

GLAUCOMA UPDATE

Alex Walters, MD

Overview

- “MIGS:” Minimally/Micro Invasive Glaucoma Surgery
- SLT: Selective Laser Trabeculoplasty
- Drops
- Implants

MIGS

- High safety profile
- Minimal disruption of normal anatomy
- Ab interno approach
- Efficacy
- Ease of use
- ? Cataract Surgery
- Bleb Forming
- Non-Bleb Forming

MIGS

- Bleb Forming
- Non-Bleb Forming



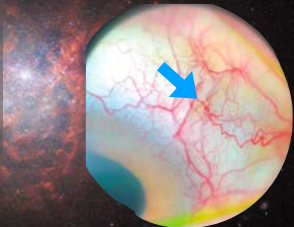
MIGS

- Bleb Forming
- XEN
- Non-Bleb Forming



MIGS

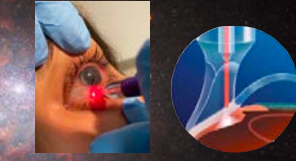
- Bleb Forming
- XEN
- Non-Bleb Forming



<https://today.com/articles/the-xen-gel-sheet-in-pseudophakic-refractory-glaucoma-presents-the-xen-gel-sheet-in-pseudophakic-refractory-glaucoma-presents>

MIGS

- Bleb Forming
 - XEN
- Non-Bleb Forming
 - Inflow



- Cyclophotocoagulation (eg MicroPulse)

https://eyewiki.aao.org/Cyclophotocoagulation_in_Pediatric_Glaucoma
<https://www.iffel.com/PhysicianEducation/Glaucoma/TCCPCG-Primer.aspx>

MIGS

- Bleb Forming
 - XEN
- Non-Bleb Forming
 - Inflow
 - Outflow



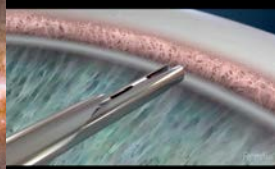
Non-Bleb MIGS: Outflow

- Implants
- Approved for:
 - mild/mod POAG
 - with CEIOL



Non-Bleb MIGS: Outflow

- Implants
 - iStent inject



- Additional 1.6 mmHg in IOP reduction compared to CEIOL at 2 years

Non-Bleb MIGS: Outflow

- Implants
 - iStent inject
 - Hydrus



- Additional 2.3 mmHg in IOP reduction compared to CEIOL at 2 years.

Non-Bleb MIGS: Outflow

- Implants
 - iStent inject
 - Hydrus
- Excision
 - Approved for:
 - POAG / OHTN / some ACG
 - with or without CEIOL

Non-Bleb MIGS: Outflow

- Implants
 - iStent inject
 - Hydrus
- Excision
 - Trabectome
 - Kahook Dual Blade (KDB)
- Dilation
 - POAG / OHTN / some refractory glaucoma
 - with or without CE/OL



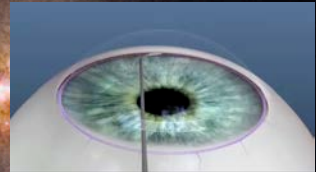
Non-Bleb MIGS: Outflow

- Implants
 - iStent inject
 - Hydrus
- Excision
 - Trabectome
 - Kahook Dual Blade (KDB)
 - Gonioscopy-Assisted Transluminal Trabeculotomy (GATT)
- Dilation
 - Ab-interno Canaloplasty (ABIC)



Non-Bleb MIGS: Outflow

- Implants
 - iStent inject
 - Hydrus
- Excision
 - Trabectome
 - Gonioscopy-Assisted Transluminal Trabeculotomy (GATT)
 - Kahook Dual Blade (KDB)
 - *OMNI surgical system (canaloplasty and trabeculotomy)
- Dilation
 - Ab-interno Canaloplasty (ABIC)
 - *OMNI surgical system (canaloplasty and trabeculotomy)



Non-Bleb MIGS: Outflow

Common Side Effects:

- Hyphema
- IOP spikes
- Peripheral anterior synechiae
- Device malposition
- Damage to surrounding structures

Selective Laser Trabeculoplasty (SLT)

- Not effective for all individuals
- IOP reduction of about 20%
 - about the same as 1 drop
- Effect typically last 1-3 years
- Usually repeatable
- Mild side effects



Topical Therapies

- Rhopressa® (netarsudil ophthalmic solution 0.02%)
- Rocklatan® (netarsudil and latanoprost ophthalmic solution) 0.02%/0.005%
- VYZULTA® (latanoprostene bunod ophthalmic solution), 0.024%



Implantable Therapies

- Durysta
 - prostaglandin analog 10- μ g bimatoprost sustained-release implant



References

- Birnbaum FA, Neeson C, Solá-Del Valle D. Microinvasive Glaucoma Surgery: An Evidence-Based Review. *Semin Ophthalmol.* 2021;36(8):772-786. doi:10.1080/08820538.2021.1903513
- Landers J. Selective laser trabeculoplasty: A review. *Clin Exp Ophthalmol.* 2021;49(9):1102-1110. doi:10.1111/ceo.13979
- Mehran NA, Sinha S, Razeghinejad R. New glaucoma medications: latanoprostene bunod, netarsudil, and fixed combination netarsudil-latanoprost. *Eye (Lond).* 2020;34(1):72-88. doi:10.1038/s41433-019-0671-0
- Vinod K, Gedde S. Safety profile of minimally invasive glaucoma surgery. *Current Opinion in Ophthalmology.* 2021; 32 (2): 160-168. doi: 10.1097/ICU.0000000000000731.
