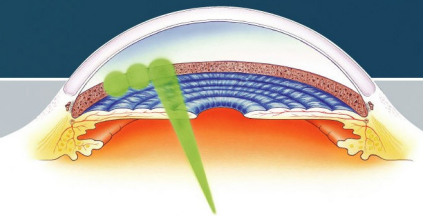




SLT.
NATURALLY RESTORE
MESHWORK.

SLT FROM ELLEX



ellex.



SLT
FROM ELLEX

LASER SURGERY IN GLAUCOMA

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SLT
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What is **SLT**

- Selective Laser Trabeculoplasty
- Non-thermal laser treatment
- Short pulses of low energy 532nm light
- Selectively targets and irradiates only the pigmented cells in the trabecular meshwork with no collateral damage to its underlying structure



SLT
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SLT Parameters

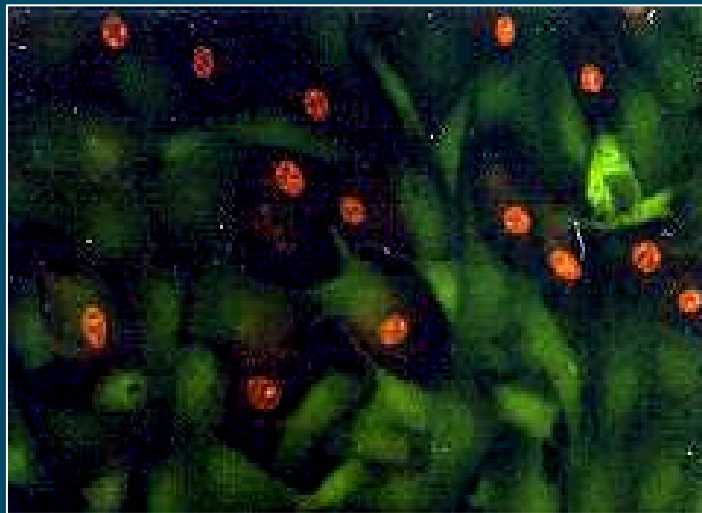
- 3 nanoseconds pulse width
- Q-switched, frequency doubled Nd:YAG laser (532nm)
- Power = 0.5 - 0.8 mJ (average)
- 400 micron spot size



Efficacy of SLT

Fluorescence photomicroscopy evidence of efficacy of SLT

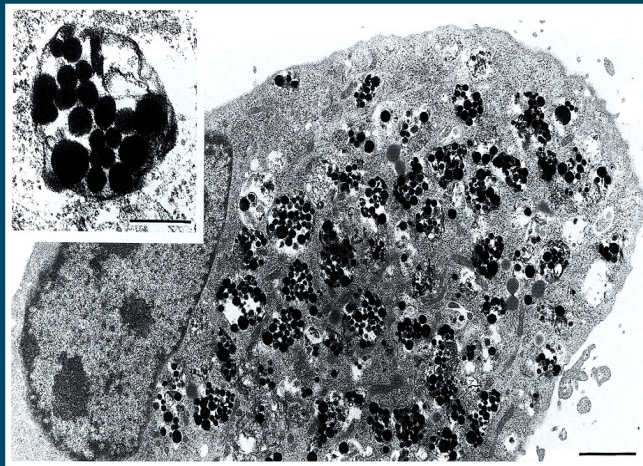
(Green = live cells : Orange = dead cells)



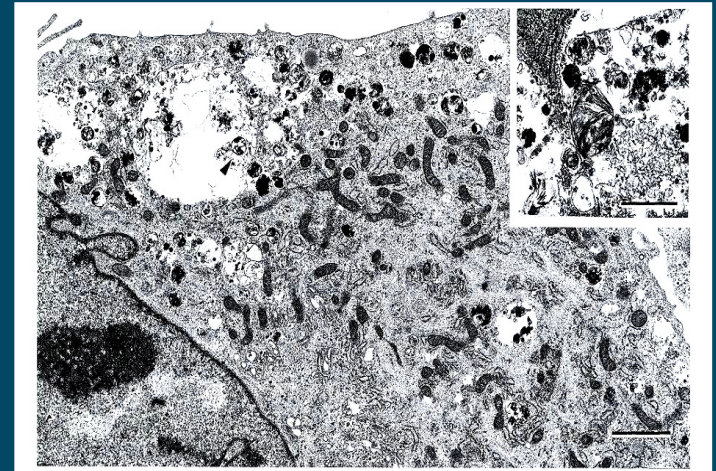
¹Latina MA, Tumbocon JA. Selective Laser Trabeculoplasty: The Evolution of Laser Treatment for Open Angle Glaucoma

A Cell with Melanin

Pre-SLT



Post-SLT





Mechanisms of SLT

- Melanin containing cells are damaged by SLT, without affecting the underlying structure
- Macrophage recruitment takes place to remove damaged cells
- Trabecular meshwork cells divide to replace the lost cells
- A healthier, more porous trabecular meshwork restores balanced aqueous outflow
- This process occurs differently from person to person but typically takes about a week



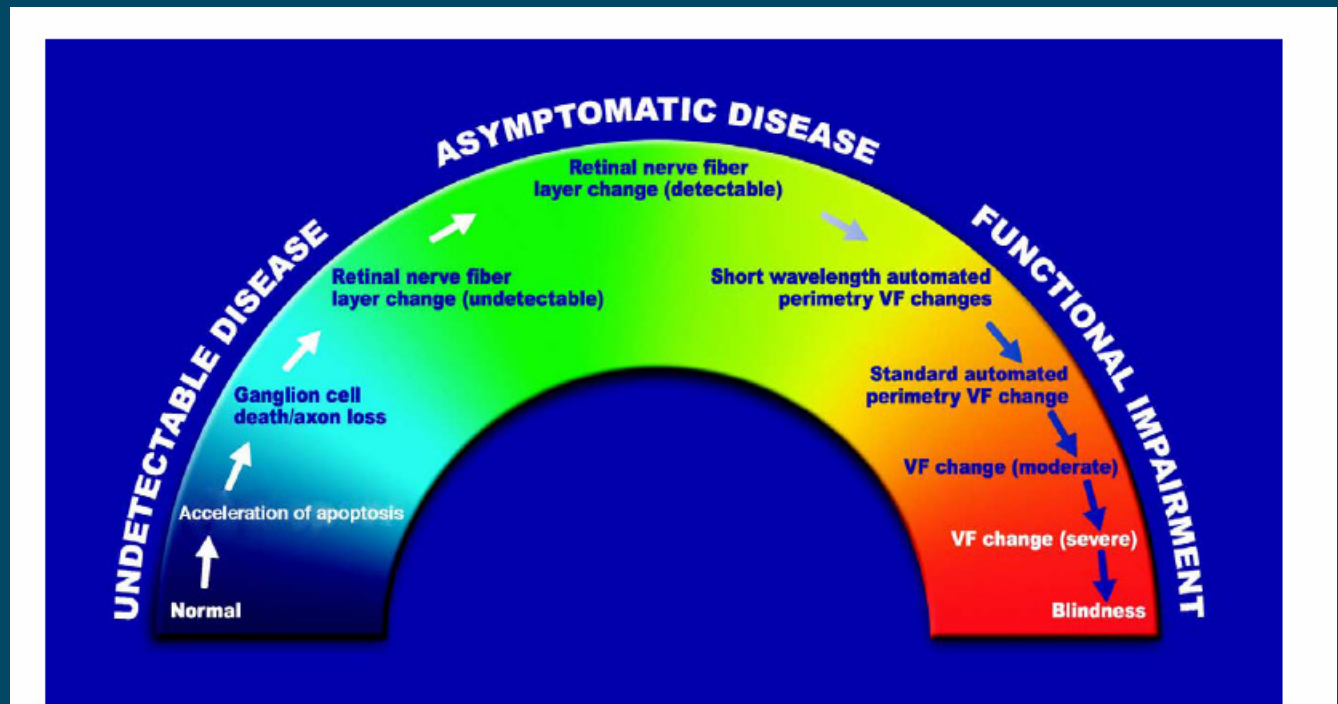
Mechanisms of SLT

- Cell death causes macrophage (blue) recruitment to clean out the dead cells
- The (yellow) cytokines :
 - Stimulate cell division and regeneration
 - Increase the porosity of the trabecular meshwork and Schlemm's canal

Characteristics of **SLT**

- **Natural**
SLT stimulates a natural healing response in the body to rebuild the meshwork with increased porosity
- **Selective**
Selectively targets only the melanin-rich cells of the trabecular meshwork.
- **SLT is Non-thermal**
The short pulse duration of SLT is below the thermal relaxation time of the TM tissue, thereby eliminating the incidence of thermal damage.
- **SLT is Repeatable**
Treatment can be repeated without causing harm or further complications.

The glaucoma continuum



Alternative & Adjunct to Medications

A recent study found that 25-40% of patients who turned in a glaucoma prescription at a pharmacy never picked up the medication, so.....

- SLT enables you to control your patients' glaucoma treatment through effectively lowering IOP without the compliance issues and side effects associated with drug therapy.
- SLT is particularly appropriate for individuals who cannot correctly administer, or are intolerant to, glaucoma medications, and can also be used effectively in conjunction with drug therapy.

SLT Patient Selection

- Patients with the following conditions:
 - Primary Open-Angle Glaucoma
 - Ocular Hyper Tension
 - Pigmentary Glaucoma
 - Pseudo-exfoliative glaucoma
- Poorly compliant to drug therapy
- Intolerant or unresponsive to drug therapy
- Failed ALT
- Patients under drug therapy who wish to use SLT in conjunction with glaucoma medications
- Post-filtration surgery patients requiring additional treatment

SLT Standard Treatment Regime

Pre-treatment

- Alpha-agonist (Iopidine or Alphagan) and topical anesthetic (e.g. Amethocaine)

Treatment

- Latina SLT lens or Three-mirror Gonio lens (no magnification) with methylcellulose 1% (Goniosol or GenTeal gel)
- Focus slit lamp on the trabecular meshwork and place aiming spot on full height of the TM
- Set laser to 0.6 mJ (average) and then increase by 0.1 mJ steps until champagne bubbles appear, then decrease energy by 0.1mJ
- Approximately 50 shots are placed onto the TM over 180° from superior towards inferior

Post-treatment

- Alpha-adrenergic agonist (Iopidine)
- Topical steroid, NSAID or prednisolone acetate 1% (e.g. Predforte) 4x daily for 5 days
- Follow up after 1-2 weeks and onwards

The above content has been prepared based on currently available information and is not intended to recommend a particular protocol.

SLT References

Zwolle, Netherlands: Study by H. Ferdinand A. Duijm, MD

“3 months following treatment with SLT, 79% of patients showed a reduction of at least 25% in IOP = same results with medications”

Aberdeen, Ca: Poster by Maurice Strasfeld MD at EGS

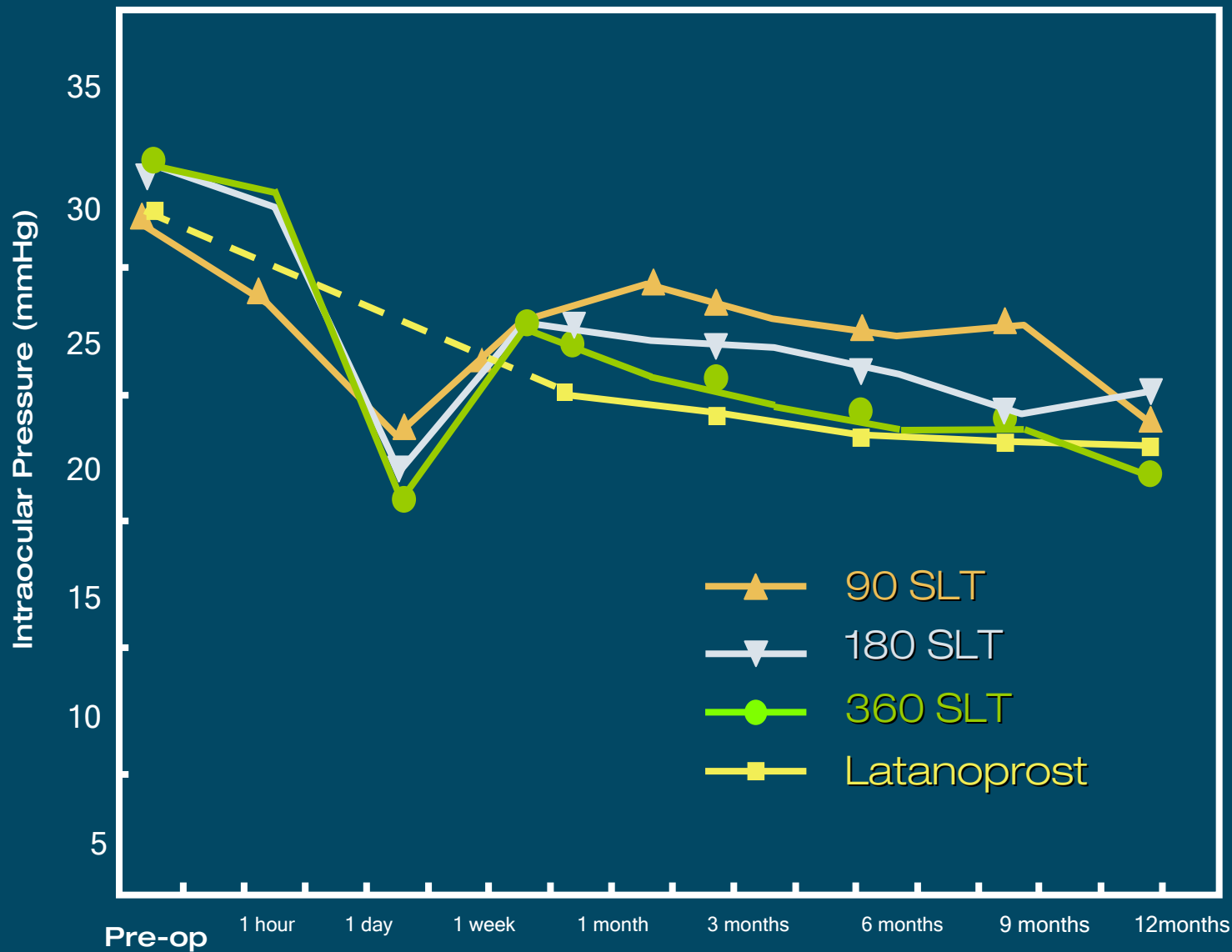
“SLT as effective as Latanoprost for lowering IOP”

Reading, MA (USA), study by Mark Latina MD in conjunction with Jan Smith MD of Norway:

“The probability of successfully remaining off medications or avoiding additional intervention after SLT was 77 % for POAG patients and 74 % for PXF patients at 30 months”



SLT
FROM ELLEX



M. Nagar et al. BJO, 89:1413-1417

5-year Clinical Studies

Juzych et al, Ophthalmology, October 2004

“Comparison of Long Term Outcomes of SLT vs. ALT in OAG” - 195 patients on max medical therapy

27% reduction maintained for 34% of patients for 5 years

Lai et al, Clinical and Experimental Ophthalmology, 2004

“Five year follow up of SLT in Chinese Eyes” - 29 patients with POAG or OHT 32% drop maintained for 5 years for 75% of patients



SLT
FROM ELLEX

How is SLT different from ALT ?

- Can be repeated
- Effective as first line treatment
- Does not create any thermal effect or burn
- Activates a natural response in the body
- Easier to perform with large non-focusing laser beam – large spot size of 400 microns
- Safer procedure with low energy



SLT
FROM ELLEX

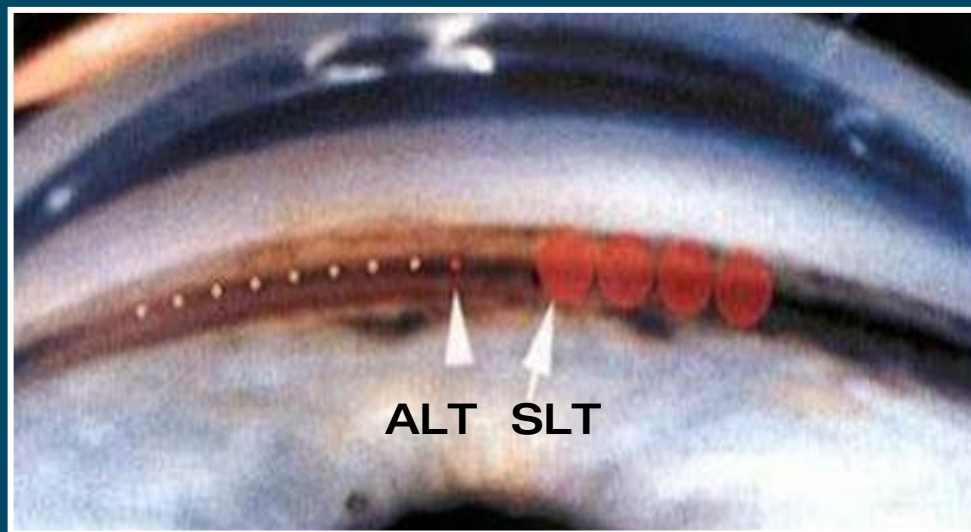
SLT vs ALT: treatment parameters

	SLT	ALT	Ratio
No. of spots	50	50	1:1
Energy	0.3-1.4mJ	400-600mW	1:100
Spot size	400 μm	50 μm	
Fluence (mJ/mm ²)	6	40,000	1:6,000
Exposure time	3 nsec	100,000,000 nsec	1:33,000,000



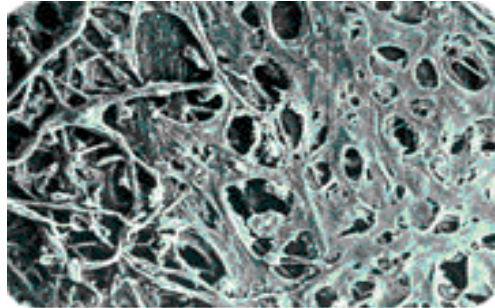
SLT
FROM ELLEX

SLT vs ALT: spot size

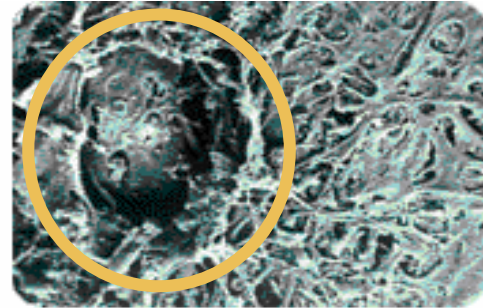


Latina MA, Tumbocon JA. Selective Laser Trabeculoplasty: The Evolution of Laser Treatment for Open Angle Glaucoma

Human TM: ALT 50 μ m spot | SLT 400 μ m spot



Trabecular meshwork tissue after SLT



Trabecular meshwork tissue after ALT

The effects of SLT and ALT on the TM can be seen using scanning electron microscopy. After SLT treatment there is no coagulative or thermal damage. However, coagulative damage to the TM can be seen after ALT¹.

In vivo, scarring will eventually close this crater. Endothelial cell migration may also cause membranes and synechiae to form.

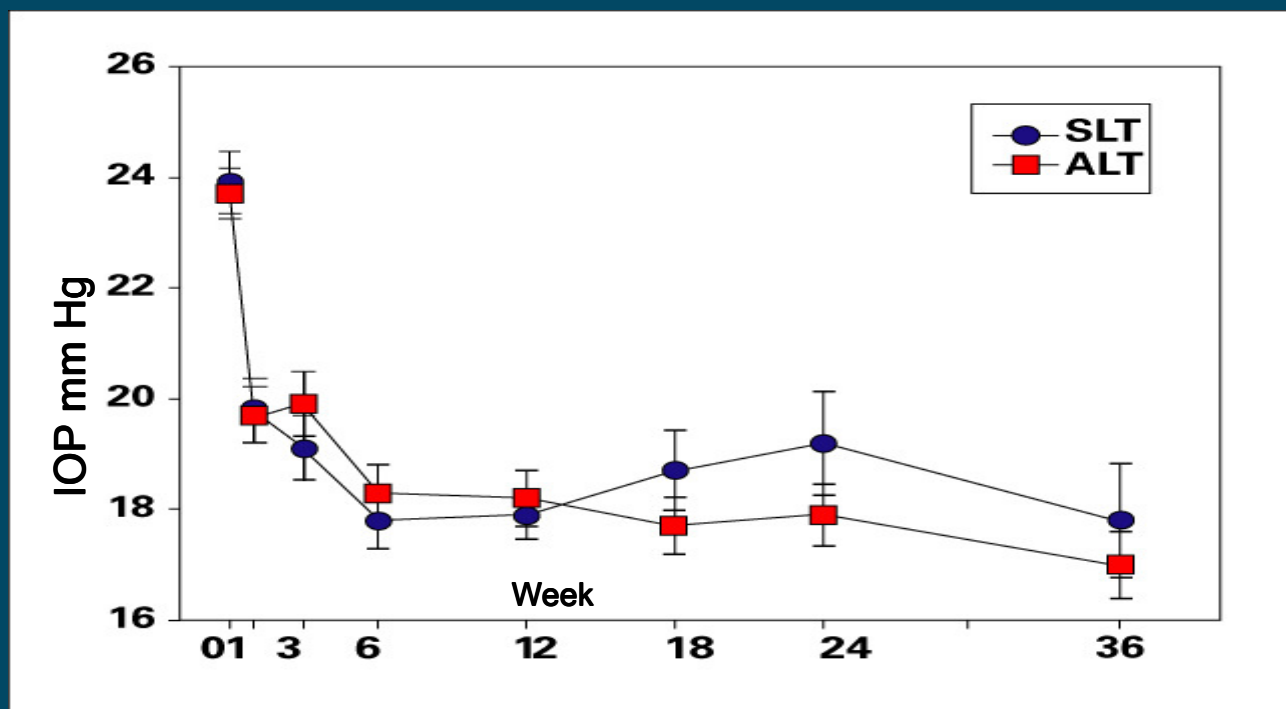
Review of Ophthalmology, June 2003. pp. 69.



SLT
FROM ELLEX

Alternative to ALT

Clinical Trial Results Comparing IOP reduction between SLT and ALT*



*Damji KF, Bovell AM, Hodge WG. Selective Laser Trabeculoplasty: A Review and Comparison to Argon Laser Trabeculoplasty. Ophthalmic Practice 2003;21:54-58

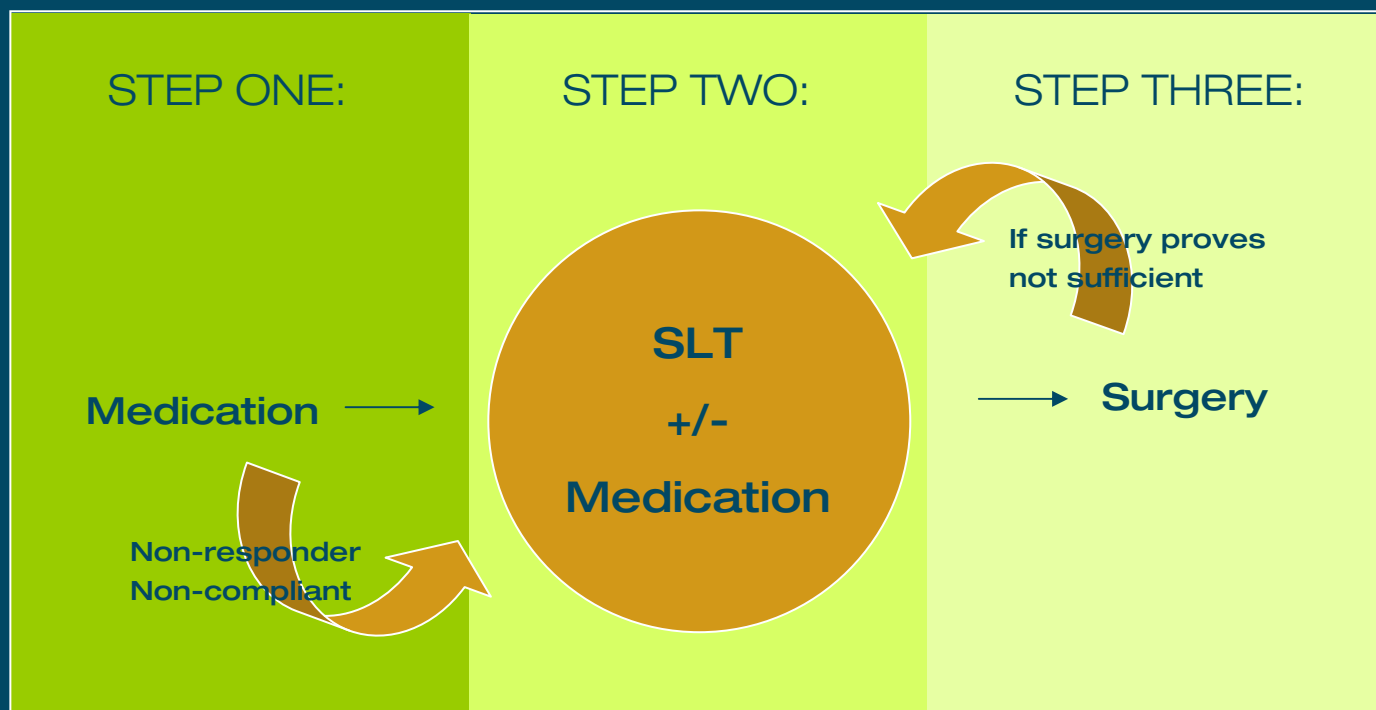


SLT
FROM ELLEX

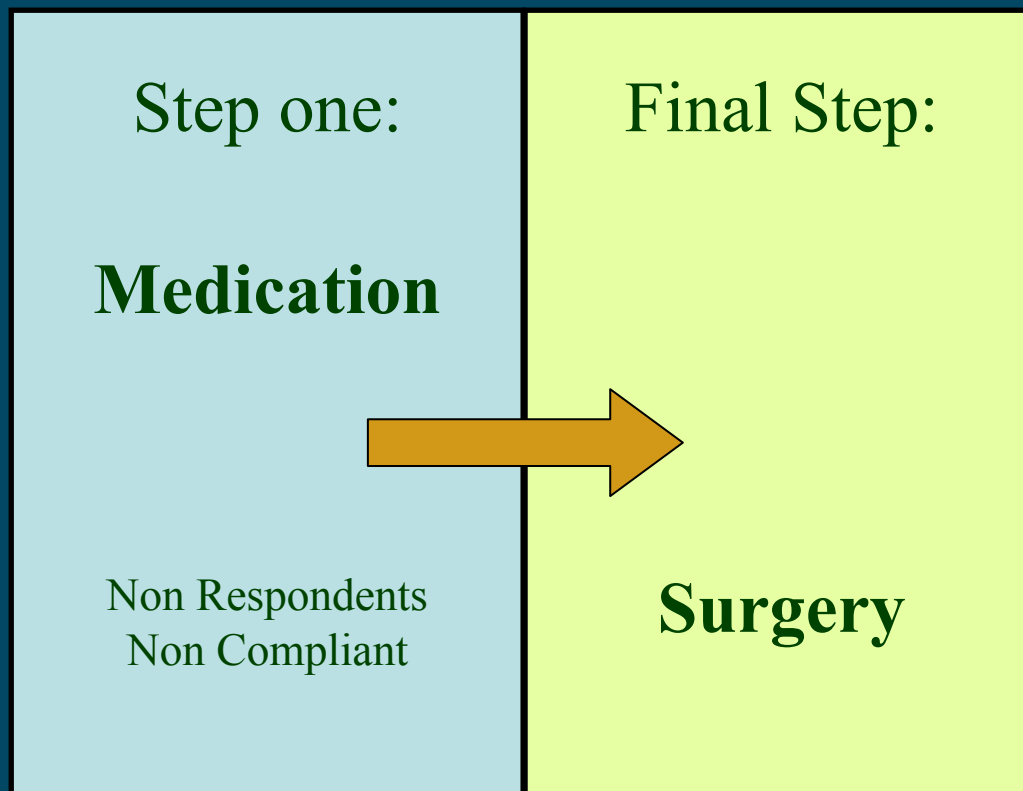
SLT is better than ALT

- Focussing not critical
- SLT works even on very lightly pigmented TMs
- Can be performed in presence of synechiae
- No structural change
- Immediate and sustained IOP reduction
- Reduced side effects (inflammation, pressure spikes)
- Less need of alpha-agonist and anti-inflammatories
- No membranes - no Peripheral Anterior Synechiae (PAS)
- Works in failed ALT cases
- Repeat treatments give repeat IOP reduction

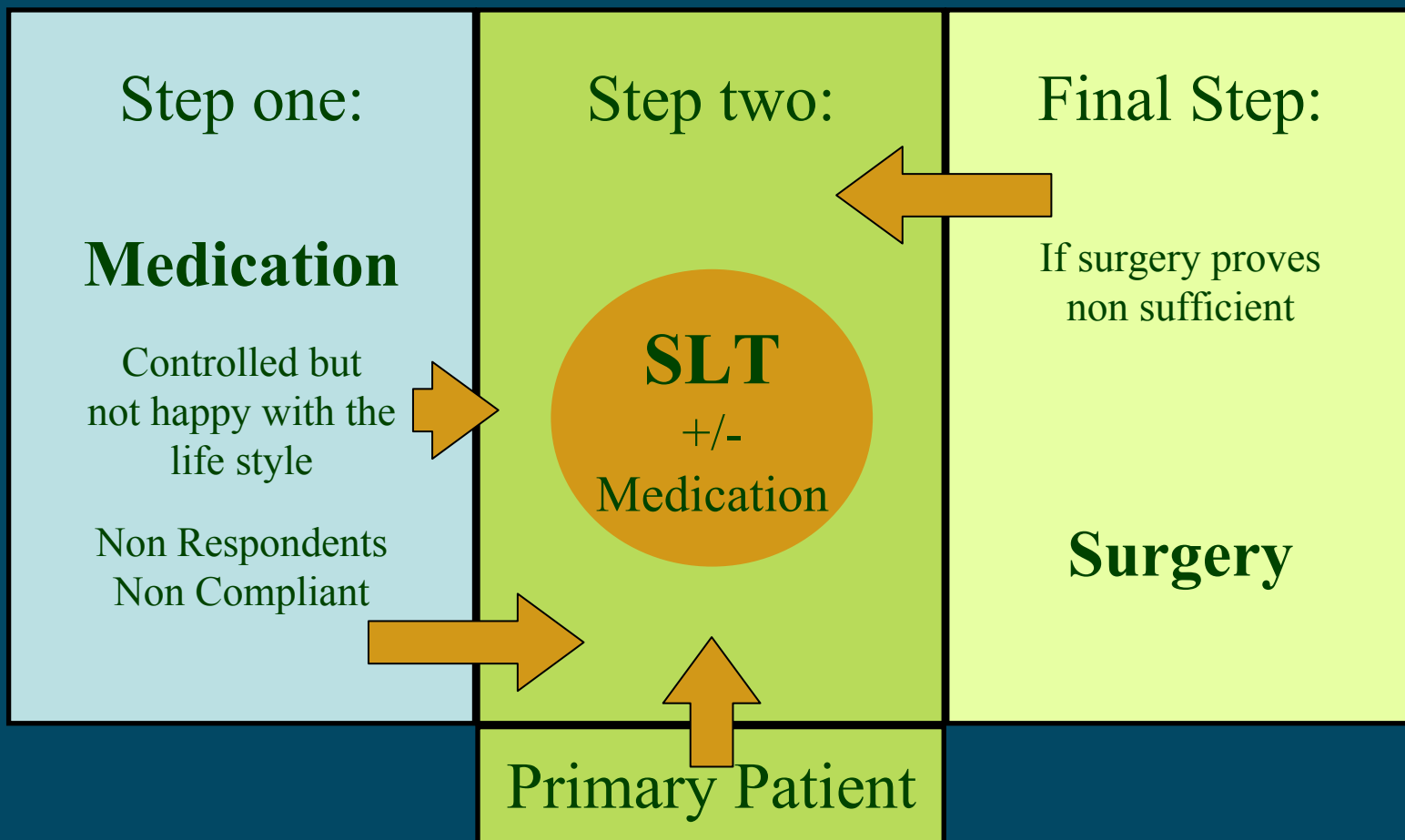
SLT in the glaucoma armamentarium



The Old Armamentarium



The New Armamentarium

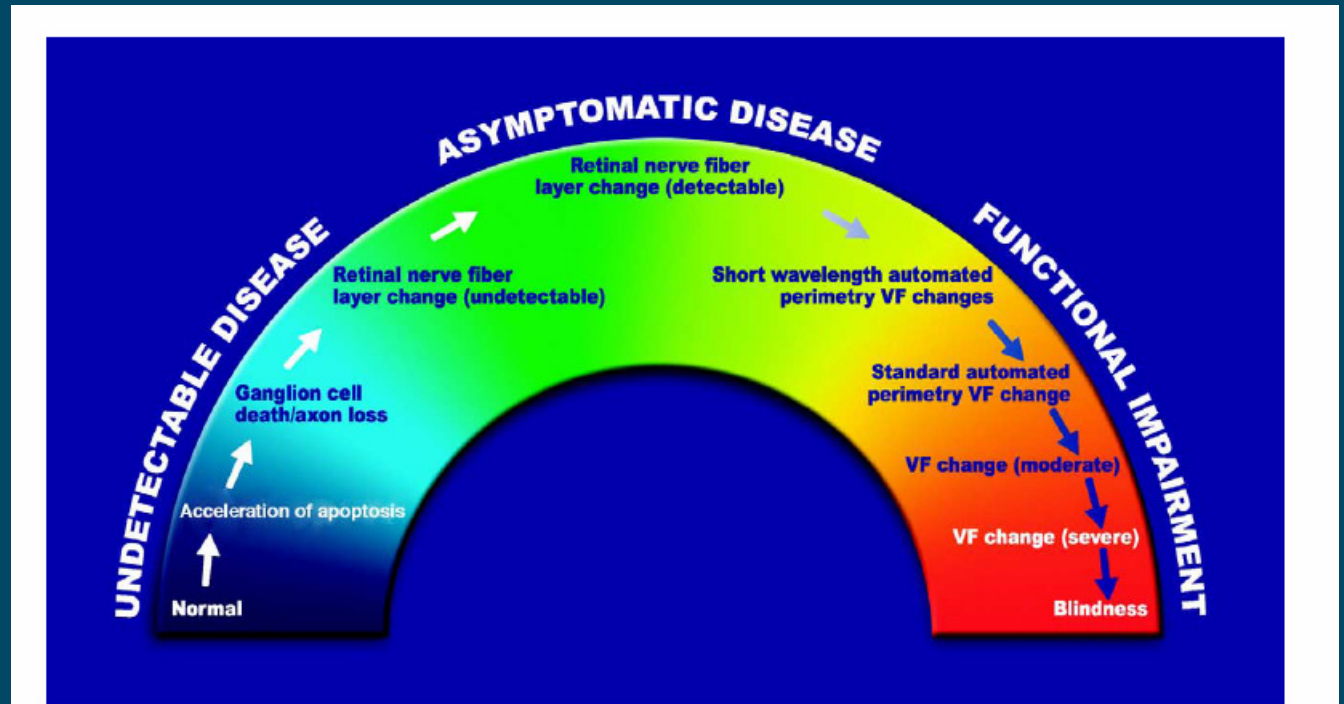


Benefits of SLT

If you were experiencing problems with your glaucoma medication, wouldn't you appreciate your doctor offering you a treatment that...

- Provides prolonged reduction of intraocular pressure
- Alternative for patients who do not respond or are non-compliant with medication
- Complementary or adjunct to medication
- Sustained IOP reduction post-surgery
- Same effective response between low and high pigmented eyes
- Does not produce peripheral anterior synechiae
- Proven safe and effective
- No side effects and can be repeated if necessary
- Simple and fast with little to no discomfort

The glaucoma continuum





No SLT

SLT



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