
FACTS ABOUT PROSTATE CANCER

Prostate cancer is the most common malignancy in American men.

- In 2003, more than 220,000 men were diagnosed as having prostate cancer, making it the number one type of cancer in men.
- Nearly 29,000 men died from prostate cancer in 2003.
- More than 75 percent of prostate cancer is diagnosed in men over age 65.

RISK FACTORS FOR PROSTATE CANCER

Incidence of prostate cancer increases with age.

- Median age at diagnosis in Caucasian males is 71.
- African-American men have the highest incidence of prostate cancer in the world.
- Heredity accounts for 5 to 10 percent of cases.

SCREENING FOR PROSTATE CANCER

According to the American Cancer Society, men aged 50 or older should be offered a digital rectal exam (DRE) and a PSA blood test. However, it is a good idea to visit your doctor earlier to establish a baseline PSA level so you can monitor changes.

- Prostate specific antigen (PSA) is a valuable marker for prostate cancer although BPH or infection may also cause a rise in PSA.
- Normal range is 0-4, however, a PSA above 3 in men younger than 60 may be considered abnormal.
- African-American men and men with a family history of prostate cancer should be examined beginning at an earlier age.

HELPFUL WEB SITES ON PROSTATE CANCER

National Prostate Cancer Coalition
www.4npcc.org

Prostate Cancer Foundation
www.prostatecancerfoundation.org

Us Too! International Prostate Cancer Education and Support Network
www.ustoo.org

LEARNING ABOUT CLINICAL TRIALS

The radiation oncology team is constantly exploring new ways to treat cancer patients through studies called clinical trials. Today's standard radiation therapy treatments are a result of clinical trials completed many years ago. For more information, please contact the following organizations:

National Cancer Institute
www.cancer.gov/clinicaltrials

National Institutes of Health
www.clinicaltrials.gov

Radiation Therapy Oncology Group
www.rtog.org

Southwest Oncology Group
www.swog.org

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.

ABOUT ASTRO

The American Society for Therapeutic Radiology and Oncology is the largest radiation oncology society in the world. The Society's mission is to advance the practice of radiation oncology by promoting excellence in patient care, promoting research and disseminating research results.



RADIATION THERAPY for PROSTATE CANCER

Non-Surgical Options
Facts to Help Patients Make An
Informed Decision



ASTRO

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DIAGNOSING PROSTATE CANCER

Prostate cancer is most often diagnosed through a blood test measuring the amount of prostate specific antigens (PSA) in the body. However, signs and symptoms of prostate cancer can include:

- Changes in urinary flow: Frequency, urgency, hesitancy.
- Frequent night time urination.
- Painful urination.
- Blood in urine.

Other conditions that may cause these symptoms include an enlarged prostate (benign prostatic hypertrophy or BPH) or infection.

RADIATION THERAPY OPTIONS FOR TREATING PROSTATE CANCER

After a diagnosis of prostate cancer has been established with a biopsy, the patient should discuss the treatment options with a radiation oncologist and a urologist. Radiation therapy treatment options to cure prostate cancer include:

- External beam radiotherapy.
- Prostate brachytherapy.

BELOW: EXTERNAL BEAM RADIO THERAPY IS PAINLESS AND TAKES ONLY A FEW MINUTES.



EXTERNAL BEAM RADIOTHERAPY

External beam radiotherapy involves a series of daily outpatient treatments to accurately deliver radiation to the prostate.

There are two principal methods for delivering external beam radiation.

- **3-dimensional conformal radiotherapy** combines multiple radiation treatment fields to deliver precise doses of radiation to the prostate. Tailoring each of the radiation beams to accurately focus on the patient's tumor allows coverage of the prostate cancer while at the same time keeping radiation away from nearby organs such as the bladder or rectum.
- **Intensity modulated radiation therapy** or IMRT is the most recent advance in the delivery of radiation. IMRT improves on 3-D conformal radiotherapy by modifying the intensity of the radiation within each of the radiation beams. This technique allows more precise adjustment of radiation doses to the tissues within the target area, potentially allowing an increased radiation dose to the prostate and reduced doses to nearby normal tissues. Higher doses to the prostate translate into a greater chance for cure, while lower doses to surrounding organs mean fewer side effects.

Both types of external beam radiotherapy are acceptable treatment; IMRT offers advantages for some but not all prostate cancer patients. With either type of therapy, painless radiation treatments are delivered in a series of daily sessions, each under half-hour in duration, Monday through Friday for seven to ten weeks overall.

Potential side effects, including fatigue, increased frequency or discomfort of urination, and loose stools, typically resolve within a few weeks after completing treatments. Impotence is also a potential side effect of any treatment for prostate cancer. However, many patients who receive radiation therapy for prostate cancer are able to maintain sexual function.

PROSTATE BRACHYTHERAPY

Prostate brachytherapy, better known as a seed implant, is often done in the operating room.

There are two methods of delivering internal radiation for prostate cancer:

- Permanent seed implants.
- High-dose rate temporary seed implants.

These treatments are designed to deliver a very high dose of radiation to the tumor by inserting radioactive seeds directly into the prostate gland under ultrasound guidance while the patient is under anesthesia. Isotopes of iodine or palladium are most commonly used. The seeds are approximately four millimeters long and less than a millimeter in diameter. In certain situations, both prostate brachytherapy and external radiation may be recommended to combat the tumor.



COMPARATIVE SIZE OF RADIOACTIVE SEEDS

The side effects from seed implants are similar to those experienced with external beam radiotherapy. Patients usually experience urinary frequency and discomfort in urination. These effects may be lessened with medication and usually dissipate over the course of three to six months.

PROTON BEAM THERAPY

In a few parts of the country, proton beam therapy is being used to treat prostate cancer.

Proton therapy is administered much the same way as external beam therapy, but it uses protons rather than x-rays to irradiate cancer cells.

HORMONE THERAPY

Certain patients may benefit from hormone therapy in addition to radiation. In some patients, hormone therapy works with radiation therapy to improve cure rates.

Where can I get more information?

Your primary care physician and prostate cancer specialists (urologists and radiation oncologists) can provide you with information on prostate cancer, as well as information on how to contact support groups in your area and throughout the country.