Benign Prostatic Hyperplasia (2011)

Philippine Urological Association, Inc.

3/F, Philippine College of Surgeons Bldg.
992 EDSA, Quezon City
Telephone No.: 454-4439
Telefax No.: 925-6740
E-mail: pua_org@yahoo.com
Website: www.puanet.org.ph
Executive Council 2011

President          Jaime C. Balingit, MD
Vice President     Raul Winston P. Andutan, MD
Secretary          Jose Rufo U. Campaña, MD
Treasurer          Ulysses T. Quanico, MD
Auditor            Rufino T. Agudera, MD

Council Members    Alfredo S. Uy, Jr., MD
                    Dennis G. Lusaya, MD

Adviser            Telesforo E. Gana, Jr., MD
Algorithm for the Management of Benign Prostatic Hyperplasia

**Benign prostatic hyperplasia (BPH)**

- Men >40 y/o?
- No significant risk of non-BPH-related origin of lower urinary tract symptoms (LUTS)?

**Medical history** to identify other causes of voiding dysfunction/comorbidities that may complicate treatment

**Symptom score** (International Prostate Symptom Score) for all patients as baseline guide and evaluation for treatment response

**Physical examination** which includes a focused neurological examination and digital rectal exam

**Urinalysis** as screening test for pyuria, hematuria, glocusuria, etc.

**OPTIONAL**

1. Creatinine
2. PSA
   - for patients with at least a 10-year life expectancy and for whom knowledge of the presence of prostate cancer would change management
   - for whom the PSA measurement may change the management of the patient’s voiding symptoms
3. Uroflowmetry - specially for patients with a complex medical history and in those desiring invasive therapy, Qmax >15 mL/sec is usual in men between 25 to 60 years old, important in differentiating other causes of obstruction
4. Pressure flow studies
5. Ultrasound (to include post-void residual volume)
6. Excretory urography - not recommended unless the patient has hematuria, UTI, a history of urolithiasis or urinary tract surgery
7. Cystoscopy

**Mild symptoms of BPH (AUA symptom score ≤7)?**
- Minimal to no bother (symptom score ≤7)?
- Minimal to no interference with quality of life (quality of life score ≤3)?
- No recurrent urinary tract infection?
- No recurrent gross hematuria?
- No bladder stone? No urinary retention?
- Peak flow rate >15 cc/sec?
- Relatively low post-void residual urine?
- Patient not bothered by moderate/severe symptoms (symptoms do not interfere with the daily activities of living)?

**Watchful waiting**

**If patient is not responsive to initial medical treatment (relative surgical indication)** …

**Surgery.** The choices of approach (open or endoscopic) and energy source (electrocautery vs laser) are technical decisions based on the patient’s prostate size, the individual surgeon’s judgment and the patient’s comorbidities.

1. Transurethral resection of the prostate
2. Transurethral electrovaporization
3. Transurethral incision of the prostate
4. Transurethral holmium laser resection/enucleation
5. Transurethral laser vaporization
6. Transurethral laser coagulation (visual laser ablation)
7. Open prostatectomy ****

**Minimally invasive therapy**

1. Transurethral Microwave Heat Treatment †
2. Transurethral Needle Ablation ‡

---

**Alpha adrenergic blockade therapy** - alfuzosin, tamsulosin and terazosin are appropriate treatment options for patients with LUTS (lower urinary tract symptoms) due to BPH and are believed to have equal effectiveness.

**5-alpha reductase therapy.** Finasteride and dutasteride are:
- appropriate and effective treatments for patients with LUTS associated with demonstrable prostatic enlargement
- indicated for patients with symptomatic prostatic enlargement but no bother, to prevent disease progression
- not appropriate for patients with LUTS without evidence of prostatic enlargement

**Combination therapy** concommittant use of alpha blocker and 5-alpha reductase inhibitor is an appropriate and effective treatment for patients with LUTS associated with demonstrable prostatic enlargement

***Indications for simple open prostatectomy***

- prostate glands larger than 50 to 75 g, for which TURP (transurethral resection of the prostate) is considered inappropriate and risky
- large, symptomatic bladder diverticulum
- large, hard bladder stone that cannot be managed transurethrally

† Prostaton, Targis, CoreTherm and ThermaPax are effective in partially relieving symptoms in men with BPH. Superiory of one specific device over another has not been demonstrated in clinical trials to date.

‡ Transurethral needle ablation is effective treatment in partially relieving symptoms of BPH.

§ See the symptom score table after References.

---

**Alpha adrenergic blockade therapy**

- alfuzosin, tamsulosin and terazosin are appropriate treatment options for patients with LUTS (lower urinary tract symptoms) due to BPH and are believed to have equal effectiveness.

**5-alpha reductase therapy.** Finasteride and dutasteride are:
- appropriate and effective treatments for patients with LUTS associated with demonstrable prostatic enlargement
- indicated for patients with symptomatic prostatic enlargement but no bother, to prevent disease progression
- not appropriate for patients with LUTS without evidence of prostatic enlargement

**Combination therapy** concommittant use of alpha blocker and 5-alpha reductase inhibitor is an appropriate and effective treatment for patients with LUTS associated with demonstrable prostatic enlargement

***Indications for simple open prostatectomy***

- prostate glands larger than 50 to 75 g, for which TURP (transurethral resection of the prostate) is considered inappropriate and risky
- large, symptomatic bladder diverticulum
- large, hard bladder stone that cannot be managed transurethrally

† Prostaton, Targis, CoreTherm and ThermaPax are effective in partially relieving symptoms in men with BPH. Superiory of one specific device over another has not been demonstrated in clinical trials to date.

‡ Transurethral needle ablation is effective treatment in partially relieving symptoms of BPH.

§ See the symptom score table after References.
Benign Prostatic Hyperplasia

BACKGROUND

Benign Prostatic Hyperplasia (BPH) is one of the most common benign disease in men that can lead to prostatic enlargement, prostatic obstruction and/or lower urinary tract symptoms. Pathologic changes are found in 88% of men aged 80 years or older and lower urinary tract symptoms reported in almost 50% of men aged 50 years or older in the general population.

The etiology is multi-factorial with age, PSA and prostate volume being the true factors related to the development of the disease. A group of patients at increased risk of progression can be identified based on these specific risk factors. For those, it might be appropriate to initiate early treatment. However, for some other patients, surgical treatment may be the best option.

Recent advances in screening and treatment are now available for management of patients in the Philippine setting. Clinical practice guidelines of the European Association of Urology and the American Urological Association were reviewed and modified to fit the needs of our local areas. Though mostly based on scientific evidence from literature, opinion of the majority of the Committee is given credibility since these urologists are the ones exposed to the patients at the grassroots level. Consideration is also given to the economic and legal factors in doing these guidelines. Caution is advised in using these guideline and no physician can be held liable for diverting from the following protocol. (Lesson 29 Vol 12)

Category 1: Uniform consensus among the members of the PHC, based on high-level evidence and experience, that the recommendation is appropriate

Category 2A: Uniform consensus, based on lower-level evidence including individual clinical experience and local practice, that the recommendation is appropriate

Category 2B: Non-uniform consensus (but no major disagreement), based on lower-level evidence, that the recommendation is appropriate

Category 3: Major disagreement that the recommendation is appropriate

ASSESSMENT OF MEN WITH BPH

The presented recommendations apply only to men above 40 years of age without significant risk of non-BPH related origin of LUTS. Men with concomitant neurological diseases, younger age, prior lower urinary tract disease or surgery usually require a more intensive work-up not included here. Accurate and early diagnosis of BPH leads to a better treatment outcome and predetermine the treatment of choice

Recommended

- Medical History to identify other causes of voiding dysfunction or comorbidities that may complicate treatment
- Symptom score (International Prostate Symptom Score) for all patients as baseline guide and evaluation for treatment response
- Physical Examination which includes a focused neurologic examination and digital rectal exam
- Urinalysis used as screening test for pyuria, hematuria, glucosuria, etc.

Optional

- Creatinine
- PSA - For patients with at least a 10 year life expectancy and for whom knowledge of the presence of prostate cancer would change management
- For whom the PSA measurement may change the management of the patient's voiding symptoms
- Uroflowmetry - specially for patients with a complex medical history and in those desiring invasive therapy, Qmax >15 mL/sec is usual in men between 25 to 60 years old, important in differentiating other causes of obstruction
- Pressure flow studies
- Ultrasound (to include post void residual volume)
- Excretory urography is not recommended unless the patient has hematuria, UTI, a history of urolithiasis or urinary tract surgery
- Cystoscopy

INITIAL MANAGEMENT

Patients with mild symptoms

Watchful waiting is the treatment of choice in patients with mild symptoms of BPH (AUA Symptom Score <7) and patients with moderate or severe symptoms who are not bothered by their symptoms (i.e. do not interfere with the daily activities of living)

Patients with moderate to severe symptoms

Treatment options for patients with bothersome moderate to severe symptoms of BPH (AUA Symptom Score ≥8) include watchful waiting and the medical, minimally invasive or surgical therapies

Explain the benefits and harms of the BPH treatment options (including watchful waiting) to patients with moderate to severe symptoms (AUA Symptom Score ≥8) who are bothered enough to consider therapy.

TREATMENT RECOMMENDATIONS

Watchful Waiting
- indicated for patients with mild or non-bothersome symptoms
Medical Treatment

a. **Alpha adrenergic blockade therapy**
   Alfuzosin, tamsulosin and terazosin are appropriate treatment options for patients with LUTS due to BPH and are believed to have equal effectiveness.¹

b. **5-alpha reductase therapy**
   Finasteride and dutasteride are:
   - appropriate and effective treatments for patients with LUTS associated with demonstrable prostatic enlargement¹
   - indicated for patients with symptomatic prostatic enlargement but no bother, to prevent disease progression¹
   - not appropriate for patients with LUTS without evidence of prostatic enlargement¹

c. **Combination therapy**
   Concomitant use of alpha blocker and 5-alpha reductase inhibitor is an appropriate and effective treatment for patients with LUTS associated with demonstrable prostatic enlargement¹

d. **Optional treatment**
   Mepartaricin²

Minimally invasive therapy

a. **Transurethral Microwave Heat Treatment**
   Prostatron, Targis, CoreTherm and Thermatrx are effective in partially relieving symptoms in men with BPH. Superiority of one specific device over another has not been demonstrated in clinical trials to date.

b. **Transurethral Needle Ablation**
   Transurethral needle ablation is effective treatment in partially relieving symptoms of BPH.

Surgery

The patient may appropriately select a surgical intervention as his initial treatment if he has bothersome symptoms.

Patients who have developed complications of BPH are best treated surgically (see table).

The choices of surgical approach (open or endoscopic) and energy source (electrocautery vs laser) are technical decisions based on the patient’s prostate size, the individual surgeon’s judgment and the patient’s comorbidities.¹

Other technologies NOT RECOMMENDED

- Prostatic stents are associated with significant complications such as encrustation, infection and chronic pain.
- Balloon dilatation is not recommended for patients with symptoms of BPH.
- Phytotherapeutic agents and other dietary supplements cannot be recommended for treatment of BPH.

<table>
<thead>
<tr>
<th>Indication for Surgery</th>
<th>Absolute</th>
<th>Relative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Refractory urinary retention</td>
<td>Bladder stones</td>
</tr>
<tr>
<td></td>
<td>Renal insufficiency due to BPH</td>
<td>Bladder diverticulum due to obstruction</td>
</tr>
<tr>
<td></td>
<td>Recurrent UTI</td>
<td>Recurrent gross hematuria</td>
</tr>
<tr>
<td></td>
<td>Hematuria refractory to 5-alpha reductase inhibitor</td>
<td>no urinary retention</td>
</tr>
<tr>
<td></td>
<td>Request for active management either initially or because there is no improvement with medical management</td>
<td>no renal insufficiency related to BPH</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Surgical Therapies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transurethral resection of the prostate</td>
</tr>
<tr>
<td>Transurethral electrovaporization</td>
</tr>
<tr>
<td>Transurethral incision of the prostate</td>
</tr>
<tr>
<td>Transurethral holmium laser resection/enucleation</td>
</tr>
<tr>
<td>Transurethral laser vaporization</td>
</tr>
<tr>
<td>Transurethral laser coagulation (visual laser ablation)</td>
</tr>
<tr>
<td>Open prostatectomy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ideal Candidate for Watchful Waiting</th>
</tr>
</thead>
<tbody>
<tr>
<td>mild symptoms (AUA symptom score ≤7)</td>
</tr>
<tr>
<td>minimal to no bother (symptom score ≤7)</td>
</tr>
<tr>
<td>minimal to no interference with quality of life (quality of life score ≤3)</td>
</tr>
<tr>
<td>no recurrent urinary tract infection</td>
</tr>
<tr>
<td>no recurrent gross hematuria</td>
</tr>
<tr>
<td>no bladder stone</td>
</tr>
<tr>
<td>no urinary retention</td>
</tr>
<tr>
<td>no renal insufficiency related to BPH</td>
</tr>
<tr>
<td>peak flow rate &gt;15 cc/sec</td>
</tr>
<tr>
<td>relatively low post void residual urine</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indications for Simple Open Prostatectomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>prostate glands larger than 50 to 75 g, for which TURP is considered inappropriate and risky</td>
</tr>
<tr>
<td>large, symptomatic bladder diverticulum</td>
</tr>
<tr>
<td>large, hard bladder stone that cannot be managed transurethrally</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Alpha Blockers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long acting selective alpha-1</td>
</tr>
<tr>
<td>terazosin</td>
</tr>
<tr>
<td>doxazosin</td>
</tr>
<tr>
<td>Long acting selective alpha-1a</td>
</tr>
<tr>
<td>tamsulosin</td>
</tr>
<tr>
<td>alfuzosin</td>
</tr>
</tbody>
</table>
References


I-PSS and QOL Scores

How often do you experience the following symptoms?

<table>
<thead>
<tr>
<th>Question</th>
<th>Never</th>
<th>&lt;1 in 5 Times</th>
<th>&lt;½ the Time</th>
<th>About = ½ the Time</th>
<th>&gt;½ the Time</th>
<th>Almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over the past month or so, how often have you had a sensation of not emptying your bladder completely after you finished urinating?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Over the past month or so, how often have you had to urinate again less than two hours after you finished urinating?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Over the past month or so, how often have you found you stopped and started several times when you urinated?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Over the past month or so, how often have you found it difficult to postpone urination?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Over the past month or so, how often have you had a weak urinary stream?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Over the past month or so, how often have you had to push or strain to begin urination?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Over the past month or so, how many times did you most typically get up to urinate from the time you went to bed at night until the time you got up in the morning?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5 &gt;5</td>
</tr>
</tbody>
</table>

There are 7 evaluated items. The severity is evaluated by the total score

Score 0 - 7: mild
Score 8 - 19: moderate
Score 20 - 35: severe

QOL Score

Since the quality of life of each patient varies, it is absolutely necessary to evaluate QOL scores

Very satisfied | Satisfied | Mostly satisfied | So so | Somewhat dissatisfied | Dissatisfied | Very dissatisfied
0 | 1 | 2 | 3 | 4 | 5 | 6

54
### Recommended Therapeutics

The following index lists therapeutic classifications as recommended by the treatment guideline. For the prescriber’s reference, available drugs are listed under each therapeutic class. For drug information, please refer to the Philippine Drug Directory System (PPD, PPD Pocket Version, PPD Text, PPD Tabs).

### 5-Alpha Reductase Inhibitors

**Dutasteride**
- Avodart

**Finasteride**
- Atepros
- Finarid
- Proscar
- Prostanus

### Alpha-Adrenergic Blockers

**Alfuzosin**
- Fozal
- Profuzin
- Xatral
- Xatral OD

**Doxazosin**
- Alfadil XL

**Tamsulosin**
- Harnal
- Pimax
- Prozelax

**Terazosin**
- Conmy
- Hykor
- Hytrin

### Estrol Fraction Binders

**Mepartricin**
- Ipertrofan