

BPH and Lower Urinary Tract Symptoms in Primary Care



Preveshen Moodley, BSc; Piotr Zareba, MD; Bobby Shayegan, MD, FRCSC
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Affecting > 50% of men > 50-years-of-age and upwards of 75% > 80-years-of-age, benign prostatic hyperplasia (BPH) is one of the most common urologic conditions encountered in primary care.¹ This stromal-glandular neoplasia of the transitional zone of the prostate occurs in discrete nodules, which increase in size over time and, when sufficiently large, can result in bladder outlet obstruction and clinically significant lower urinary tract symptoms (LUTS) (Table 1). If allowed to progress, complications such as acute urinary retention (AUR) and renal failure can occur (Table 2).

Men with BPH most often complain of weak stream, urinary hesitancy and/or nocturia severe enough to impact their quality of life.² Primary care physicians are well equipped to evaluate these patients and manage those with mild to moderate LUTS in whom prostate cancer has been excluded. Herein, we attempt to provide a framework for the evaluation of BPH and LUTS and discuss the management options available to primary care physicians based on current guidelines.

BPH evaluation and diagnosis

History

The evaluation of patients with LUTS due to BPH begins with a detailed history focusing on previous urologic history, family history of prostate

Table 1

Lower urinary tract symptoms (LUTS)

Voiding symptoms	Hesitancy* Intermittency Straining Poor stream
Post-micturition symptoms	Post-void dribbling Incomplete emptying
Storage symptoms	Urinary frequency Nocturia* Urgency

*Most common presenting symptoms

Table 2

Complications of benign prostatic hyperplasia (BPH)

- Acute/chronic urinary retention*
- Acute/chronic renal failure*
- Urinary tract infection
- Overflow incontinence
- Bladder decompensation and detrusor instability
- Recurrent hematuria
- Bladder stones

*Absolute indication for surgical intervention

cancer and other medical issues with corresponding medications.³ The use of diuretics, antihistamines and anticholinergics, among others, can produce voiding dysfunction similar to that of BPH. Characterizing the severity of LUTS and their impact on quality of life is of paramount



Table 3
Management of BPH

Medical therapy

α -adrenergic antagonist	
Terazosin	5 mg or 10 mg p.o. q.d.
Doxazosin	4 mg or 8 mg p.o. q.d.
Tamsulosin	0.4 mg p.o. q.d.
Alfuzosin	10 mg p.o. q.d.
5 α -reductase inhibitors	
Finasteride	5 mg p.o. q.d.
Dutasteride	0.5 mg p.o. q.d.

Surgical interventions

Transurethral resection of the prostate*
 Transurethral incision of the prostate
 Transurethral electrovaporization of the prostate
 Laser prostatectomy (e.g., green light laser)
 Open prostatectomy
 Transurethral needle ablation
 Transurethral microwave therapy

*Most common form of surgical intervention

importance. A voiding diary can be a useful surrogate for more formal indices, such as the International Prostate Symptom Score.⁴

Physical examination

Examination should begin with palpation of the abdomen for flank or suprapubic mass or tenderness, which may be manifestations of urinary obstruction.³ Examination of the external genitalia may reveal evidence of alternate causes of LUTS, such as meatal stenosis or urethral stricture. A screening neurological examination should be done to rule out neurogenic causes of the patient's symptoms. Digital rectal examination (DRE) is done to evaluate the size, shape, symmetry, nodularity and consistency of the prostate. Although it

often underestimates prostatic volume, DRE is an essential part of prostate cancer screening. An abnormal DRE necessitates a referral to a urologist regardless of symptoms.³

Investigations

Urinalysis should be performed, screening for urinary tract infection (UTI) and hematuria, which may be caused by urinary calculi or urothelial carcinoma.³ PSA testing should be done in all men > 50-years-of-age who present with LUTS due to BPH, have a life expectancy for > 10 years and for whom medical or surgical intervention is being considered.² PSA increases > 0.75 ng/mL in one year require referral.³

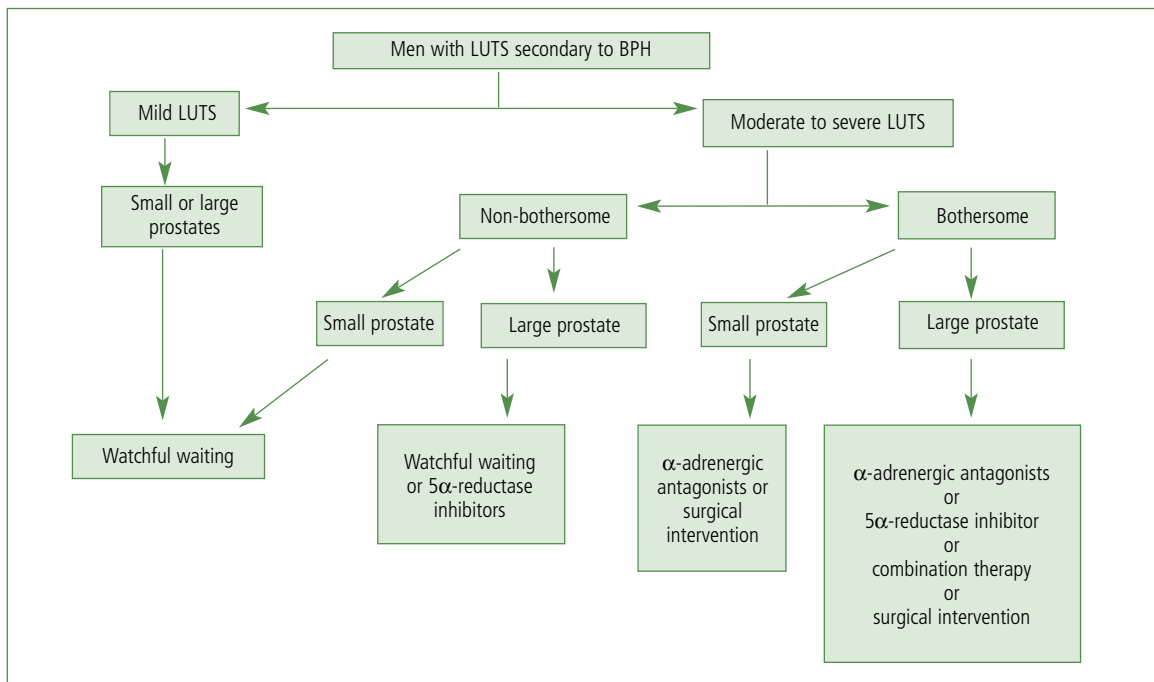


Figure 1. BPH management algorithm.

Treatment

Watchful waiting

Nickel, et al suggested a treatment algorithm (Figure 1) adopted by the Canadian Urological Association whereby management of BPH is triaged by prostate size, the severity of LUTS and their impact on quality of life.³ Watchful waiting is an option reserved for non-bothersome symptoms and consists of lifestyle modification, namely fluid restriction and limiting alcohol and caffeine intake. Scheduled voiding may also decrease storage-related LUTS.³

α-adrenergic antagonists

The mainstay of medical therapy for BPH (Table 3) are α-adrenergic blockers, which relieve outflow obstruction by relaxing the

smooth muscle of the prostatic urethra and bladder neck. Four such medications are approved for the treatment of BPH, with tamsulosin and alfuzosin offering greater urethral selectivity, reducing the risk of hypotensive side-effects.⁴ α-blockers quickly relieve LUTS but do not alter the progression of BPH or the risk of BPH-related surgery and AUR.⁵

5α-reductase inhibitors

5α-reductase inhibitors (5ARIs) are another form of medical therapy which is especially effective in men with large prostates. 5ARIs (finasteride and dutasteride) inhibit the peripheral conversion of testosterone to dihydrotestosterone, which promotes the survival and replication of prostate cells. 5ARIs induce atrophy of the prostate gland, reducing prostate volume.⁶



As a result, 5ARIs reduce PSA by up to 50% at six months.² A pre-treatment PSA is recommended to facilitate prostate cancer surveillance. Unlike α -blockers, 5ARIs reduce the overall risk of AUR and surgical intervention.⁵

Combination therapy

Combined treatment with an α -blocker and 5ARIs at their usual therapeutic dose has been shown to reduce LUTS and the risk of AUR, incontinence and UTI to a greater degree than monotherapy.^{6,7} This treatment option is still being investigated and further elucidation will come in 2010, when four year results from the Combination of Avodart and Tamsulosin trial will become available.⁷

Referral

Should BPH be refractory to medical management, or intractable complications arise, surgical treatment is indicated.³ Referral should be made to a urologist, with the diagnostic work-up of the primary care provider being invaluable in guiding further evaluation and management of the patient.

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