

RADIATION

The invisible beam of hope

Dr Shivona Moodley helps us understand the necessary role of radiotherapy in the breast cancer treatment journey and why it's the invisible beam of hope.

Breast cancer is usually treated with a combination of local therapies like surgery and radiation, together with systemic therapies like chemotherapy, endocrine- and targeted therapy.

While there is a plethora of information for patients undergoing chemotherapy, information regarding radiotherapy is often limited, leaving a lot of fear and anxiety around this important and often highly necessary part of the treatment journey.

WHAT IS RADIATION?

Simply put, radiation is the use of high-energy X-rays that are produced and delivered by a treatment machine. External beam radiotherapy (EBRT) is delivered by a linear accelerator (LINAC) that directs the energy beam through the skin and into the targeted region to kill cancer cells.

IS RADIATION THERAPY PAINFUL?

Radiation therapy isn't painful. There is no burning sensation or tingling as it enters the body. It's a completely painless form of treatment that can't be seen or heard.

INDICATIONS FOR RADIATION

There are various clinical circumstances where radiation can be used:

Adjuvant radiation

Given after surgery to eradicate any microscopic tumour deposits which may remain following either breast-conserving surgery or a mastectomy.

In women with lymph node positive disease or high-risk primary tumours,

the radiation field would include the breast as well as the draining lymph nodes. The aim of adjuvant treatment is to improve locoregional disease control and prevent a recurrence.

Palliative radiation

Performed with the intention to shrink down tumours and offer some degree of local control for a period of time. Palliative radiotherapy can also improve a patient's quality of life by relieving symptoms like pain and bleeding.

Definitive radiation

When radiation is delivered with a curative intent. This is not often used in breast cancer management but can be given in non-operable patients or the elderly.

WHAT ARE THE NECESSARY STEPS TO GET STARTED?

A consultation with a radiation oncologist is required for an assessment, to determine the indication for treatment and help you to make an informed decision.

You should be counselled on the benefits versus the risk of treatment and the potential side effects that are associated with radiotherapy.

The planning process begins with having a radiotherapy planning scan which is a CT scan that is done once you are positioned correctly on a breast board. Three small permanent tattoos are placed on the skin to ensure accuracy for daily treatment setups.

The planning scan is then uploaded to the software system that is used to plan your treatment. Your oncologist will delineate the target area for treatment and a treatment plan is generated.

CT-based planning allows the oncologist to limit toxicity to surrounding organs at risk while delivering the prescribed dose to the target area.

Once the plan is approved and passes quality assurance, the plan is safe for treatment.

WHAT IS DEEP-INSPIRATION BREATH HOLD?

Deep-Inspiration Breath Hold (DIBH) is a specialised technique that is available in some units which allows your radiation oncologist and team an opportunity to limit the dose of radiation to the heart and lung.

This is especially important in left-sided breast cancers where the heart lies very close to the chest wall. When you inhale deeply, your lungs fill with air and the chest wall expands outwards. The increase in lung volume creates an air gap between the target region and heart which results in less radiation dose being delivered to the heart during treatment.

The LINAC only delivers the radiation whilst you are in breath hold (breathing in) and switches off the minute you let this breath out. If you're being treated with this technique, you'll be trained and coached on performing this technique for your planning scan and daily treatment.



STEREOTACTIC BRAIN OR BODY RADIOSURGERY

Oligometastatic disease (OMD) is often defined as the presence of 1 – 5 metastatic lesions in the presence of a controlled primary tumour. These metastatic lesions may be located in the brain, organs, lymph nodes or bones, but all metastatic sites must be safely treatable. Stereotactic radiosurgery (SRS) allows us to deliver a high dose of precisely focused radiation to a small area with the intention of ablating those tumour cells.



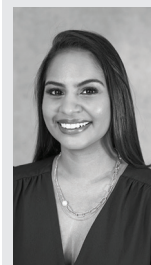
SKINCARE TIPS during radiotherapy

- Avoid direct sunlight on the treated field.
- Cover the treatment site by wearing loose clothing.
- Use a non-perfumed, mild soap to wash and gently pat your skin dry after showers or baths.
- Avoid deodorants, roll-ons or perfumes on the treated skin.
- Avoid swimming in chlorinated water as it can have a drying effect on the skin.
- Avoid shaving with a razor or use of hair removal products. Rather use an electric razor, if you're allowed to shave.



SIDE EFFECTS from breast radiotherapy

- Fatigue.
- Skin reaction which usually looks like a sunburn: redness, peeling, hyperpigmentation, hypopigmentation, blistering and spotting.
- Sore throat.
- Pain and swelling in the breast.
- Risk of lymphoedema.
- Inflammation of lung tissue or heart damage is uncommon.



MEET THE EXPERT

Dr Shivona Moodley has a special interest in head and neck and breast cancer, but treats all disease sites. Dr Moodley works at the Sandton Oncology and West Rand Oncology Centres and is part of a team of eight oncologists that consult at the DMO locations.

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