

المؤتمر السنوي الدولي للجمعية المصرية
INTERNATIONAL CONGRESS OF THE

EGYPTIAN OPHTHALMOLOGICAL SOCIETY

EOS 2023



Filtering MIGS

Evolution Of Bleb Surgery

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Magrabi Hospitals and Centers
Al Mashreq Eye Center**



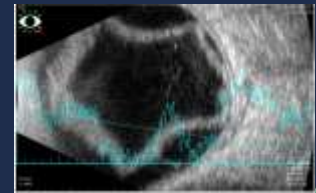
History of Filtering Surgery:

- Filtering Surgery remains the gold standard procedure for patients with an advanced or rapidly progressing disease and for those patients who need very low intraocular pressures.
- Cairns JE initially described trabeculectomy in 1968.
- Modified by Watson in 1970.
- Moorfield's safe surgery system, developed by Peng Khaw and colleagues in 2005.

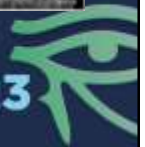


Complications of Filtering Surgery:

- Hypotony
- Hypotonic maculopathy
- Choroidal detachment
- Suprachoroidal hemorrhage
- Bleb-related complications
- Endophthalmitis



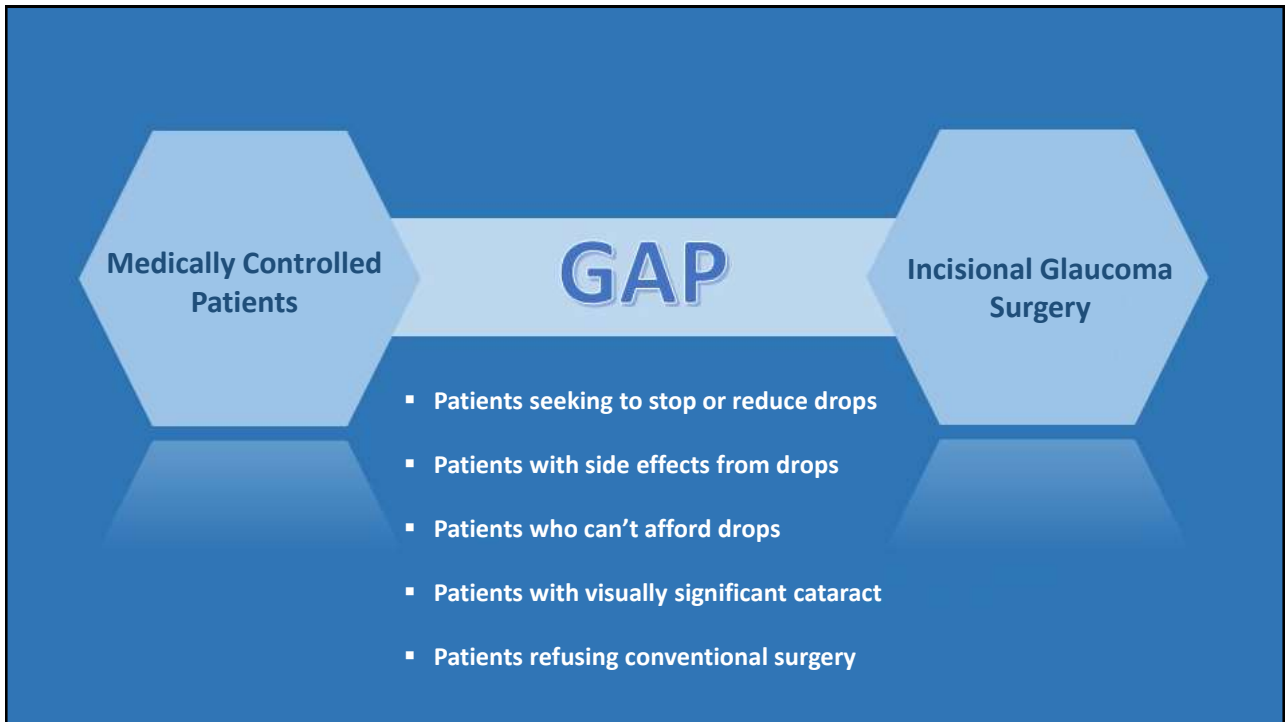
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Medically Controlled
Patients

GAP

Incisional Glaucoma
Surgery



The Evolution of MIGS:

- In 2009, Ike Ahmed coined the term (MIGS)

Schlemm's canal	Suprachoroidal space	Subconjunctival space	Ciliary body
Trabecular bypass	Ab interno	Ab interno	Ab interno
iStent	CyPass (withdrawn)	XEN Gel Stent	Endocyclo- photocoagulation
iStent inject	iStent Supra (not commercially available)	Ab externo	Ab externo
High frequency deep sclerotomy		Presertio	Transscleral photocoagulation / Micropulse
Schlemm's dilatation			
Ab interno canaloplasty			
Hydrus			
Trabeculotomy			
GATT			
Trabeculome			
Kahook Dual Blade			
Excimer laser trabeculotomy			

- **Minimal tissue disruption**
- **IOP lowering effect**
- **High safety profile**
- **Rapid recovery**

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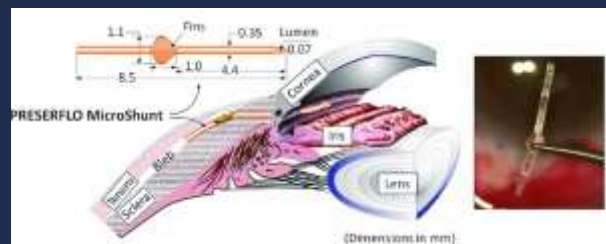


Filtering (Bleb Forming) MIGS:

XEN Gel Stent

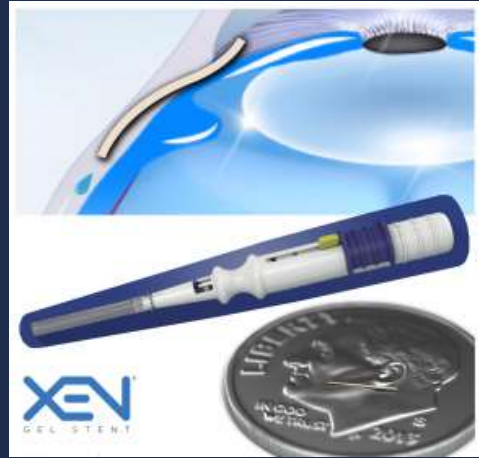


PreserFlo MicroShunt



XEN Gel Stent:

- FDA approved in 2016, the Xen gel stent is the first ab interno procedure which bypasses the diseased trabecular meshwork to drain aqueous fluid from the anterior chamber to a subconjunctival bleb



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XEN Gel Stent:

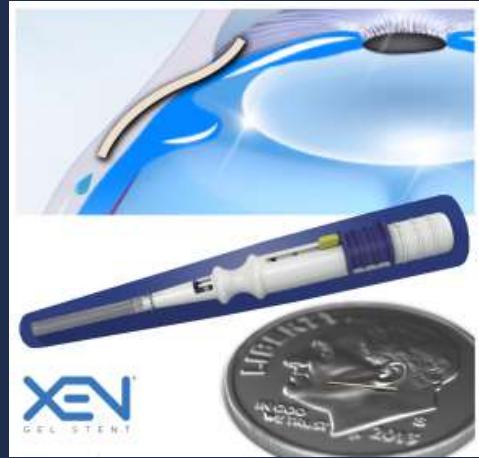
- 6-mm hydrophilic flexible tube.
- 45-micron lumen.
- Made of porcine collagen-derived gelatin cross-linked with glutaraldehyde.
- Hydrates within 1-2 minutes of contact with aqueous.



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XEN Gel Stent:

- Ab interno procedure
- Minimal tissue disruption
- High safety profile
- Rapid recovery
- **Bleb forming (more IOP lowering – amenable to revision)**



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XEN Gel Stent:

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Xen Glaucoma Implant Combined With Phaco

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XEN Gel Stent:

The efficacy of XEN gel stent implantation in glaucoma: a systematic review and meta-analysis

[Xiang Yang](#),¹ [Yang Zhao](#),¹ [Yu Zhong](#),^{1,2} and [Xuanchu Duan](#)^{1,2}

XEN[®] Gel Stent: A Comprehensive Review on Its Use as a Treatment Option for Refractory Glaucoma

[Antonio M. Faria](#),¹ [Georgios M. Durg](#),^{2,3} [Paola Marolo](#),¹ [Lorenza Mulimberti](#),¹ [Mario A. Economou](#),⁴ and [Ike Atwood](#)⁵

Two-year outcomes of minimally invasive XEN Gel Stent implantation in primary open-angle and pseudoexfoliation glaucoma

[Teresa Rauchegger](#), [Reinhard Angermann](#), [Peter Willett](#), [Eduard Schmid](#), [Barbara Teuchner](#)

The Outcomes of XEN Gel Stent Implantation: A Systematic Review and Meta-Analysis

[Xuan-Yu Chen](#),¹ [Zhen-wei Liang](#),² [Wang-yi Yang](#),² [Kun-Li](#),² [Tao-Ma](#),² [Meng-ping Li](#) and [Hui-jian Wu](#)²

Conclusion:

Xen Gel Stent is a safe and effective procedure to lower IOP in primary and secondary OAG. It offers a more significant reduction in IOP than other *ab-interno* MIGS procedure, with a higher safety profile compared to Incisional glaucoma surgery.



PreserFlo[®] MicroShunt



PreserFlo[®] MicroShunt:

- Received CE mark in 2012.
- The Preserflo is an AB externo procedure, it drains aqueous from the AC to a fornix-based bleb, bypassing the trabecular meshwork.



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PreserFlo[®] MicroShunt:

- The device has a total length of 8.5 mm, which is divided by a 1mm “fin” into distal (3 mm) and proximal (4.5 mm) segments. The external lumen is 350um and the internal lumen is 70um with a beveled tip at the proximal end.



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PreserFlo® MicroShunt:

- **Ab externo** procedure
- Minimal tissue disruption
- High safety profile
- Rapid recovery
- Bleb forming (more IOP lowering – amenable to revision)



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PreserFlo MicroShunt

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Glaucoma Service

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PreserFlo® MicroShunt:

Long-term Results of the PRESERFLO MicroShunt in Patients With Primary Open-angle Glaucoma From a Single-center Nonrandomized Study

Battle, Juan F. MD; Corona, Adalgisa MD; Albuquerque, Rachel MD

Conclusions:

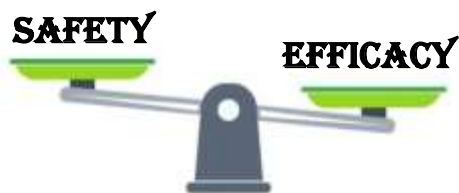
In this extension study, sustained reductions in mean IOP and medications were observed up to 5 years post-MicroShunt implantation. There were no reports of long-term sight-threatening AEs and a low rate of postoperative interventions.

One-year surgical outcomes of the PreserFlo MicroShunt in glaucoma: a multicentre analysis

Alexander Tanner^{1, 2}, Fadi Hachem³, Julia Pajardo-Sanchez^{1, 2},
Ethan Nguyen², Kai Xin Theng^{2, 3}, Sarah Ali-Moyo³, Nicole Petit¹,
Mohammed Abu-Bakr², Avinash Kulkarni², Sameer Trikha²,
Gerassimos Lascaratos^{2, 3}, Miles Parrot², Obedia Kakani²,
Anthony J King⁴, Pavi Agrawal⁴, Richard Stead⁴, Konstantinos
Glanioulidis⁴, Ien Rodriguez², Saurabh Goyal², Piro G Hys¹,
Zheng Lin^{2, 3}, Cynthia Yu-Wai-Man^{1, 2}

Conclusion The PreserFlo MicroShunt with MMC 0.4 mg/mL showed an overall success rate of 68.3% at 1 year, and led to significant IOP and medication reduction with a low rate of adverse effects.

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Minimally Invasive Bleb Surgery (MIBS)
Combine both safety of MIGS
and efficacy of Incisional Surgery

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Summary:

- None of our surgeries last forever.
- Think ahead of the disease and plan for the next step.
- No need to master all MIGS, just master one or two and add them to the arsenal .
- Evolution of glaucoma surgery gives more options for patients, and narrows the Gap between medical ttt and conventional glaucoma surgery.



Thank You

