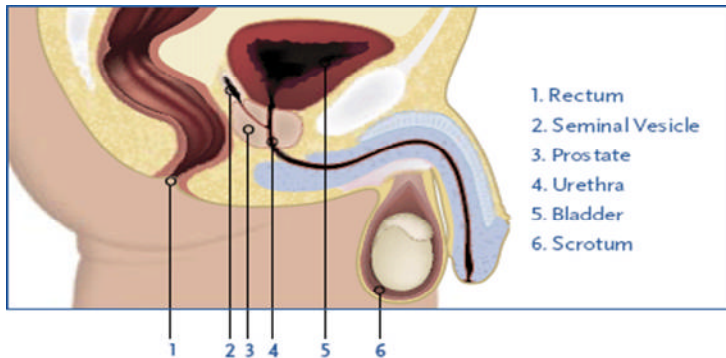


## BENIGN PROSTATIC HYPERTROPHY (BPH)

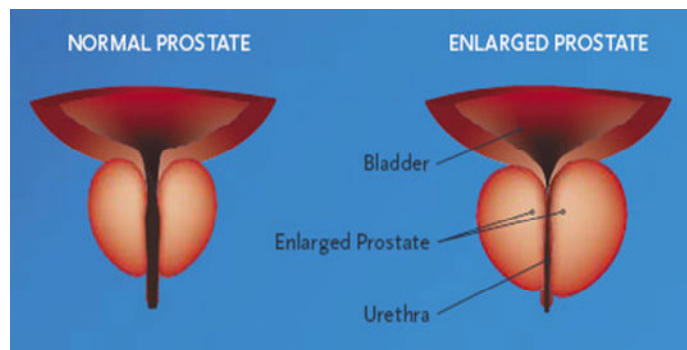
### Prostate Anatomy

The prostate gland is part of the male reproductive system. It normally is about the size and shape of a walnut and weighs about an ounce. The prostate is located below the bladder and in front of the rectum, surrounding a tube called the urethra that carries urine from the bladder out through the penis. The main function of the prostate is to produce fluid that contributes to the composition of semen.



### Cause

Benign prostatic hypertrophy (BPH) is a condition common to men as they age. It is considered a noncancerous growth of the prostate. The abnormal growth of prostate tissue usually takes place after the age of 40 and is found in 60% of men over 60 years of age, and in up to 80% of men over 80 years. As the prostate grows, it squeezes the urethra, leading to a narrowing of the channel. About one third of men with BPH eventually will be bothered by their symptoms or develop other related problems that need treatment.



The voiding symptoms of BPH are divided into obstructive and irritative.

### Symptoms

Obstructive symptoms arise from the narrowed urethral channel limiting the flow of urine. This includes a slow stream, straining in order to void, slow starting and interruption (stopping and restarting) of stream, and feelings of incomplete emptying of the bladder. Some men may find that they suddenly cannot urinate, a condition called acute urinary retention that requires immediate medical attention.

Irritative symptoms arise from the bladder. This is related to the fact that the bladder muscle has to work harder to drive urine through the narrowed channel. The bladder muscle gets stronger, thicker and more sensitive, resulting in increased frequency in daytime and nighttime voiding, a quick onset

strong need to urinate called urgency, and occasionally, incontinence. An AUA symptoms score can help to quantify the severity of these symptoms.

### Treatment Choices for BPH

**Watchful Waiting:** If you have no symptoms or they are not very bothersome, you and your physician may choose to monitor your voiding at regular check-ups, acting only if your condition changes or symptoms become worse.

**Medical Treatment:** Two types of medications, alpha-blockers and/or 5-alpha reductase inhibitors, may help relieve the symptoms of BPH, and in some cases, they may be prescribed in combination.

Drugs that help relax the smooth muscles of the prostate and bladder neck are called alpha blockers. These medications often begin to effect urinary symptoms within one week and include alfuzosin (Uroxatrol), doxazosin (Cardura), tamsulosin (Flomax) and terazosin (Hytrin). Although all four drugs work well and are generally well-tolerated, there are slight differences in the side effects of each, ranging from lightheadedness, headache, fatigue, and stuffy nose to a decrease or complete loss of ejaculate volume (anejaculation/retrograde ejaculation). The medications need to be continued to maintain their effect.

Drugs that decrease prostate size are called 5-alpha reductase inhibitors and include finasteride (Proscar) and dutasteride (Avodart). They have been shown to decrease prostate size 20-25% but can take 3 to 6 months before symptomatic improvement is noticeable. They may provide modest relief of symptoms and have been shown to decrease potential future surgical intervention for prostate obstruction. These drugs change the result of your PSA test by lowering it about 50%. Rare side effects may include an inability to achieve an erection, decreased sexual desire, breast tenderness/enlargement and a reduced amount of semen. Recent studies of these medications have also shown a possible preventative effect on the development of prostate cancer.

If you have an enlarged prostate and bothersome symptoms, you may be treated with a combination therapy of an alpha blocker and 5 alpha-reductase inhibitor. Taken together, these drugs usually provide moderate symptomatic relief and lessen the chance for your condition to worsen. The combination of drugs is very successful at preventing sudden problems with urinating (acute urinary retention) and at reducing the need for surgery in the future.

**Minimally Invasive Therapy:** These treatments are performed as outpatient procedures, usually in the physician's office under a local anesthetic with oral pain medication, and carry less risk than more invasive surgical interventions.

Heat therapies are designed to raise prostate tissue to temperatures to greater than 50°C. This causes the nerves that keep the prostate opening tight (alpha nerves) to die, leading to prostate relaxation. A second effect is prostate tissue shrinkage, leading to an increase in the opening of the narrowed channel. After the treatment, a catheter (tube to drain urine) is placed in the bladder and remains for a few days while you are at home. In general, these treatments are better at relieving symptoms than medical therapies but are less effective than surgical procedures. Within 2 to 3 years after the treatment, 10% to 20% of patients need additional therapy.

The two most common procedures are Prostiva (previously known as transurethral needle ablation) and TUMT (transurethral microwave therapy). Dr. Brian Hill was the first author and primary investigator on a study published in the Journal of Urology investigating Prostiva's effectiveness over a five year period. His findings were presented at both international and regional urology meetings.

Surgery: Surgery may be selected as an initial treatment if your symptoms are particularly bothersome or you have developed other serious problems resulting from BPH. You may also select surgery if you have tried medical or minimally invasive treatments and they have been intolerable or unsuccessful. Transurethral resection of the prostate (TURP) is the most common surgical procedure to treat symptoms of BPH. Under anesthesia, the urologist passes a scope through the urethra. Using a special electric knife or resection loop, the part of the prostate blocking the channel is removed. The entire prostate is NOT removed in this operation, but only that portion which is obstructing the channel. TURP requires an overnight stay in the hospital. Laser vaporization of the prostate is similar to the TURP except that it uses a laser that stops bleeding while creating the channel and thus can be performed in the outpatient setting with outcomes comparable to TURP. Surgery of the prostate requiring an incision of the skin (suprapubic prostatectomy) is reserved for patients with very large prostates is rarely indicated.

You may experience a large improvement in your symptoms by TURP or laser vaporization. Symptom relief should last for a long time. There is an occasional risk of serious complications and 10% of patients need another procedure within 5 years. The common complications or side effects are urgency and frequency of urination for some period after surgery, difficulty in achieving an erection, blood in your urine, inability to hold your urine (incontinence) or a narrowing of the urethra (scarring).