



**SUNWAY**  
CANCER CENTRE

**SUNWAY**  
**MEDICAL CENTRE**  
Sunway City Kuala Lumpur



Cancer Treatment

# BRACHYTHERAPY





## What to expect during high dose rate (HDR) brachytherapy treatment?

### What is brachytherapy?

Brachytherapy is a type of radiotherapy treatment. It uses a radioactive source, which is placed close to a tumour. The machine that gives the treatment is called a Flexitron.

In comparison to external beam radiation therapy, which can cover a larger area or the body, brachytherapy delivers higher doses of radiation to more specific sites in the body which allows for quicker treatment times and possibly fewer side effects.

High dose rate brachytherapy allows clinical oncologists to deliver the radiation quickly during an outpatient procedure. In HDR, applicators are placed in or adjacent to the cancer tissue after which a computer driven apparatus, called a remote afterloading device, pushes the radiation source through the catheters to the tumour site. The source remains in place for a predetermined amount of time. When the desired dose has been achieved, the remote afterloading device withdraws the radioactive source.

## Who are the members of my brachytherapy team?

During your brachytherapy treatment, the following radiation therapy team members will work together to give you the best treatment possible:

- **Clinical Oncologist**

Your first step in radiation therapy will be meeting with our clinical oncologist. You and our clinical oncologist will review whether brachytherapy will help you and talk about the side effects of treatment. What you can expect during treatment are also discussed.

- **Registered Nurse (R.N.)**

Registered nurses are responsible for scheduling treatments, providing any necessary pre-medications and assisting you and your clinical oncologist, during the applicator placement and treatment.

- **Radiation Therapist**

A radiation therapist will perform a CT scan to verify applicator placement that occurs in conjunction with treatments. During treatment, the radiation therapist will administer treatment and monitor you via a closed-circuit monitor camera.

- **Medical Physicist**

Working under the direction of the clinical oncologist, the medical physicist helps to plan the best way to deliver radiation to the tumour while minimising radiation to nearby healthy tissues.

# BRACHYTHERAPY



## **What radiation safety measures are used for brachytherapy?**

Brachytherapy uses radioactive sources to deliver the prescribed dose of radiation to the tumour. HDR brachytherapy is done entirely while you are in the treatment area so there is no radiation exposure to others. You will be alone in the room when the actual radiation is given. You are, however, being continuously observed on a closed-circuit monitor by the radiation therapist and nurse in the brachytherapy suite control room. An intercom provides continuous two-way communication.

# How is brachytherapy given?

## Step 1 : Applicator Placement

- The clinical oncologist decides which type of applicator is required, based on location, tumour extent and other factors.



## Step 2 : Simulation

- After the applicator has been placed, either a CT or MRI is taken by the radiation therapist to determine the exact location of the applicator in the body and the relationship to adjacent organs.
- These images assure that the applicator and nearby organs are visualised clearly. The clinical oncologist reviews these images and makes final adjustments to the applicator if necessary.

## Step 3 : Planning

- The CT/MRI images are imported into the treatment planning computer.
- The computer does the initial calculation but it is the medical physicist who "fine tunes" or customises the radiation doses to conform to the target volume while minimising the doses to nearby normal tissues.
- After the treatment plan has been approved by the clinical oncologist, the computer transfers the treatment plan instructions to the HDR remote afterloader.



#### **Step 4 : Treatment**

- The patient is moved into the brachytherapy treatment room. The ends of the applicator are connected to "transfer" tubes which are then connected to the afterloader.
- The programmed instructions tell the afterloader where to direct the source and how long the source will stay.
- The patient is alone in the treatment room while the treatment is being given, but the therapists and nurses monitors the patient continually through an intercom and closed-circuit monitors.

- The entire treatment process takes about 30-90 minutes depending on the size and complexity of the implant and the activity of the source.
- When the treatment is completed, the radiation source is retracted back into the HDR afterloader. There is no radiation left behind in the patient.

#### **Step 5 : Applicator Removal**

- After the treatment(s) is given, the applicator is removed by the staff nurse.



## Side effects of brachytherapy



### Tiredness and fatigue

You may need to rest during the day. It is best not to fight this feeling of tiredness. Just do as much as you feel you are able to.

### Vaginal dryness, narrowing and shortening

This may happen due to scar tissue developing in your vagina. Your vagina will also become less stretchy. This may cause sexual discomfort. Your nurses will offer advice to improve this side effect.

### Diarrhoea

This treatment may cause diarrhoea. We will advise changes to your diet or give you anti-diarrhoea medicine with a doctor's prescription. We may refer you to the dietitian if necessary.

### Cystitis

Brachytherapy may irritate the lining of your bladder. This may cause you to have frequent urination or burning sensation. It is advisable to drink plenty of fluids to get rid of urination discomfort.

### Late side effects

Rarely, your radiotherapy treatment can cause side effects months or even years later. Although this is uncommon, it may cause symptoms such as:

- Diarrhoea
- Cystitis
- Bleeding from your bladder, vagina or rectum (back passage)
- If you have suffered from piles (haemorrhoids) in the past, radiotherapy can irritate or may cause it to recur.
- Possible reduction in sexual sensation

Please ask your doctor if you want any more information about this. Please remember, you should always ask your doctor for advice if you are suffering from any effects like these, even if it has been a long time since your radiotherapy treatment.

# SUNWAY MEDICAL CENTRE

Sunway City Kuala Lumpur

## The Brachytherapy Treatment Room

is located at Basement, Tower C,  
Sunway Medical Centre

## Operation Hours

Monday - Friday : 8.30am - 5.30pm

Saturday : 8.30am - 1pm

Public Holidays & Sundays: Closed

## Sunway Medical Centre Sdn Bhd

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JUNE2021 / V1

