

Natural Prostate Health

*Guide to Traditional
and Natural Treatments
for Enlarged Prostate*



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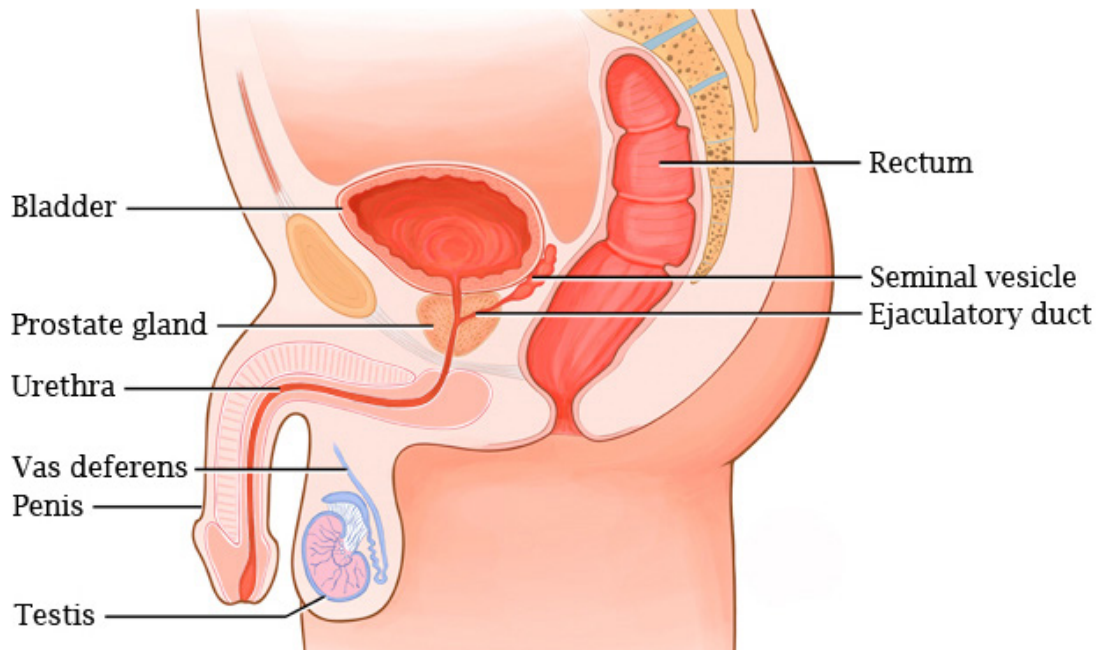
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PART I: ENLARGED PROSTATE/BPH OVERVIEW

Part I Sneak Peak:

- Benign prostatic hyperplasia (BPH), or enlarged prostate, affects most men during their lifetime.
- BPH is characterized by urinary tract symptoms that are unpredictable but manageable.
- Hormones play a significant role in the cause of BPH.
- Men have control over most of the risk factors for BPH.
- BPH can be diagnosed using a variety of well-established tests, including prostate-specific antigen (PSA) and those that evaluate urinary tract functions.

What Is Benign Prostatic Hyperplasia?

Benign prostatic hyperplasia (BPH) is a noncancerous (benign) enlargement of the prostate gland. The word “hyperplasia” refers to the growth of tissue that occurs because of an increase in the number of cells in the prostate. In men who have BPH, the prostate gland, which is normally about 20 to 30 grams and the size of a walnut, can grow to as much as 50 to 100 grams.

BPH affects more than 50% of men older than 50, and by age 80, nearly all men (90%) have an enlarged prostate. However, not all men experience symptoms of BPH, and when symptoms are present, they may be mild and not require treatment.

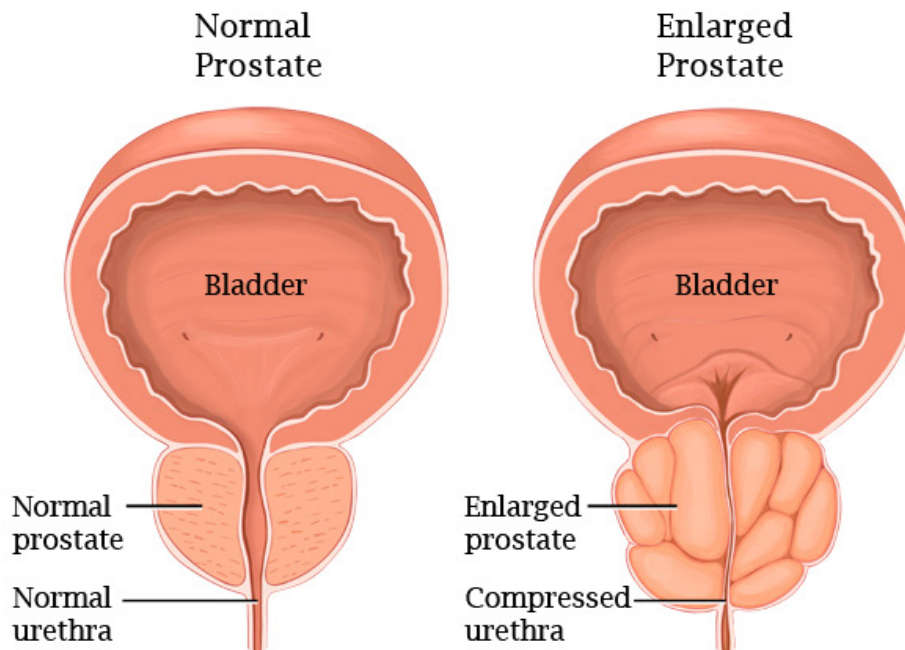
What Are the Symptoms of BPH?

One-third of men experience symptoms related to BPH by age 50, and 70% have them by age 70, according to Johns Hopkins. Overall, about 19 million men have symptomatic BPH, as reported by The National Association for Continence, but 14 million are not diagnosed, and only 2 million are diagnosed but untreated.

All of the symptoms of BPH originate in the transitional zone, which is one of the three zones (peripheral and central are the other two) that make up the prostate gland.

The symptoms occur if the prostate grows either into the urethra or around it, squeezing it and obstructing the flow of urine. Symptoms of BPH include:

- Having to wait for the urinary stream to begin
- Dribbling after urinating
- Feeling like your bladder is not completely empty after urination
- Frequent urination, even if the amount of urine is very small
- Frequently feeling an urgent need to urinate
- A weak or interrupted urinary stream
- A need to strain or push to begin urination
- The need to urinate two, three, or more times per night (nocturia)
- Blood in the urine
- An inability to urinate—this is an emergency condition



Symptoms of BPH are unpredictable, and the degree of prostate enlargement does not dictate how severe the symptoms will be. Thus, some men who have an enlarged prostate experience mild symptoms while others who have minor overgrowth suffer greatly. Symptoms progress very slowly in some men and worsen rapidly in others.

Although the prostate can begin to enlarge when men are in their 30s, symptoms of BPH usually do not become apparent until after age 50. If the prostate becomes enlarged enough to prevent the bladder from emptying completely, there is an increased risk of developing urinary tract infections and kidney problems.

What Are the Causes of BPH?

The exact causes of BPH are still unknown. However, experts have several theories, and they involve male hormones (androgens), specifically testosterone and dihydrotestosterone (DHT). A main reason researchers implicate androgens is that BPH does not develop in men who have been castrated before puberty, which leaves these men with only minute levels of androgens. Another reason is that surgical or medical castration (the latter involves the use of hormone therapy to significantly reduce hormone levels) causes the prostate to reduce in volume.

DHT has twice as much impact on the prostate as does testosterone, and to get DHT, testosterone must be converted by the enzyme 5-alpha reductase. Although testosterone levels naturally decline in men as they age, DHT concentrations in the prostate remain at levels similar to those in young men. One more hormone, estrogen (estradiol), also may have a role in BPH. Estradiol levels remain relatively the same or even increase as men age, especially if there is an increase in body fat. That's because fat cells contain an enzyme that converts some androgens to estrogen. A disproportionate estrogen/testosterone ratio may contribute to the development of an enlarged prostate.

Risk factors for BPH include the following:

- **Age:** The chances of having BPH increase with age: while about 20% of men ages 40 to 49 have symptoms of BPH, symptoms affect 35% of men 50 to 59 and 80% or higher in men age 70 and older. The age-related conditions that are involved include the role of hormones, as discussed, and damage to the blood vessels that supply the prostate and surrounding structures.
- **Family history:** If your father, brother, son, or grandfather have BPH, you are at increased risk of the disease. That risk is even greater if your male relatives had symptoms severe enough to require treatment before they were 60 years old.
- **Overweight/obesity:** Men who are overweight, and especially those who carry extra weight around their midsection, are at increased risk of BPH. In a review study conducted at Northwestern University, the researchers reported on a strong link between obesity and the development of BPH and lower urinary tract infections (Mongiu 2009). There is also a relationship between obesity and BPH and hormone levels because reduced testosterone levels are seen in obese men. Being overweight or obese may also be associated with BPH in two other ways: a decline in testosterone means there is an accompanying rise in estrogen, which can increase the activity of DHT and thus prompt growth of the prostate; and obesity affects insulin levels, which is another risk factor for BPH (see below).
- **Diabetes:** Having diabetes increases a man's risk of developing BPH (Sarma 2009). The reason appears to be elevated insulin levels stimulate growth of the prostate (Nandeeshia 2006). Because one characteristic of diabetes is damaged blood vessels, it is possible that damaged vessels that serve the prostate may cause the gland to become enlarged (Berger 2005a).
- **High "bad" cholesterol:** Men who have elevated levels of low-density lipoprotein (LDL) cholesterol and diabetes are at greater risk to develop BPH than men who have normal LDL levels (Parsons 2008).
- **Metabolic syndrome:** The group of disorders known as metabolic syndrome, which has been shown to increase the risk of developing cardiovascular disease, may also be associated with an increased risk of BPH. The disorders include obesity, elevated blood pressure, glucose intolerance or insulin resistance, elevated C-reactive protein in the blood (indication of inflammation), and high fibrinogen or plasminogen activator inhibitor-1 in the blood (Hammarsten 1998).
- **Ethnicity:** Ethnicity may be a factor in BPH. The results of one large-scale study found that Hispanic and black men are more likely to develop the condition than are white and Asian men (Hoke 2008). Not all studies have uncovered a significant difference among different ethnic groups, however.
- **High blood pressure:** Experts are not certain how high blood pressure may trigger or worsen BPH, but an association has been noted.
- **Atherosclerosis:** Also known as hardening of the arteries, atherosclerosis can place you at increased risk for BPH (Berger 2006).
- **Lack of exercise:** The link between a lack of exercise and BPH may be associated with the fact that exercise helps fight other risk factors for BPH, namely obesity, insulin resistance, type 2 diabetes, and high blood pressure.
- **Poor diet:** Research shows that eating a high-fat diet can raise the risk of developing BPH by 31%, and that eating red meat increases the risk by 38%. There is also evidence that eating at least four servings of vegetables daily can reduce the risk of BPH by 32%. The role of a poor diet in the development of BPH is not fully understood, although it is known that fat can increase hormone levels and is also associated with chronic inflammation.

- **Weak immune system:** A weak immune system can be the result of many factors, including poor diet, stress, lack of exercise, and other lifestyle choices, as well as chronic illness, and it can be a risk factor for BPH. A strong immune system is promoted by following a prostate-friendly lifestyle based on the 6 Pillars of Prostate Health, which encompass the following ideals discussed in Part III and Part IV: The Prostate Diet, weight control, lifestyle, natural management, hormone balance, and sex and impotence.

How Is BPH Diagnosed?

Doctors typically diagnose BPH as part of a general examination that includes questions about any BPH symptoms, discussion of any indication of BPH after a man takes the International Prostate Symptoms Test, as well as a review of his medical and lifestyle history with questions concerning dietary habits, any neurological problems, and family medical history.

A diagnosis of BPH also depends on the results of various tests your doctor may conduct or order for you. The tests your doctor chooses will depend on the other information gathered about your symptoms and condition. Tests used to help with a diagnosis of BPH are provided here.

- **Digital rectal examination (DRE):** The DRE is a standard test to help detect problems with the prostate, including BPH. During the DRE, a doctor inserts a gloved, lubricated finger into your rectum and presses on the prostate to feel for any abnormalities in size or shape. If the doctor detects any irregularities, he or she will order other tests that can further help with a diagnosis.
- **Prostate-specific antigen (PSA):** The PSA is a blood test used to detect prostate problems and to identify the amount of prostate specific antigen in your bloodstream. An elevated PSA level does not necessarily mean you have BPH, because there are several other factors that can cause PSA levels to rise. However, the PSA test is often used as part of the diagnostic process for BPH.
- **Urinalysis:** A urinalysis is another routine test conducted during a physical examination. The collected urine sample is examined under a microscope for the presence of abnormalities, such as red blood cells (which indicates bleeding in the urinary tract), white blood cells (an indication of an infection), proteins (a sign of kidney problems), bacteria, or other warning signs.
- **Blood tests:** Doctors typically reserve blood tests (beyond the PSA test) for men who have severe or chronic symptoms of BPH, because they are looking for signs of anemia or kidney damage.
- **Uroflowmetry:** This tests identifies how “long and strong” your urinary flow is. Basically, you will be asked to urinate into a funnel that is attached to a device that can measure flow rate and flow time, the amount of urine voided, and other factors. A slow flow rate (less than 15 milliliters per second) suggests the urethra is blocked or there is a loss of bladder function, with resulting BPH.
- **Cystoscopy:** A cystoscopy procedure involves the insertion of a long thin tube called a cystoscope into the penis and through the urethra until it enters the bladder. A cystoscope allows clinicians to view the urethra and bladder and determine how active the prostate is when squeezing the urethra. It also helps to see if there are any stones in the prostate or a urethral stricture.
- **Filling cystometry:** The filling cystometry test involves filling the bladder with fluid and measuring how much pressure builds up in the bladder. Men who have a history of neurological or urological problems are typically chosen to take this test.
- **Pressure flow urodynamic studies:** These studies measure the bladder’s ability to empty steadily and completely, pressure during urination and when the bladder is storing urine, how much urine the bladder can hold, and how full the bladder is when you feel the urge to urinate. The answers to these questions can help clinicians make a diagnosis of BPH.
- **Ultrasound of the prostate:** An ultrasound or other imaging tests of the prostate allows doctors to visualize abnormalities in the kidneys and bladder, identify bladder stones, estimate the size of the prostate, and identify how much urine remains in the bladder. Ultrasound is usually performed in men who have lower urinary tract symptoms.

PART II: TRADITIONAL TREATMENTS FOR BPH

Part II Sneak Peak

- BPH doesn't always require treatment.
- Four classes of drugs can be used to treat BPH.
- Men should be aware of the side effects associated with each BPH treatment option
- Numerous invasive nonsurgical treatment options are available for men who do not respond to medications.
- Surgery for BPH is not often necessary, but if it is, there are several effective options.

Traditional Treatments

Traditional medical treatment of BPH can take several forms, depending on the severity of the symptoms. In turn, the severity of symptoms and treatment options for BPH are usually determined initially by the results of the International Prostate Symptoms Test as well as other tests to diagnose BPH.

If BPH symptoms are mild, no treatment is usually necessary, while moderate symptoms should be addressed. Over time, BPH can cause obstructive changes that left untreated can result in more serious problems. For example, as the detrusor muscles (the muscles you squeeze to push out urine) become thinner, collagen accumulates in the muscles, which weakens them and causes diverticulae (tiny pockets) to form. Muscle weakness and urinary obstruction can eventually worsen and cause overflow incontinence or a complete inability to urinate.

The traditional treatment options for BPH are introduced here.

Watchful Waiting

If you are given a diagnosis of mild BPH, you and your doctor may decide to adopt a watchful waiting approach. This means you will not take any action at this time except for getting routine examinations and letting your doctor know if your symptoms worsen or any new symptoms develop. This is also a great time to be sure to practice healthful lifestyle habits, as described in Part III.

BPH Drugs

Four different types of drugs may be used to treat symptoms of BPH.

- Alpha-blockers relax the muscles in the prostate and the neck of the bladder, which then allows urine to flow more easily. The five alpha-blockers currently on the market include alfuzosin hydrochloride (Uroxatral), doxazosin (Cardura), silodosin (Rapaflo), tamsulosin hydrochloride (Flomax), and terazosin (Hytrin).
- Another class of drugs, 5-alpha reductase inhibitors, slows the growth of the prostate and interferes with the actions of certain male hormones, which in turn causes the prostate to shrink. The two available 5-alpha reductase inhibitors for BPH are dutasteride (Avodart) and finasteride (Proscar).
- A third drug class of drugs, anticholinergics, treat the symptoms of an overactive bladder. Oxybutynin (Ditropan) and tolteridone (Detrol) can be prescribed for this purpose.
- The latest addition to the list of drug treatments for BPH is tadalafil (Cialis), a phosphodiesterase 5 inhibitor that is probably better known as a drug for erectile dysfunction treatment. However, the FDA approved tadalafil for BPH after the drug significantly improved symptoms when compared with placebo.

BPH Drug Side Effects

Each of the drug types used to treat symptoms of BPH is associated with side effects.

- Alpha-blockers are most often associated with dizziness, fainting, fatigue, headache, nasal congestion, and retrograde ejaculation. Less often they can cause erectile dysfunction or reduced libido. In a study that compared saw palmetto with tamsulosin (Flomax), side effects associated with the latter included blurry vision, chills, cough, fever, insomnia, lower back and side pain, and painful or difficult urination.

- The 5-alpha reductase inhibitors can cause **enlarged breasts, erectile dysfunction, and libido disorders**. The Food and Drug Administration (FDA) has also asked the makers of finasteride to add warning labels to their products because an **increased risk of depression and suicidal thoughts** have been reported after stopping the drug. **The FDA now also requires finasteride products to list the risk of additional sexual side effects, which include ejaculation disorders, infertility, poor semen quality, and orgasm disorders.**
- Anticholinergics are associated with blurry vision, constipation, dizziness, dry eyes, dry mouth, headache, indigestion, stomach pain, and urinary tract infections.
- Tadalafil (Cialis) may cause back pain, cold symptoms, diarrhea, dizziness, headache, memory problems, muscle pain, or warmth/redness of the face and neck. Tadalafil should not be used by anyone who is taking nitrates or alpha-blockers, as the combination in both cases can cause an unsafe lowering of blood pressure.

Invasive, Nonsurgical Options

Medications do not always provide sufficient relief for men suffering with BPH symptoms. In such cases, doctors may recommend one of several invasive, nonsurgical treatments, depending on the severity of your symptoms and your specific needs. Note the side effects associated with each treatment option.

- **TUNA—Transurethral Needle Ablation:** Transurethral needle ablation (TUNA) involves use of high-temperature, low-level radio waves that burn away excessive prostate tissue. The treatment is delivered via a catheter that is inserted into the penis and through the urethra. Symptom improvement can be significant, but the procedure may need to be repeated after several years as the prostate continues to grow. Side effects may include blood in the urine, erectile dysfunction, urethral stricture, urinary irritation, and urinary retention.
- **TUMT—Transurethral Microwave Thermotherapy:** Transurethral microwave thermotherapy is performed through a catheter that is threaded through the penis to the urethra. The catheter delivers microwaves that destroy excess tissue while cold water is circulated through the catheter to protect healthy prostate tissue from heat damage and reduce side effects. It takes about 90 days to experience the full benefits of TUMT. Side effects may include blood in the urine, inflamed urethra, and urinary frequency.
- **PVP—Photo-Selective Vaporization:** Photo-selective vaporization involves the use of a high-energy laser (potassium titanyl phosphate, or KTP) to vaporize excess prostatic tissue and heat seal the site simultaneously. To accomplish this, a clinician threads the laser into the penis through the urethra to the enlarged prostate. The heat generated by PVP seals the blood vessels, which keeps bleeding at a minimum. The outpatient procedure takes about 30 minutes or less. The main side effect is blood in the urine.
- **Holmium Laser Ablation of the Prostate:** Holmium laser ablation of the prostate (HoLAP) is an alternative to TURP and is associated with fewer side effects and complications. HoLAP uses laser energy, delivered through a thin flexible fiber, to remove excess prostate tissue that is obstructing urinary flow in men whose prostate is smaller than 60 cubic centimeters. A similar option, holmium enucleation of the prostate (HoLEP), is a surgical procedure for men who have a larger prostate (see HoLEP under “Surgery for BPH”). Holmium laser ablation is an outpatient procedure that typically takes less than one hour. Men can expect to experience blood in the urine for several weeks, and urinary incontinence is a common side effect although it is rarely permanent.
- **Interstitial Laser Therapy:** Interstitial laser therapy is an inpatient procedure in which a clinician delivers laser energy to the prostate through a cystoscope that is threaded through the penis to the site where the flow of urine is being blocked. Side effects may include retrograde ejaculation, urinary incontinence, urinary retention, and urinary tract infections.
- **TUBD—Transurethral Dilatation:** Men who undergo transurethral dilatation (TUBD) can expect their doctor to literally push the enlarged prostate tissue away from the urethra to free up urine flow. TUBD is accomplished by inserting a small balloon into the penis, threading it through the urethra, and then inflating it where the urethra passes through the prostate. Transurethral dilatation is not used as often as other procedures to treat BPH. Side effects may include hemorrhage, prostatitis, urinary incontinence, and urinary retention.
- **Stent:** A small coil called a stent can be used to prop open the urethra to facilitate urine flow. Stents are implanted in the urethra by using a tube to pass them through the tip of the penis to the appropriate location in the urethra. The success rate with stents ranges from 50 to 90%, and they are associated with various complications and side effects, including infection, pain, and tissue growth over the stent.

Surgery for BPH

Surgery is a less common choice for men with BPH, mostly because there is a wide range of invasive nonsurgical treatment options available. However, for men who have severe symptoms that do not respond to other treatment options or who have complications, surgery may provide the only relief. Surgical procedures for BPH include the following:

- **TUIP—Transurethral incision of the prostate:** A transurethral incision of the prostate involves inserting an instrument through the urethra to the site where the prostate meets the bladder. The instrument delivers a laser beam or electrical current that places cuts in the prostate muscle tissue, which relaxes the opening and closing of the bladder neck. TUIP is an in-hospital procedure that can help men whose prostate is only slightly enlarged. Side effects may include erectile dysfunction, retrograde ejaculation, and urinary incontinence.
- **TURP—Transurethral resection of the prostate:** Transurethral resection of the prostate is usually reserved for men who have severe BPH that has not been relieved by other treatment approaches. TURP is an inpatient procedure that involves threading a thin wire loop through the urethra. Once it reaches the prostate, an electrical current passes through the wire and cuts away tissue that is blocking the urethra. A variation of TURP is bipolar TURP, which allows the surgeon to cut tissue at a slower pace, which in turn improves control of bleeding and reduces the risk of complications and side effects, which may include erectile dysfunction, retrograde ejaculation, and urinary incontinence.
- **Holmium laser enucleation of the prostate:** Holmium laser enucleation of the prostate (HoLEP) is usually for men whose prostates are larger than 60 cubic centimeters. HoLEP is an outpatient procedure that uses laser delivered through a thin flexible fiber to remove all the prostate tissue that is blocking urinary flow and prevent the regrowth of tissue. Stress incontinence is a side effect that can affect 10% to 15% of men who have a prostate larger than 100 grams. Other side effects may include blood in the urine, burning during urination, and urethral stricture, while erectile dysfunction, urinary incontinence, and bleeding are uncommon.
- **TVP—Transurethral vaporization of the prostate:** Transurethral vaporization of the prostate is a variation of TURP: rather than use an electrified coil to cut away tissue, an electrified cylinder rolls over and vaporizes the tissue that needs to be removed. Side effects may include temporary cramping, burning during urination, blood in the urine, frequent urination, and urinary urgency.
- **Prostatectomy:** Complete removal of the prostate, or prostatectomy, is the treatment of last resort for BPH. Side effects may include bladder neck contracture, bleeding, deep venous thrombosis, erectile dysfunction, hernia, infection, Peyronies disease, rectal injury, reduction in penis size, retrograde ejaculation, sterility, and urinary incontinence.

PART III: NATURAL AND COMPLEMENTARY TREATMENTS

Part III Sneak Peak

- Dietary choices can have a significant impact on a man's risk of developing BPH.
- A diet that focuses on whole, natural foods including plant protein, fruits and vegetables, and healthy fats goes a long way toward reducing the risk of BPH.
- Knowing which foods to avoid is just as important as knowing which foods to include.
- 60+ Ways to Love Your Prostate with Food can help you support prostate health with every bite.
- Environmental factors, such as food additives, alcohol use, and toxins may increase your risk of BPH.
- Lifestyle choices, ranging from controlling diabetes to exercise and social support, have an impact on developing and/or living with BPH.
- Some men find alternative treatments, such as acupuncture or tai chi, to be helpful in managing BPH symptoms.
- Nutritional and herbal supplements can have an important role in helping support prostate health.

The Prostate Diet

Your diet and nutritional choices have a major impact on whether you will develop BPH. If you do experience the lower urinary tract symptoms associated with BPH, diet can also have an effect on resolving those symptoms. That's why it's important to follow an eating plan that supports and promotes prostate health, such as The Prostate Diet, rather than the one most Americans follow: the Standard American Diet (SAD).

The Standard American Diet (SAD) is a sad combination of high amounts of sugars and saturated fats along with low intake of fruits, vegetables, fish, and fiber. SAD and many of the fad and gimmick diets on the market do not support healthy eating habits and, in some cases, can cause harm. Men who want a convenient, easy-to-follow approach to achieve and maintain a healthy prostate and thus help avoid BPH can turn to The Prostate Diet.

The Prostate Diet is a sensible eating plan designed to promote and support prostate health by safeguarding against urinary tract symptoms, inflammation, and cancer, as well as maximizing overall wellness. The 10 basic foundations of The Prostate Diet are explained here briefly.

Fruits and Vegetables

Fruits and vegetables contain high levels of substances that can fight inflammation, including antioxidants, polyphenols, vitamins, minerals, and fiber. In particular, vegetables appear to have an important role in preventing BPH. In a study conducted at Fred Hutchinson Cancer Research Center in Seattle, dietary risk factors for BPH in 4,770 Prostate Cancer Prevention Trial participants were evaluated. The investigators found a significantly lower risk of BPH among men who consumed at least four servings of vegetables daily compared with those who ate less than one daily (Kristal 2008).

The Prostate Diet recommends eating four to five servings of vegetables and two to three servings of fruit daily for prostate health. Fresh organic produce is best, and frozen is a healthy alternative when fresh is not available.

Fruits and vegetables on their own, as well as their individual components and nutrients, can help promote a healthy prostate and help avoid BPH. For example:

- **Phytonutrients** are certain organic components of plants that promote good health and have inflammation- and cancer-fighting properties and also act as antioxidants. You can get phytonutrients from fruits and vegetables, nuts, whole grains, beans, teas, and legumes.
- **Antioxidants** are substances such as various phytonutrients that have the ability to attack the destructive activity of free radicals, molecules that damage healthy cells and can cause illness and disease, including BPH.
- **Lignans** are plant compounds that possess potent antioxidant properties and are also high in fiber. Some research has indicated lignans may help lower estrogen levels, which may help prevent BPH.
- **Pomegranates** are rich in antioxidants and have a particular prostate-friendly phytonutrient called ellagitannin.
- **Tomatoes** are an excellent source of lycopene, a phytonutrient that enhances prostate health and may be helpful in preventing and treating BPH.
- **Fiber** has the ability to bind with toxins and help eliminate them from the body, which may be helpful in preventing BPH. Foods rich in fiber typically include fruits and vegetables, whole grains, beans, legumes, and nuts.

If you are looking for the best fruits and vegetables to support prostate health, the following list gives you a lot of great tasting and healthful options. Be sure to enjoy as many of them as possible as often as you can.

- Argula
- Berries (e.g., blackberries, blueberries, raspberries, strawberries)
- Bok choy
- Broccoflower
- Broccoli
- Brussels sprouts
- Cabbage
- Cauliflower
- Chinese cabbage
- Citrus (e.g., oranges, grapefruit, lemons, limes)
- Collard greens
- Daikon
- Horseradish
- Kale
- Kohlrabi
- Mushrooms
- Mustard greens
- Pomegranate
- Radish
- Rutabaga
- Tatsoi
- Tomatoes
- Turnip greens

Healthy Fats

Monounsaturated and polyunsaturated fats are the two categories of fats considered to be healthy. In the monounsaturated fats group, the main members are vegetable oils (especially olive oil), nuts, seeds, and some plant foods. Monounsaturated fats play an indirect role in prostate health and in preventing BPH, as they assist in reducing cholesterol levels, lowering the risk for heart disease and stroke, and aiding with weight loss, all of which are associated with risk factors for BPH.

The polyunsaturated fat category includes the omega-3 and omega-6 fatty acids. Both of these fatty acids are called essential because the body cannot manufacture them, which means they must be obtained through the diet. Omega-3s are found primarily in vegetable oils, fish, and seafood, while omega-6s are mainly in vegetable oils, nuts, and meats. Of the two, the omega-3s are far more beneficial because they have anti-inflammatory properties and also promote heart health. Many, but not all, of the omega-6s promote inflammation. However, for prostate health and overall well-being, it is important to maintain a balance between omega-3s and omega-6s.

Plant Protein

Plant protein is better for your prostate and for your overall health than is protein from animal foods, such as meat, poultry, and eggs. A 2009 study published in the *Physician and Sportsmedicine* reported that daily aerobic exercise along with a low-fat, high-fiber diet consisting of whole grains, fruits and vegetables can reduce factors associated with BPH (e.g., estradiol/testosterone ratio, and insulin). Many high-fiber plant foods, such as whole grains, lentils, and beans, are also high in protein (Barnard 2009).

Some people worry they cannot get enough protein from plant sources, yet an adult's protein requirement is not as high as many people believe. According to a study published in the *American Journal of Clinical Nutrition*, 0.8 grams of protein per kilogram (2.2 pounds [lbs]) of body weight per day is the average requirement for adults. This translates into about 54 grams of protein daily for a 150-lb adult.

Although you can get those 54 grams from a 7-ounce steak, the steak also provides saturated fat, hormones, and steroids (Campbell 2008). Consuming a variety of beans, lentils, seitan, tempeh, and high-protein grains such as amaranth and quinoa can help you easily reach your personal protein goals.

Whole, Natural Foods

When you choose whole, natural foods, you provide your body with critical nutrients often missing from the foods that are commonly part of the Standard American Diet. In addition, you avoid many of the harmful additives and other undesirable substances found in processed foods. More than 14,000 man-made chemicals are added to our food supply, mainly for the purposes of extending shelf life of the food and to make the food more convenient and appealing. What is not appealing, however, is that these additives may have a negative impact on prostate health, including the risk of BPH.

Green Tea

Green tea has medicinal powers that are attributed to potent antioxidants called catechins, which have been shown to destroy certain bacteria and viruses, enhance the immune system, and combat several forms of cancer.

Among the catechins is one called epigallocatechin-3-gallate (EGCG), which research shows has an impact on androgens and other hormones. This activity may make EGCG useful for the management of BPH and other hormone-related abnormalities (Liao 2001).

One caution to remember about green tea is that it sometimes contains caffeine, although at a much lower level than does coffee and somewhat less than black tea. Caffeine is a diuretic and can stimulate the bladder, causing an urgent need to urinate. On average, one cup of green tea has 25 milligrams of caffeine, while black tea has nearly twice as much. When shopping for green tea or a green tea supplement, choose decaffeinated (note Prost-P10x prostate supplement contains decaffeinated green tea).

Omega-3 Fatty Acids

Although omega-3 fatty acids have been discussed under healthy fats, the omega-3s are worth a second mention because experts generally consider them to be the healthiest fats in the diet, mostly because they have anti-inflammatory powers. The two omega-3s that offer the most health benefits are eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), both of which are found in abundance in many fish and in other seafood.

In regards to BPH and omega-3 fatty acids, a study of 24 men with BPH, 19 with prostate cancer and 21 normal controls, evaluated the fatty acid concentrations. The researchers found that omega-3 fatty acid levels were significantly lower in men who had BPH and prostate cancer, which suggests this fatty acid is necessary for a healthy prostate (Yang 1999).

Foods to Avoid

To ensure prostate health and to help prevent BPH in particular, what you don't eat can be just as important as what you do eat. Therefore it is important to reduce your dietary risk factors while also enhancing your intake of beneficial foods. With that in mind, here is a list of foods to avoid that promote better prostate health and aid in the prevention of BPH:

- **Fast food:** Generally, "fast food" is food that is fried, high in fat, cholesterol, and/or sugars, low in fiber, and devoid of phyto-nutrients while providing a lot of empty calories
- **Red meat:** A study published in the *American Journal of Epidemiology* reported that men who ate red meat daily were at greater risk of developing BPH than were men who ate red meat less than once a week (Kristal 2008). Studies have also shown that high intake of well-done meat, grilled meats, and high exposure to carcinogens in meat, especially HCAs, may increase the risk of cancer, including prostate cancer.
- **Calcium and dairy foods:** High intake of calcium, mainly through supplements and dairy products, has been linked with a greater risk of prostate cancer, especially aggressive cancer, according to the American Cancer Society and various studies. It is recommended men get their calcium from nondairy foods and to not exceed the recommended daily allowance, which is 1,000 mg for men up to age 70 and 1,200 mg thereafter.
- **Sugar:** High intake of sugar, characteristic of SAD, lowers resistance to infection and makes it more difficult to recover from illness. Some experts also believe sugar fuels cancer cell growth.
- **Alcohol:** One study found that consuming two or more alcoholic drinks per day actually reduced the risk of BPH (Kristal 2008). However, regular heavy drinking can put you at twice the risk of developing high-grade prostate cancer (Gong 2009). The key with alcohol and BPH is moderation.
- **Foods Containing Acrylamide:** Large doses of acrylamide have been shown to cause neurological damage in humans and french fries and potato chips are by far the biggest culprits. Acrylamide has been determined to be a "probable human carcinogen" by the International Agency for Research on Cancer, based on studies in lab animals (Fuhr 2006). Baked goods also contain relatively high levels of acrylamide, especially doughnuts.
- **Canned tomatoes and tomato products:** The resin linings of cans contain bisphenol-A (BPA), a synthetic estrogen that can leach into the tomatoes because they are acidic. BPA is associated with an increased risk of cancer and other health problems. Choose tomatoes and tomato products that are packed in glass or BPA-free packaging.
- **Microwave popcorn:** The lining of the bags in which microwave popcorn is popped contains perfluorooctanoic acid (PFOA), which may be associated with infertility in humans. The chemicals have also been linked to cancer in lab animals. Because PFOA accumulates in the body, scientists worry that the chemical may reach a cancer-causing level in people who are exposed to it for too long. The makers of PFOA have promised to stop producing the chemical by 2015.
- **Nonorganic potatoes:** Potatoes that are grown conventionally are exposed to a great number of toxins: they absorb herbicides, pesticides, and fungicides from the soil, they are treated with fungicides while they are growing, the vines are sprayed with herbicides before harvest, and harvested potatoes are treated again to prevent them from sprouting. You cannot wash away the chemicals that have been absorbed into the flesh of the potato. The only safe solution is to buy organic potatoes.

Prostate Cancer–Killing Foods

To achieve maximum health, it is important to provide your body with the best defenses against every attack and live a life of wellness. Studies have shown the effect that lifestyle and diet, for example, can have on reducing your risk of prostate disease, including BPH. The Prostate Diet focuses on overall prostate health, but one important component of the diet zeroes in on prostate cancer–killing foods, which can also benefit the health of the prostate as a whole and play a role in preventing BPH in particular. The 12 top natural cancer killers include the following:

- Beans
- Broccoli and other vegetables
- Cayenne peppers and capsaicin
- Garlic
- Green tea
- Mushrooms
- Raspberries
- Resveratrol
- Saw palmetto
- Tomatoes
- Turmeric
- Vitamin D

Water

To keep your prostate and your body functioning optimally, you need to stay properly hydrated and to hydrate yourself with water that is as pure as possible. Water helps eliminate toxins, including the byproducts of metabolism as well as those the body takes in from the environment.

One way to ensure the water you drink is as pure as possible is to avoid toxic containers, such as plastic bottles. The culprit in some bottles is BPA, which can seep into the water from the plastic. Steps are being taken by manufacturers to eliminate this toxin, but the healthiest (and more environmentally friendly) thing to do is to avoid using bottled water.

60+ Ways to Love Your Prostate with Food

Keep this checklist handy and try to include as many of these tips in your daily diet as you can.

- Limit your dairy
- Eat lots of cooked tomatoes
- Count your calories
- Don't drink soda
- Limit intake of alcohol
- Drink pomegranate juice
- Drink organic vegetable juice
- Get protein from plant-based foods
- Snack on raw vegetables and hummus
- Eat less red meat (if any at all)
- Limit salt intake
- Switch from coffee to tea
- Eat less sugar
- Skip the edamame
- Only eat foods you can pronounce
- Use turmeric when cooking
- Avoid "protein" bars
- Avoid high-fat foods
- Avoid all trans fats
- Use olive oil
- Eat blueberries
- Eat fresh and dried fruits
- Avoid fried foods
- Drive past McDonalds and don't stop
- Avoid potato chips
- Avoid processed meats
- Fill up on fiber
- Limit your soy
- Avoid the Atkin's diet
- Avoid microwave popcorn
- Forget french fries
- Eat mushrooms
- Eat with family and friends
- Chew your food thoroughly
- Don't eat packaged "soy" foods
- Shop at Whole Foods
- Don't cook with a barbecue
- Limit the use of butter
- Snack on almonds and pumpkin seeds
- Avoid microwave cooking
- Make your own almond butter
- Use turmeric in cooking
- Eat sardines
- Eat brightly colored vegetables
- Never eat charred food
- Drink unsweetened cranberry juice
- Skip the soy sauce
- Learn to cook
- Drink red wine in moderation
- Avoid high fructose corn syrup (HFCS)
- Eat slowly
- Eat "like a Greek"
- Read food labels
- Wash all fruits and vegetables
- Avoid artificial sweeteners
- Eat high-protein grains
- Eat smaller meals
- Buy food in glass containers
- Avoid canned tomatoes
- Shop in the outside aisles of the grocery store

Supplements for Prostate Health

Supplements play an important role in managing prostate health because no matter how hard you try, getting all the nutrients you need is virtually impossible given the many factors that can hinder your efforts, from fighting disease to work-related stress, environmental pollutants, inadequate sleep, eating on the run, financial worries, and dozens of other excuses for not getting the optimal nutrition your body needs.

To make sure you choose the best supplements for your personal needs, talk to a knowledgeable healthcare professional. Make sure to tell him or her about any over-the-counter or prescription drugs you are taking, as well as about any medical conditions you may have.

Not all natural ingredients are beneficial to prostate health (such as calcium, for example), so be informed about the supplements when you shop. Be familiar with the research and clinical studies before you buy a supplement, and be aware of the additives and fillers that are used in the manufacturing process to ensure you are getting the quality and quantity of ingredients that you are paying for. Most of the additives to supplements are GRAS (“Generally Regarded as Safe”), but it still pays to know about these additives so you can choose the right supplement for your specific needs.

Natural Supplements for Prostate Health

Scientists have discovered that some natural supplement ingredients possess characteristics that help to maintain prostate health.

Prostate Supplements Help Promote Healthy Urinary Tract Function in Men

An aging prostate is characterized by a variety of urinary tract symptoms that can have a significant impact on a man’s quality of life. Many active ingredients have demonstrated an ability to help with an aging prostate by promoting healthy urinary tract function. For example:

- **Beta-sitosterol** is a cholesterol-like substance derived from plants (phytosterol) that has been shown to promote prostate health. A four-study review of beta-sitosterol that involved 519 men found that beta-sitosterol improved urinary symptom scores, urinary flow rates, and volume of residual urine (Wilt 1999).
- **Cranberry** contains phytonutrients called proanthocyanidins (PACs), and more specifically A-type PACs, which are not found in other berries. A-type PACs help prevent bacteria from attaching themselves to the walls of the urinary tract, which in turn may help prevent the development of urinary tract infections. This quality may make cranberry helpful in managing symptoms of an aging prostate, such as urinary flow problems and urinary frequency.
- **Diindolylmethane (DIM)** is a phytonutrient that is released in the body when gastric acid from the digestive process acts on indole-3-carbinol, the precursor to DIM. At least one study has indicated that among older men, taking DIM may reduce nighttime urination (Zeligs).
- **Pollen extracts** (also known as cernilton) have demonstrated an ability to promote prostate health, although experts are not certain exactly how they work. In one study, more than 75% of men with prostate problems who took a pollen extract reported significant improvement in their symptoms (Dutkiewicz 1996).
- **Pygeum** is an herbal extract derived from the *Prunus africana* tree, and it has a long history of use as a folk cure for bladder problems. In more modern times it has been valued for its ability to help with prostate health. In 2000, researchers evaluated 18 randomized controlled studies and concluded that pygeum “modestly but significantly” improved prostate health (Ishani 2000).
- **Stinging nettle** is an herbal remedy with anti-inflammatory and diuretic properties that have made it a choice for management of urinary tract and prostate problems. In a comparison study that included 620 men, researchers found that 81% of the participants who took stinging nettle had an improvement in symptoms compared with only 16% of men who took a placebo (Safarinejad 2005).

Prostate Supplements May Help Promote Normal Prostate Size

One of the main goals of treatment of an enlarged prostate is to bring the size back to normal or as near normal as possible. It should be noted, however, that size is not everything when it comes to BPH, because a man’s symptoms also depend on what the enlarged prostate is impinging upon. Some men may have a moderately enlarged prostate, yet it is positioned so that it significantly hinders urinary flow through the urethra. Others may have a more enlarged prostate, yet it is located so that it

causes only mild symptoms. Naturally, a man's condition could worsen over time, so it is best to address symptoms as early as possible.

Several active ingredients can help promote a normal prostate size. For example:

- **Curcumin** is a group of naturally occurring compounds found in the spice turmeric (*Curcuma longa*) and a powerful antioxidant that plays a key role in supporting and regulating how the body responds to the inflammatory process. Specifically, a 2010 study reported that curcumin reduces the impact of pro-inflammatory substances called cytokines--interleukin-8 and tumor necrosis factor alpha, which in turn relieves inflammation (Zhang 2010).
- **Pollen extracts** can help reduce the size of an enlarged prostate according to several studies. In one study, 57 men were given either 92 mg of pollen extract daily for 6 months (31 men) or a placebo (26 men). Based on ultrasound findings, prostate size declined in the men who took the pollen extract (Buck 1990). In an open study that compared pollen extract and pygeum, men who took pollen extract had a significant reduction in the size of their prostate while the men who took pygeum did not (Dutkewicz 1996).
- **Quercetin** is a phytonutrient found in red grapes, red wine, onions, and other foods. In a study published in the Journal of Endocrinology, scientists reported on the effect of quercetin and finasteride (Proscar) on the prostate gland in rats. A combination of quercetin and finasteride resulted in a 31.8% to 48.2% reduction in prostate weight (Ma 2004). Other studies have uncovered quercetin's anti-inflammatory and antioxidant properties.
- **Vitamin D** appears to play an important role in prostate health, as research indicates a low level of vitamin D is associated with a greater risk of having an enlarged prostate (Galic 2008). Another study showed that vitamin D receptor agonists, which have anti-inflammatory properties, may be involved in the management of prostate health (Fibbi 2010).
- **Zinc** reportedly can reduce the size of an enlarged prostate. In an apparently unpublished study by Irving Bush, MD, former chairman of the FDA panels on gastroenterology, urology, and dialysis, 14 of 19 men who took 150 mg of zinc sulfate daily for two months and then 50 to 100 mg daily experienced a reduction in the size of the prostate. At Oregon State University, researchers examined the antiproliferative effects of zinc in prostate cells and discovered that zinc may have an important role in regulating cell growth and cell suicide (apoptosis) in prostate cells (Yan 2010).

Prostate Supplements May Help Regulate DHT

The hormone DHT (dihydrotestosterone) plays a critical role in the development of an aging prostate. As men get older, the enzyme and hormone 5-alpha-reductase converts testosterone into DHT, which results in a higher level of DHT, a drop in testosterone levels, and an enlarged prostate. An imbalance between testosterone and estrogen also can occur, and estrogen can work with DHT to promote growth of the prostate.

Certain ingredients may assist in regulating the natural response to DHT.

- **Green tea** contains potent antioxidants known as catechins, which have health-promoting properties, including an ability to kill certain bacteria and to enhance the immune system. The antioxidants in green tea appear to contribute to its ability to reduce levels of dihydrotestosterone (DHT), a hormone that increases a man's risk of developing prostate problems.
- **Saw palmetto** has been used for centuries to manage prostate and urinary tract problems, and in recent years scientists have worked to validate these uses. A study published in *Advances in Therapy* for example, reported that a saw palmetto extract effectively inhibited the enzyme (5- alpha-reductase) that is associated with prostate health issues (Pais 2010).
- **Zinc** appears to have an ability to inhibit the activity of 5-alpha-reductase. According to a study conducted at the University of Edinburgh Medical School, high doses of zinc impaired the actions of the enzyme in the lab using prostate tissue.

Steps You Can Take to Prevent BPH

Even though an enlarged prostate is common, there are many steps you can take to help prevent development of BPH.

- **Achieve and Maintain Healthy Weight.** Being overweight or obese increases your risk of BPH, so it's important to achieve and maintain a healthy weight. Specifically, men who carry excess weight around the weight and hips are especially susceptible to developing BPH. Talk to your healthcare provider about how to lose excess pounds if you need help. Following some of the other environmental and lifestyle factors, including those concerning diet and exercise, can help you drop excess pounds.

- **Avoid Additives and Preservatives.** Refined and processed foods are a mainstay of the standard American diet (SAD), and these foods typically contain many additives and preservatives that can be detrimental to overall health and your prostate health as well. Some additives have been found to cause cancer in animals and allergic reactions in humans. Even though many of the additives and preservatives in foods have been classified as GRAS (Generally Recognized As Safe) by the Food and Drug Administration (FDA), some experts and organizations, including the Centers for Science in the Public Interest, have placed many of the substances on an “avoid or best to avoid” list.
- **Avoid Toxins.** The environment presents an abundance of toxins in various forms that can have a negative impact on overall health and prostate health in particular. An Australian study, for example, found that exposure to toxic metals at a nonsubstantial level increased the risk of BPH, and a nonsignificant excess risk for BPH was seen after exposure to polyaromatic hydrocarbons (PAHs) (Fritschi 2007). Another environmental toxin, bisphenol-A, better known as BPA, can leach into food from food packaging materials and plastic containers. A Chemical Heritage Foundation study published in November 2009 stated, “New research on very-low-dose exposure to BPA suggests an association with adverse health effects, including breast and prostate cancer, obesity, neurobehavioral problems, and reproductive abnormalities” (Vogel 2009). Also avoid use of over-the-counter antihistamines and decongestants. These medications can worsen BPH symptoms (Medline Plus).
- **Choose Plant Protein Over Animal Protein.** A balanced diet that includes a variety of plant foods can provide all the protein you need. Research has also demonstrated that plant foods high in protein such as beans and legumes are associated with a reduced risk of BPH (Bravi 2006) and that soy isoflavones may also help prevent BPH (Yang 2009).
- **Control Diabetes.** If you have diabetes, it is important to keep your blood sugar levels under control, both for your general health and for your prostate as well. High blood sugar levels and obesity, two common characteristics of people who have diabetes, are also risk factors for BPH.
- **Control Fat Intake.** Eating a low-fat diet is an excellent way to help prevent BPH. When you limit your intake of total fat, especially saturated fats in meat and dairy, you can help reduce your risk of developing BPH.
- **Don’t Hold It.** When you feel an urge to urinate, don’t hold it. Holding back from urinating can worsen BPH symptoms and also lead to urinary tract infections, because the longer you refrain, the more chance bacteria have to develop into an infection in the bladder.
- **Drink Green Tea.** Hot or cold, green tea is a delicious way to help prevent BPH. Green tea contains potent antioxidants called catechins that travel to the prostate and help regulate the production and activities of hormones and lend a hand in the management of BPH (Liao 2001).
- **Enjoy a Lot of Fruits and Vegetables.** Fruits and vegetables, especially organic, are rich sources of phytonutrients such as antioxidants, vitamins, minerals, polyphenols, and fiber, which help fight inflammation. A number of studies support adding more of these important foods to your diet on a daily basis to reduce the risk of developing BPH.
- **Exercise.** Exercise has several positive effects on the prostate in general and for men who have BPH or for those who are trying to prevent it as well. A review of 14 studies that evaluated the impact of exercise on BPH found strong evidence that physical activity helps prevent development of BPH (Sea 2009). Specifically, exercise can (1) Increase blood flow the pelvic region, allowing the body to eliminate toxins and other wastes efficiently; (2) Decrease stress, thus relaxing prostatic tissue; and (3) Reduce excess abdominal weight, which increases overall lower body pressure and in turn relaxes the prostate and rectal regions, improving blood flow into and out of these areas. In another study, researchers at the University of California, San Diego School of Medicine evaluated eleven studies that examined the impact of exercise on BPH and lower urinary tract symptoms. They found that compared with men who had a sedentary lifestyle, those who participated in moderate or vigorous exercise had up to a 25% reduced risk of BPH and urinary tract symptoms (Parsons 2008).
- **Hydrate Yourself.** There’s a caveat with this prevention recommendation: while it’s important to stay hydrated by drinking pure water, watch your intake. Do not drink a large amount of water at any one time, and do not drink anything after 7 p.m. to avoid having to get up often during the night.
- **Limit Alcohol.** Alcohol acts as an irritant in the bladder and prostate, resulting in frequent urination. Although there is some evidence that moderate alcohol intake may actually reduce the risk of BPH, avoiding alcohol is recommended. An alternative is to consume in moderation: stop after the second drink.
- **Limit Caffeine and Spicy Foods.** For men who have BPH, spicy foods and caffeine both can irritate the bladder and prostate, causing urinary symptoms. Coffee, power drinks, and hot, spicy foods are best avoided or at least significantly limited.
- **Maintain Hormone Balance.** Because hormones play a significant role in an enlarged prostate, especially dihydrotestosterone (DHT), it’s important to maintain a healthy hormone balance. Men can ask their healthcare provider for a blood test

to check their hormone levels (e.g., testosterone, DHT, estrogens). It's important to note that factors such as alcohol use, exercise, lifestyle (including diet, food additives, and exposure to other toxins), stress, sexual activity, and weight loss can all have an impact on hormone levels, so there are many things men can do to help maintain hormone balance.

- **Sex.** Sex is generally considered to be a healthy activity for the prostate because the more the prostate is called into service, the more likely toxins will be cleared out through ejaculation, which reduces the chance of developing problems with the prostate, such as BPH. Sexual activity also reduces stress and quiets activity of the central nervous system, which helps to maintain erectile function and healthy penile tissue and contributes to overall wellness. For some men who already have BPH, sexual function can be affected. In a study of 131 men with BPH (ages 55 to 74), the participants were divided into two groups: those with severe symptoms of BPH and those with milder symptoms. Among the men with severe symptoms, 44.2% had erectile dysfunction compared with 13.1% in the mild group. Therefore, while sexual activity can be a healthy activity, it can present a challenge for some men who have BPH (Baniel 2000).
- **Stay Warm.** Cold weather can have an adverse effect on BPH by worsening your symptoms. The relationship between the development of lower urinary tract symptoms and cold weather appears to be related to an increase in activity in the sympathetic nervous system when it is cold. This causes an increase in smooth muscle tone in the prostate, which can make symptoms worse.
- **Social Support.** More than 50% of men older than 50 suffer with BPH, yet they often believe they are the only ones who have this condition. However, knowing that many men share their plight may not be enough—men may need to share their concerns and experiences, as well as seek advice and camaraderie with others. Men can get support from a good friend or family member, and there are also online support groups, forums, and chat rooms available.
- **Try Natural Supplements.** A number of natural herbal and nutritional supplements can help manage the affects of an aging prostate. Talk to your healthcare provider about taking supplements for your prostate health, including beta-sitosterol, cranberry, curcumin, DIM, green tea extract, pollen, pygeum africanum, quercetin, saw palmetto, stinging nettle, and vitamin D.

PART IV: OTHER CONSIDERATIONS

BPH, Erectile Dysfunction, and Your Sex Life

Having BPH can have an effect on your erectile function and your sex life, depending on the severity of your symptoms and the ability of you and your partner to communicate with each other about the challenges BPH symptoms present in your relationship. Maintaining an active sex life can be highly beneficial, as it is generally believed that regular sexual activity (safe sex) is healthy for the prostate.

At least one study has explored the impact of BPH on sexual activity. A group of 131 men (ages 55 to 74) with BPH were evaluated concerning their sexual function. Group 1 consisted of 70 men with severe BPH symptoms while group 2 consisted of 61 men with milder symptoms. Among the men in group 1 (severe), 21.4% were able to have normal intercourse, 34.2% had incomplete penetration, and 44.2% had erectile dysfunction. Among the men in group 2 with milder symptoms of BPH, 45.9% had normal intercourse, 40.9% reported incomplete penetration, and 13.1% had erectile dysfunction (Baniel 2000).

Some men have wondered whether BPH can cause erectile dysfunction. Researchers are exploring the relationship between BPH, the associated lower urinary tract symptoms, and the development of erectile dysfunction. One possible explanation is that the nerves in the sympathetic nervous system, which are hyperactive in animals and men with urinary tract symptoms, transmit signals that lead to erectile function difficulties. Another way BPH can be associated with erectile dysfunction is through use of some of the treatments for an enlarged prostate. Unfortunately, some of the side effects of many of the medications and medical procedures to treat BPH are erectile dysfunction and other sexual difficulties, as are discussed in Part II.

If you are a man with BPH and are experiencing sexual difficulties, it is important to maintain open communication with your partner and to find ways to engage in sexual activity that is mutually satisfying and comfortable. Involving your partner in your treatment and working through the process together can make both the treatment regimen and any sexual challenges easier to handle.

BPH and Prostate Cancer

One question men ask is whether having BPH increases their risk of developing prostate cancer. Numerous studies have investigated this question, and the study conducted at the Fred Hutchinson Cancer Research Center in Seattle, Washington, and published in June 2011, provides the most up-to-date answer. Researchers stated that they had the “strongest evidence to date that BPH does not increase the risk of prostate cancer.” The study evaluated the risk in 5,068 men who participated in the Prostate Cancer Prevention Trial (1993–2003) and included data from 1,225 men who had cancer detected during the seven-year trial and the 3,843 men who did not have prostate cancer, proven by biopsy. After assessing the patients for BPH and taking age, race, and body mass index into account, the investigators found no association between BPH and risk of prostate cancer (Schenk 2011).

It's important to remember, however, that just because BPH does not pose an increased risk for prostate cancer, it does not mean men with BPH should not be screened for cancer. Prostate cancer can still develop completely independently of BPH. Another caution is that a long-term side effect of 5-alpha-reductase inhibitors (e.g., dutasteride, finasteride), which are used to treat BPH, is about a 50% decline in PSA levels over 6 to 12 months. However, this lower PSA level does not mean a man has a reduced risk of developing prostate cancer, but that he and his doctor now have a new baseline PSA value to use while monitoring PSA levels over time.

BPH and Botox

One treatment option for BPH that is still undergoing investigation is Botox (botulinum toxin type A). Botox is best known for its ability to temporarily eliminate facial wrinkles, but researchers have uncovered a variety of medical benefits of the drug as well, and BPH appears to be one of them.

Botox is composed of a highly poisonous substance that is derived from the spores of *Clostridium botulinum*. Thus far, Botox has been evaluated in a number of clinical studies in men who have BPH. When the drug is injected into the prostate, it seems to work by weakening certain muscles or nerves, which in turn improves the flow of urine and shortens the length of time urine stays in the bladder.

The results of two recent studies indicate how effective Botox may be in treating BPH. One study, published in August 2012, involved 10 men (mean age, 70) who received an injection of Botox and who were then followed for up for more than 36 months. Seven of the men improved within one month of treatment and prostate volume decreased by 3 months. The three remaining men did not experience improvement by one year. At an average follow-up of more than 36 months, five of the seven men who had improved originally reported their symptoms had worsened during the 12 months after treatment (Yokoyama 2012).

In an earlier clinical trial conducted at the University of Colorado Denver, 131 men with BPH and age 50 years or older were given either 100 units or 300 units of the toxin. Three months later, both doses met the main criteria, which were at least a 30% improvement in the American Urological Association symptom index and/or maximum urinary flow rate and safety. Based on these findings, the investigators reported that further testing should be done (Crawford 2011).

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