



# Selective Laser Trabeculoplasty as Repeat Therapy in Patients with Glaucoma: 7 Year Experience

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# Introduction

- **Selective Laser Trabeculoplasty (SLT) uses a Q-Switched frequency-doubled (532 nm), low energy Nd:YAG laser, which targets melanocytes in the trabecular meshwork<sup>1,2</sup>.**
- **SLT treatment induces a biologic response in the trabecular meshwork, which involves the release of cytokines that trigger macrophage recruitment and other changes, leading to reduction in intraocular pressure (IOP).**
- **SLT treats the trabecular meshwork without causing thermal nor coagulative damage to surrounding structures.**

1. Latina MA, et al. Selective targeting of trabecular meshwork cells: in vitro studies of pulsed and CW laser interactions. *Exp Eye Res.* 1995;60:359-372.

2. Latina MA, et al. Q-switched 532-nm Nd:YAG laser trabeculoplasty (selective laser trabeculoplasty): a multicenter, pilot, clinical study. *Ophthalmology.* 1998;105:2082-2090.



# Purpose and Methods

## ➤ Purpose

- To evaluate SLT as repeat therapy, to decrease IOP and medications used (meds), in patients with glaucoma.

## ➤ Methods

- Retrospective chart review was performed on 626 of 2408 uniquely treated eyes, from a consecutive case series of 3034 eyes treated with SLT over 7.5 years.
- Two-tailed paired t-test was used to compare maximum pre- and average post-procedure IOP and number of meds.



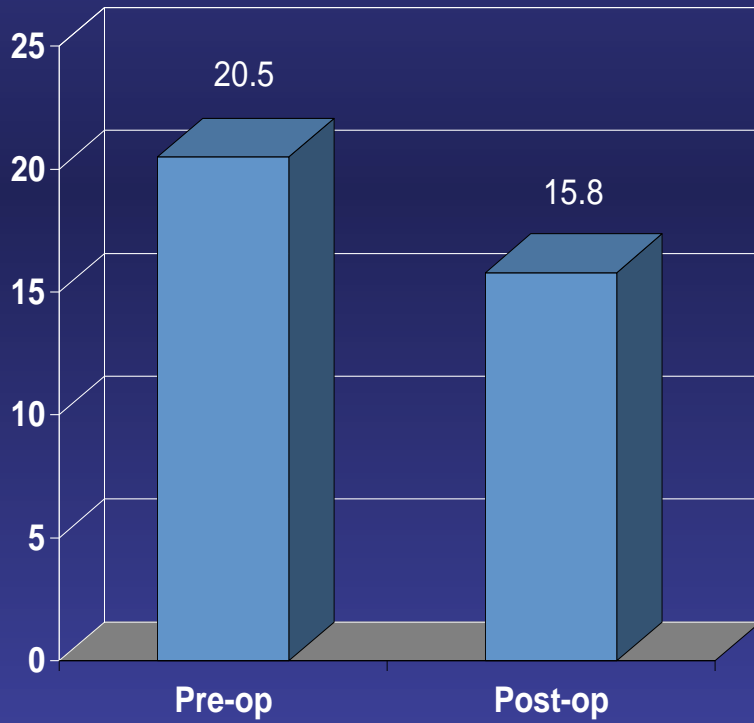
# Results

- Mean follow-up was 601 days.
- Mean IOP decreased 23% from mean of 20.5 mmHg to 15.8 mmHg.
- Mean meds were unchanged from a mean of 1.0 to 1.0 meds.
- 26% of eyes treated with SLT over seven years received repeat therapy.
- Results were significant with  $p < 0.01$ .

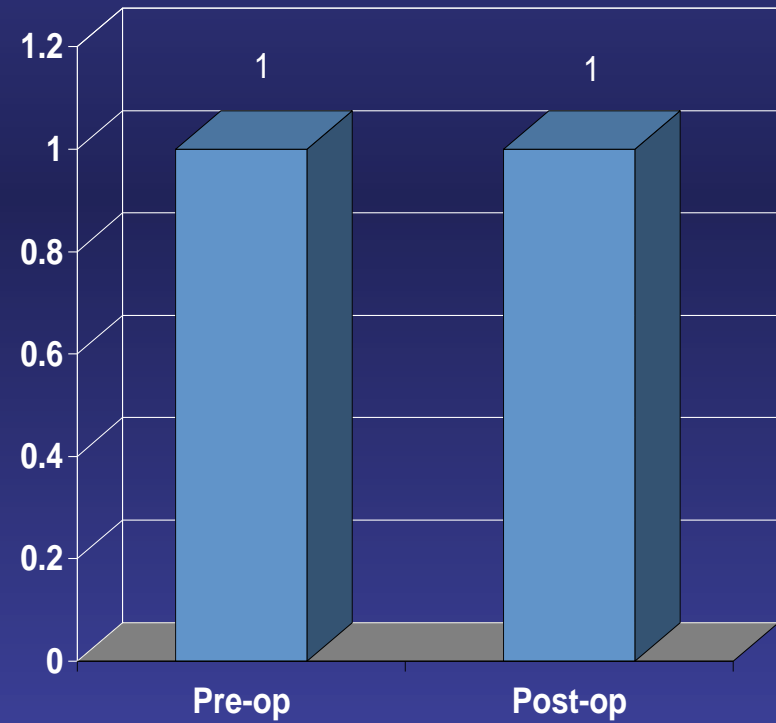


# Results

### IOP (mmHg)



### Meds





# Discussion

- The Ocular Hypertensive Treatment Study and
- Early Manifest Glaucoma Trial
  - Established efficacy of early and effective treatment to preserve long-term visual function in glaucoma patients<sup>1,2</sup>.
- Our findings build on these studies and suggest SLT as repeat therapy significantly lowered mean IOP 23% in patients with glaucoma ( $p < 0.01$ ).
- Our findings suggest SLT as repeat therapy had a 26% cumulative repeat rate over seven years in patients with glaucoma ( $p < 0.01$ ).
- Further study with controlled clinical trials is indicated.

1. Kass MA, et al. OHTS. *Arch Ophthalmol*. 2002;120:701-713.

2. Heijl A, et al. EMGT. *Arch Ophthalmol*. 2002;120:1268-1279.



# Conclusion

- In this series of over 3,000 eyes followed for more than 7 years:
  - Selective Laser Trabeculoplasty (SLT) as repeat therapy significantly lowered intraocular pressure (IOP) in patients with glaucoma.
  - Selective Laser Trabeculoplasty (SLT) as repeat therapy demonstrated a clinically effective repeat rate in patients with glaucoma.
  
- Results were significant with  $p < 0.01$ .