

Tomotherapy - Radixact X9

What is Tomotherapy?

Tomotherapy is a new way of treating cancer with radiation. It combines three elements into one integrated system:



Treatment planning

A customised plan for each patient.



Image-guided radiotherapy (IGRT)

A built-in CT scanner allows us to accurately locate the tumour before each radiotherapy treatment.



Intensity-modulated radiotherapy (IMRT)

A high dose of radiotherapy is given to the precise area of the tumour.

Key Features



More versatile

Patient can be treated up to 135cm, with no reposition, no field matching.



Adaptive Radiation Therapy

It utilises daily CT data to monitor the effects of anatomical changes over a patient's treatment course.



Faster

Capable of 1,000 cGy/minute operation

SUNWAY MEDICAL CENTRE

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Operation hours:
 Monday - Friday 8:30am - 5:30pm
 Saturday 8:30am - 1:00pm
 Closed on Sunday and Public Holidays

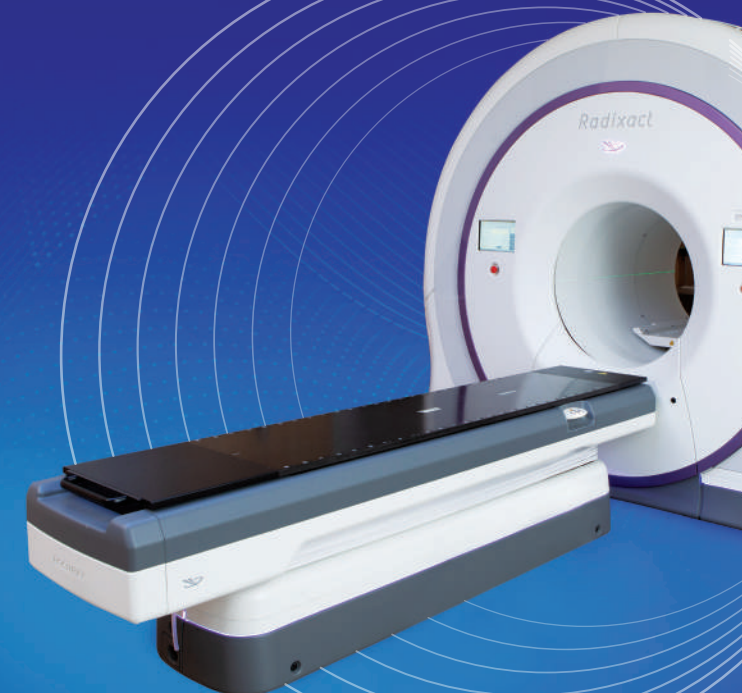
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SUNWAY MEDICAL CENTRE



RADIXACT X9 TOMOTHERAPY

Treatment for head-neck, breast and prostate cancers

SUNWAY®

Tomotherapy is both a treatment delivery machine and a CT scanner that allows experts to take a CT scan right before each cancer treatment.

With these images, clinicians can check the size, shape and location of tumours before each treatment. Then, they can compare that day's image with the one used for planning, to make sure that radiation will be directed to where it should be. More importantly, daily 3D images can also be used to analyse—and, if necessary, modify—a patient's treatment at any point during the treatment course.

Tomotherapy-Radixact X9 is an emerging modality of radiotherapy which controls and destroys malignant cells with high intensity radiation.



Behind the scenes

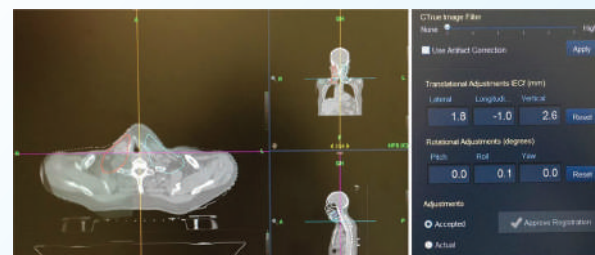
Before beginning a Tomotherapy treatment, the doctor puts together a plan using 3D images from a combination of scanning technologies (such as CT, PET and MRI) and special software to establish the precise contours for each tumour and surrounding sensitive organs or tissues.

The doctor then prescribes how much radiation the tumour should receive, as well as acceptable levels for healthy tissue nearby. Medical Physicist then uses the Tomotherapy treatment planning system to calculate the appropriate pattern, position and intensity of the radiation beams to be delivered, based on the doctor's prescribed dose.



The day of treatment

After checking in for a daily treatment, the patient will be taken to the Radixact treatment room where a radiation therapist will help them onto the Tomotherapy system's couch. The patient will lie on their back and the therapist may fit them with a special device to help them hold still during treatment.



First, the couch will move the patient through the machine once for daily 3D imaging. Based on these images, the therapist will fine tune the patient's position via small couch adjustments. Then, the couch will move the patient through the machine once again, this time more slowly, as the Tomotherapy system delivers the daily treatment.



Adaptive radiation therapy (ART) is available in case of significant shrinkage of tumour side or contours changed due to weight loss.

What you can expect

A typical course of radiation therapy involves a daily process, Monday through Friday. The number of treatments varies by case. On the average, the full daily Tomotherapy procedure takes 20 minutes from when the patient enters the treatment room until they leave.

This includes about five minutes for the daily CT to be performed and another five minutes for treatment to be delivered ("beam-on time"). The remaining time is used for patient set-up and image registration for proper positioning.

Tomotherapy treatments are completely painless. The experience is similar to having a CT scan or an X-ray taken. You may hear a clicking noise and the hum of the machine, both of which are normal sounds that the machine makes.