

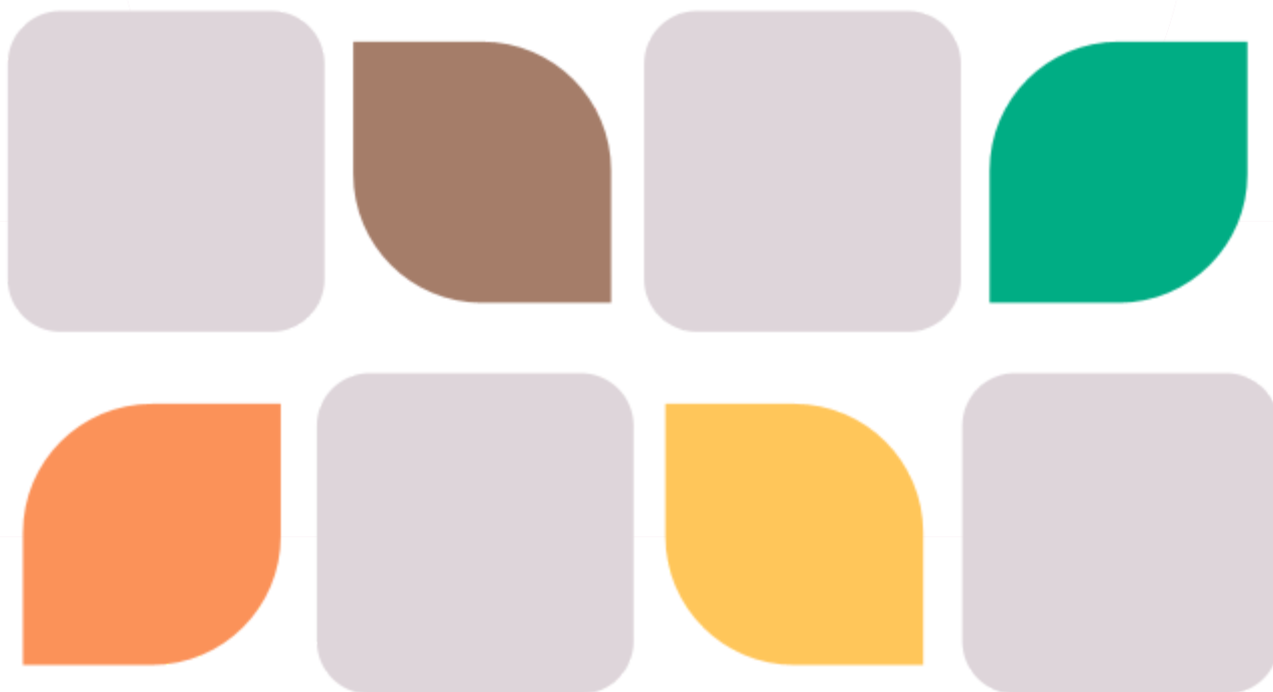
Inspired by Hope  
Committed to Care



National Cancer  
Centre Singapore  
SingHealth

# Understanding Radiotherapy for Head & Neck Cancer

A Guide for Patients & Caregivers



An Educational Initiative by National Cancer Centre Singapore

# *Acknowledgements*

*Special thanks to the following members who have contributed to the development of this booklet:*

**Dr Soong Yoke Lim** | Senior Consultant, Division of Radiation Oncology

**Ms Hester Lee** | Manager (Radiotherapy services), Division of Radiation Oncology

**Ms Sin Sze Yarn** | Senior Principal Radiation Therapist (Allied Health), Advanced Practitioner Radiation Therapist (Head and Neck) , Division of Radiation Oncology

**Ms Michelle Boey Ting Fang** | Radiation Therapist (Allied Health), Division of Radiation Oncology

**Ms Heather Tan Jiahui** | Radiation Therapist (Allied Health), Division of Radiation Oncology

**Mr Lee Kok Ming** | Senior Radiation Therapist (Allied Health), Division of Radiation Oncology

**Ms Evangeline Ho** | Radiation Therapist (Allied Health), Division of Radiation Oncology

Document No. DRO-EDU-PEM-275/1022

## **Disclaimer**

The National Cancer Centre Singapore does not endorse or promote the use of any product mentioned in this booklet. The information is presented in a summary to provide an understanding and knowledge only. It does not recommend the self-management of health problems or replace consultation with your doctor. You should never disregard medical advice or delay seeking it because of something you have read here.

First edition May 2023.

**Copyright © National Cancer Centre Singapore**

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior written permission from the publisher.

# *About this guide*

This booklet is written for patients who have been diagnosed with cancers in the head and neck regions and will receive External Beam Radiation Therapy (EBRT). It prepares you on what to expect before, during and after your radiation treatment, the side effects that you may experience and how to manage them.

We hope that you find this booklet helpful. However, it is intended only to serve as a guide and not a substitute for medical advice. The treatment techniques and side effects are specific to the type and region of the cancer. Your experience during treatment may be different from others. If you are unsure about any of the information discussed in this guide, please bring this booklet along with you for your future appointments and discuss them with your Radiation Oncologists.

If you have any other enquiries that are not addressed in this guide, feel free to contact NCCS Cancer Helpline at 6225 5655 or reach us by email at [cancerhelpline@nccs.com.sg](mailto:cancerhelpline@nccs.com.sg).

# Contents

	Page
Introduction	5
What is Radiation Therapy	15
Radiation Therapy Journey	18
Consultation Dental Examination Shell Making CT Simulation Treatment Planning Treatment Post-Radiation Therapy Follow up	
Treatment Side Effects	27
Frequently Asked Questions	39
Supportive Care	41
Useful Contacts & Resources	43



# Introduction

## WHAT IS HEAD AND NECK CANCER?

Cancers of the Head and Neck (HN) occur when abnormal cells develop and grow in an uncontrolled manner, forming tumours in the head and neck regions. They include a wide spectrum of diseases, and can arise from the nasopharynx, oropharynx, oral cavity, larynx, salivary glands and nasal cavity. Each subtype is associated with unique etiology, epidemiological trends and treatment options. The cancerous growth can also invade surrounding tissues and may even spread to other parts of the body.

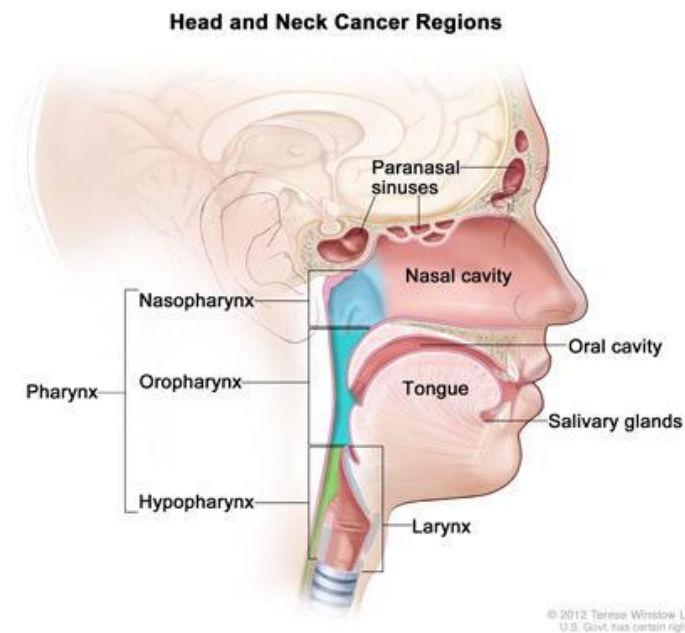


Fig 1. Anatomy of the Head and Neck (National Cancer Institute)

Did you know...

## HEAD AND NECK CANCER



**>800**  
**SINGAPOREANS**

diagnosed with head and neck cancer each year

**HEAD AND NECK SQUAMOUS CELL CARCINOMA (HNSCC)**



**6TH MOST COMMON WORLDWIDE**

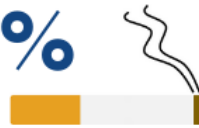
890,000 new HNSCC cases and 450,000 deaths in 2018. World Health Organisation estimates the incidence to rise by 30% by 2030<sup>2</sup>

**NASOPHARYNGEAL CANCER**

Most common type of HN cancer in Singapore and 8th most common cancer among Singaporean males<sup>1</sup>



**75%**



of head and neck cancers are caused by tobacco and alcohol use<sup>3</sup>

**50+**



Ages when head and neck cancers usually occur<sup>3</sup>



**80%**

Survival rate for head and neck cancers that are detected early<sup>3</sup>

**3X**

more prevalent in men than women<sup>3</sup>



1. Estimating the global cancer incidence and mortality in 2018: GLOBOCAN sources and methods. Ferlay J, Colombet M, Soerjomataram I, Mathers C, Parkin DM, Piñeros M, Znaor A, Bray F. Int J Cancer. 2019 Apr 15; 144(8):1941-1953.
2. Singapore Cancer Registry Report No.8, Cancer Incidence and Mortality 2003 - 2012 and Selected Cancer Trends 1973- 2012 in Singapore; 14-20.
3. <https://www.cancer.gov/types/head-and-neck/head-neck-fact-sheet>

# HOW IS HEAD & NECK CANCER DIAGNOSED?



**Your doctor will study your medical history, perform a thorough medical examination and order several tests such as:**

## **Endoscopy**

An endoscope is a thin flexible camera tube with light that is inserted through the nostril or mouth to allow a better view of your nose, mouth or throat. This allows the doctor to check for any abnormalities such as bleeding or growth.

## **Biopsy**

A sample of the affected tissue is removed for further examination under the microscope. This may be done under local or general anaesthesia.



## **Computer Tomography (CT) Scan**

This scan produces a 3-dimensional image of the body. This scan allows the area with the cancer to be visualised in order to determine if it has spread to nearby structures or other parts of the body.



## **Magnetic Resonance Imaging (MRI) Scan**

This scan uses magnetic fields instead of X-rays to detect the cancer and any spread to the lymph nodes. It may be a little noisy. If you have a pacemaker, stent or other metallic objects in your body, please inform your doctor.

### **Bone scan**

A bone scan uses low level radioactive substance that is injected into the body to detect cancerous spread to the bones. Most of the radioactive material will leave the body within a few hours and it is safe to go home after the procedure.



### **Positron Emission Tomography (PET-CT) scan**

The PET scan uses a small amount of injected radioactive glucose which will show up in areas of the body with active cells such as a cancerous growth. When combined with a CT scan, doctors will be able to accurately assess the cancer and its extent of spread.



### **Blood tests**

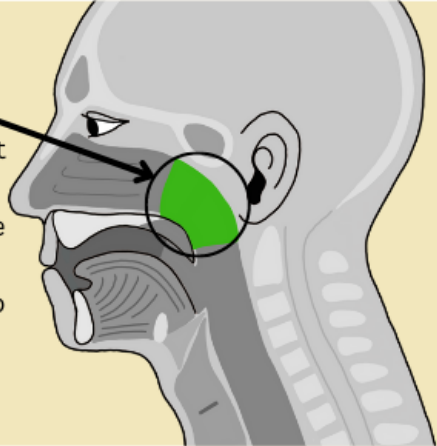
Generally, blood tests are done to check your blood counts, liver and kidney functions. Sometimes, they are used to detect other markers related to your diagnosis.



# More about NASOPHARYNGEAL CANCER

## NASOPHARYNX

- Air cavity in the upper part of the throat (pharynx) that lies behind the nose
- Lies above the soft part of the roof of the mouth and below the base of the skull
- There is an opening on each side that leads to the ears



## CAUSES



- Linked to **Epstein-Barr Virus (EBV)**
- EBV infection is common
- Certain inherited characteristics and dietary habits may be linked
- Smoking
- High intake of salted fish

## SIGNS & SYMPTOMS



- Persistent blood-stained saliva
- Painless neck lump
- Nose discharge or bleeding
- Persistent nasal blockage
- Decreased hearing or ringing in ears
- Double vision
- Headache

## TREATMENT

In general, NPCs are treated with **radiation therapy with or without chemotherapy.**



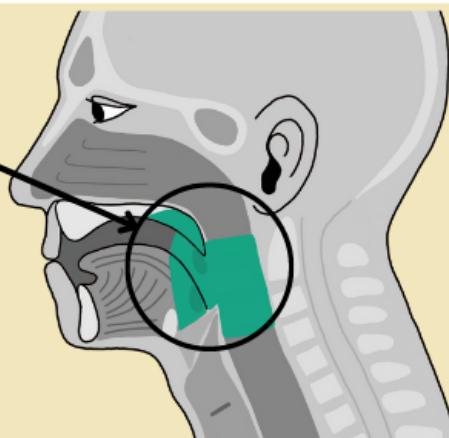
## PROGNOSIS

Early stage NPCs are generally treatable with a high cure rate. Over 90% of patients with Stage I live cancer-free 5 years after diagnosis.

# More about OROPHARYNGEAL CANCER

## OROPHARYNX

Your oropharynx is the middle part of your throat just beyond your mouth. Your oropharynx makes saliva, keeps your mouth and throat moist and transfers food from the mouth to be digested.



## CAUSES



- Human papillomavirus (HPV) infection
- Smoking
- High consumption of alcohol

## SIGNS & SYMPTOMS

- Persistent sore throat
- Pain or difficulty chewing or swallowing
- Trouble opening mouth fully or moving tongue
- Unexplained weight loss
- Persistent voice change
- Lingering ear pain
- Lump at the back of throat, mouth or neck
- Coughing out blood
- Persistent white patches on tongue and lining of mouth

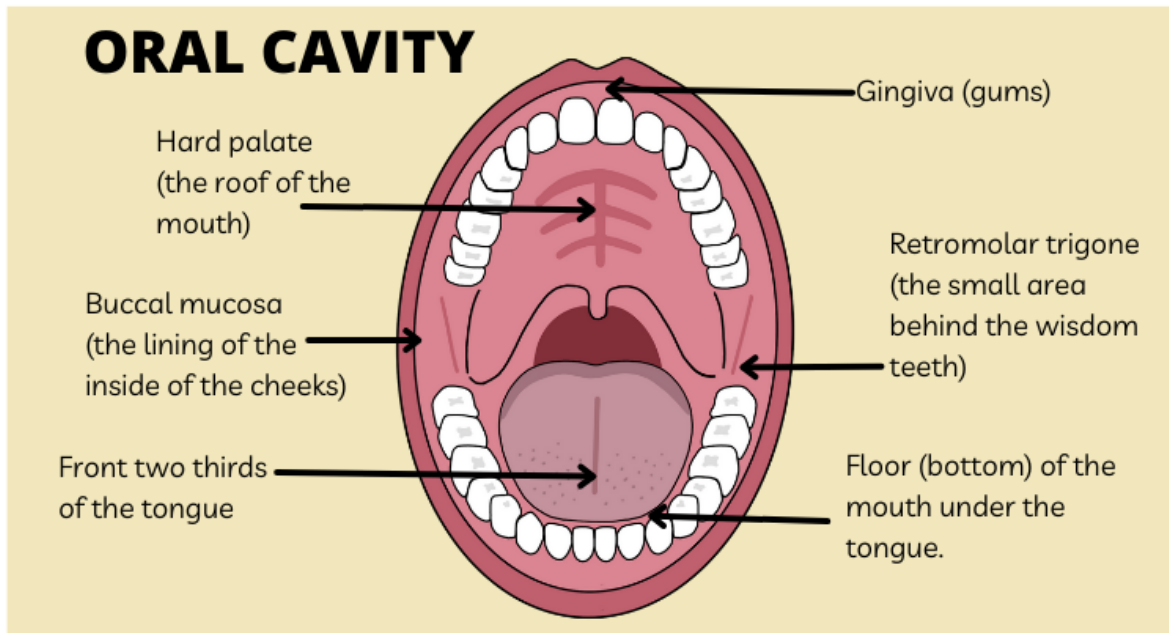
## TREATMENT

In general, **radiation with or without chemotherapy** is the treatment of choice for cancers of the oropharynx.


**Surgery may be an option** for very small tumours or relapses.



# More about ORAL CAVITY CANCER



## CAUSES

- Smoking 
- High consumption of alcohol
- High intake of betel nuts
- Chronic irritation (ill-fitting dentures)



## SIGNS & SYMPTOMS

- A persistent ulcer on the lip or in the mouth
- A white or red patch in the mouth
- Bleeding or pain on the lip or in the mouth
- Loose teeth or dentures that no longer fit well
- Trouble chewing or swallowing
- Stiff jaw
- Sore throat

## TREATMENT

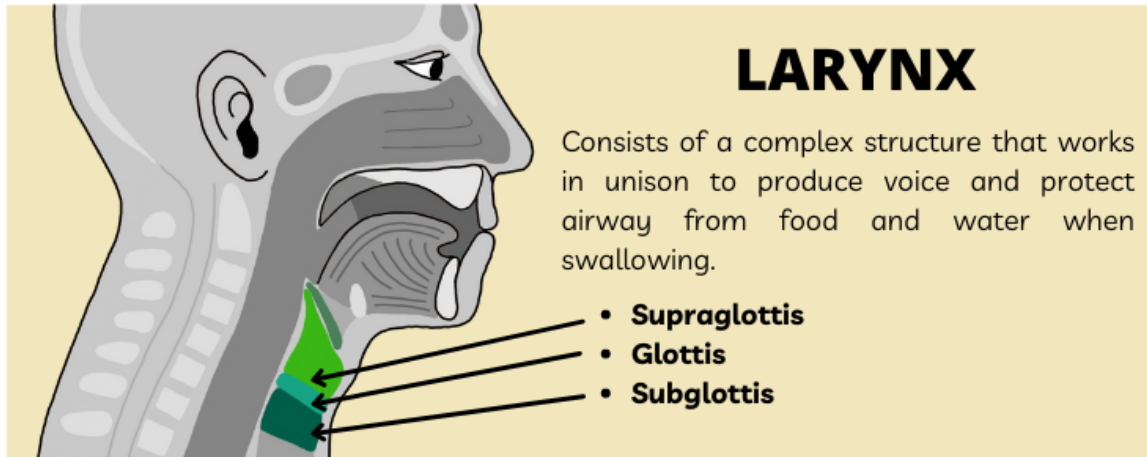
In general, **surgery** is the first treatment for cancers of the oral cavity. **Additional radiation with or without chemotherapy may be needed** to improve cure rates.





# More about

## LARYNGEAL CANCER



### CAUSES

- Smoking
- High consumption of alcohol



### SIGNS & SYMPTOMS

- Change or hoarseness in the voice
- A persistent sore throat or cough
- Difficulty or pain when swallowing
- A lump in the neck or throat



### TREATMENT



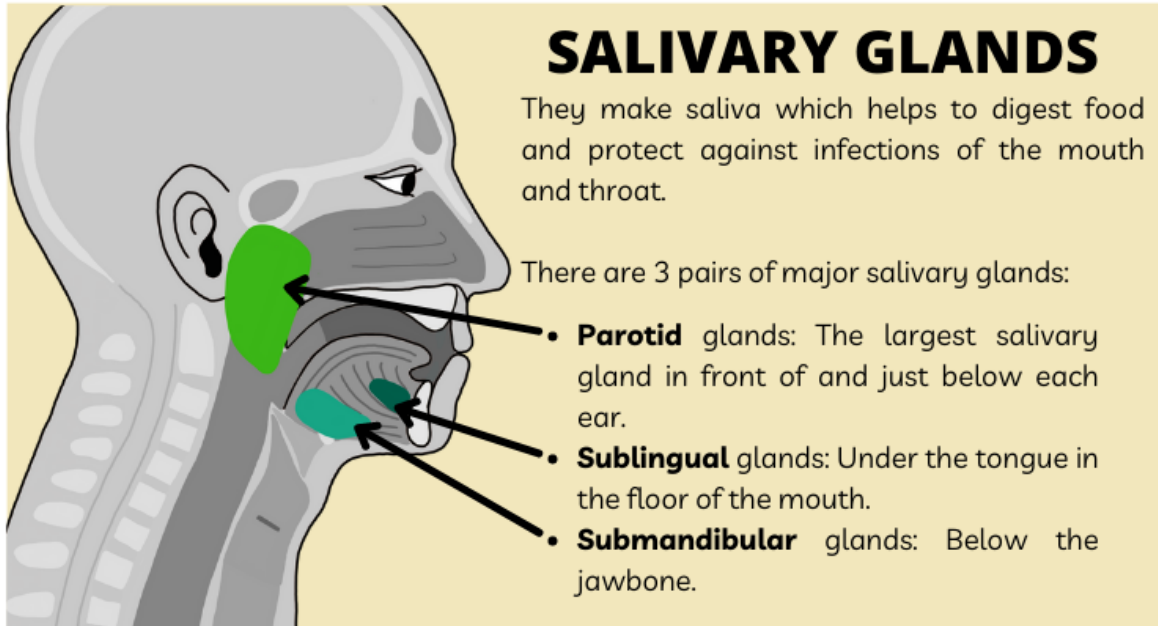
The treatment for laryngeal cancer largely **depends on the stage and function** of the larynx at diagnosis.

In general, **radiotherapy with or without chemotherapy** is used to try to preserve voice box function. However, for **advanced disease, surgery followed by adjuvant treatment** may be needed to give the best chance of cure.





# More about SALIVARY GLAND CANCER



## CAUSES

- Old age
- Radiation exposure



## SIGNS & SYMPTOMS

- A lump (usually painless) in the the ear or face
- Stiff jaw
- Numbness or weakness in the face

## TREATMENT

Treatment is dependent on your histology. In general, **surgery** is the primary treatment option for salivary gland cancer, followed by **additional radiotherapy** in some cases to improve cure rates.



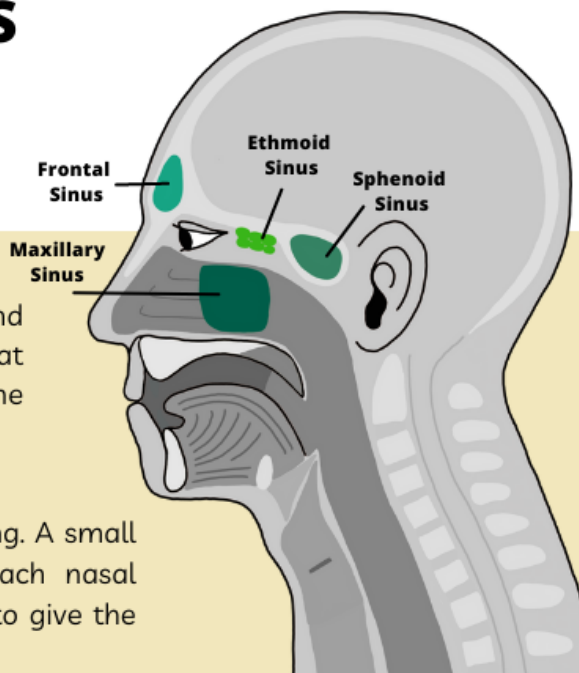
# More about PARANASAL SINUS & NASAL CAVITY CANCER

## PARANASAL SINUS

Hollow, air-filled spaces in the bones around the nose. They are lined with cells that make mucous, which keeps the inside of the nose from drying out.

## NASAL CAVITY

Where air moves through during breathing. A small area of special cells in the roof of each nasal passage that sends signals to the brain to give the sense of smell.



## CAUSES

- Being exposed to certain workplace chemicals or dust, such as sawmill work and carpentry
- 40 years old and older, generally male
- Smoking



## SIGNS & SYMPTOMS

- Persistent blocked sinuses
- Nose bleeds
- Numbness or tingling sensation of the face
- Swelling of the eyes or double vision
- Pressure in the ear



## TREATMENT

Treatment options for paranasal sinuses and nasal cavity cancer include **surgery with or without radiation, and/or concurrent chemotherapy.**

# *What is Radiation Therapy?*

Radiation Therapy uses high-energy X-rays generated by a machine called Linear Accelerator to treat cancer. It works by damaging the cancer cells, making it hard for them to reproduce.

Intensity Modulated Radiation Therapy (IMRT) is an advanced technique that allows radiation to be concentrated to the tumours while sparing doses to surrounding normal tissues. It does so by delivering radiation of varying strengths from different angles.

As the radiation beam passes through your body, it affects both cancer and normal cells. While cancer cells die after radiation, normal cells are able to repair and survive after a period of time. This is why side effects occur gradually after the course of your radiation.



**Fig 2. Linear Accelerator**

# YOUR RADIATION TEAM



## **RADIATION ONCOLOGISTS**

They are doctors in charge of radiotherapy treatment. They have overall responsibility for the management of each treatment, including planning, follow up and clinical care.



## **RADIATION ONCOLOGY NURSES**

They are trained to provide radiotherapy-related care. They provide support and care for patients and their caregivers throughout the course of treatment.



## **RADIATION THERAPISTS**

They are professionals trained in the actual delivery of radiotherapy. They also inform, orientate, and educate the patients.



## **MEDICAL PHYSICISTS**

They ensure that complex treatments are properly tailored for each patient. They also perform quality control programmes for each treatment plan.



## **DOSIMETRISTS**

They calculate the dose of radiation and ensure that the tumour is targeted accurately. They develop treatment plans that are customised for each patient.



## **DENTISTS**

They will check your teeth before and after your radiation treatment as radiotherapy will affect gum healing.



### **DIETITIANS**

They calculate the required calorie intake for you and advise on the appropriate calorie and protein requirements during the treatment.



### **SPEECH THERAPISTS**

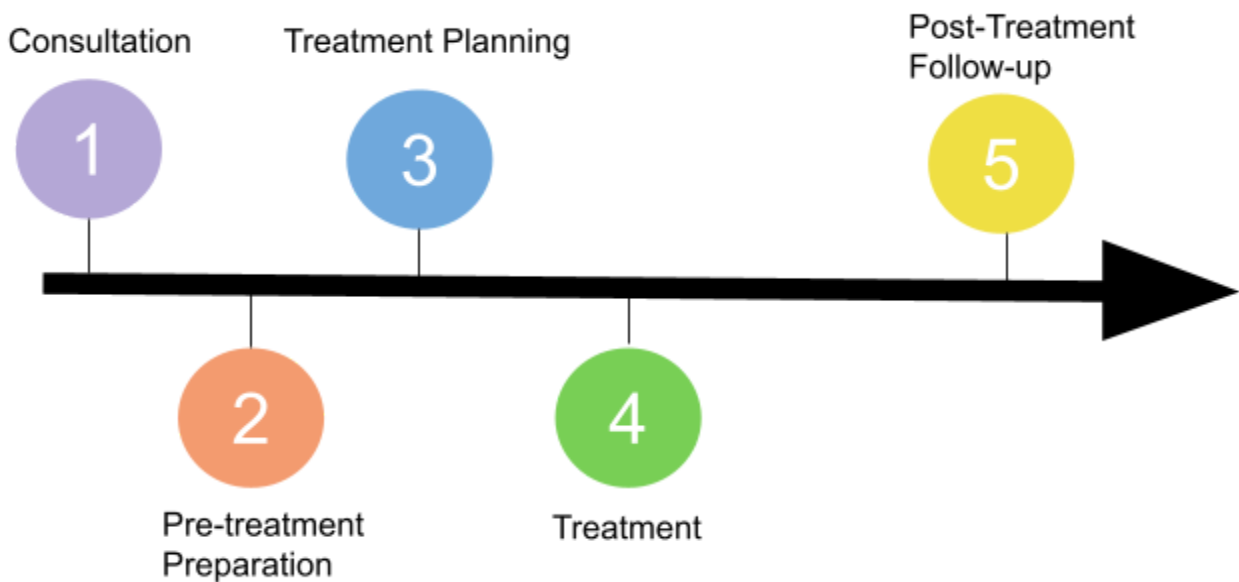
They will assess your speech and jaw movement and check how well you can swallow. They will teach you exercises to keep your jaw and swallowing muscles strong.



### **ANCILLARY STAFF**

They assist in the coordination of patient care and general administration (i.e. appointment booking, financial counselling).

# Radiation Treatment Journey



## 1 CONSULTATION

Your Radiation Oncologist will discuss the details of your treatment, risks and benefits of radiotherapy, and potential side effects. Your doctor will also answer any questions that you may have.

Once you understand and are agreeable for treatment, you will need to sign a **consent form**. Radiotherapy booking, which comprises a series of appointments, will then be made. The first will be shell making and CT Simulation.

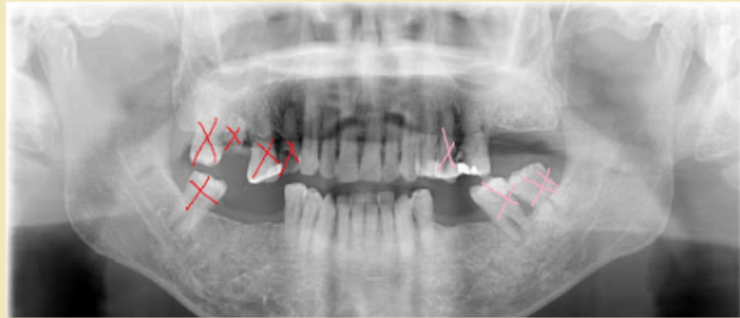
## 2

## PRETREATMENT PREPARATIONS



### Dental examination

Radiation therapy to the head and neck can increase your risk of dental caries or tooth decay. Before starting radiation therapy, the dentist will check for tooth decay, gum disease, abscessed teeth, retained root tips and other conditions that may cause problems during or after radiation therapy.





## Shell making

During this procedure, you will need to:

- Remove accessories (dentures, earrings, necklaces etc.)
- Remove your top (ladies are advised to wear a tube bra/spaghetti strap top)
- Lie on your back, with your arms by your side
- Remain calm and still, and breathe normally
- Let the therapists get the best position for you
- Tell the therapists if you feel uncomfortable in the position



A customised shell is used to help you stay still during treatment. The shell is a special perforated plastic that is moulded to your head and neck region. It will feel slightly tight and warm. However, the whole process is painless. The shell takes about **20 minutes** to cool down and retain the shape of your body.

A customised headrest is occasionally needed. You will feel a warm sensation on your back, but it will not hurt you. This will take about **20 minutes**.



Some patients may worry about the procedure, especially if you have **claustrophobia**. Please talk to your doctor or radiation therapists so that we can help.





## CT Simulation

The CT simulation scan is done with your **shell on** and you will be in this same position for your treatment. This procedure usually lasts for **30 minutes**.

**Contrast** may be injected to visualise the treatment area better. If contrast is needed, you will need to **refrain from eating and drinking for 4 hours** before the procedure. However, small sips of water are still allowed.

After the scan, **small permanent skin markings** will be made on your skin for alignment purposes.

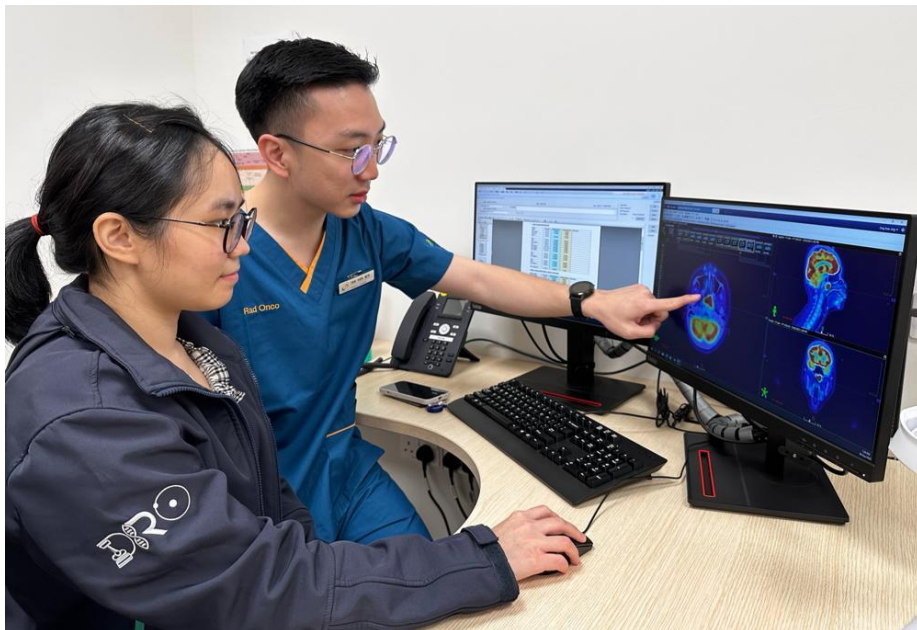


**Avoid cutting or shaving your hair after CT Simulation.** This helps to ensure that the mask fits well for the duration of your treatment.

# 3

## TREATMENT PLANNING

During the time between your simulation and the start of your treatment, your radiation oncologist will work with dosimetrists and medical physicists to plan your treatment. They will use the scan to plan your radiation treatment and determine the radiation dose while sparing the critical organs nearby. These details will be carefully planned and checked to ensure that your treatment is delivered safely. The process takes between 1 to 2 weeks.



# 4

## TREATMENT

Radiotherapy is usually an outpatient treatment that is given once a day (Monday to Friday, excluding public holidays). Please allocate 1 hour for your radiotherapy appointments.

There will be regular routine reviews with your radiation oncologist to monitor your progress and to manage any side effects.

Before your first treatment session, you will be briefed on your treatment, expected side effects and how to manage them.



- PRE-TREATMENT IMAGING AND TREATMENT

### POSITIONING

In the treatment room, you will be asked to remove your top, jewellery and/or dentures.

At the start of each session, the therapists will position you in the exact same position determined during the CT-simulation. The shell will then be placed on you. When your position is satisfactory, the therapists will leave the room.

### X-RAY IMAGING

X-rays will be taken regularly in the treatment room to monitor your position and treatment area.

### TREATMENT

- The machine will turn around you and give off a beeping sound.
- You will not feel anything and the **whole process is painless.**
- An **oximeter** will be attached to your finger to monitor your oxygen level and heart rate closely.
- You will be monitored by the therapists through a CCTV. If you require help, **wave your hand** to seek their attention.



- SPEECH THERAPY AND DIETITIAN

### Speech Therapy

Radiotherapy for head and neck cancers may cause **scarring and stiffening of the muscles in the mouth and throat**. This can cause both short and long-term difficulties with swallowing, also known as **dysphagia**. Dysphagia makes it difficult to eat and drink and you may be at risk of food, fluids or saliva 'going down the wrong way'.

**Swallowing exercises** can help minimise such effects. Our **Speech Therapists** will help you to understand these changes and guide you through the exercises. After radiotherapy, they will continue working with you to support your communication needs and rehabilitate your swallowing function.



Scan this QR code to learn about exercises you can do before the start of your radiotherapy journey.








## Dietitian



**Weight loss** is highly prevalent in patients with head and neck cancers. This is due to the tumour and side effects from treatment that directly affect food intake. Malnutrition is associated with an increased risk for infections, lower response to treatment and poorer quality of life. Our dietitian will help you optimise your nutritional status and minimise your risk of malnutrition-related complications.

They will advise you on the most appropriate dietary interventions for you throughout your treatment. These include:

-  **Food fortification:** Adding extra calories and protein into your food and drinks to help prevent weight loss
-  **Changes to meal patterns**
-  **Texture modification:** Altering the consistency of food so that they are easier to swallow eg. soft, puree or liquid diets.
-  **Oral Nutritional supplements:** Prescribing milk or juice-based drinks to supplement food intake.
-  **Tube feeding**

## *Treatment Side Effects*

Radiation treatment may be associated with two categories of side effects. **Early side effects** can happen during treatment or a few weeks after completion of treatment. **Late side effects** may only develop months to years after completion of radiotherapy.

Note: Side effects from radiotherapy are **localised**, affecting areas that are exposed to radiation only. Every individual is unique and you may not have the same side effects as another patient who is also receiving radiotherapy. Not all the side effects listed below are applicable to you. Your doctor will discuss with you in greater detail the side effects that may occur from your treatment.

# EARLY SIDE EFFECTS OF RADIOTHERAPY



## Fatigue



### MANAGEMENT

- Get enough rest
- Ask family and friends to help with meals and other daily tasks
- Do low intensity exercises (e.g. walking)
- Avoid vigorous exercises

## Skin Changes

- May be dry and itchy from Week 2
- Turns red, with dark pigmentation over time

### MANAGEMENT

- Moisturise with **non-alcohol-based moisturiser** twice a day, on face and neck. However, please **do not apply moisturisers 4 hours before your treatment.**
- Avoid scratching and using soap on the treatment area
- Avoid using your regular scented lotions, powders, makeup or perfume on the treatment area
- Use electric shaver instead of manual razors
- Avoid direct sun exposure



## Hair Loss



- Only affect areas in the treatment field
- Usually at the lower part and sides of head, beard and moustache
- Will grow back after the completion of treatment



# EARLY SIDE EFFECTS OF RADIOTHERAPY

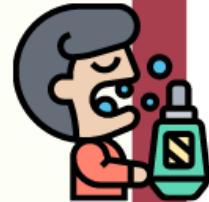
## Dry Mouth



Radiotherapy can affect the salivary glands so you may notice that you have lesser saliva than usual. Your mouth and throat may feel dry and this may cause difficulty in eating and speaking.

### MANAGEMENT

- Drink sips of water throughout the day. Aim for at least 1.8-2L or 8 cups of water daily unless otherwise advised by your doctor.
- Avoid alcohol and caffeinated drinks
- Avoid smoking
- Avoid sleeping in air-conditioned rooms
- Sleeping with a humidifier can help
- Use alcohol-free gargle/gel
- Apply lip balm to protect your lips



Scan here to learn more about exercises to reduce dry mouth

## Sticky Saliva

Your saliva may become thicker and stickier, like mucus. The mucus build-up can irritate the throat and cause you to cough.

### MANAGEMENT

- Gargle solution for sticky saliva: 1 cup water mixed with 1 teaspoon of sodium bicarbonate + some salt



# EARLY SIDE EFFECTS OF RADIOTHERAPY



## Fungal Infection

Decreased saliva increases the chances of fungal growth which may lead to white patches in the mouth known as oral thrush.

### MANAGEMENT

- Maintain good oral hygiene. Use a soft bristled toothbrush. Attend your regular dental appointments.
- Follow instructions of the medication prescribed by your doctor for oral thrush



## Change in Taste

Food will taste differently during radiotherapy as your taste buds are affected by the treatment. However, your sense of taste will improve and return to normal a few months after the completion of your radiotherapy treatment.

# EARLY SIDE EFFECTS OF RADIOTHERAPY



**Sores in  
Mouth  
& Throat**

**Difficulty  
or Pain in  
Swallowing**



Soreness of the mouth and throat may set in, causing difficulties in eating and drinking. However, it is still important to ensure adequate nutrition intake.

## MANAGEMENT

- Avoid alcoholic beverages and smoking
- Use alcohol-free mouthwashes
- Drink with a straw to avoid sore spots
- Use salt water to gargle
- Use the ulcer cream as prescribed by your doctor
- Take painkillers to ease discomfort or pain that may arise



- Choose soft or liquid-based foods such as:
  - Soups, stew, noodles, porridge, oatmeal, smoothies, yogurt
  - Add gravy or sauces, blend or cut your food into small pieces
- Eat high protein foods like:
  - Eggs, fish, minced meat, beans
- Drink nutritional milk



- Avoid foods that are:
  - Hard/dry—biscuits, cereals
  - Spicy—chilli, pepper
  - Acidic—orange, pineapple



- If you have trouble opening and closing your mouth, your speech therapists can teach you some jaw exercises that may help.

# EARLY SIDE EFFECTS OF

## RADIOTHERAPY

### Nausea

#### MANAGEMENT

- Inform your doctor; they will prescribe medication
- Avoid foods that may upset your stomach:
  - Hot food with strong odours
  - Spicy and oily food
  - Acidic or citrus food
  - Juices
  - Alcohol
- Consume food that are less likely to upset your stomach:
  - Food at room temperature
  - Soft fruits and vegetable
  - Cool, chilled or clear liquids
  - Yoghurt
- Have a balanced diet that is high in protein and calories.



# LATE SIDE EFFECTS OF RADIOTHERAPY

## Dry Mouth

Dry mouth may take months after the end of radiotherapy treatment to recover.

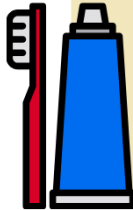
Continue to stay hydrated and use your recommended alcohol-free gargle/gel.



## Dental Problems

Dry mouth means there is less saliva to protect your teeth which can cause complications

- Practice **good oral hygiene** (daily brushing and flossing)
- **See your dentist** regularly
- Avoid extracting your teeth immediately after radiotherapy. Please discuss with your dentist and radiation oncologist first.



## Skin Changes

Some patients develop permanent skin changes such as uneven skin colour or patches of small blood vessels near the surface of the skin. These changes are not painful and is not a sign that they may be harmful.

## Jaw/ Neck Stiffness

Radiotherapy causes:

- tightening of jaw and neck region
- difficulties when opening your mouth wide
- stiffness of the neck
- difficulties in swallowing

Do follow up with your **Speech Therapist!**



# LATE SIDE EFFECTS OF RADIOTHERAPY



## Hormone imbalance

Radiotherapy to the neck may cause:

- lower levels of some hormones → you may feel more tired or be prone to feeling cold

Do follow up with your doctor! Blood tests may be needed and it can be treated with replacement hormone treatment.

## Cataract



Radiation close to the eyes may lead to cataracts. Every effort is made to avoid radiation to your eyes but this is sometimes unavoidable. However, it is easily correctable with a surgery to replace the lens.

## Hearing changes



Treatment near the ear structures and chemotherapy may cause:

- hearing problems
- ear discharge which may last up to a few weeks

An ENT (ear, nose and throat) specialist will advise you on how to manage these symptoms.

## Nerve injury

Nerve injury is an extremely rare complication. Some patients may already have nerve injuries due to the cancer that had damaged the nearby nerve structures. Your doctor will discuss this in greater detail if it is relevant to you.





# DIET & NUTRITION

## INCREASE PROTEIN & CALORIE INTAKE

**It is important to eat enough protein and calories during your cancer treatment to maintain your weight and nutrition to aid recovery. Remember that these are general tips. Everyone is different so it is important to find out what works best for you and work closely with your dietitian!**

Some food for you to consider:

<p>High in <b>Protein</b></p>	<p>Poultry, meat, eggs, beans, and dairy products</p> 
<p>High in <b>Calorie</b></p> 	<p>Avocado, olive or canola oil and whole fat dairy products.</p> <p>Choose beverages high in calories such as smoothies, fruit juices, and liquid nutritional supplements.</p>

**Can I drink the milk supplements that my doctor/therapists recommend if I am lactose intolerant?**

Most milk supplements are lactose-free. They are made up of plant-based protein and do not contain milk!



**CAN'T KEEP UP WITH YOUR CURRENT WEIGHT?**

# Nasogastric (NG) Feeding Tube

If you experience severe weight loss and malnutrition due to the loss of appetite or difficulty eating, your doctor may recommend an NG tube insertion. This is usually temporary. This special tube is inserted through the nose for the delivery of Oral Nutrition Supplements and medications into the stomach.

It is a relatively painless procedure done by nurses. The nurses will teach and guide you on how to use it on your own too.

Double tap on the video below or scan the QR code to learn more!



Video by Singapore General Hospital



# 5

## POST- TREATMENT

### What can I expect after the treatment?

Here are a few key things to remember:

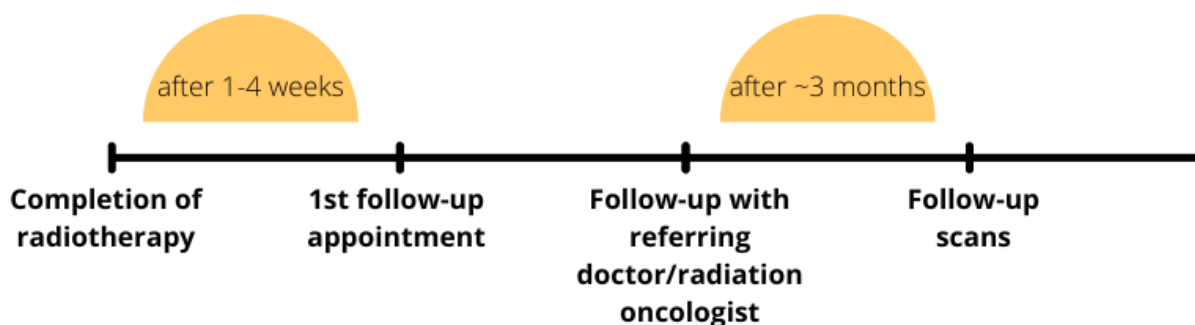
- Rest as much as possible to recover. Side effects will slowly go away weeks after completion of your treatment. Some side effects (eg. change in taste, thick saliva) may take longer to recover.
- Take special care of your oral hygiene. Have regular dental follow-ups.
- Eat a healthy, well-balanced diet
- Avoid sweet, sticky foods to reduce risk of cavities
- Avoid drinking alcohol and smoking
- If you are having difficulties swallowing, consult the speech therapist on how to resume the swallowing function.
- If you are unable to regain your weight, consult the dietitian on how to increase your food intake.

**You can walk in to NCCS Division of Radiation Oncology on weekdays (8am-5pm), A&E Department on weekends or contact our call centre at 6436 8000 if you have:**

- A temperature of 38°C or higher
- Unresolved pain and discomfort in the treated area
- Nausea or vomiting that keeps you from eating or drinking anything in the last 24 hours
- Severe shortness of breath

## How will I know if my cancer is gone?

### Your Follow-Up Care Schedule:



Upon completion of treatment, you will still be monitored closely to ensure that your side effects are recovering. You should continue to use your medications as advised by your doctor. **A scan at approximately 3 months after the end of radiotherapy** may be needed for some patients.

You will continue to have **regular follow-up appointments** alternating between your radiation oncologist at NCCS and other doctors looking after your condition.

Regular follow-ups are important to ensure recovery of your side effects and that the cancer is cured. Examinations of the mouth, neck and throat will be done and regular dental examinations may also be necessary.

From time to time, your doctor may request further blood tests, x-rays, CT, PET, or MRI scans. Your doctor may also monitor thyroid and pituitary gland functions too.

## *Frequently Asked Questions*

### **Am I allowed to shower before or after my treatment?**

Yes, you are allowed to do so. However, remember not to scrub the treatment area with soap and do not apply any moisturiser, toner or powder 4 hours before your treatment.

### **Can I still smoke and drink alcohol during radiotherapy?**

Refraining from smoking during and after radiotherapy may make the treatment more effective as you are likely to have fewer side effects from your cancer treatment.

It is advisable not to consume alcohol as it will worsen dryness of your mouth and further inflame a sore mouth or throat if you are having radiotherapy to your head or neck area. Radiotherapy can make you feel tired and alcohol can make this worse.

### **Will I become bald and is it permanent?**

Radiation therapy will only cause temporary hair loss on the area of the body that is being treated. Hair will regrow 3 to 6 months after treatment. It may be patchy, thinner or a different colour.

### **Am I allowed to cut my hair halfway through the treatment?**

It is not recommended to cut your hair after completing the CT simulation scan. This is to avoid gaps in your customised shell that may result in inaccuracies of the setup position. Please trim your hair before your shell-making procedure.

### **Can I go near my loved ones after each treatment?**

Yes. There is no lingering radiation after treatment.

**What type of food should I avoid during my treatment?**

Loss of appetite due to changes in taste buds and experiencing pain when swallowing are common side effects of head and neck radiotherapy. There are no restrictions to the type of food you can eat. However, you should avoid hot, spicy or acidic food to reduce discomfort during swallowing.

## *Supportive Care*

It is normal to have a variety of emotions such as shock, anger, sadness, and possibly even depression after a cancer diagnosis. You do not have to struggle with your illness alone. Help is available to support you and your loved ones through your cancer journey. Apart from the team of doctors and health care professionals looking after you, there is other information and support services available that you may find useful.

### **THE CANCER HELPLINE**

**6225 5655**

**CANCERHELPLINE@NCCS.COM.SG**



The Cancer Helpline is a private, confidential and anonymous one-to-one information and counselling service manned by NCCS nurse counsellors. Their aim is to help you through your cancer journey. They provide information, emotional and psychological support, counselling, and linkage to health, welfare and cancer support services available in Singapore.

The nurse counsellors do not give medical advice and treatment recommendations, but they can assist you in clarifying your doubts. They can also help to put into perspective the information you may have received from your doctors.



**PATIENT SUPPORT PROGRAMMES  
(SUPPORT GROUPS,  
PSYCHO-EDUCATIONAL TALKS,  
THERAPEUTIC GROUPWORK)  
63061777  
PATIENTSUPPORT@NCCS.COM.SG**

The Department of Psychosocial Oncology at NCCS attends to patients and their families who require emotional support, financial aid, home care, transportation. Do speak to your doctor to get a referral letter.



Scan here to find out more about our patient support programmes!



**SMOKING CESSATION PROGRAMMES**



As smoking is one of the main contributing factors of cancer, the best way to minimise the risk of developing cancer will be to stop smoking. Here are some resources for individuals who wish to embark on their smoke-free journey.

**IQuit**



**5 Quit Tips to Quit  
Smoking for Good**



# Useful Contact & Resources



**Appointment Scheduling : 6436 8088**

**General Enquiry: 6436 8000**

**Cancer Helpline: 6225 5655**

**Email: [callcentre@nccs.com.sg](mailto:callcentre@nccs.com.sg)**

## Internet Resources

**National Cancer Institute**

[www.cancer.gov/cancertopics](http://www.cancer.gov/cancertopics)

**Macmillan Cancer Support**

<https://www.macmillan.org.uk>

**American Cancer Society**

[www.cancer.org](http://www.cancer.org)

**Cancer Research UK**

[www.cancerresearchuk.org](http://www.cancerresearchuk.org)

**Cancer Council Australia**

[www.cancer.org.au](http://www.cancer.org.au)



For more information on cancer, please call the

Cancer Helpline at Tel: 6225 5655  
Or email [cancerhelpline@nccs.com.sg](mailto:cancerhelpline@nccs.com.sg)

MONDAYS - FRIDAYS : 8.30am to 5.30pm

SATURDAYS, SUNDAYS & PUBLIC HOLIDAYS: Closed (Please leave a message)

THIS IS A PUBLIC EDUCATION INITIATIVE BY:

**NATIONAL CANCER CENTRE SINGAPORE**



Division of Radiation Oncology  
National Cancer Centre Singapore  
30 Hospital Boulevard  
Singapore 168583

Tel: 64368000 Fax: 62256283  
Website: [www.nccs.com.sg](http://www.nccs.com.sg)