





## FACTS ABOUT PROSTATE CANCER

- Prostate cancer is the most common cancer in American men.
- The American Cancer Society estimates that one in every six men will develop prostate cancer in his lifetime.
- According to the American Cancer Society, about 186,000 men were diagnosed with prostate cancer in 2008.

Prostate cancer is very manageable and often curable. More than 98 percent of men with prostate cancer will live more than five years after diagnosis.

## 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. Prostate cancer treatment options include:

- Surgery** – a surgeon, usually a urologist, surgically removes the tumor.
- External beam radiation therapy** – a radiation oncologist directs high energy radiation to kill the cancer cells.
- Prostate brachytherapy** – a radiation oncologist surgically implants high energy radiation seeds to kill cancer cells.
- Hormone therapy** – an oncologist gives medication to stop the production of hormones that help tumors grow.
- Chemotherapy** – a medical oncologist prescribes medication to kill cancer cells.
- Cryosurgery** – an oncologist freezes the tumor.

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** or **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. There are several ways to deliver external beam radiation. Recently completed research trials have shown that increasing the dose of radiation can be done safely with improvement in outcome and avoidance of significant side effects.

- 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, allowing doctors to safely increase the amount of radiation to the prostate. Sometimes this is done with **image guided radiation therapy (IGRT)**, a technique using direct visualization of the prostate anatomy before each daily treatment.
- 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 **photons (X-rays)** to treat cancer cells. Proton therapy is precise like IMRT, only it uses a different type 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 about 15 minutes long, Monday through Friday, for six to 10 weeks. The duration 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. **Stereotactic body radiation therapy (SBRT)** is a technique for treating cancers in five or fewer treatments that is not yet considered a standard treatment option for prostate cancer. It is the subject of ongoing investigations.

## PROSTATE BRACHYTHERAPY

Prostate brachytherapy involves treating the cancer by inserting radioactive sources directly into the gland. This is usually the only radiation therapy you will need, but it is occasionally combined with external radiation.

- Permanent seed implants** (sometimes called **seed implants** or **low-dose-rate [LDR] brachytherapy**) are given



Comparative size of radioactive seeds

by inserting small metal seeds of radioactive iodine or palladium directly into the prostate gland. You will be under anesthesia during this brief outpatient surgery procedure. (Outpatient surgery means you can go home shortly after surgery.) 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.

The seeds are then harmless and should not bother you. For the short time that the seeds are giving off radiation, men are asked not to be in close proximity to children or pregnant women because of the very small chance that the radiation may harm their rapidly growing bodies. Ask your radiation oncologist or oncology nurse if you need more specific instructions or if you have any concerns about pets or family members.

- 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 given through narrow tubes called catheters 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 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.



## POSSIBLE SIDE EFFECTS OF RADIATION FOR PROSTATE CANCER

- An occasional side effect reported from radiation is mild fatigue. This usually starts in the middle of treatment and may last a few weeks after treatment ends.
- Urinary frequency and discomfort on urination are common side effects of both external and internal radiation.
- Bowel irritation is another common side effect.
- Impotence is also a possible side effect of any treatment for prostate cancer. Fortunately, many patients who receive radiation therapy for prostate cancer are able to maintain sexual function.
- Don't be shy about talking to your doctor about your sex life. If you are having problems, talk to your doctor or oncology nurse. He or she may be able to suggest remedies or prescribe medication.
- External beam radiation may cause mild skin irritation. Clean the area regularly with mild soap and warm water.
- Some side effects can be controlled with medications and changes to your diet. Tell your doctor or nurse if you experience any discomfort so they can help you feel better.

