TREATING PROSTATE CANCER

Hormonal therapy along with external beam radiation therapy.

Cryosurgery—a medical oncologist prescribes medication as a pill or injection to suppress the production of hormones that help prostate cancer grow.

Hormone therapy—radiation oncologists, urologists or medical oncologists prescribe medicine to stop the production of hormones that help prostate cancer grow.

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

Surgery—a urologist surgically removes the prostate.

External beam radiation therapy — a radiation oncologist directs high-energy radiation to kill the cancer.

Proton therapy is a form of external beam radiation therapy that uses protons rather than photons to treat cancer cells.

High Frequency Ultrasound (HIFU)—uses high-intensity focused ultrasound beam energy to locally heat and destroy prostate tissue.

Brachytherapy—involves treating the cancer by inserting radioactive sources directly into the prostate.

Hormonal therapy decreases the production of hormones that help prostate cancer grow.

Hormone therapy and brachytherapy may be used together with external beam radiation therapy and hormonal therapy. Ask your doctor whether LDR or HDR is a reasonable treatment option for you.

CARING FOR YOURSELF DURING TREATMENT

Ask your doctor about the risks and benefits of all treatment options including active surveillance.

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 exam. A CT scan is done in the position you will be treated, often with a supportive device to keep you comfortably in the same position for this treatment. This is often called a simulation. Sometimes, 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.

With CT scans, 3-D targets of the prostate and normal tissues are created. These treatment plans focus radiation beams on the prostate while limiting radiation to healthy tissues around it such as the bladder and rectum. Intensity modulated radiation therapy (IMRT) and image guided radiation therapy (IGRT) use treatment approaches that allow the radiation beams to treat the cancer and lessen the risk of side effects.

External beam radiation therapy can be delivered using a variety of techniques. In most cases, external radiation is 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.

With all external beam therapy, treatment is delivered in a series of daily sessions, Monday through Friday, for several weeks. Each treatment is painless and similar to a long X-ray; you hear noise but will feel nothing.

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

Hypofractionated radiation is a form of daily treatment giving higher doses over a shorter period of time 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.

PROSTATE BRACHYTHERAPY

Brachytherapy—involves the treatment of the cancer by inserting radioactive sources directly into the prostate.

1. Permanent seed, or low-dose-rate (LDR) brachytherapy, consists of inserting small “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.

2. Temporary, or high-dose-rate (HDR) brachytherapy, delivers radiation to the prostate with ultra-short treatment periods using a 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 one to 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.

Brachytherapy may be used to treat prostate cancer alone or may be combined with external beam radiation therapy and hormonal therapy. Ask your doctor whether LDR or HDR is a reasonable treatment option for you.

HORMONE THERAPY

Depending on your cancer, you may benefit from adding hormone therapy to radiation therapy. Hormone therapy lowers testosterone production. Testosterone is a hormone that plays an important role in prostate cancer progression. It may be used together with radiation therapy, before radiation to shrink the tumor and also after radiation has been completed. Hormone therapy may be given by your radiation oncologist, medical oncologist or urologist.

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

OF RADIATION FOR PROSTATE CANCER

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 may 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 may occur with external beam radiation. Clean the area regularly with mild soap and warm water.

• Impotence is a common side effect of any treatment for prostate cancer. The risk depends partly upon the ability to have an erection before treatment. Many men treated with radiation can maintain erectile function. Don’t be shy about talking to your doctor about your sex life. He or she may be able to suggest remedies or prescribe medication.

• Infertility may occur with external beam radiation. 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.

• Sexual dysfunction, including decreased blood counts
• Decreased muscle mass
• Enlarged and/or painful breast
• Weakened bones
• Radiation induced second cancer
• Changes in bowel habits (5-10%)
• Rectal bleeding (5-10%)
• Erectile dysfunction (rare)
• Urethral stricture (rare)
• Urethral stenosis (rare)
• Erectile dysfunction
• Inguinal hernia
• Erectile Dysfunction
• Chronic leakage of urine from bladder (Months-Years after Treatment)

HELPFUL WEBSITES ON PROSTATE CANCER

Visit www.rtanswers.org to download a complete chart of side effects.

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

FACTS TO HELP PATIENTS MAKE AN INFORMED DECISION

Because surgery and radiation can both be equally effective curative treatments for 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, dosimeters, 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 therapies. ASTRO is dedicated to improving patient care through education, clinical practice, advancement of science and advocacy.

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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 220,800 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.