



Overview Of Current Prostate Cancer Treatments: Radiation Therapy

Without accurate imaging, treatment of prostate cancer is blind. Methods do not exist to reliably assess tumor size or the difference between virulent cancer that requires treatment vs. non-aggressive disease that does not. Conventional treatments – such as radical surgery and radiation – are very costly and result in complications.

External beam radiation therapy *

Radiation therapy uses high-energy x-rays, either beamed from a machine or emitted by radioactive seeds implanted in the prostate, to kill cancer cells. When prostate cancer is diagnosed early and localized, radiation therapy serves as an alternative to surgery.

- ▶ **External beam radiation** therapy generally involves treatments 5 days a week for 6 or 7 weeks. The treatments cause no pain, and each session lasts just a few minutes.

Possible problems *

- ▶ Because the radiation beam passes through normal tissues – the rectum, the bladder, the intestines – on its way to the prostate, it kills some healthy cells.
- ▶ Radiation treatment can also cause a variety of long-term problems, including:
 - Proctitis, or inflammation of the rectum, with bleeding and bowel problems such as diarrhea
 - Cystitis, inflammation of the bladder, leading to pain and problems with urination
- ▶ Approximately 40 percent to 50 percent of men treated with radiation therapy become impotent due to damage to nerves and vessels.

* According to the National Cancer Institute, National Institutes of Health, (<http://www.cancer.gov/cancertopics/understanding-prostate-cancer-treatment/page5>)



Internal radiation therapy *

Radiation can also be delivered to the prostate from dozens of tiny radioactive seeds implanted directly into the prostate gland. This approach has the advantage of delivering a high dose of radiation to tissues in the immediate area, while minimizing damage to healthy tissues such as the rectum and bladder.

The implantation procedure can be completed in an hour or two under local anesthesia; the patient typically goes home the same day.

The seeds emit radiation for several weeks, then remain permanently and harmlessly in place.

Alternatively, some doctors use much more powerful radioactive seeds over a period of several days. Such temporary implants, which require hospitalization, may be combined with low doses of external beam radiation.

For men with small, non-virulent tumors, internal radiation therapy may provide an option that is less invasive, has fewer side effects, takes less time to do, requires less time in the hospital, and is less costly (about 50 percent) than either external radiation or surgery.

Possible problems *

- ▶ Post-implant discomfort requires use of oral painkillers.
- ▶ The man can expect a few weeks of incontinence, but long-term complications such as prostatitis (inflammation of the prostate) or urinary incontinence are uncommon and generally not severe.
- ▶ Sexual impotence occurs in about 15 percent of men under age 70 and 30 percent to 35 percent of men over age 70.
- ▶ Internal radiation therapy is not well suited for large or advanced tumors.

* According to the National Cancer Institute, National Institutes of Health, (<http://www.cancer.gov/cancertopics/understanding-prostate-cancer-treatment/page5>)