Prostatic Urethral Lift
Clinical Coverage Criteria

Description

Prostatic urethral lift (PUL) is a minimally invasive surgical procedure for the treatment of lower urinary tract symptoms attributed to benign prostatic hyperplasia (LUTS/BPH).

Policy

This Policy applies to the following Fallon Health products:
☒ Medicare Advantage (Fallon Medicare Plus, Fallon Medicare Plus Central)
☒ MassHealth ACO
☒ NaviCare HMO SNP, NaviCare SCO
☒ PACE (Summit Eldercare PACE, Fallon Health Weinberg PACE)
☒ Community Care

Prostatic urethral lift (PUL) requires prior authorization.

Medicare Advantage (Fallon Medicare Plus, Fallon Medicare Plus Central)
Fallon Health complies with CMS's national coverage determinations (NCDs), local coverage determinations (LCDs) of Medicare Contractors with jurisdiction for claims in the Plan's service area, and applicable Medicare statutes and regulations when making medical necessity determinations for Medicare Advantage members. When coverage criteria are not fully established in applicable Medicare statutes, regulations, NCDs or LCDs, Fallon Health may create internal coverage criteria under specific circumstances described at § 422.101(b)(6)(i) and (ii).

Medicare statutes and regulations do not have coverage criteria for PUL for the treatment of LUTS attributed to BPH (LUTS/BPH). Medicare does not have an NCD for PUL for the treatment of LUTS/BPH. National Government Services, Inc. is the Part A/B Medicare Administrative Contractor (MAC) with jurisdiction over Part A and B services in Fallon Health's service area. National Government Services, Inc. does not have an *active* LCD for PUL for the treatment of LUTS/BPH. National Government Services, Inc. has a *retired* LCD for Prostatic Urethral Lift (PUL) (L36601). This LCD was retired on 02/28/2018. Per LCD L36601, *"All local policy rules, requirements, and limitations within this LCD will no longer be applied on a prepayment basis, but as with any billed service, claims may be subject to post-payment review* (MCD search 04/24/2023)."

Coverage criteria for prostatic urethral lift for the treatment of LUTS/BPH are not fully established by Medicare, therefore, the Plan's clinical coverage criteria are applicable.

MassHealth ACO
Fallon Health follows Medical Necessity Guidelines published by MassHealth when making medical necessity determinations for MassHealth members. In the absence of Medical Necessity Guidelines published by MassHealth, Fallon Health may create clinical coverage criteria in accordance with the definition of Medical Necessity in 130 CMR 450.204.

MassHealth does not have Guidelines for Medical Necessity Determination for prostatic urethral lift for the treatment of LUTS/BPH (MassHealth website search 04/04/2023). Fallon Health's Clinical Coverage Criteria will be used to determine medical necessity for PUL for the treatment of LUTS/BPH for MassHealth ACO members.

NaviCare HMO SNP, NaviCare SCO
For plan members enrolled in NaviCare, Fallon Health first follow's CMS's national coverage determinations (NCDs), local coverage determinations (LCDs) of Medicare Contractors with jurisdiction for claims in the Plan's service area, and applicable Medicare statutes and regulations when making medical necessity determinations.

When coverage criteria are not fully established in applicable Medicare statutes, regulations, NCDs or LCDs, or if the NaviCare member does not meet coverage criteria in applicable Medicare statutes, regulations, NCDs or LCDs, Fallon Health then follows Medical Necessity Guidelines published by MassHealth when making necessity determinations for NaviCare members.

PACE (Summit Eldercare PACE, Fallon Health Weinberg PACE)
Each PACE plan member is assigned to an Interdisciplinary Team. PACE provides participants with all the care and services covered by Medicare and Medicaid, as authorized by the interdisciplinary team, as well as additional medically necessary care and services not covered by Medicare and Medicaid. With the exception of emergency care and out-of-area urgently needed care, all care and services provided to PACE plan members must be authorized by the interdisciplinary team.

Fallon Health Clinical Coverage Criteria

PUL is considered medically necessary as an alternative to TURP for the treatment of LUTS attributed to BPH when all of the following coverage criteria are met:

1. AUA symptom index (AUA-SI)/International Prostate Symptom Score (IPSS) ≥ 13; and
2. Maximum urinary flow rate (Qmax) ≤ 15 ml/sec for a voided volume greater than 125 cc; and
3. Prostate volume is ≥ 30 cc and ≤ 80 cc, as determined by ultrasonography, CT or MRI performed within the past 12 months; and
4. Prostate anatomy is without obstructive median lobe as determined by ultrasonography, CT or MRI performed within the past 12 months; and
5. Prostate-specific antigen < 10 ng/l, unless prostate biopsy is negative for cancer, and
6. LUTS attributed to BPH are refractory to medical therapy (defined as a trial of at least 4 weeks with an alpha blocker or PDE5 and/or at least a 6-month trial with a 5-ARI), or the plan member has significant side effects or contraindications to medical therapy, and
7. None of the following apply:
    a. Active urinary tract infection at time of treatment, or
    b. History of prostatitis requiring antibiotic treatment in the past 12 months, or
    c. History of cystolithiasis in the past 3 months, or
    d. Allergy to nickel.

UroLift implants are MRI-conditional but can be safely scanned at field strengths of up to 3 Tesla, even immediately after the procedure.

The number of implants will vary by patient due to the unique characteristics of the prostate and prostatic urethra; clinical data supports an average of 4-6 implants per patient.

CPT code 52441 is used to report the initial implant and add-on CPT code 52442 used for reporting each additional implant. The Medicare Unlikely Edit assigned to CPT code 52442 is 6. Because CPT code 52442 must always be billed with CPT code 52441, the maximum number of payable units (implants) per procedure on initial claim submission is 7.

Exclusions

- Any use of PUL that does not meet Fallon Health Clinical Coverage Criteria is considered experimental/investigational and not medically necessary.

Summary of Evidence

Background

Benign prostatic hyperplasia (BPH) is nearly ubiquitous in the aging male with increases in prevalence starting at age 40-45 years, reaching 60% by age 60, and 80% by age 80 (Lerner et al., 2021a). While BPH, or histological hyperplasia, in and of itself does not require treatment and is not the target of therapeutic intervention, it can lead to an enlargement of the prostate called benign prostatic enlargement (BPE). The onset of the enlargement is highly variable as is the growth rate, and not all men with BPH will develop any evidence of BPE. The prostate gland may eventually cause obstruction at the level of the bladder neck, which in turn is termed benign prostatic obstruction (BPO), assuming a non-cancerous anatomy. It is important to realize that not all men with BPE will develop obstruction or BPO, just as not all men with BPH will have BPE (AUA, 2021).

In assessing the burden of disease, the Urologic Diseases in America BPH Project examined the prevalence of moderate-to-severe LUTS reported in U.S. population-based studies that used the definition of an AUA Symptom Index (AUA-SI) score of ≥ 7. Results from the Olmsted County Study (OCS) showed a progressive increase in the prevalence of moderate-to-severe LUTS, rising to nearly 50% by the eighth decade of life. The odds of developing moderate-to-severe symptoms increased progressively after age 50 years and were 3.5- and 2.4-fold greater in men with a prostate volume >50 mL and in those with a flow rate of <10 mL/sec, respectively (Lerner et al., 2021a).

BPH is not a life-threatening condition, however, the impact of BPH on quality of life (QoL) can be significant and should not be underestimated. When the effect of BPH-associated LUTS on QoL was studied in a number of community-based populations, the most important motivations for seeking treatment were the severity and the degree of bother associated with the symptoms (AUA, 2021). The primary goal of treatment is to alleviate bothersome LUTS attributed to BPH (LUTS/BPH). In the initial evaluation of patients presenting with bothersome LUTS possibly attributed to BPH, clinicians should obtain a medical history, conduct a physical examination, administer the International Prostate Symptom Score (IPSS), and perform a urinalysis (Lerner 2021a).

The most prevalent and generally first line approach is behavioral and lifestyle modifications (e.g., fluid restriction, avoidance of substances with diuretic properties) followed by medical therapy, including alpha-adrenergic antagonists (alpha blockers), 5-alpha reductase inhibitors (5-ARIs), phosphodiesterase 5 selective inhibitors (PDE5Is), anticholinergics, and beta-3 agonists - which may be utilized alone, or in combination to take advantage of their different mechanisms of action (Lerner et al., 2021a). Although effective treatments for LUTS/BPH are available, this condition often occurs in the context of common, age-related comorbidities such as cardiovascular disease, hypertension, and erectile dysfunction. When selecting an appropriate course of therapy, these side effects and any impact they may have on existing comorbid conditions must be considered.

An initial trial of medical management over 4 weeks with an alpha blocker or PDE5, and over 6-12 months with a 5-ARI is reasonable in men with bothersome LUTS (AUA, 2021). Patients with bothersome LUTS/BPH who elect initial medical management and do not have symptom improvement and/or experience intolerable side effects should undergo further evaluation and consideration of change in medical management or surgical intervention (AUA, 2021).

Despite the prevalent use of medical therapy for the treatment of LUTS/BPH, there exist clinical scenarios in which conservative management, including behavioral and lifestyle changes, or medical therapy are either inadequate or inappropriate. Indications for surgical procedures in

these scenarios include a desire by the patient to avoid taking a daily medication, failure of medical therapy to sufficiently ameliorate bothersome LUTS, intolerable pharmaceutical side effects, and/or the following conditions resulting from BPH and for which medical therapy is insufficient: chronic renal insufficiency (defined as GFR < 60 for at least 3 months) secondary to BPH, refractory urinary retention secondary to BPH, recurrent urinary tract infections (UTIs), recurrent bladder stones or gross hematuria due to BPH (Lerner et al., 2021b).

Prior to surgical intervention for LUTS/BPH, clinicians should consider assessment of prostate size and shape by transrectal or abdominal ultrasonography, or by cross-sectional imaging (i.e., MRI or CT) if such studies are available prior to intervention. Many patients may have had such imaging as part of the workup for PSA elevation and/or prostate biopsy, or non-urologic conditions that include evaluation of pelvic anatomy; therefore, any such imaging obtained in the recent past preceding the planned surgical intervention may be utilized for size and shape assessment to verify suitability for the therapeutic alternatives under consideration. Imaging obtained within 12 months is preferred; however, given that prostate growth rates are 1.6% per year on average, older imaging can likely give a reasonably accurate estimate of current size if that is all that is available (AUA, 2021).

Surgical treatment of LUTS/BPH has three general types: 1. Transurethral resection; 2. Simple prostatectomy; and 3. Minimally invasive procedures.

Transurethral resection of the prostate or TURP is a procedure where the prostate is resected from an endoscopic approach. TURP was the first successful, minimally invasive surgical procedure of the modern era. To this day, TURP remains the criterion standard therapy for obstructive prostatic hypertrophy and is both the surgical treatment of choice and the standard of care when other methods fail. TURP is performed using two techniques: monopolar TURP (M-TURP) and bipolar TURP (B-TURP).

In patients for whom the physical size of the prostate cannot be addressed via a safe or efficacious transurethral approach, simple prostatectomy may be considered using an open, laparoscopic or robotic-assisted approach.

Minimally invasive procedures have been developed with the goal of providing a safe and effective alternative to TURP. These include but are not limited to:

- Transurethral waterjet ablation, (also referred to as robotic waterjet ablation or Aquablation)
- Prostatic Urethral Lift (PUL)
- Water Vapor Thermal Therapy (Rezum System)
- Holmium laser enucleation of the prostate (HoLEP)

Prostatic Urethral Lift (PUL)
At this time, only one PUL device, UroLift System (NeoTract, Inc., Pleasanton, CA), is FDA-approved (510(k) K130551; September 13, 2013; Product Code PEW). The UroLift System was originally approved for the treatment of symptoms due to urinary outflow obstruction secondary to BPH in men 50 years of age or older. Contraindications to the use of this PUL device included prostate volumes > 80 cc and obstructive or protruding medial lobe of the prostate.

The FDA expanded the indications for this PUL device (510(k) K193269, Product Code PEW) on December 20, 2019, to include the treatment of symptoms due to urinary outflow obstruction secondary to BPH, including lateral and median lobe hyperplasia, in men 45 years of age or older. Contraindications include:

- Prostate volume of >100 cc
- A urinary tract infection
- Urethra conditions that may prevent insertion of delivery system into bladder
- Urinary incontinence due to incompetent sphincter

- Current gross hematuria

The UroLift System comprises two main components, the delivery device and the implant. Each delivery device comes pre-loaded with one implant. During the procedure, implants (an average of 5 implants were used in prostates ranging from 30-80cc in Roehrborn et al., 2017) are permanently placed within the prostate to separate encroaching lateral prostate lobes and relieve obstruction without injury or resection of prostatic tissue.

Randomized controlled trials
PUL versus sham
Prostatic urethral lift was compared to sham in a multicenter randomized controlled trial (*The Safety and Effectiveness of UroLift: LIFT Pivotal Study (LIFT)*, Clinicaltrials.gov NCT01294150). Subjects and questionnaire administrators were blinded through the 3-month primary efficacy endpoint. One-year results were reported by Roehrborn et al., 2013. Eligible subjects were at least 50 years old, had no prior surgical treatment for BPH, and were required to undergo washouts of 2 weeks for alpha-blocker, 3 months for 5 alpha-reductase inhibitor and 3 days for anticoagulants. *Admission to the study required AUASI 13 or greater, Qmax 12 ml per second or less with a 125 ml voided volume and a 30 to 80 cc prostate. Subjects were excluded for median lobe obstruction, retention, PVR greater than 250 ml, active infection, prostate specific antigen greater than 10 ng/ml (unless negative biopsy), cystolithiasis within 3 months and bacterial prostatitis within 1 year.* The two hundred and six (206) subjects were randomized 2:1 to active treatment with the PUL device (n=140) or a sham procedure (n=66). *Mean age was 67 ± 8.6 years in the PUL group. Mean prostate volume (cc) in the PUL group was 44.5 ± 12.4.* During the PUL procedure, UroLift implants are permanently implanted to retract obstructing lateral lobes and expand the urethral lumen. An average of 4.9 implants (range 2-11) was delivered with 4 implants being the most common number (42%) and 85% receiving 6 implants or less. The rigid cystoscopy control (sham) procedure was performed in a manner that simulated active PUL treatment. The primary efficacy end point was to demonstrate, on an intent-to-treat (ITT) basis, that the reduction in IPSS at 3 months after the PUL procedure was at least 25% greater than that of sham. All subjects in the PUL group were followed through one year to evaluate durability of effect. Secondary efficacy endpoints included Qmax, QoL, BPH Impact Index (BPHII), and assessments of sexual function (International Index of Erectile Function, IIEF, and Male Sexual Health Questionnaire for Ejaculatory Dysfunction, MSHQ-EjD). The protocol calls for follow-up visits on an annual basis to 5 years. All subjects were unblinded after the 3-month end point and control patients were offered the PUL or other intervention if symptoms persisted.

For the ITT primary endpoint, Roehrborn et al., 2013, reported an 88% greater reduction in IPSS after PUL compared to sham at 3 months (IPSS improvement: PUL 11.1 ± 7.7, sham 5.9 ± 7.7. p=0.003). Improvements in QoL and Qmax were also significantly greater for PUL compared to sham in the 3-month ITT analysis (Qmax improvement: PUL 4.28 ± 5.16, sham 1.98 ± 4.88, p = 0.005); QOL improvement: PUL 2.2 ± 1.8, sham 1.0 ± 1.5, p < 0.001). One hundred twenty-three (123) patients were included in the per protocol analysis. Qmax increased significantly from 8.1 to 12.4 mL/s compared to baseline at three months and this result was confirmed at twelve months. Qmax improvement (4 ml per second) was both clinically and statistically significant (p<0.0001). A relevant benefit with regard to PVR was not demonstrated compared to baseline or sham. Mean sexual function measures were not different between groups. Adverse events were mild to moderate and transient. The authors commented on the "*formidable sham effect observed in this study*," suggesting it is likely due to a combination of placebo, dilation and regression.

Additional publications of the LIFT study reported 3-year and 5-year results (Roehrborn et al., 2015 and Roehrborn et al., 2017, respectively). Participants who deviated from the study protocol, underwent additional surgical treatment or were taking BPH medication were excluded from the per protocol analysis. Thirty-six (36) subjects were not available (18 lost to follow-up, 9 died of unrelated causes, 5 exited for treatment of an unrelated cancer and 4 exited after undergoing TURP). The rate of surgical reintervention for failure to cure was 13.6% after 5 years with 6 (4.3%) receiving additional PUL implants and 13 (9.3%) undergoing TURP or laser ablation

(including 4 exited subjects). Of the 19 retreated subjects, 18 had severe baseline LUTS (IPSS ≥ 20) and one subject's baseline IPSS was 19. At 5 years, 15 (10.7%) subjects were taking an alpha blocker or 5-alpha reductase inhibitor. The authors reported efficacy results using both per protocol analysis and ITT analysis, to show that loss to follow-up did not affect study data. For the ITT analysis, the last observation carried forward (LOCF) method was used. Of the 140 subjects originally randomized, data were available for 72 (51.4%). No statistical difference in results was seen at 5 years between per protocol and ITT analyses. For the ITT analysis, IPSS score at 5 years compared to baseline was -7.85 or -35% ($p<0.0001$). QOL, Qmax and BPHII also improved significantly (-2.08 or -44.4%, 3.21 or 49.9%, -3.41 or -46.8%, respectively. For the per protocol analysis, five-year data demonstrated a decrease in mean IPSS scores over time; however, IPSS remained significantly improved from baseline (mean improvement in IPSS per protocol at 3, 12, 24, 36, 60 months compared to baseline: -11.14 (-49.7%), -10.61 (-47.4%), -9.13 (-41.4%), -8.83 (-41.1%), -7.56 (-35.9%), respectively). QOL, Qmax and BPHII improved significantly (-2.32 (-50.3%), 3.48 (49.3%), -3.48 (-51.8%), respectively). Adverse events were mild to moderate and transient. Sexual function was stable over 5 years with no subjects reporting an adverse event of de novo sustained ejaculatory or erectile dysfunction. In addition to sustained efficacy, durability can be assessed by the rate of surgical reintervention for recurrent BPH symptoms. The cumulative surgical reintervention rate for PUL subjects in the LIFT study was 10.7% after 3 years and 13.6% after 5 years. By way of comparison the surgical reintervention rate for TURP at 5 years is 5.8% - 7.0%. Use of BPH medication after PUL was 3.6% at 1 year and 10.7% at 5 years post procedure. A retrospective study of 6,430 TURP and laser patients found that the rate of new use of BPH medication was 20-25% for TURP and 18-25% for laser (Strope et al., 2015[1]).

PUL versus TURP

Prostatic urethral lift was compared to TURP in a randomized nonblinded controlled trial at ten European centers (BPH6: Comparison of the UroLift System to TURP for Benign Prostatic Hyperplasia (BPH6), ClinicalTrials.gov NCT01533038). One-year results were reported by Sønksen et al., 2015. Eligible participants were at least 50 years, candidates for TURP, and enrolled by investigators if they met the study inclusion criteria (IPSS > 12, Qmax ≤ 15 ml/s for 125 ml voided volume, post void residual volume < 350 ml, prostate volume ≤ 60 cm^3 on ultrasound). Exclusion criteria included active urinary tract infection at time of treatment, bacterial prostatitis within 1 year of index procedure, cystolithiasis within 3 months of the index procedure, obstructive medial lobe as assessed by ultrasound and cystoscopy, current urinary retention. Eighty patients were enrolled (PUL = 45, TURP = 35). One patient in the PUL group was excluded for protocol deviation. Mean age in the PUL group was 63 ± 6.8 years and mean prostate volume was 38 ± 12 cm^3. The primary outcome measure was to show that PUL is not inferior to TURP in terms of the BPH6 composite endpoint at 12 months. The BPH6 composite endpoint[2] is made up of the following six elements. A subject is a responder if all six elements are met:

- LUTS: ≥ 30% reduction in International Prostate Symptom Score (IPSS) compared to baseline
- Recovery Experience: Return to pre-operative activity levels by 1 month
- Erectile function: Less than 6-point reduction in Sexual Health Inventory for Men (SHIM) compared to baseline
- Ejaculatory function: Response on MSHQ-EjD that indicates emission of semen. This excludes the response "Could not ejaculate"
- Continence: Incontinence Severity Index (ISI) score of 4 points or less at all follow-up time points
- Safety: No procedure-related adverse event greater than Grade I on the Clavien-Dindo classification system modified for TURP at any time during procedure or follow up

[1] Strope SA, Vetter J, Elliott S, Andriole GL, Olsen MA. Use of Medical Therapy and Success of Laser Surgery and Transurethral Resection of the Prostate for Benign Prostatic Hyperplasia. Urology. 2015 Dec;86(6):1115-22

[2] The BPH6 composite endpoint is as yet not validated, although it is composed of individually validated instruments.

The proportion of participants who met the BPH6 composite endpoint was 34.9% for the PUL group and 8.6% for the TURP group (noninferiority p = 0.0002). Although designed to detect noninferiority, the study demonstrated superiority of PUL over TURP in terms of the BPH6 responder endpoint (superiority p = 0.006). TURP was superior to PUL in reducing IPSS (91% vs 73%, p = 0.05), whereas PUL was superior to TURP for quality of recovery (82% vs 53%, p = 0.008) and preservation of ejaculatory function (100% vs 61%, p < 0.0001). No significant differences were observed for erectile function, continence, or grade II+ adverse events. Although the results for the BPH6 safety element were better for the PUL than for the TURP group (93% vs 79%), the difference was not significant (p = 0.1). Reintervention for failure to cure occurred in 6.8% (3/44) of PUL and 5.7% (2/35) of TURP patients. No subject in either study arm started taking an alpha blocker or 5 alpha reductase inhibitor.

Secondary endpoints included comparison of treatment groups with respect to International Prostate Symptom Score (IPSS), IPSS QoL, BPH impact index (BPH II), peak flow rate (Qmax), Male Sexual Health Questionnaire for Ejaculatory Dysfunction (MSHQ-EjD), and post-void residual volume (PVR). The authors noted that while the study size was sufficiently powered to address the primary endpoint, it was not powered to ensure that the sample size was sufficient to detect meaningful differences in secondary endpoints.

Gratzke et al., 2017 reported 2-year results for the BPH6 study secondary endpoints (IPSS, IPSS QoL, BPHII, peak flow rate (Qmax), MSHQ-EjD, and post-void residual volume (PVR)) and added some additional QoL indicators to provide a more complete characterization after LUTS treatment for BPH. Significant improvements in IPSS, IPSS QoL, BPH Impact Index (BPHII) and Qmax were observed in both arms through 2-year follow-up. IPSS change with TURP was superior to that with PUL at 1 and 2 years (p=0.013 and p = 0.004, respectively) and TURP was superior with regard to Qmax at all time points. QoL and BPHII improvements were not statistically different between study arms at any timepoint. Erectile function was preserved in both arms as assessed by SHIM at all time points. Ejaculatory function was superior for PUL compared with TURP at all time points, with patients in the TURP arm experiencing a decline in MSHQ-EjD function score beginning 1 month after the procedure and continuing onward. Durability of effect is another important characteristic of treatment options. Over the 2-year follow up, six patients in the PUL arm (13.3%) and two in the TURP arm (5.7%) underwent retreatment for return of LUTS.

TURP has long been considered the gold standard surgical treatment for maximum relief of LUTS/BPH; however, TURP is associated with long-term complications that include ejaculatory dysfunction. Gratzke et al. concluded "*It has long been established that TURP offers maximum improvement in IPSS and Qmax, but the BPH6 study results indicate that an exclusive focus on these two goals may not result in the greatest improvement in quality of life for patients who value other important health outcomes. If on one hand, a man is likely to be satisfied with the 43% mean IPSS improvement that PUL offers at 2 years and highly values avoiding sexual dysfunction or episodic incontinence, PUL is perhaps the better choice. If, on the other hand, sexual function and high quality, rapid recovery are not important concerns, TURP may be the better choice to maximize impact on LUTS*."

Cohort studies
In the LIFT study, 66 patients underwent a sham procedure and were assessed at baseline through to 3 months via IPSS, Qmax, IPSS quality of life (QoL) question, BPH Impact Index (BPHII), PVR, and sexual function questionnaires by an assessor blinded to the enrollment arm. After 3 months, patients in the sham group were offered PUL or another intervention if symptoms persisted. Those patients who elected PUL treatment were assessed before crossover to PUL, and at 0.5, 1, 3, 6, 12, and 24 months after PUL. Of the 66 sham patients, 53 (80%) elected to undergo PUL treatment, entering the crossover study, (Rukstalis et al., 2016). Two patients were later excluded for protocol deviations associated with data collection methods, leaving 51 patients in the crossover cohort for analysis. Mean age was 64 ± 7.8 years; mean prostate volume was 40.53 ± 9.92 ml. During the 24- month follow-up period, four patients (8%) progressed to TURP

and one (2%) required additional PUL implants. No patients were taking an a-blocker or 5a-reductase inhibitor for LUTS at the time of the 24-month follow-up. Three patients withdrew from the study, and one missed the 24- month follow-up visit, leaving 42 subjects available for per protocol evaluation at 24 months. After crossover PUL treatment, IPSS improved significantly within 2 weeks and achieved peak improvement at 3 months (13.12 ± 7.34 (52.7%), $p < 0.001$)), and although improvement was still significant through 24 months (9.60 ± 8.48 (35.5%), $p < 0.001$), IPSS trended downward at each timepoint after 3 months. Qmax improved significantly at 3 months (4.00 ± 6.53 (76.0%), $p < 0.001$) and this improvement was stable through 24 months (4.18 ± 6.50 (77.2%), $p < 0.001$). BPHII and QoL were significantly improved at 1-month post-PUL compared to baseline and significant improvement was maintained through 24 months. The SHIM scores were not significantly different however MSHQ-EjD function and bother scores both showed significant improvement beginning at 1-month post-PUL and significant improvement was maintained through the 24-month follow-up. Adverse events were in general mild to moderate and typically resolved by 2 weeks post-PUL. Ten devices (4%) were later found to have been inadvertently deployed such that part of the implant was exposed to urine within the bladder and developed surface encrustation. Over the 24-month follow-up period, three patents had their encrusted devices removed, and one additional patient underwent removal of a non-encrusted device prophylactically. In each case LUTS either remained stable or improved after removal.

The approach of retracting enlarged prostatic lobes using Urolift implants has been studied in men with lateral lobe (LL) enlargement. There are only limited data on treating patients with a prostatic median lobe enlargement due to BPH. In the LIFT study, 5.3% of those subjects assessed for randomization were excluded for an obstructive median or middle lobe (OML) (Roehrborn et al. 2017). MedLift is a U.S. Food and Drug Administration-approved Investigational Device Exemption (IDE) extension of the LIFT study to determine the safety and efficacy of PUL for the treatment of OML (Study of Median Lobe Prostatic UroLift Procedure, Clinicaltrials.gov NCT 2625545). Enrollment criteria included age ≥ 50 years, IPSS ≥ 13, peak flow rate (Qmax) ≤ 12 mL/s with a 125 mL voided volume and 30–80 cc intraurethral prostatic volume as measured by transrectal ultrasound, and in the opinion of the investigator, the middle or median lobe appeared obstructive and would have contraindicated a purely LL PUL. The primary objective was to determine the effectiveness and safety of PUL for treating subjects with OML. The primary endpoint was to demonstrate at 6 months that the mean percent improvement in IPSS over baseline for PUL was > 30%. The mean improvement in IPSS at 6 months was 57.7%, with mean IPSS improvement maintained through 12 months at 55.1%. At one-year follow up, no subject had been lost to follow up or exited the study. Mean IPSS improvement at 1, 3, 6, and 12 months was at least 13.5 points and significantly better than baseline at every time point ($p < 0.0001$). QoL and BPHII were similarly improved (>60% and >70%, respectively at 3, 6, and 12 months). Mean Qmax improvement ranged from 90–130% throughout follow up. No subject required BPH LUTS medications for return of symptoms. Surgical retreatment for failure to cure occurred in 1 subject (2%) who received additional PUL implants at 9 months with no adverse effect from the presence of implants.

Systematic reviews and meta-analyses

Several systematic reviews and meta-analyses have been published that combined data from randomized controlled trials (RCTs) with non-RCTs (Jing et al., 2020, Xiang et al., 2020, Perera et al., 2015). Systematic reviews and meta-analyses that combine results derived solely from high quality RCTs are considered Level I evidence (CEBM Levels of Evidence).

Jing et al. conducted a systematic review and meta-analyses to evaluate the effectiveness of PUL through 24 months follow-up. A total of 11 studies with 1,443 patients met inclusion criteria. The cutoff date for inclusion was publication prior to December 1, 2019. Change from baseline was compared for IPSS, QoL, Qmax, PVR, and SHIM, and then compared to TURP. Trend graphs of the changes in each indicator were created to attempt to clarify the effectiveness of PUL. Data for each follow-up time point (1, 3, 6, 12, and 24 months) were analyzed in terms of baseline characteristics and functional and sexual health outcomes. At 24 months, the changes of three indicators were statistically significant (IPSS 9.40 points, $p < 0.001$; Qmax 3.39 ml/s, $p < 0.001$;

QoL 1.99 points, $p < 0.001$) but were not as effective as TURP. The trend plots show that the effect of PUL on IPSS, Qmax and QoL peaks at 3 or 6 months and then weakens over time. By only looking at the outcomes at 24 months compared to baseline, this trend would not be noticed. PUL showed no influence on SHIM, indicating that PUL has no effect on patients' sexual function. PUL showed no effect on PVR.

Jung et al., 2019 conducted a Cochrane review of prostatic urethral lift for treatment of LUTS in men with BPH. Two randomized controlled trials were included (Roehrborn et al., 2013, PUL vs sham and Gratzke et al., 2017, PUL vs TURP). While Roehrborn and colleagues published five-year follow-up data for PUL vs sham as an extended open-label study, only the three-month follow-up data for which there was a concurrent comparison group (PUL and sham) was used in accordance with the published protocol. The follow-up duration of PUL vs TURP was 24 months. The mean age was 65.6 years, mean IPSS was 22.7, mean Qmax was 8.9 mL/second, and mean prostate volume was 42.2 mL. Both studies included participants with IPSS > 12 and prostate volume < 80 mL. One study used Qmax ≤ 12 ml/second and one study used Qmax ≤ 15 ml/second. Major exclusion criteria included active urinary tract infection, urinary retention, raised PSA level suspicious of prostate cancer, history of prior prostate-related surgery such as TURP or laser procedure, and other medical conditions or medical comorbidities that represented relative or absolute contraindications for TURP or PUL. Jung et al. concluded that PUL may improve urological symptom scores and quality of life similarly as sham surgery short term. Compared to TURP, PUL is less effective in improving urological symptom scores both short and long term but may offer advantages with regards to the preservation of ejaculatory function. There is considerable uncertainty or lack of evidence (or both) with regards to the risk of major adverse events and retreatment rates over time. The certainly of evidence was consistently downgraded for study limitations, including attrition bias due to high rates of participants not included in the analysis.
Jung et al. see the following as research priorities:

- Further studies of greater methodological rigor comparing PUL to TURP as well as other treatment modalities. Studies should be of sufficient duration (24 months or longer) and transparently report on treatment-related adverse events and retreatment rates.
- Data to help inform which men may be most suitable for PUL based on characteristics such as age, prostate volume, and symptom scores. Given the large numbers of alternative treatment modalities to treat men with LUTS secondary to BPH, this represents important information that should be shared with men considering surgical treatment.

Guidelines
The American Urological Association (AUA) 2021 Guidelines (AUA, 2021) recommendations for PUL:

- PUL should be considered as a treatment option for patients with LUTS/BPH provided prostate volume 30-80cc and verified absence of an obstructive middle lobe. (Moderate Recommendation; Evidence Level: Grade C)
- PUL may be offered as a treatment option to eligible patients who desire preservation of erectile and ejaculatory function. (Conditional Recommendation; Evidence Level: Grade C)

Similarly, the 2022 European Association of Urology (EAU) Guidelines recommend offering prostatic urethral lift (Urolift) to men with LUTS interested in preserving ejaculatory function, with prostates < 70 mL and no middle lobe obstruction (Gravas et al., 2022).

Analysis of Evidence (Rationale for Determination)

Two randomized controlled trials (RCTs) and one crossover cohort study provide evidence that PUL significantly improves IPSS, Qmax and QoL; however, these improvements are inferior to TURP at 24 months. TURP has long been considered the gold standard surgical treatment for maximum relief of LUTS/BPH; however, TURP is associated with long-term complications that

include ejaculatory dysfunction. PUL preserved ejaculatory function when compared to TURP through 24 months ($p < 0.001$).

At this time, data on which patients may be most suitable for PUL based on characteristics such as age, prostate volume and urological symptom scores have not been reported.

Based on this review of the current evidence, Fallon Health considers PUL medically necessary as an alternative to TURP for the treatment of LUTS attributed to BPH when coverage criteria are met. The coverage criteria are derived from inclusion criteria in the RCTs, and are consistent with AUA Guideline recommendations.

The efficacy of PUL in large prostates of 80 cc or larger has not been shown. The RCTs enrolled men with prostates within specific size ranges. Fallon Health's coverage criteria reflect the prostate volume included in the RCTs and AUA Guideline recommendations (i.e., ≥ 30 cc and ≤ 80 cc). Fallon Health recognizes that the PUL procedure does not necessarily lack efficacy in prostates larger than 80 cc, however RCT evidence of efficacy is lacking.

There are only limited data on treating patients with an obstructive median lobe. It appears that patients with an obstructive median lobe can be effectively treated with a variation in the standard technique, but RCTs are needed. The AUA panel identified the MedLift study but excluded it from formal efficacy analysis because it was a nonrandomized cohort study using historical controls rather than a randomized controlled trial (AUA, 2021).

The AUA panel recognizes that many devices do not necessarily lack efficacy in prostates below or above 30-80 cc, however, there is insufficient evidence to make formal recommendations beyond those sizes identified (AUA, 2021).

Longer-term studies are needed to evaluate the duration of the effect. Meta-analysis shows that the effect of PUL on IPSS, Qmax and QoL peak at 3 or 6 months and then weaken over time. By only looking at the outcomes at 24 months compared to baseline, this trend would not be noticed.

Studies comparing PUL to other surgical techniques are needed, this represents important information that should be shared with patients considering surgical treatment.

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Coding

The following codes are included below for informational purposes only; inclusion of a code does not constitute or imply coverage or reimbursement.

Code	Description
52441	Cystourethroscopy, with insertion of permanent adjustable transprostatic implant; single implant
52442	Cystourethroscopy, with insertion of permanent adjustable transprostatic implant; each additional permanent adjustable transprostatic implant (list separately in addition to code for primary procedure)

Facility Coding for Medicare Outpatient Prospective Payment System (OPPS) and Medicare Ambulatory Surgery Center (ASC) Payment System

C9739	Cystourethroscopy, with insertion of transprostatic implant; 1 to 3 implants
C9740	Cystourethroscopy, with insertion of transprostatic implant; 4 or more implants

ICD-10-CM Diagnosis Code

Code	Description
40.1	Benign prostatic hyperplasia with lower urinary tract symptoms

Policy history

Origination date: 12/01/2023
Review date(s)l: Technology Assessment Committee: 04/25/2023, 09/26/2023 (policy origination)

Not all services mentioned in this policy are covered for all products or employer groups. Coverage is based upon the terms of a member's particular benefit plan which may contain its own specific provisions for coverage and exclusions regardless of medical necessity. Please consult the product's Evidence of Coverage for exclusions or other benefit limitations applicable to this service or supply. If there is any discrepancy between this policy and a member's benefit plan, the provisions of the benefit plan will govern. However, applicable state mandates take precedence with respect to fully insured plans and self-funded non-ERISA (e.g., government, school boards, church) plans. Unless otherwise specifically excluded, federal mandates will apply to all plans.