

Self-Care for Prostate Cancer (part 2)

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The Internet has transformed the treatment of prostate cancer (PCa). Patient centered education at websites like the PCRI, NCI, ACS... is creating the well-informed patient. These patients and their families use empowering education to coordinate the fight against PCa effectively. Improving their lifestyle and care is improving their quality of life and survival through a process of daily "Self-Care".

Self-care unites an optimum healthy lifestyle, wise treatment decisions and a strong will to live. It lends to a longer and better quality of life, both physically and spiritually. It helps you inhibit prostate cancer growth on the cellular level.

Healthy self-care warrants a wise increase in proper diet and supplementation and a decrease in exposure to ineffective or harmful substances. Behavioral changes come gradually, so take it at your own pace. Fortunately, our research will help clarify what is beneficial to increase, what is ineffective and what needs to be avoided.

Self Care and Diet

Increase nutritional value of your diet while maintaining caloric restriction. Eating an optimum, nutritionally dense plant based diet while maintaining caloric restriction is a perfect arena for self-care. Dietary changes work best in the earlier stages of cancer initiation (the cell's initial conversion into cancer) and promotion (the growth of cells into a tumor). Although less effective, it can slow progression (recurrence, metastases) and decrease the side effects of advanced treatment.¹

However, even though a diet/supplement has a logical explanation of why it should inhibit cancer and is showing promise in cell and animal models, it still needs to be confirmed in well-run clinical trials before buying in. Caution is wise, irrespective of marketing claims. For example, a recent study on vitamin E shows no effect on low and intermediate risk PCa and a slight increase in high risk PCa.²

Drinking plenty of filtered water and fresh vegetable juices hydrates and fortifies intra and extracellular fluids with micronutrients whose benefits are just beginning to be understood.³ Minimizing free carbohydrates, animal protein, unhealthy fats, excessive weight gain and exposure to stress/toxins/infections/trauma makes a difference in longevity. Compliance can be difficult to achieve. Attend a support group if you need help; it is worth the effort. Here are some dietary suggestions:

Increase Allium Vegetables

The allium family includes garlic, onions, leeks, chives, shallots, etc. and is associated with a decreased risk of PCa. The beneficial reduction is more pronounced in the earlier stages of PCa, recalling our impression that improved diet and lifestyle have a greater effect on the earlier cancer stages of initiation and promotion.⁴

Increase Cruciferous Vegetables

Cruciferous vegetables like broccoli, cauliflower, kale, etc. have a high anti PCa tumor activity in cell culture, yet human epidemiological studies are inconclusive. However, some clinical studies do show a decreased risk of lethal PCa and metastatic disease when they are included in the diet. So, it should still be on the plate with lots of other green leafy and colorful fruits and veggies in a PCa fighting diet.⁵

Increase Flavonoids

Many vegetables and fruits have flavonoids, responsible for giving them color. Flavonoids are found in citrus fruits, tea, apples, blueberries, grapes, strawberries, cabbage, onions, tomatoes, etc. In a recent study, men with the highest total intake of flavonoids had a 25 % lower risk of aggressive prostate cancer than those men with the lowest flavonoid intake. The author sug-

gests consuming a variety of plant-based foods in the diet, not one specific type of flavonoid or flavonoid-rich food.⁶

Increase Green Tea, not Black Tea

Tea, next to water, is the most widely consumed beverage in the world. The common black and green teas are from the same plant and both have flavonoids with antioxidant, anti-inflammatory and anti cancer activity. However, because of the fermentation process, black tea loses the polyphenols (EGCG, EC, EGC, ECG) thought to be major PCa fighting molecules in cell culture and animal studies. Perhaps this or other factors like adding creamer might explain why 7 or more cups of black tea per day increased the risk of PCa in a recent study of Scottish men.⁷ Studies of green tea fare better in reducing the risk of PCa in human studies. A Chinese study showed the reduction of PCa was significant and decreased proportionally to the amount of green tea consumed.⁸ Other studies have seen similar results consuming a few cups a day.

Increase Grains, Fiber

There is no consistently proven benefit of whole grains and fiber in fighting PCa. However, fiber is essential for proper GI function and lessens the risk of colorectal cancer in some studies. Some elements of fiber, like IP6 and modified citrus pectin, have shown modest PCa fighting ability. Of note, when compared to eating refined wheat products, rye bran significantly decreased PCa risk.⁹ Thus, natural grains and fiber from plants help fight PCa; sugary and processed grain products do not.

Increase Soy

There is a reduction of PCa risk with consumption of soy, an excellent complete protein replacement for animal protein.¹⁰ Soy's phytoestrogens don't appear to cause problems in males in moderate amounts. Unfortunately, the supplements genistein and daidzein, did not decrease PSA levels in men enrolled in active surveillance.¹¹

Increase Lycopene

The evidence that lycopene protects against PCa is mixed, as some studies show no effect, others a modest decrease of risk. There is good evidence that lycopene helps decrease advanced PCa if taken in adequate amounts.¹² Lycopene is found in tomatoes, watermelon, pink grapefruit, etc., protection is highest with tomato sauces/products, cooked with a little oil and served a few times per week.

Increase Pomegranate Juice

There is one clinical trial that shows 8 ounces of pomegranate juice a day results in a significant decrease in the rate of PSA increase from relapse after PCa local treatment. Use of unsweetened pomegranate juice as an adjunct in active surveillance and biochemical recurrence is supported with data and is suggested along with veggies and fruits.¹³

Decrease Animal Protein (avoid charred, pan fried red, white meat)

Frequent eating of red meat cooked at high temperatures (charred on the grill or pan fried) increases PCa risk, as does poultry cooked in similar fashion with skin.¹⁴ Hamburger appears to have the greatest risk, followed by red meat, pork, chicken (skinless) and the least, fish. One study showed a 63% reduction of PCa mortality associated with eating fish¹⁵ but another saw an increase if fish was pan fried until well done. Cooking methods matter. Baking has the lowest risk perhaps because it produces less heterocyclic amines (like PhIP) and polycyclic aromatic hydrocarbons than the other methods above.

Decrease Eggs:

Men who consumed 2.5 or more eggs per week had an 81% increased risk of lethal prostate cancer compared with men who consumed less than 0.5 eggs per week.¹⁶

Decrease Dairy

In review, studies are divided as to whether milk and dairy increase PCa risk and progression. About half say it does to a small degree, half say dairy has no effect.¹⁷ However, as the least amount of dairy had the best reduction in risk, it seems reasonable to limit the amount of dairy in the diet.

Moderate Supplementation of Healthy Fats; Avoid Unhealthy Fats

The health benefits from balancing essential fats like the omega 3 fatty acids from fish/fish oil/flax and the Omega 6 fatty acids from olive oil, etc. are well known. However, the benefit of excessive omega 3 supplementation to achieve decreasing cardiovascular events and cancer risk is now being called into question.¹⁸ For example, in a recent study, higher serum levels of Omega 3 actually correlated with an increase in high risk PCa, the exact opposite of what was expected.¹⁹ Limiting fish oil use to cold-water fish in moderation and occasional Omega 3 supplementation seems wise. High fat and trans fat consumption leads to obesity and coronary artery disease making them essential to avoid. A low fat, plant based diet still has the best results.

Self Care and Nutritional Supplements

Supplements are like drugs; both have a systemic effect and an optimum range. Studies show too little or too much of a supplement can increase the risk of PCa.

Thus, taking a vitamin supplement may help if the person is deficient, but may not if a deficiency state does not exist. Supplementing a plant-based diet with B12 is a good example, as vegans can be low in B12 serum and intracellular concentrations.

Just as taking too little of a vitamin is suboptimal, so can taking too many vitamins. Food has nutritional value and if a supplement is added to fortified foods the total may increase intake above optimal amounts. Too much folate is an example.²⁰

The total daily intake of each micronutrient is the sum of all vitamins and food when added together. These totals are called Daily Reference Intakes (DRI's or RDI's) and you can calculate your own requirements at the USDA Food and Nutrition Information Center online <http://fnic.nal.usda.gov/fnic/interactiveDRI/>.

Work with your physician to determine supplement needs, dosing and duration. SpectraCell Laboratories offers a better series of tests (then serum levels) by monitoring lymphocyte intracellular concentrations of various nutrients.

Temper Intake of Multivitamins (as directed or less than one/day)

The National Cancer Institute conducted a study of 295,344 men and found no benefit from taking multivitamins in reducing PCa risk. Importantly, in those who took more than 7 multi-vitamins/week there was a 32% increased risk of developing advanced prostate cancer and a 98% increased chance of dying from PCa compared to those not taking multi-vitamins.²¹ While some have questioned these findings, it makes sense to get the majority of one's nutrition from whole foods, balancing multivitamin use to keep the DRI in its optimum range.

Increase Intake of Vitamin D (400-800 iu/day, 2,000 + to correct deficiency)

Vitamin D intake levels and serum concentrations are still controversial. However, a recent study showed that a great many adults (41% overall, 83% African American, 69% Hispanic) are below accepted minimum serum levels of 20ng/ml.²²

It is important to use supplementation to correct for vitamin D deficiency. For example, a study of men in active surveillance gave those with low serum vitamin D levels a 4000 iu supplement daily. Their low Vit D levels corrected to normal and saw a significant decrease in PCa progression at one year compared to controls.²³

However, in another study, high blood levels increased risk of aggressive disease.²⁴ This again stresses the need to monitor serum levels when correcting a deficiency. Getting 30 minutes of summertime sun daily and adding 2-3000 iu/day in winter to increase serum levels to about 50-100 nmol/mL (20-40 ng/mL) seems reasonable. A serum level above 150 nmol/mL (60 ng/mL) can lead to toxicity/adverse effects.

Temper Intake of Vitamin A (~900mcg RAE or ~3-5,000 iu retinol/ day)

Lycopene, a carotenoid, has shown effectiveness in the more advanced stages of PCa. However, there is limited/mixed support in the scientific literature for the use of supplemental vitamin A or beta-carotene above the DRI to reduce the risk of PCa.²⁵



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Temper Intake of Vitamin E (~25 iu/day)

There are 2 types of vitamin E, tocopherols and tocotrienols, and both types occur in 4 forms, alpha, beta, gamma and delta. Gamma tocotrienols are showing anti PCa activity in PCa cell lines. However, vitamin E has not been proven clinically to be of benefit in reducing the risk of PCa. Of importance, in the most recent SELECT trial, 400 iu/day of d alpha tocopherol actually increased the risk of PCa.²⁶

Temper Intake of Vitamin C (~100 mg/day)

Most studies show insignificant or no PCa risk reduction with oral vitamin C supplementation. Serum saturation of vitamin C occurs at ~200 mg/day so taking higher doses orally is not effective. IV administration can raise serum levels dramatically higher and is showing promise in reducing treatment side effects in advanced metastatic PCa.²⁷ Interestingly, the NIH is documenting IV vitamin C to produce prolonged remission in the treatment of some forms of advanced cancer.²⁸

Temper Intake of Vitamin B12 (1000 mcg/day sublingual supplement)

The restricted consumption of red meat in a plant-based diet requires Vitamin B12 serum level monitoring and supplementation to keep optimal levels. 15% of people and 50% of vegans are borderline (200-500 pg/ml) or fully deficient (<200 pg/ml) in their blood test. Given the difficulty of B12 absorption, 1000pg/ml/day taken oral or sublingual (or even injection by a physician) may be needed to correct a B12 deficiency to proper levels. A cautionary note however, one study found an unexpected increase of PCa risk with high serum levels of B12 (and folate) so monitor and return B12 to optimum serum levels (500-900 pg/ml), not above normal levels.²⁹

Temper Intake of Selenium

Although evidence was mounting that 200 mcg of supplemental selenium/day would decrease PCa risk, a recent well-done study (SELECT) shows no effect. To get an adequate RDI (DRI) of selenium (55mcg) per day from dietary sources is achievable. A well-balanced nutritionally dense diet is probably sufficient.

Temper Intake of Calcium (600 mg/day)

There is controversy over calcium supplementation. Some studies have shown no effect or a decrease in PCa risk with ~1,200 mg/day. More recently, studies are showing an increased risk of aggressive disease with higher levels. In a recent summary of multiple studies, the authors report high intake associated with higher PCa risk.³⁰ Calcium supplementation and Vitamin D are needed at optimal levels to combat osteoporosis. The RDI is a combined dietary and supplement total of 1,200 mg. Taking a 600 mg tablet/day with 600 mg coming from veggies, fortified soymilk, almond milk, orange juice, etc. is a wise balance.

Temper Intake of Zinc (~15 – 25 mg/day)

Like B12, when decreasing red meat and shellfish in a plant based diet, zinc needs to be added. Add Zinc with fortified cereals, beans, nuts and/or supplementation. A total intake, modestly greater than the DRI of 11 mg/day is healthy. A study of Swedish men who had a diet high in zinc (without any supplementation) showed a decrease in PCa progression when compared to those with low levels of dietary zinc intake.³¹ Finally, zinc supplements of 100 mg/day did not decrease PCa risk and over 100 mg. increased PCa risk significantly.³² Serum levels can help determine need.

For further information on supplements check out the NIH's Office of Dietary Supplements at: <http://ods.od.nih.gov> and go to Health Information, Dietary Supplemental Fact Sheets for Health Professionals. Great information.

Conclusion

Despite some negative news concerning vitamins there is still plenty of evidence that self-care can improve quality and duration of life after the diagnosis of PCa. As Dr. Mark Moyad has said many times at our PCRI conferences, "prostate health is heart health"! In other words, wise self-care decisions and habits decrease risk of heart attack, an event more likely to happen than death from prostate cancer. To be sure, a clean lifestyle, a low fat plant based diet with occasional fish, modest exercise and appropriate supplementation are things you can do to fight PCa. In the future we will explore other factors that help, like detoxing, reducing stress and making wise health care choices. Self-care reinforces the foundation for cellular health and the power to fight PCa. Helping empower you in this process is the PCRI's mission.

Shafique K, et al. Tea consumption and the risk of overall and grade specific prostate cancer: a large prospective cohort study of Scot-

For references go to Insights at www.pcri.org