Background: LUTS include storage, voiding and post-micturition symptoms. Bothersome LUTS are said to occur in up to 30% of men older than 65 years\(^1\). This is not surprising considering the great prevalence of benign prostatic hyperplasia (BPH), which is as high as in 40% of men in fifth decade, and can be in up to 90% of men in ninth decade \(^2\).

In the past, LUTS (in elderly men) were assumed to be directly or indirectly related to benign prostatic hyperplasia (BPH). Other conditions that can cause LUTS include detrusor muscle weakness or over-activity: overactive bladder syndrome (OAB), prostate inflammation (prostatitis), urinary tract infection, prostate cancer and neurological diseases \(^1\)\(^2\).

A recent audit of GP referrals to BLT found that patients with LUTS made up the highest number of referrals: 28% of the sample of referrals (2006)\(^3\).
<table>
<thead>
<tr>
<th>Voiding symptoms:</th>
<th>Storage symptoms:</th>
<th>Post-micturition symptoms:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) weak or intermittent urinary stream</td>
<td>a) urgency</td>
<td>Post-micturition dribbling: It is managed by advising the patient to empty the urethra by compression of perineum behind the scrotum (urethral milking).</td>
</tr>
<tr>
<td>b) straining</td>
<td>b) frequency</td>
<td></td>
</tr>
<tr>
<td>c) hesitancy</td>
<td>c) urge</td>
<td></td>
</tr>
<tr>
<td>d) terminal dribbling</td>
<td>d) nocturnal polyuria</td>
<td></td>
</tr>
<tr>
<td>e) incomplete emptying</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Initial assessment:**

**General Medical History:** conditions which need to be excluded i.e. diabetes, constipation, UTIs, diabetes insipidus, adrenal insufficiency, hypercalcaemia, liver failure, polyuric renal failure, chronic heart failure, obstructive apnoea, dependent oedema, pyelonephritis, chronic venous stasis, and sickle cell anaemia

**Review current medications:** including OTC medications, tricyclics, sympathomimetics, calcium channel blockers, diuretics and SSRIs

**Offer Physical Examination:** abdominal (palpable bladder), genital (phimosis), digital (prostate irregularities)

At initial assessment, ask men with bothersome LUTS to complete **urinary frequency volume chart**

**Investigations:** Urine dipstick to detect blood, glucose, protein, leucocytes and nitrites

Offer men with LUTS information, advice and time to decide whether they wish to have **PSA testing** if:
- LUTS suggestive of bladder outlet obstruction secondary to BPE
- prostate feels abnormal on DRE
- they are concerned about prostate cancer

Check **serum creatinine and eGFR:** if palpable bladder, nocturnal enuresis, recurrent UTI, history of renal stone.
<table>
<thead>
<tr>
<th>Decision after initial assessment:</th>
<th><strong>Urological suspected cancer</strong>: Follow NICE guidelines/Local referral pathway.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Complicated LUTS</strong>: Consider referral to Urology if:</td>
</tr>
<tr>
<td></td>
<td>Suspected chronic urinary retention (UTI) or <em>More than one</em> episodes of UTI, with or without haematuria.</td>
</tr>
<tr>
<td></td>
<td>Serum creatinine is elevated, there is history of renal stones or suspected stress incontinence.</td>
</tr>
<tr>
<td></td>
<td><strong>Uncomplicated LUTS</strong>: Remaining majority of patients: Management in primary Care (see below).</td>
</tr>
</tbody>
</table>
Uncomplicated LUTS to be managed in Primary Care:

- For all patients, please provide explanation, lifestyle advice, and self-management techniques.\(^\text{5}\)
- International Prostate Symptoms Score (IPSS) if considering treatment.\(^\text{6}\)

Depending on IPSS, mild LUTS symptom refers to IPSS Score of 0-7, moderate LUTS refers to score of 8-19, and severe symptom refers to IPSS score of 20-35.\(^\text{1}\)

**LUTS with voiding pre-dominant symptoms:**

- **For mild LUTS / not bothersome:**
  - Review if symptoms worsen, becomes bothersome.

- **Moderate/ severe LUTS**
  - Patients can be started on alpha blocker (relaxer)
  - Review after 4-6 weeks.
  - Formulary choices: tamsulosin capsules first, or alfuzosin. Then doxazosin or indoramin
  - With an option to add, or occasionally substitute with: 5 alpha reductase inhibitor (SARI) (shrinker). Formulary choice: finasteride
  - Review after 3-6 months

- **Improvement**
  - YES
    - Continue on medication, review 3-6 monthly.
  - NO
    - Consider referral to Urology

- **Symptom persists**
  - NO
  - NO
    - Follow up if /as per further symptom
  - YES
    - Consider referral to Urology

**LUTS with storage pre-dominant symptoms:**

- **For mild LUTS / not bothersome:**
  - Review if symptoms worsen, becomes bothersome.

- **Moderate/ severe LUTS**
  - - Nocturnal polyuria
  - - Frequency
  - - Urgency
  - - Urge incontinence
  - - Rule out medical conditions
  - - Consider offering late afternoon loop diuretic (furosemide)
  - - Review after 4-6 weeks

- **Consider providing yourself, or refer to CAS Continence Clinic:**
  - - Supervised bladder training (see resources below)
  - - Lifestyle and behavioural advice

- **Input back to GP**
  - - Reassess: if improvement: discharge
  - - If fails: offer anticholinergics: Formulary choices include: oxybutynin first line, then darifenacin, trospium, tolterodine
  - - Review 4-6 weeks, then 3-6 months if stable
### International Prostate Symptom Score (IPSS)

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Less than 1 time in 5</th>
<th>Less than half the time</th>
<th>About half the time</th>
<th>More than half the time</th>
<th>Almost always</th>
<th>Your score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Incomplete emptying</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Over the past month, how often have you had a sensation of not emptying your bladder completely after you finish urinating?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>Frequency</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Over the past month, 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>
<td></td>
</tr>
<tr>
<td><strong>Intermittency</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Over the past month, how often have you found you stopped and started again several times when you urinated?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>Urgency</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over the last month, how difficult have you found it to postpone urination?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>Weak stream</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over the past month, 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>
<td></td>
</tr>
<tr>
<td><strong>Straining</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over the past month, 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>
<td></td>
</tr>
<tr>
<td><strong>Nocturia</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over the past month, many times did you most typically get up to urinate from the time you went to bed 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</td>
<td></td>
</tr>
</tbody>
</table>

#### Total IPSS score

#### Quality of life due to urinary symptoms

<table>
<thead>
<tr>
<th></th>
<th>Delighted</th>
<th>Pleased</th>
<th>Mostly satisfied</th>
<th>Mixed – about equally satisfied and dissatisfied</th>
<th>Mostly dissatisfied</th>
<th>Unhappy</th>
<th>Terrible</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you were to spend the rest of your life with your urinary condition the way it is now, how would you feel about that?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

**Total score:** 0-7 Mildly symptomatic; 8-19 moderately symptomatic; 20-35 severely symptomatic.
References and Resources:

NICE clinical guidance 97: May 2010.


2. Audit of three months of GP Urology Referrals to Barts and the London NHS Trust Urology Department: Dr. Marcus Hassemer. (Based on a random sample of 100 GP referrals between October, November, December 2006).

3. During initial assessment: urinary frequency volume chart is available from:
   http://www.cks.nhs.uk/luts_in_men_age_related_prostatism
   Please follow the link, then
   > Management > Scenario: Initial assessment > Characterise the type of LUTS

4. For patient advice, a useful link is:
   http://www.patient.co.uk/health/Lower-Urinary-Tract-Symptoms-in-Men.htm or on Mentor Plus

5. IPSS: The form is available from:
   http://www.cpcn.org/ipss.pdf
   http://www.usrf.org/questionnaires/AUA_SymptomScore.html

6. Link to Urge Incontinence and bladder training leaflet:
   http://www.patient.co.uk/health/Urge-Incontinence.htm also available on Mentor Plus
   Another good resource for 'The overactive bladder and bladder retraining' information for patients is available from: http://www.oxfordradcliffe.nhs.uk
   then please follow:
   > For patients > Patient information leaflets > Gynaecology > (pdf) link to Bladder: the overactive bladder and bladder retraining, or directly at
   http://www.oxfordradcliffe.nhs.uk/forpatients/090427patientinfoleaflets/090928bladder.pdf
This care pathway is not a full evidence based guideline and is aimed as a care pathway to guide referral decisions by Tower Hamlets GPs.

Acknowledgements

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