

# Prostate Cancer: Treatment Options

*There are different types of treatment for patients with prostate cancer.*

## *Part Two in a Two-Part Series*

Different types of treatment are available for patients with prostate cancer. Some treatments are standard (the currently used treatment), and some are being tested in clinical trials. Before starting treatment, patients may want to think about taking part in a clinical trial. A treatment clinical trial is a research study meant to help improve current treatments or obtain information on new treatments for patients with cancer. When clinical trials show that a new treatment is better than the standard treatment, the new treatment may become the standard treatment.

Clinical trials are taking place in many parts of the country. Information about ongoing clinical trials is available from the NCI Web site. Choosing the most appropriate cancer treatment is a decision that ideally involves the patient, family and health care team.

Four types of standard treatment are used:

### *Watchful Waiting*

Watchful waiting is closely monitoring a patient's condition without giving any treatment until symptoms appear or change. This is usually used in older men with other medical problems and early-stage disease.

### *Surgery*

Patients in good health who are

younger than 70 years old are usually offered surgery as treatment for prostate cancer. The following types of surgery are used:

**Pelvic lymphadenectomy:** A surgical procedure to remove the lymph nodes in the pelvis. A pathologist views the tissue under a microscope to look for cancer cells. If the lymph nodes contain cancer, the doctor will not remove the prostate and may recommend other treatment.

**Radical prostatectomy:** A surgical procedure to remove the prostate, surrounding tissue, and nearby lymph nodes. There are 2 types of radical prostatectomy:

**Retropubic prostatectomy:** A surgical procedure to remove the prostate through an incision (cut) in the abdominal wall. Removal of nearby lymph nodes may be done at the same time.

**Perineal prostatectomy:** A surgical procedure to remove the prostate through an incision (cut) made in the perineum (area between the scrotum and anus). Removal of nearby lymph nodes may be done at the same time.

**Transurethral resection of the prostate (TURP):** A surgical procedure to remove tissue from the prostate using a cystoscope (a thin, lighted tube) inserted through the urethra. This procedure is sometimes done to relieve symptoms caused by a tumor before other cancer treatment is given. Transurethral resection of the prostate may also be done in men who cannot have a radical prostatectomy

because of age or illness.

Impotence and leakage of urine from the bladder or stool from the rectum may occur in men treated with surgery. In some cases, doctors can use a technique known as nerve-sparing surgery. This type of surgery may save the nerves that control erection. However, men with large tumors or tumors that are very close to the nerves may not be able to have this surgery.

### *Radiation Therapy*

Radiation therapy is a cancer treatment that uses high-energy x-rays or other types of radiation to kill cancer cells. There are two types of radiation therapy. External radiation therapy uses a machine outside the body to send radiation toward the cancer. Internal radiation therapy uses a radioactive substance sealed in needles, seeds, wires, or catheters that are placed directly into or near the cancer. The way the radiation therapy is given depends on the type and stage of the cancer being treated.

Impotence and urinary problems may occur in men treated with radiation therapy.

### *Hormone Therapy*

Hormone therapy is a cancer treatment that removes hormones or blocks their action and stops cancer cells from growing. Hormones are substances produced by glands in the body and circulated in the bloodstream. The presence of some hormones can cause certain cancers to grow. If tests show that the cancer cells have places where hormones can attach (receptors), drugs, surgery, or radiation therapy are used to reduce the production of hormones or block them from working.

Hormone therapy used in the treatment of prostate cancer may include the following:

Luteinizing hormone-releasing hormone agonists can prevent the testicles from producing testosterone. Examples are leuprolide, goserelin, and buserelin.

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## Prostate Cancer—

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Antiandrogens can block the action of androgens (hormones that promote male sex characteristics). Two examples are flutamide and bicalutamide.

Drugs that can prevent the adrenal glands from making androgens include ketoconazole and aminoglutethimide.

Orchiectomy is a surgical procedure to remove one or both testicles, the main source of male hormones, to decrease hormone production.

Estrogens (hormones that promote female sex characteristics) can prevent the testicles from producing testosterone. However, estrogens are seldom used today in the treatment of prostate cancer because of the risk of serious side effects.

Hot flashes, impaired sexual function, and loss of desire for sex may occur in men treated with hormone therapy.

Other types of treatment are being tested in clinical trials. These include the following:

### Cryosurgery

Cryosurgery is a treatment that uses an

instrument to freeze and destroy prostate cancer cells. This type of treatment is also called cryotherapy.

### Chemotherapy

Chemotherapy is a cancer treatment that uses drugs to stop the growth of cancer cells, either by killing the cells or by stopping the cells from dividing. When chemotherapy is taken by mouth or injected into a vein or muscle, the drugs enter the bloodstream and can reach cancer cells throughout the body (systemic chemotherapy). When chemotherapy is placed directly into the spinal column, an organ, or a body cavity such as the abdomen, the drugs mainly affect cancer cells in those areas (regional chemotherapy). The way the chemotherapy is given depends on the type and stage of the cancer being treated.

### Biologic Therapy

Biologic therapy is a treatment that uses the patient's immune system to fight cancer. Substances made by the body or made in a laboratory are used to boost, direct, or restore the body's natural defenses against cancer. This type of cancer treatment is also called biotherapy or immunotherapy.

### High-Intensity Focused Ultrasound

High-intensity focused ultrasound is a treatment that uses ultrasound (high-energy sound waves) to destroy cancer cells. To treat prostate cancer, an endorectal probe is used to make the sound waves.

This summary section refers to specific treatments under study in clinical trials, but it may not mention every new treatment being studied. Information about ongoing clinical trials is available from the NCI Web site.

### Stage I Prostate Cancer

Treatment of stage

I prostate cancer may include the following:

- ~ Watchful waiting.
- ~ Radical prostatectomy, usually with pelvic lymphadenectomy, with or without radiation therapy after surgery. It may be possible to remove the prostate without damaging nerves that are necessary for an erection.
- ~ External-beam radiation therapy.
- ~ Implant radiation therapy.
- ~ A clinical trial of high-intensity focused ultrasound.
- ~ A clinical trial of radiation therapy.
- ~ A clinical trial evaluating new treatment options.

This summary section refers to specific treatments under study in clinical trials, but it may not mention every new treatment being studied. Information about ongoing clinical trials is available from the NCI Web site.

### Stage II Prostate Cancer

Treatment of stage II prostate cancer may include the following:

- ~ Radical prostatectomy, usually with pelvic lymphadenectomy, with or without radiation therapy after surgery. It may be possible to remove the prostate without damaging nerves that are necessary for an erection.
- ~ Watchful waiting.
- ~ External-beam radiation therapy.
- ~ Implant radiation therapy.
- ~ A clinical trial of radiation therapy with or without hormone therapy.
- ~ A clinical trial of ultrasound-guided cryosurgery.
- ~ A clinical trial of hormone therapy followed by radical prostatectomy.
- ~ A clinical trial evaluating new treatment options.

This summary section refers to specific treatments under study in clinical trials, but it may not mention every new treatment being studied. Information about ongoing clinical trials is available from the NCI Web site.

### Stage III Prostate Cancer

Treatment of stage III prostate cancer may include the following:

- ~ External-beam radiation therapy with or without hormone therapy.
- ~ Hormone therapy.
- ~ Radical prostatectomy, usually with pelvic lymphadenectomy, with or without radiation therapy after surgery.

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- ~ Watchful waiting.
- ~ Radiation therapy, hormone therapy, or transurethral resection of the prostate as palliative therapy to relieve symptoms caused by the cancer.
- ~ A clinical trial of radiation therapy.
- ~ A clinical trial of ultrasound-guided cryosurgery.
- ~ A clinical trial evaluating new treatment options.

This summary section refers to specific treatments under study in clinical trials, but it may not mention every new treatment being studied. Information about ongoing clinical trials is available from the NCI Web site.

### Stage IV Prostate Cancer

Treatment of stage IV prostate cancer may include the following:

- ~ Hormone therapy.
- ~ External-beam radiation therapy with or without hormone therapy.
- ~ Radiation therapy or transurethral

resection of the prostate as palliative therapy to relieve symptoms caused by the cancer.

- ~ Watchful waiting.
- ~ A clinical trial of radical prostatectomy with orchiectomy.
- ~ A clinical trial of chemotherapy.

This summary section refers to specific treatments under study in clinical trials, but it may not mention every new treatment being studied. Information about ongoing clinical trials is available from the NCI Web site.

### Treatment Options for Recurrent Prostate Cancer

Treatment of recurrent prostate cancer may include the following:

- ~ Radiation therapy.
- ~ Prostatectomy for patients initially treated with radiation therapy.
- ~ Hormone therapy.
- ~ Pain medication, external radiation therapy, internal radiation therapy with radioisotopes such as strontium-89, or other treatments as palliative therapy to lessen bone pain.
- ~ A clinical trial of ultrasound-guided

cryosurgery.

~ A clinical trial of chemotherapy or biological therapy.

This summary section refers to specific treatments under study in clinical trials, but it may not mention every new treatment being studied. Information about ongoing clinical trials is available from the NCI Web site.

(Editor's Note: This information is provided by the American Cancer Institute. This is the second part of a two-part series).

### Did You Know...

*Each king in a deck of playing cards represents a king from history:*

*Spades: King David  
Hearts: Charlemagne  
Clubs: Alexander the Great  
Diamonds: Julius Caesar*

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