

On behalf of Vision Expo, we sincerely  
thank you for being with us this year.

**Vision Expo Has Gone Green!**

We have eliminated all paper session evaluation forms. Please be sure to complete your electronic session evaluations online when you login to request your CE Letter for each course you attended! Your feedback is important to us as our Conference Advisory Board considers content and speakers for future meetings to provide you with the best education possible.



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**Financial Disclosure – Justin Schweitzer, OD, FAAO**

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|--|----------------|
| • Aerie – C/L                            | • Sun – C/L    |
| • Alcon – C/L                            | • Equinox - I  |
| • Allergan – C/L                         | • Reichert - C |
| • Bausch + Lomb – C/L                    | • J&J – C/L    |
| • Ocular Therapeutix - C                 | • Glaukos - L  |
| • EyePoint – C                           | • Horizon – C  |
| • Sight Sciences – C                     | • Quidel – C   |
| • Mediprint – C                          | • Zeiss – C/L  |
| • Visus - C                              | • LKC – C/L    |
| • Chief Medical Editor: Modern Optometry |                |

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**MIGS in Glaucoma**

Justin Schweitzer, OD, FAAO  
Vance Thompson Vision, Sioux Falls, South Dakota  
Optometric Externship Director  
Associate Director Residency Program

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Minimally or Micro Invasive Glaucoma Surgery (MIGS)

Procedures that have an ab-interno approach, are minimally traumatic, with at least modest efficacy, extremely high safety and rapid recovery .

Saheb H. Ahmed, MSc. Micro-invasive glaucoma surgery: current perspectives and future directions. Curr Opin Ophthalmol. 2012;23(2): 96-104.

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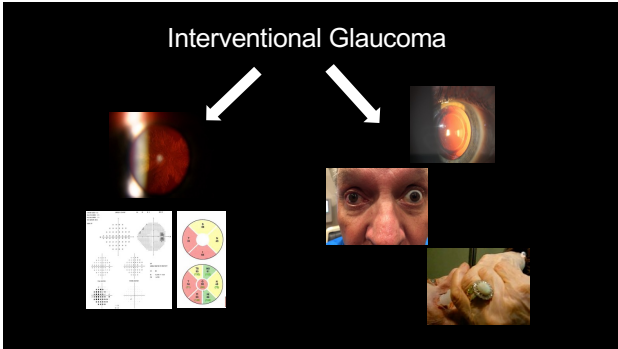
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Interventional Glaucoma



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WHY  
MIGS



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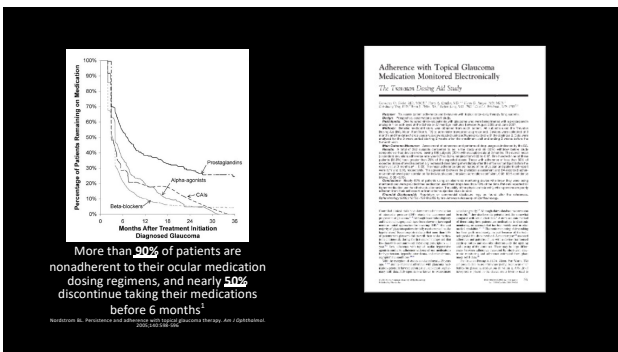
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**OSD IMPROVEMENT IN IMPLANTED EYES<sup>1</sup>**



• Prospective, multicenter trial evaluating four ocular surface metrics 3 months post-stent implantation.

- n=47 eyes
- Other ocular health metrics improved as well:
  - 49% longer time to tear break-up (FTBUT) ( $p<0.0001$ )
  - Significantly reduced corneal/conjunctival staining (Oxford Schema) ( $p<0.0001$ )
  - Trend toward less hyperemia (Efron Score)

**Mean OSDI Score**

Time Point	n	Mean OSDI Score
Preop	47	40.1
Month 3	47	17.8

$p<0.0001$

Schwartz AJ, Hauser WM, Bach M, Bauman M, Gollan SD, Crothers AW, Lim J, Bardsley JP. Prospective Interventional Cohort Study of Ocular Surface Disease Changes in Eyes After Trabecular Micro-Bypass Stent(s) Implantation (Stent or Stents) with Phacemulsification. Ophthalmol Ther. 2020 Aug 18.

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Conservative

**MIGS**

Aggressive

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**Collaborative Care  
in Glaucoma**



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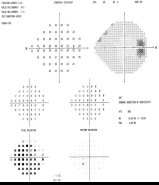

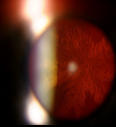
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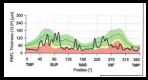
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### Ideal Patient Candidate



Trabecular Meshwork Bypass Stents and Schlemm Canal Microstent

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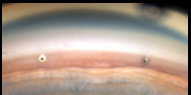

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### Trabecular Microbypass Stent (iStent Inject W)

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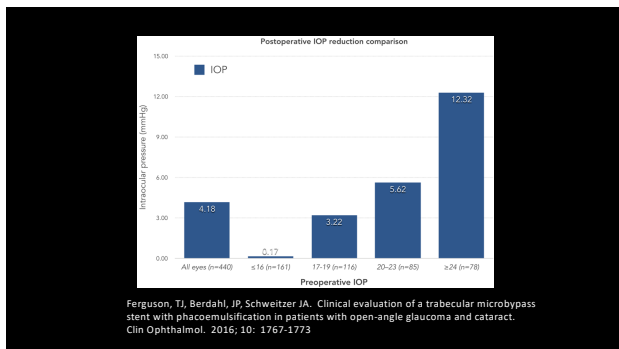
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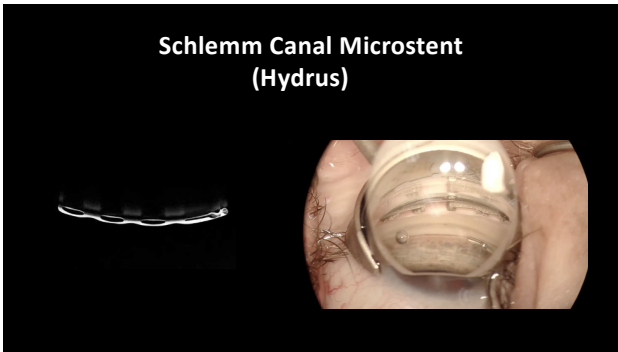
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### HORIZON Trial – 4 Year Update

	Stent + Cataract (n=369)	Cataract Only (n=187)
Baseline IOP (mm Hg) after washout	25.5 (± 3.0)	25.4 (± 2.9)
48 months medication free	65%	41%
48 months mean IOP (mm Hg)	16.9 (± 3.3)	17.3 (± 3.4)
1 preoperative med	52.6%	54%
2 to 4 preoperative med	47.4%	46%

5 Year Update – 66% patients remain medication-free and 61% reduction in risk to need further surgery

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### HORIZON Trial – AAO 2021

Microstent lowers the rate of visual field loss by:

**47%**

vs cataract surgery alone

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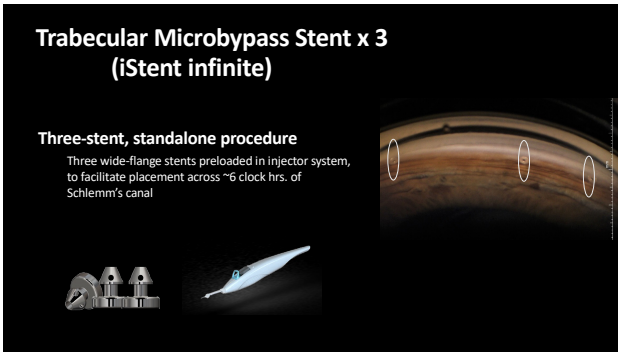
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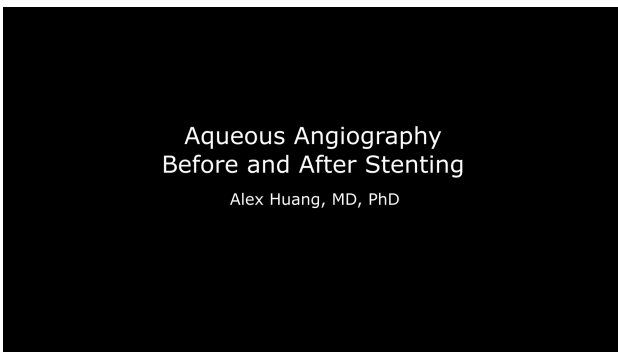
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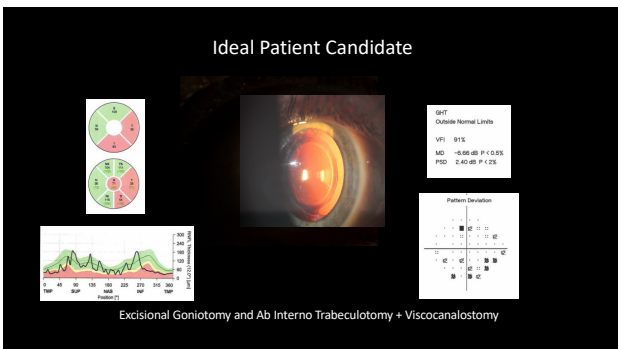
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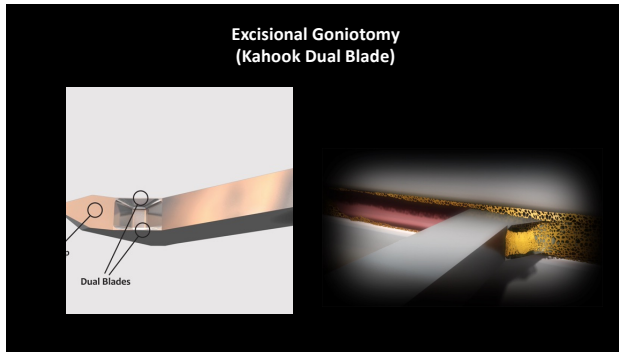
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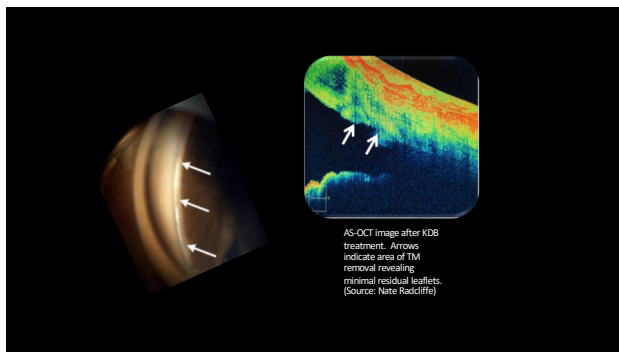
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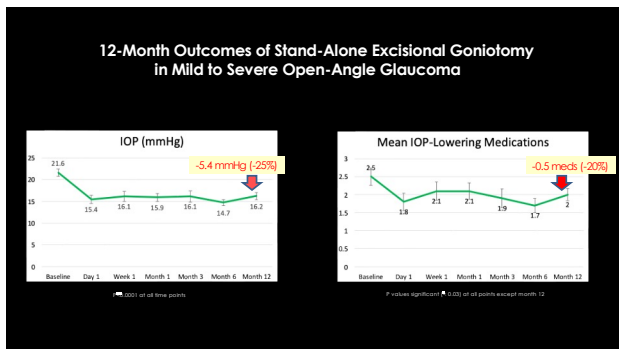
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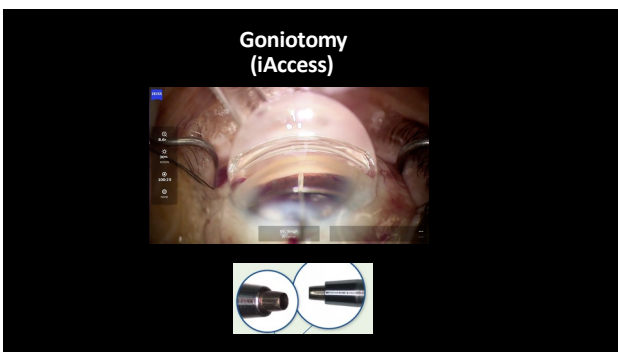
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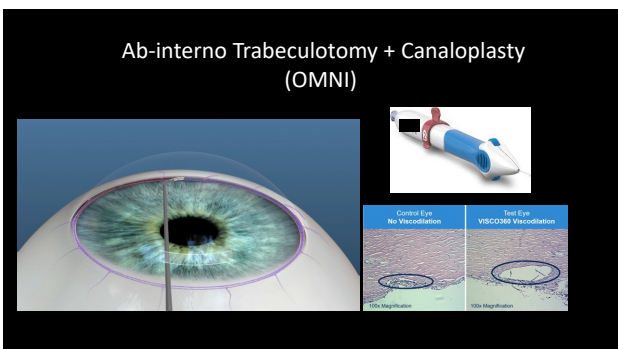
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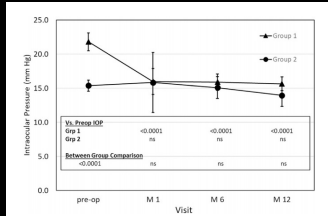
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### Canaloplasty and Trabeculotomy with the OMNI System in Pseudophakic Patients with Open-Angle Glaucoma: The ROMEO Study



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### Endocyclophotocoagulation (ECP)



- TREATS INFLOW
- It uses a laser endoscope containing three fiber groupings:
  - a light source (illuminates)
  - an image guide (visualizes)
  - electrode (treats)
- Direct visualization
- Precise delivery to the ciliary processes
- no damage to the underlying ciliary body and surrounding tissue

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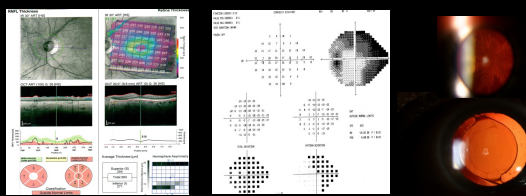
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### Ideal Patient Candidate



### Subconjunctival Stent (XEN)

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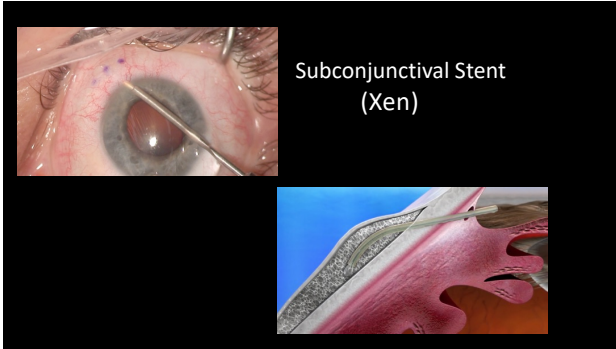
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Subconjunctival Stent  
(Xen)

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#### Xen 45 Gel Stent: US Pivotal Clinical Trial

	Baseline	12 month
Medicated IOP	25.1 (3.7)	15.9 (5.2)
Glaucoma Meds	3.5 (1.0)	1.7 (1.5)

76.3% of patients reported a mean diurnal IOP reduction of  
≥ 20% from medicated baseline at 12 months

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#### Postoperative Adverse Events

Hypotony  
(IOP < 6 mmHg at any time) 16 (24.6%)

Anterior chamber shallow  
with peripheral irido-corneal touch 1 (1.5%)

Anterior chamber fill 1 (1.5%)

Bleb Needling 21 (32.3%)

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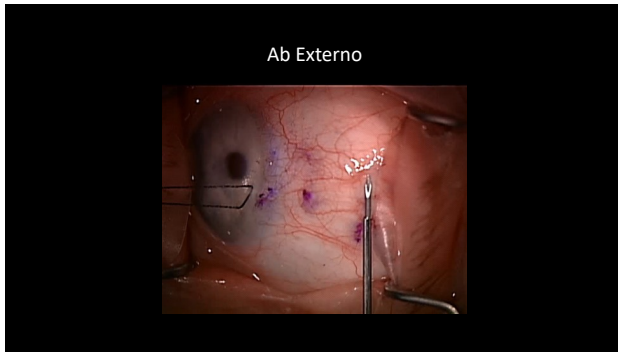
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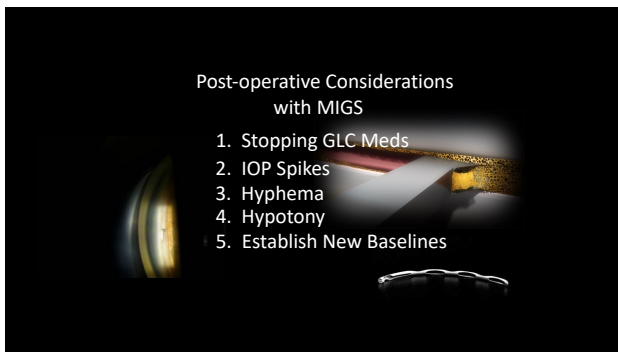
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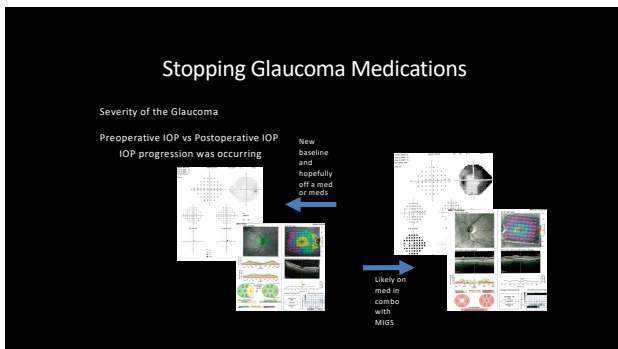
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### PAS to Stents



YAG laser considered to open stent

US Pivotal iStent Inject Trial  
**1.8% @ 24 months**

HORIZON Trial  
**13% @ 48 months**

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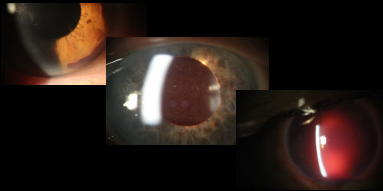
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### Hyphema



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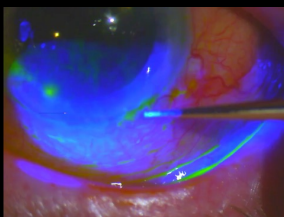
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### IOP Spikes



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## Ocular Hypotony – Is it a Concern with MIGS?

Hypotony – An IOP below which the eye does not maintain its normal shape and may subsequently lose vision.

Definitions vary slightly – IOP < 5 or 6

Episcleral Venous Pressure and its role

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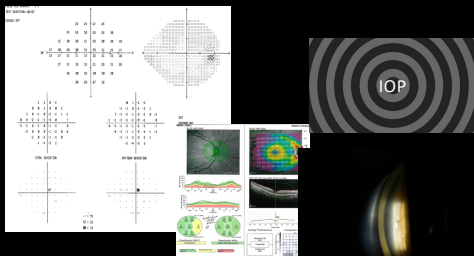
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## Establish New Baselines




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## In Conclusion...

- Glaucoma is both a medical and surgical disease  
– Key to success is collaboration
- Trends in treatment aim to balance effectiveness and safety
- MIGS procedures allow for interventional glaucoma

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