

# Transscleral Laser Therapy with MicroPulse® Technology for Earlier and Interventional Glaucoma Management

## A Technological and Practical Rationale



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Glaucoma is a progressive disease that requires proactive management to preserve vision and quality of life. Dr. Nathan Radcliffe discusses the advantages of Transscleral Laser Therapy (TLT) using MicroPulse® Technology (referred to as MicroPulse TLT) in managing glaucoma, particularly for patients with a long expected lifespan and those requiring minimally invasive treatment options.

I frequently have glaucoma patients who are risking progression with 40 or more years of expected lifespan left. I need safe, minimally invasive treatments that preserve their sight without degrading quality of life or eliminating future treatments that may be needed down the road.



MicroPulse TLT with the Cyclo G6® laser console using the revised MicroPulse P3® Delivery Device.

The mechanism of action of MicroPulse TLT is a unique and fascinating evolution from traditional cyclophotocoagulation treatment.

The MicroPulse® Technology in the Cyclo G6® laser console using the revised MicroPulse P3® Delivery Device

**MicroPulse TLT stands out as the only non-incisional, titratable glaucoma treatment with the efficacy of a surgical procedure.**

delivers a multi-faceted phenomenon creating more space in the uveoscleral tissue, helping with outflow; and causes ciliary muscle contraction that opens the angle to increase trabecular outflow.<sup>1,2</sup> The application technique of sweeping (rather than applying discreet spots) at thermal levels that avoid tissue necrosis<sup>3</sup> and without obvious destruction or direct ciliary epithelial damage, make MicroPulse TLT a safe, versatile, and uniquely repeatable treatment option. Overall, I find the revised MicroPulse P3 Delivery Device with an enhanced ergonomic design and a scleral-matching curvature offers a significant safety advantage that makes me more likely to consider this option earlier and in a wider range of patients.

MicroPulse TLT is titratable to each patient's glaucoma type, severity, and physician treatment goals.<sup>4</sup> In my

experience, using higher levels of total energy produces dramatic intraocular pressure reductions that last for years and reduces patients' dependence<sup>5</sup> on topical medications.

The complimentary effect of combining primary outflow pathway procedures with uveal scleral enhancement is physiologically synergistic.

### My Economic Perspective

While the safety and efficacy of any glaucoma intervention is the priority, the practice efficiencies and economics are important to consider. In my experience, MicroPulse TLT can be efficiently performed, has a treatment time similar to other laser procedures (and certainly shorter than most incisional glaucoma procedures), and has minimal required patient follow-up. In particular, the patient's experience from a non-incisional laser is superior to traditional glaucoma procedures. With the established CPT code (66710), MicroPulse TLT can be a viable addition for optimal patient care and practice management.

“In my practice, I use MicroPulse TLT early for aggressive glaucoma treatment; often in combination with MIGS, particularly standalone cases.”

As a non-incisional procedure, MicroPulse TLT doesn't require a sterile room, allowing for flexible implementation within my practice. This allows me to implement MicroPulse TLT into my workflow by staggering treatments for maximum efficiency. I sometimes use MicroPulse TLT as an adjunct to MIGS procedures to enhance efficacy but routinely while one of my OR rooms is getting turned over from a previous procedure, I'll use the second or a minor operating room to do MicroPulse TLT. The anesthesiologist accompanies me from one room to the other while I alternate between incisional operations and MicroPulse TLT, minimizing downtime.

Combining MicroPulse TLT and MIGS to tailor to the needs of a patient who is on maximum tolerated medical therapy allows me to effectively boost the performance of the MIGS procedure. I can also repeat MicroPulse TLT until the need for incisional surgery arises.

“I can also repeat MicroPulse TLT until the need for incisional surgery arises.”

MicroPulse TLT with the Cyclo G6® laser console using the revised MicroPulse P3® Delivery Device meets and exceeds both my therapeutic goals and practice management goals. It is an indispensable tool in my practice.

### References

1. Nemoto H, Honjo M, Okamoto M, Sugimoto K, Aihara M: Potential Mechanisms of Intraocular Pressure Reduction by Micropulse Transscleral Cyclophotocoagulation in Rabbit Eyes. *Invest Ophthalmol Vis Sci* 2022;63(6):3.
2. Johnstone MA, Padilla S, Wen K: Transcleral Laser, Ciliary Muscle Shortening & Outflow Pathway Reorganization. *Invest Ophthalmol Vis Sci* 2017;58(8):3468-3468.
3. LaMarche K, Arnold K, Stauffer J, Stacey S, Campisi V, Grippo TM: Thermal Tissue Modeling to Predict Peak Temperature, Duration and Spread in the Ciliary Body with Continuous Wave Transscleral Cyclophotocoagulation and MicroPulse® Transscleral Laser Therapy for the Treatment of Glaucoma. *Invest Ophthalmol Vis Sci* 2023;64(8):4906-4906.
4. Grippo TM, Toteberg-Harms M, Giovengo M, Francis BA, de Crom R, Jerkins B, Brubaker JW, An J, Radcliffe N, Noecker R: Evidence-Based Consensus Guidelines Series for MicroPulse Transscleral Laser Therapy - Surgical Technique, Post-Operative Care, Expected Outcomes and Retreatment/Enhancements. *Clin Ophthalmol* 2023;17:71-83.
5. Sarrafpour S, Saleh D, Ayoub S, Radcliffe NM: Micropulse Transscleral Cyclophotocoagulation: A Look at Long-Term Effectiveness and Outcomes. *Ophthalmol Glaucoma* 2019;2(3):167-171.

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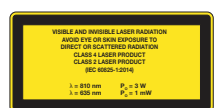
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