**Introduction**

- Benign prostatic hyperplasia (BPH) can be associated with bothersome lower urinary tract symptoms (LUTS) that can substantially affect men’s quality of life.
- At least one third of men older than 50 years are affected by BPH with bothersome LUTS1.
- Patients with disease recalcitrant to medical treatments or who develop acute urinary retention, acute urinary tract infections, haematuria, or renal insufficiency can be considered for surgical treatment.
- Transurethral resection of the prostate (TURP) is the gold standard surgical treatment, but this and less-invasive techniques that involve tissue destruction are associated with substantial comorbidities, whereas prostatic urethral lift (PUL) is minimally invasive (Figure 1).
- We were provided with derived outputs by Harvey Walsh Ltd who have licensed access to the National Health Service Hospital Episode Statistics (HES) database (Copyright NHS Digital 2018) and The Health Improvement Network (THIN) to search at the record level for hospitalisation and treatment rates for TURP in England.

**Methods**

- TURP
  - In 2016/17, 18,362 monopolar and bipolar TURP procedures were reported in HES.
  - The average hospital stay is 2.7 days, and catheterisation is required for 3–5 days on average.
  - Although rates vary, complications of TURP include ejaculatory dysfunction, affecting at least 66% men, erectile dysfunction in 10%, urethral stricture in 4–8%, injection in 4–8%, bleeding requiring transfusion in ~2%, and transient incontinence in ~2%.
  - 1–2% of patients require TURP reoperation per year2 but around 14% of patients restart drug therapy for LUTS within 12 months, around 20% of patients require TURP reoperation per year.
  - Among all recipients of TURP in HES in 2010/11, cumulative HES data from 2014 to 2015 showed 70,000 post-procedural hospital spells.

- PUL
  - The longest-term data reported for PUL are 5-year outcomes and compare the procedure with sham surgery3.
  - No hospital stays were required and catheterisation, required for 32% 1 day on average.
  - Most adverse events (mainly dysuria, discomfort, urgency, and haematuria) were mild to moderate and most resolved in 2–4 weeks without hospital treatment.
  - Encite and ejaculatory function were preserved with no incident cases of sustained dysfunction reported after surgery.
  - The surgical re-treatment rate was 13.6% (8.3% repeat PUL, 4.3% TURP or laser ablation), but all but one of all the re-treated patients had severe to very severe LUTS at baseline.
  - Medical treatment was restarted in just under 4% of patients at 1 year and in 11% of patients 5 years after surgery.

Based on this complication profile, we estimate that the complication rate associated with TURP could be reduced with PUL and, therefore, that a saving of £27 million could be made per year.

**Results**

- **URETHRAL LIFT FOR BENIGN PROSTATIC HYPERPLASIA**
  - **Comparison of costs associated with TURP and prostatic urethral lift**
    - Cost calculations and estimated saving with PUL versus TURP
      - **TURP**
        - Mean 2017/16 cost for TURP (national schedule of reference costs £2,869 (OR £2,420–3,318), giving a minimum total of £543 million.
        - Computation cost to payer £900 million over 5 years for each annual cohort of patients.
      - **PUL**
        - Mean 2017/16 cost for PUL (calculated by The National Institute for Health and Care Excellence £520).3
        - Assumptions:
          - Rate of associated complications reduced by 50%
          - Uptake of PUL would be 50%
      - **Estimated Saving**
        - £27 million per year over 5 years for each annual cohort of patients.

- **Conclusions**
  - Durability of the treatment is similar for TURP and PUL, but the postoperative complication and medical re-treatment profiles differ.
  - PUL is associated with very low rate of complications, most of which are mild to moderate in severity and resolve within 2–4 weeks.
  - Increasing experience with PUL procedures, which is associated with increased numbers of procedures performed under local anaesthetic and rapidity of recovery, is likely to improve outcomes further.4-11
  - For a similar procedural cost, PUL could reduce complications, improve quality of life, and substantially reduce post-surgical care costs compared with current standard TURP practice.

**References**


