

# Self-Care for Prostate Cancer (Part 1)

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PCRI is committed to giving you the most up-to-date information and connecting you with professional support to fight prostate cancer. The PCRI process of education leading to empowered decision-making rests on the foundation of the contemporary “Patient-Centric Healthcare” (1). One critical aspect of this is simply called “Self-Care” (2).

Self-care unites an optimum healthy lifestyle, wise treatment decisions, and the will to live. In this series of articles, these three factors will connect you with how self-care can help you prevent and inhibit prostate cancer growth on the cellular level.

Thus, the self-care process can produce improved treatment outcomes as motivated patients make wise decisions in the complexity of modern healthcare (3).

This is more than just diet and exercise. Good self-care optimizes cellular health through a robustly protected and healthy cellular community. Think of what enters you, and what you use your body for, as systemically influencing your cells for better or for worse. Wise self-care optimizes the best chance of cancer survivorship (4).

More than 15 trillion cells in your body are constantly dividing and communicating with each other and their surrounding microenvironment. This communication can inhibit prostate cancer growth, even though the mutations would predict otherwise. This is a tremendous motivation for getting into a healthy self-care habit. (5)

## Self-Care and the Cellular Machinery

Basic science research has shown that when cancer cells are placed in a healthy environment, they stop dividing, and when pre-cancerous cells are placed in an aggressive cancer they can become aggressive themselves. They are regulated by each other in complex signaling pathways that determine normal genetic expression, or phenotype. (6)

This requires a delicate balance of micro-nutrients, clearing of waste products, healing of injuries to genes, and the neutralizing and removal of toxins in the cell’s life. Most cells divide, serve and then end their life voluntarily through programmed cell death, called apoptosis. Apoptosis stops most prostate cancer before it begins, and is a profound area of research. These are processes that can be influenced by your wise self-care choices. (7)

The problem with cancer is that these cells don’t want to die. Worse, their inherited or mutated genetic malfunctions in key communicative and regulatory genes interfere with civil behavior like self-regulation. They then become independent rebellious organs, with their own blood supply and stromal cell support, producing stem cells and circulating tumor cells that can plant new metastases.

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## **SELF-CARE** *(continued from page 4)*

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This process, over many years, becomes a heterogeneous mix of many different prostate cancer cell lines. This means we may not be fighting one “PCa”, but many cancerous cell types, all coming from one prostate. It also means we have to fight prostate cancer with lifestyle changes that become a daily routine and health habits that last a lifetime. (8)

For now, the best chance of stopping prostate cancer is optimum self-care, combined with the judicious use of available or mainstream clinical treatments.

In the future, advances in targeted treatments, immunotherapy, induced apoptosis and other noninvasive treatments like MRI-guided high-frequency ultrasound will improve outcomes. Yet, they all will depend on the patient’s own practices of good self-care, optimizing a robust cellular health and immune response.

### **Reduce PCa and Heart Attack Risk with Self-Care**

As we look at scientific studies for self-care guidance, one thing stands out: most men will die of other causes besides prostate cancer. If we are to do self-care well, it must become a comprehensive balanced healthy lifestyle that lowers risk of heart attack, stroke and other diseases in addition to prostate cancer. (2)

Self-care promotes health in many areas at once.

Many of the studies linking lifestyle and environmental factors to reducing prostate cancer risk are not conclusive. Yet, if they help prevent a heart attack and don’t increase the risk of cancer, they are worth pursuing. This is especially true if focused on balanced nutrition and exercise, decreasing obesity and chronic inflammation. (9)

### **The Prostate Cancer Lifestyle Trial**

One study, the Prostate Cancer Lifestyle Trial, stands out as simple and elegantly on target. The experimental group went on a program of a low-fat, plant-based diet, stress reduction and modest exercise. This trial showed a decrease, and in some cases, the stopping of prostate cancer progression in men with low-grade PCa on active surveillance. (10)

At two years of follow-up, 2% of the men that were in the good lifestyle program went on to pursue PCa treatment, compared to 27% in the control group. When the serum of the men doing wise lifestyle choices was tested on PC cells in culture, their serum inhibited the growth of these cells 8 times more than the controls. (10, 11)

This trial demonstrates our point that self-care can help slow the progression of prostate cancer by improving cell health and the micro-environment. It is the same lifestyle that was found to reduce and even reverse heart disease, reinforcing our point that prostate healthy is heart healthy. (9)

Also of importance in this study was the addition of a support group to encourage men to stay with the program. Support from others often facilitates a decrease in stress, the sharing of information, and increased compliance, which together result in wise self-care choices. (12)

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## Reduce Aging

The risk of dying from prostate cancer increases with age. It is very rare before the age of thirty-five, steadily increases from under 1/100,000 under the age of 50 to 171/100,000 in the 70's to 609/100,000 in the 80's. (13)

Why does the health of the prostate diminish as men age? Can we slow it, or reverse it? Can we even understand what precautions a man should take in his 20s to prevent it from happening 20-40 years later? What is happening on a cellular level?

The biochemical processes of aging are beginning to be clarified and are being related to PCa causation. Aging is a very complex process and cannot be attributed to one cause of cell damage like oxidation. In fact, many metabolic processes such as oxidation, methylation, glycation, inflammation and radiation are all contributing to aging and the mutations that underpin PCa causation.

Microscopically, the older prostate often develops signs of chronic inflammation, proliferative inflammatory atrophy, high-grade prostatic intraepithelial neoplasia (PIN) and cancer. Often, these changes involve the whole gland and are more advanced in one area than another. Thus, PCa develops in a field of aging dysplastic cells and is seen to be multifocal, in two separate sites, over 50% of the time.

It may be possible to slow aging and decrease the risk of cancer with caloric restriction and healthy life style choices. Caloric restriction involves fasting at ~ 70% of needed caloric intake (~1400 Kcals/ day) and focusing on a nutritionally dense plant based diet supplemented with essential nutrients, fiber and protein. (14)

## Reduce Obesity

Although there is still some controversy, the latest population studies show that obesity increases the risk of developing high-grade prostate cancer, and increases its lethality. (15, 16) It also increases the risk of cancer returning after local treatment. Of course, it is a major risk factor in coronary artery disease, stroke, diabetes, etc.

While it is still unclear how obesity causes this increased risk, theories suggest that hypertrophied adipose cells cause an imbalance in the endocrine (hormonal) system (17). They are like a new endocrine gland causing increased insulin levels and inflammation through cytokines such as interleukin-6, and tumor necrosis factor- $\alpha$ , all of which enhance tumor growth. No matter what the cause, there is a direct correlation between degree of increased body mass index (BMI) and increased risk of poor health, so anything you do to lose weight with self-care will be helpful. (18)

## Reduce Inflammation

Although there is no unified agreement as to the cause of prostate cancer, experts are starting to agree that chronic inflammation from many sources is an unwanted microenvironment that eventually leads to cancer. This is seen in locations besides the prostate (esophagus, stomach, liver, lungs, etc.) (19)

For the prostate, the theory goes like this: post-puberty, the prostate gets involved in repeated cycles of inflammation, swelling and blockage of its ducts. (Women who have had blockage of their breast ducts while nursing can tell you how painful it can be.) Once the outflow is stopped, the glands are blocked and must stop producing fluid. Some do, but others atrophy (shrink) or expand, rupture or die, causing more inflammation.

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This goes on for many years, with decrease in semen until the process spawns the conditions needed for proliferation, dysplasia (PIN), and finally, cancer.

Decreasing inflammation with self-care can decrease the process and risk of cancer development. For example, taking a nonsteroidal anti-inflammatory medication (such as the cox-1 inhibitors aspirin, naproxen or ibuprofen or the cox 2 inhibitor Celebrex) can reduce the risk of prostate cancer and heart attack as can an anti-inflammatory diet (described in part 2). (20)

Just as early detection and treatment for skin, cervical, colon and esophageal cancer is very effective, the potential exists for early intervention in PCa to reverse inflammation and early PCa. This is an exciting and under-explored area of research.

### Reduce Urinary Tract Infections

Many researchers have unsuccessfully sought a link between sexually transmitted diseases, urinary tract infections, chronic inflammation and PCa.

Yet for women, HPV infections are highly correlated with developing cervical cancer years later. Why not men?

It may be that infections enter the prostate, do damage and start the inflammatory process and are then eradicated, leaving no trace of their presence. (21) This suggests PCa starts many years before it is clinically evident.

However, in a recent large study, there has been found an increased risk of PC associated with serum antibodies to *Trichomonas Vaginalis*. (22) *Trichomonas* is especially difficult to find, as it does not produce symptoms in men. It is one of the most common STDs in women and requires a urine test to diagnose in both. Luckily, it is easily treatable. Thus, it is a wise self-care move to prevent the invasion of unwanted microbial intruders during intimacy, and to have both you and your partner checked out and treated as needed.

### Reduce Predisposition for Prostate Cancer

If you have any of the three established risk factors for developing prostate cancer (age, race and a positive family history), don't give up. They may increase your risk, and yes, you must be vigilant, but you might be able to mitigate them with self-care.

Some cancers have unresponsive mutations to lifestyle changes. However, a recent study showed the risk of high grade PCa to decrease in African American males just as much as Caucasians with the addition of a diet rich in flavonoids (fruits and veggies). In this case, race and family history were mitigated by a healthy lifestyle. (23)

This effect was also noted in the opposite direction in the China Study, which found that as rural Chinese men moved into an urban environment, cancer increased, as did their consumption of animal protein and dairy products (24). The Chinese have a low incidence of PCa that reverts to the higher US incidence when they move to the US (25). These studies point to the variable genetic expression, or epigenetics, of PCa from changes in the cells environment that give us hope in a promising area of research.

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## Increase Exercise

Interestingly, observational data from several studies are conflicted in showing a significant correlation between increased physical activity and the reduction of prostate cancer risk (26, 17). Exercise is, however, associated with improved fitness and weight loss, which both contribute to cellular health and a decreased risk of prostate cancer mortality. Given the obvious, if we are to decrease risk of PCa and heart attack, modest exercise is important. Besides, it is good to go for a walk, breathe deeply, ride a bike, reduce stress and lose a little weight.

## Conclusion

We are just beginning to explore the impact of self-care in the fight against PCa. Although the over 20% reduction in PCa mortality in the past 25 years may be attributed to improved medical treatment, the effect of improved self care deserves credit as well. A recent projected 5% increase in PCa mortality for 2013 makes the point. PCa is an enemy that won't quit and vigilance with good self-care is essential.

In the next issues we will dive into self-care lifestyle research, finding those factors that increase and decrease in the realms of diet, supplements and the environment. ♦

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