

## Radiation Therapy

### What is radiation therapy?

Radiation therapy is the use of high-energy x-rays or other particles to kill cancer cells. A doctor who oversees radiation therapy for cancer is called a radiation oncologist. The goal of radiation therapy is to destroy the cancer cells and slow tumor growth without harming nearby healthy tissue. It may be used along with other cancer treatments or as the main treatment. Sometimes radiation therapy is used to relieve symptoms, called palliative radiation therapy. More than half of all people with cancer receive some type of radiation therapy.



### What are the different types of radiation therapy?

The most common type is called external-beam radiation therapy, which is radiation given from a machine located outside the body. Types of external-beam radiation therapy include proton therapy, 3-dimensional conformal radiation therapy (3D-CRT), intensity-modulated radiation therapy (IMRT), and stereotactic radiation therapy. When radiation treatment is given using implants, it is called internal radiation therapy or brachytherapy. The type you receive depends on many factors. Learn more about radiation treatment at [www.cancer.net/radiationtherapy](http://www.cancer.net/radiationtherapy).

### What should I expect during radiation therapy?

Before treatment begins, you will meet with the radiation oncologist to review your medical history and discuss the potential risks and benefits. If you choose to receive radiation therapy, you may undergo tests to plan the treatment and evaluate the results.

Your first radiation therapy session is called a simulation and does not involve an actual treatment. During this visit, the medical team will position your body and adjust the radiation beam to target the tumor, the location of which may be marked on the skin with a very small, dot-like temporary or permanent tattoo. In addition, special blocks, shields, or immobilizers may be used to position your body correctly. Once treatment begins, often a few days after the simulation, your radiation oncologist will evaluate your progress weekly and may adjust your treatment plan as needed. The best way to care for yourself during radiation therapy is to seek emotional support and help minimize side effects by planning for extra rest, avoiding sun exposure to the treated area, and using approved lotions to relieve skin problems.

### What are the side effects of radiation therapy?

The side effects of radiation therapy vary and depend on the type and location of cancer, treatment dose, and your overall health. Preventing and controlling side effects is a major focus of your health care team, so talk with them about any side effects you experience. Side effects may include fatigue, mild skin reactions, upset stomach, and loose bowel movements. These often begin during the second or third week of treatment and may last for several weeks after the final radiation treatment. Most side effects go away after treatment, although some long-term side effects may occur months or years after treatment. These include infertility (the inability to become pregnant or father a child), secondary cancers, and, for men receiving radiation therapy for prostate cancer, impotence (the inability to achieve or maintain an erection).

## Questions to ask the doctor

Regular communication is important in making informed decisions about your health care. Consider asking the following questions of your health care team:

- What is the type and stage of my cancer? What does this mean?
- Do I need radiation therapy? What type do you recommend?
- What is the goal of radiation therapy?
- How often will I receive radiation therapy?
- How much time will each treatment take?
- Will each treatment be the same? Will the radiation dose or area treated change during the treatment period?
- What can I do to get ready for this treatment?
- Will you describe what I will experience when I receive radiation therapy? Will the treatment hurt or cause me discomfort?
- How will this treatment affect my daily life? Will I be able to work, exercise, and perform my usual activities?
- What are the potential side effects of this treatment? What can be done to manage any side effects?
- Will this treatment affect my ability to become pregnant or have children?
- Will this treatment affect my sex life? If so, for how long?
- What are the possible long-term effects of this treatment?
- Whom should I call for questions or problems?

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## TERMS TO KNOW

### **Computed tomography (CT) scan:**

An imaging test that creates a three-dimensional picture of the inside of the body with an x-ray machine; may be used for treatment planning

### **Dosimetrist:**

A member of the treatment team who helps plan treatment and calculates the radiation dose

### **Intensity-modulated radiation therapy (IMRT):**

Use of several small beams of radiation with different intensities to better treat the cancer while protecting healthy tissue

### **Medical radiation physicist:**

The expert who designs the radiation treatment plan

### **Proton therapy:**

A radiation treatment that uses parts of atoms called protons instead of x-rays to treat cancer

### **Radiation oncology nurse:**

A member of the treatment team who can answer questions and provide information and support

### **Radiation therapist:**

The member of the treatment team who gives the radiation treatments

### **Stereotactic radiation therapy:**

Used to deliver a large, precise radiation dose to a small tumor area, usually in five or fewer sessions

### **Three-dimensional conformal radiation therapy (3D-CRT):**

Use of computers to make detailed 3-dimensional pictures to aim radiation directly at the cancer

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