



## RADIATION THERAPY for **PROSTATE CANCER**



**Facts to Help Patients Make an  
Informed Decision**

# ASTRO

THE AMERICAN SOCIETY FOR THERAPEUTIC  
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*Targeting Cancer Care*

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## FACTS ABOUT PROSTATE CANCER

**Prostate cancer is the most common cancer in American men.**

- According to the American Cancer Society, about 235,000 men will be diagnosed with prostate cancer in 2006.
- More than 27,000 men are expected to die of the disease in 2006.
- One in six men will get prostate cancer in his lifetime. However, only one in 34 men will die of the disease.

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## RISK FACTORS FOR PROSTATE CANCER

- **Age:** The chance of getting prostate cancer goes up as men age. About two-thirds of prostate cancers are found in men over age 65.
- **Race:** Prostate cancer is more common among African-American men and Jamaican men of African heritage than in white men.
- **Family history:** Men with a father or brother with prostate cancer are more likely to get it themselves.

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## SCREENING FOR PROSTATE CANCER

**According to the American Cancer Society, men age 50 or older should be offered a digital rectal exam (DRE) and a blood test to check the level of prostate specific antigen (PSA). African-American men and men with a family history of prostate cancer should be examined beginning at 45.**





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## DIAGNOSING PROSTATE CANCER

**Prostate cancer is most often found through a blood test measuring the amount of prostate specific antigen (PSA) in the body. Most men diagnosed with prostate cancer have no symptoms and only find their cancer due to screening. However, sometimes prostate cancer can cause symptoms. Some signs to look for include:**

- Feeling that you need to urinate urgently.
- Having hesitancy when urinating (slow stream).
- Pain or blood during urination.

If your doctor suspects you might have prostate cancer, some tissue will be taken from your prostate and examined under a microscope. This test is called a biopsy.

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## TREATING PROSTATE CANCER

**If you find out you have cancer, you should discuss your treatment options with a radiation oncologist, a cancer doctor who specializes in treating disease with radiation therapy, and a urologist, a surgeon who specializes in the urinary tract. Options for dealing with prostate cancer include:**

- Surgery.
- External beam radiation therapy.
- Prostate brachytherapy.
- Hormone therapy.
- Chemotherapy.
- Cryosurgery.

Sometimes a combination of treatments is best for your cancer, such as surgery followed by external beam radiation. Some men can safely postpone treatment and watch it closely until treatment is needed. This is called watchful waiting.



## EXTERNAL BEAM RADIATION THERAPY

**External beam radiation therapy (also called radiotherapy) involves a series of daily treatments to accurately deliver radiation to the prostate. There are several ways to deliver external beam radiation.**

- Before treatment, you will have a scan to allow the radiation oncologist to target the radiation on the cancer. Usually several radiation beams are combined to shape, or “conform”, the radiation to the prostate cancer. This technique is called **three-dimensional conformal radiation therapy** or **3D-CRT**. Tailoring each of the radiation beams to accurately focus on the tumor allows doctors to target the prostate cancer while keeping radiation away from nearby organs such as the bladder or rectum.
- Some doctors use a type of 3D-CRT called **intensity modulated radiation therapy** or **IMRT**. IMRT allows doctors to change the intensity of the radiation within each of the radiation beams. In some cases, this lets doctors increase the radiation to the prostate while reducing radiation to nearby normal tissues.
- In a few clinics in the country, **proton beam therapy** is used to treat prostate cancer. Proton therapy is a form of external beam radiation that uses protons rather than X-rays to treat cancer cells. Proton therapy is precise like IMRT only it uses a different kind of radiation.

Each of these treatments is acceptable. With all external beam therapy, painless radiation treatments are delivered in a series of daily sessions, each under 30 minutes in duration, Monday through Friday, for six to 10 weeks. The duration of your treatment will depend on your condition and the type of radiation used.

Possible side effects include fatigue, increased frequency or discomfort of urination, and loose bowel movements. These usually go away a few weeks after completing treatments. Impotence is also a possible side effect of any treatment for prostate cancer. However, many patients who receive radiation therapy for prostate cancer are able to maintain sexual function.

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## PROSTATE

### BRACHYTHERAPY

**Prostate brachytherapy involves treating the cancer by inserting radioactive sources directly into the gland.**

- **Permanent seed implants**

(also called PSI or prostate seed implants) are performed by inserting small metal seeds of radioactive iodine or palladium



COMPARATIVE SIZE OF  
RADIOACTIVE SEEDS

directly into the gland under anesthesia. The seeds are temporarily radioactive and deliver the radiation to the prostate over several weeks. After losing their radioactivity, the seeds remain in the prostate and are harmless.

- **High-dose-rate prostate implants** deliver radiation to the prostate with a few treatments using a single small radioactive iridium source on the end of a computer controlled flexible wire. The radiation is delivered through narrow tubes called catheters inserted into the prostate by your radiation oncologist. You will be under anesthesia and will not feel pain. The tubes remain in place for only one or two days. Once the treatment is complete, the tubes and the radioactive source are taken out. After this type of radiation, you will not need to take special precautions around others.

Depending on your cancer, prostate brachytherapy may be combined with external beam radiation therapy. The side effects from these treatments are similar to those seen with external beam radiation therapy, such as urinary frequency, discomfort on urination or bowel irritation. Medication helps control these symptoms that typically go away within a few months after treatment.

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## HORMONE

### THERAPY

**Depending on your cancer, you may benefit from adding hormone therapy to radiation.**

- Works by starving the tumor of the male hormones it needs to grow. This may make your radiation therapy treatments work better.
- May be used together with radiation therapy or before radiation to shrink the tumor.

The length of time you will receive hormone therapy depends on your cancer. Ask your doctor for more information. Side effects can include hot flashes, mild breast tenderness, diarrhea, nausea and tiredness.

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## HELPFUL WEB SITES ON **PROSTATE CANCER**

### **National Prostate Cancer Coalition**

[www.fightprostatecancer.org](http://www.fightprostatecancer.org)

### **Prostate Cancer Foundation**

[www.prostatecancerfoundation.org](http://www.prostatecancerfoundation.org)

### **Radiation Therapy Answers**

[www.rtanswers.org](http://www.rtanswers.org)

### **Us TOO International Prostate Cancer Education and Support Network**

[www.ustoo.org](http://www.ustoo.org)

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## LEARNING ABOUT **CLINICAL TRIALS**

The radiation oncology team is constantly exploring new ways to treat cancer through studies called clinical trials. Today's standard radiation therapy treatments are a result of clinical trials completed many years ago. For more information, ask your doctor or contact the National Cancer Institute at 1-800-4-CANCER or visit [www.cancer.gov/clinicaltrials](http://www.cancer.gov/clinicaltrials).

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## ABOUT THE **RADIATION ONCOLOGY TEAM**

Radiation oncologists are the doctors who oversee the care of each patient undergoing radiation treatment. Other members of the radiation oncology team include radiation therapists, radiation oncology nurses, medical physicists, dosimetrists, social workers and nutritionists. To find a radiation oncologist in your area, visit [www.rtanswers.org](http://www.rtanswers.org).

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## ABOUT **ASTRO**

The American Society for Therapeutic Radiology and Oncology is the largest radiation oncology society in the world with more than 8,500 members who specialize in treating patients with radiation therapy. ASTRO's mission is to advance the practice of radiation oncology by promoting excellence in patient care, promoting research and disseminating research results.