**Prostate Disease**

**BPH and Prostatitis - Diagnosis and management**

**1. Benign Prostatic Hyperplasia (BPH)**

- BPH is the non-cancerous enlargement of the prostate gland
- Whilst not normally life threatening, BPH can impact considerably on quality of life

**The GP’s role**

- GPs are typically the first point of contact for men with BPH
- The GP’s role in the management of BPH includes clinical assessment, treatment, referral and follow-up

**Diagnosis**

**Medical History**

- Lower urinary tract symptoms (LUTS)

**Urinary symptoms of BPH**

- Hesitancy
- Weak and poorly directed stream
- Straining
- Post-urination dribble or irregular stream
- Urinary retention
- Overflow or paradoxical incontinence
- Urgency
- Frequency
- Nocturia

**Clinical note:** Some men with BPH may not present with many or any symptoms of the disease.

**Symptom Score**

- Evaluation of symptoms contributes to treatment allocation and response monitoring
- The International Prostate Symptom Score (IPSS) questionnaire is recommended

**Physical examination**

- Digital rectal examination (DRE): can estimate prostate size and identify other prostate pathologies
- Basic neurological examination
- Perianal sensation and sphincter tone
- Bladder palpation
- Calibre of the urethral meatus

**Investigations**

- Urine analysis: midstream urine: microscopy, culture and sensitivity (MC&S)
- Prostate specific antigen (PSA) levels: while PSA levels are mostly used as a marker of prostate cancer, PSA levels can be elevated as a result of non cancerous prostate disease (BPH and prostatitis) - benefits & risks of PSA testing should be discussed

**PSA levels for different age groups of Western men**

<table>
<thead>
<tr>
<th>Age range years</th>
<th>Serum PSA (ng/mL) median</th>
<th>Serum PSA (ng/mL) upper limit of normal</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-49</td>
<td>0.65</td>
<td>2.0</td>
</tr>
<tr>
<td>50-59</td>
<td>0.85</td>
<td>3.0</td>
</tr>
<tr>
<td>60-69</td>
<td>1.39</td>
<td>4.0</td>
</tr>
<tr>
<td>70-79</td>
<td>1.64</td>
<td>5.5</td>
</tr>
</tbody>
</table>

**Other PSA Tests**

- PSA velocity or doubling time: if the PSA level doubles in 12 months it may indicate prostate cancer or prostatitis. An elevated PSA and a stable velocity suggests BPH
  - Free-to-total PSA ratio: high ratio (>25%) suggests BPH; low ratio (<10%) suggests prostate cancer
  - Prostate Health Index (PHI): not covered by the MBS, PHI thought to be more specific for diagnosing prostate cancer than PSA level alone; good quality evidence lacking & not recommended in Australian prostate cancer testing guidelines
- Creatinine levels
- Post-void residual urine (ultrasound)

**Optional investigations (usually by the urologist)**

- Uroflowmetry (specialist only)
- Pressure-flow study
- Endoscopy
- Urinary tract imaging
- Voiding chart

**Management**

**Treatment**

**Observation and review: for mild or low impact symptoms**

- Optimise through reassurance, education, periodic monitoring and lifestyle modifications

**Medical therapy: for moderate to severe symptoms**

- **α-blockers**
  - Suited to patients with moderate/severe LUTS
  - All α1-blockers (Alfuzosin, Tamsulosin, Terazosin, Prazosin) have a similar clinical efficacy (side-effect pro les favour Tamsulosin)

- **5α-reductase-inhibitors**
  - Suited to patients with moderate/severe LUTS and enlarged prostates (>30–40 mL)
  - Including Dutasteride and Finasteride
  - Finasteride and Dutasteride both reduce prostate volume by 20–30% and seem to have similar clinical ef cacy

**Combination therapy**

- Combination of α-blocker (tamsulosin) with 5α-reductase-inhibitor (dutasteride), available in Australia as Duodart®
  - Shown to be more beneficial and durable than monotherapy

**Beta 3-adrenoceptor agonists & antimiscurinics:**

- Used for overactive bladder or storage symptoms

**Day procedure (Urolift® system):**

- Involves placement of several retractors into the prostatic lobes to increase the urethral opening
- Not suitable for all men (urologist assessment)
- Short-term side-effects pro le better than surgery but longer term outcomes unknown
**Surgical therapy: for severe or high impact symptoms**

- Transurethral resection of the prostate (TURP) for prostates 30–80 mL
- Transurethral incision of the prostate (TUIP) for prostates <30 mL and without middle lobe
- Open prostatectomy or TURP for those >80 mL
- Laser ablation or resection of BPH available in specific surgical centres
- Laser surgery regarded as equivalent efficacy to TURP
- Other options also available

**Specialist referral**

- Indicators for referral to a urologist
  - The patient’s symptoms become more serious: their symptom score moves into the ‘severely symptomatic’ category
  - The patient’s symptoms significantly interfere with their quality of life – score of 5 ‘unhappy’ or 6 ‘terrible’ on the IPSS
  - After an episode of urinary retention, urinary infection, haematuria
  - No response to medical treatment
  - A risk of prostate cancer exists
  - Post void residual urine on ultrasound assessment >100 mL

**Follow-up**

- It is appropriate for the GP to monitor and follow-up a patient with respect to all the treatment modalities. However, if the patient is not responding to medical treatment, refer to the urologist
- Clinical notes: Men who have had TURP remain at risk for prostate cancer and need routine prostate cancer checks, as per guidelines

**Recommended follow-up timeline after BPH treatment**

<table>
<thead>
<tr>
<th>Treatment modality</th>
<th>First year after treatment</th>
<th>Annually thereafter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6 weeks</td>
<td>12 weeks</td>
</tr>
<tr>
<td>Observation &amp; review</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>5α-reductase inhibitors</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>α-blockers</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Surgery or minimal invasive treatment</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**2. Prostatitis**

- Prostatitis is an inflammation of the prostate gland
- It can be a result of bacterial or non-bacterial infection
- Acute bacterial prostatitis, the least common form, can be life threatening if the infection is left untreated
- Whilst not normally life threatening, prostatitis can impact considerably on a man’s quality of life

**The GP’s role**

- GPs are typically the first point of contact for men with prostatitis
- The GP’s role in the management of prostatitis includes clinical assessment, treatment, referral and follow-up

**Diagnosis**

**Medical History**

- Urinary symptoms
- Pain

**Symptoms of prostatitis**

- Dysuria – painful urination
- Urgent need to urinate
- Frequent urination
- Painful ejaculation
- Lower back pain
- Perineal pain
- Chills and/or fever
- Muscular pain
- General lack of energy

**Investigations**

- Digital rectal examination (DRE): prostate tenderness or swelling
- Prostate specific antigen (PSA) levels: elevated PSA levels
  - PSA velocity: if the PSA level doubles in 12 months it may indicate prostate cancer or prostatitis
- Urine analysis:
  - First pass urine: Chlamydia urine PCR test
  - Midstream urine: MC&S
  - Urine PCR for STIs should be done if Chlamydia or other STI a likely cause

**Management**

**Treatment**

- There are several therapeutic options available. Evidence for benefits of these treatment options is limited; however, they may be trialled with the patient
- With respect to management by the specialist, use of the following forms of treatment will vary according to the individual, their condition and the stage of their treatment
- Most patients at some stage in their treatment however will have antibiotic therapy

**Bacterial prostatitis** (acute and chronic) can be treated using antibiotics. Once diagnosed, rapid treatment is essential to avoid further complications.

**Chronic nonbacterial prostatitis** (chronic prostate pain syndrome); causal treatment is difficult and cure is often not an option. Treatment focus is on symptom management, to improve quality of life.

**Medication options**

- **α-blockers**
  - Suited to patients with moderate/severe LUTS
  - All α1-blockers (Alfuzosin, Tamsulosin, Terazosin, Prazosin, Silodosin) have similar clinical efficacy and side-effects
- Antibiotics (not all antibiotics penetrate the prostate gland)
  - Recommend: Norfloxacin, Ciprofloxacin, Trimethoprim, Sulphamethoxazole/Trimethoprim, Erythromycin, Gentamicin
  - Young men with confirmed Chlamydia prostatitis: Doxycycline (Vibramycin®)
- Muscle relaxants: Diazepam, Baclofen
- Analgesics
- Non-steroidal anti-inflammatory drugs
- 5α-reductase-inhibitors: Finasteride
Surgical options
• Transurethral incision of the bladder neck
• Transurethral resection of the prostate

*Surgery has a very limited role and requires an additional, specific indication e.g. prostate obstruction, prostate calcification

Other options
• Lifestyle changes: avoid activity that involves vibration or trauma to the perineum e.g. bike riding, tractor driving, long-distance driving, cut out caffeine, spicy foods, alcohol, avoid constipation
• Pelvic floor relaxation techniques
• Prostate massage
• Supportive therapy: biofeedback, relaxation exercises, acupuncture, massage therapy, chiropractic therapy and meditation
• Heat therapy

Specialist referral

Indicators for referral to a urologist:
• When the GP is not confident in managing the condition
• If the GP is concerned there are other potential diagnoses, particularly prostate or bladder cancer
• Those who do not respond to initial first-line therapy such as antibiotics and/or α-blockers. For these patients, more invasive investigations, such as cystoscopy and transrectal prostate ultrasound scan, are commonly done

Follow-up
• The need for specialist follow-up depends on the patient’s progress
• Most specialists will refer back to the GP to monitor the progress of the patient
• The specialist will seek re-referral if the patient’s progress is not satisfactory
• A GP can re-refer if they do not feel comfortable in managing a relapse

Date reviewed: March 2018
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