Guide to Saw Palmetto & Prostate Health
by the Editors of Johns Hopkins Health Alerts
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What Is Benign Prostatic Hyperplasia or BPH?

At least half of all men over age 50 are bothered by benign prostatic hyperplasia or BPH, a gradual enlargement of the prostate (a small, walnut-shaped gland in men that surrounds the urethra – the tube that carries urine from the bladder to the penis).

The prostate is composed of glandular and smooth muscle tissue encapsulated in a tough outer shell. The glandular tissue produces some of the substances found in semen. It also converts testosterone (the hormone responsible for fertility, sex drive, and secondary male sex...
characteristics) into dihydrotestosterone (DHT, the active form of testosterone). The smooth muscle periodically contracts to launch prostate secretions into the urethra, where they mix with semen.

Beginning around age 45, multiplication and expansion of glandular tissue in the prostate produces pressure outward against the exterior shell and inward against the urethra. Simultaneously, the smooth muscle tissue surrounding the urethra contracts and clenches the urethra like a fist. As a result, the urethra narrows and may become obstructed. These developments impede urine flow and may lead to urinary frequency, dribbling, and a weak urine stream.

BPH is the most common benign (noncancerous) tumor in men. Symptoms related to BPH are present in about one in four men by age 55, and in half of 75-year-old men. An enlarged prostate is not life threatening, nor is it cancer. In addition, there is no evidence that BPH leads to prostate cancer; however, symptoms of both disorders are similar, and it is possible to have BPH and prostate cancer at the same time.
Saw palmetto, otherwise known as *serenoa repens*, is an over-the-counter herbal supplement made from the dark purple berries of the American dwarf palm tree. Its manufacturers claim that saw palmetto can shrink the prostate and ease the urinary symptoms of an enlarged prostate – or benign prostatic hyperplasia (BPH) – faster and with fewer side effects than prescription treatment.

In addition, saw palmetto is touted to help relieve BPH symptoms, including the frequent, urgent need to urinate, a decreased or stop-and-start urine flow, and the feeling that you haven’t completely emptied your bladder.

While many users swear by saw palmetto and some studies have suggested a benefit, other research has found saw palmetto doesn’t help. H. Ballentine Carter, M.D., Professor of Medicine in the Department of Urology at the Johns Hopkins School of Medicine, says he doesn’t often recommend saw palmetto as a treatment for the lower urinary tract symptoms. Dr. Carter believes the mixed results from clinical trials can be explained by differences in study design and among the groups of men that were studied. “The most comprehensive study to date,” says Dr. Carter, “shows that saw palmetto has no benefit over placebo.”

This study, published in *The New England Journal of Medicine* (NEJM), examined 225 men. The men were randomly assigned either a 160-mg saw palmetto supplement, taken twice daily, or a placebo. After a year, saw palmetto was found to be no more effective than placebo for treating lower urinary tract symptoms. The NEJM study is notable because of its length; many earlier studies were only weeks long.

If you still want to use saw palmetto for BPH, speak with your doctor beforehand and keep in mind that the FDA does not regulate supplement production, so it’s unclear what you’re getting when you buy a saw palmetto product. Side effects of saw palmetto are mild but can include digestive upset and lack of sexual desire. In rare cases, saw palmetto can cause bleeding, so it’s not recommended for men with bleeding disorders, who take anticoagulants such as Coumadin (warfarin), or who are about to undergo surgery. It’s also not a good idea to take saw palmetto in conjunction with a prescription medication for BPH.
Phytotherapy (use of herbs or other plant-based products to prevent or treat a health condition) is popular among men with prostate problems. In fact, a study reported in *Urology* found that one third of prostate cancer patients had used some form of alternative or complementary medicine: vitamin or mineral supplements, herbs, antioxidants, or supplements promoted for “prostate health.”

Phytotherapy for prostate problems encompasses a wide range of approaches. At one end of the spectrum are healthful foods like tomatoes, cooked tomato products, and pomegranates, for which there is some evidence of protection against prostate cancer. Processed nutritional supplements like saw palmetto are next, providing concentrated amounts of plant components. Products in the third category, raw herbs, undergo the least scrutiny for content and purity. Therefore they pose the greatest risk of potential contamination and toxicity.

It’s hard to go wrong by eating reasonable amounts of prostate-healthy foods. But keep in mind that the U.S. Food & Drug Administration does not regulate the safety and effectiveness of dietary supplements and raw herbs nor ensure that the active ingredients are consistent from batch to batch. Solid research into the benefits and potential risks of these remedies is scarce, and the available evidence is often contradictory.

### Tomatoes and Lycopene

Numerous studies have suggested that regular consumption of tomatoes – especially cooked tomato products such as tomato paste, spaghetti sauce, and ketchup – helps to protect men from prostate cancer. The tomato component believed to be responsible for the risk reduction is the antioxidant lycopene, a member of the carotenoid family of phytochemicals, which also includes beta-carotene and similar substances that give fruits and vegetables their bright colors.

One recent large study tested the possibility that tomato-based substances might protect against prostate cancer by asking nearly 30,000 men about their dietary habits and then watching their medical progress for an average of about four years. The results, reported in the journal *Cancer Epidemiology, Biomarkers, and Prevention*, did not support a protective effect against prostate cancer for most men who included lots of lycopene and tomato products in their diet. But they did suggest a benefit for men with a family history of prostate cancer.

Other recent research suggests that lycopene may prevent or delay progression from high-grade prostatic intraepithelial neoplasia (a precancerous condition) to prostate cancer and that it also may have some benefit in relieving bone pain and in slowing cancer progression among men whose metastatic cancer no longer responds to hormone therapy.
Increasing your consumption of cooked tomato products is safe and beneficial to your overall health. Lycopene supplements also appear to be safe and well tolerated. However, if you are considering taking a supplement, check with your physician first and stick with well-known manufacturers.

**Saw Palmetto**

Saw palmetto (Serenoa repens, the American dwarf palm) is the most widely used phytotherapy for benign prostatic hyperplasia (BPH, or an enlarged prostate). More than 2 million men in the United States take saw palmetto supplements (in an extract known as Permixon) to manage the condition. The supplements are less expensive than alpha-blockers and 5-alpha-reductase inhibitors and usually don’t cause the dizziness or sexual side effects that a small percentage of men experience with BPH drugs. Most studies of saw palmetto for BPH have had positive results, including improvements in urinary peak flow rates and reduction in the need to urinate during the night. But recently, a well-conducted study failed to find any benefit to the supplement.

In that study, published in *The New England Journal of Medicine*, 225 men with moderate to severe BPH were randomly assigned to take either saw palmetto extract (160 mg twice a day) or a placebo for one year. At the end of the treatment period, researchers found no significant differences between the two groups in prostate symptom scores or other measures of benefits, such as prostate size, quality of life, or prostate specific antigen (PSA) levels. Although this is not the final word on saw palmetto supplements, the well-designed study does raise questions about their benefits, at least for men with moderate to severe BPH.

**Pomegranates**

Pomegranates and pomegranate juice contain many compounds with strong antioxidant and anti-inflammatory effects. In laboratory tests, pomegranate fruit extract inhibits the growth of prostate tumor cells grafted onto mice and reduces PSA levels in the animals. Other laboratory studies suggest that pomegranate extracts may reduce cancer cells’ ability to invade nearby tissue.

A study of the pomegranate’s potential to fight naturally occurring prostate cancer in human beings was reported at a meeting of the American Urological Association. In the study, men whose PSA levels were rising after treatment for their prostate cancer (an indicator of disease progression) were instructed to drink 8 oz of pomegranate juice each day for two years. The daily consumption of pomegranate juice lengthened the men’s PSA doubling times (the time it takes for PSA levels to double) from an average of about 15 months to 37 months, suggesting that it slowed disease progression. The National Cancer Institute is now sponsoring a clinical trial that will examine the pomegranate’s potential benefits against prostate cancer in greater detail.
Presenting the Johns Hopkins Prostate Library

From the experts at the James Buchanan Brady Urological Institute, ranked America’s #1 Urological Center for the 18th year in a row by the U.S. News & World Report

**Prostate Disorders White Paper**

This all-in-one comprehensive guide explains everything you need to know about your prostate — what it is, what it does, and what problems can develop, such as prostatitis, benign prostatic hyperplasia (BPH or enlarged prostate), and prostate cancer. You’ll learn key facts about prostate health, discover prostate treatments you never knew existed, and understand what your options are if you’re ever diagnosed with prostate cancer. 96 pages.

**The Johns Hopkins Prostate Bulletin**

The Johns Hopkins Prostate Bulletin is an indispensable quarterly journal for men with prostate cancer, and the other prostate health concerns: Benign Prostatic Hyperplasia (BPH), prostatodynia, and the various forms of prostatitis. It also deals with side effects and related conditions, such as Lower Urinary Tract Symptoms (LUTS), overactive bladder (OA), and erectile dysfunction (ED).

Written by Dr. Jacek L. Mostwin and his esteemed colleagues at the world-renowned James Buchanan Brady Urological Institute, The Johns Hopkins Prostate Bulletin goes beyond the basics to report on the latest therapeutic treatments, advanced news of clinical trials, in-depth reports, new medications, plus detailed answers to subscribers’ concerns about all aspects of your prostate health.

**Choosing The Right Treatment For Your Prostate Cancer**

This 65-page report is a must-read primer for any man recently diagnosed with prostate cancer who is looking for answers to pressing questions about treatment options. Our specialists explain in-depth: Expectant Management * Brachytherapy * Radical Prostatectomy * External Beam Radiation Therapy. Access the expertise of the specialists at America’s #1 Urology Center in this Special Report designed with YOU in mind, to give you the most timely, accurate information on prostate cancer care and treatment.

**Advanced Prostate Cancer Treatments—Know Your Options When Your Cancer Comes Back**

This 113-page guide features discussions with leading experts at Johns Hopkins on specific options for treating advanced prostate cancer to help you sift through all your options to decide the treatment path(s) that are right for YOU. You will learn about current therapies as well as new approaches being developed here at Johns Hopkins and other important medical centers. These treatments include gene therapy to stop the advance of the disease, monoclonal antibodies that zap cancer cells throughout the body, a variety of chemotherapy agents such as Taxotere and angiogenesis inhibitors, drugs that choke off the blood supply to tumors.

For more information, or to order, go to:  
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