

GreenLight™ and TURP: An Evolving Gold Standard in BPH Treatment

Editorial Commentary by

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For decades, transurethral resection of the prostate (TURP) was the gold standard to improve urine flow in patients with enlarged prostates.^{1,2} It has been the benchmark by which other benign prostatic hyperplasia (BPH) treatments are measured.³ But, as with many developments in health care, clinical innovation has provided a means for enhanced patient care.

The GreenLight™ Laser Therapy System employs photo-selective vaporization (PVP) to remove the tissue blocking the prostate and reduce lower urinary tract symptoms (LUTS). GreenLight provides TURP-like durable outcomes and symptom improvement and noteworthy safety advantages, such as less bleeding, shorter hospital stays and a faster recovery.^{4,5} GreenLight offers urologists more versatility in patient selection because it can be used on most prostate sizes.⁶ When it comes to treating BPH, GreenLight Therapy has earned the clinical evidence and reputation that traditionally only TURP has been accorded. In my mind, GreenLight can be considered a new gold standard.

TURP, the original gold standard

TURP, which involves inserting a scope into the urethra and cutting out prostate tissue with an electrified wire loop, is an alternative to more invasive robotic or open BPH surgeries.⁷ While there have been improvements over the years in BPH surgical options, such as the introduction of bipolar electricity, or low-temperature plasma energy, TURP remains prevalent because it has a long legacy of safety and efficacy data, and is taught in academic and residency settings. It is often viewed as a “traditional” approach.

GreenLight Therapy

But a more attractive, minimally invasive technology is GreenLight, which provides rapid relief of symptoms caused by BPH and can result in a shorter hospital stay, less catheterization time, less bleeding and a faster recovery.^{4,5} Unlike TURP patients, GreenLight patients can go home the same day.⁵ GreenLight patients on anticoagulation medicine can resume taking their medicine more quickly than TURP patients; if necessary, unlike TURP patients, they can safely stay on anticoagulation during the procedure.⁸ Plus, compared to TURP, there are fewer serious postoperative complications requiring re-intervention.^{5,9}

The American Urological Association (AUA) Guidelines support PVP as an option for the treatment of LUTS/BPH, especially for patients with a higher risk of bleeding.⁶

In my own experience, I find GreenLight results to be exceptionally durable.¹⁰ I've been doing GreenLight procedures for more than 20 years, and I've found that if I can resect most of the adenoma, the outcome could last from 15 to 20 years. I also find GreenLight to be very versatile.¹¹ For example, I use it for patients who have failed other procedures. Finally, GreenLight is an extremely useful modality for treating BPH of most sizes and shapes (bilobar or trilobar) – it's a great tool to have available in my bag.

According to the indications for both GreenLight and TURP, following are important considerations for both treatments:

GreenLight¹²

The GreenLight Laser System is intended for incision/excision, vaporization, ablation, hemostasis, and coagulation of soft tissue, including photoselective vaporization of the prostate for benign prostatic hyperplasia (BPH). The laser system is contraindicated for patients who are: contraindicated for surgery, contraindicated where appropriate anesthesia is contraindicated by patient history, have calcified tissue, require hemostasis in >2mm vessels, have uncontrolled bleeding disorders, have prostate cancer, have acute urinary tract infection (UTI), or severe urethral stricture. Possible risks and complications include, but are not limited to, irritative symptoms (dysuria, urgency, frequency), retrograde ejaculation, urinary incontinence, erectile dysfunction, hematuria - gross, UTI, bladder neck contracture/outlet obstruct, urinary retention, perforation - prostate, urethral stricture.

TURP¹³

Indications for a TURP include failure of medical management for LUTS or bladder outlet obstruction (BOO), obstructive nephropathy, bladder stone formation, 2+ episodes of urinary retention, prostate abscess, difficulty with clean intermittent catheterization and obstructive azoospermia. A TURP should be forgone if the patient will not tolerate the risks or the possible sequelae. Anticoagulation is a relative contraindication in a traditional TURP, but one can perform a laser TURP on anticoagulation or with the appropriate holding of anticoagulation. If a prostate is extremely large, greater than 100 g, this is an indication to perform a simple prostatectomy. But as with anything in medicine, discussing the options with the patient is the most appropriate decision prior to performing an irreversible surgery.

The GOLIATH trial

The clinical trial that really validated GreenLight was the GOLIATH trial, which showed GreenLight is as safe and effective as TURP, but also has demonstrated shorter recovery and fewer days in hospital.¹⁴

The GOLIATH trial was performed in 29 centers and 9 countries throughout Europe. In Great Britain, new technologies must be shown to be non-inferior to the current standard of care procedures, and less expensive for the health system (learn more about the National Institute for Health & Care Excellence (NICE) evaluation process [here](#)).¹⁵ With TURP as the standard, GreenLight did both.^{2, 14, 16}

Since the GOLIATH study, there have been numerous publications validating the benefits of GreenLight. One such publication conducted by the “Global GreenLight Group,” a group of renowned experts with extensive experience with GreenLight, was the largest multi-user, international analysis of GreenLight PVP. The meta-analysis evaluated data from 3,627 patients and found that GreenLight “in experienced hands” is a safe, effective, and durable BPH treatment option.¹⁰ That is why I think GreenLight should be considered as a new gold standard.

Guiding my patients through the decision

In my practice I offer many of the available prostate procedures, and I feel it is important to make sure the treatment I recommend fits the patient’s needs. That said, the field of urology is embracing surgical technological advancements,¹⁷ such as GreenLight, which can achieve improved results over TURP with less side effects and cost.²

Research adding cost-effectiveness evidence to impressive clinical results may spur more urologists to try GreenLight, which can be more cost effective to the patient, to the hospital, to the overall healthcare system.^{2, 17}

When evaluating BPH, patients need to understand their treatment options (including watchful waiting, medication, minimally invasive surgical treatments and resective procedures) and the potential side effects of each of these.⁶ Additionally, physicians need to understand what is important to their patients from a potential side effect profile and their expectations for symptom improvement. Each treatment option carries with it varying efficacies and potential side effects.

In my opinion, too often urologists try to fit every patient into one type of procedure; that's not how I like to practice medicine. The AUA guidelines emphasize the importance of shared decision-making, especially as it relates to which therapy patients ultimately decide to have performed.⁶

Conclusion

As urologists are looking to care for patients who haven’t yet been treated for their BPH, it’s important to remember that evidence shows that medications to treat BPH can have a long-term negative impact on patients.¹⁸ As more men want to get off oral medications, I believe they will be increasingly receptive to discussing GreenLight Therapy. And for urologists looking to embrace this newer technology, the clinical evidence speaks for itself – start by reviewing the

Global Greenlight Group outcomes.¹⁰ As GreenLight increasingly is emerging as a gold standard for surgical treatment of BPH by patients, physicians, hospitals, and health care systems, all can benefit – patients most of all.

Results from different clinical investigations are not directly comparable. Information provided for educational purposes only.

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