INTERVENTIONAL GLAUCOMA MANAGEMENT

The 'Art' of Glaucoma Care

Lee S.Peplinski, O.D., FAAO
Focal Point Vision
San Antonio, TX

lpeplinski@focalpointvision.com

Objectives

- -Identify the differences between passive/reactive glaucoma care and interventional/procative glaucoma management.
- -Recognize the advantages of having a glaucoma intervention earlier in the disease process.
- -Understand the various interventional methods and when to use/recommend them.
- -Develop a mindset and approach to provide interventional care.

Disclosure of Financial/Proprietary Interest &/or Commercial Support

- Instructor serves as Speaker/ Consultant (honoraria)
  - Abbvie/ Allergan
  - Glaukos
  - RxSight

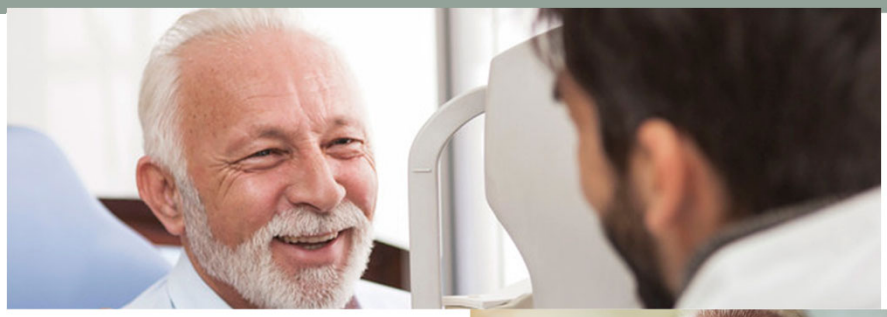
The content of this COPE Accredited CE was prepared independently and without input from any other members of the ophthalmic community.

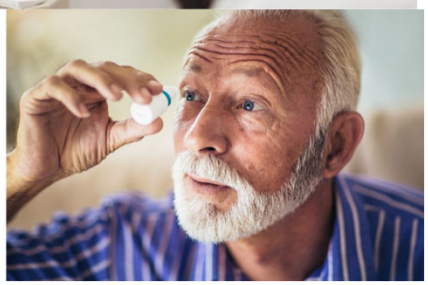
The content and format of this course is presented without commercial bias and does not claim superiority of any commercial product or service.

This course was prepared and is presented independently from any commercial support.

Any/all personal conflicts of interest have been resolved.

All relevant relationships have been mitigated.





"I don't treat your glaucoma, you do!"

Obstacles Faced In (Traditional) Glaucoma Care

- Ocular surface issues
- Cost
- Compliance
- Glaucoma care fatigue/ QOL effects

The ART of Glaucoma Care

- Patient centered (- not insurance directed)
- Patient specific (- not boilerplate)
- Individualized (-type of glauc, age, finances, etc)
- Better QOL issues (- compliance, co-morbidities, lifestyle, independence)

OBJECTIVE #1

Identify the differences between passive (reactive) glaucoma care and interventional (proactive) glaucoma management.

Passive Glaucoma Treatment

- Reactive to outside influences
  - Insurance formularies
  - Follow the template – cookie-cutter approach
- Yields control
  - Compliance failures
- Lacks will / lethargic
- Doesn't take an active or predominant role
  - Surrenders the position of 'expert authority' for this condition

Interventional Glaucoma Treatment

- Proactive = early diagnostics + active monitoring
- Interferes with the course and outcome of a condition (glaucoma)
  - Eg. SLT or stent that stops further TM obstruction from creating more vision loss
- Modification that causes hindrance of natural progression
  - Lifestyle changes that actively improve circulation/ perfusion
- Compels (or prevents) an action
  - Forces a change (lowering) in IOP

OBJECTIVE #2

Recognize the advantages of having a glaucoma intervention earlier in the disease process.

Earlier Intervention in Glaucoma Decreases:

- Visual Field Loss (EMGT, AGIS)
- Functional Vision Loss
- Blindness
- Need for more invasive Surgical Procedures

OBJECTIVE #3

Understand the various interventional methods and when to use/recommend them.

Lifestyle Intervention and Counseling

- Exercise, Perfusion, and Body Posture
  - Improve Circulation / Perfusion
    - 30 minutes of cardio 3x per week
    - VF loss slower in active pts [JGlaucoma 2025]
  - Avoid Nocturnal hypo-tension (NTG)
    - Discuss with PCP/cardiologist about no HTN meds before bedtime
    - OSA evaluation and treatment
  - Watch IOP effects of weight-lifting and head down positioning
    - Significant transient elevation of IOP
  - Beneficial effects of yogic breathing
    - ”365 breathing”
    - 3x/day, 6 cycles/min, for 5 min
    - Can reduce IOP and serum cortisol

Lifestyle Intervention and Counseling

- Alternative Therapies (Non-Alopathic ‘drugs’)
  - Alcohol abstinence
    - Diminished risk of Visual Impairment or Blindness
    - Risk of worsening related to degree of alcohol intake
  - Ginkgo biloba
  - Mirtogenol
    - Bilberry
    - Pycnogenol (pine bark extract)
  - Black currant
  - Cannabinoids
    - CBD
    - THC

Less Invasive Procedural Care

The 'Next Best Procedure' Until The 'Next Best Procedure'

- Less or no impact on ocular surface
- Decreased long-term cost
  - $6+ Billion spent globally in 2021 (Market Scope)
  - 80% pharmaceutical
  - 2% for lasers ; 6% for MIGS
- Less to no reliance on compliance
- Patients less likely to get 'burned-out' on care
- DOES NOT cure patient or eliminate ongoing care monitoring
  - Buying time until 'The Next Best Procedure'

Selective Laser Trabeculoplasty (SLT)

- LIGHT Study
  - Now 6 year data + a crossover group
  - 70% of laser patients controlled at 6 years
  - Both IOP and disease control
  - QOL same as medication arm
- UK Study
  - ODs provide "safe and effective SLT"
  - Swystun AG, et al. *Eye (Lond)*. 2025

LIGHT

- Selective Laser Trabeculoplasty versus eye drops for first-line treatment of ocular hypertension and glaucoma (LiGHT): a multicentre randomised controlled trial
  - Gazzard G, et al. Lancet. 2019.
- At 36 months 74.2% of SLT eyes were on no meds
- SLT eyes at target IOP 93% vs 91.3% for gtts
- 97% probability SLT first was more cost effective than eye drops first
- Interpretation: “SLT should be offered as first-line treatment for OAG and OHT, supporting a change in clinical practice.”

Selective Laser Trabeculoplasty (SLT)

- COAST Trial
  - Low-Energy SLT repeated annually – Gandolfi / Italy
  - 2020 NEI funded ‘Clarifying Optimal Application of SLT Therapy’
  - Goal: “Preserve and Rescue”
    - i.e. both non-medicated and medicated eyes
  - Research team includes Realini, Gazzard, Latina, Kass, et al
- Procedural care by ODs in several states
- Co-manageable care in EVERY state

Voyager – Direct SLT (DSLT)

Voyager – Direct SLT (DSLT)

- Laser pulses directly through limbus to TM
  - 532nm, Freq Doubled Q-switched Nd YAG
  - Pre-set 1.8 mJ
  - 3 ns duration, 400um spot size
  - 50 Hz delivery speed / automated approval for each pulse
  - 120 spots (in 2.37 sec)

- GLAUrious Trial (prospective, muticenter, randomized, controlled)
  - DSLT *not inferior* to traditional SLT in IOP lowering @ 12 mo
  - Patients experienced a decreased medication burden
  - Proven Safety profile = no SAE. Most common AE was SCH
  - High patient satisfaction

GLAUrious: DSLT vs. SLT – Randomized Controlled Study

Direct Selective Laser Trabeculoplasty (DSLT) in Open Angle Glaucoma (OAG) and Ocular Hypertension (OHT): A Randomized Controlled Trial
NCT03750201

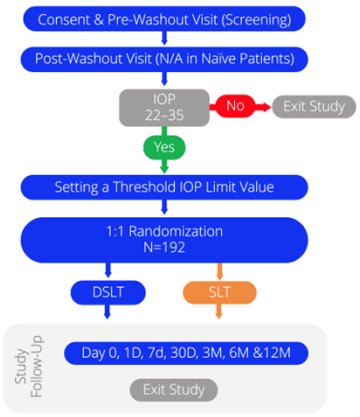
Purpose
- Compare DSLT outcomes to manual SLT (non-inferiority)
- Demonstrate safety and efficacy of DSLT

Effectiveness Endpoints
- Primary: Difference in mean IOP reduction from baseline (washout) at 6 months
- Secondary:
  1. Proportion with >20% IOP reduction at 6 months without SSI
  2. Change in # of medications at 6 months

Safety Endpoint
- Primary: Adverse events experienced during the 12 months

Treatment Parameters
- DSLT: 120 laser shots of 3 ns duration, median energy 1.7 mJ
- SLT: 100 laser shots of 3 ns duration, median energy 0.9 mJ

Study Population 192 participants in 14 centers



Voyager DSLT

IOP=intraocular pressure; SLT=selective laser trabeculoplasty; SSI=secondary surgical intervention.

Alcon Vision Suite

DSLT effectively lowers IOP for OHT and glaucoma patients[1]

Months: 6 → 12

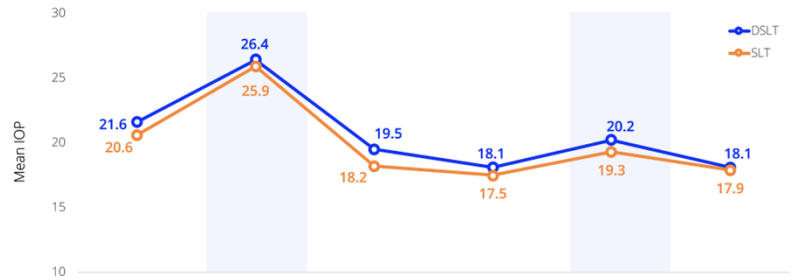
	IOP change from baseline (washout)[1], mean ± SE (95% CI)	IOP change from screening (non-washout)[1], mean ± SE (95% CI)
DSLT (n=80)	-5.5 mmHg; ± 0.5 mmHg (-6.5, -4.5); Baseline: 26.4 ± 3.6	-3.2 mmHg; ± 0.4 mmHg (-4.0, -2.5); Screening: 21.6 ± 5.4
SLT (n=76)	-6.2 mmHg; ± 0.5 mmHg (-7.2, -5.1); Baseline: 25.9 ± 3.6	-3.2 mmHg; ± 0.4 mmHg (-4.0, -2.4); Screening: 20.6 ± 4.5
	Difference in Mean: -0.7 mmHg (p=0.09, 95% CI: -2.2 to 0.8 mmHg)	**Difference in Mean:** 0.0 mmHg (p<0.001, 95% CI: -1.1 to 1.1 mmHg)

Voyager DSLT

CI=confidence interval; IOP=intraocular pressure; OHT=ocular hypertension; SE=standard error; SLT=selective laser trabeculoplasty.

Alcon Vision Suite

DSLT provides effective IOP lowering sustained out to 12 months[1]



Voyager DSLT

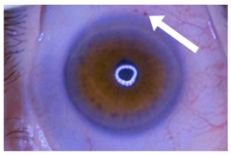
IOP=intraocular pressure; SLT=selective laser trabeculoplasty.
6-month modified per protocol (mPP) population.

Alcon Vision Suite

DSLT: Proven safety profile with low rate of adverse events[1]

Adverse Events (AEs)[1]*	DSLT (n=99)	SLT (n=93)
Punctate Sub-Conjunctival Hemorrhage (SCH)	**20 (20.2%)**	**1 (1.1%)**
Foreign Body Sensation	3 (3.0%)	3 (3.2%)
Cataract Progression	3 (3.0%)	1 (1.1%)
Superficial Punctate Keratitis	2 (2.0%)	4 (4.3%)
Elevated IOP	2 (2.0%)	2 (2.2%)
Conjunctivitis	2 (2.0%)	–
Mild or Moderate Anterior Chamber Inflammation	1 (1.0%)	3 (3.2%)
Transient Blurred Vision	1 (1.0%)	2 (2.2%)
Corneal Erosion	1 (1.0%)	1 (1.1%)
Eye Discharge	1 (1.0%)	1 (1.1%)
Eye Discomfort	1 (1.0%)	1 (1.1%)
Eye Pain	1 (1.0%)	1 (1.1%)
Hordeolum Extremum (stye)	1 (1.0%)	1 (1.1%)
Total (n, %)	**44 reports from 34 participants (34.3%)**	**27 reports from 20 participants (21.5%)**
Total excluding SCH (n, %)	**24 reports from 19 participants (19.2%)**	**26 reports from 19 participants (20.4%)**

All cases were mild and resolved spontaneously without the need for intervention[1]



Example of observed punctate SCH

Voyager DSLT

IOP=intraocular pressure; SCH=sub-conjunctival hemorrhage; SLT=selective laser trabeculoplasty.
The counts (n) are the number of participants reported with the corresponding events.% = n / N x 100%. Multiple events could be reported for the same participant.
* The chart does not display the complete list of adverse events, but rather the most frequently reported.

Alcon Vision Suite

IntraCameral Medical Implants

- Durysta™
  - Bimatoprost 10 mcg
  - In office application
    - Procedural care by ODs in a few states
    - Co-manageable care in EVERY state
- iDose TR
  - Travoprost 75mcg
    - Surgical trabecular implant mad of medical grade titanium
    - Elutes drug for 3 months+
    - 81% still medication free at 12 months

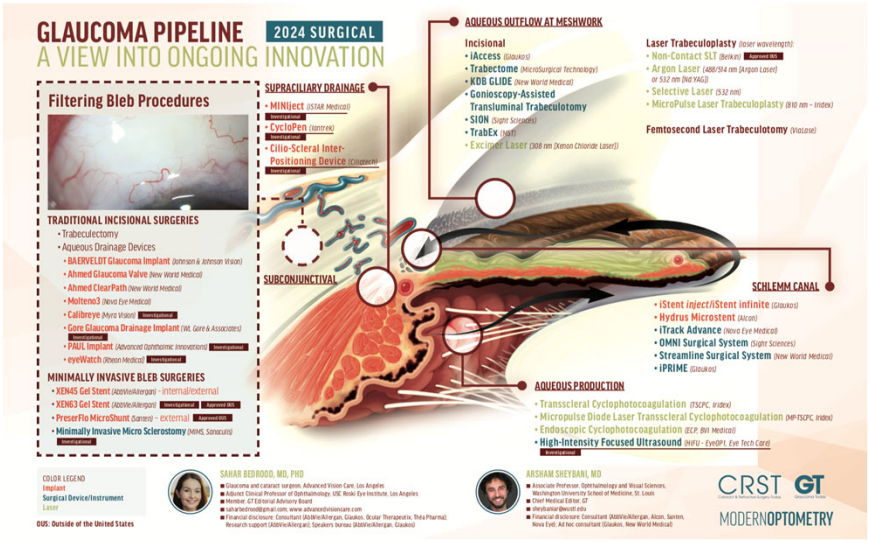
Durysta

(videos)

Durysta

(videos)

Interventional – Surgical Pipeline



Minimally (or Micro-) Invasive Glaucoma Surgery (MIGS)

- Devices
  - In Conjunction With Cataract Surgery
    - iStent (original, Inject, W)
    - CyPass (recalled)
    - Hydrus
  - Stand-alone
    - iStent Infinite
    - Xen Gel
    - Express Mini Glaucoma Shunt

Minimally (or Micro-) Invasive Glaucoma Surgery (MIGS)

- Procedures
  - Outflow Enhancers
    - Kahook DualBlade
    - Trabectome
    - OMNI
  - Aqueous Supressants
    - EndoCycloPhotocoagulation (ECP)
    - Diode CPC
      - High Energy
      - G-probe

OBJECTIVE #4

Develop a mindset and approach to provide interventional care.

Interventional Mindset…
= Customized & Personal Approach

“What would you do if it was your eye?”

There is no ‘One Size Fits All’ approach

Knowledge is power… And provides options!

Be an advocate for your patients.

LISTEN to your patients,
and they will guide your intervention.

• Take Home Ideas

- Interventional vs passive
- Intervene EARLY
- Intervention can be lifestyle &/or procedure
- Develop an Interventional Mindset

THANK YOU!!

Lee Peplinski, O.D., FAAO
Focal Point Vision
lpeplinski@focalpointvision.com