

### *Is Prostate Cancer Hereditary?*

Are our genes our fate? Studies have linked certain types of cancer with hereditary genes that are sometimes transmitted within families. People do not like to talk about this. No family member wants their genetics potentially associated with a loved one's disease. But, this does happen, and more often than people realize.

**“Inherited prostate cancer accounts for approximately 10 percent of all prostate cancer diagnoses, and as many as 43 percent of prostate cancer cases diagnosed before age 55,” said Mitchell C. Benson, MD, Urologist in Chief at New York Presbyterian Hospital.** Other research indicates that, compared to those without a family history, men with one first degree relative with prostate cancer are twice as likely to develop the disease, men with two affected first-degree relatives have a five times increased risk, and with three relatives an eleven times increased risk of prostate cancer.

Despite these numbers, even when it appears that prostate cancer has been passed down in families, science has not been able to incontrovertibly identify a human prostate cancer gene. Compared to some cancers, including breast and kidney, where a single familial and inheritable gene has been discovered in hereditary cases, prostate cancer is more elusive.

**“Prostate cancer clustering in families offers the appearance of a genetic factor, but the prostate cancer hereditary link may involve multiple genes and factors in combination,” said Dr. Benson.** He cited genetic immune deficiency, a type of

genetic inflammatory response, and close contact with components of certain viruses in families as possible predisposing cancer influences.

An enlarged prostate led Terry Roe Sr. to the doctor in 1991 at age 66. His physician ordered a prostate specific antigen (PSA) test to screen for prostate cancer. Only available for two years at the time, Terry knew nothing about the test. His PSA was 18, and other exams confirmed he had prostate cancer.

“The cure was almost worse than the disease,” explained Terry. Doctors attempted to perform surgery, but discovered the cancer had spread to numerous lymph nodes. His physicians determined the surgical risk and associated mortality rate were too high. Instead, he had radiation and hormonal therapy. The chemical castration, as Terry called it, caused a loss of muscle mass, body hair, four inches in height, and 17 pounds. With the adverse effects, the treatments did result in a steady, healthy PSA of .2, and Terry continues to be tested twice a year.

Terry joined a support group and prostate cancer became his self-proclaimed favorite subject. Concerned about a possible recurrence, Terry felt that education and action

were his best defenses. He learned what to eat and what not to eat, about supplements, and the benefits of exercise. Terry also discovered that there could be a prostate cancer hereditary link in families. The disease hit the Roe family for a second time when Terry's younger brother was diagnosed with prostate cancer.

**“Indicators within families that prostate cancer might be hereditary include young age of onset and multiple affected relatives,” stated Dr. Benson.**

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**APCaP seeks the collaboration of public/private business leaders, legislators, health providers/administrators, researchers, federal/state/local health officials, and prostate cancer advocates into coordinated cohesive forums to enhance and promote prostate cancer awareness, education, research, and primary/secondary prevention programs. This diversified stakeholder group seeks to reach out to men in their 40s and 50s, and their wives or partners, to educate them about the basics of prostate cancer and what can aid in its prevention. APCaP accomplishes this through physician lectures, a newsletter, and website. APCaP also evaluates and implements ambitious plans that are designed to eliminate prostate cancer as a health threat in the United States by 2015.**

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#### **Newsletter Publisher:**

Terry Roe

#### **Newsletter Manager & Contributing Writer:**

Jeannine Walston of Healing Focus, [www.healingfocus.org](http://www.healingfocus.org)

## *Everyday Heroes*

The 7th Annual Ray Perkins Memorial Race took place on September 21, 2008. A participant and inspiration Paul Kane, two-time survivor of colon and prostate cancer, collected \$1,200 in donations. He also made a \$100 bet with a friend about whether or not he could finish the race. Kane delivered, and his friend wrote a check to APCaP.

Originally diagnosed in March 2004 with colon cancer, doctors removed two feet of his colon and treated him with seven months of weekly chemotherapy. In March 2005, he was told he had prostate cancer and treated with surgery. In May 2008, Kane had a second surgery for colon cancer, and in July started six months of biweekly chemotherapy. In order to participate in the race, Kane's doctors gave him two weeks off of chemotherapy. Kane has four sons over the age of 40. Each checks their PSA annually. They are all readers of *Male Call*.

## *SELECT Study Closed*

In October 2008, the National Cancer Institute closed SELECT (the Selenium and Vitamin E Cancer Prevention Trial), the largest-ever prostate cancer prevention trial with over 35,000 participants. Initial independent review of study data from SELECT shows that selenium and vitamin E supplements, taken either alone or together for an average of five years, did not prevent prostate cancer.

Previous studies suggested that selenium and vitamin E (alone or in combination) might reduce the risk of developing prostate cancer, but SELECT's results did not confirm those initial findings. SELECT participants were told to stop taking their study supplements. They will continue to have their health monitored by study staff for about three years, including through prostate cancer screening tests. This additional follow up will help to determine the long-term effects of having taken either supplement or placebo and to collect other important information.

## *PSA RECOMMENDATIONS:*

As a reminder, current recommendations suggest healthy men over 50 have an annual PSA blood test. However, African Americans and people with a family history of prostate cancer should begin testing at age 40.

## *Navigating Prostate Cancer Screening & Treatment: Is it More Art Than Science?*

Studies evaluate scientific questions in groups of people. Their findings communicate statistical probability associated with a small population. Too often, scientific findings are prematurely considered definitive. Research results need confirmation through several studies. In the midst of this complexity, as well as inflammatory interpretations from the media and vested interests, *how can consumers know what is true?*

People struggle to make the best decisions for their health. Sometimes no clear and absolute course exists. In the world of cancer screening and treatments, for certain diseases there is a lack of consensus about standard care. People entering the cancer world for the first time learn this very quickly. If you consult with three medical institutions, you might receive three different opinions and recommendations.

### ***Prostate Cancer Screening***

The U.S. Preventive Services Task Force (USPSTF), a panel of outside experts convened by the Agency for Healthcare Research and Quality (AHRQ) who makes independent evidence-based recommendations, reported in August 2008 that there is insufficient evidence to recommend for or against PSA testing for routine prostate cancer screening. According to USPSTF, PSA tests can detect early-stage cancer when it is potentially most treatable, but also lead to frequent false-positive results and identification of prostate cancers unlikely to cause harm. USPSTF concluded that the current state of the evidence is insufficient to assess the balance of benefits and harms of prostate cancer screening in men younger than age 75 years. They also recommend against screening for prostate cancer in men age 75 years or older.

In a August 2008 *Washington Post* article, William J. Catalona, MD, Medical Director of the Clinical Prostate Cancer Program at the Robert H. Lurie Comprehensive Cancer Center at Northwestern University's Feinberg School of Medicine, explained his opposition to the USPSTF report.

Among his concerns, the recommendations did not refer to screening for men at higher risk due to race or family history, PSA-based tests on velocity (increases over time) and the percentage of PSA floating free in the blood that help to decrease unnecessary biopsies and identify men with the most aggressive tumors enabling timely treatment even before symptoms occur, and the importance of early diagnosis through screening that allows curative treatments in some men.

“Physicians and patients who are concerned about preventing prostate cancer deaths choose to screen with PSA tests because an inconclusive but increasingly compelling body of evidence shows that the screening reduces suffering and death from prostate cancer,” wrote Dr. Catalona.

According to Dr. Catalona, several organizations recommend PSA screening. These groups have urologists on their panels, unlike the USPSTF. Both the American Urological Association and the American Cancer Society recommend offering screening beginning at age 50 in men with a life expectancy of 10 years. High-risk men, such as African Americans and those with a strong family history of prostate cancer, are urged to consider screening at an earlier age. The National Comprehensive Cancer Network's guidelines recommend that screening begin at age 40.

*(Continued on Page 7)*

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## *Is Prostate Cancer Hereditary? (Continued from Page 1)*

“These men have an increased risk of developing prostate cancer. It is therefore recommended that they start screening at age 40. If they have relatives who have been diagnosed in their 40’s or very early 50’s, I suggest a first PSA and examination at age 35. Screening beyond recommended guidelines should be performed at the clinician’s discretion in consultation with the patient.”

At his father’s urging, Terry Roe Jr. started prostate cancer screening with PSA tests and digital rectal exams (DREs) at age 40. Now 51 years old, Terry’s current PSA is 3.68 compared to 1.5 two years ago. His PSA is not considered alarming in most men, but due to his family history, his primary care physician suggested he consult with a urologist, who recommended a biopsy. Terry emphasized that it was only due to his father’s bout with prostate cancer that the biopsy was recommended. The results— cancer.

For a second opinion, Terry consulted with Dr. Benson. Both his local urologist and Dr. Benson concurred that surgery was the best approach. Treatment cure rate estimates based on studies in men with Terry’s stage of prostate cancer are almost comparable at 98 percent for surgery compared to 95 percent for radiation.

After further discussions, Dr. Benson suggested radiation for lifestyle reasons. Divorced two years ago, Terry is an example of how the sexual side effects of treatment impact single men differently compared to married men.

Seed implants are less invasive than surgery with fewer side effects, and the procedure is completed in one day with a shorter recovery than surgery. However, after effects from seed implants do exist, and long-term effects are unknown since the treatment has only been available for 15 years.

“I wonder if I’m making the right decision. Everyone has different opinions and approaches, as well as varied outcomes,” said Terry the week before his seed implant procedure at Memorial Sloan Kettering Cancer Center. “After a lot of research, I still think it is the best approach for my situation.”

Along with learning about prostate cancer and hereditary genetics from his father, Terry has also acquired a similar desire to help educate others about the disease.

Recently sharing a meal with a 40-year-old African-American friend whose father had prostate cancer, Terry was surprised to learn that his friend never had a PSA and was not even aware of the test. “I thought it was becoming more common knowledge,” said Terry, “but it is not.”

Terry advocates for early detection. He wonders about his 17 year-old son and if there are proactive steps he can take against prostate cancer. Doctors do not know enough about the causes of prostate cancer to make a sound recommendation for this scenario based on research data. For himself, Terry consumes healthy foods and exercises several times weekly. He hopes his son will begin prostate cancer screening around age 35.

Terry Sr.’s oldest son John is wrestling with a similar fate. John also began PSA testing at age 40 due to family history. Over the last two years, his PSA increased from 3.0 to 4.8, the latter of which led to a biopsy that confirmed a prostate cancer diagnosis. He is currently considering surgery. Although he is not sure if lifestyle changes offer significant health benefits in his case, he eats a healthy diet and exercises regularly.

**To prevent the disease, Dr. Benson recommends prostate cancer screening, avoiding obesity, and incorporating dietary changes.** A prostate cancer healthy diet is a heart healthy diet. In particular, studies suggest men consuming fewer dietary fats have a reduced risk of developing prostate cancer as well as a reduced risk for recurrence and disease progression after diagnosis and treatment.

For people with prostate cancer, some good news is that they are not more likely to be diagnosed with other types of cancers. Likewise, if someone has a relative with breast cancer, that also does not increase the person’s likelihood of developing prostate cancer. “There is no association between genetic predisposition to prostate cancer and a genetic predisposition to other cancers,” said Dr. Benson.

“Men need to be alert and informed,” said Terry Sr. “Prostate cancer does not discriminate. Prevention strategies might work for some men, and not others. Too often, it becomes a family disease, with or without genetic proof, and some men who have had prostate cancer are unaware of the hereditary issue.”

## Change Your Lifestyle, Change Your Genes

A first ever study suggests that incorporating lifestyle changes— improved nutrition, stress management techniques, walking, and psychosocial support— changed the expression of over 500 genes in men with early-stage prostate cancer.

The research results suggest that genes create a predisposition, but do not define fate. The ways in which people live their life— what they eat, think, whether or not they move their body, and more— have the potential to transform cellular structure and potentially influence how one teeters the fine line between sickness and wellness.



Published in the June 2008 *Proceedings of the National Academy of Sciences*, Dean Ornish, MD of the Preventive Medicine Research Institute and colleagues from the University of California, San Francisco studied biopsies in 30 men who were diagnosed with low-risk, non-aggressive prostate cancer with stable PSA levels and Gleason scores below 6. These men did not have conventional treatments.

Researchers evaluated healthy and unhealthy tissue at the beginning of the study and after three months of lifestyle changes. RNA, which is similar to DNA and helps decode genetic information, was extracted to analyze 40,000 genes.

**One Man's Story**— Since he began PSA testing in the 1990s, John Walston's scores were a steady 1.4. In November 2007 at age 65, his PSA increased to 2.2. His urologist expressed concern for the increase, or PSA velocity, and asked John to have PSA screenings a few times annually instead of once per year.

A regular reader of *Male Call*, and father of *Male Call* Manager and Contributing Writer Jeannine Walston, John devised a wellness plan based on evidence-based prostate cancer prevention recommendations discussed in the newsletter.

John and his wife Barbara made dramatic dietary changes. They increased consumption of organic cooked and

The lifestyle changes made over the three months included the following.

- ◆ **Plant-based diet predominantly of fruits, vegetables, legumes, soy products, and whole grains low in refined carbohydrates**
- ◆ **Walking 30 minutes daily**
- ◆ **Yoga-based stretching, breathing techniques, meditation, and/or guided imagery for one hour daily**
- ◆ **Weekly one-hour support group**
- ◆ **Supplements consisting of soy, fish oil, and vitamin C**

**After three months of these lifestyle change, many disease-promoting genes associated with cancer, heart disease, and inflammation were “down-regulated,” or turned off. Protective disease-preventing genes were “up-regulated,” or turned on.** According to Dr. Ornish, some of these genes are targets of new drugs being developed. Dr. Ornish has stated that the study findings may be generalized beyond men with prostate cancer since researchers evaluated normal tissue within the prostate.

Randomized controlled trials published two years ago by Dr. Ornish showed that intensive lifestyle changes may slow, stop, or reverse the progression of early stage prostate cancer and perhaps breast cancer. The current study is the first one to assess specific molecular changes in men with early-stage prostate cancer. Additional studies will gather further understanding about how lifestyle changes influence both good and bad genes.

and uncooked vegetables, raw juices, fruits, grains, and fish. They began eating less breads, meats, and sugars. Instead of a sandwich with cold cuts for lunch, John started eating a salad with nuts and beans. He even eliminated his nightly bowl of ice cream. Barbara encouraged John to take walks in their neighborhood and local park several times weekly. John also incorporated new dietary supplements.

Although it is impossible to identify the exact cause and effect, John's lifestyle changes may have had some influence on his prostate health. In February 2008 his PSA decreased to 2.0, and in September 2008 to .5. In the last year, he also lost 12 pounds, which offers a range of health benefits.

## Obesity's Impact on Prostate Cancer Diagnosis and Treatment

**A delayed prostate cancer diagnosis and less successful surgical treatment may be more likely in obese men,** according to studies published in the August 2008 *British Journal of Urology International*.

Study results suggest that PSA levels are diluted in obese men due to their larger blood volumes. The total amount of circulating PSA in larger blood volumes is not comparable in men with lesser blood volumes. The findings also indicate that obese men had an increased likelihood of more-aggressive tumors and a cancer recurrence after surgery.



Researchers evaluated outcomes of approximately 3,400 prostate cancer patients who had prostate surgical removal between 1988 and 2007. Some had their cancer detected by PSA, and others through a DRE. The link between weight and more aggressive prostate cancer was limited to men treated since 2000 when PSA became more widespread. Obesity did not appear to be associated with a higher risk of prostate cancer progression in cases detected by DRE. These findings suggest that PSA, and not DRE, has less prostate cancer detection accuracy in obese men.

Another study found that obese prostate cancer patients have a higher rate of tumor cells left behind during surgery.

Study investigator Stephen J. Freedland, MD, of Duke University Medical Center called for improved diagnostic tests and lowering the PSA threshold for obese men. Obese men need to be aware of these potential trends and discuss them with their doctor.

### *Statin Drugs & Obesity*

Is there an association between statins, obesity, and increased prostate cancer risk? **Cholesterol-lowering statin drugs in obese men appear to raise the risk of prostate cancer,** according to a study published in the August 2008 *American Journal of Epidemiology*.

Researchers compared 1,001 men with prostate cancer diagnosed between 2002 and 2005 with 942 age-matched cancer-free men serving as controls in the study. Current use of a statin was associated with a 50 percent increase in prostate cancer risk, and 5 or more years of use was associated with a 80 percent increase in risk.

Results indicated no overall association between current or past use of statins in non-obese men and either reducing or increasing prostate cancer risk.



*"His final wish was that all his medical bills be paid promptly."*

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**Prevent Prostate Cancer by 2015**

## *Navigating Prostate Cancer Screening & Treatments: Is It More Art Than Science?*

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And yet, the risk of dying from prostate cancer remains three percent. USPSTF and AHRQ emphasize that considerable over-diagnosis and over-treatment may exist.

### ***Prostate Cancer Treatments***

Comparing the effectiveness and risks of eight prostate cancer treatments reviewed in 592 articles ranging from prostate removal to radioactive implants to no treatment, AHRQ published their findings in the February 2008 *Annals of Internal Medicine*. Although the report concludes that patients who undergo complete prostate removal are less likely to experience urinary incontinence or other complications if the operation is done by an experienced surgeon in a hospital, scientific evidence has not established surgery or any other single treatment as superior for all men.

### ***Navigating the Maze***

Such findings about prostate cancer screenings and treatments are confusing for the public, and illuminate that cancer care can be more art than science. Research studies in large groups of people take many years, and sometimes decades in low-risk people. The medical community simply does not have all of the necessary information through study results. For example, how lifestyle interventions reduce mortality in people with early-stage prostate cancer has not been investigated. After sorting through the findings and subsequent medical recommendations, each individual must make their own informed decision about how to screen for prostate cancer and treat the disease if and when there is a diagnosis.

Until better screening methods have been established, APCaP recommends that men begin prostate cancer screening at age 50. African-Americans and men with a family history should begin screening at age 40.

*Prostate cancer is the second most common form of cancer diagnosed among American men. This year approximately 220,000 new cases of the disease are expected to be diagnosed, and about 27,000 men will die of the disease.*

## *Women, Help the Men in Your Life!*



Survey results released by the Prostate Cancer Research Foundation of Canada in September 2008 indicate that approximately half of Canadian men do not schedule an annual doctor's appointment.

Compared with the approximately 50 percent of men who reported reminders from women, about 85 percent of females participating in the survey said that they have reminded men to have their annual physical.

The Prostate Cancer Research Foundation of Canada released a statement that their findings reinforce **the need to not only educate men about prostate health and the importance of regular screening, but to also initiate public education programs specifically aimed at women.**

Women appear much more proactive about their health compared to men. Reasons for the male aversion to monitoring their health through medical check ups and screening tests are unknown. Men may feel uncomfortable with below the belt physician exams and the possibility of threats to their sexual masculinity.

When it comes to health, minor discomforts can prevent major problems in the future. APCaP agrees that men's prostate health will benefit with a little help from their lady friends. According to one Canadian newspaper, these findings provide new perspectives on the nagging wife.



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