

What is radiation therapy?

Radiation therapy is a treatment for cancer. High-energy beams of radiation are focused on cancerous tissue. This kills cancer cells or stops cancer cells from multiplying. Radiotherapy and other treatments may aim to cure the cancer. **Radiation therapy and other treatments may aim to control the cancer**

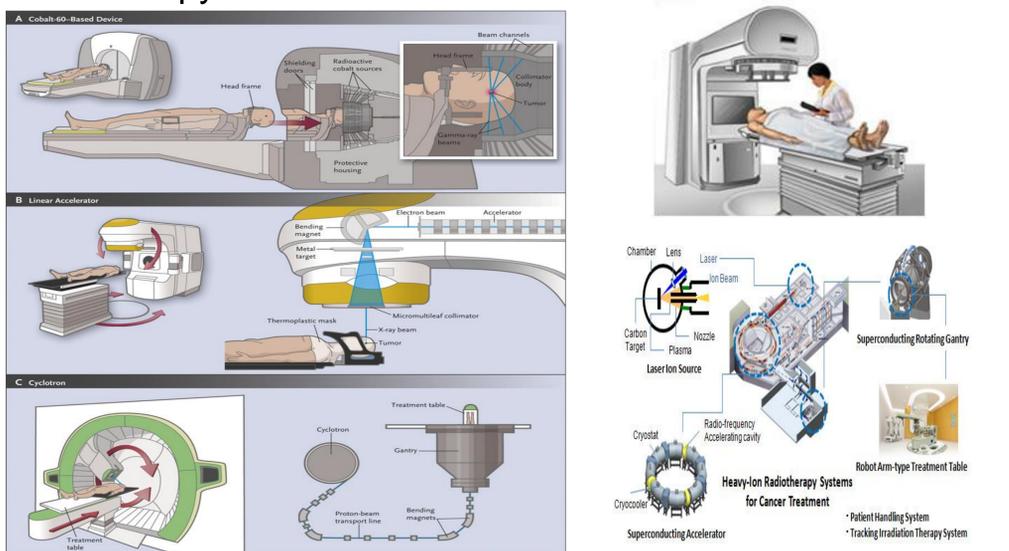
If a cure is not realistic, with treatment it is often possible to limit the growth or spread of the cancer so that it progresses less rapidly. This may keep you free of symptoms for some time.

Medical Uses

The response of a cancer to radiation is described by its radiosensitivity. Highly radiosensitive cancer cells are rapidly killed by modest doses of radiation. These include leukemia, most lymphomas and germ cell tumors. The majority of epithelial cancers are only moderately radiosensitive, and require a significantly higher dose of radiation (60-70 Gy) to achieve a radical cure.

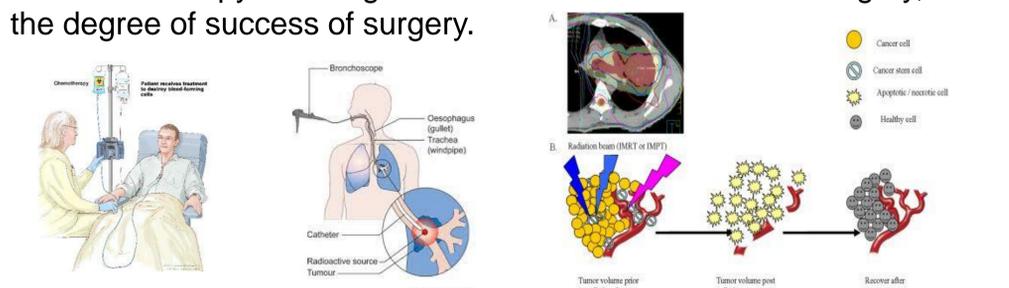
How is radiotherapy given?

The three main divisions of radiation therapy are external beam radiation therapy (EBRT or XRT) or teletherapy, brachytherapy or sealed source radiation therapy, and systemic radioisotope therapy or unsealed source radiotherapy.



How long treatment may take

Radiotherapy for primary cancer is given for several weeks, as a daily course of treatment over **five days a week (Sunday to Thursday)**. The typical dose for a solid epithelial tumor ranges from **60 to 80 Gy**, while lymphomas are treated with **20 to 40 Gy**. Preventive (adjuvant) doses are typically around **45-60 Gy** in **1.8-2 Gy** fractions (for breast, head, and neck cancers.) Many other factors are considered by radiation oncologists when selecting a dose, including whether the patient is receiving **chemotherapy**, **patient comorbidities**, whether radiation therapy is being administered before or after surgery, and the degree of success of surgery.



Who Is Qualified to Provide Radiation Therapy?

The member of staff who is directly responsible for the daily delivery of a patient's radiotherapy treatment, is called a **therapeutic radiographer** or **radiation therapist**. Their responsibilities include booking patients treatment, planning the treatment, processing and checking all the **planning and treatment data** prior to the treatment start date, inputting of all the treatment data into the treatment systems, and actually **administering** the **radiotherapy treatment** using the treatment machines. They are the patients daily source of contact, for help and advice. Other members of the radiation therapy treatment team include medical physicists, dosimetrists, radiation therapy and radiation oncology nurses.

Where Should patients be Treated?

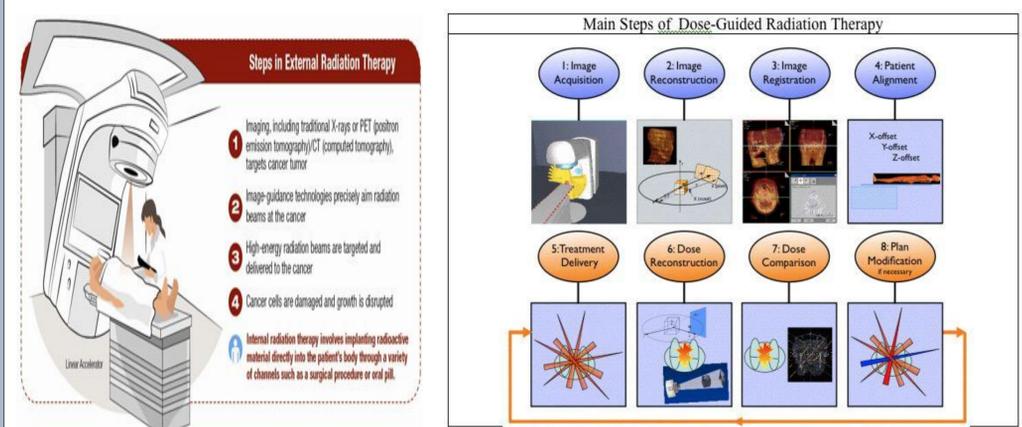
Modern radiation therapy facilities are widely available across Saudi Arabia. Not all of them offer every type of radiation treatment. Patients should choose a center that offers the most appropriate treatments for their particular conditions. Possibilities include:

- Academic medical centers located across Saudi Arabia.
- Community hospital cancer centers.
- Freestanding radiation therapy or cancer centers.

Does radiation therapy kill only cancer cells?

No, radiation therapy can also damage normal cells, leading to side effects. Doctors take potential damage to normal cells into account when planning a course of radiation therapy. The amount of radiation that normal tissue can safely receive is known for all parts of the body. Doctors use this information to help them decide where to aim radiation during treatment.

Steps of Radiation Therapy?



What is curative treatment?

Curative or radical radiotherapy treatment, is planned and delivered with the aim of curing the cancer.

What is palliative treatment?

Palliative treatment is planned and delivered with the aim to relieve symptoms, when it is not possible to achieve a cure. Lower doses over a shorter period of time are normally given, compared to that of radical/ curative treatment, to account for the patients medical condition.