

PROSTATE CANCER TREATMENT OPTIONS

The treatment for prostate cancer may involve one or a combination of the following therapies:

WATCHFUL WAITING

Many prostate cancers are small and grow slowly. Because many men with a slow-growing tumor have the same life expectancy as men who don't even have prostate cancer, it may not be necessary to treat these small, slow-growing tumors. Some men also decide the side effects of treatment outweigh the benefits. So the patient and the doctor opt for watchful waiting – or expectant therapy as it is sometimes called.

In watchful waiting, there is no treatment. But there are frequent visits with the doctor. In some circumstances this is best – especially if the patient is older with other medical complications. Patients who opt for this at will not be forgoing medical treatment. Just the opposite. Their cancer will be carefully monitored with frequent screenings and occasionally repeat biopsies.

PROSTATE SURGERY

Radical Prostatectomy

Radical prostatectomy, or surgical removal of the prostate and surrounding cancerous tissues, is considered the “gold standard” or best way to eradicate prostate cancer. Radical prostatectomy is a complex and delicate procedure due to many factors, including the location of the prostate gland deep inside the pelvis. In radical prostatectomy, the surgeon removes the entire prostate gland along with both seminal vesicles, both ampullae (the enlarged lower sections of the vas deferens), as well as additional surrounding tissues. The section of urethra that runs through the prostate is cut away; with it may also come some of the sphincter muscle that controls the flow of urine.

The popularity of surgery in the United States has grown tremendously in recent decades. The emergence of radical prostatectomy as a preferred prostate cancer treatment has corresponded with wider availability of minimally invasive surgery. Studies show that for many patients, a minimally invasive approach can reduce complications and promote faster recovery times. In the United States today, surgeons use one of three approaches to radical prostatectomy: open surgery, laparoscopic surgery and robotic-assisted laparoscopic surgery, of which the latter two are minimally invasive.

Open and Robotic-Assisted Laparoscopic Prostatectomy (*da Vinci*® Prostatectomy)

An open prostatectomy requires an 8-10 inch incision on the patient's abdomen for direct access to the operative site. Robotic-assisted laparoscopic approaches require several dime-sized incisions, or operating “ports,” which are used to introduce narrow-shafted instruments. The surgeon and assistants maneuver the instruments from outside the body, under vision provided by a surgical camera.

da Vinci Prostatectomy (dVP) incorporates state-of-the-art robotic technologies that provide natural depth of field and allow a surgeon's hand movements to be scaled, filtered and translated into precise micro-movements of tiny instruments at the operative site. The superior visualization, enhanced dexterity, precision and control enable the surgeon to perform complex procedures — like radical prostatectomy — through dime-sized operating “ports.” For most patients, *da Vinci Prostatectomy* offers substantially less pain and a much shorter recovery than traditional prostate surgery. Other advantages may include reduced need for blood transfusions, less scarring and less risk of infection. In addition, recent studies suggest that *dVP* may offer improved cancer control and a lower incidence of impotence and urinary incontinence.

Due to its obvious advantages, *dVP* has become the fastest growing treatment for prostate cancer in the United States. This year, it is expected that 60% of all prostatectomies will be performed using this technique, and that this percentage will continue to grow rapidly.

Robotic technology enhances the advantages of laparoscopic surgery, taking it to the next level. Compared to open surgery, robotic laparoscopic radical prostatectomy offers:

- Less pain
- Fewer complications
- Shorter hospital stays
- Faster recovery
- Earlier return of urinary control
- Improved sexual function
- Less internal scarring

RADIATION THERAPY

Radiation therapy is frequently used as treatment for prostate cancer. It involves the use of high-energy x-rays to kill cancer cells. In early stage prostate cancer, radiation can be used instead of surgery, or it may be used after surgery to destroy any cancer cells that may remain in the area.

EXTERNAL BEAM RADIATION

What is external beam radiation therapy?

External beam radiation is radiation treatment directed at a portion of the body from outside it. There are several varieties of external beam radiation such as conformal, rotational or wide field, IMRT and proton beam irradiation.

How is it administered?

External beam therapy is administered as an outpatient therapy over a five to seven week period. Several different ports (entrance sites for the x-ray beam) are used so that the tissues surrounding the prostate get less radiation than the cancer. It is often given by the 3-D conformal radiation technique, using a computer to closely control the radiation to an area. Intensity modulated radiation therapy (IMRT) -- is a more intensive 3-D mode that confines the radiation more precisely.

Are there any side effects?

Frequently a patient will feel very tired during the later stages of radiation. There may also be temporary or long-term bladder or bowel irritability or bleeding. Impotence eventually occurs in about 50% of those receiving radiation treatment, but incontinence is rare unless it already existed before treatment.

BRACHYTHERAPY

What is brachytherapy?

Brachytherapy involves placing tiny pellets (also called seeds) containing radioactivity directly into the prostate. Once in place, these implants release radiation directly into the cancer cells. These seed implants are very small (smaller than grains of rice) and are put into place using needles. This procedure is performed using spinal anesthesia that numbs from the waist down. General anesthesia can also be used. Placement of the seeds takes about one hour and is done on an outpatient basis.

What is the treatment process?

To prepare for treatment, a doctor will do tests to determine the exact size and configuration of the prostate. These studies will also allow the doctor to determine where seed implants need to be placed. These implants are permanent. However, they stop giving off radiation after about ten months.

What are the benefits of this treatment?

Seed implantation does not require a surgical incision, so less recovery time is needed. Most patients return

to normal activities three or four days after the procedure. Because the radioactive seeds are implanted directly into the cancer, healthy tissue is less affected.

Do the implants affect more than the prostate?

These seed implants (Iodine-125 for example) give off radiation that does not travel far. In most cases, it does not travel outside of the prostate. The amount of radiation in the seed implants is not considered a risk for others around you.

What are the possible side effects?

Radiation therapy can cause minor side effects, such as:

- Temporary soreness at the site
- Frequent or uncomfortable urination due to the radiation - this decreases within 6 to 12 months after the procedure

CRYOTHERAPY

Cryosurgery uses liquid nitrogen or argon gas to freeze and kill prostate cancer cells. Guided by a Trans Rectal Ultra Sound (TRUS), the doctor places needles in pre-selected locations in the prostate gland, and then dilates the needle tracks to insert thin, metal cryoprobes through the skin of the perineum into the prostate. Liquid nitrogen in the probes forms an ice ball that freezes the prostate cancer cells. As the cells thaw, they rupture.

During cryosurgery, a warming catheter inserted through the penis is intended to protect the urethra and preserve continence. However, because the overlying nerve bundles usually freeze, most men who have cryosurgery become sexually impotent. Moreover, while cryosurgery is less invasive than radical prostatectomy, doctors know much less about its long-term effectiveness.

HORMONE THERAPY

Another form of prostate cancer treatment is hormone therapy. More specifically, androgen suppression therapy keeps cancer cells from getting the male hormones they need to grow.

What are androgens?

The main androgen is testosterone. Androgens, produced mainly in the testicles, can cause prostate cancer cells to grow. Lowering androgen levels can make prostate cancers shrink or grow more slowly.

What are the different types of androgen suppression therapy?

There are several different methods used for androgen suppression therapy...

Orchiectomy: This operation involves the removal of the testicles. Ninety percent of androgens, mostly testosterone, are produced in the testicles. Orchiectomy removes this source and shrinks most prostate cancers. While this is as a simple outpatient procedure, it is understandably met with resistance by many men.

Luteinizing Hormone-Releasing Hormone (LHRH) Analogs: These are drugs injected into the muscles several times per year. They are as effective as orchiectomy.

Anti-Androgens: Anti-androgens block the body's ability to use any androgens. Even after orchiectomy or during treatment with LHRH analogs, a small amount of androgen is still produced by the adrenal glands. Anti-androgens can also be used in combination with orchiectomy or LHRH analogs for total androgen blockade.

Intermittent Androgen Suppression Therapy: Nearly all prostate cancers treated with androgen suppression therapy over a period of months or years eventually become resistant to this treatment. With intermittent therapy, androgen suppression is stopped after blood PSA level drops to a low level. If PSA levels begin to rise, the drugs are started again. This intermittent therapy may be as effective as continuous suppression, and it enhances the quality of life for the patient. This is an area of medical controversy.

CHEMOTHERAPY

Chemotherapy is the use of powerful drugs to destroy cancer cells. It is not often employed for prostate cancer patients – particularly when the disease is in its early stages. However, it may be used if the cancer has spread to other areas. And it can also be used with other therapies to slow the cancer's growth and reduce pain.

Several promising anticancer drugs are either under investigation, or are being used in conjunction with surgery or radiation therapy for men with advanced prostate cancer. Chemotherapy is also being tried along with hormonal therapy in men whose advanced cancers are no longer responsive to hormonal therapy alone.

Shore Health Systems uses the very latest therapies to fight cancer. Our physicians are at the forefront in the implementation and study of chemotherapy to fight all cancers, including urological cancers.