# Prostate Cancer Prevention Newsletter

Prevent Prostate Cancer by 2015

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APCaP
Alliance for Prostate Cancer Prevention


## National Cancer Institute's View on Prostate Cancer:
### *A Discussion with NCI's Howard Parnes, MD*

*Howard L. Parnes, MD, Chief of the Prostate and Urologic Cancer Research Group in the National Cancer Institute's Division of Cancer Prevention, recently spoke with APCaP about prostate cancer. The following summarizes key points made by Dr. Parnes about prostate cancer screening, detection, treatment, risk factors, androgens, prevention research, and future directions.*

**Screening**
The tests most commonly used for prostate cancer screening include the prostate-specific antigen (PSA) and digital rectal exam (DRE). PSA is a protein produced by both normal and abnormal cells of the prostate gland. The PSA test measures the level of PSA in the blood. The U.S. Food and Drug Administration (FDA) has approved the use of the PSA test along with a digital rectal exam to help detect prostate cancer in men age 50 and older. The FDA has also approved the PSA test to monitor patients with a history of prostate cancer to see if the cancer has recurred.

In the past, most doctors considered PSA values below 4.0 ng per milliliter as normal. However, recent research found prostate cancer in as many as 15 percent of men with PSA levels below 4.0 ng per milliliter. Although these recent data challenge the traditional concept of a discrete cut-point for defining a "normal" PSA level, the lower the PSA level, the less likely cancer will be found through a prostate biopsy.

Along with the PSA test, a procedure called a digital rectal exam (DRE) is used for prostate cancer screening. DRE is an exam of the prostate where a doctor or nurse inserts a lubricated, gloved finger into the lower part of the rectum to feel the prostate for lumps or nodules. DRE has poor sensitivity and specificity, but can provide useful information in a minority of men with tumors that can be felt through touch.


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The national rate for prostate cancer diagnosis is one in six men or 16 percent. However, only two to three men out of 100 will die from prostate cancer.

The National Cancer Institute (NCI) is currently funding the Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial (PLCO), a large-scale clinical trial to determine whether certain cancer screening tests reduce deaths from these cancers. Approximately 75,000 men are being screened for prostate cancer through this study, whose results are not anticipated for at least five years.

**Detection and Treatment**
Biopsies may be recommended according to the results of the PSA or DRE. Tumor samples are then evaluated under a microscope and given a Gleason score. The Gleason system uses scores ranging from 2 to 10. Lower Gleason scores indicate well-differentiated, less aggressive tumors. Higher scores describe more poorly differentiated, tumors that are more often associated with a clinically aggressive course.

The national rate for prostate cancer diagnosis is one in six men or 16 percent. However, only two to three men out of 100 will die from prostate cancer. Dr. Parnes describes that prostate cancer is often, but not always, a slow growing disease.

Dr. Parnes cites the May 2005 *Journal of the American Medical Association* article "20 Year Outcomes Following Conservative Management of Clinically Localized Prostate Cancer" by Peter Albertsen, MD. This retrospective study consisted of 767 men aged 55 to 74 years with clinically localized prostate cancer diagnosed between 1971 and 1984 and evaluated 20-year survival. Patients were treated with observation, which was 24 years on average, and immediate or delayed androgen withdrawal therapy. In 60-year men with a Gleason score of six, about 20 percent died of

*(continued on page 2)*

# National Cancer Institute's View on Prostate Cancer *(continued from page 1)*

their disease over 20 years, while about 40 percent died of other causes and 40 percent remained alive. In men with a Gleason score of seven, about 60 percent died of prostate cancer and about 25 percent died of other causes. Dr. Parnes encourages men to make personal and informed decisions about PSA testing and prostate cancer treatment in collaboration with health care professionals.

**Risk Factors**
Several risk factors increase a man's chances of developing prostate cancer. Age is the most common risk factor. Nearly 70 percent of prostate cancer cases occur in men age 65 and older. Other risk factors for prostate cancer include family history, race, and diet. Men who have a father or brother with prostate cancer have a greater chance of developing the disease. African American men have the highest rate of prostate cancer, while Asian and Native American men have the lowest rates. There is also evidence that a diet higher in fat, especially animal fat, may increase the risk of prostate cancer. Dr. Parnes recommends a balanced diet with a wide variety of vegetables and fruits. He notes that people cannot gain the full benefits of a healthy diet through nutritional supplements.

**Androgens**
Research has demonstrated the well-established link between male sex steroid hormones, or androgens, and the process of prostate cancer development. More information about this hormonal link is described in Dr. Parnes' January 2005 *Journal of Clinical Oncology* article "Prevention of Hormone-Related Cancers: Prostate Cancer." He advises that only men who are under a physician's care and have documented testosterone deficiency should consider testosterone replacement therapy due to concern about a link between this therapy and increased prostate cancer risk.

**Prevention Research**
NCI funded a randomized, placebo-controlled study of the drug finasteride in almost 19,000 men 55 years of age or older with a normal DRE and a PSA of three or lower through the Prostate Cancer Prevention Trial (PCPT). Finasteride inhibits the conversion of testosterone to the more potent androgen, dihydrotestosterone. Study results published in the July 2003 *The New England Journal of Medicine* article "The Influence of Finasteride on the Development of Prostate Cancer" showed a 24.8 percent reduction in prevalence over 7 years in the finasteride group compared to 24 percent in the placebo group. However, trial participants who did develop prostate cancer while taking finasteride experienced a slightly higher incidence of high-grade tumors. PCPT researchers are continuing to analyze the study data to assess whether finasteride actually caused high-grade tumors or whether this agent simply increased the detection of high-grade tumors by shrinking the size of the prostate gland.

Other studies currently being funded by NCI include lycopene, soy, vitamin D, and anti-inflammatory agents to assess each substances potential role in prostate cancer prevention. Dr. Parnes emphasizes that clinical trials are necessary to identify evidence-based information about these interventions and others, as well as to understand side effects.

**Future Directions**
PSA and DRE are the prostate cancer screening tools currently available to men. New tools are currently being developed. According to Dr. Parnes, the approach taken toward prostate cancer prevention and screening should be individualized. Each person should carefully evaluate risks and benefits. Treatments are necessary for some, but not all, patients.

Howard L. Parnes, MD, Chief of the Prostate and Urologic Cancer Research Group in the National Cancer Institute's Division of Cancer Prevention

# Exercise's Role in Prostate Cancer Prevention

Research studies suggest an association between physical activity and the prevention of prostate cancer. A comprehensive 2002 review by the International Agency for Research on Cancer estimated that 20 to 30 percent of some of the most common cancers in the United States, including prostate, might be related to obesity and/or lack of physical activity.

The Centers for Disease Control and Prevention recommends that adults engage in moderate-intensity physical activity for at least 30 minutes on five or more days of the week, or vigorous-intensity physical activity for 20 minutes on three or more days of the week.

Harvard investigators reported in the May 2005 *Archives of Internal Medicine* that older men who exercise regularly might have a much lower risk of advanced prostate cancer. Men 65 or older who engaged in at least 3 hours of challenging physical activity weekly appeared to have an almost 70 percent lower risk of being diagnosed with high-grade prostate cancer than other patients their age. Among all study participants between the ages of 40 and 75, men with high levels of physical activity were less likely to be diagnosed with poorly differentiated cancers (Gleason grade 7 or above). Researchers say more study is needed to understand how exercise affects prostate cancer risk in men of all ages.

For their investigation, the researchers analyzed data from the Health Professionals Follow-up Study, a prospective cohort study of more than 47,000 medical professionals. The men were followed from 1986 to 2000 and responded to questionnaires about their health and lifestyles. The investigators analyzed prostate cancer cases documented during the study and assessed the specific relationship between physical activity and the risk of advanced prostate cancer in older men.

**Vigorous physical activity such as jogging, biking, lap swimming, hiking, tennis, racquetball, and rowing reduced prostate cancer diagnosis by 70% in men over 65.**

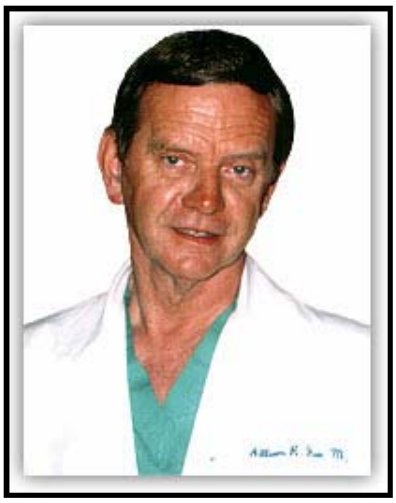
"The mechanism whereby physical activity may be protective is unknown," wrote the researchers from this study, "but physical activity may (reduce) a number of hormones hypothesized to enhance prostate cancer carcinogenesis, including insulin-like growth factor 1, insulin, leptin, and testosterone."

Although many studies suggest that exercise might reduce men's prostate cancer risks, researchers indicate this study is one of the largest to provide details on the intensity of physical activity required for significant prostate cancer protection. Study participants were asked to report frequency of vigorous and nonvigorous physical activity. Examples of vigorous physical activity are jogging, biking, lap swimming, hiking, tennis, racquetball, and rowing. Nonvigorous physical activity includes walking and stair climbing.

# Fitness Tools for Health

Maintaining a healthy body weight through nutrition and regular physical activity is the second most important way, after tobacco control, to prevent cancer. This recommendation comes from the American Cancer Society (ACS), Centers for Disease Control and Prevention, and the International Agency for Research on Cancer. The "Food and Fitness" section of ACS's website includes tips about fitting in fitness, making exercise work for you, and exercise tools such as your daily calorie needs, calories burned in various activities, and target heart rate and body mass index calculators. This section of the ACS website can be found in their prevention section through the organization's homepage at www.cancer.org.

# Heroes in Medicine: William R. Fair, M.D.



*The following is based on an article written by Terry Roe about Dr. Fair in 1998. Dr. Fair died from cancer in 2002, at the age of 67. He is remembered as a top-notch urologist and advocate of complementary and alternative medicine for cancer. Terry Roe, an APCaP Board Member and prostate cancer survivor, refers to Dr. Fair as the greatest man that ever lived. Terry strives to give readers a sense of Dr. Fair's life and integrity as both a physician and human being in this Heroes in Medicine tribute.*

Did a young man from Conshohocken, Pennsylvania find success and happiness in a big city like New York? YES, you'd better believe it! Born into a family of modest means, William Fair rose to become one of the most prominent and well-respected urological surgeons in the world. Bill, as he was known, always had an interest in science. In admiration of the local doctor in his small Pennsylvania town, he wondered how he might gain that type of knowledge. An older Bill reminisced, "He knew all these weird and wonderful things."

High schools did not train students for college at that time. In fact, only five out of 100 high school graduates would continue with higher education. Bill decided to take a risk despite lack of family funds. He earned a Bachelors of Science degree from the Philadelphia College of Pharmacy and Science in pharmacology and worked in a pharmacy on the weekends. Bill then entered Philadelphia's Jefferson Medical School. Only 21 years old, he worked through medical school with jobs around the clock, as a pharmacist in a drug store during the day and a laborer in a tire factory at night.

After earning his medical degree in the early 1960's, Dr. Fair faced the first of many career decisions. Despite his interest in a family medical practice, Dr. Fair entered an army internship at Tripler Army Hospital in Hawaii. Shortly thereafter, the army dispatched First Lieutenant Fair to Wormack Army Hospital at Fort Braggs, North Carolina. That assignment would set in motion a series of personal and professional events that would profoundly affect his life.

War wasn't all hell. "One day," Dr. Fair wistfully recalled, "a shipment of nurses arrived. He started dating Mary Ann Collins, R.N., and they were married six weeks later. Among other qualities, she admired how he interacted with patients making them feel at ease.

Dr. Fair was then transferred to Fort Sam Houston in Texas while Mary Ann remained in North Carolina. He was subsequently assigned to the 24th Infantry Division as assistant division surgeon and transferred to Augsburg, Germany in 1961. Captain Fair played a role in the confrontation between the United States and Soviet Union when the latter tried to seal off access to Berlin again. President Kennedy was determined to keep Berlin open and Captain Fair played a major part in the evacuation planning.

In November of 1961, Mary Ann joined Dr. Fair in Augsburg and worked for two years as a nurse before giving birth to their first son William, in 1963. By then, Dr. Fair was seriously interested in urology. He felt that with his army surgical experience, a urology specialty offered an ideal union of medicine, surgery, and infectious disease. After being awarded a residency at the prestigious Walter Reed Hospital, he experienced doubts about remaining in the service. Next, following a year-long surgical residency at Fort Benning, Georgia, Captain Fair was released from active duty.

Back in civilian life and now firmly committed to urology, he and his family headed to Stanford for his residency, and an opportunity to work with Dr. Tom Stamey, a physician Dr. Fair greatly admired. After the residency, Dr. Fair was offered a position as a Stanford professor. Doing urological research on prostatitis and surgery, Dr. Fair fondly recalled the productivity during that time of his life. After four years, he was promoted to

*(continued on page 5)*

# Dr. Fair *(continued from page 4)*

associate professor with tenure and spent five more years conducting research at Stanford.

In 1974, Dr. Fair took a one year sabbatical to work with Dr. Chester Beatty at London's Cancer Research Institute where he focused on the prostate. Back in the United States, he was hired as Chief of Urology at St. Louis' Washington University. Later offered the Chief of Surgery slot at this facility, he declined due to heavy administrative duties. Ten years later in 1984, he was hired as Urology Chief at Memorial Sloan-Kettering Cancer Center (MSKCC).

"Few things produce such a sense of satisfaction as when an operation goes well," said Dr. Fair. Only a small group of people knew he was a spiritual man. Each day before a surgery was scheduled, he would stop early in the morning at St. Catherine's Church to pray for the guidance and grace to take the right course during the day's operation.

As a young boy, Dr. Fair's son remembers late dinners due to his father's schedule with patients. "He emphasized to me that his work was not just a practice, but helping people to cope," his son reflected. He calls his father a teacher, surgeon, scientist, and above all, a caring man.

In the mid-1990's, Dr. Fair went from doctor to patient. And he was less than the perfect patient. For a year prior to his diagnosis, his family thought he looked tired. Dr. Fair knew something was wrong, but continued to delay a physical examination. Finally, blood work revealed extremely low hemoglobin, and other tests were ordered. He was anemic and had colon cancer. Surgery was scheduled three days after his diagnosis. Dr. Fair's concern for others was evident on the day of his own operation. Witnesses reported that Dr. Fair, while being wheeled toward the operating room, asked the orderly to stop by a gurney in the waiting area. It was the patient he had planned to operate on that day. Dr. Fair, himself facing a difficult surgery in a matter of minutes, leaned over, patted the man's shoulder, and quietly said, "Don't worry. Everything will be fine. You are in good hands."



After a recurrence of the cancer and subsequent surgery, he stepped down as Urology Chief. His peers and students from all over the world attended a large dinner in his honor. Dr. Fair earned the respect of everyone he touched. He has been described as compassionate, caring, empathetic, and with strength of character. Dr. Fair's professional accomplishments are vast and include the American Urology Association's prestigious Hugh Hamptom Young Award, editor or co-editor of two professional journals, editorial board member of eight journals, author or co-author on nearly 300 articles, and the creator or contributor to 33 urologic protocols.

Dr. Fair didn't retire after his recurrence. He worked as the Director of the Memorial-Sloan Kettering Diagnostic Prostate Cancer Center. Dr. Fair collaborated with Dr. Ernst Feleppa of the Riverside Research Institute in New York to improve the accuracy of biopsies by the use of ultra sound and spectrum analysis. In addition, he started publicly advocating for complementary and alternative medicine for cancer. He was appointed to leadership posts such as the newly formed American Urology Association's committee on complementary medicine and testified before Congress urging increased funding for complementary medicine research.

As Dr. Dean Ornish described in a tribute after Dr. Fair's death, Dr. Fair had four surgical resections and a year of chemotherapy, yet his cancer was still recurring. Dr. Fair then made extensive changes in diet and lifestyle, including a low-fat vegetarian diet, meditation, yoga, exercise, herbs, and support groups. His cancer then began to go into remission. A series of MRI and CT scans showed his tumor had regressed, in March of 2000, to the point that it was no longer detectable. His remarkable improvement was featured on Dateline NBC, in The New Yorker, and other places.

Dr. Fair continued advocating for complementary therapies and put others before his own health. Thousands of people began writing and calling Dr. Fair requesting help, guidance, and inspiration, which he freely provided with new hope and choices. He lectured worldwide, stayed up until 2 a.m. answering emails, and established an integrative medicine clinic in New York.

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## Dr. Fair *(continued from page 5)*

Only then sleeping four hours a night, he found it hard to continue the yoga, meditation, exercise, diet, and other lifestyle changes that he inspired in others. Nine months later, his tumor returned.

Dr. Fair reflected, "When you start to feel better and get results, it's easy to stop ongoing self-care. We have to think of cancer as a chronic disease." Even a few days before his death in 2002, he attended a final meeting of the White House Commission on Complementary and Alternative Medicine Policy and argued passionately for the importance of teaching these techniques in schools. Dr. Bill Fair is truly a hero in medicine and his legacy lives on.

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## National Center for Complementary and Alternative Medicine

The National Center for Complementary and Alternative Medicine (NCCAM) is a component of the National Institutes of Health. NCCAM is dedicated to exploring complementary and alternative healing practices in the context of rigorous science, training complementary and alternative medicine (CAM) researchers, and disseminating information to the public and professionals. The NCCAM Clearinghouse is the public point of contact for scientifically based information on CAM and for information about NCCAM. The Clearinghouse provides responses to questions about CAM therapies for health conditions, including prostate cancer. NCCAM's Clearinghouse can be reached toll-free at 1-888-644-6226 and online at www.nccam.nih.gov.

## APCaP
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## ABOUT US!

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 40's and 50's, 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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## Prostate Cancer Consumer Resources

**American Urologic Association**

American Urological Association

"The Management of Localized Prostate Cancer: A Patient's Guide," by the American Urologic Association, is available on their website at www.auanet.org. This publication includes practical information about the prostate, prostate cancer diagnosis and symptoms, tumor grade, staging, choices for treatment, and also evaluates risks and benefits. Important issues such as cancer stage, cancer grade or Gleason score, patient's age, and values are explained in the context of evaluating treatment options. A list of questions to ask the doctor is also provided.

**OncoLink**

OncoLink

"Prostate Cancer: The Basics" through OncoLink, a cancer resource website through the Abramson Cancer Center of the University of Pennsylvania, provides evidence-based information about the prostate, prostate cancer, risk factors, prevention, screening tests, signs of prostate cancer, diagnosis and staging, and treatments. This information is available by searching prostate cancer on OncoLink's website at www.oncolink.org.

# Green Tea Catechins
## *A Heads Up*

Green tea, or an extract from green tea leaves, contains properties that actively contribute to health. Green tea is rich in the flavonol group of polyphenols known as catechins, which have significant free-radical properties and are strong antioxidants.

A recent study presented at the April 2005 American Association of Cancer Research's meeting indicates the potential of catechins in green tea to prevent prostate cancer. Results from an Italian study in a small group of participants suggest that a green tea catechins supplement taken by 32 men at high risk for the disease had some efficacy in preventing prostate cancer. After one year of taking green tea catechins, only one man in 32 actually developed the disease, while nine men in 30 who took a placebo developed prostate cancer. These men were all considered at high risk for developing prostate cancer. A larger study will be needed to confirm these findings regarding green tea's benefits for prostate cancer prevention.

The 32 men who received the green tea extracts took 200-milligram pills containing green tea catechins three times daily for one year. The 62 men who participated in the study were between 45 and 75 years old. The researchers excluded vegetarians since they may already have a lower risk of developing prostate cancer, men who consumed green tea, and men taking antioxidant supplements or hormone therapy.

The study investigators are not recommending that men start treating themselves with green tea or green tea supplements to prevent prostate cancer. Although catechins supplements are commercially available, quality cannot be assured. The investigators noted that the equivalent amount of 600 milligrams of green tea catechins requires 12 to 15 cups of green tea daily.


## Dairy, Calcium, and Prostate Cancer Risk

A study published in the May 2005 *American Journal of Clinical Nutrition* suggests that dairy intake may increase prostate cancer risk. However, whether this is due to calcium's suppression of circulating Vitamin D remains unclear. This was a prospective study of 3,612 men followed from 1982-1984 to 1992 through the first National Health and Nutrition Examination Epidemiologic Follow-up Survey, from which 131 prostate cancer cases were identified. Dairy intake was estimated from questionnaires completed between 1982 and 1984.

The article proposes that dairy consumption might increase prostate cancer risk through a calcium-related pathway. More research is needed about mechanisms through which dairy and calcium might influence prostate cancer risk.

*"This is a second opinion. At first, I thought you had something else."*

Alliance for Prostate Cancer Prevention

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