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 cancer with chemotherapy.

Prostate cancer treatment options include:
- **External beam radiation therapy** – a radiation oncologist directs high-energy radiation to the cancer and nearby healthy tissues.
- **Brachytherapy** – a radiation oncologist surgically implants high-energy radiation seeds or delivers a high-energy radiation source through catheters within the prostate.
- **Surgery** – a urologist surgically removes the entire prostate.
- **Active surveillance** – a physician monitors men with low-risk prostate cancer with repeat PSA and biopsies.
- **Hormone therapy** – a medical oncologist delivers medicine through the veins to kill cancer cells.
- **Hypofractionated radiation** – a form of daily treatment giving higher doses over four to six weeks compared to a more standard treatment time of seven to nine weeks.
- **Stereotactic body radiation therapy (SBRT)** is a technique for treating cancers in five or fewer treatments at substantially higher doses. Hypofractionated and stereotactic radiation are currently being evaluated for long-term data and may be considered for certain patients.

**Surgery**

In most cases, surgery involves a urologist or interventional radiologist freezing the tumor within the prostate. For the short time that the seeds are giving off larger amounts of radiation, you should avoid being in close proximity to children or pregnant women. Once the treatment is complete, the tubes are taken out. HDR brachytherapy is temporary and there is no radioactivity left in your body. You will not need to take special precautions around others after treatment. Often multiple treatments are planned to give an effective dose to treat the cancer.

**External Beam Radiation Therapy**

External beam radiation therapy (also called radiotherapy) involves a series of daily treatments to accurately deliver radiation to the prostate. Research has shown that higher doses of radiation can improve cure rates. Modern radiation therapy is as effective as surgery to cure prostate cancer.

Before treatment begins, your radiation oncologist will develop a treatment plan using information from your biopsy, imaging and physical examination. CT scan is done in the position you will be treated, often with a supportive device to help you comfortably in the same position for treatment. This is often called a simulation. In this step, your treatment plan will include not only the prostate but the seminal vesicles (glands on the back of the prostate) and lymph nodes.

Ask your doctor to explain what treatment area is appropriate for you.

In a few clinics around the country, proton beam therapy is used to treat prostate cancer. Proton therapy is a form of external beam radiation therapy that uses protons rather than photons to treat cancer cells. In medicine, directed radiation in the form of high-energy photons, or X-rays. In a few clinics around the country, proton beam therapy is used to treat prostate cancer. Proton therapy is a form of external beam radiation therapy that uses protons rather than photons to treat cancer cells.

The length of your treatment will depend on your health and the type of radiation used. The use of even shorter schedules of external beam radiation therapy is being studied for patients with early-stage prostate cancer.

**Hormone therapy**

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Increased radiation can be used by using a variety of techniques. In medicine, delivered through the veins to kill cancer cells.

**Cryosurgery** – a urologist or interventional radiologist freezes the tumor within the prostate.

**High Frequency Ultrasound (HIFU)** – a urologist or interventional radiologist uses high-intensity focused ultrasound beam energy to locally heat and destroy prostate tissue.

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**Stereotactic body radiation therapy (SBRT)** is a technique for treating cancers in five or fewer treatments at substantially higher doses. Hypofractionated and stereotactic radiation are currently being evaluated for long-term data and may be considered for certain patients.

**Prostate Brachytherapy**

Brachytherapy involves the treatment of cancer by inserting radioactive sources directly into the prostate gland. There are two main ways this can be done:

1. Permanent seed, or “low-dose-rate” (LDR) brachytherapy, consists of inserting small metal “seeds” directly into the prostate gland. This treatment is done as an outpatient surgical procedure and requires anesthesia. The seeds are temporarily radioactive and deliver the radiation to the prostate over several months. After losing their radioactivity, the seeds remain in the prostate. The seeds are then harmless and should not bother you. For the short time that the seeds are giving off larger amounts of radiation, men should avoid being in close proximity to children or pregnant women.

2. Temporary, or “high-dose-rate” (HDR) brachytherapy, delivers radiation to the prostate with a few treatments using a single small radioactive source traveling through each of the narrow tubes called catheters. These narrow tubes are inserted into the prostate by your radiation oncologist. You will be under anesthesia and will not feel any pain. The tubes remain in place for two days only. Once the treatment is complete, the tubes are taken out. HDR brachytherapy is temporary and there is no radioactivity left in your body. You will not need to take special precautions around others after treatment. Often multiple treatments are planned to give an effective dose to treat the cancer.

**Chemotherapy**

Chemotherapy – a medical oncologist prescribes medication as a pill or medicine delivered through the veins to kill cancer cells.

**Cryosurgery** – a urologist or interventional radiologist freezes the tumor within the prostate.

**High Frequency Ultrasound (HIFU)** – a urologist or interventional radiologist uses high-intensity focused ultrasound beam energy to locally heat and destroy prostate tissue.

Sometimes a combination of treatments is best for your cancer, such as hormonal therapy along with external beam radiation therapy. Ask your doctor about the risks and benefits of all treatment options including active surveillance.
External beam radiation therapy is not invasive, so it is rare for side effects to show up immediately. With brachytherapy, there may be some swelling, soreness and frequent urination just after the procedure. However, these side effects are from the brachytherapy procedure rather than the radiation itself. Over a period of weeks, other side effects may develop:

- Urinary frequency, urgency or a weaker stream are reasonably common side effects. Sometimes there is mild discomfort. The symptoms tend to be more noticeable with brachytherapy. Your doctor can prescribe medication to help relieve these symptoms.
- Changes in bowel habits are also common. There is usually some urgency or loose bowel movements. In some cases, you may have some diarrhea, increased gas or some mucus. Less commonly, some men have a flare of hemorrhoids. These side effects are temporary, with long-term symptoms less likely.
- Mild tiredness may develop, starting in the middle of treatment. However, tiredness from radiation should improve within a few weeks after radiation treatment ends.
- Mild skin irritation can occur. The area regularly with mild soap and warm water.

Some side effects can be controlled with medications and changes to your diet. Ask your doctor or nurse whether you should make any changes in your diet. Tell them if you experience any discomfort so they can help you feel better.

HELPFUL WEBSITES ON PROSTATE CANCER

- National Prostate Cancer Coalition: www.fightprostatecancer.org
- Prostate Cancer Foundation: www.prostatecancerfoundation.org
- Radiation Therapy Answers: www.rtanswers.org
- Us TOO International Prostate Cancer Education and Support Network: www.ustoo.org

FACTS TO HELP PATIENTS MAKE AN INFORMED DECISION

Because surgery and radiation can both be equally effective in the treatment of prostate cancer, it is important to review all of your treatment options.

Ask your urologist about surgery and your radiation oncologist about radiation therapy. Learn about the risks and benefits to see what best meets your goals: balancing cure and quality of life.

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.

ABOUT THE RADIATION ONCOLOGY TEAM

Radiation oncologists are the doctors who oversee the care of each person undergoing radiation treatment. Other members of the treatment team include radiation therapists, radiation oncology nurses, medical physicists, dosimetrists, social workers and nutritionists. For information on what each of these professionals does or to locate a radiation oncologist near you, visit www.rtanswers.org.

ABOUT ASTRO

The American Society for Radiation Oncology is the largest radiation oncology society in the world with more than 10,000 members who specialize in treating cancer with radiation therapy. ASTRO is dedicated to improving patient care through education, clinical practice, advancement of science and advocacy.

AMERICAN SOCIETY FOR RADIATION ONCOLOGY

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TARGETING CANCER CARE

Prostate cancer is the most common cancer in American men. According to the American Cancer Society, one in every six men will develop prostate cancer in his lifetime. This year, approximately 180,890 men will be diagnosed. Prostate cancer is very manageable and often curable. More than 99 percent of men with prostate cancer will live more than five years after diagnosis.