

The Cancer Project

Nutrition and Prostate Health

PHYSICIANS COMMITTEE FOR RESPONSIBLE MEDICINE

5100 WISCONSIN AVE., N.W., SUITE 404 • WASHINGTON, DC 20016
PHONE (202) 686-2210 • FAX (202) 686-2216 • PCRM@PCRM.ORG • WWW.PCRM.ORG

BY NEAL D. BARNARD, M.D.

The prostate is an organ that sits snugged up under the bladder. In spite of decades of research, we still have no idea what it is doing there. We do know that prostate secretions end up in semen. But sperm are perfectly capable of fertilizing an egg without the prostate's contributions. When the prostate is removed, men live without it quite happily. The only health problems are caused by the surgery itself.¹

One might wonder if the main purpose of the prostate is to aggravate older men. As time goes on, many men have an enlargement of their prostates, causing annoying and sometimes painful urinary problems. The prostate is also the number one cancer spot in a man's body.

These problems are not inevitable. They depend in part on what men eat. Like so many other parts of our biology, the mixture of nutrients we choose every day can encourage prostate cells to grow into an aggravating mass or can help them stay put.

The bladder empties into a tube called the urethra, which passes through the prostate gland, where it is joined by another tube carrying sperm from the testes. Starting at about age 30, the prostate cells alongside the urethra start to multiply. If this continues, they can pinch off the urethra, causing a poor urinary stream, dribbling, pressure, and, ultimately, infection and kidney damage. Irritation of the urethra causes the urge to urinate and repeated nighttime trips to the bathroom. It does not take much prostate growth before the urinary symptoms begin. The technical term for an enlarged prostate is "benign prostatic hyperplasia." It is not cancer because these cells will not invade neighboring tissues or spread to other organs.

By age 80, some cell multiplication has occurred in most men. Only about half of them actually have significant enlargement of the gland, and only a quarter have any urinary symptoms. In many men, the prostate actually

shrinks as they get older.²

Mild prostate symptoms sometimes improve with no treatment at all. In one research study, men with mild prostate enlargement were followed for five years, by which time a quarter of them had improved without treatment. About half stayed the same, and another quarter had gotten worse.³ However, men with difficulty urinating should not defer medical treatment because they can end up with serious kidney problems, not to mention continued discomfort.

Doctors sometimes prescribe drugs to relax the pressure in the prostate or to block the hormones that lead to enlargement. Finasteride (Proscar) is in the latter category. It shrinks the prostate and is well tolerated. In more severe cases, urologists remove a bit of prostate tissue, which, with modern techniques, can be done through the penis. The operation is called a TURP, or transurethral resection of the prostate, and is very commonly done.⁴ In some cases, a simpler procedure works, making only small incisions in the prostate (transurethral incision of the prostate, or TUIP). A researcher named Burhenne developed a balloon device for dilating the prostate (transurethral balloon dilation of the prostate, TUDP) and actually tried it on himself. Similarly, other researchers are trying out a transurethral laser-induced prostatectomy (TULIP). Balloon and laser procedures are still experimental.⁵

Although male readers have undoubtedly crossed their legs by this point in the discussion, a TURP is actually a fairly easy procedure, particularly compared to treatments used in times past. The main downside of the TURP is that, by eight years after the operation, up to 16 percent have to be repeated.⁶

Your Prostate Would Rather Be a Vegetarian

Changing your eating habits can help prevent prostate problems. The reason is not hard to imagine. The prostate is under hormonal control. In the prostate cells, testosterone is turned into a powerful hormone called DHT

(dihydrotestosterone), and DHT is what drives prostate enlargement. This is the conversion that finasteride blocks.

Foods can strongly influence sex hormones, including testosterone. Could it be that cutting out meats and dairy products and adding more vegetables to our plates could turn down the hormonal stimulation of the prostate and prevent prostate problems? That is, in fact, exactly what researchers have found. Daily meat consumption triples the risk of prostate enlargement. Regular milk consumption doubles the risk and failing to consume vegetables regularly nearly quadruples the risk.⁷ Prostate hyperplasia is reportedly increasing in Asian countries, paralleling the westernization of the diet that has occurred in recent decades.⁸

The meat-based diet that has become routine in Western countries and is now spreading to other parts of the world encourages many hormone-related conditions, and prostate enlargement is no exception. Even if you grew up as a meat-eater, your prostate would rather be a vegetarian.

By the way, the enzyme that turns testosterone into DHT (5-alpha reductase) is also found in the scalp,⁹ where it works mischief of a different sort. DHT plays a critical role in baldness. Without it, men will not lose their hair, no matter what their genetics may dictate. DHT activity in the scalp may be subject to dietary manipulation.

Nutritional treatments for prostate enlargement are being explored by an increasing number of practitioners. The first step is a low-fat, vegetarian diet. Physician and medical author David Perlmutter, M.D., has reported success in reducing prostate symptoms using the following regimen (all listed supplements can be found at health food stores) in addition to a vigorous program of dietary changes. Note, these are for prostate enlargement, not cancer:

1. **Saw palmetto** (*Serenoa repens*), a natural plant extract, taken in a dose of 160 milligrams twice a day.
2. **Cold-pressed flaxseed oil**, two tablespoons per day. If this causes loosening of the stool, the problem usually abates after a week or so.
3. **Vitamin E**, 400 IU per day with food. Reduce to 100 IU per day if you have high blood pressure.
4. **Vitamin B₆**, 100 milligrams per day.
5. Avoid caffeine and keep alcohol consumption to a minimum.

Saw palmetto is extracted from a type of palm tree and has been shown to prevent the conversion of testosterone to DHT and to reduce prostate symptoms in clinical tests.¹⁰ The flax oil provides essential fatty acids and vitamin E is used to protect the flax oil against oxidation.

Prostate Cancer

Prostate cancer differs from prostate enlargement in that cancer cells can invade neighboring tissues and spread to other parts of the body. If cancer cells would simply stay put, the disease would be little more than an inconvenience.

Researchers have examined the prostates of men who have died from accidents or other causes and have found something you might not have expected. Among 30- to

40-year-old American men, 30 percent have cancer cells in their prostates.¹¹ By age 50, this figure rises to about 40 percent.¹² This is a shockingly high percentage. But in most cases, these are latent cancer cells. While they are clearly abnormal, they are not yet at the stage where they rapidly multiply and spread. In many cases, they never will be. Again, foods can make the difference.

A comparison of different countries is revealing. In Asia and Latin America, latent cancers are much rarer than they are in the United States or Western Europe. Moreover, the risk of these cells growing into invasive or spreading tumors varies in precisely the same way. A man in Hong Kong has a 16 percent likelihood of having latent cancer cells in his prostate after age 45, while a Swede's risk is double that figure, at 32 percent. And compared to a man in Hong Kong, the Swede is eight times more likely to die of the disease.¹³

Cancers are like weeds whose seeds blow from place to place. On moist, fertile soil, they take root and grow uncontrollably. But if the soil is not watered or fertilized, they lie dormant or even wither away. The Swedish diet makes the male body fertile soil for cancer. Asian diets do not provide such welcoming ground for cancer growth. No country has a perfect diet, but the trend is clear. Countries with fatty, meaty diets have much higher cancer rates than countries that use rice, other grains, beans, or vegetables as their staples.

Testosterone and related hormones stimulate prostate cancer cells like fertilizer on weeds. The high-fat, meat-based diet boosts testosterone's effects and has been linked in many studies to high rates of prostate cancer.¹⁴

Vegetarians and populations whose culinary traditions are based on rice, soy products, or vegetables not only have lower cancer rates; they also have a far lower risk of progression should cancer cells gain a foothold.¹⁵ The possibility that survival for cancer patients may be improved to the extent that they adopt a plant-based diet is bolstered further by the findings that vegetables and fruits strengthen the immune cells that seek out and destroy cancer cells and inhibit their spread.

More research is needed to know just how extensive the effects of dietary change might be, but one high-profile case suggests the potential. Anthony J. Sattilaro, M.D., was president of Methodist Hospital in Philadelphia and became perhaps the most famous advocate of the use of diet against cancer. In his best-selling book *Recalled by Life*,¹⁶ he raised the question as to whether diet can turn the tide on cancer, and the fact that there was simply not enough information yet available to speak with assurance.

Dr. Sattilaro was a young man when he was found to have prostate cancer. By the time it was diagnosed, it had spread throughout his body. Surgical removal was impossible; there was nothing for him to do but to get his affairs in order.

By chance, he happened to meet some young people who were advocates of macrobiotics, which is essentially a traditional Asian diet including generous amounts of rice and vegetables. There is a wealth of literature drawn from Asian traditional medicine on using diet in dealing with cancer and many other health problems. Although Dr.

Sattilaro was skeptical and initially taken aback by the idea of such a radical change in his diet, he felt he had nothing to lose. He began a macrobiotic program with the same rigidity that he had applied to his medical career. And as his book described, his symptoms began to fade. Before long, all trace of the cancer, including that on his X-rays, disappeared.

There were no double-blind studies, no control patients, or anything else that would suggest that what happened to Dr. Sattilaro will happen for anyone else, although there is a large cadre of people who report similar results.

I became interested in Dr. Sattilaro's story, so I went in search of him. He had resigned his job as head of Methodist Hospital and had moved to Florida. I met him in 1986. He was not only alive ten years after his anticipated death, but youthful and vigorous. He had adhered to the macrobiotic diet and adopted a specific exercise program. He went swimming every day. His cancer seemed to be gone, and he kept X-ray films in a file for when he needed to remind himself of his remission. Dr. Sattilaro had been deluged with letters from other cancer patients, but always answered that he did not know if what had happened to him could also happen for them. He was not even sure that his dietary program should get the credit.

Eventually, he began to deviate from the diet, adding fish and chicken, as if to test whether he was cured or simply in remission. If it was a test, he failed. In July 1989, I called Dr. Sattilaro and found him to be gravely ill. His cancer had recurred—"viciously," he said. He was in good spirits, but harbored no illusions about the grim situation he was in. He knew that the end was very near. He had resumed the use of painkillers, which at times made him quite groggy.

Can the regimen he followed be given credit for his decade-long reprieve from cancer? Did his deviation from the diet compromise his defenses against cancer? These are questions that, while intriguing, are not answerable.

For the patient contemplating surgery, doctors are often less aggressive than for other cancers. This is partly because prostate surgery can cause a lot of problems, at least in the short term. Incontinence can last for weeks and is permanent in a small percentage of cases.¹⁷ Damage to nerves and arteries during surgery often causes impotence, although in some cases the nerves and arteries can be spared.¹⁸ Doctors realize that prostate cancer often advances very slowly. Most patients live many years whether they have surgery or not, and some researchers believe that surgery does not always change the long-term odds very much.¹⁹

It is essential to tailor your treatment to your specific condition, taking advantage of a second opinion if necessary. Doctors may recommend observation alone, particularly for older men whose tumors are small and less aggressive, as determined by biopsy results.²⁰ If surgery is deferred, the physician can periodically monitor levels of PSA, prostate-specific antigen, which indicates changes in the tumor.

Prostate-Specific Antigen (PSA)

PSA, a protein made within the prostate and secreted into semen, shows what the prostate is doing. If the gland is

disrupted for any reason—surgery, biopsy, trauma, or cancer—PSA leaks into the bloodstream and easily shows up on a simple blood test. A low level of PSA is present in the blood of any man with a functioning prostate; higher levels alert physicians that a change of some type has occurred in the prostate.

PSA levels vary greatly from one person to the next. For cancer patients, doctors are less interested in the exact PSA level than in changes over time. If the prostate is surgically removed and there has been no spread of the tumor elsewhere in the body, the PSA will become undetectable within three weeks after the operation. Radiation treatments cause a slower drop.²¹ A PSA increase may be a sign that further treatment is needed.

Increased PSA levels do not necessarily mean cancer. They can also be caused by benign prostate enlargement, infection, or surgical manipulation.

If your diet is right, you may never know you even have a prostate except when your doctor asks to check it. The very same low-fat, vegetarian diet that is so good for you in many other ways is by far the best diet for preventing prostate problems.

References

1. Isaacs JT. Etiology of benign prostatic hyperplasia. *Eur Urology* 1994;25(suppl 1):6-9.
2. *Ibid.*
3. Ball AJ, Feneley RC, Abrams PH. The natural history of untreated "prostatism." *Brit J Urology* 1981;53:613-6.
4. Jonler M, Riehmman M, Bruskevitz RC. Benign prostatic hyperplasia: current pharmacological treatment. *Drugs* 1994;47:66-81.
5. Wasserman NF, Reddy PK. Therapeutic alternatives to surgery for benign prostatic hyperplasia. *Invest Radiology* 1994;29:224-37.
6. *Ibid.*; Hald T. Review of current treatment of benign prostatic hyperplasia. *Eur Urology* 1994;25(suppl 1):15-9.
7. Araki H, Watanabe H, Mishina T, Nakao M. High-risk group for benign prostatic hypertrophy. *Prostate* 1983;4:253-64.
8. *Ibid.*
9. Jonler M, Riehmman M, Bruskevitz RC. Benign prostatic hyperplasia: current pharmacological treatment. *Drugs* 1994;47:66-81.
10. Walker, M. Feb.-Mar. 1991. Serenoa repens extract (Saw palmetto) relief for benign prostatic hypertrophy (BPH). *Townsend Letter for Doctors*: 1991;2-3:107-10; Perlmutter D. *LifeGuide*. Naples, FL, LifeGuide Press, 1994.
11. Sakr WA, Haas GP, Cassin BF, Pontes JE, Crissman JD. The frequency of carcinoma and intracpithelial neoplasia of the prostate in young males. *J Urology* 1993;150:379-85.
12. Thompson IA. Observation alone in the management of localized prostate cancer: the natural history of untreated disease. *Urology* 1994;43(suppl):41-6.
13. Breslow N, Chan CW, Dhom G, et al. Latent carcinoma of prostate at autopsy in seven areas. *Int J Cancer* 1977;20:680-8.
14. Armstrong B, Doll R. Environmental factors and cancer incidence and mortality in different countries, with special reference to dietary practices. *Int J Cancer* 1975;15:617-31; Howell MA. Factor analysis of international cancer mortality data and per capita food consumption. *Brit J Cancer* 1974;29:328-36; Rotkin ID. Studies in the epidemiology of prostatic cancer: expanded sampling. *Cancer Treatment Report* 1977;61:173-80; Blair A, Fraumeni JF. Geographic patterns of prostate cancer in the United States. *J Nat Cancer Inst* 1978;61:1379-84; Kolonel LN, Hankin JH, Lee J, Chu SY, Nomura AMY, Hinds MW. Nutrient intakes in relation to cancer incidence in Hawaii. *Brit J Cancer* 1981;44:332-9; Schuman LM, Mandel JS, Radke A, Seal U, Halberg F. Some selected

- features of the epidemiology of prostatic cancer: Minneapolis-St. Paul, Minnesota case control study, 1976-1979. In Magnus K., ed. *Trends in Cancer Incidence: Causes and Practical Implications*. Washington, DC, Hemisphere Publishing Corp., 1982; Graham S, Haughey B, Marshall J, et al. Diet in the epidemiology of carcinoma of the prostate gland. *J Nat Cancer Inst* 1983;70:687-92; Ross RK, Shimizu H, Paganini-Hill A, Honda G, Henderson BE. Case-control studies of prostate cancer in blacks and whites in Southern California. *J Nat Cancer Inst* 1987;78:869-74; Oishi K, Okada K, Yoshida O, et al. A case-control study of prostatic cancer with reference to dietary habits. *Prostate* 1988;12:179-90; Severson RK, Nomura AM, Grove JS, Stemmermann GN. A prospective study of demographics, diet, and prostate cancer among men of Japanese ancestry in Hawaii. *Cancer Res* 1989;49:1857-60; Mettlin C, Selenskas S, Natarajan N, Huben R. Beta-carotene and animal fats and their relationship to prostate cancer risk: a case-control study. *Cancer* 1989;64:605-12.
15. Breslow et al., Latent carcinoma of prostate; Howell, Factor analysis of international cancer mortality data; Severson et al., Prospective study of demographics, diet, and prostate cancer; Hirayama T. Changing patterns of cancer in Japan with special reference to the decrease in stomach cancer mortality. In Hiatt HH, Watson JD, Winstein JA, eds. *Origins of Human Cancer. Book A, Incidence of Cancer in Humans*. Cold Spring Harbor, NY, Cold Spring Harbor Laboratory, 1977; Hirayama T. Epidemiology of prostate cancer with special reference to the role of diet. *Nat Cancer Inst Monographs* 1979;53:149-54; Phillips RL. Role of life-style and dietary habits in risk of cancer among Seventh-Day Adventists. *Cancer Res* 1975;35:3513-22; Mills P, Beeson WL, Phillips RL, Fraser GE. Cohort study of diet, lifestyle, and prostate cancer in Adventist men. *Cancer* 1989;64:598-604.
 16. Sattilaro AJ, Monte T. *Recalled by Life*. Boston, Houghton Mifflin, 1982.
 17. Hautmann RE, Sauter TW, Wenderoth UK. Radical retropubic prostatectomy: morbidity and urinary continence in 418 consecutive cases. *Urology* 1994;43(suppl):47-51.
 18. Hauri D, Knonagel H, Konstantinidis K. Radical prostatectomy in cases of prostatic carcinoma: the problem concerning erectile impotence. *Urologia Internationalis* 1989;44:272-8.
 19. Thompson, Observation in management of localized prostate cancer.
 20. Ibid.
 21. Ploch NR, Brawer MK. How to use prostate-specific antigen. *Urology* 1994;43(suppl):27-35.