

## 90 A Randomized, Prospective Comparison of 360 Degree Selective Laser Trabeculoplasty (SLT) vs. 577 nm Micropulse Laser Trabeculoplasty (MLT) in Eyes with Open-Angle Glaucoma



**NISHA CHADHA<sup>1</sup>, David Belyea<sup>2</sup>,  
Tania Lamba<sup>2</sup>, Benjamin Abramowitz<sup>2</sup>**

<sup>1</sup> Yale University

<sup>2</sup> The George Washington University

### Purpose/Relevance

The purpose of this study was to compare the efficacy, safety, and patient comfort with SLT vs. MLT treatment (tx).

### Methods

48 Patients with open angle glaucoma and need for additional intraocular pressure (IOP) reduction were enrolled and randomly assigned to either SLT (n=23) or MLT (n=25). Patients with angle closure, neovascular, or end-stage glaucoma were excluded. All patients were surveyed on procedure and post-operative pain.

### Results

The average pre-tx IOP for SLT and MLT groups were 16.7 mmHg and 18.3 mmHg respectively. The average IOP 1 hour, 1 week, 4-6 weeks, and 8-16 weeks post-tx was 15.6, 15.2, 12.9, and 13.1 mmHg for the SLT group and 14.3, 16.4, 15.6, and 15.7 mmHg for the MLT group. 3 patients in the SLT group and 1 patient in the MLT group had a post procedure IOP elevation (IOP rise >6 mmHg) but all post procedure IOPs were ≤20 mmHg. Average IOP reduction at 4-6 weeks post-tx was 3.2

mmHg for the SLT group and 3.1 mmHg for the MLT group (p=0.86). Average IOP reduction at 8-16 weeks post treatment was 2.5 mmHg for the SLT group and 3.0 mmHg for the MLT group (p=0.71). No adverse reactions occurred in either group. Average pain reported during the procedure was 3/10 for SLT group and 1.2/10 for MLT group (p=0.0063).

### Discussion

There was no statistically significant difference in IOP reduction between the SLT and MLT groups at both 4-6 weeks and 8-16 weeks post treatment. Both lasers were safe but MLT was more comfortable for most patients. Additionally, there was a trend towards earlier IOP reduction at post-tx week 1 in the MLT group but this was not statistically significant.

### Conclusion

MLT is as effective in lowering IOP as SLT with an equivalent safety profile. It also offers more patient comfort both during and after the procedure. Given these results, further investigation of this unique form of laser therapy is warranted.

### References

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