## Latest Treatments for an Enlarged Prostate

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### Stephen Siegel, MD

**Boulder Medical Center, Boulder, CO** 

#### **UNDERGRADUTE EDUCATION:**

**Duke University** 

#### **MEDICAL EDUCATION:**

**Vanderbilt University School of Medicine** 

#### **INTERNSHIPS & RESIDENCY:**

Yale - New Haven Hospital

#### PRACTICE:

**Boulder Medical Center** 

#### **HOBBIES**

Guitar, Hiking

## Today's Agenda



Overview of Benign Prostatic Hyperplasia (BPH)

Diagnosing BPH

**BPH Treatment Options** 

The UroLift™ System Procedure

Aquablation Procedure



## Understanding Benign Prostatic Hyperplasia

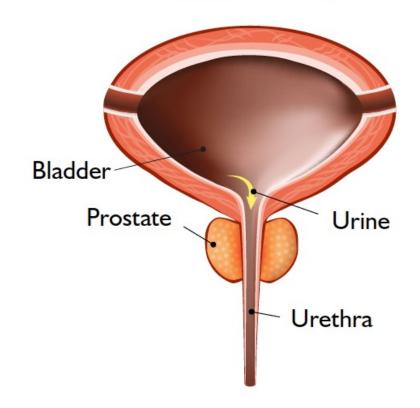




#### Overview of the Prostate

- Walnut-sized gland that is a part of the male reproductive system.
- Produces fluid that transports sperm during ejaculation.
- Wraps around the urethra near the bladder and can grow larger as men age.

#### **Normal Prostate**



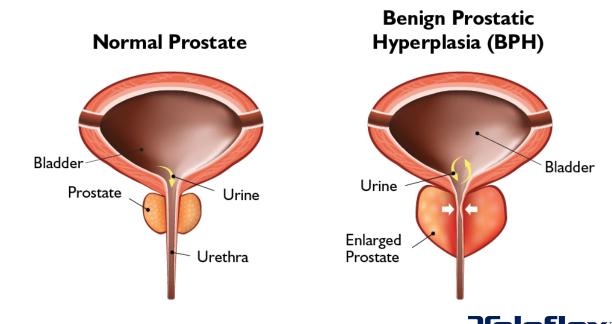


### Benign Prostatic Hyperplasia

Benign prostatic hyperplasia (BPH), also known as an enlarged prostate, is a progressive condition in which the prostate gets bigger as men get older.

While BPH is *not* prostate cancer, it can greatly affect a man's quality of life.

Over 40% of men in their 50s and over 70% of men in their 60s have BPH.



#### DEFINING THE SYMPTOMS OF BPH





1

#### **ABILITY TO HOLD URINE**

**Urgency:** the need to urinate immediately or urgently

**Frequency:** the need to urinate more often than normal

Nocturia: the need to urinate frequently while sleeping

**Incontinence:** complete loss of the ability to hold urine

2

#### **EMPTYING THE BLADDER**

**Straining:** the need to push to start or complete urinating

Dysuria: pain or stinging while urinating

**Hesitancy:** difficulty starting to urinate

Weak Stream: gentle instead of a strong stream of urine

**Intermittency:** a urine stream that starts and stops

**Retention:** complete loss of the ability to empty the bladder

ON QUALITY OF

LIFE

**Disrupted Sleep:** related consequences to interrupted sleep

Limited Activities: restricted by proximity to a bathroom

**Sexual Dysfunction:** impact on erectile or ejaculatory function

### Protecting Bladder Health Through Earlier Intervention

If left untreated, BPH can get worse and over time may lead to permanent bladder damage due to the obstruction<sup>1</sup>



Intervening earlier with treatments that address the blockage may preserve bladder health.<sup>2</sup>



<sup>1.</sup> Tubaro, Drugs Aging 2003;

<sup>2.</sup> Flanigan, J Urol 1998

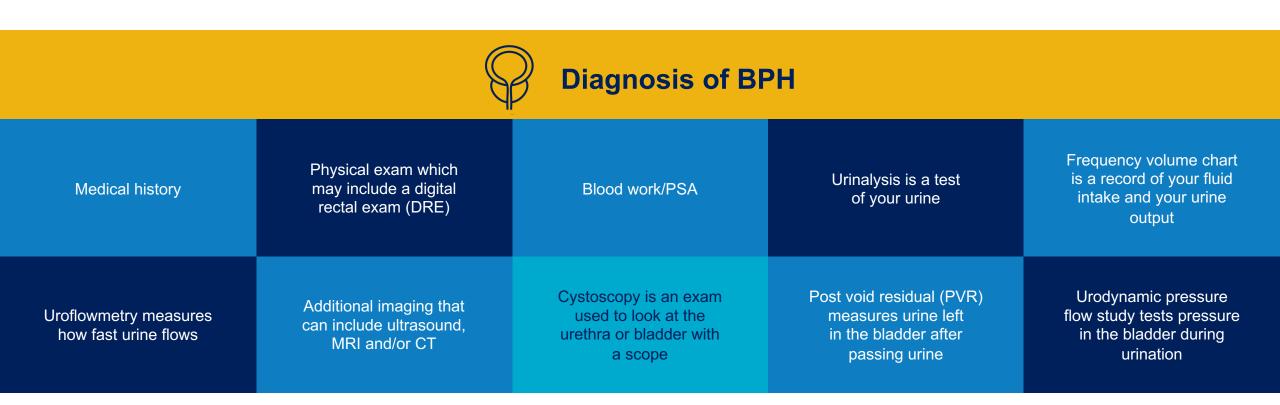
## Diagnosing BPH





### How Can BPH Be Diagnosed?

Physicians may use a variety of tests and examinations to diagnose BPH





## International Prostate Symptom Score (IPSS)

## Help determine severity of your urinary symptoms

- Urgency
- Frequency
- Incomplete emptying
- Intermittency
- Weak stream
- Straining
- Frequent nighttime urination

#### **Assess quality of life**

#### How is the IPSS scored?

0-7 | Mild

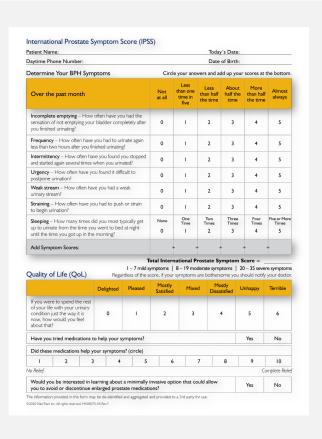
8-19 | Moderate

20-35 | Severe

How is Quality of Life scored?

0-6

Regardless of the score, if your symptoms are bothersome, you should notify your doctor



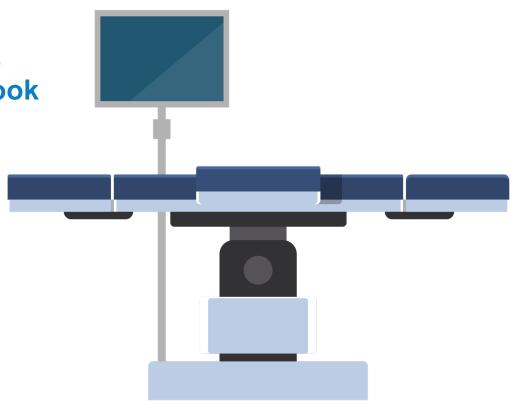


## Cystoscopy – A Valuable Diagnostic Tool



This brief procedure typically takes about 5 minutes. It uses a thin, lighted tube to look inside your bladder and urethra to:

- Assess bladder health
- Diagnose an enlarged prostate (BPH)
- Assess which BPH procedure may be most appropriate for you
- Rule out other bladder conditions





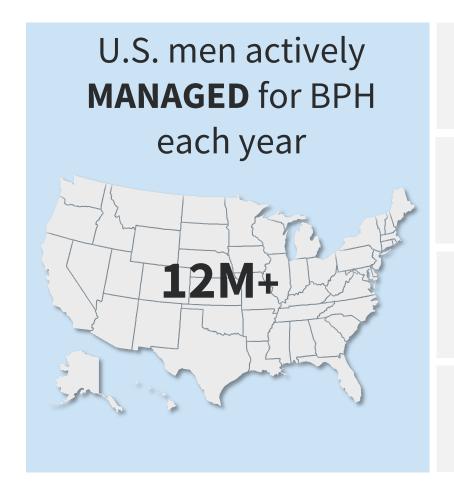
## **Treatment Options**





### BPH SURGICAL MARKET IS UNDERSERVED & EXPECTED TO GROW





**US EXAMPLE** 

4.3M

**WATCHFUL WAITERS** 

Choose to do nothing and suffer BPH symptoms

6.7M

**PHARMACEUTICALS** 

Suffer dosing adjustments and side effects

**1.1M** 

PHARMACEUTICAL FALLOUT

 Delay surgery despite medication failure

400K

**SURGERIES PER YEAR** 

Compromise between safety and efficacy outcomes

Vuichoud, C, Loughlin, K. Benign prostatic hyperplasia: epidemiology, economics and evaluation. Can J Urol. 2015 Oct;22 Suppl 1:1-6.

Emberton, M, et al. Understanding patient and physician perceptions of benign prostatic hyperplasia in Europe; the Prostate Research on Behaviour and Education (PROBE) Survey. Int J Clin Pract, January 2008, 62, 1, 18–26 Kaplan, SA. Factors in Predicting Failure with Medical Therapy for BPH. Rev Urol. 2005;7 Suppl 7:S34-9.

## **Treatment Options**



#### Watchful waiting

Monitor your condition before considering other treatments



#### **Medications**

Your doctor may prescribe one or more medications. such as an alpha blocker and/or a 5-alpha reductase inhibitor, to manage your symptoms



#### **UroLift**<sup>™</sup> System

Uses small implants to lift and hold the enlarged prostate tissue out of the way



#### **Thermotherapies**

Uses heat energy such as microwave, radiofrequency, or steam/water vapor to destroy obstructing prostate tissue



#### Laser

Concentrated light is used to generate precise, intense heat to destroy excess prostate tissue



#### Waterjet ablation

A high-velocity waterjet is used to destroy excess prostate tissue, using away a section of an image-guided robotic arm



#### Surgery

Surgical procedure that involves cutting the prostate

**Least invasive** 

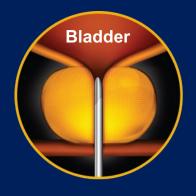
**Most invasive** 



## The UroLift<sup>™</sup> System

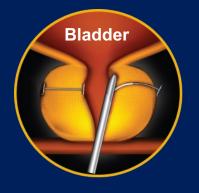


## How the UroLift<sup>™</sup> System Works



#### Step 1

The UroLift™ Delivery
Device is placed
through the obstructed
urethra
to access the
enlarged prostate.



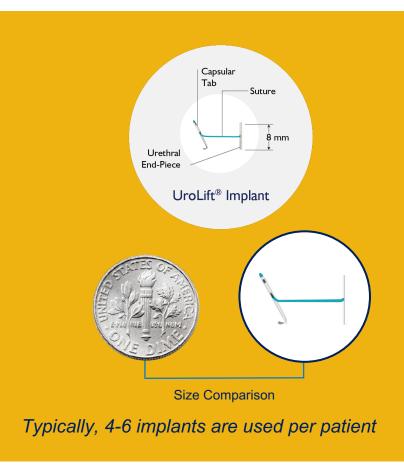
Step 2

Small implants are permanently placed to lift and hold the enlarged prostate tissue out of the way and increase the opening of the urethra.



Step 3

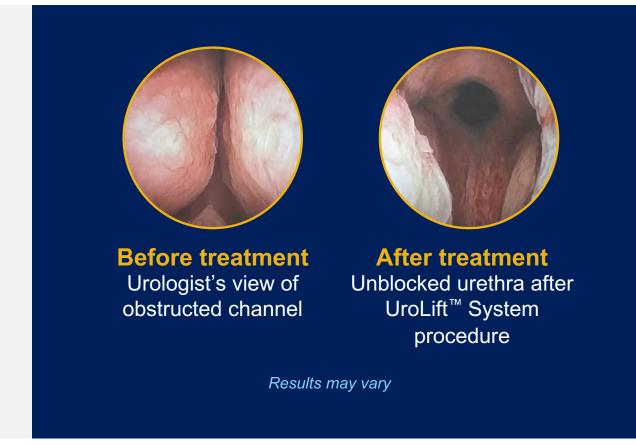
The UroLift System procedure provides symptom relief by opening the obstructed urethra.





## What to Expect During the Procedure

- May be performed in a doctor's office, an ambulatory surgical center, or hospital
- Local anesthesia, moderate sedation (twilight sleep) or general anesthesia may be used
- Length of the procedure varies based on the patient's anatomy and number of prostatic implants required
- The doctor introduces a thin tube through the urethra and places implants into the prostate until a sufficient opening is achieved





### What to Expect After the Procedure

- Patients typically go home the same day without a catheter<sup>1,2</sup>
- Minimal downtime post procedure, and many patients experience symptom relief in as early as 2 weeks<sup>1,2</sup>
- Most common side effects are temporary and can include discomfort when urinating, urgency, an inability to control the urge, pelvic pain, and some blood in the urine.\*1 Rare side effects, including bleeding and infection, may lead to a serious outcome and may require intervention.

#### **Medications**

Your urologist will discuss the use of any medications, which may include antibiotics, to take after the procedure.

#### **Complications**

Once at home, if you need immediate attention, go to the hospital emergency room for care.



<sup>\*</sup> Most symptoms typically resolve within two to four weeks after the procedure.

<sup>1.</sup> Roehrborn, J Urology 2013;

<sup>2.</sup> Shore, Can J Urol 2014

## **AQUABLATION®**

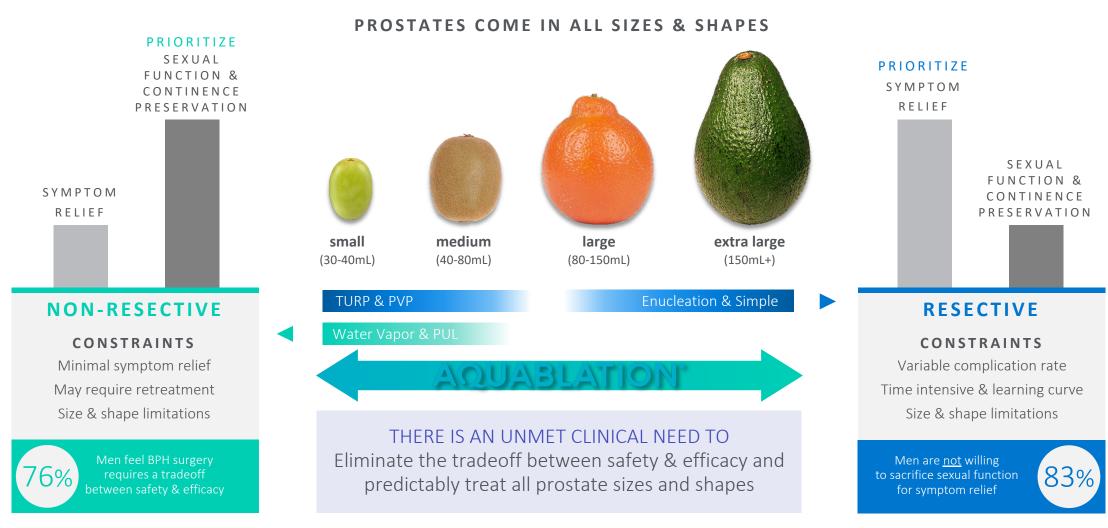
Therapy by **PROCEPT BioRobotics** 

# THE BPH TREATMENT OF CHOICE FOR ALL PROSTATES



## PATIENTS ARE COMPROMISING OUTCOMES DUE TO TECHNOLOGY CONSTRAINTS





BPH size ranges: AUA Guidelines: Surgical Management of BPH/Lower Urinary Tract Symptoms Published 2018, Amended 2019, 2020. 76% and 83% Statistics: Data on file at PROCEPT BioRobotics

Aquablation therapy offers long-term symptom relief with low rates of irreversible complications

#### **AQUABLATION THERAPY**







#### REAL-TIME IMAGE GUIDANCE

Intraoperative ultrasound imaging combined with cystoscopic visualization provide a multidimensional view of the treatment area



#### PERSONALIZED TREATMENT PLANNING

Advanced planning software allows the surgeon to map the treatment contour by identifying tissue to preserve and resect



#### **AUTOMATED ROBOTIC EXECUTION**

Robotic execution of the waterjet along the treatment plan results in standardized outcomes and operative experience



#### **HEAT-FREE WATERJET RESECTION**

Heat-free waterjet precisely removes prostate tissue and minimizes thermal damage to surrounding tissue





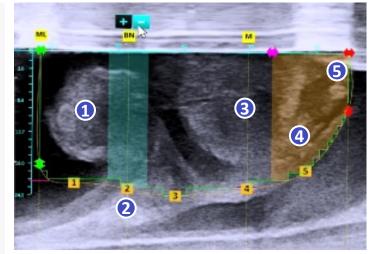
### PERSONALIZED TREATMENT PLANNING

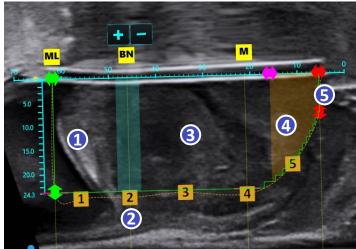


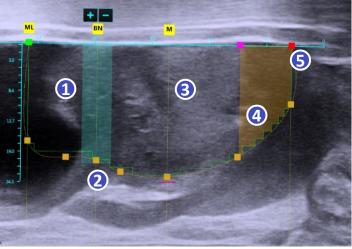
#### **IDENTIFY CRITICAL ANATOMY**

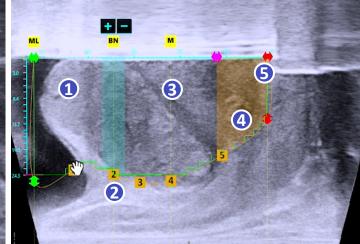
- (1) MEDIAN LOBE | RESECT
- (2) BLADDER NECK | PRESERVE
- (3) LATERAL LOBE | RESECT
- 4 VERUMONTANUM | PRESERVE
- 5 EXTERNAL SPHINCTER | PRESERVE

**CREATE TREATMENT CONTOUR** 









## Aquablation Before and During

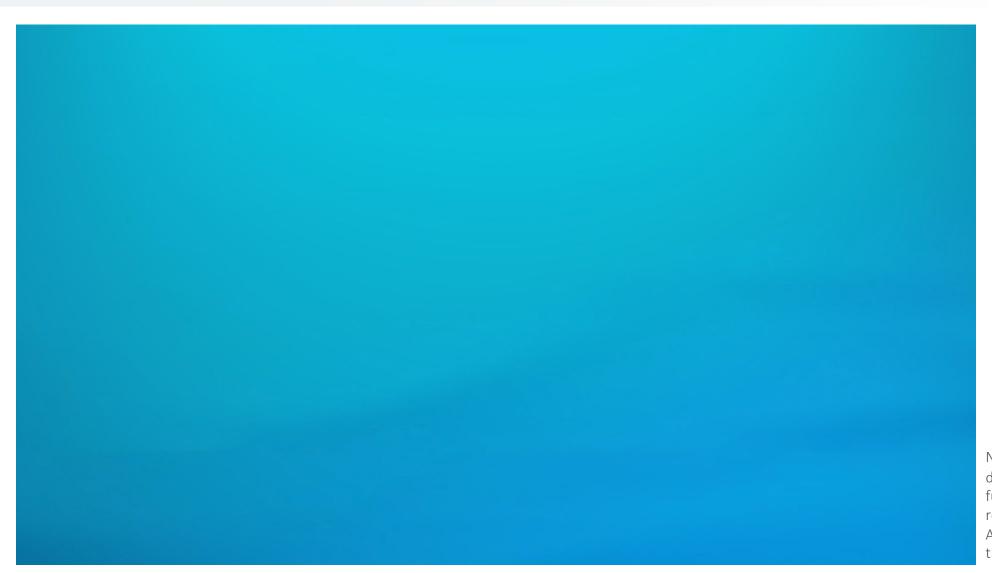






### AQUABLATION THERAPY PROCEDURE | ANIMATION





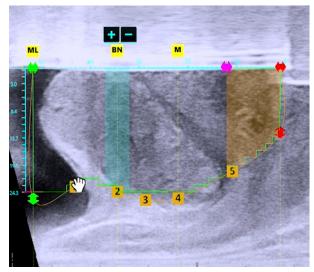
Note: Animation does not represent full draping required during Aquablation therapy.

### AQUABLATION THERAPY RESULTS

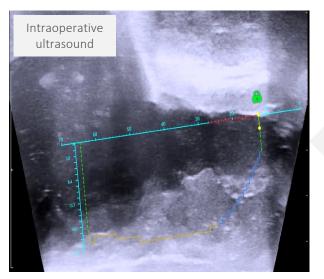


**BEFORE**Obstructed Prostatic Urethra









AFTER
Open Prostatic Urethra

Sample results shown here

#### NOTE ON RECOVERY



- Patient will wake up with a catheter.
- Patients typically stay overnight in the hospital.
- Most Aquablation therapy patients end up leaving the hospital without a catheter.<sup>1,2,3</sup>
- Some patients may experience mild burning during urination for the first few weeks.
- Patients may resume normal activities once approved by their doctor.

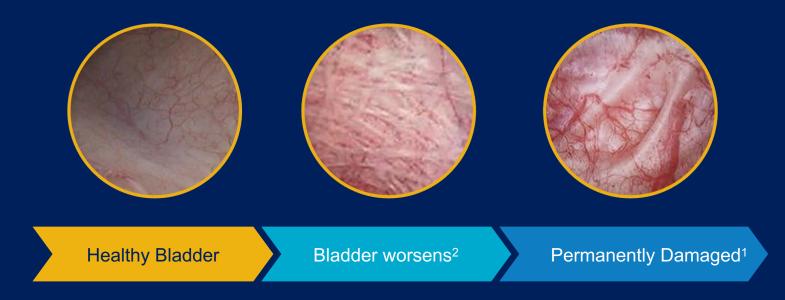
<sup>1.</sup> Gilling et al. Five-year outcomes for Aquablation therapy compared to TURP: a randomized controlled trial in men with LUTS due to BPH Can J Urol 2022; 29(1):10960-10968.

<sup>2.</sup> Zorn KC, Bidair M, Trainer A, Arther A, Kramolowsky E, Desai M, et al. Aquablation therapyin large prostates (80–150 cc) for lower urinary tractsymptoms due to benign prostatic hyperplasia: WATER II 3-year trial results. BJUI Compass. 2022;3(2):130–138.

3. Data on File at PROCEPT BioRobotics

### Protecting Bladder Health Through Earlier Intervention

If left untreated, BPH can get worse and over time may lead to permanent bladder damage due to the obstruction<sup>1</sup>



Intervening earlier with treatments that address the blockage may preserve bladder health.<sup>2</sup>



<sup>1.</sup> Tubaro, Drugs Aging 2003;

<sup>2.</sup> Flanigan, J Urol 1998



## Questions?



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