

# Advanced Prostate Cancer Patient Guide



## Table of Contents

<b>Prostate Health Committee</b> . . . . .	2
<b>Phil's Story: A Patient Story</b> . . . . .	3
<b>Introduction: Treatment Offers Hope</b> . . . . .	3
<b>GET THE FACTS</b> . . . . .	4
What is the Prostate? . . . . .	4
What is Prostate Cancer? . . . . .	4
What is Advanced Prostate Cancer? . . . . .	4
What are the Symptoms of Advanced Prostate Cancer? . . . . .	5
<b>GET DIAGNOSED</b> . . . . .	5
Biopsy . . . . .	5
Imaging . . . . .	6
Grading . . . . .	6
Staging . . . . .	6
<b>GET TREATED</b> . . . . .	8
Hormone Therapy . . . . .	8
Immunotherapy . . . . .	9
Bone Targeted Therapy . . . . .	11
Chemotherapy . . . . .	11
Radiation Therapy . . . . .	12
<b>AFTER TREATMENT</b> . . . . .	12
Get Support . . . . .	12
<b>GLOSSARY</b> . . . . .	13
<b>QUESTIONS TO ASK YOUR DOCTOR</b> . . . . .	14
<b>About the Urology Care Foundation . . . . [back cover]</b>	

## Prostate Health Committee

### CHAIR

#### **Paul H. Lange, MD, FACS**

The University of Washington School of Medicine  
*Seattle, WA*

### PANEL MEMBERS

#### **Kevin T. McVary, MD, FACS**

Southern Illinois University School of Medicine  
*Springfield, IL*

#### **J. Curtis Nickel, MD, FRCS**

Kingston General Hospital Research Institute  
*Kingston, ON*

#### **Paul F. Schellhammer, MD, FACS**

Urology of Virginia  
*Norfolk, VA*

#### **Kathryn L. Taylor, PhD**

Georgetown Lombardi Comprehensive Cancer Center  
*Washington, DC*

#### **W. Bedford Waters, MD**

The University of Tennessee Medical Center  
*Knoxville, TN*

## Phil's Story: A Patient Story

When I was 55 years old, I had a slightly elevated prostate-specific antigen (PSA) test of a little over 5. I went ahead and did a biopsy. The biopsy came back negative. I assumed I was fine, I felt fine. I stayed fit and ran 15-20 miles a week. After a few years my wife, a nurse, would say, "You have to go and get yourself tested." Finally at 60, she said "Phil, get a physical!" I did. The PSA score was up to 30. The most recent biopsy said I had advanced stage prostate cancer with a Gleason score of 10. I was still running daily and had no sense that I had cancer.

It was really tough to figure out what to do. I felt my choices were limited because I was so advanced. When I look back now, I wish I didn't wait so long to get tested again. We have to be our own advocates. We have to be reminded that bad stuff can happen if we don't keep tabs on our health.

When you're diagnosed with advanced cancer, we all fear what we don't know. What helped me most was to learn everything I could about my options. I began to learn about what I could do and what to expect, and it helped. By learning everything I could, it helped me make treatment decisions along with my doctor. I asked a lot of questions. I went with an aggressive form of treatment—and now I'm going to be around for quite some time.

Whether we're talking with a surgeon or radiation oncologist, men can't be afraid to ask questions and get second opinions. We must learn everything we can do to treat this cancer, and about its side effects!



*Phil Shulka is a 70-year-old prostate cancer survivor. He has had a prostatectomy, radiation and hormone therapy. He is also a recovery coach with Chesapeake Urology. He has visited over 500 men in the hospital who have been diagnosed with prostate cancer.*

It was tough when I had to deal with the side effects that men really fear—impotence and incontinence. Fortunately, I had surgeries to correct these problems. I'm not the same as I was before, but I'm alive and well. I have learned to accept, appreciate and deal with what I've been dealt.

Now I work as a recovery coach. There are many men like me who are available to help men who are newly diagnosed talk through what to expect. I would say that the best support that I had during this process was being able to talk to someone who's been there.

I recommend going to support groups. Find someone to talk with. More men get prostate cancer than women get breast cancer. You have to be open to talking about what you are going through. Men can feel better after talking to someone else who has been there. Remember you can live with this.

## Introduction: Treatment Offers Hope

Hearing you have advanced prostate cancer can take your breath away. It's hard to believe the news. Most people feel desperate, upset or angry at first. Give yourself time and space to take in what's happening. You'll have big decisions to make about treatment, and your future. There is plenty of information and many sources of support available to you.

If you look at statistics, remember that survival rates are only estimates. The average 5-year survival rate for late stage prostate cancer is about 2 to 3 out of 10 men. Though prostate cancer is quite serious, there are 2.5 million men in the U.S. today who are survivors. The survival rates can't predict what will happen to you.

Fighting the battle against prostate cancer involves a team.

Your urologist, oncologist, other health care providers, your family and friends make up your team. Your treatment choice should be based on your personal health and age and fully discussed with your doctor and family. While treatment choices differ, each year more men are finding more options.

Advanced cancer is difficult to treat, but researchers are making great strides in the fight. New treatments for advanced cancer are offering more hope. Men with incurable disease who are treated with the latest drugs can live nearly three times longer than men treated in the past.

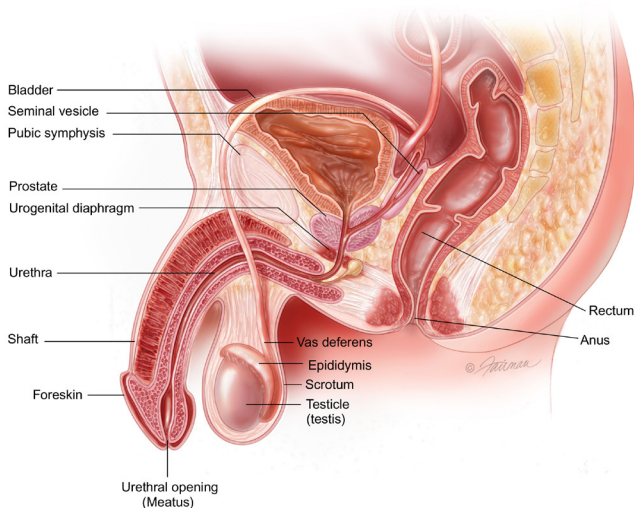
Hope begins with learning more about your health and options.

### What is the Prostate?

The **prostate** is part of the male reproductive system. It is about the size of a walnut and weighs an ounce or so. The prostate sits below the **bladder** and in front of the **rectum**. The prostate goes all the way around a tube called the **urethra**. The urethra carries **urine** from the bladder out through the **penis**.

The main job of the prostate is to make fluid for semen. During **ejaculation**, sperm made in the **testicles** moves to the urethra. At the same time, fluid from the prostate and the **seminal vesicles** also moves into the urethra. This mixture—**semen**—goes through the urethra and out of the penis.

FIGURE 1 MALE REPRODUCTIVE SYSTEM



### What is Prostate Cancer

Prostate cancer is when abnormal cells form and grow in the prostate. Not all abnormal growths, or **tumors**, are cancerous (malignant). Some tumors are not cancerous (benign).

#### BENIGN GROWTHS (SUCH AS BENIGN PROSTATIC HYPERTROPHY (BPH):

- Are rarely a threat to life
- Don't spread to nearby **tissue**
- Don't spread to other parts of the body

- Can be removed and can grow back very slowly (however, it often doesn't grow back)

#### MALIGNANT GROWTHS (SUCH AS PROSTATE CANCER):

- Can spread to nearby organs and tissues (such as the bladder or rectum)
- Can spread to other parts of the body
- May be removed but grow back
- Can threaten a man's life

Prostate cancer cells spread when they break away from a prostate tumor. They can travel through blood or **lymph nodes** to reach other parts of the body. After spreading, cancer cells may attach to other tissues. They can form new tumors that can damage those tissues.

When prostate cancer spreads to another part of the body, the new growth has the same type of cells. For example, if prostate cancer spreads to the bones, the cancer cells found there are still prostate cancer cells. For this reason, the disease is called "metastatic prostate cancer" and not bone cancer. It is treated as prostate cancer, no matter where it's found.

### What is Advanced Prostate Cancer?

Advanced prostate cancer is when cancer has spread beyond the prostate. It can also be when the cancer has not responded to hormone treatment. There are a few main groups of advanced prostate cancer:

- **Metastatic Prostate Cancer:** Prostate cancer is found beyond the prostate in other tissues or organs. Most common places: the lymph nodes outside the pelvis, bones, lungs, liver, or brain. Men can be diagnosed with metastatic prostate cancer right away (rare), soon after treatment, or many years after.
- **Castration-Resistant Prostate Cancer (CRPC):** CRPC means that cancer has grown after hormone therapy. If the cancer cells "outsmart" hormone treatment, they learn how to grow even without testosterone to fuel its growth. With this condition, your **prostate-specific antigen (PSA)** is high or your cancer shows other signs of growth after hormone treatment.
- **Metastatic Castration-Resistant Prostate Cancer (mCRPC):** If your PSA is high after hormone treatment

and your cancer has spread beyond the prostate, you have mCRPC. Many of the newest treatments are for men diagnosed with mCRPC.

- **Biochemical recurrence:** If your PSA is high after initial treatment but you have no other sign of cancer, it's called biochemical **recurrence**. Hormone treatment can help. This form of advanced prostate cancer has more options for treatment and has a better survival rate than the others.

Generally, advanced prostate cancer is difficult to treat. When it has spread far from the prostate, it is not curable. However, if advanced prostate cancer is found in only a few pelvic lymph nodes, treatment is available and a patient may be cured. Also, if advanced prostate cancer is "hormone naive" and not responding to hormone treatment, other options can help. It's important to note that newer treatments are helping men diagnosed with advanced cancer feel better, longer. It helps to learn about your range of treatment options.

## GET DIAGNOSED

Your health care provider will want to know where cancer has spread, and how it affects you. This information will direct your treatment options.

The PSA blood test is used mainly to screen for prostate cancer in men without symptoms. It's also one of the first tests done in men who have symptoms that might be caused by cancer.

To confirm that cancer is present, a **biopsy** will be done. It is also used to grade and stage the cancer. Most men diagnosed with advanced prostate cancer have had a prostate biopsy in the past. When a new tumor is found in someone who has been treated before, it's usually cancer that's spread.

***"Patients have to take control and to be their own advocate." -Phil***

Your **urologic oncologist** or other provider will also look for cancer outside the prostate. Blood and imaging tests will be done. Imaging tests, like a bone scan, **x-rays, CT scans, MRI**, or others, are done to see inside your body.

## What are the Symptoms of Advanced Prostate Cancer?

Men with advanced prostate cancer may have no symptoms at all.

When men do have symptoms, they feel tired or weak, have lost weight, feel pain or have shortness of breath. Or, they have problems going to the bathroom and see blood in their urine. When prostate cancer spreads to the pelvic bones, you can feel lower back or hip pain. Symptoms depend on the size of tumor(s) and where the cancer has spread.

## Biopsy

A biopsy is a tissue sample taken from your prostate or other organs to look for cancer cells. The biopsy removes small pieces of tissue for review under a microscope.

Before the biopsy, you will be asked to take an antibiotic to prevent infection. During the biopsy, you lie on your side and an **ultrasound** probe goes into the rectum. The probe is used to see inside your body.

First, your health care provider takes a picture of the prostate using the ultrasound. The prostate gland size, shape and any things that look "off" are noted. Shadows are commonly noted as abnormal. Not all shadows are cancer, but they are a sign to look closer. Not all cancers can be seen.

Next, the prostate gland is numbed through the probe. Ten or more small samples of prostate tissue are removed. The number of samples used depends on the size of the prostate gland, PSA test results, and past biopsies.

The biopsy takes 10 to 20 minutes. A **pathologist** (a doctor who classifies disease) looks for cancer cells within the samples. If cancer is seen, the pathologist will "grade" the tumor.

Because of the biopsy, you may see blood in your ejaculate and urine. This will stop within a few days for urine and a few weeks for semen. A few men will have a high fever after a biopsy. If so, antibiotics will be prescribed.

## Imaging

- **Bone scan:** If prostate cancer spreads to distant sites, it often goes to the bones first. A bone scan can help show if cancer has reached the bones. In these studies, a radionuclide dye is injected into the body. Over a few hours, images are taken of the bones. The dye helps to make images of cancer show up more clearly.
- **Computed tomography (CT) scan:** The CT scan is used to evaluate cross-sectional slices of tissue and organs. It combines x-rays and computer calculations for detailed images from different angles. It can show solid vs. liquid structures, so it is used to diagnose masses in the urinary tract. CT scans are not as useful as magnetic resonance imaging (MRI) to see the prostate gland itself.
- **Magnetic resonance imaging (MRI):** MRI scans use radio waves and strong magnets instead of x-rays. MRI scans can give a very clear picture of the prostate and show if the cancer has spread into the seminal vesicles or nearby tissue. A contrast dye is often injected into a vein before the scan to see details.

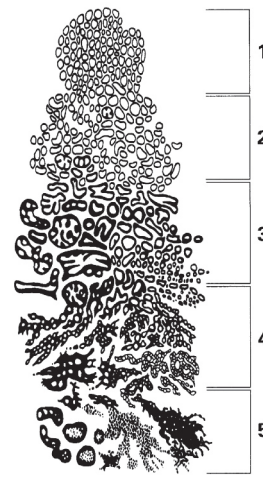
## Grading

The grade is a measure of how quickly the cancer cells can grow and affect other tissue. The pathologist will look at the cells to give them a grade. The most common grading system for prostate cancer is the **Gleason Score**.

In the Gleason Score system, cells are given a score from 2 (least aggressive) to 10 (most aggressive). To find a tumor's grade, the pathologist scores several bits of tissue from the biopsy on a scale of 1-5. The pathologist then adds the two most common scores together. For advanced prostate cancer, low scores are almost never seen.

It's important to know your Gleason Score to understand how fast the cancer will spread.

### The Gleason Scale



Grade \_\_\_ + Grade \_\_\_ = Score \_\_\_

**Gleason grade** Lower grades are assigned to samples with small, closely packed glands. Cells spread out with a loose glandular structure are graded higher. Gleason score is calculated by adding the two most common grades found.

## Staging

Tumor stage explains the size and spread of the cancer. Tumors that have spread to places far from the prostate, like to lymph nodes or bone, are very difficult to treat.

Tumor, Nodes and Metastasis (TNM) is the system used for tumor staging.

### FIGURE 3. TUMOR STAGING

#### TNM (Tumor, Nodes, Metastasis) Prostate Cancer Staging System

TNM	STAGE	DESCRIPTION
<b>Tumor (T)</b>	<b>TX</b>	Tumor cannot be assessed
	<b>T0</b>	No evidence of tumor
	<b>T1</b>	Clinically unapparent tumor not detected by physical exam (DRE) or visible by imaging
	T1a	Tumor found incidentally in tissue removed from prostate for other reasons, histologic finding in less than 5% of tissue resected
	T1b	Tumor found incidentally in tissue removed from prostate for other reasons, histologic finding in more than 5% of tissue resected
	T1c	Tumor identified by needle biopsy because of elevated PSA
	<b>T2</b>	Tumor confined within the prostate
	T2a	Tumor involves 50% of one lobe or less
	T2b	Tumor involves more than 50% of one lobe but not both lobes
	T2c	Tumor involves both lobes
	<b>T3</b>	Tumor extends outside the prostate capsule
	T3a	Extracapsular extension (unilateral or bilateral)
	T3b	Tumor invades the seminal vesicles
	<b>T4</b>	Tumor invades nearby structures other than the seminal vesicles, such as the bladder or rectum
<b>Regional Lymph Nodes (N)</b>	<b>NX</b>	Regional lymph nodes were not assessed
	<b>N0</b>	No spread to nearby lymph nodes
	<b>N1</b>	Metastasis in nearby lymph node(s)
<b>Distant Metastasis (M)</b>	<b>MX</b>	Distant metastasis cannot be assessed (not evaluated)
	<b>M0</b>	No distant metastasis
	<b>M1</b>	Distant Metastasis
	M1a	Lymph node(s) outside of nearby area
	M1b	Bone(s)
	M1c	Other site(s) with or without bone disease
<b>Microscope Exam</b>	<b>GX</b>	Grade cannot be assessed
	<b>G1</b>	Gleason 2-4
	<b>G2</b>	Gleason 5-6
	<b>G3-4</b>	Gleason 7-10

## USING THE "T" PART OF THE SYSTEM, PROSTATE CANCER IS STAGED AS:

- T1: Health care provider cannot feel the tumor
- T1a: Cancer present in less than 5% of the tissue removed and low grade (Gleason less than 6)
- T1b: Cancer present in more than 5% of the tissue removed or is of a higher grade (Gleason greater than 6)
- T1c: Cancer found by needle biopsy done because of a high PSA
- T2: Health care provider can feel the tumor with a DRE but the tumor is confined to prostate
- T2a: Cancer found in 1/2 or less of one side (left or right) of the prostate
- T2b: Cancer found in more than 1/2 of one side (left or right) of the prostate
- T2c: Cancer found in both sides of the prostate
- T3: Cancer has begun to spread outside the prostate and may involve the seminal vesicles
- T3a: Cancer extends outside the prostate but not to the seminal vesicles
- T3b: Cancer has spread to the seminal vesicles
- T4: Cancer has spread to nearby organs such as the

urethral sphincter, rectum, bladder, or pelvis wall

- N0 stage, there is no sign of the cancer moving to the lymph nodes in the area of the prostate.
- M0 stage, there is no sign of tumor metastasis.
- If the cancer is spreading to the lymph node or if the tumor has spread to other parts of the body, the stage is changed. It becomes either N1, for node, and/or M1, for metastasis.

## PROSTATE CANCER STAGE GROUPINGS

<b>Stage I</b>	T1a, N0, M0, G1
<b>Stage II</b>	T1a, N0, M0, G2-4
	T1b, N0, M0, any G
	T1, N0, M0, any G
<b>Stage III</b>	T2, N0, M0, any G
	T3, N0, M0, any G
<b>Stage IV</b>	T4, N0, M0, any G
	Any T, N1, M0, any G
	Any T, any N, M1, any G

## GET TREATED

With advanced cancer, the goal of treatment is to relieve symptoms and help you live longer. Most aggressive prostate cancers cannot be cured, so the goal is to manage side effects. The most common treatments are:

- **Hormone therapy**
- **Immunotherapy**
- **Bone targeted therapy**
- **Chemotherapy**
- **Radiation therapy**

*“One of the toughest things to deal with is making a decision about what you’re going to have done. Fortunately, we’ve come a long way with treatment options for men with advanced cancer.” - Phil*

## Hormone Therapy

Hormone therapy is any treatment that lowers a man's androgen levels. Androgens are male sex hormones, like testosterone. Testosterone is the main fuel for prostate cancer cells, so blocking it may slow the cancer. This process is also called medical castration.

There are several types of hormone therapy (also called ADT: androgen deprivation therapy). Some are better at treating advanced disease than others. The main types are:

- Surgery to remove the testicles (Orchiectomy)
- LHRH or GnRH agonists
- LHRH or GnRH antagonists
- CAB/anti-androgens
- Estrogen therapy



Hormone therapy treatment can help men whose prostate cancer has metastasized (spread) from the prostate or when prostate cancer has come back after treatment has failed. It may also be used to shrink a local tumor to make room for radiation treatment.

Unfortunately it tends to work for only a few years. Over time, the cancer can grow in spite of the low hormone level. Hormone therapy does not cure the cancer. Other treatments are also needed to manage the cancer.

Hormone therapies have many side effects. Learn what they are. Intermittent (not constant) hormone therapy may also be a good treatment option. Before starting any type of hormone therapy, talk with your health care provider.

Possible hormone therapy side effects include:

- Lower libido (sexual desire) in most men.
- **Erectile dysfunction** (inability to have or keep a strong enough erection for sex).
- Hot flashes (sudden spread of warmth to the face, neck and upper body, heavy sweating). Medicines can help control these.
- Weight gain of 10 to 15 pounds. Dieting, eating fewer processed foods and exercising can reduce weight gain.
- Mood swings.
- Depression. Symptoms include loss of hope and loss of interest in enjoyable activities. Or, not being able to concentrate and changes in appetite and sleeping.
- Fatigue (tiredness) that doesn't go away caused by lower testosterone.
- Anemia (low red blood cell count). Less oxygen gets to tissues and organs, causing tiredness or weakness. It can be treated with medicines, vitamins and minerals.
- Loss of muscle mass. This may cause weakness or low strength. Progressive weight-bearing exercise help improve strength.
- Osteoporosis (loss of bone mineral density). This means bones become thinner, brittle and break easier. It can be treated with medicine, calcium and vitamin D, and weight-bearing exercise to strengthen bones.
- Memory loss.
- High cholesterol, especially LDL ("bad") cholesterol.
- Breast nipple tenderness.
- Increased risk of diabetes (40% higher compared to men not on ADT).
- Heart disease. Some studies show men on ADT are at higher risk for heart problems. Others have not shown this. The effect of ADT on the heart is still unknown.

## Orchiectomy

Orchiectomy is surgery to remove the testicles. It is also called surgical castration. The testicles make most of the body's testosterone. Orchiectomy removes the testicles to stop the body from making the male hormone that feeds prostate cancer cells.

This surgery is not expensive, it's simple and has few risks. It only needs to be performed once to work. Testosterone levels drop dramatically. There is often fast relief from cancer symptoms.

It is usually done as an outpatient surgery. It may be done with local or general **anesthetic**. The **urologist** makes a small cut in the scrotum (sac that holds the testicles). The testicles are removed. The vas deferens (tube that carries sperm to the prostate before ejaculation) is divided. Then the sac is sewn up. The main risks are infection and bleeding.

Many men feel uncomfortable with this surgery because it's permanent. The genital area will look different. Concerns about body image or self-image may lead men not to choose surgical castration. However, it is possible to have artificial testicles or saline implants placed in the scrotum after orchiectomy surgery. This makes the area look similar to before surgery.

Men who choose this therapy want a one-time surgical treatment. They must be healthy enough to have surgery. And they must be willing to have their testicles removed.

***"Not everyone has the same issues with side effects, but if you avoid treatment because you're afraid of things like – wearing a diaper for the rest of your life or never getting an erection again – then you may miss the chance to treat this cancer. I was able to treat the cancer, AND get treatment for impotence and incontinence." -Phil***

## LHRH or GnRH agonists

This hormone therapy is used for recurrent cancer, whether or not it has spread. Possible agonists include:

- Lupron (Leuprolide)
- Zoladex (Goserelin)
- Trelstar (Triptorelin)
- Vantas (Histrelin)

LHRH or GnRH agonists are man-made, powerful versions of natural LHRH hormone. LHRH causes your body to make luteinizing hormone (LH), which leads your body to make testosterone. The LHRH agonist mimics normal LHRH and fills the pituitary gland receptors that hold this hormone. Because they are "fake", they cause your body to react at first with a burst of testosterone (called a "hormone flare"). But, since the fake LHRH or GnRH remains longer than normal, they soon cause your body to stop making testosterone.

Side effects include the "flare up" from the agonist treatment. A "flare up" is when your body first makes extra LH and testosterone immediately after using an LHRH drug. About 7-10 days later, these hormones stop being produced by your body. After your testosterone levels drop to almost 100%, you are at "castration level." It's the same as if your testicles were gone. Once testosterone levels drop, prostate cancer cells stop growing.

## LHRH or GnRH antagonists

This medicine blocks the release of natural LH. When LH isn't released, your body stops making testosterone. The drug used is Firgimagon (Degarelix).

Antagonists are injected (shot) in the buttocks every month. It is done in the health care provider's office. Your doctor will want to make sure you have no allergic reaction. After the first shot, a blood test is done. This is done to check testosterone levels. For both antagonists and agonists, you may also have tests to monitor your bone density.

With LHRH treatment there is no need for surgery. The main downside to LHRH treatment is the cost. The injections are more expensive than a one-time surgery. Check to see if your health insurance covers this option.

Men who cannot or do not wish to have surgery are good candidates for this treatment.

## Combined androgen blockade (CAB)/anti-androgen therapy

This treatment combines castration and anti-androgen therapy. It is called combined androgen blockade (CAB), or anti-androgen therapy. CAB/anti-androgen therapy blocks the androgen receptors in prostate cells. Normally, testosterone would bind with these receptors. This fuels prostate cancer cell growth. With the receptors blocked, testosterone cannot "feed" the cells.

The testicles produce almost all of the body's testosterone. To stop your testicles from making testosterone you can have surgery or take oral drugs. The rest of the testosterone is made by the adrenal glands. Anti-androgen therapy blocks testosterone made by the adrenal glands.

Your doctor may choose to use anti-androgens for a short period of time (1 to 2 months). It may be used long-term when androgen deprivation therapy (ADT) starts. Or, it may be used when other hormone therapies are no longer effective.

There are two anti-androgen drugs approved by the FDA in the U.S.:

- Flutamide (Eulexin®)
- Bicalutamide (Casodex®)

You and your doctor will weigh the benefits and risks of this therapy versus others. A good choice for you depends partly on where the cancer has spread and how you feel.

## Estrogen Hormone Therapy

Estrogens are female sex hormones. They can be used to block testosterone produced in the testicles. Estrogens were the first oral form of ADT used to treat prostate cancer. They can slow cancer growth, but they cause dangerous side effects. Some patients had heart attacks, strokes and blood clots from this therapy.

Estrogens can now be delivered through a patch to the skin (transdermal delivery). The patch system reduces dangerous side effects for the heart. Still, no matter how estrogen is delivered, men will experience breast discomfort and enlargement.

Estrogen hormone therapy is not often used because of the side effects. Still, clinical trials are underway that may increase the use of estrogens in the future.

## New Hormone Therapies for mCRPC

Scientists have made new discoveries in how to treat metastatic CRPC (mCRPC). And changes are being made to make existing treatments work better. New options may help delay symptoms and extend life.

If you have mCRPC, your health care provider may prescribe one of these treatments:

- **Androgen synthesis inhibitors:** Abiraterone acetate (Zytiga®) is a drug you take as a pill. It stops your body and the cancer from making steroids (including testosterone). Because of the way it works, this drug must be taken with an oral steroid called Prednisone. Abiraterone may be used before or after chemotherapy in men with mCRPC.
- **Androgen receptor binding inhibitors:** Enzalutamide (Xtandi®) is a drug, taken as a pill to block testosterone from binding to the prostate cancer cells. You do not need to take a steroid (prednisone) with this drug. Enzalutamide may be used in men with mCRPC before or after chemotherapy.

## Immunotherapy

Immunotherapy helps your immune system to fight cancer. This treatment is for men with mCRPC and doesn't cause any major symptoms. It is given to mCRPC patients before chemotherapy. Some men get chemotherapy and immunotherapy together. To take it, you should have no or mild symptoms.

Sipuleucel-T (Provenge®) is the first immunotherapy approved for advanced prostate cancer. It works by boosting your immune system so it attacks cancer cells. This is the first drug of its kind shown to help men live longer. It may extend survival by months for some patients. Other immunotherapies are still being studied.

Side effects from Provenge® (for the first 24 hours after) can include fever, chills, weakness, headache, nausea, vomiting and diarrhea. You may also have low blood pressure and rashes.

## Bone-targeted Therapy

Men coping with advanced prostate cancer must protect their bones. Some men with prostate cancer have weak bones or have Skeletal Related Events (SREs). These include weakening or breaking bones. Older men are at higher risk for bone and mineral loss. Low testosterone makes this worse.

To strengthen and protect your bones, you should take calcium or Vitamin D. You should also do weight bearing exercises. Some drugs can help, they include: Denosumab (Xgeva®) and Zoledronic Acid (Zometa®). Both help prevent pain and weakness from cancer growing in your bones.

Radium-223 (Xofigo®) is another treatment approved for men whose mCRPC has spread to their bones. This treatment is injected in your veins. It collects in the bones to stop cancer that has spread. Once in the bones, it gives off small amounts of radiation that can only travel short distances. This can target radiation to the exact areas where cancer cells are growing. Radium-223 has been shown to help men live longer. With Radium-223, your PSA level does not show how well you are responding. Although your PSA level may increase, this does not mean that the treatment is not working.

## Chemotherapy

Chemotherapy drugs slow the growth of cancer and reduce symptoms. It may improve survival. Or, it may ease pain and symptoms by shrinking tumors.

Chemotherapy is useful for men whose cancer is widespread. Or it is used when hormone therapy (alone) is no longer able to control the cancer. Docetaxel (Taxotere®, Docefrez™) and Cabazitaxel (Jevtana®) have been shown to help.

Most chemotherapy drugs are given through a vein (intravenous, IV). During chemotherapy, the drugs move throughout the body. They kill quickly growing cancer cells and non-cancer cells. This is what causes the side effects that most people know about. They include hair loss, fatigue, nausea/ vomiting. There can be changes in your sense of taste and touch. You may be more prone to infections. You may experience neuropathy (tingling or numbness in the hands and feet).

Side effects from chemotherapy are very rough. The decision to use these drugs will be based on:

- Your health and how well you can tolerate the drug
- What other treatments you have tried
- If radiation is needed to relieve pain quickly
- What other treatments or clinical trials are available
- Your treatment goals

If you use chemotherapy, you will be watched closely to manage side effects. There are medicines to help with things like nausea. Most side effects stop once chemotherapy ends.

Scientists are studying new options and mixtures of drugs for mCRPC. New data shows that chemotherapy with hormone therapy may improve survival for men with advanced cancer.

- The FDA approved Docetaxel with Prednisone. It is the first registered treatment for patients with mCRPC. This combination has extended survival by several months.
- A drug called Cabazitaxel is also approved for the treatment of mCRPC. If cancer grows after using Docetaxel, Cabazitaxel may slow the cancer growth.
- Clinical trials are studying other new combinations and drug types.

## Radiation

Advanced prostate cancer often spreads to the bones. Radiation can help ease pain and other symptoms caused by tumors in bone. There are many types of radiation treatments.

Radiation may be given one time, or at a few visits. The treatment is like having an x-ray. It uses high-energy beams to kill tumors. New radiation techniques focus on saving nearby healthy tissue. Computers and new software show where the cancer is exactly. They target the radiation to pinpoint where it is needed. These methods are expected to improve the success of radiation therapy. They also cause fewer side effects.

Studies are being done to find out which radiation methods are best for which men.

***“We fear what we don’t know. Learn what the side effects can be. Make sure you lay all the cards on the table. Ask any and all questions. It helps.” -Phil***

## AFTER TREATMENT

### Get Support

Find a team of doctors that you feel good about. Consider it an interview process to hire your medical team. Consult with your wife/partner or close friends who can help you think through your options. Seek out prostate cancer support groups. It helps to talk with other men who’ve been there or are managing similar concerns. Other men can offer information, hope and even laughter in the face of pain.

Think about your every-day health. Try to eat a healthy diet. Try to get regular exercise. Walking may be a good option. Talk with other men battling advancing prostate cancer to find out what works for them.

Consider your spirituality. Spirituality can include meditation, connecting with nature, prayer or other religious practices. Establishing a connection between yourself and a greater power helps add perspective to our lives. It enhances the appreciation for life during the battle with prostate cancer.

When you think about end-of-life plans, consider palliative care and hospice. Palliative care is for pain relief and comfort for anyone with a serious illness. Hospice is palliative care for

a patient with life expectancy of 6 months or less. It includes symptom relief, emotional care and spiritual care.

The benefits of hospice extend to the family, especially for caregivers. It also provides bereavement services for up to 12 months.

***“Go to support groups. More men get prostate cancer than women get breast cancer. But we are reluctant to talk about it. Men really can live with this...Find someone to talk with for support.” -Phil***

In addition, it feels good to be in control of your legal paperwork. The most important items to consider are: durable power of attorney, a living will and a conventional will. If you haven’t already, aim to get these things in order for you and for the people you love.

Maintaining hope in the face of cancer is not always easy or possible. Still, hope is a way of thinking, feeling and acting. It can be protective. It is an essential tool for managing and adjusting to an illness as serious as cancer. You can hope to spend time with people you love or hope to see a beautiful sunset. Consider hope in different ways, every day.

## GLOSSARY

### **ANESTHETIC**

General anesthesia makes you go to sleep. You do not feel any pain, and you do not remember the procedure afterwards. Local anesthesia numbs an area so you feel no pain, but you remain awake.

### **BENIGN PROSTATIC HYPERPLASIA (BPH)**

An enlarged prostate not caused by cancer. BPH can cause problems going to the bathroom because as the prostate grows it squeezes the urethra.

### **BIOPSY**

Samples of prostate tissue are removed to look at under a microscope and see if they contain cancer or other abnormal cells.

### **BLADDER**

A hollow, balloon – shaped organ which urine is stored before it moves through the urethra.

### **BONE-TARGETED THERAPY**

These are treatments to strengthen the bones. They keep bones healthy and decrease the number of bone related events.

### **CHEMOTHERAPY**

The use of medications to kill prostate cancer cells.

### **CT SCAN (CAT SCAN)**

A diagnostic imaging procedure that uses both X-rays and computers to create a detailed image of the body.

### **EJACULATION**

The release of semen from the penis during sexual climax (ejaculate).

### **ERECTILE DYSFUNCTION (ED)**

Problems getting or keeping an erection.

### **GLEASON SCORE**

The most common grading system for prostate cancer. Cells are given a score from two (least aggressive) to ten (most aggressive).

### **HORMONE THERAPY**

Uses medications to decrease or block testosterone and other male hormones, which stops or slows the growth of prostate cancer.

### **IMMUNOTHERAPY**

A treatment that boosts the ability of the immune system to fight prostate cancer.

### **LYMPH NODES**

Rounded masses of tissue that produce cells to fight invading germs or cancer.

### **ONCOLOGIST**

A doctor specializing in the treatment of cancer.

### **PATHOLOGIST**

A doctor who identifies diseases by studying cells and tissues under a microscope.

### **PENIS**

The male organ used for sex and going to the bathroom.

### **PROSTATE**

In men it is a walnut-shaped gland below the bladder that surrounds the urethra. The prostate makes fluid that goes into semen.

### **PSA (PROSTATE-SPECIFIC ANTIGEN)**

A protein made only by the prostate. High levels of PSA in the blood may be a sign of cancer or other prostate health issues.

### **RADIATION THERAPY**

There are two types of prostate cancer radiation therapy, they are: brachytherapy (small radioactive “seeds” implanted in the prostate) and external beam radiation (rays targeted at the tumor from outside the body).

### **RECTUM**

The lower part of the bowel ending in the anal opening.

### **RECURRENCE**

The return of cancer after treatment in the same location or another part of the body.

### **SEMEN**

The fluid that protects and energizes the sperm; also known as seminal fluid or ejaculate fluid.

### **SEMINAL VESICLES**

A gland that helps produce semen.

## TESTICLES

Glands that are inside the scrotum, the pouch below the penis. They produce sperm and the male hormone testosterone.

## TISSUE

Group of cells in an organism that is similar in form and function.

## TUMOR

An abnormal mass of tissue or growth of cells.

## ULTRASOUND

A procedure that uses frequency waves to diagnose problems.

## URETHRA

A narrow tube through which urine leaves the body. In males, semen travels through this tube during ejaculation. It extends from the bladder to the tip of the penis.

## URINE

A liquid, usually yellow in color, made by the kidneys that contains wastes and water.

## UROLOGIST

A medical doctor who specializes in urinary tract disorders. Urologists also specialize in male and female sexual dysfunction and issues.

## X-RAY

A test that uses radiation to make pictures of the tissues, bones and organs inside the body.

## QUESTIONS TO ASK YOUR DOCTOR

- What does “advanced cancer” mean for me?
- What are the treatment options for this grade/stage of this cancer?
- Are there other tests I should have get to understand how advanced my cancer is?
- What is the average lifespan for people managing my grade/stage of cancer?
- Is the goal of my treatment to help slow the growth of my cancer, manage side effects, or both? For how long?
- What are my treatment choices?
- Which do you recommend for me and why?
- How long should I try a treatment type before we know whether or not it works?
- Would a clinical trial be an option for me?
- What kind of care will I receive to keep me comfortable if I decide not to have active treatment?
- Can you refer me to another expert for a second (or third) opinion?
- What can I do to manage my symptoms?
- What can I do to manage or prevent treatment side effects?
- Can you refer me to a palliative care specialist to help?
- Can you refer me to an oncology social worker or support group to help me manage my mental health?
- Do you have resources to help my family and loved ones?
- How can I get help with my spiritual needs?
- How do I decide whether to continue or to stop cancer treatment?
- When should I consider having hospice care?
- How can I make sure I have the best quality of life possible – that I am comfortable and free of pain?
- Can I have hospice care in my home, or do I have to go somewhere else?
- How can I get help with financial and legal issues (for example, paying for hospice care or preparing a will or an advance directive)?



## ABOUT THE UROLOGY CARE FOUNDATION

The Urology Care Foundation is the world's leading urologic Foundation—and the official Foundation of the American Urological Association. We provide information for those actively managing their urologic health and those ready to make healthy changes in their lives. Our information is based on the American Urological Association resources and is reviewed by medical experts.

To learn more about different urologic issues, visit **UrologyHealth.org/UrologicConditions**. Go to **UrologyHealth.org/FindAUrologist** to find a doctor near you.

This information is not a tool for self-diagnosis or a substitute for professional medical advice. It is not to be used or relied on for that purpose. Please talk to your urologist or health care provider about your health concerns. Always consult a health care provider before you start or stop any treatments, including medications.

**For more information, contact:**

*Urology Care*  
**FOUNDATION™**  
*The Official Foundation of the  
American Urological Association*

1000 Corporate Boulevard,  
Linthicum, MD 21090  
1-800-828-7866  
**UrologyHealth.org**

---

For copies of other printed material and other urologic conditions, visit **[www.UrologyHealth.org/Order](http://www.UrologyHealth.org/Order)**.

---