



# A BEGINNER'S GUIDE TO PROSTATE CANCER



## Basic Answers to Commonly Asked Questions About Prostate Cancer

### **What and where is the prostate?**

It is a walnut-sized gland in men located directly in front of the rectum, just below the bladder and wrapped around the urethra - which drains the urine from the bladder. This gland produces a substance that protects against infection and nourishes sperm for fertilization.

### **What is prostate cancer (PC)?**

It is prostate cells that grow out of control. If they grow and spread, they can eventually cause death. Most PC grows slowly and does not cause any problems for ten or more years.

### **What causes PC?**

No one knows, but PC growth may be linked to a high fat diet, family history of cancer, or genetic code.

### **Who gets PC?**

Over the past few years, 200,000 or more American men were diagnosed with PC. One in ten men over the age of 50 will get PC. Sixty percent of all newly diagnosed PC cases and almost 80% of all PC deaths occur in men 70 years of age or older. African-American men have the highest rates of PC in the world. They are about twice as likely to get PC than Caucasian men and twice as likely to die from PC. Hispanics, Native-Americans, and Asians are less likely than Caucasian men to have PC. Men with a close family relative with PC (father, brother, or son) are more likely to have PC than other men, but even in these men, it does not occur at a younger age and it may not be more aggressive.

## **How deadly is this disease?**

Between two and three percent of American men die of PC. Of the men who develop PC, 15 to 20% will eventually die from it. This is about 30,000 every year.

## **Is early detection and early treatment useful?**

This is unknown. The American College of Physicians, the US Preventive Services Task force, and the Center for Disease Control shows that “to date, the scientific evidence has been insufficient to determine if screening for PC reduces mortality or if treatment of early disease is more effective than no treatment in prolonging a patient’s life.” The average urologist, radiologist, American Cancer Society and the National Cancer Institute would agree that earlier detection and advances in treatment might prolong life. The average patient does not want to risk not treating his disease while waiting ten or more years (for the results of more testing.)

## **How is PC detected?**

Many cases are found by using the simple blood test for Prostate Specific Antigen (PSA). PSA leaks from the normal prostate cells in small amounts, but an elevated rate of leakage may indicate the presence of prostate cancer cells. If the PSA is abnormally high and the doctor feels something in the gland, a biopsy is usually performed. PSA is also used after therapy as a monitor to indicate therapy failure and if PC is under control.

## **What is an abnormal PSA reading?**

PSA readings of up to 2.5 ng/ml (nanograms per milliliter) are considered normal for a person in his forties. As men grow older, an increase in PSA is normal. Thus, a reading of 3.9 for a 70 year old would be considered normal. (African-Americans should lower these readings by about 0.5). High PSA often indicates the disease is outside the prostate capsule.

## **How do I know if I have PC?**

A biopsy is the usual way. An ultra-sound probe is inserted into the rectum and hollow needles are “shot” through the rectal wall into the areas of

the prostate most likely to have cancer. Twelve samples, or cores, are commonly taken. These biopsy cores are tiny samples of tissue that can be inspected by a pathologist under a microscope. The pathologist will determine if they are cancerous by their cell structure.

## **How can a person judge the aggressiveness of the disease?**

If any of the biopsy tissue is cancerous, the pathologist will assign a pair of numbers (Gleason Sum or Score) to each tissue sample. This sum determines the aggressiveness of the cancer. Two (1 + 1) is the very lowest, or best. Ten (5 + 5) is the most aggressive, or worst. A Gleason score over 6 often indicates the disease is outside the prostate capsule. Sometimes even lower scores have disease outside the prostate capsule.

## **What is Clinical Staging?**

Clinical staging is the doctor's estimate of the size and location of the cancer. It is an estimate of how far the cancer has spread based on evidence from diagnostic tests. The more test results available, the more accurate the estimate. Another, more detailed system of staging is the TNM system. T refers to Tumor. T1 and T2 indicate localized PC. Stage T3 and T4 indicate increasing degrees of the tumor outside the prostate. The N refers to disease in the Lymph Nodes, and M refers to Metastasis.

## **How can a person use PSA, Gleason, and Staging?**

Using this information, a person can use a "Partin Table" to estimate the probability of organ confined disease, capsular penetration, seminal vesicle involvement and lymph node involvement. Assessing these factors can help you decide on a course of treatment. Surgery and radiation are only effective against localized (organ confined) disease. Even a judgment of organ confined disease will not guarantee a cure. At this time there is no treatment with a 100% cure tag.

## **What treatment choices are available?**

- **Surgery (Radical Prostatectomy)** - Using this nerve-sparing technique if possible, is most common. The lower abdomen is cut open, the gland is removed and the severed urethra is sewn back together. The patient usually spends 3 to 6 days in the hospital. A portable urinary catheter is worn for

about a week. This treatment is usually recommended for healthy men in their sixties or younger.

- **External Beam Radiation** – This is used to destroy the gland, and the cancer within it, from outside the body. This usually takes about 35 treatments (5 days a week, for 7 weeks). It takes about 15 minutes per treatment. No hospital stays are needed unless there is a rare complication. This treatment is often recommended to men who are 65 years or older.
- **Seed Implants (Brachytherapy)** – These are radioactive pellets (“seeds”) inserted in the gland through hollow needles. Seed implantation is often performed on an out-patient basis. A urinary catheter maybe worn for 0 to 3 days. This treatment is being chosen by men of all ages.

The three above treatments are “local” treatments. They only treat the prostate gland or the local area in and around the prostate. Local treatments generally have disease recurrence of 4 to 5% per year. After 10 years, probably 50% or more will have disease recurrence. PSA readings after therapy are used to detect disease progression (recurrence).

- **Proton Beam** - Both conventional x-ray therapy and proton beams work on the principle of selective cell destruction. The major advantage of proton treatment over conventional radiation, however, is that the characteristic energy distribution of protons can be deposited in tissue volumes designated by the physician – in a three-dimensional pattern. This capability provides greater control and precision and, therefore, superior management of treatment.
- **Hormonal Therapy (HT)** – This is used to block testosterone. Presently, testosterone production and PC cell utilization can be blocked with drugs called LHRH agonists and antiandrogens. This is sometimes called chemical or medical castration. This is usually reversible when one stops taking the drugs. HT can be used alone, before surgery or radiation to shrink the prostate, or to delay the disease and give a person time to study the available options. The important thing about HT is that it is not local therapy, it is “systemic”, and it works throughout the whole body. There are documented cases of no cancer being found in the prostate after a course of HT. Longer HT results in a higher percentage of no cancer being found. Studies have shown a 6 to 12 month HT treatment is better than a 3 month treatment.

- **Up Front HT** – In the past HT was used when PC had progressed to lymph nodes or bones. Now it is used by some medical oncologists “up front” – as soon as PC is detected. Up front HT is usually prescribed for 12-18 months. Then the patient continues to take a maintenance dose of Proscar (finasteride). This treatment is showing great promise for treating stage T1 & T2 cases, but it is too soon to be sure that it actually results in longer life. 5 year results are very encouraging. Early hormone therapy, when combined with local therapies, recently has shown significant reduction in prostate cancer deaths.
- **Active Surveillance or Watchful Waiting** – They both mean no active immediate treatment. There are some studies that indicate this option results in just as long a life as immediate treatment. This option is most often recommended to men 75 years or older, or to younger men who have a condition that makes other treatments risky.

### **What are the side effects or complications of these treatments?**

- **Surgery** – Between 24 to 62% of men may become sexually impotent and 60% will become incontinent to some degree. 5 to 19% may become severely incontinent. Other complications that are usually well below 10% are: fecal incontinence, major bleeding, blood clots in the legs or lungs, bladder neck narrowing, and urethral narrowing.
- **External Beam Radiation** – Following radiation, anywhere from 12 to 30% of men have some degree of sexual impotence. Incontinence also occurs in 1 to 7% of men. Inflammation of the bladder, rectum and intestines during treatment usually goes away. Chronic inflammation can result in strictures that require surgical intervention in up to 2% of men.
- **Seed Implants** – Impotence is reported in 10 to 25% of men, incontinence in 2% or less. Urinary problems: urgency, frequency, burning, irritation – occur in about 25% of men. Rectal problems – pain, burning, frequency, urgency and diarrhea are a problem in about 20% of men, but most go away with time. The above side effects may be less than stated because of improving skills of the practitioners.
- **Hormonal Therapy** – During HT, impotence is almost 100% and diarrhea is a problem in 10% to 20% of cases. Other side effects may include: hot

flashes, breast soreness or enlargement, blood clots, nausea and weight gain. Under prolonged treatment, liver damage or osteoporosis may occur.

- **Active Surveillance** – There are no side effects. If the disease has progressed, HT can be used and usually is effective for 3 to 6 years on advanced PC. Don't be too alarmed if you are diagnosed with stage T1 PC. A total of 85% of these men take up to 5 years to progress to stage T2, and have another 2 or 3 years of survival time. Since early stage disease usually will not become life threatening for 15 or more years, active surveillance is a good option for anyone whose life expectancy is under 15 years. A 70 year old man has an average life expectancy of 13 more years. An 80 year old man, 8 more years.

### **What are my chances for a cure?**

Doctors can not determine who's PC will progress to become clinically significant and whose will not. Generally patients with low PSA, Low Gleason, and Low Stage diagnosis have a longer disease free time after any therapy than those with aggressive or advanced disease. There is no cure. However, as time moves on the options for treatment are improving. Most men will die with the cancer and not because of the prostate cancer.

### **What are sources for additional information?**

There are many books available at libraries and book stores. Many scientific articles are published in medical journals; some of them will be available at your local hospital. The internet is a vast resource. Booklists, internet addresses, telephone help numbers, video tapes, and mentor/buddies lists are available from PCSA. Call, fax, write, or visit the PCSA offices.

### **What should I do if I get prostate cancer?**

Learn as much as possible by: asking questions, listening to others, reading, using the internet, joining a support group. Decide what to do after you and your doctor are sure that you understand all the ramifications of your choice. A person needs to weigh the possible good and bad effects of treatment considering his age, lifestyle, and personal outlook. Many men live many productive years after being diagnosed with PC, and will die with prostate cancer and not because of PC.

## **Tumor Node Metastasis Classification Staging System**

### **Primary tumor (T)**

**TX:** Cannot be assessed

**T0:** No evidence of primary tumor

**T1:** Clinically inapparent, not palpable or visible by imaging

**T1a:** Incidental histologic finding in 5% or less of resected tissue.

**T1b:** Incidental histologic finding in more than 5% of resected tissue.

**T1c:** Identified by needle biopsy (e.g. because of elevated PSA)

**T2:** Confined within the prostate

**T2a:** Involves one lobe

**T2b:** Involves both lobes

**T3:** Extends through the prostatic capsule

**T3a:** Unilateral or bilateral extracapsular extension

**T3b:** Invades seminal vesicle(s)

**T4:** Fixed to or invades adjacent structures other than seminal vesicle(s), e.g. bladder neck, levator muscles, external sphincter, rectum, and /or pelvic wall

### **Regional lymph nodes (N)**

**NX:** Cannot be assessed

**N0:** No evidence of regional lymph node metastasis

**N1:** Metastasis in regional lymph node(s)

### **Distant metastasis (M)**

**MX:** Cannot be assessed

**M0:** No evidence of distant metastasis

**M1:** Distant metastasis

**M1a:** Non-regional lymph node(s)

**M1b:** Bone(s)

**M1c:** Other side(s)

## **DISCLAIMER**

*The information and opinions expressed in this publication are not an endorsement or recommendation for any medical treatment, product, service or course of action. For medical, legal or other advice, please consult appropriate professionals of your choice.*