APCaP
Alliance for Prostate Cancer Prevention

Prevent Prostate Cancer by 2015

Alliance for Prostate Cancer Prevention
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MALE Call™
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APCaP - Alliance for Prostate Cancer Prevention

YOUNG MEN, HEADS UP... New Approach to Prostate Cancer Screening

Hopkins research recommends screening for men at age 40 and tracking PSA levels annually

Research from Johns Hopkins indicates that **how fast the amount of PSA (prostate-specific antigen) in a man's blood increases, which is called PSA velocity (PSAV), is an accurate gauge of tumor aggression and danger, even when PSA levels are so low as to not warrant a biopsy.**

"We would recommend that men at around age 40, not 50, have their PSA checked to develop a baseline against which to compare future changes (velocity), since even a slight rise in PSA may indicate a potential for cancer down the road," says H. Ballentine Carter, M.D., Director of the Johns Hopkins Division of Adult Urology at the Brady Urological Institute and lead author of the study.

The research results, published in the November 2006 *Journal of the National Cancer Institute*, **could help doctors diagnose aggressive cancers earlier, at a stage when they might be more responsive to treatments. In addition, an evaluation of PSA results over time, and beginning earlier in life than current recommendations, could better predict what men need aggressive treatment versus those who have a slower-growing tumor and don't need treatments.**

PSA tests are used to screen men for prostate cancer, but it isn't a perfect diagnostic test for the disease. A high PSA indicates a possibility of cancer that can then be confirmed through a biopsy. "Our data provide a further argument for PSA testing that begins relatively early in life, when PSA levels are usually lower and prostate enlargement is not a confounding factor in diagnosis," explains Dr. Carter.

"The main debate over how to use PSA has centered on the choice of the level that is used to trigger a biopsy," says Dr. Carter. "Lowering the level that triggers a biopsy leads to detection of more harmless cancers, and higher levels could miss the opportunity to detect an important cancer early. **We have found that the rate at which a man's PSA rises may be more important than any absolute level for identifying men who will develop life-threatening cancer while their disease is still curable. In addition, PSA velocity could be a useful method for identifying those men with a prostate cancer that could be safely monitored - an approach termed 'active surveillance'."**

PSA is a protein found in the bloodstream of men, produced by the prostate gland, and found at increased levels in those with prostate cancer. In previous research, PSA velocity in the year before prostate cancer diagnosis has been shown to identify men who are likely not to be cured by surgery. **However, Hopkins's latest findings show that PSA velocity can also identify men with life-threatening disease at a time when it is still curable.**

Using serum samples dating as far back as 1958, frozen as part of an ongoing randomized health study of men,

(Continued on Page 7)

In This Issue
About Prostate Cancer (PC)

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Reduce Your Risk from 1 in 6

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.

Keys to Prostate Cancer Prevention and Treatment

A free report entitled **Seven Keys To Treating Prostate Cancer** by Dr. Jacek Mostwin, Director of John Hopkins James Buchanan Brady Urological Institute, suggests that prostate cancer is clearly preventable if men are armed with the right knowledge.

Seven Keys to Treating Prostate Cancer also outlines the tests used to diagnose prostate cancer, gives advice on what test scores mean, and provides options for men who are diagnosed with prostate cancer. In addition, the report covers the lifestyle measures that Johns Hopkins considers to be the cornerstones of prostate cancer prevention.

Key 1-Understand Your Prostate Biopsy

Key 2-Get a Second (and Third or Fourth) Opinion

Key 3-Choose the Right Treatment

Key 4-Dealing with Erectile Dysfunction

Key 5-Seek Extra Help-If Needed

Key 6-Understand the Role of Diet

Key 7-Consider Complementary Techniques

Seven Keys to Treating Prostate Cancer can be ordered online at www.hopkinsreports.com/prostate.

More Than Just Pennies *(from Page 6)*

expectancy over the last century were worth about $1.2 million per person to the current population, with the largest gains at birth and young age.

"An analysis of the value of health improvements is a first step toward evaluating the social returns to medical research and health-augmenting innovations," write the authors. "Improvements in life expectancy raise willingness to pay for further health improvements by increasing the value of remaining life."

Murphy and Topel also chart individual values resulting from the permanent reduction in mortality in several major diseases—including heart disease, cancer, and diabetes. Overall, reductions in mortality from 1970 to 2000 had an economic value to the U.S. population of $3.2 trillion *per year*.

ACS Guide to Prostate Cancer

The American Cancer Society's Complete Guide to Prostate Cancer delivers comprehensive facts about prostate cancer, including the latest advances in prevention, early detection, and treatment; the range of treatment options available and their advantages, expected outcomes, and potential side effects; how to cope with emotional stresses and potential physical side effects such as incontinence and erectile dysfunction; how to maintain quality of life, sexuality, and relationships after treatment; and practical issues like managing medical information, work, insurance, and money. Check it out at www.cancer.org.

Race Against Prostate Cancer

APCaP's September 24, 2006 Fifth Annual Ray Perkins Memorial Race featured 250 runners at Duke Island Park in Bridgewater, New Jersey. Runners with the top times were awarded prizes. Gift certificates and other items were awarded through a festive raffle. A 40 foot medical van was also on site for free prostate cancer screening. Dr. Anthony Catanese of APCaP's Scientific Advisory Board was the attending doctor.

OVERALL FEMALE 5K RACE WINNERS

1st	Jodie D'Ariano	TIME 18:43
2nd	Christine Solan	TIME 21:27
3rd	Marissa Pontecono	TIME 22:48

OVERALL MALE 5K RACE WINNERS

1st	Michael Daigeaun	TIME 16:39
2nd	Doug Clark	TIME 17:01
3rd	Nick Schnabel	TIME 18:10

Did You Know?

- 1 in 6 men will be affected by prostate cancer
- Only 50% of men over 50 have prostate cancer screening each year.
- When detected and treated in its early stages, the five year survival rate for prostate cancer is 100%.
- African American men have twice the incidence and mortality rate compared to Caucasians

New Approach to Prostate Cancer Screening *(Continued from Page 1)*

Hopkins researchers determined PSA velocity in 980 of those study participants (856 without prostate cancer, 104 with the disease, and 20 who died from it) up until May of 2005. They found that when PSA levels would not have triggered a biopsy, PSA velocity was predictive of death from prostate cancer 20 to 30 years later.

Men whose PSA velocity was lower had an 8 percent chance of dying of prostate cancer 25 years later. Men with a higher PSA velocity had a 46 percent chance of not dying of prostate cancer.

The rates of prostate cancer death were 1,240 in 100,000 for men with a higher velocity compared to 140 in 100,000 for those with lower velocities.

What does this mean for men? **APCaP recommends that men approaching age 40, and those over 40 who haven't had their PSA tested yet, should consider having a PSA test and tracking their levels annually, and of course discuss the results with their physician.**

Results of APCaP's Survey about PSAs and Prostate Cancer Diagnosis

A one-page survey was offered by APCaP to conference attendees at the June 2006 ASCO Meeting in Atlanta, Georgia. Seventy-three surveys were completed, and mostly from oncologists.

Questions:

1. **Do you feel the PSA test saves lives?**
2. **Do you feel the PSA test is a valuable tool to provide early detection of prostate cancer?**
3. **Do you feel conducting a PSA test is useful to establish a baseline for a healthy patient?**

Seventy-three percent of the respondents agreed to all 3 questions— that the PSA test saves lives, is a valuable tool for early detection, and is useful to establish a baseline for a man's health.

Survey Question 4 asked the 53 survey respondents that answered YES to Question 3 (**Do you feel conducting a PSA test is useful to establish a baseline for a health patient?**) to indicate at what age screenings should begin for a healthy man. The highest percentage of these respondents said that baseline tests should be given at age 50. The next largest group stated that PSA baseline tests should be done at age 40.

Survey Question 5 was "**Is there a more effective method, tool, or biometric than a PSA test?**" Of the sixty-nine surveys that had answers to this question, seventy-three percent said there was not a more effective tool than a PSA test, and 3 survey respondents answered "Not Sure." Of the remaining responses that indicated there was a better method, 7 respondents thought that PSA should be done in combination with the digital rectal examination (DRE).

Prevent Prostate Cancer by 2015

More Than Just Pennies

A study published in the 2006 *Journal of Political Economy* calculates the prospective gains that could be obtained from further progress against major diseases. Kevin M. Murphy and Robert H. Topel, two University of Chicago researchers, estimate that even modest advancements against major diseases would have a significant impact—a 1 percent reduction in mortality from cancer has a value to Americans of nearly $500 billion. A cure for cancer would be worth about $50 trillion.

"We distinguish two types of health improvements—those that extend life and those that raise the quality of life," explain the authors. "As the population grows, as incomes grow, and as the baby-boom generation approaches the primary ages of disease-related death, the social value of improvements in health will continue to rise."

Many critiques of rising medical expenditures focus on life-extending procedures for persons near death. By breaking down net gains by age and gender, Murphy and Topel show that the value of increased longevity far exceeds rising medical expenditures overall. Gains in life

(Continued on Page 7)

"Uh-oh, your coverage doesn't seem to include illness."

Reducing Overtreatment with Watchful Waiting

A recent study indicates that approximately one half of men diagnosed with low-risk prostate cancer undergo surgery or radiation when "watchful waiting" may be most appropriate, according to research published in the August 2006 *Journal of the National Cancer Institute*.

Researchers evaluated information in national databases to identify 71,602 men diagnosed with localized or regional cancer of the prostate between January 2000 and December 2002.

The risk to the patients from their cancers was based on the differentiation of the tumor, or how clearly defined it was, compared to whether or not the tumor was spread-out with indistinct boundaries.

Men were considered lower risk if they had well-differentiated tumors regardless of their age, or moderately differentiated tumors and were at 70 years or older at diagnosis.

Approximately a third of study subjects, or 24,825 men, were classified as having lower risk cancer. According to the report, they were appropriate candidates for a watchful waiting approach. However, 55 percent underwent immediate treatment with 45 percent receiving radiation therapy, and 10 percent having surgical removal of the prostate.

"Just as a failure to treat a potentially lethal prostate cancer is generally considered inappropriate from a quality-of-care perspective, aggressive treatment of indolent cancers (i.e., overtreatment) may also reflect suboptimal care in that it confers risk to patients and increases costs without providing health benefits," noted the researchers in the article.

The researchers emphasize that some men, and especially younger patients, may eventually be treated with curative therapies after watching and waiting. Their evidence-based perspective recommends active surveillance, with delayed intervention when appropriate, to reduce overtreatment in men with lower-risk prostate cancer.

www.apcap.org

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Prostate Cancer Gene Link Among African American Men

Researchers from 12 institutions announced the results of the first genome-wide linkage study of prostate cancer in African Americans. Using genetic markers, researchers identified several regions of the human genome that likely contain genes that, when altered, increase the risk of developing prostate cancer.

The study was conceived, implemented and executed primarily by African American investigators. Published in *The Prostate*, the findings represent a milestone in years of research designed to identify genetic risk factors for prostate cancer and to help determine if heredity plays a role in the disparity in prostate cancer rates seen in African American men.

The 12 institutions involved in the African American Hereditary Prostate Cancer (AAHPC) study network recruited 77 African American extended families, which included a total of 418 men with prostate cancer, to participate in this study. All of the families studied had at least four men who had been diagnosed with prostate cancer. Using genetic markers, researchers were able to map several important regions of the human genome that likely contain genes that, when mutated, predispose these men to developing prostate cancer.

Using this data, researchers are now in the process of isolating the genes involved in prostate cancer development in African American men. They hope that the discovery of such genes will bring about improved methods of diagnosis and treatment for some men with prostate cancer.

According to the National Cancer Institute, the annual incidence of prostate cancer among African American men is 277 per 100,000 compared to 168 per 100,000 for white men. The annual death rate from prostate cancer is 73 per 100,000 for African American men compared to 30 per 100,000 for white men. Family history is the most significant risk factor known for prostate cancer among all men, including African Americans.

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Eat Your Veggies!

A six-month pilot study of a plant-based diet and stress reduction intervention on ten men indicates that these strategies might be effective in slowing the rise of PSA levels, an indicator of prostate cancer disease progression. Published in the September 2006 *Integrative Cancer Therapies*, the study included ten asymptomatic, hormonally untreated prostate cancer survivors experiencing a consistently rising PSA level, which is the first sign of recurrence after surgery or radiation therapy.

Patients were taught to increase consumption of plant-based foods such as whole grains, cruciferous and leafy green vegetables, beans and legumes, and fruit, and to decrease the intake of meat, dairy products and refined carbohydrates. They were also provided with stress management training, which included meditation, yoga and tai chi exercises.

For the first three months, the rate of PSA rise decreased when compared to the pre-study period. It then increased slightly, though not significantly, during the months 3 to 6. **These results provide preliminary evidence that adoption of a plant-based diet decreases the rate of PSA rise for at least three months.**

More studies, especially in larger groups of men, are needed to evaluate the association between diet and prostate cancer disease regulation. The current study included moderate dietary changes in the study participants. Median intake of whole grains increased from 1.7 servings per day at baseline to 6.9 and 5.0 servings per day at 3 and 6 months, respectively. Median intake of vegetables increased from 2.8 servings per day at baseline to 5.0 and 4.8 servings per day at 3 and 6 months, respectively. Future studies may explore the intake of higher amounts of grain and vegetable servings to compare study outcomes.

Results from Prostate Cancer Laboratory and Animal Studies

Mushrooms Improve Efficacy of Chemotherapy

Mushrooms used for hundreds of years in Eastern Medicine appear to improve the efficacy of chemotherapy against prostate cancer cells in laboratory experiments. According to research published in the July 2006 British Journal Cancer, scientists from Boston University School of Medicine found that the mushroom extract Phellinus Linteus increased the number of cancer cells killed when combined with doxorubicin, a well-known cancer chemotherapy drug.

The effect of the mushroom extract plus chemotherapy was more powerful against prostate cancer compared with chemotherapy alone. The study results also indicate that the chemotherapy mixed with the mushroom extract worked as efficiently against cancer cells as did a larger amount of the chemotherapy. The mushroom extract does not have chemotherapy's side effects through the destruction of healthy cells in the body.

The researchers believe that a constituent of these mushrooms could be used in combination with existing chemotherapy to increase the effectiveness of treatment for some patients. They also claim that lower doses of chemotherapy might be needed to achieve the same response. The next step is to test how the mushroom produces its effects, and then conduct research in men with prostate cancer.

Balancing the Omegas Against Prostate Cancer

Altering the ratio of omega-3 and omega-6 fatty acids in the typical Western diet decreased PSA levels and tumor cell growth rates in mice. Researchers from the University of California, Los Angeles, used mice with a hormone-sensitive prostate cancer that closely resembles human prostate cancer. One group of mice was fed a diet that included 20 percent fat with a one-to-one ratio of omega-6 to omega-3 fatty acids. The other group of mice also received a diet with 20 percent fat, but mostly omega-6 fatty acids.

In the mice that received the one-to-one ratio of omega fatty acids, tumor cell growth rates decreased by 22 percent and PSA levels decreased by 77 percent, compared to the mice that received the diet with mostly omega-6 fatty acids.

Omega-6 fatty acids, the predominant polyunsaturated fatty acids in the Western diet, are found in corn, safflower oils, and red meats. Omega-3 fatty acids are found in cold-water fish, including salmon, tuna, and sardines.

Published in the August 2006 *Clinical Cancer Research*, this study will likely inform future research evaluating these dietary comparisons in men with prostate cancer.

White Birch Bark and Prostate Cancer

Laboratory studies indicate that the bark of the white birch tree contains a compound that might help fight prostate cancer. Preliminary tests of the compound betulonic acid, made from betulinol, may discourage human prostate cancer cells from dividing, and spur those cells to die.

Researchers from the Cornell University Weill Medical College exposed isolated human prostate cancer cells to betulonic acid for up to three days. For comparison, they also grew prostate cancer cells not exposed to the compound. Three days later, all the prostate cancers had grown. However, those with betulonic acid grew 88 percent less. The researchers also noted that normal cells didn't appear to be affected by betulonic acid.

The Cornell team also studied betulonic acid on human prostate cancer cells in mice. The researchers allowed the prostate cancer cells to grow in the mice for 12 days. Then they split the mice into two groups of four mice each. For 17 days, one group of mice got daily injections of betulonic acid. The other group got injections that didn't contain betulonic acid. During those 17 days, the tumors grew in all of the mice. However, tumor growth was 92 percent lower in the betulonic acid group. The researchers also studied samples of the mice's tumors. They found signs of greater cell death, or apoptosis, in the cancer cells of the betulonic acid group.

More research is needed about birch bark's potential therapeutic role against prostate cancer, including studies in men with the disease.