



## Radiation Therapy

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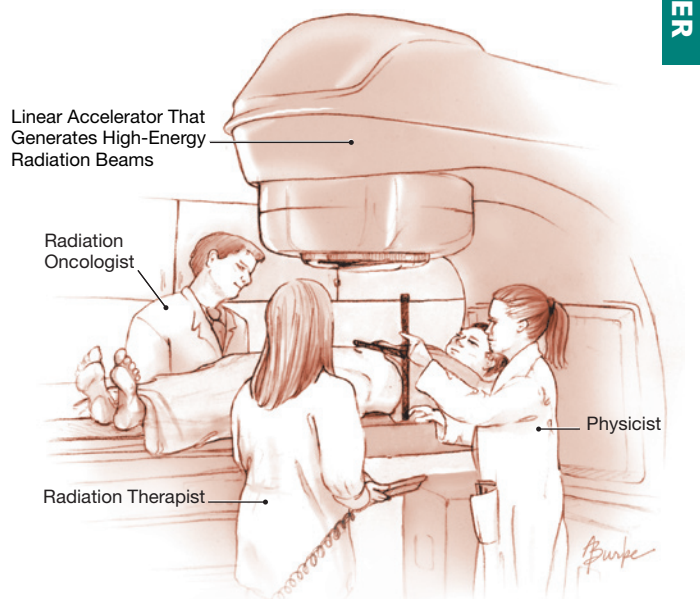
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# Radiation Therapy

Focusing high-energy radiation beams onto specific organs or parts of organs to treat cancer is called **radiation therapy**. High-energy radiation breaks up the genetic material inside cancerous cells, killing them and stopping their spread. Because radiation is delivered specifically to the area of the cancer, effects on healthy cells are minimized. Doctors with specialized training in the use of radiation to treat cancer are called **radiation oncologists**. They often work in conjunction with medical oncologists, internal medicine doctors who specialize in medical treatments for cancer. The September 14, 2005, issue of *JAMA* includes an article about radiation therapy and its use in treating prostate cancer.



## USES OF RADIATION THERAPY

Radiation therapy decreases the size of tumors and in some cases may eradicate them. Radiation can be used to shrink tumors, allowing surgical removal that would otherwise not be possible. Because tumors and their **metastases** (spread of cancer to other locations) can cause pain, radiating those cancerous areas may significantly reduce pain. Radiation therapy is often used for **palliation** (easing symptoms from incurable cancer) and pain relief when other treatments are not possible or have not been successful. Sometimes radiation and **chemotherapy** (use of drugs to kill cancer cells) are used together to maximize chances of curing a person's cancer. Because each person's situation is unique, you should discuss your personal cancer treatment plan with your doctors.

## TYPES OF RADIATION THERAPY

- **External radiation therapy** consists of beams of high-energy radiation directed to the affected area. It is painless, and the treatments are usually given once a day over a period of weeks. The area for radiation therapy is often marked with tiny tattoos smaller than a freckle so that the treatment site is consistent throughout the therapy sessions.
- **Internal radiation** (sometimes called **brachytherapy**) involves small amounts of radioactive material placed into the tissue where the cancer has been detected. This can be delivered by radioactive seeds or wires or by radioactive material placed into a body cavity. Brachytherapy allows delivery of higher doses of radiation over a shorter period because it stays in a small area near the cancerous tissue.

## COMPLICATIONS OF RADIATION THERAPY

These depend on the site of the body being treated but may include

- Skin redness near the radiated site
- Fatigue
- Infertility from radiation of the reproductive organs
- Nausea, vomiting, or loss of appetite
- Hair loss and dry mouth (if therapy is directed to the head or neck)
- Diarrhea when the bowel is treated

## FOR MORE INFORMATION

- National Cancer Institute  
800/4-CANCER  
[www.cancer.gov](http://www.cancer.gov)
- American Cancer Society  
800/227-2345  
[www.cancer.org](http://www.cancer.org)

## INFORM YOURSELF

To find this and previous JAMA Patient Pages, go to the Patient Page link on JAMA's Web site at [www.jama.com](http://www.jama.com). Many are available in English and Spanish. A Patient Page on preventing cancer was published in the May 26, 2004, issue, and one on cancer clinical trials was published in the June 9, 2004, issue.

Sources: American Cancer Society, National Cancer Institute

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