

## Laser in Glaucoma and Ocular Hypertension (LiGHT) Trial 3- and 6-year study results summary



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On behalf of The LiGHT trial group (including Evgenia Konstantakopoulou, PhD - David Garway-Heath, MD - Mariam Adeleke, PhD - Victoria Vickerstaff, PhD - Gareth Ambler, PhD - Rachael Hunter, MSc - Catey Bunce, DSc - Neil Nathwani, BSc - Keith Barton - FRCS)

### PURPOSE OF THE STUDY

The laser in glaucoma and ocular hypertension (LiGHT) trial aimed to establish whether initial treatment with selective laser trabeculoplasty (SLT) is superior to initial treatment with topical medication for primary open angle glaucoma (POAG) or ocular hypertension (OHT).

### DESIGN

LiGHT was a prospective unmasked, multicenter, pragmatic, randomized controlled trial (RCT).

### METHOD

Patients were randomly allocated to initial SLT or eye drops. After the initial 3 years of the trial, patients in the SLT arm were permitted a third SLT if necessary; patients in the drops arm were allowed SLT as a treatment switch or escalation.

In both the 3-year and extension studies the primary outcome was health-related quality of life (HRQoL); secondary outcomes included IOP control, disease control, medication-free IOP control, and need for surgery.

### CONCLUSIONS

SLT has been shown to control IOP safely and effectively in patients with ocular hypertension and mild to moderate open-angle glaucoma.

The 3-year results of the LiGHT study showed that most eyes treated with SLT as the primary intervention were drop- and surgery-free with most controlled eyes needing only one treatment.

The 6-year extension study built upon the promising 3-year results, again showing that the majority in the SLT-first group were controlled to their target IOP without medications.

LINK TO THE STUDY



### KEY FIGURES



**718** patients



Follow-up  
time

### RESULTS



69.8% of SLT patients reached target IOP and were drop-free at 72 months



5 times less medication-drop related adverse events with SLT



SLT more cost effective than eye drops with 97% probability



## 718 TREATMENT-NAÏVE PATIENTS WITH OH AND AOG TARGET IOP ACCORDING TO GLAUCOMA SEVERITY & STARTING IOP

3  
years

91 % of the total population



356  
ALLOCATED TO SLT FIRST



362  
ALLOCATED TO DROPS FIRST

IOP on target <sup>1</sup>

93%

91.3%

Reduction of IOP in  
treatment-naïve patients <sup>2</sup>

28%

28% Prostaglandins

Surgery required <sup>1</sup>

0 patient

11 patients

6  
years

83 % of the total population

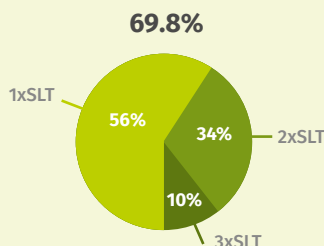


263  
ALLOCATED TO SLT FIRST

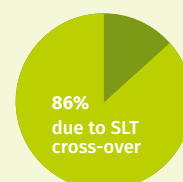


261  
ALLOCATED TO DROPS FIRST

Eyes Free from Drops  
with no surgery <sup>5</sup>



18%



Glaucoma Symptom  
Scale scores <sup>5</sup>

83.6 +-18.1

81.3 +-17.3

Disease progression <sup>5</sup>

19.6%

26.8%

Surgery required <sup>5</sup>  
(patient number)

Trabeculectomy  
13

Cataract  
57

Trabeculectomy  
32

Cataract  
95



SLT can be  
repeated when  
the effect wears off <sup>1</sup>



The second treatment is  
often more successful  
than the first <sup>3</sup>



Visual field in SLT  
patients showed less  
damage than eye drop  
users <sup>4-6</sup>



Adjunctive SLT can take  
the place of  
additional medication <sup>7</sup>

**CONCLUSION: SLT is a safe treatment for OAG and OHT, providing better long-term disease control than initial drop therapy, with reduced need for incisional glaucoma and cataract surgery over 6 years.**

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7- Konstantakopoulou E, Gazzard G, Garway-Heath D, et al. Selective Laser Trabeculoplasty After Medical Treatment for Glaucoma or Ocular Hypertension. JAMA Ophthalmol. Published online February 20, 2025. doi:10.1001/jamaophthalmol.2024.6492