



IMAGE AWARENESS WELLNESS INSTITUTE

PROSTATE PROBLEMS

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INTRODUCTION

Prostate problems have become epidemic in modern society. An overgrowth of the prostate is often referred to as BPH. This is often called benign prostatic hyperplasia or benign prostatic hypertrophy. Hyperplasia is an increase in the number of prostate cells while hypertrophy refers to an increase in the size of the cells. Most physicians consider hyperplasia as the proper term to use, but both terms may be appropriate as discussed below.

Half of men 50-61 years of age suffer with BPH and 90% of men over 80 are forced to deal with the problem. Even young men in their 20's and 30's can experience BPH. In the most extreme cases prostate surgery must be performed in order to reestablish normal urine flow. Prostate surgery is the second most common surgery in the United States after cataract surgery.

The normal prostate is about the size of a walnut and sits just below the bladder. The prostate is surrounded by muscle.

The prostate secretions compose about 30% of the ejaculate with a very high concentration of zinc. The zinc concentration of the secretions of the prostate are 500-1,000 times the blood levels. Zinc is an important mineral not only for prostate health, but also for masculine health in general.

The prostate often enlarges in older men. This results in restric-

tion of urine flow, increase in urinary frequency, burning while urinating, and dribbling. In extreme cases BPH can result in kidney damage, kidney stones, urinary retention, and insomnia resulting from needing to frequently empty the bladder.

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MEDICAL TREATMENTS

Surgery

The most frequent medical treatment for advanced BPH is TURP or TUR, transurethral resection of the prostate. The part of the prostate restricting urine flow is removed. This is the second most common surgery in the United States. Another treatment is prostatectomy or the removal of the entire prostate. Surgery is a treatment of last resort. A number of medical and nutritional modalities are em-

ployed to minimize or eliminate the need for surgery.

Muscle Relaxants

A number of pharmaceutical modalities are used to treat the early stages of BPH. One of these is the use of muscle relaxants since the prostate is surrounded by muscle. These pharmaceuticals are called α -adrenergic blocking agents or alpha blockers.

Alpha blockers can cause weakness or fatigue, lightheadedness, dizziness, fainting, headaches, and nasal congestion. They are often used with 5-alpha reductase inhibitors.

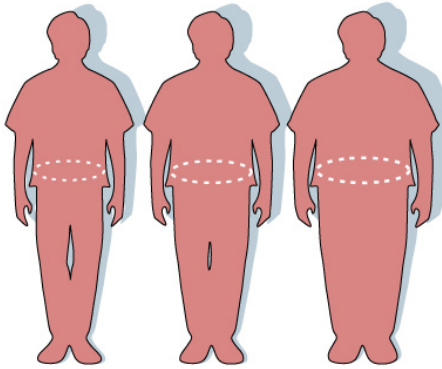
Magnesium is a natural muscle relaxant. There is a strong relationship between decreased magnesium levels in the blood and the development of metabolic syndrome which is closely associated with the development of BPH.

Blocking DHT

Another medical treatment is the use of 5 alpha-reductase inhibitors to block formation of DHT or dihydrotestosterone which has been implicated in the development of BPH. 5 alpha-reductase converts testosterone to DHT. DHT is 10 times stronger than testosterone because it clings to the androgen receptor longer. Finasteride (Proscar) and dutasteride, among the most commonly used pharmaceuticals used to treat BPH, are inhibitors of this enzyme.

Finasteride can have a wide range





of side effects. Among the most common are chills, cold sweats, confusion, dizziness, faintness, or lightheadedness. Other common side effects are difficulty in keeping an erection, loss of interest in sexual ability and desire. Many other side effects are possible.

A wide variety of compounds are natural 5 alpha-reductase inhibitors including zinc, vitamin B2 or riboflavin, beta-sitosterol, polyphenols, curcumin, green tea catechins, Chinese knotweed, saw palmetto, reishi mushroom, St. John's wort, GLA, alpha-linolenic acid, MCT (medium chain triglyceride), peppermint, sage, hops, genistein and daidzein found in soy, and resveratrol.

Saw palmetto stands out in this category. It is the most thoroughly researched of the natural inhibitors of 5 alpha-reductase. Unlike the pharmaceuticals in this category, however, saw palmetto does more than just inhibit 5 alpha-reductase. It also blocks the binding of DHT to the androgen receptor, reduces prostatic swelling and inflammation, inhibits the effects of estrogens, and antagonizes alpha-adrenergic receptors relaxing the muscles around the bladder and prostate.

In a head to head comparative study between Proscar and saw palmetto the results indicated little difference between the two treatments from the standpoint of effectiveness. The primary difference was in the side-effects of the pharmaceutical treatment. Men on Proscar complained substan-

tially more of decreased libido, impotence, and ejaculatory disorders.

Blocking Estrogen Production

Estrogen is produced in the body by the enzyme aromatase. Aromatase inhibitors such as Atamestane have been used pharmaceutically to treat BPH.

Natural inhibitors of aromatase include zinc, vitamin E, catechins, chalcones, apigenin, eriodictyol, isoliquiritigenin, mangostin, myosmine, nicotine, and resveratrol.

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CONTRIBUTORS TO BPH

Dietary

In a Greek study fruit intake was inversely associated with BPH risk. Intake of butter and margarine were positively associated with increased risk.

In another study, the highest consumers of saturated and unsaturated fats had an increased risk of about 30% while protein intake decreased risk by 15%. Red meat increased risk while vegetable intake and alcohol consumption reduced risk. Deficiency of carotenoids (lycopene), zinc, and vitamin D appeared to increase risk.

Commercial red meats are often contaminated with pesticides, herbicides, and estrogenic chemicals as a result of feeding practices which may explain why they increase risk.

Insulin

Components of what has been called metabolic syndrome are a risk

factor for developing BPH. One of the factors most highly correlated with BPH is increased waist circumference or central adiposity.

Other factors associated with increased risk of BPH included obesity, diabetes, high blood pressure, high insulin levels, and low HDL cholesterol ("good cholesterol"). Hammarsten wrote, "The results suggest that BPH is a facet of the metabolic syndrome and that BPH patients may share the same metabolic abnormality of a defective insulin-mediated glucose uptake and secondary hyperinsulinemia as patients with metabolic syndrome. The findings generate a hypothesis of a causal relationship between high insulin levels and the development of BPH."

Hammarsten and associates also found an association between elevated insulin levels and both the development of prostate cancer and the aggressiveness of prostate cancers.

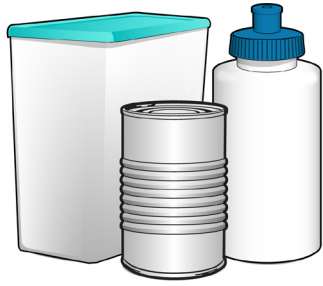
Hammarsten felt that high insulin promoted weight gain. Fat cells increase aromatase activity which increases estrogen levels. The insulin abnormality was associated with not only genetic factors, but also poor dietary choices and lack of physical exercise.

Exercise

There is a strong *inverse* relationship between exercise and the development of BPH and other lower urinary tract symptoms. The more one exercises the greater the likelihood one will not become obese and develop elevated insulin levels. Exercise helps to maintain a healthy circulatory system, the importance of which is discussed below.



ROYAL RED MEATS
ROYAL RED MEATS



Estrogen

There are two forms of estrogen which may pose a problem for BPH. Estrogens may be formed within the body or they may come from outside the body. Estrogens produced within the body by aromatase have already been discussed. Here we are concerned with what have been called xenoestrogens.

Xenoestrogens are synthetic substances with estrogenic activity. Many of these substances have been shown to be harmful even at low doses. Low-dose synthetic estrogens have been shown to cause problems such as “oviduct rupture, an enlarged prostate, feminization of males and reduced sperm quality.”

Frederick vom Saal demonstrated in 1997 that fetal exposure to low doses of estrogen worked to create prostate enlargement in male mice. Elevated estrogen levels increased the number of receptors for testosterone. A later exposure to estrogen in adulthood resulted in a 2-fold increase in male sex hormone receptors and a 30% enlargement of the prostate.

Bisphenol A (BPA), a common estrogenic pollutant, has been shown to be a potential trigger for BPH. Low doses were shown to induce the cells of the prostate of rats to proliferate. Bisphenol A also aggravated testosterone-induced benign hyperplasia of the prostate.

BPA is widely distributed in industrialized societies. It is commonly used in plastic bottles, cash register

receipts, CD’s, DVD’s, water bottles, water pipes, sports equipment and the lining of food and beverage metal cans to prevent leakage of metals into the contents. In 2008 the use of BPA was banned in baby bottles and packaging for infant formula.

Circulatory Damage

One of the most interesting pieces of work on the prostate was published in 2008 by Gat and associates. Their theory is that the spermatic veins are destroyed as men age. These veins have valves which prevent backflow of venous blood. As the veins deteriorate pressure builds up in order to maintain flow of the blood from the genital area to the heart.

When these veins are destroyed blood flow is shunted from the normal path of flow to the prostate. The result is explained in a quote from the paper, “We found that in all BPH patients, the one-way valves in the...spermatic veins are destroyed...causing elevated hydrostatic pressure, some 6-fold greater than normal...we found that free testosterone levels in this blood are markedly elevated, with a concentration of some 130-fold above serum level.”

The theory is that the increased pressure causes the prostate cells to swell (hypertrophy) while the testosterone level causes the number of cells to increase (hyperplasia).

When the researchers took steps to eliminate the back pressure symptoms rapidly began to disappear.

The theory proposed by Gat and associates would explain some of the other risk factors for BPH. Weight gain, high blood pressure, elevated insulin levels, and lack of exercise would accelerate the process of deterioration of the circulatory system including the venous flow.

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TESTED NUTRIENTS

Saw Palmetto (*Serenoa Repens*): The results of European testing have made extracts of this plant one of the most popular treatments for BPH. Firshein recommends 450 mg/day if a family history of the problem exists and 900-1,800 mg if the problem exists.

Quercetin is an antioxidant found in onions and apples. One study found

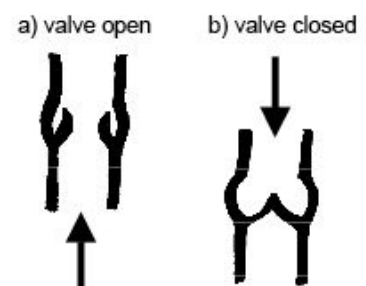




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a 67% improvement with the nutrient. A preparation combined with digestive aids saw 82% of sufferers experiencing a significant improvement.

Rye grass pollen (Cernilton) from Sweden has been approved for treatment in Europe. Studies suggest it may be of benefit about 70% of the time.

Stinging nettle (*Urtica dioica*) has been shown to inhibit experimentally induced BPH in mice although prostate volume did not decrease. A dose of 300 mg/day has been used.

African prune (pygeum) has been used in Europe by itself or in combination with stinging nettle. The dosage was 25 mg.

Beta sitosterol is one of the most widely promoted phytonutrient approaches to treating BPH. This is one of a family of plant-derived compounds similar to cholesterol. One research summary concluded, "The review found that beta-sitosterol treatments were well tolerated and improved urinary symptoms and flow measures in men with mild to severe BPH."

Plant oils are rich sources of phytosterols. Rich dietary sources include avocado (91 mg), pistachio nuts (71

mg), corn (57 mg), almonds (46 mg), grape leaves (43 mg), hazelnuts and filberts (34 mg). The oils of wheat, rice and soybeans have substantial quantities of beta-sitosterol and other phytosterols.

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OTHER TIPS

Some simple measures can be helpful for mild cases of BPH. Double voiding can reduce symptoms of urinary retention. Avoiding diuretics such as alcohol and coffee can decrease the need for urination. Some medications such as antihistamines, decongestants and allergy pills can make urination more difficult.

A key consideration is reducing insulin levels and inflammatory activity by avoiding rapidly absorbed sugars and inflammatory fats. Exercise and

weight loss contribute to these objectives. Avoidance of exposure to xenoestrogens should be a top priority for those who wish to avoid prostate problems.

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