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## AS WE SEE IT

### Avoiding Prostate Cancer

The incidence of prostate cancer continues to increase.(1-5) What separates prostate cancer from other malignancies is the sheer volume of men who develop the disease. There were 180,000 new cases diagnosed last year,(6) but of greater concern are autopsy findings showing that a significant percentage of men have underlying prostate cancer without even knowing it.(7-15)

For men who intend to live a long and healthy life, taking steps to reduce the risk of prostate cancer becomes an important part of a life extension program.

Encouraging news come from recent studies indicating that certain dietary supplements may dramatically lower the risk of developing prostate cancer or prevent latent prostate cancer cells from maturing into a full-blown tumor. According to a study published in the December 20, 2000 issue of Journal of the National Cancer Institute, men who had the highest blood levels of gamma tocopherol were five times less likely to get prostate cancer.(16)

What made this study particularly significant was that it was conducted at the prestigious Johns Hopkins School of Public Health and it evaluated a large group (10,456 men) over a seven year period. In addition to the finding that higher levels of gamma tocopherol significantly reduced prostate cancer risk, the study showed that selenium and alpha tocopherol also reduced prostate cancer incidence, but only when gamma tocopherol levels are high.

Gamma tocopherol is a form of vitamin E that is lacking in almost all commercial vitamin E supplements. When high doses of alpha tocopherol vitamin is consumed, it displaces critically important gamma tocopherol in the cells. While alpha tocopherol inhibits the production of free radicals, it is the gamma tocopherol form of vitamin E that is required to trap and neutralize existing free radicals.

In an editorial accompanying the Johns Hopkins report, Dr. Edward Giovannucci of Harvard Medical School calls the findings "further reason for optimism" that vitamin E and other compounds may fight prostate cancer. Dr. Giovannucci noted, however, that commercial vitamin E supplements-mainly alpha-tocopherol-can lower blood levels of gamma-tocopherol. According to Giovannucci, the average American's bloodstream is five times more rich in alpha-tocopherol than gamma-tocopherol. And, that difference jumps 20-fold among people who take vitamin E supplements. The Johns Hopkins researchers stated that since vitamin E supplements may displace gamma-tocopherol, future studies aimed at prostate cancer prevention should include both forms of vitamin E.(17)

Life Extension members have not had to wait for "future studies" to gain access to gamma tocopherol. Several years ago, The Foundation identified the importance of taking both forms of vitamin E and offered the first gamma tocopherol supplement in the world.

Saw palmetto may help prevent prostate cancer

Numerous studies show that saw palmetto extract alleviates urinary symptoms associated with benign prostate enlargement. In 1994, The Life Extension Foundation published an article indicating that the mechanisms of action of saw palmetto might reduce the risk of prostate cancer.



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On December 13, 2000, a presentation made at the American Society for Cell Biology (20) meeting showed that saw palmetto inhibits prostate cancer cell growth in the test tube. Researchers from Children's Hospital in Boston described how they used saw palmetto extract to slow the growth of prostate cancer cells and that this growth-inhibitory effect on prostate cells was five times more potent than other cancer cell lines they tested it on.



One new mechanism identified by the Children's Hospital scientists was that saw palmetto reduced the expression of cyclooxygenase-2 (COX-2) in prostate cancer cells. Members of the Foundation learned years ago that cancer cells often use COX-2 as biological fuel to hyperproliferate, and drugs that inhibit COX-2 (such as Celebrex) should be considered in the adjuvant treatment of certain cancers. The researchers who presented this study wrote in the meeting abstract:

“Since increased COX-2 expression is associated with an increased incidence of prostate cancer, any decrease in its expression would provide a basis for prostatic cancer chemoprevention and justify long-term consumption of saw palmetto berry extract-containing formulations.”

While these findings are promising, we caution prostate cancer patients to not forgo other treatments since saw palmetto is by no means a cancer cure.

When it comes to prostate cancer prevention, however, it would appear that saw palmetto provides multiple mechanisms, such as hormone modulation and suppression of COX-2 expression, that may provide a risk reduction for prostate cancer.

#### Suppressing existing prostate cancer

Donald D. Hensrud, M.D., is a nutrition and preventive medicine specialist at the Mayo Clinic in Rochester, Minnesota. In the Mayo Clinic's health newsletter,(21) Dr. Hensrud stated that about 40 percent of men in their seventies have latent prostate cancer. Dr. Hensrud went on to say that vitamin E (alpha tocopherol) seems to work by preventing small latent tumors from becoming full-blown active cancers. By preventing the transformation from latent to active cancer, says Dr. Hensrud, vitamin E may allow many men who would otherwise have developed active cancer to avoid it. This interview was given in response to an earlier report published in the Journal of the National Cancer Institute(22) showing that vitamin E supplements reduced prostate cancer incidence by 32%.

#### A comprehensive approach

There are a number of dietary supplements that have shown potential benefit in reducing prostate cancer risk. Lycopene has obtained the most publicity as a food constituent that reduces the risk of prostate and other forms of cancer, while also protecting against LDL cholesterol oxidation.(23)

In addition to lycopene, saw palmetto, selenium, and both the alpha and gamma forms of vitamin E appear to help confer a protective effect against prostate cancer.

From a dietary standpoint, the consumption of a wide variety of fruits and vegetables lowers risk, while a high-fat diet increases prostate cancer incidence.

Men over age 40 are advised to have an annual PSA blood test and digital rectal exam to detect prostate cancer in its earliest stages where the cure rate is very high.

#### Why the prostate cancer epidemic is worsening

The public at large is not taking the steps necessary to reduce prostate cancer incidence or mortality. It is only through self-education that health-conscious American men are learning what they can do to protect themselves.

The Life Extension Foundation has dedicated enormous resources to evaluate novel methods of preventing and treating the disease. We were pioneers in advocating androgen ablation therapy in the early treatment of prostate cancer, rather than waiting for the disease to metastasize. The establishment was highly critical of our approach, but hundreds of thousands of men have been able to control their disease by first down-sizing the tumor with intermittent hormone blockade as opposed to waiting for it to reach an advanced stage before initiating hormone blockade. The Foundation's prostate cancer treatment protocols can be found in the Disease Prevention and Treatment smalltext book or on the Internet at [www.lef.org](http://www.lef.org)

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Conventional urologists often advocate radical prostatectomy or external beam radiation therapy as the initial therapy. The result for many patients is that the cancer escapes the prostate capsule, metastasises to other parts of the body, and only then is hormone blockade initiated as a palliative, rather than curative therapy. Common side effects from surgery or external mean radiation are impotence, incontinence and chronic pain.

Members of The Life Extension Foundation gained access to novel prostate cancer prevention and treatment approaches many years ago. The majority of Americans, on the other hand, are still in the dark about scientific methods to prevent and better treat the disease.

Favorable reports about ways to avoid prostate cancer have emanated from prestigious medical facilities such as Johns Hopkins, Harvard, Mayo Clinic, and the National Cancer Institute. Despite these positive findings, none of these organizations are officially recommending that the population actually take supplements (like gamma tocopherol) that their own research has shown might reduce prostate cancer risk.

The difference between these mainstream organizations and The Life Extension Foundation is that we take the findings of scientific studies and turn these into specific recommendations so that the lay person can take steps to protect their precious health today.

Based on the evidence gathered to date, men seeking to reduce their risks of contracting prostate cancer might want to supplement with selenium, lycopene, saw palmetto, along with the alpha and gamma forms of vitamin E. (Most Foundation members have been taking these supplements for a long time already.)

Since these low-cost supplements provide other health benefits, we do not understand why establishment medicine is not recommending that all men over age 40 consider these supplements for the possible prevention of prostate cancer and a host of other diseases. By insisting that we wait for absolute "proof" of efficacy, the medical establishment may be condemning hundreds of thousands of American men to needlessly contract prostate cancer.

For longer life,



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#### HOW MUCH GAMMA TOCOPHEROL?

In a study published in the Proceedings of the National Academy of Sciences (April 1997), (24) researchers reported that it could be dangerous to take high levels of alpha tocopherol vitamin E without also consuming gamma tocopherol. The reason for this is that too much alpha tocopherol could deprive the cells of the gamma form of vitamin E that is needed to neutralize existing oxidizing agents such as the peroxynitrite radical, which can be especially damaging.

The scientists who wrote the National Academy of Sciences article suggested that alpha tocopherol vitamin E supplements should contain at least 20% gamma tocopherol. In response to these recommendations, Foundation members began taking one capsule a day of a supplement called Gamma E Tocopherol that provided 210 mg of gamma tocopherol in each capsule. This same amount of gamma tocopherol (210 mg) was later added to the Life Extension Booster formula. Foundation members obtained additional protection in the Super CoQ10 softgel caps that are fortified with a tocotrienol complex that provides the gamma tocotrienol vitamin E fraction.

Since the average member takes between 400 IU and 1000 IU a day of alpha tocopherol vitamin E, the 210 mg of gamma tocopherol found in either Gamma E Tocopherol or Life Extension Booster more than fulfills this 20% gamma tocopherol requirement.

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