# **RADIATION THERAPY**

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# AGENDA

What Is Radiation Therapy?

How it works

Two sides of radiation therapy against cancer

Benefits

Side effects

Conclusion



### Radiation as Cancer treatment Radiation therapy (also called radiotherapy) is a cancer treatment that uses high dos

Radiation therapy (also called radiotherapy) is a cancer treatment that uses high doses of radiationto kill cancer cells and shrink tumors. At low doses, radiation is used in x-rays to see inside your body, as with x-rays of your teeth or broken bones.

The first type is called external (or external beam) radiation therapy and it involves the use of a machine, like a linear accelerator or LINAC, to deliver the uhigh–energy waves to the tumor. The treatment requires several number of low-dose radiation treatments scheduled over a certain period. Usually, it takes five days a week with two days off to allow for normal cell recovery.

The second type of radiation therapy is called internal radiation therapy or brachytherapy. It involves the implantation of a radioactive source into a body cavity (intracavitary) or into or near the tumor (interstitial). The radiation is contained in "seeds" that are injected into the body through catheters. It can be performed either under local or general anesthesia. The isotopes in the seeds naturally give off radiation as they die and that is the radiation that kills the cancer cells. In permanent brachytherapy, the seeds remain in the body but don't cause any harm and the radiation source is removed afterward. In temporary brachytherapy, the path through which the radiation implants are placed is not removed until after the treatment has been completed. This allows the easy, repetitive procedure to be done smoothly every time the radiation source has to be implanted. Once the treatment is over, this tube or applicator is removed.

### Benefits

How it affects on human body in positive way.

Radiation therapy is a highly targeted treatment accurately controlling the cancer wherever it might be in the body. This allows the cancer cells to be killed or reduced in number whilst protecting the majority of other organs and tissues in the body.



## Side effects

- Heart and Brain:Intense exposure to radiation from 1000 to 5000 rems will affect the functioning of the heart. Radiation kills nerve cells and small blood vessels of heart which may cause immediate death.
- 2. Hair:Loss of hair fall occurs when exposure to radiation is higher than 200 rems.
- 3. Blood system: A number of lymphocytic cells present in the blood will be reduced if a person is exposed to 100 rems. This may cause several immune problems. This is termed as mild radiation sickness. As per the reports from Nagasaki and Hiroshima, symptoms may be present more than ten years from that exposure.
- 4. Thyroid: Certain body parts are affected specifically when exposed to different types of radiation sources. The thyroid gland may be affected when exposed to radioactive iodine. If exposed to a considerable amount of radioactive iodine, whole or part of the thyroid can be affected.
- 5. Reproductive system:As the cells of the reproductive tract divide fastly, these are more prone to be affected even if the exposure is not more than 200 rems.



### Conclusion



references:

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