

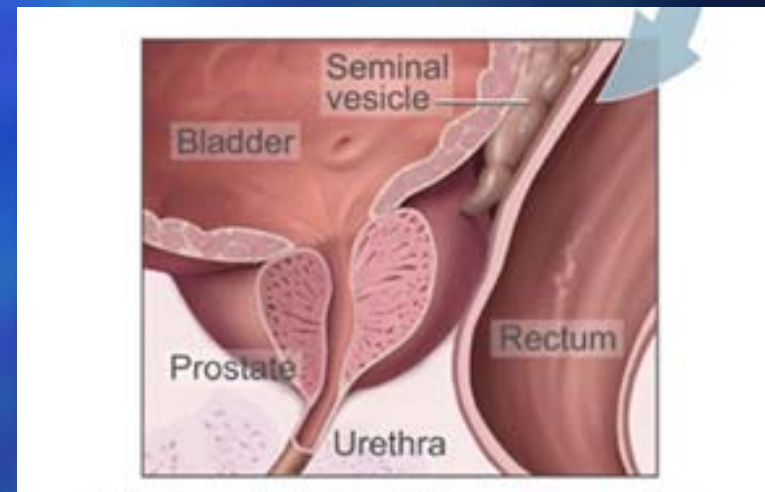
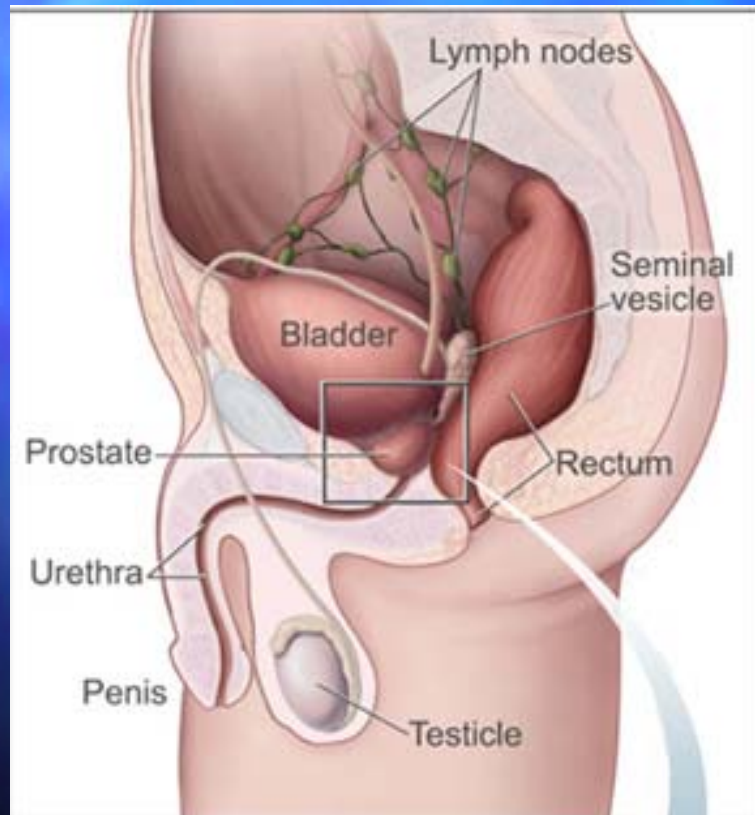
BPH Management

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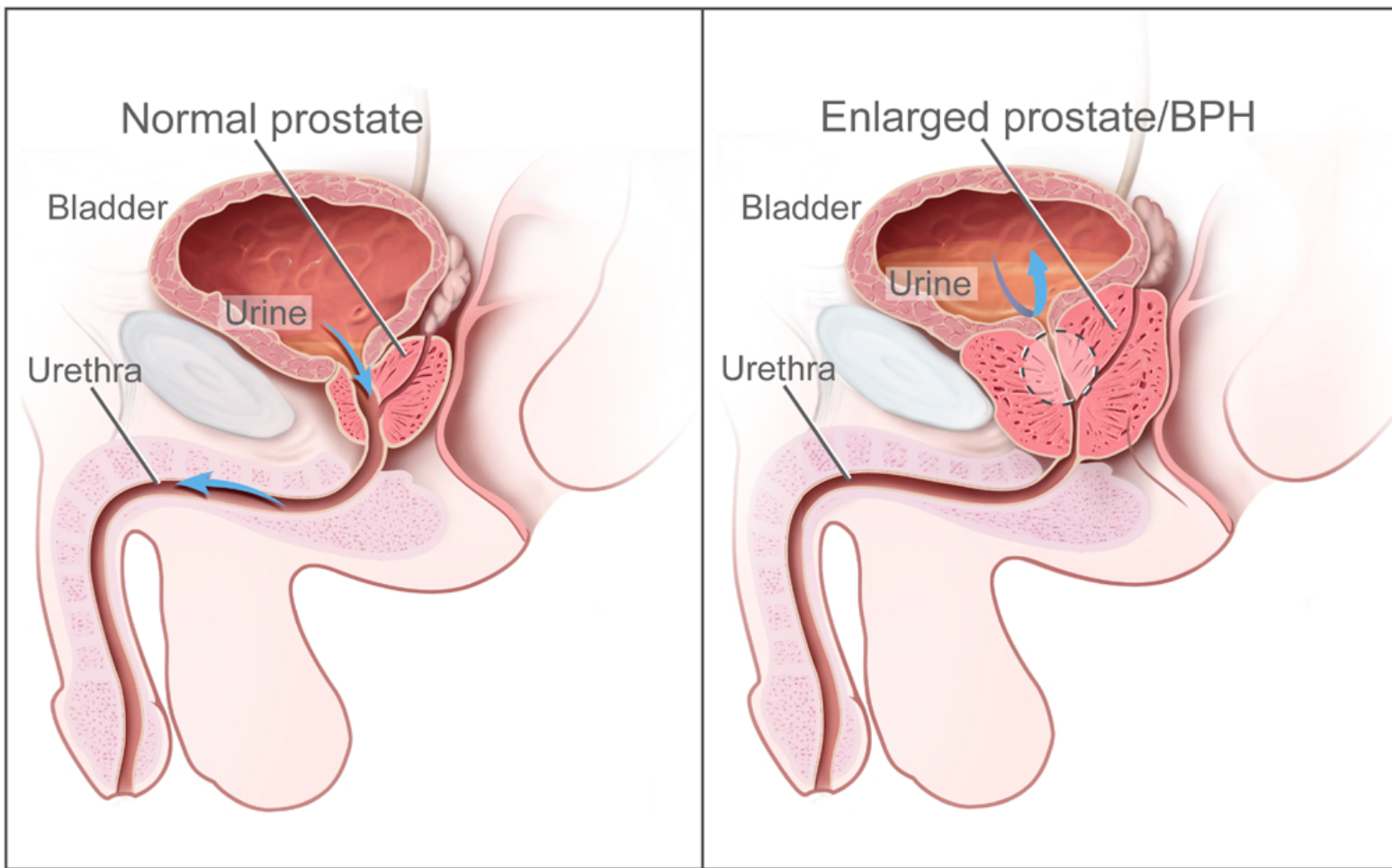
The Prostate – Location and Function



What is BPH?

- Benign Prostatic Hyperplasia
- Increased prostate cell growth within the transition zone of the prostate
- Usually develops after age 40
- Histologic prevalence approximately equal to age

What is BPH?



Effect of BPH in the USA

- 6.5 million white men have BPH
- 1.1 billion dollars of directly spend for this condition in 2000
- “Baby Boom” generation is aging (2000-2005)
 - $<55 = +3.2\%$
 - $55-64 = +25\%$
 - $65-74 = +2.4\%$
 - $75-84 = +5.6\%$
 - $85+ = +20.2\%$

Effect of BPH in the USA

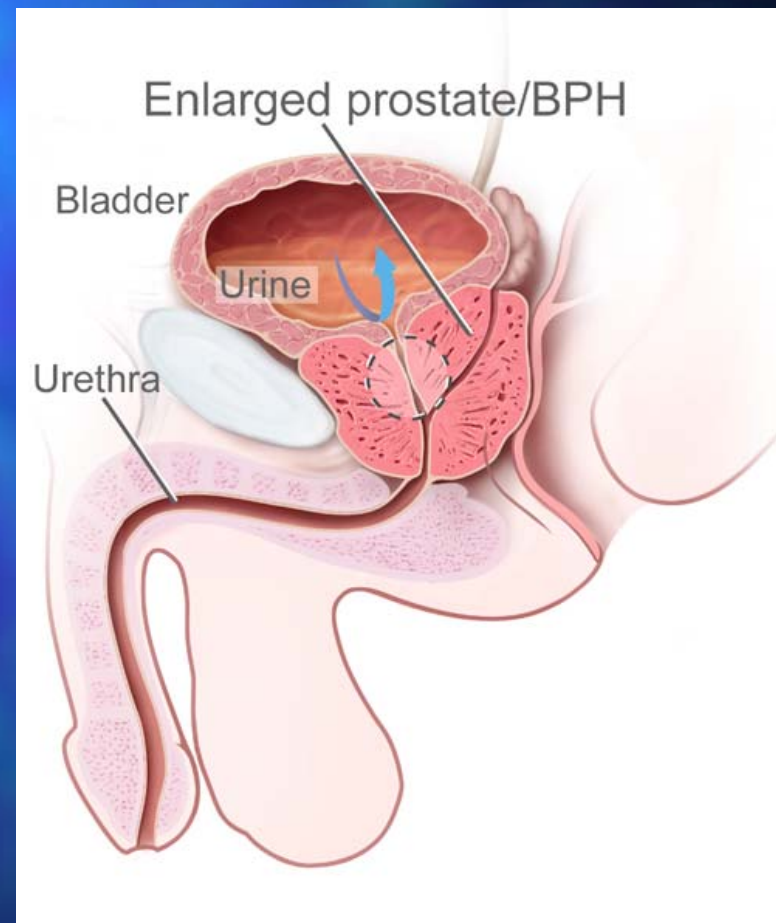
- Quality of life impairments
 - Physical functioning
 - General health perception + Vitality
 - Role limitations due to emotional problems
 - Mental Health
 - Social Functioning
- Quality of life impairments similar/worse than
 - Gout
 - HTN
 - Angina
 - Diabetes

Lower Urinary Tract Symptoms (LUTS)

- Irritative
 - Frequency
 - Urgency
 - Nocturia
- Obstructive
 - Hesitancy
 - Weak Stream
 - Dribbling
 - Sensation of Incomplete Emptying

Potential Sequelae of BPH

- Bladder Damage
- Urinary Tract Infection (UTI)
- Kidney Damage
- Bladder Stones
- Prostate Bleeding



Evaluation for BPH

- History
- AUA Symptom Score / IPSS
- Physical Exam with Digital Rectal Exam
- Urinalysis
- Ultrasound Post Void Residual
- PSA Test
- Voiding Diary

AUA/IPSS Score

- Seven item questionnaire addressing:
 - Incomplete emptying
 - Frequency
 - Intermittency
 - Urgency
 - Weak Stream
 - Straining
 - Nocturia
- Scored from 0-35
- $IPSS = AUA \text{ score} + QOL \text{ question}$

AUA/IPSS Score

- 0-7 = Mild
- 8-19 = Moderate
- 20-35 = Severe

Prostate Pal

- Mobile technology is becoming standard
- Free app without ads for Apple and Android
 - Voiding Diary
 - AUA Symptom Score
 - PSA tracker
- Named a “New and Noteworthy” medical app in Apple App Store
- Highlighted in story by Associated Press in national media outlets

Prostate Pal

Welcome to Prostate Pal

My Data

Today's Output	0 cc
Today's Intake	0 cc
Latest AUA Score	0
Latest PSA Score	6.52

[About This App](#)

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Question 1

[Next](#)

Over the past month, how often have you had a feeling of not emptying your bladder completely after you finished urinating?

Less than half the time

About half the time

More than half the time

Almost always

Voiding Diary Edit

< January 5th 2011 >

Intake Total 0 cc Add

Output Total 0 cc Add

Voiding Diary Edit

< January 4th 2011 >

Intake	1:39 PM	250 cc
Output	1:39 PM	300 cc
Intake	1:40 PM	50 cc
Output	1:40 PM	75 cc

Intake Total 300 cc Add

Output Total 375 cc Add

PSA Tracker [Edit](#)

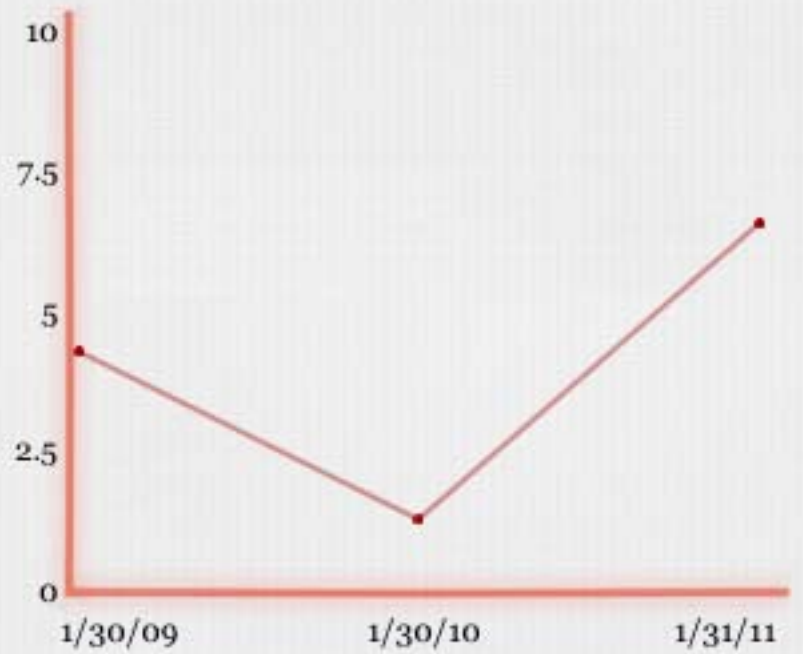
Table **Graph**

January 30th 2009	4.23
January 30th 2010	1.23
January 31st 2011	6.52

Add a New Score

PSA Tracker

Table **Graph**



Add a New Score

Prostate Pal

- Empowers men to track prostate problems
- Assists healthcare providers in managing prostate problems
- Unisex version - Bladder Pal available
- Please download and spread the word!

Treatment

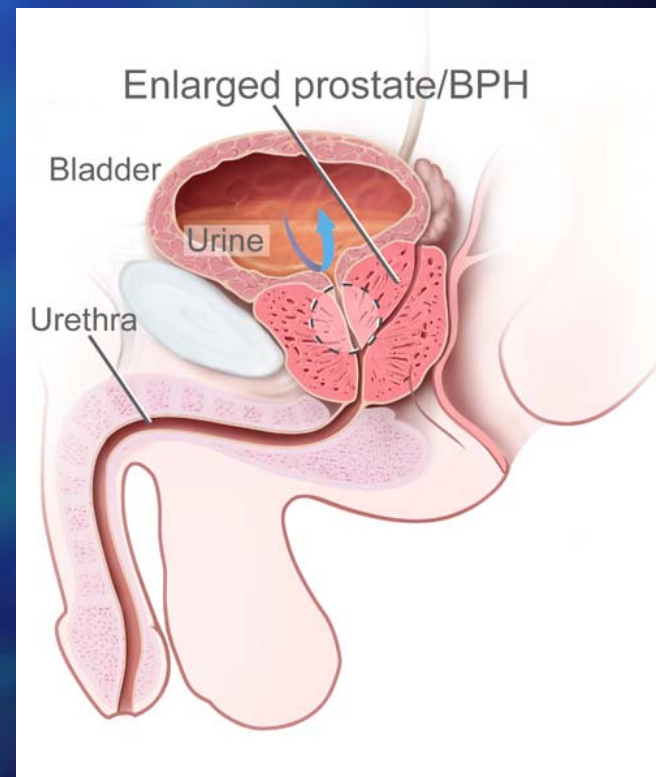
- No Bother or Complications – Watchful Waiting
- No Bother but Complications – Consider Management
- Bothersome – Consider Management

Treatment

- Medical Therapy
 - Alpha Blockers
 - Five Alpha-reductase Inhibitors
 - Phosphodiesterase Type 5 Inhibitor

Alpha Blockers

- Reduce adrenergic tone to the prostatic capsule and bladder neck
- Drugs
 - Doxazosin (Cardura)
 - Terazosin (Hytrin)
 - Tamsulosin (Flomax)
 - Alfuzosin (Uroxatral)
 - Silodosin (Rapaflo)

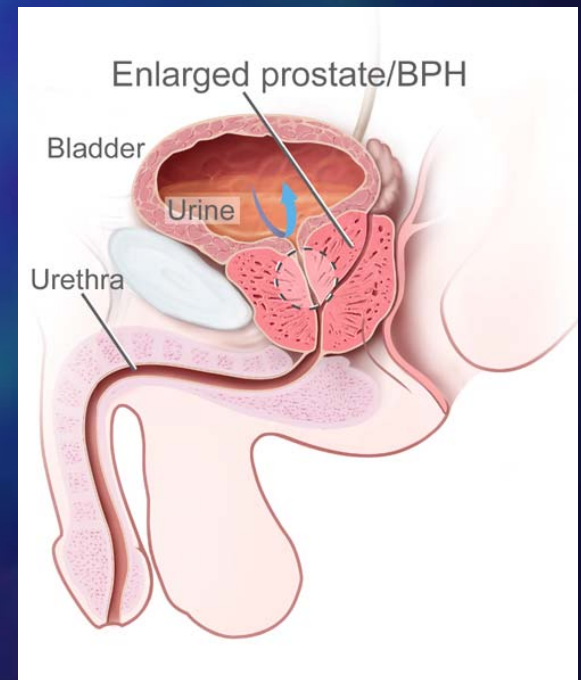


Alpha Blockers

- Side Effects
 - Hypotension
 - Lightheadedness/Dizziness
 - Nasal Congestion
 - Retrograde Ejaculation
 - Intraoperative Floppy Iris Syndrome

Five Alpha-Reductase Inhibitors

- Block conversion of T to DHT in prostate
- Slowly reduce prostate obstruction
- Drugs:
 - Finasteride (Proscar)
 - Dutasteride (Avodart)
 - Dutasteride + Tamsulosin (Jalyn)



Five Alpha-Reductase Inhibitors

- Side Effects
 - ED
 - Decreased Ejaculate
 - Breast Tenderness/Enlargement
- PSA reduced by 50%

Five Alpha-Reductase Inhibitors

- PCPT - Prostate Cancer Prevention Trial
 - 10.5% vs. 14.9% prostate cancer risk
 - 3.5% vs. 3.0% high grade
 - No impact on survival over 18 years
- REduction by DUtasteride of prostate Cancer Events (REDUCE) trial
 - 19.9% vs. 24.9% prostate cancer risk
 - No increase in high grade cancer risk

Phosphodiesterase Type 5 Inhibitor

- Tadalafil (Cialis)
- FDA approval October 6, 2011 for BPH
- Most useful for coincident BPH and ED

Phosphodiesterase Type 5 Inhibitor

- Prevents breakdown of cGMP in smooth muscle by PDE5
- Allows NO to be more effective
- No not use with nitrates
- Side Effects:
 - Headache
 - Dizziness
 - Flushing
 - Reflux
 - Back pain

Combination Medical Therapy

- MTOPS – Medical Therapy of Prostatic Symptoms
- 3047 Men
 - Placebo
 - Doxazosin 8 mg
 - Finasteride 5 mg
 - Doxazosin + Finasteride
 - 4.5 year follow up

Combination Medical Therapy

- COMBAT – Combination of Avodart and Tamsulosin Study
 - 4844 Men
 - Tamsulosin 0.4 mg
 - Dutasteride 0.5 mg
 - Tamsulosin + Dutasteride
 - 4 year followup

Combination Medical Therapy

- Combination therapy superior to monotherapy
 - Progression
 - Urinary retention
 - BPH Surgery

Supplements

- Saw Palmetto (*Serenoa repens*)
- *Pygeum africanum*
- Stinging Nettle (*Urtica dioica*)
- South African Star Grass (*Hipoxis rooperi*)
- Rye Pollen (*Secale cereale*)

Saw Palmetto

- American dwarf palm tree
- Phytotherapy is derived from fruit extract



Supplements

- Well tolerated
- Not superior to placebo or medical therapy
 - AUA Score
 - Nocturia
 - Peak Flow
 - Prostate Size

N Engl J Med. 2006 Feb 9;354(6):557-66.

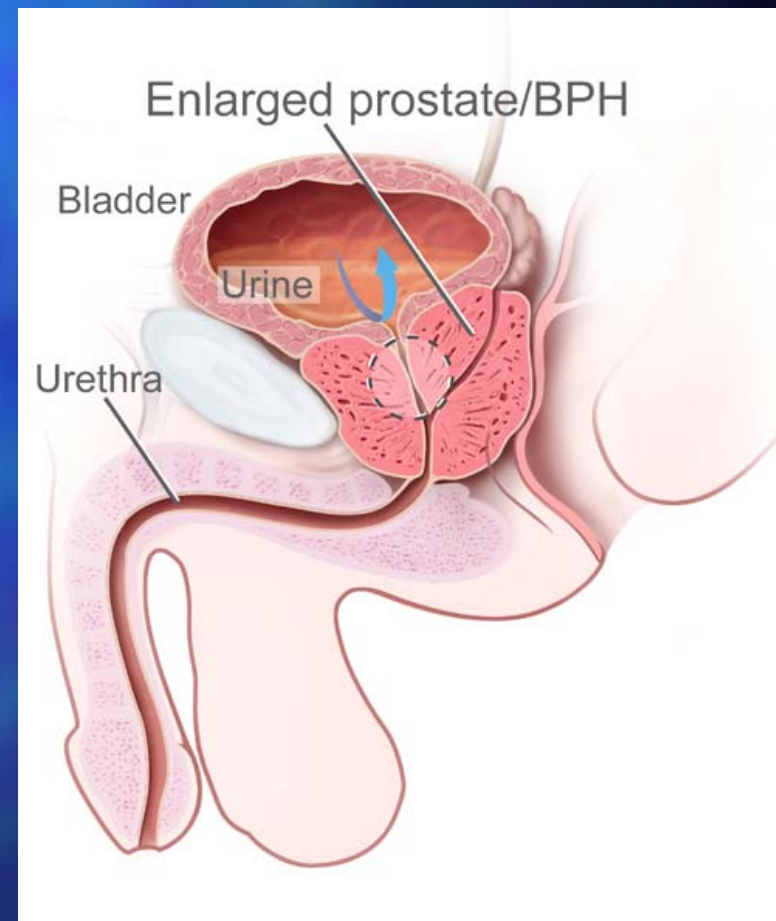
Cochrane Database Syst Rev. 2009 Apr 15;(2):CD001423.

Surgical Management

- Indications
 - Patient Preference
 - Complications of BPH
 - Not responsive to medical therapy
- Types
 - Office Based (TUMT/TUNA)
 - Transurethral Resection (TURP)
 - Laser (KTP/HOLAP/HOLEP)
 - Open Enucleation

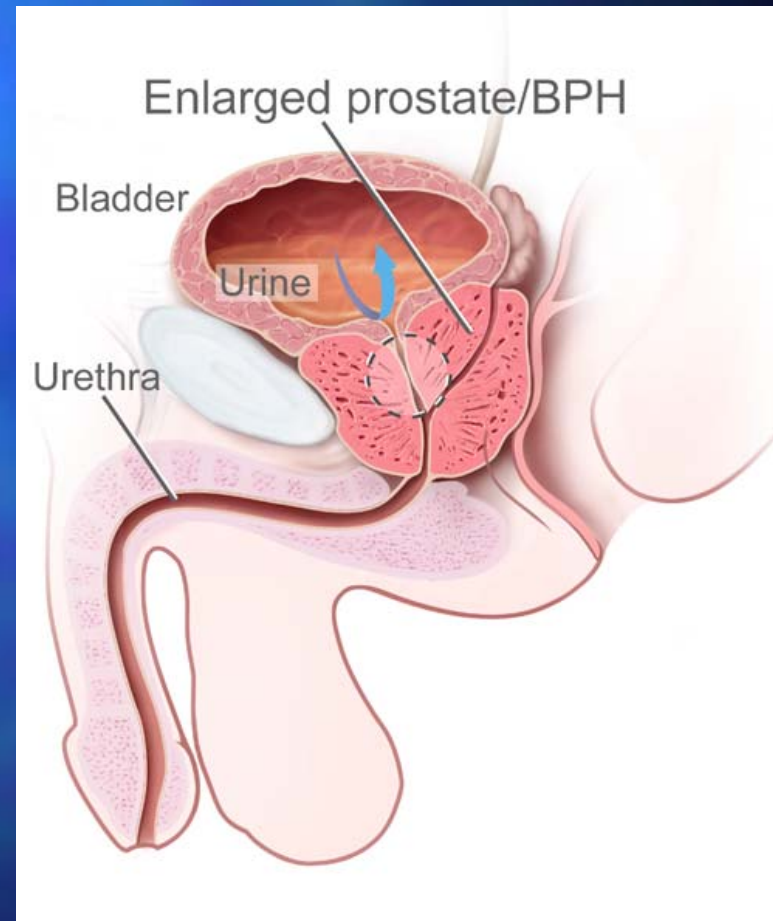
Needle and Microwave Therapy

- TUNA - Transurethral Needle Ablation
- TUMT – Transurethral Microwave Therapy
- Office Based Ablation
- Gland < 40 grams
- Durability unknown



TURP

- Transurethral Resection of the Prostate
- Bladder irrigation
- Hospital Stay
- TUR Syndrome
- Size < 90 grams
- Bipolar TURP



Laser Treatment

- Benefits
 - Less bleeding
 - No electrolyte problems
 - Same day surgery
- As durable as TURP
- May treat larger glands
- Can do on blood aspirin

Laser Treatment

- Ablation
 - KTP (“Greenlight”) Laser
 - Holmium Laser (HOLAP)
- Enucleation
 - Holmium Laser (HOLEP)

Summary

- Do a good evaluation with AUASS
- Excellent medical therapy exists
 - Alpha blockers
 - Five alpha reductase inhibitors
 - PDE5 inhibitors
- Surgical technology has reduced morbidity of BPH surgery



Questions ?