



Department of Radiation Oncology

## Strong Against Cancer Your Guide to Radiotherapy



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It's possible not just to survive,  
but to thrive and to live a  
healthy, wonderful life again.

# Understanding Radiation Therapy

## Fast Facts About Radiation Treatment

- Treatments are scheduled everyday (except Saturday and Sunday), usually on an outpatient basis
- Please allow 15 to 30 minutes for each treatment session although the treatment itself only takes a few minutes
- It is important to get plenty of rest and to eat a well-balanced diet during the course of radiation treatment
- Skin at the treated area may become sensitive and easily irritated
- External radiation treatment does not make you radioactive. Side effects of radiation treatment are usually temporary; they vary depending on the area of the body that is being treated



2

## What Happens When I First Visit the Radiotherapy Centre (RTC)?



On the first visit or consultation, the radiation oncologist will discuss treatment options with you. Following this, an appointment will be arranged for planning procedures in preparation for treatment. The duration between the first visit to the start of the treatment is usually about two to three weeks.

## What is the Planning Procedure?



The planning procedure involves collecting information which is necessary for the planning and delivery of the radiation treatment and consists of the Computed Tomography (CT) simulation. Each step of this procedure is carried out during separate visits before actual treatment begins.



3

# Understanding Radiation Therapy



## What is CT Simulation?

The CT simulation procedure is carried out using a machine called the CT simulator. It is very similar to a CT scan machine, with an additional function of the laser alignment system and a flat couch. The procedure involves taking X-ray images so that the radiation oncologist and radiation therapist can make precise plans of the body area that will be treated. The procedure takes slightly less than an hour. Before CT simulation, the staff may ask you to change into a gown.

During the CT simulation, the area that will be treated needs to be exposed. Special accessories may be used to help you stay in the same position while undergoing the procedure. It is important for you to remain still and breathe normally while lying on the CT couch during the procedure. This will ensure accuracy for the planning and for the actual radiation treatment. The radiation therapists will take some measurements and X-ray images while you are in position. They will make small tattoos on your skin. These marks enable the radiation therapists to position you correctly for treatment, in relation to the laser alignment system in the treatment room. It also ensures accurate positioning each time radiation treatment is administered.

The CT simulation procedure may also involve a type of dye or contrast that is administered through your vein before the scan is carried out. The contrast will highlight the structures within your body. Do inform the medical staff if you have a history of asthma, diabetes, drug or non-drug allergies or if you have an implanted cardiac pacemaker.



# Understanding Radiation Therapy



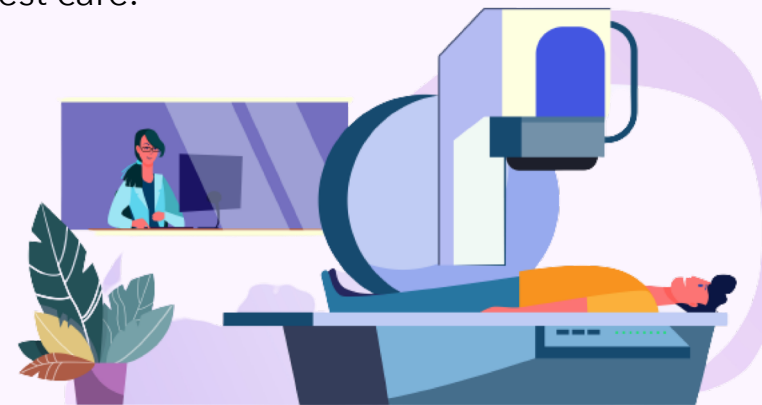
## After CT Simulation

Two to three weeks after the CT simulation, an appointment for regular radiation treatments will be arranged. The radiation oncologists and therapists will use the information collected from the CT simulation to design an individualised radiation treatment plan.



## What is Radiation Therapy?

Radiation therapy is the use of precisely calculated doses of high-energy X-rays to treat part(s) of the body where there is disease. It is generally pain-free. One course of radiation treatment can involve single or multiple sessions depending on the radiation oncologist's instruction. Most patients receive their treatment as an outpatient at the Radiotherapy Centre. Treatment will include initial and follow-up consultations, to ensure that our patients receive the best care.





# Treatment Process

## Who are the People Involved in Your Radiation Treatment?



### Radiation Oncologists

They are doctors who specialise in using radiation to treat cancer/diseases.



### Radiation Therapists

They will guide the patient during treatment by positioning the patient and operating the equipment that delivers the radiation. They are also involved in designing individualised treatment plans for the patient.



### Medical Physicists

They ensure that the equipment delivers the right doses of radiation and functions accurately.



### Nurses

They coordinate cancer care and counsel patients and their family on how to manage side effects. They also address concerns about radiation therapy.



## What is the Treatment Process?

Treatment is generally pain-free and each session takes about 15 to 30 minutes. Treatment is usually scheduled from Monday to Friday unless specially instructed by the radiation oncologists.

At the start of the session, the radiation therapist will explain what to expect in the treatment room. You will be given a gown to change into, if needed.



# What is the Treatment Process?

In the treatment room, there is a treatment machine called the Linear Accelerator. The radiation therapists will position you on the treatment couch according to the measurements and the small tattoo marks drawn on your skin during the previous CT simulation session.

Once you are in position, actual treatment will begin. When treatment starts, the radiation therapists will exit the treatment room to the adjoining console room. They will monitor you closely through a camera and communicate with you via an intercom (communication device).

The treatment machine may rotate around the couch as it positions itself to deliver the treatment. It will emit a beeping sound when it is turned on. The X-ray beams from the Linear Accelerator will be invisible.



It is important for you to lie still and breathe normally throughout the treatment procedure. This will ensure accuracy of the treatment.



However, if you feel uncomfortable at any point, you can raise your arm to alert the radiation therapists. They will stop the treatment immediately and render assistance.



The machine will stop beeping when the treatment is complete. The radiation therapists will re-enter the room and help you down from the treatment couch.

# Side Effects



## Will I Experience Any Side Effects?

Depending on which part of the body is treated, side effects may vary from person to person. Most side effects are temporary and are a normal part of the treatment process.

During the course of treatment, you can discuss any concerns you have with your team of radiation oncologists, radiation therapists and nurses. You and your family members can also refer to our informational leaflets or brochures that describe possible side effects associated with the area that is treated.



12



## What If I Am Taking Other Medications?

You need to inform our radiation oncologist or nurses if you are taking any prescriptions or over-the-counter medications and other supplements. The radiation oncologist will review all current medications. Family doctors can continue to prescribe medication to you for conditions other than cancer.



13

# Things to Do During Treatment



Eat a well-balanced diet daily.



Eat sufficiently to maintain your weight before and after treatment. Your body needs more calories during treatment so you may need to eat more than usual. A dietician can help you set up a nutritional food plan.



Drink at least eight cups of fluids every day. Fluids can come from water, gelatin, ice cream, fruit juice, iced tea, soup or milk.



Drink fluids that are high in calories, such as shakes or nutritional supplements. You can approach our staff for further information about these supplements.



If you have had radiation therapy to the mouth, you must inform your dentist each time you go for a dental check-up.



Get plenty of rest. You can resume your regular activities as long as you have adequate rest and do not overexert yourself. Your radiation oncologist can advise how much exercise you should get.



Sleep at least eight hours daily and take naps during the day if you need to. Fatigue is a common side effect, which will ease or subside when your course of treatment is completed.



The effects of radiation therapy may continue for a few weeks after your last treatment session and will take some time to subside. Remember to be very gentle with your skin.



Take special care of your skin, as it may get dry or sensitive due to treatment. A gentle moisturising cream like Aloe Vera or Vitamin E cream can be used. The skin that is exposed to treatment will be sensitive to the sun. You will need additional sun protection on and around the treatment area. Please consult your radiation oncologist before using these creams.



# Patient Support Resources



## What Happens After Radiation Treatment?

When the course of treatment is completed, the radiation oncologist will schedule post-treatment reviews for you to monitor the response of the tumour, side effects and your general health.



## Patient Education Programmes

Being diagnosed with cancer can be an emotional journey for both yourself and your loved ones. Your participation in patient education programmes can be useful in helping you cope and manage your condition.

Speak to your cancer care team to find out more about the various patient education programmes available.



## Journeying with Cancer

A series of talks on living with cancer, nutrition, side effects of chemotherapy and more.



## Look Good Feel Better

Teaches women undergoing cancer treatment about overcoming treatment-related side effects, looking good and managing their recover with greater confidence and self-esteem.



## ARTiculate

A programme which allows for the creative expression of feelings to cope with your illness through artwork.

Besides patient education programmes, there are also patient support groups available. These groups allow patients to provide support for each other by sharing their experiences through gatherings and various activities.



## Patient Support Groups



**Breast Cancer**  
Tel: 6357 3755



**Colon Cancer**  
Tel: 6357 8366



**Lymphoma,  
Myeloma &  
Leukaemia**  
Tel: 6357 6676



**Prostate Cancer**  
Tel: 9726 1802

Our Medical Social Workers can direct you to an appropriate support group. If you require support from our Medical Social Workers, please inform your doctor.



## Online Resources

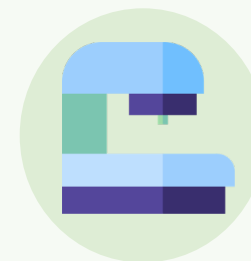


**Website:**  
[www.singaporecancersociety.org.sg](http://www.singaporecancersociety.org.sg)  
Tel: 1800 727 3333

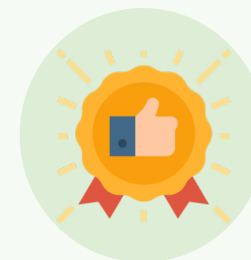
Learn more about the assistance schemes and services available - Connect to an SCS representative for telesupport by scanning the QR code.



For more details, visit  
[www.ncis.com.sg](http://www.ncis.com.sg) or  
scan the QR code



Established in 2002, the National University Cancer Institute, Singapore (NCIS) at TTSH RTC has state-of-the-art facilities and an internationally recognised team of radiation oncologists, radiation therapists, physicists, nurses and healthcare professionals.



Dedicated to providing holistic and specialised care, the team is committed to do their utmost best to deliver care for the prevention, management and cure of cancer.



# About NCIS@TTSH RTC



The radiation oncology team at the RTC is available to discuss your treatment plans, assist you and your family members with the management of side effects and take you through the stages of planning, treatment and post-treatment.



The team constantly monitors and ensures that the equipment is functioning accurately for a patient's treatment. This ensures that radiation treatment is delivered precisely and safely.



You are encouraged to approach the team for recommendations of suitable resources such as cancer support groups and counselling.



Joint Oncology Innovations Taskforce (JOINT)

Tan Tock Seng Hospital

Contact:

6357 7000 (Central Hotline)



Scan the QR code  
above to access  
**TTS Health Library**



Scan the QR code  
above to access the  
**softcopy of this booklet**

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feedback regarding what you have just read at  
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