

OVERCOMING ENLARGED PROSTATE/BPH

A PATIENT'S GUIDE



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OVERCOMING ENLARGED PROSTATE/BPH



Benign Prostatic Hyperplasia (BPH), also known as enlarged prostate, is a common, benign (not cancerous) condition in older men in which the prostate gland enlarges. The prostate is a walnut-sized gland that produces semen, the fluid that transports sperm. Located below the bladder and surrounding the urethra (the tube carrying urine out of the body), an enlarged prostate can squeeze the urethra and cause difficulty with urination.

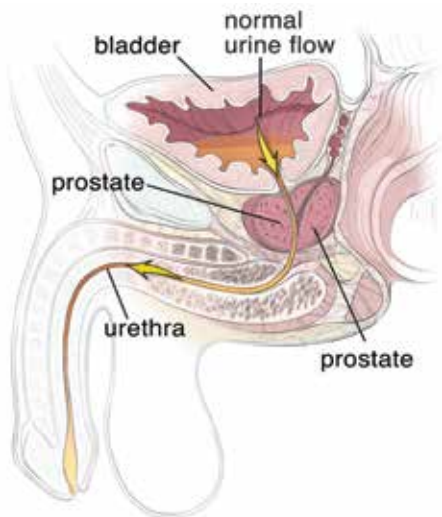
Our specialists have the experience and the results that men want and need to restore quality of life and alleviate the symptoms of an enlarged prostate. From more conservative, non-surgical measures to innovative minimally invasive procedures, our urologists provide the most advanced care for men living with enlarged prostate.

While an enlarged prostate is not life-threatening, the discomfort it brings is enough reason for one to seek treatment. Ignoring its early symptoms could also lead to the development of serious conditions such as irreversible damage to the kidneys and bladder as well as kidney stone formation.

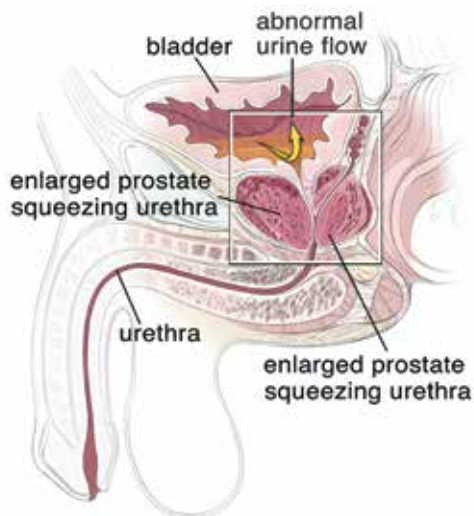
WHAT CAUSES AN ENLARGED PROSTATE?

Benign Prostatic Hyperplasia (BPH) is related to the normal aging process and is influenced by changes in the body's levels of the male hormone testosterone. In some cases, an enlarged prostate may also be genetic. More than half of men age 50 and older and 90 percent of men age 80 and older have enlarged prostate.

Normal Prostate



Enlarged Prostate / BPH



SYMPTOMS OF AN ENLARGED PROSTATE/BPH

While some men with an enlarged prostate experience no symptoms, many others may experience a variety of urinary symptoms that can range from mild and barely noticeable to severe and life-altering.

Some of the more common symptoms men with enlarged prostate experience include:

- Recurring, sudden need to urinate.
- Increasingly frequent urination, especially at night.
- Weak or interrupted urine stream.
- Difficulty starting urination.
- Urine leakage (urinary incontinence).
- Inability to completely empty the bladder.

Caffeine, alcohol, spicy or acidic foods, certain cold and pain medications, and constipation can make symptoms worse. Left untreated, symptoms may worsen over time and can cause complications that may include inability to urinate (urinary retention), bladder or kidney damage, bladder stones or urinary tract infections.

Men experiencing any of these urinary symptoms should have a thorough evaluation performed by a urologist as other conditions such as a urinary tract infection, prostatitis (inflammation of the prostate), overactive bladder, prostate cancer and diabetes can cause similar symptoms.

A man is most likely to develop enlarged prostate when he has the following risk factors: lack of physical activity, obesity, increasing age, recurring erectile dysfunction, and family history of the same condition.

DIAGNOSING ENLARGED PROSTATE/BPH

The first step to diagnosing enlarged prostate is to see a urologist experienced in treating enlarged prostate. Your doctor will take a complete medical history and perform a physical exam, urinalysis, as well as a digital rectal exam (DRE). Your urologist may order blood work that includes a prostate specific antigen (PSA) test. Elevated levels of PSA can indicate enlarged prostate, prostatitis (prostate inflammation) or prostate cancer. Through this comprehensive evaluation, your urologist will determine whether your urinary symptoms are indeed caused by enlarged prostate and next steps to treating your urinary symptoms.

Additional tests to make the most accurate diagnosis may include:

- **Pelvic ultrasound:** Ultrasound to assess prostate size. This test is also useful to assess bladder emptying and thickness.
- **Uroflow:** Measures the flow of your urine stream and is often performed in patients who have an obstruction or other problems with urination.
- **Bladder Scan (post void residual):** A non-invasive ultrasound test that assesses the ability of the bladder to empty.
- **Cystoscopy:** A small telescope is gently inserted through the penis and into the bladder to assess prostate shape and anatomy as well as look for bladder stones, tumors, and signs of obstruction or other abnormalities.
- **Urocuff:** A non-invasive pressure flow test that is critical to the assessment of bladder function and to identify a possible obstruction.
- **Urodynamics:** A procedure which helps determine whether a blockage of the prostate is the cause of your urinary symptoms. This test is also useful to assess bladder function.

TREATMENT FOR ENLARGED PROSTATE/BPH

Treatment for enlarged prostate focuses on alleviating bothersome symptoms and will depend on the severity of your symptoms, how much they interfere with your lifestyle and initial test results. Men with minimal urinary issues may only need to make lifestyle changes; those with more pronounced symptoms or complications from an enlarged prostate may require medication or a minimally invasive procedure to restore urinary function and quality of life. Your doctor can help you determine which treatment is most appropriate for you.

Lifestyle Changes

- Avoid caffeine, acidic drinks such as sodas, tomato and orange juices, and alcohol. Cold medications containing antihistamines or pseudoephedrine can cause urinary problems. Constipation can also make it more difficult to urinate.
- Limit evening beverages and urinate when you first feel the urge.

Medications for Enlarged Prostate/BPH

Your doctor may prescribe one, or a combination of, medications that can help alleviate many of your urinary symptoms caused by your enlarged prostate. Medications often have some side effects, so talk to your urologist about which medication is right for you.

Medications for enlarged prostate may include:

- **Alpha blockers** such as tamsulosin (Flomax) to relax the smooth muscle tissue in the bladder and prostate, making it easier to urinate.

Potential side effects may include: headaches, dizziness, light-headedness, fatigue, ejaculatory dysfunction, and a possible increased risk of stroke or dementia.

- **Enzyme (5-alpha reductase) inhibitors**, such as Avodart and Finasteride (Proscar), shrink the prostate by preventing the conversion of testosterone to dihydrotestosterone, a key ingredient in prostate enlargement. These medications are only indicated for men with significantly enlarged prostates. Typically, these medications work by reducing the size of the prostate to help alleviate symptoms such as difficulty beginning urine flow, weak stream, and urinary urgency, and may take several months to work.

Potential side effects may include: erectile dysfunction, decreased libido, reduced semen release during ejaculation, depression, and occasional breast tenderness.

- **Tadalafil (Cialis)** once a day may help with frequency and urgency and can be used to treat erectile dysfunction as well as BPH symptoms.

Potential side effects: Flushing, headache, upset stomach, nausea, low blood pressure, dizziness, vision changes, and prolonged erection.

- **Anticholinergics** to relax the bladder muscle and reduce frequency and urgency.

Potential side effects may include: dry mouth, constipation, blurry vision, drowsiness, and memory impairment.

MINIMALLY INVASIVE AND SURGICAL TREATMENTS FOR ENLARGED PROSTATE/BPH

Specialized procedures to treat enlarged prostate are excellent and effective alternatives to long-term medication therapy, often with quick results, fewer side effects and improved quality of life.

The UroLift® System

The UroLift System treatment is an excellent alternative to long term medications and traditional surgery to treat BPH. This minimally invasive approach to treating BPH lifts or holds the enlarged prostate tissue out of the way so it no longer blocks the urethra, relieving urinary symptoms. Permanent implants are inserted utilizing a special delivery device and act like “window curtain tie-backs,” holding the lobes of the enlarged prostate open to relieve obstruction of the urethra. Unlike other prostate procedures, there is no cutting, heating, or removal of prostate tissue involved in this minimally invasive procedure, which minimizes recovery time.

Advantages of the UroLift System:

- Minimally invasive procedure with minimal downtime in normal daily activities.
- Outpatient procedure which can be done under local or light sedation.
- Typically, catheter placement is not needed.
- Only treatment that preserves sexual function – typically, no sexual side effects such as erectile dysfunction or ejaculatory dysfunction.
- Covered by almost all insurance carriers, and reduces ongoing medication costs.
- Lower urinary tract symptom relief in as early as two weeks after treatment.

Recovery may include:

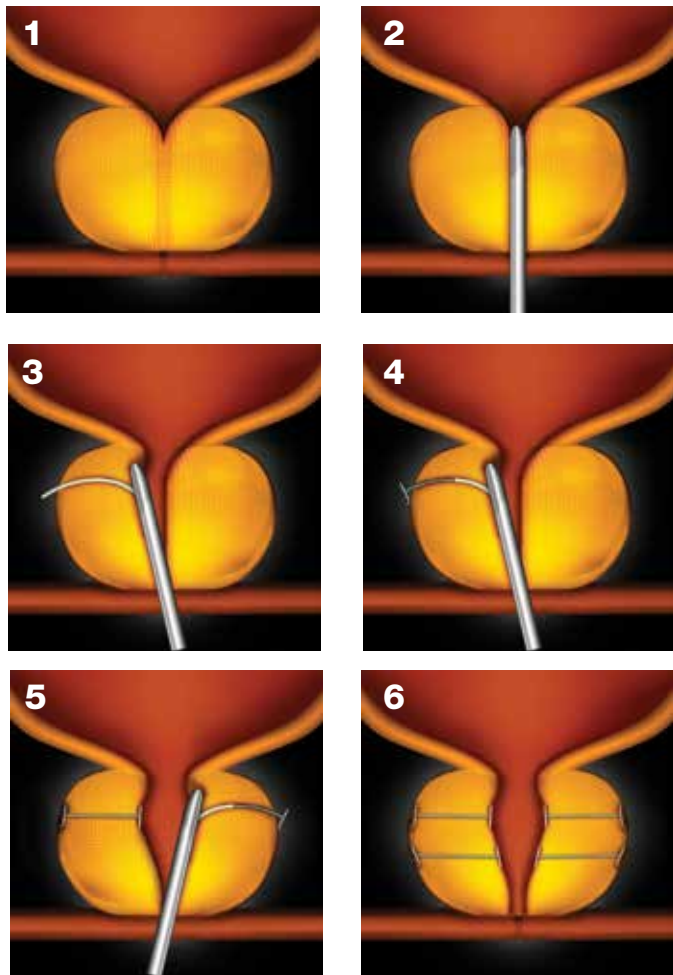
- Hematuria (blood in urine).
- Temporary urinary urgency.
- Temporary pelvic pain.

How UroLift Works:

Step 1: The UroLift delivery device is placed through the urethra to access the enlarged prostate.

Step 2: UroLift implants are permanently placed to hold the enlarged prostate tissue out of the way and increase the opening of the urethra.

Step 3: The UroLift delivery device is removed.

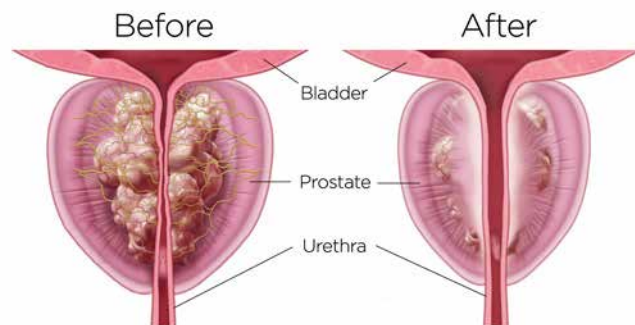


The REZŪM® System

Rezūm is a simple and effective office-based treatment that uses thermal energy in water vapor to reduce and shrink obstructive tissue surrounding the prostate. This minimally invasive procedure reduces the obstruction from the prostate and minimizes unwanted sexual side effects sometimes experienced with medications or other more invasive procedures.

How Rezūm works

- A thin device, similar in shape and size to a cystoscope, is inserted into the urethra. A small amount of sterile water is then heated within this device's inductive coil to create stored thermal energy in the form of water vapor.
- Using sterile water vapor (steam), targeted and controlled doses of stored thermal energy are delivered directly to the region of the prostate gland with the obstructive tissue that causes BPH.
- Water vapor is delivered directly into the enlarged tissue that is causing the obstruction, and dispersed through the spaces in the tissue, causing the obstructive tissue to die.
- The tissue that was causing compression of the urethra is reduced, enabling improved urine flow.



Benefits of Rezūm

Rezūm water vapor therapy has been proven to provide patients with significant improvement in BPH symptoms, including frequency, urgency, weak stream, straining to urinate and nocturia (frequent nighttime urination) while preserving erectile function and urinary continence. Usually patients will note improvement in as early as two weeks, although maximum benefit will be in three months.

- The Rezūm treatment is minimally invasive.
- The procedure takes less than a half hour and can be done awake with local anesthesia or under light sedation.
- Rezūm is an outpatient procedure performed in your urologist's office or in an ambulatory surgery center.
- Rezūm is covered by most insurance plans.

Recovery may include:

- Hematuria (blood in the urine).
- Temporary discomfort during urination.
- Temporary increase in urinary frequency.
- Retrograde ejaculation.

As many as 50% of men experience symptoms of an enlarged prostate by age 60, and 90% of men will report symptoms by age 85.

Source: National Association for Continence

Laser Vaporization of the Prostate

Laser vaporization of the prostate (utilizing GreenLight™ Laser Therapy) is a technique that uses a special laser to heat and vaporize the prostate tissue that is obstructing part of the urethra.

Most men are good candidates for laser vaporization therapy, which is an outpatient procedure performed in an ambulatory surgery center. In this procedure, a small fiber is inserted into the urethra through a cystoscope. Laser energy is delivered through the fiber to remove the enlarged prostate tissue, restoring natural urine flow and relieving symptoms of enlarged prostate quickly.

Advantages of Laser Vaporization Therapy:

- The procedure is minimally invasive and performed on an outpatient basis.
- Most men return home only a few hours after the procedure.
- Quick recovery and return to normal activities.
- Normal urine flow is restored quickly.
- Very few long term side effects.
- Long-lasting relief from bothersome urinary symptoms.

Risks:

Some patients may experience side effects from laser vaporization treatment such as:

- Urinary tract infection (UTI).
- Retrograde ejaculation (semen released through ejaculation goes into the bladder rather than out of the penis, which can inhibit fertility). This results in a dry climax.

Aquablation Therapy

Chesapeake Urology was the first in Maryland to utilize the innovative treatment called Aquablation Therapy. This hospital-based robotic procedure removes prostate tissue using a heat-free water jet controlled by robotic technology.

How Aquablation Therapy Works:

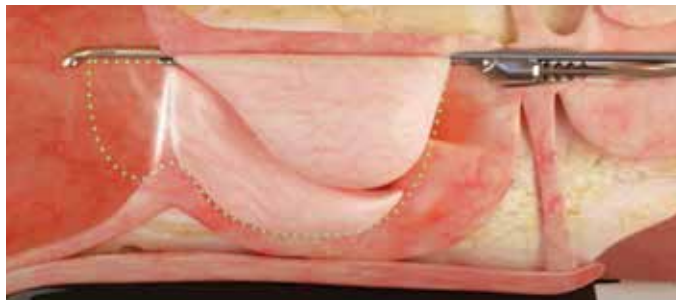
Aquablation combines a camera (cystoscope) with ultrasound imaging to provide your surgeon the ability to see the entire prostate in real-time. Ultrasound imaging allows the surgeon to map out the portion of the prostate tissue to be removed.

Once the prostate gland is mapped, your surgeon utilizes a robotically controlled heat-free water jet to remove the designated prostate tissue. Robotic technology ensures precise removal of the mapped prostate tissue while leaving healthy tissue intact.

STEP 1. CREATING A SURGICAL MAP



STEP 2. REMOVING THE PROSTATE TISSUE



Benefits of Aquablation:

- Very low rate of complications and sexual side effects such as erectile dysfunction, ejaculatory dysfunction, and urinary incontinence.
- The use of a camera (cystoscope) and ultrasound imaging provides a real-time view of the entire prostate, enabling your surgeon to accurately map out only the section of the prostate to be removed.
- Aquablation is the only heat-free BPH procedure to remove prostate tissue, contributing to the treatment's extremely low rate of sexual and urinary complications.
- Robotic technology ensures that prostate tissue is removed precisely.
- Clinical studies have shown that Aquablation Therapy provides long-term relief of BPH symptoms.

Recovery may include:

- Use of a catheter.
- Typically, patients stay overnight in the hospital.
- Mild burning during urination for a couple of weeks.

Minimally invasive surgical procedures performed by an experienced urologist seek to open a passage through the prostate to allow urine to flow with less effort. Many are called “transurethral” because instruments are passed through the opening at the tip of the penis and into the urethra.

Transurethral Resection of the Prostate (TURP)

In this surgical procedure, obstructing prostate tissue is removed using an instrument called a resectoscope, which is inserted through the urethra. This procedure is very effective at resolving urinary symptoms and has been used for many decades with significant recent advances in safety/efficacy. Using the resectoscope, your doctor can remove the prostate tissue that is blocking the flow of urine. This technique is effective at resolving urinary symptoms caused by an enlarged prostate. TURP is typically performed in an ambulatory surgery center (ASC), although in some cases, it may be performed in a hospital.

Side effects of TURP may include:

- Blood clots.
- Retrograde ejaculation/reduction of semen emission (semen released through ejaculation goes into the bladder rather than out of the penis, which can inhibit fertility).
- Erectile dysfunction, which is less common.
- Mild hematuria.
- Urinary tract infection (UTI).
- Temporary difficulty urinating, which usually resolves a few days after the procedure.

Robotic Suprapubic Prostatectomy

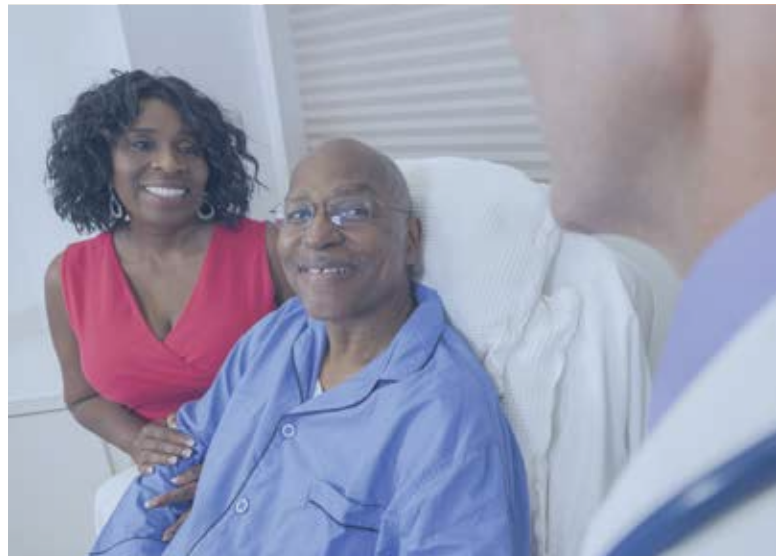
Typically used for extremely large prostate glands, this is a hospital-based laparoscopic surgical procedure to remove the obstructing prostate.

CLINICAL TRIALS FOR ENLARGED PROSTATE/BPH

A clinical trial is a carefully designed research study that investigates the effectiveness and safety of new and experimental drugs and specific treatments for a particular disease. Well-designed clinical trials are the fastest way to find treatments for a variety of diseases and conditions.

A clinical trial follows a specific protocol of tests, medications and procedures for a specified duration of time. One trial may take place in multiple locations throughout a region or even throughout the country, but they all follow the same protocol in each location to ensure uniform results. Participants are closely monitored by knowledgeable, experienced physicians (investigators) and clinical research coordinators.

Patients enrolled in a research study must meet a standard set of criteria to be eligible for the trial. To learn more about clinical trials for enlarged prostate/BPH visit our website at www.chesapeakeurology.com.



FREQUENTLY ASKED QUESTIONS ABOUT ENLARGED PROSTATE/BPH

Q: How common is enlarged prostate in men?

A: BPH or enlarged prostate is quite common as men age. In fact, according to the National Association for Continence, as many as 50% of men experience symptoms of an enlarged prostate by age 60, and 90% of men will report symptoms by age 85.

Q: Does an enlarged prostate mean I have prostate cancer?

A: No. Enlarged prostate is a benign (non-cancerous) and common condition in men as they age and does not indicate prostate cancer. Your doctor will perform a thorough physical evaluation and perform tests such as a digital rectal exam and PSA test to rule out other conditions that could be causing your urinary symptoms, including prostate cancer.

Q: Are there new treatments for BPH on the horizon?

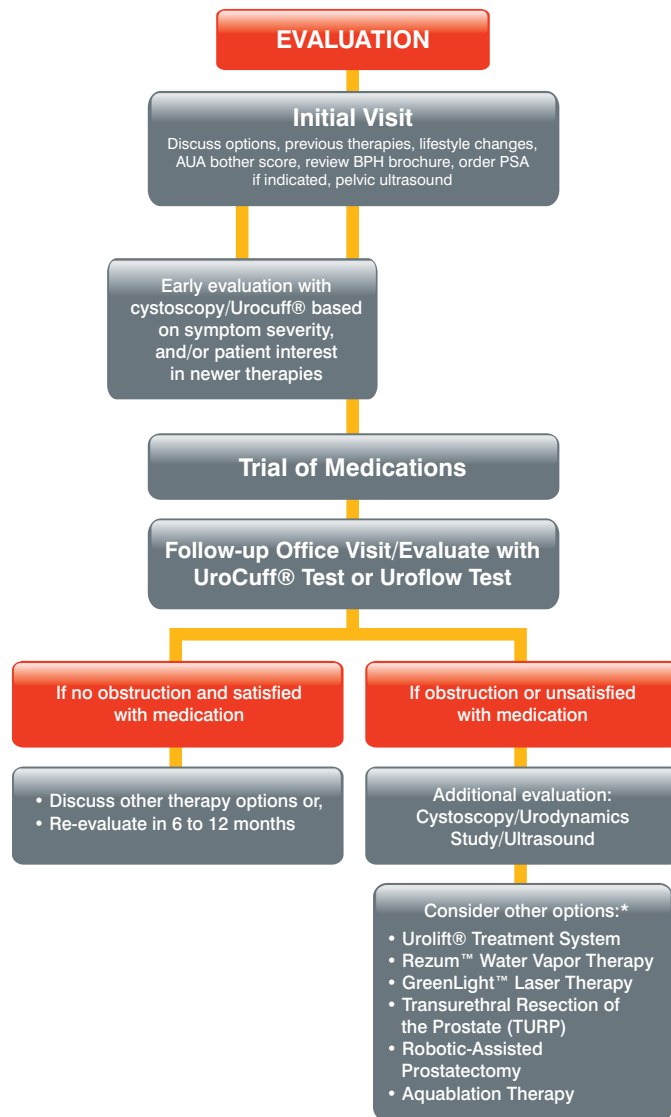
A: Yes. New therapies are currently being explored including:

- **Prostatic Artery Embolization (PAE)**, a minimally invasive treatment performed by an interventional radiologist that helps improve BPH symptoms without sexual side effects. Microscopic, plastic beads are released into the arteries that feed the prostate gland. Once inside the prostatic arteries, these beads block the blood flow to the regions of the prostate affected by BPH, reducing swelling in the gland that causes urinary symptoms.
- **iTind (Temporarily Implanted Nitinol Device)** is a minimally invasive therapy that utilizes a temporary device to gently reshape the urethra, widening the opening so urine can flow freely. The outpatient procedure is performed by a urologist and does not involve cutting, burning, or a permanent implant. After 5 to 7 days, the device is completely removed, resulting in rapid symptom relief.

BPH PATHWAY CHART

Once you have been evaluated and diagnosed with BPH, your physician will develop a personalized treatment plan that is right for you and the symptoms you are experiencing.

What can you expect? Our BPH treatment pathway looks like this:



*Dependent upon prostate anatomy and discussion with physician.