical team or call the Helpline for a free copy of *Understanding Chemotherapy*. 
Laryngeal cancer is commonly treated with radiotherapy, which can be used with or without chemotherapy. It is sometimes treated with surgery.

Your medical team will help you decide what type of treatment to have. For information on making treatment decisions, see page 52.

**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 is almost always given externally for laryngeal cancer. This means a machine outside the body sends radiation beams towards the cancer.

The number of treatment sessions you have depends on the type of cancer you have – ask your medical team about your schedule.

Before radiotherapy, you will have a planning (simulation) session. The staff will measure you and take x-rays to determine the treatment area. You may be fitted for a mask to wear during treatment, which will keep you still so the radiation beams always treat the same area. Usually, the mask is worn for up to an hour during the planning session, but only for about 10–30 minutes at a time during treatment. Tell your doctor if you are claustrophobic.
Radiotherapy side effects
The side effects of radiotherapy are mostly temporary, and they will probably ease 1–3 weeks after treatment. However, some side effects may be present for a longer period of time or permanently.

Side effects can include:
- tiredness
- a sore throat
- pain or difficulty swallowing
- loss of taste or altered taste
- a dry mouth
- redness and soreness of the skin
- a hoarse or changed voice.

For more information, see page 41, talk to your medical team or call the Helpline for a free copy of Understanding Radiotherapy.

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.

Chemotherapy is often used:
- with radiotherapy (called chemoradiation) – this may be an alternative to surgery
- after surgery, with radiotherapy, to lower the chance of the cancer coming back
- before surgery or radiotherapy, to shrink a tumour.

Chemotherapy for cancer of the larynx is usually given by injection into a vein (intravenously). You will probably have treatment sessions over several weeks – talk to your medical team about your treatment schedule.
Chemotherapy side effects
There are many possible side effects of chemotherapy, depending on the drugs that you are given.

Side effects can include:
- tiredness and lethargy
- nausea and vomiting
- diarrhoea
- hair loss
- mouth sores and ulcers
- nerve or muscle damage
- anaemia.

For more information, see page 41, talk to your medical team or call the Helpline for a free copy of Understanding Chemotherapy.

Surgery
You may have surgery if you have advanced cancer or if your doctor can use a laser to cut out a small tumour. An operation may seriously affect your voice and swallowing ability, so your surgeon will work with a speech pathologist to choose a type of surgery that preserves these functions as much as possible.

There are many types of surgical procedures for laryngeal cancer. One procedure is a total laryngectomy, which is surgery to remove the larynx and separate the windpipe (trachea) from the oesophagus. You won’t be able to speak naturally after this procedure, but you can work with a speech pathologist to learn 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** – use of a laser beam to cut out the cancer
- **cordectomy** – removal of one vocal cord
- **supraglottic laryngectomy** – removal of the upper part of the larynx above the vocal cords (supraglottis)
- **supracricoid laryngectomy** – removal of the upper part of the larynx and vocal cords
- **hemilaryngectomy** – removal of half of the larynx.

**Surgery side effects**
The side effects of your laryngeal surgery depend on what kind of operation you have.

**Speaking** Many people who have surgery may not be able to speak normally after the operation. Even if your voice box (or part of it) is removed, you can still communicate. For example, some people are able to learn how to speak in other ways. See page 47 for more information about speaking after a laryngectomy or similar surgery.

**Breathing and smelling** The surgeon will probably create a breathing hole in your lower neck (tracheostoma). If you have a total laryngectomy this will be a permanent opening and you will lose your sense of smell. If you have partial laryngeal surgery, you may have a temporary tracheostomy and your sense of smell won’t be affected. A tracheostomy is not required for most laser operations. See page 49.
**Swallowing** If part of your voice box is removed it may affect your swallowing. This is because the valve that stops food and saliva going into the lungs (epiglottis) may be affected by the surgery.

Many people who have part of their voice box removed sometimes inhale liquid or food particles into their lungs (aspirate), but this can usually be improved with therapy. Your speech pathologist can teach you manoeuvres to improve your swallowing. Talk to your speech pathologist for more information.

**Cosmetic appearance** You will need to discuss how surgery will affect the way you look. The changes in your physical appearance depend on the type of surgery you have. For example, laser surgery may not affect your appearance, but other types of laryngeal surgery will scar your neck.

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

It is normal to feel upset and embarrassed about changes in your appearance. See page 59 for more information.

**Other side effects**
- If you have a neck dissection, you may have stiffness, scarring, numbness and shoulder pain.
- Fatigue can persist for several months, depending on the extent of your treatment. Ask your health care team how to cope with this side effect.
- Surgery may also affect other aspects of your life, such as your sex life – see page 57.
Nasal and paranasal sinus cancer is commonly treated with surgery, radiotherapy and/or chemotherapy. Your doctors will discuss your treatment options, which depend on the size, type and position of the cancer.

Your medical team will help you decide what type of treatment to have. For information on making treatment decisions, see page 52.

**Surgery**

Your doctor may advise you to have surgery if the tumour isn’t too close to your brain, eyes and major blood vessels. There is a wide variety of different operations that can be used for cancers of the nasal cavity and paranasal sinuses – the type of operation you have depends on the location of the tumour. 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 tissue 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
• **rhinectomy** – removal of part or all of the nose

• **endoscopic sinus surgery** – removal of part of the nasal cavity or sinuses through the nostrils, using an endoscope

• **midface degloving** – gaining access to your nasal cavity or sinuses by cutting under the upper lip.

Your surgeons will plan the operation carefully in order to avoid healthy tissues. You may have a major operation, with cuts along the edge of the nose, or you may have keyhole (endoscopic) surgery, which means a thin, flexible tube is inserted into the nose or mouth without any cuts to the face.

The surgeon will consider how surgery affects your appearance and ability to breathe, speak, chew and swallow. If surgeons have to remove part or all of your nose, you may get an artificial nose (cosmetic prosthesis). This prosthesis may be made of tissues from other parts of your body or from synthetic materials.

Some people have a temporary breathing tube, known as a tracheostomy (see page 49), or surgery to remove lymph nodes in the neck (neck dissection).

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

**Surgery side effects**
The side effects of nasal cancer surgery depend on the type of surgery you have.

**Speaking and swallowing** Most operations don’t affect your ability to talk and swallow. However, if your upper jaw is removed (maxillectomy), it will be replaced with either synthetic material
(a prosthesis or obturator) or a flap of tissue from another part of your body. This will affect how you speak and swallow. Also, the quality of your voice may change if your nose is blocked after surgery.

**Smelling and tasting** If you have a craniofacial resection, the nerves from your brain that allow you to smell may be removed. This means you may lose your sense of smell and your sense of taste will be affected.

**Vision** Swelling after facial surgery may cause temporary double vision. If the cancer is in your eye socket, the surgeon may have to remove your eye (orbital exenteration). You will still be able to see from your remaining eye, but your depth perception will be poorer. The empty eye socket can be replaced with synthetic material (a prosthesis) or tissue flap from another part of your body.

**Cosmetic appearance** You will need to discuss how surgery will affect the appearance of your nose, eyes, cheekbones and lips. Some operations won’t have much of an impact on your appearance, but most operations will change the way you look, so discuss this with your reconstructive surgeons. See page 59 for more information about changing body image.

**Fatigue and lifestyle changes**
- Fatigue can persist for several months, depending on the extent of your treatment. Ask your health care team for information.
- Surgery may also affect other aspects of your life, such as your sex life – see page 57.
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.

Radiotherapy is often given:
• on its own
• with chemotherapy treatment
• after surgery, to help stop the cancer coming back.

You will also have a planning (simulation) session before treatment begins. The staff will measure you and take x-rays to determine the treatment area. You may be fitted for a mask to wear during treatment, which will keep you still so the radiation beams always treat the same area. Usually the mask is worn for up to an hour during the planning session, but only for about 10–30 minutes at a time during treatment. Tell your doctor if you are claustrophobic.

You may also visit a dentist, who may extract some teeth and give you a fluoride tray to wear while you sleep. This can prevent damage to your teeth and jaw.

During treatment, you will lie on a treatment table while radiation is directed from a machine into your body. Treatment itself is painless and the medical team will try to make you as comfortable as possible.

You will probably have an outpatient treatment session once a day, Monday to Friday, for about 6–8 weeks.

Radiotherapy side effects
The side effects of radiotherapy are mostly temporary, and they will probably ease 1–3 weeks after treatment. However, some side effects may be present for a longer period of time, or permanently.
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 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
- osteoradionecrosis (bone damage)
- hair loss (especially facial).

For more information, see page 41, talk to your medical team or call the Helpline for a free copy of *Understanding Radiotherapy*.

**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.

Chemotherapy is usually given:
- with radiotherapy (chemoradiation)
- before surgery or radiotherapy to shrink a tumour (neoadjuvant chemotherapy).

Chemotherapy is usually injected into a vein (given intravenously).

Your health care team will determine your treatment schedule, which will probably include staggered sessions of chemotherapy over several weeks.
Chemotherapy side effects
There are many possible side effects of chemotherapy, depending on the drugs that you are given. Most side effects are temporary.

**Side effects can include:**
- tiredness and lethargy
- nausea and vomiting
- diarrhoea
- hair loss
- mouth sores and ulcers
- feeling tingly (nerve or muscle damage)
- anaemia.

For more information on dealing with side effects, see page 41, talk to your medical team or call the Helpline for a free copy of *Understanding Chemotherapy*. 
Palliative treatment helps to improve people’s quality of life by alleviating symptoms of cancer without trying to cure the disease. It is particularly important for people who have advanced cancer.

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 symptoms. Treatment may include radiotherapy, chemotherapy and other medication.

For more information on palliative treatment or advanced cancer, call the Helpline on 13 11 20 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 treatment can cause several side effects. This section lists some of the possible side effects and discusses ways to manage these changes, whether they are temporary or permanent.

More detailed information about side effects from chemotherapy and radiotherapy is in the Understanding Chemotherapy and Understanding Radiotherapy booklets, available free from the Cancer Council Helpline.

Dry mouth

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

**Tips**

- Ask your doctor, nurse or local pharmacist about mouth lubricants.
- Cut your food into small, bite-sized pieces.
- Have frequent sips of fluid with your meals.
- If your mouth is sore as well as dry, sucking hard sweets might make it worse. Try pastilles, jubes or gums instead.
- Avoid fluids that are dehydrating, e.g. caffeinated beverages and alcohol.
- Try tangy foods, such as lemons and other fruits, or mint or fruit sweets, to help stimulate the flow of saliva in your mouth.
- Make sure your meals are moist – use gravies or sauces.
Changes in taste and appetite

Treatment can affect your sense of taste, and it can take several months to return to normal. Taste changes may make you lose your appetite, or this can happen as a result of stress. Try to find ways to make mealtimes more appealing.

### Oral hygiene suggestions

Dry mouth increases your risk of developing cavities. Avoid excess sugar consumption and maintain good oral hygiene to prevent bone damage known as osteoradionecrosis (see page 46). You can choose sugar-free alternatives where possible. Talk to your dietitian or dentist about choosing low-sugar or sugar-free foods – if you consume artificial sweeteners, you may experience some mild side effects, such as diarrhoea.

#### Tips

- Marinate meat, fish, poultry or tofu to add extra flavour.
- Use salt, lemon juice or coffee powder if food is too sweet; try sugar or honey of food tastes metallic or salty.
- Keep your mouth fresh with mints or chewing gum, or brush your teeth after meals. If you smoke, try to quit. As well as damaging your health, smoking reduces appetite and changes the taste of food.
- Use a drinking straw to bypass your tastebuds.
- Add flavour to food with spices, garlic, herbs, cheese, bacon or sugar.
- Ask family or friends to prepare meals, or try frozen pre-cooked meals.
- Call the Helpline on **13 11 20** for a free copy of *Food and Cancer*.
Nausea, vomiting and weight loss
Feeling sick and vomiting are sometimes side effects of treatment.

Some people feel nauseous for a couple hours to a few days before, during or after treatment.

**Tips**

- Eat small meals often – not eating can make the nausea worse, and it may cause you to lose weight.
- If you are nauseous, try sour or salty foods such as dry savoury biscuits and potato crisps. Fizzy drinks are also good – try bitter lemon, dry ginger ale, ginger beer or cola.
- Try a small snack such as dry crackers or toast if you wake up feeling sick.
- Eat and drink slowly. Chew food well.
- Eat cold foods, such as sandwiches, cold meat, salads and cold milk puddings, which are often easier to manage than fried, greasy and spicy foods.
- Eat or drink ginger-based foods, like ginger ale, crystallised or candied ginger, and lemon and ginger tea.
- Talk to your doctor about medication to relieve nausea. If your current medication is not helpful, ask your doctor about trying a new medication.
- Make sure what you eat and drink is nourishing, e.g. drink milk rather than cordial, eat biscuits rather than lollies.
- To gain weight, add extra ingredients to foods. You can add dairy products like sour cream, full cream milk, butter, mayonnaise or cheese. You can also try adding oil, baked beans, eggs, honey, sugar or golden syrup.
- Treat food like medicine – something you have to have.
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.

- Avoid foods that sting your mouth. These include vinegar, spices, salty foods, alcohol (especially wine and spirits), very hot or very cold foods and drinks, and fruit juices.
- Drink diluted fruit juice. Mango, pear or peach juices are less irritating than citrus juices.
- Avoid dry, rough or crunchy foods such as chips, nuts, crackers and toast or bread.
- Chop, blend or purée food to make it easier to swallow. Add stock, milk, sauce or gravy to moisten food.
- Use a straw for drinking if you have mouth ulcers.
- Talk to your doctor about mouthwashes or medication to relieve ulcers or thrush (a white coating in the mouth). Avoid using mouthwashes that contain alcohol, as they may irritate your mouth.
- Keep your mouth fresh and clean to prevent infection. Try a mouthwash before and after meals. (Mix 1 teaspoon of salt, 1 teaspoon of baking soda and 4 cups of water, and swill and spit.)
- Tell your doctor or dietitian if you have severe difficulty swallowing for a considerable period of time. In some cases, a feeding tube may be considered.
Difficult swallowing

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

If swallowing is painful, ask your doctor about taking pain-killers. You may also be able to use other types of soothing agents to prevent your mouth and throat from becoming too irritated.

Working with a speech pathologist may help minimise the discomfort you feel when swallowing. The speech pathologist can assess how you swallow and make modifications to your diet to prevent food and drink from entering your lungs.

It is important your body is nourished so it can recover from cancer and its treatment, so 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 called enteral feeding).

Tube feeding

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

<table>
<thead>
<tr>
<th>Temporary feeding tube</th>
<th>Long-term or permanent feeding tube</th>
</tr>
</thead>
<tbody>
<tr>
<td>A feeding tube is inserted through your nasal passageway (nasogastric tube). It will usually be used for few weeks.</td>
<td>A tube is inserted into your stomach while you are anaesthetised. A PEG (percutaneous endoscopic gastrostomy) tube is usually used.</td>
</tr>
</tbody>
</table>
If you have a long-term feeding tube, flexible tubing may protrude 8–10 cm from your abdomen. Your health care team will teach you how to keep the tube clean to prevent wear and leakage, ways to prevent blockages, and when the tubing needs to be replaced. A dietitian will tell you what kind of feeding formula to use.

Having a feeding tube inserted is a significant change, and you may feel upset about it. Some people feel self-conscious, or worry they are missing out on eating with friends and family.

You may come to find that the feeding tube gives you more control over nutrition, hydration and your overall well-being. Some people also feel that the feeding tube eases the pressure and discomfort of eating, so they can focus on the company of others during mealtimes.

Talking to your loved ones, a counsellor, dietitian or nurse may help you adjust to the change.

**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.

**Bone damage**

Radiotherapy treatment can damage the arteries in your face and cause bone tissue to break down. This is called osteoradionecrosis (ORN). ORN usually affects the lower jaw (mandible).

You may have some decayed or damaged teeth extracted prior to commencing radiotherapy to prevent ORN. Avoid getting teeth removed during or after 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 the chance of ORN. If you do have ORN, your doctors may treat it with surgery, antibiotics and hyperbaric oxygen treatment, which delivers oxygen to the bone to help it heal.

**Dental effects**

Radiotherapy treatment can cause dental problems. If you have a dry mouth, you will be at a higher risk for infections or cavities. Try to follow up with your dentist or oral medicine specialist regularly after you finish treatment.

**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 be very distressed.

If your voice or speech has changed, people might pretend to understand what you are saying so they don’t upset you. Some people aren’t prepared to take the extra time required to communicate with someone who can’t speak naturally. It’s normal to feel uncomfortable or alienated if this happens.

If the way you communicate has changed, it will be important for your family and friends to provide you with understanding, sympathy 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
Some people lose the ability to speak due to surgery to their mouth or the removal of their voice box.

Until you are able to speak after surgery, you can communicate in other ways. You may find it helpful to:
- keep pads of paper and pens handy
- write notes on a whiteboard
- point to a board with pictures or words
- gesture, point, nod, smile, or mouth words
- use a computer or mobile phone to type messages
- 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 trial with you.

- **Oesophageal speech:** Swallowing air and forcing it up through your oesophagus. This produces a voice like a low-pitched burp.

- **Tracheoesophageal speech:** Forcing air between a surgically-created segment in the pharynx (throat). This creates a vibrating sound that can be used to form speech.

- **Mechanical speech:** Using a battery-powered device (such as an electrolarynx) to create vibrating sounds. Some of these devices are held against the neck or face or placed inside the mouth.

You may have to try a few different methods before settling on the most effective way to communicate. No matter what you choose, speaking will take time and practice. You will also have to get used to the way your new voice sounds. If you are feeling self-conscious about these changes, counselling may help.
**Oral reconstruction**

If you have mouth surgery, you may also have a reconstruction to repair your mouth or replace tissue. Reconstructive surgery usually improves your cosmetic appearance, but it may impair your ability to speak because the new flap of tissue can get in the way.

You will probably work with a speech pathologist to learn how to speak 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 talk again.

**Tracheostomy**

When laryngeal or pharyngeal cancer becomes advanced, it can block your airway. In this case, you may have a tracheostomy before treatment. A tracheostomy is an operation to create an opening (stoma) in the windpipe. This opening, which looks like a small hole, allows you to breathe through a tracheostomy tube. The tracheostomy may be temporary or permanent.

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

**Temporary tracheostomy**

If you are recovering from surgery, you will probably have a temporary tracheostomy. This means your windpipe is not attached to the skin on your neck and plastic tubes are inserted.

*Tracheostomy tubes can block without regular cleaning and suctioning. Your health care team will do this, and they will show you how to keep the tubes clean.*
An outer tube stays in the hole to keep it from closing and a replaceable inner tube can be removed for cleaning.

It is unlikely that you will be able to speak at first, 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, the breathing tubes will be removed 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 stitched to an opening at the front of the neck).

You may have a tube inserted into the tracheostoma. Your speech pathologist or nurses will teach you and your carers how to clean the tube and prevent water from going into your lungs (aspiration). They may also give you fabric to cover the opening of your tracheostoma.

You will no longer be able to hold your breath after this operation. This can make it dangerous to participate in water sports because water can get into your lungs and cause drowning.

You will lose some or all of your sense of smell, which will change the way things taste. You should install smoke detectors in your home because you may no longer be able to smell smoke or fire. Also, try to abide by the use-by date on foods (such as dairy products), as you will not be able to smell if the food is spoiled.

See page 47 for information about speaking after surgery.
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 59.

**Other side effects**

You may experience several other side effects, such as anaemia, diarrhoea, fatigue or skin redness and soreness from head and neck cancer treatment.

Information about side effects from chemotherapy and radiotherapy is in the *Understanding Chemotherapy* and *Understanding Radiotherapy* booklets, available free from the Cancer Council Helpline (13 11 20).
Sometimes it is difficult to decide on the right treatment. You may feel that everything is happening so fast you don’t have time to think things through, but there is usually time 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 by information, others want as much information as they can find. Making sure you understand enough about your illness, the treatment and its side effects will help you make your own decisions.

- If you are offered a choice of treatments, you need to weigh up their advantages and disadvantages. Consider how important any side effects are to you, especially those that affect your lifestyle.

- If you have a partner, you may want to talk about treatment options. You can also talk to friends and family.

- If only one type of treatment is recommended, ask your doctor to explain why other treatment choices have not been offered.

You have the right to accept or refuse any treatment.

Some people with more advanced cancer 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 options that don’t try to cure the cancer but make them feel as well as possible.
Talking with doctors
When your doctor first tells you that you have cancer, it is very stressful and you may not remember much. You may want to see the doctor a few times before deciding on treatment.

If your doctor uses medical terms you don’t understand, it’s okay to ask for a simpler explanation. You can also check a word’s meaning in the glossary (see page 69).

Before you see the doctor, it may help to write down your questions. Taking notes 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.

A second opinion
Getting a second opinion from another specialist may be a valuable part of your decision-making process. It can confirm or clarify your doctor’s recommendations and reassure you that you have explored all of your options. Some people feel uncomfortable asking their doctor for a second opinion, but specialists are used to patients doing this.

Your doctor can refer you to another specialist and send them your initial results. You can get a second opinion even if you have started treatment or still want to be treated by your first doctor. You may decide you would prefer to be treated by the doctor who provided the second opinion.
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 to see if they are better than current treatments.

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 – such as questions to ask your doctor and how to find a trial that may be suitable for you – call the Helpline on 13 11 20 for a free copy of Understanding Clinical Trials.
Cancer can cause physical and emotional strain. Eating well, exercising and relaxing may help reduce stress and improve well-being. Addressing changes in your emotions and relationships early on is also very important.

**Healthy eating**

Eating nutritious food will help you keep as well as possible and cope with the cancer and treatment side effects. Depending on your treatment, you may have special dietary needs. A dietitian can help to plan the best foods for your situation – ones that you find tempting, easy to eat and nutritious.

If you have 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 page 45).

If you want to take 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.

The Cancer Council Helpline can send you information about nutrition. Call 13 11 20 for a free copy of *Food and Cancer*.

**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.

If you aren’t used to exercise or haven’t exercised for a while, make small changes to your daily activities. You could walk to the shops, take the stairs, or do some gardening. To do more vigorous exercise or weight-bearing exercise, ask your doctor what is best for you.

**Complementary therapies**
Complementary therapies may help you 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, meditation, yoga, herbal medicine and nutrition. While some cancer treatment centres offer complementary therapies as part of their services, you may have to go to a private practitioner. Ask what’s available at your hospital. Self-help CDs or DVDs can also guide you through some different techniques.

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.

*Alternative therapies are commonly defined as those used instead of conventional treatments. These therapies may be harmful if people with cancer delay or stop using conventional treatments in favour of them.*
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.

Call the Helpline for a free copy of Cancer Council’s CD *Relaxation for People with Cancer* and the publications *Understanding Complementary Therapies* and *Massage and Cancer: an introduction to the benefits of touch*.

**Strengthening your relationships**
The strong emotions you experience as a result of cancer may affect your relationships. Your experiences may cause you to develop a new outlook on your values, priorities and life in general. Sharing those thoughts and feelings with your family, friends and work colleagues may strengthen your relationships.

While you are giving yourself time to adjust to living with cancer, 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 in their own way to changes. If someone’s behaviour upsets you, it will probably help to discuss how you both feel about the situation.

**Sexuality, intimacy and cancer**
Having cancer can affect your sexuality in both physical and emotional ways. The impact of these changes depends on many factors, such as treatment and side effects, the way you and your partner communicate, and your self-confidence. Knowing the potential challenges and addressing them will help you adjust.
**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** Most people are sexually stimulated by their partner’s physical appearance, so changes in your appearance may affect your relationship.

It’s also common to be self-conscious about changes to your body. Consider sharing your concerns with your partner, a friend or a counsellor. See the opposite page for information about body image.

**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, which can affect the enjoyment and stimulus from 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 cheek-to-cheek.
Changing body image
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. Your self-esteem may be affected even if your body hasn’t physically changed.

Give yourself time to adapt to any changes. Try to see yourself as a whole person (body, mind and personality).

You may benefit from speaking to a counsellor, social worker or psychologist. You can also consult a reconstructive surgeon, who may be able to make physical changes (like scars) look less obvious. Call the Helpline on 13 11 20 for more information.

Look Good...Feel Better Program
This free program teaches techniques to help restore appearance and self-esteem during treatment. Call 1800 650 960 or visit www/lgfb.org.au.
Life after treatment

You may be surprised to find out that life after cancer treatment can present its own challenges. You will need to take some time to adjust to physical and emotional changes.

You may have mixed emotions. Beforehand, you may have been busy with appointments and focused on treatment, but afterwards you may feel anxious rather than secure. You might worry about every ache and pain and wonder if the cancer is coming back.

Some people say that after cancer they have changed priorities and see life with a new clarity. For example, you may decide to travel, spend more time with family, or do volunteer work.

Although you might feel pressure to return to normal life, it’s important to remember that your life may not return to how it was before cancer.

You might find it helpful to:
• take time to adjust to physical and emotional changes
• re-establish a new daily routine at your own pace
• maintain a healthy diet and lifestyle
• schedule regular checkups with your doctor
• share your concerns with family and friends and tell them how to support you
• call the Helpline on 13 11 20 to connect with other people who have had cancer, or to request a free copy of the booklet *Living Well After Cancer*.

If you have continued feelings of sadness, have trouble getting up in the morning or have lost motivation to do things that previously gave you pleasure, talk to your doctor. You may be clinically depressed, and counselling or medication may help you.
Seeking support

When you are first diagnosed with cancer, and throughout the different stages of your treatment and recovery, it is normal to experience a range of emotions, such as fear, sadness, anxiety, anger and frustration. If sadness or anxiety is ongoing or severe, talk to your doctor.

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

- members of your treatment team
- a counsellor, social worker or psychologist
- your religious or spiritual adviser
- a support group – see page 63
- the Cancer Council Helpline.

If you need assistance, such as help around the house, it may be hard to tell people what would be useful. Some people prefer to ask a family member or friend to coordinate offers of help.

You may find that while some people you know are supportive, others may not even know what to say to you. Cancer Council’s booklet *Emotions and Cancer* may help if this happens to you.

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

Call 13 11 20 for these booklets or download them at www.cancercouncil.com.au.
Practical and financial help
A serious illness often causes practical and financial difficulties. This can add to the stress and anxiety you may already be feeling about having cancer and going through treatment.

Many services are available to help so you don’t have to face these difficulties alone.

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

To find out more, talk to the hospital social worker, occupational therapist or physiotherapist, or the Cancer Council Helpline. Cancer Council’s booklet *Understanding Your Rights* may also be useful.

Understanding Cancer program
If you want to learn more about cancer and ways to cope with it, you may find the Cancer Council’s Understanding Cancer program helpful. The program offers practical information and discussions about many issues people experience after diagnosis.

Topics covered include what cancer is, cancer symptoms and side effects, treatment, palliative care, diet, exercise and complementary therapies.

Understanding Cancer programs are held frequently at hospitals and community centres throughout NSW. Call the Helpline for more information.
Talk to someone who’s been there
Getting in touch with other people who have been through a similar experience can be beneficial. There are many ways to contact 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.

Ask your nurse or social worker to tell you about support groups in your area. Go to www.cancercouncil.com.au or call the Helpline to access the Cancer Services Directory and find out how you can connect with others.

Support services available for patients, carers and family members

- **Face-to-face support groups**, which are often held in community centres or hospitals
- **Online discussion forums** where people can connect with each other any time – see www.cancerconnections.com.au
- **Telephone support groups** for certain situations or types of cancer, which trained counsellors facilitate
- **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.
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. Try to look after yourself – 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.

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

Call the Cancer Council Helpline to find out more about different services or to request a free copy of the booklet Caring for Someone with Cancer.
The Cancer Council Helpline is a telephone information service provided by 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 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 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.
Useful websites

The Internet has many useful resources, although not all websites are reliable. The websites listed below are good sources of information.

**Australian**
- Cancer Council NSW ..............................www.cancercouncil.com.au
- Cancer Council Australia .........................www.cancer.org.au
- Cancer Institute NSW ..............................www.cancerinstitute.org.au
- NSW Health .............................................www.health.nsw.gov.au
- Commonwealth Department of Health and Ageing.................................www.health.gov.au
- Health Insite .............................................www.healthinsite.gov.au
- Laryngectomee Association of NSW......www.stilltalking.org
- Head and Neck Society ..............................www.anzhns.org

**International**
- American Cancer Society ..........................www.cancer.org
- Macmillan Cancer Support ..........................www.macmillan.org.uk
- Support for People with Oral and Head and Neck Cancer .......................www.spohnc.org
Following a cancer diagnosis, many people look for 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, CDs, DVDs, videos and a large range of medical journals.

You can visit the library at 153 Dowling Street, Woolloomooloo (Monday to Friday, 9am to 5pm), 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 free Cancer Council publications relevant:

- *Understanding Chemotherapy*
- *Understanding Radiotherapy*
- *Emotions and Cancer*
- *Sexuality, Intimacy and Cancer*
- *Food and Cancer*
- *Overcoming Cancer Pain*
- *Caring for Someone with Cancer.*

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.

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

anaesthetic
A drug that stops a person feeling pain during a medical procedure. A local anaesthetic numbs part of the body; a general anaesthetic causes a person to lose consciousness for a period of time.

benign
Not cancerous or malignant. Benign lumps are not able to spread to other parts of the body.

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

brachytherapy
A type of radiotherapy treatment that implants radioactive material sealed in needles or seeds into or near cancerous cells. Also called internal radiotherapy.

cells
The basic organisational unit of all living things. 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 cytotoxic drugs to treat cancer by killing cancer cells or slowing their growth.

cordectomy
Surgery to remove a vocal cord.

craniofacial resection
Surgical removal of a tumour involving a cut through the face.

CT scan
A computerised tomography scan. This type of scan uses x-rays to create a picture of the body.
<table>
<thead>
<tr>
<th><strong>dysphagia</strong></th>
<th>Difficulty swallowing.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>epiglottis</strong></td>
<td>The small cartilage flap that prevents food from going into the trachea when a person swallows.</td>
</tr>
<tr>
<td><strong>Epstein-Barr Virus (EBV)</strong></td>
<td>A common virus in the herpes family that may increase a person’s risk of developing some types of cancer.</td>
</tr>
<tr>
<td><strong>erythroplakia</strong></td>
<td>A red velvety spot or patch in the mouth that may be precancerous.</td>
</tr>
<tr>
<td><strong>ethmoid sinuses</strong></td>
<td>Sinuses located behind the ethmoid bone in the skull.</td>
</tr>
<tr>
<td><strong>fenestrated tracheostomy</strong></td>
<td>A tracheostomy tube with an opening to allow air to flow through the voice box.</td>
</tr>
<tr>
<td><strong>frontal sinuses</strong></td>
<td>Sinuses located behind the forehead.</td>
</tr>
<tr>
<td><strong>glossectomy</strong></td>
<td>The surgical removal of part or all of the tongue.</td>
</tr>
<tr>
<td><strong>hemilaryngectomy</strong></td>
<td>Surgery to remove the left or right half of the larynx.</td>
</tr>
<tr>
<td><strong>Human Papillomavirus (HPV)</strong></td>
<td>A group of viruses that can cause infection in the skin surface of different areas of the body, including the genital area. HPV may be a risk factor for some types of cancer. Also called the wart virus.</td>
</tr>
<tr>
<td><strong>hypopharynx</strong></td>
<td>The lowest part of the back of the throat. Also called the laryngopharynx.</td>
</tr>
<tr>
<td><strong>intravenous</strong></td>
<td>Inserted into a vein.</td>
</tr>
<tr>
<td><strong>laryngectomy</strong></td>
<td>The surgical removal of the larynx. In a partial laryngectomy, only part of the larynx is removed.</td>
</tr>
<tr>
<td><strong>laryngopharyngectomy</strong></td>
<td>The surgical removal of part or all of the larynx and pharynx.</td>
</tr>
<tr>
<td><strong>laryngopharynx</strong></td>
<td>See hypopharynx.</td>
</tr>
</tbody>
</table>
| **laryngoscopy** | A procedure that allows the doctor
to closely examine the larynx and pharynx using a mirror or a laryngoscope (tube with a light).

**larynx**
The voice box. The larynx houses the vocal cords and connects the pharynx with the trachea.

**laser surgery**
The use of a laser to remove 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 that may be precancerous.

**lymph nodes**
Small, bean-shaped structures that form part of the lymphatic system. Also called lymph glands.

**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 can 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 the eyes and within the maxillary (cheek) bones.

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

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

**midface degloving**
Surgical access to the nasal cavity or sinuses using a cut under the upper lip.

**MRI scan**
A magnetic resonance imaging scan. A scan that uses magnetism and radio waves to take detailed...
cross-sectional pictures of the body.

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

**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**
Surgery to remove 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 that
lighten the weight of the skull.

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

**percutaneous endoscopic gastrostomy (PEG) tube**
A feeding tube inserted directly into the stomach through the abdomen.

**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. 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 radiation, usually x-rays or gamma rays, to kill cancer cells or injure them so they cannot grow and multiply.

**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**
Performing tests to determine how far the cancer has spread.

**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
A butterfly-shaped endocrine gland located at the base of the neck. The thyroid releases hormones to control the body’s metabolism and calcium levels.

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

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

trachoeoesophageal 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 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 on or in the body. A tumour may be benign or malignant.

ultrasound
A non-invasive scan that uses soundwaves to create a picture of part of the body. An ultrasound scan can be used to measure the size and position of a tumour.

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

xerostomia
Dry mouth.
At 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 sun protection products from our website or retail stores:** Every purchase you make helps you prevent cancer and contributes financially to our work.

**Help us speak out and create a cancer-smart community:** 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.
Call the Cancer Council Helpline for support and information on cancer and cancer-related issues. This is a free and confidential service. Our website also has many resources. Please visit www.cancercouncil.com.au.