

CITY WEST EYE SPECIALISTS

Serving the Community Since 2013



Welcome to my monthly newsletter - a space dedicated to sharing clinical insights, case highlights, and collaborative updates with our valued Optometry colleagues. Each month, I'll be spotlighting interesting cases, sharing practical referral tips, and offering updates on emerging treatments and technologies in ophthalmology.

In this issue, we discuss the newest generation of Minimally-Invasive Glaucoma Surgery (MIGS) for the general ophthalmologist - the iStent Infinite. MIGS has revolutionised glaucoma care, offering effective pressure control with less invasive surgery and faster recovery. My aim is to support you in delivering the best patient care through timely communication and shared clinical knowledge.

Thank you for your ongoing referrals and trust - I look forward to staying connected and continuing to work together. I am always available to discuss any cases with you and see emergencies on a daily basis.

Dr Nisha Sachdev
MBChB, PhD, FRANZCO
General Ophthalmologist

IN THIS ISSUE

- MIGS - iStent
 - Insights
 - Clinical Case Studies
- Future Advancements in Ophthalmology
- My Charity Mission to Cambodia





Clinical Close Up: MIGS: The iStent

Glaukos iStent – What is it?

The Glaukos iStent is a micro-invasive glaucoma surgery (MIGS) device designed to lower intraocular pressure (IOP) in patients with mild to moderate open-angle glaucoma. Made of heparin-coated titanium, it is implanted ab interno into Schlemm's canal to bypass the trabecular meshwork, improving aqueous outflow. MIGS procedures like the iStent offer minimal tissue disruption, faster recovery, and a favourable safety profile compared with traditional filtering surgeries.^{1,2} The American Academy of Ophthalmology considers the procedure safe, producing modest but clinically meaningful reductions in both IOP and medication burden, with a low rate of complications.⁵

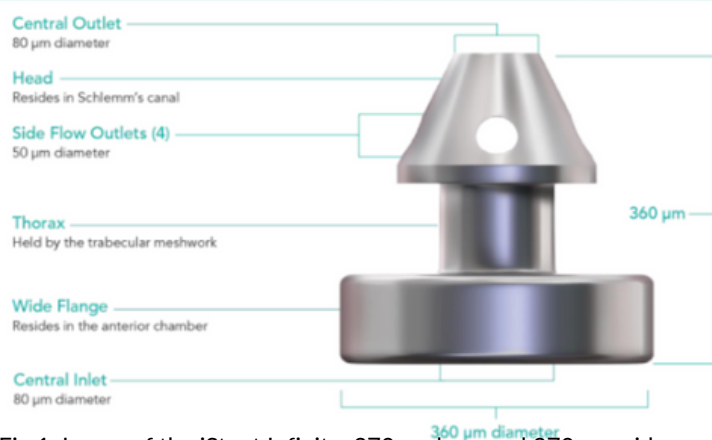


Fig 1. Image of the iStent Infinite. 370µm long and 370µm wide

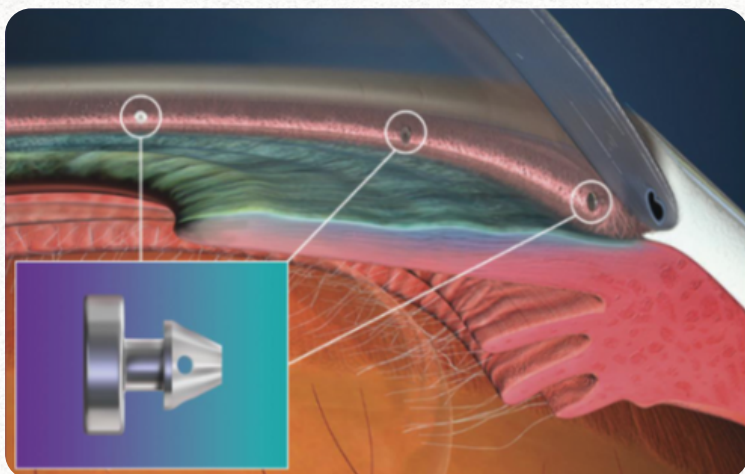


Fig 2. Gonioscopic image of the anterior chamber angle demonstrating 3 iStent Infinite insitu

Which patients are suitable for an iStent?

The iStent is generally used for patients with mild to moderate open-angle glaucoma, particularly those whose IOP is not adequately controlled on topical medications, or who cannot tolerate drops due to side effects such as ocular toxicity.

One of the primary benefits for the General Ophthalmologist is in combination with cataract surgery where patients would benefit from a lower intraocular pressure (IOP), if they are at a risk of developing glaucoma/ocular hypertension or for those with open-angle glaucoma (to avoid the use of topical pressure lowering therapy).

The goal is to achieve sustained IOP reduction while minimising medication burden and preserving quality of life through a minimally invasive approach.

iStent with Cataract Surgery

The iStent is considered when it is inserted at the same time as cataract surgery in patients with coexisting cataract and glaucoma - it is usually done at the end of the cataract procedure following insertion of the intraocular lens (IOL). Meta-analyses and registry data show that combined surgery achieves greater IOP and medication reduction than cataract surgery alone.

Initial studies revealed Mean IOP reductions are ~9% with a single iStent versus ~4% for cataract surgery alone, and up to 27% with 2 stents. The latest generation of the iStent allows 3 iStents to be inserted, with initial studies reporting a mean percentage IOP reduction of 40% at 6 months, with sustained reductions of approximately 31% at 6-12 months and 30-33% at 36-60 months.^{6,7}

The additional benefit to patients includes a reduction in medication use typically by ~1.33 bottles with combined surgery versus 1.01 with cataract surgery alone.^{3,4}

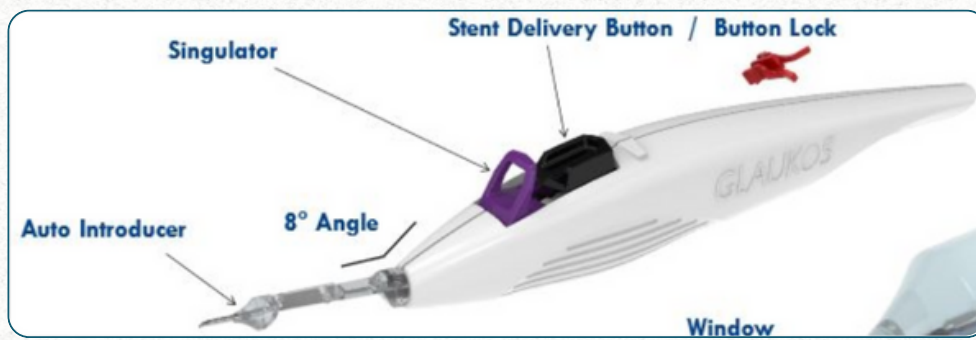


Fig 3. Image of the injector of the iStent Infinite containing three iStents within the device.

Standalone iStent

The benefit of this minimally invasive procedure is that iStent implantation can be performed as a standalone procedure, either before or after cataract surgery. Evidence suggests ~31% mean IOP reduction at 6-12 months (absolute ~7 mmHg), sustained up to 5 years. Medication burden typically drops by 1.0–1.2 bottles.^{6,7} Results are best in eyes with higher baseline IOP; effectiveness is lower in uncontrolled glaucoma.^{6–8}

iStent infinite

The newest generation of the iStent is the iStent infinite which consists of three trabecular micro-bypass stents (as shown in Figures 2, 3 and 4). In a multicentre trial, 76.1% achieved ≥20% mean diurnal IOP reduction at 12 months on the same or fewer medications, with mean IOP reductions of 5.9 mmHg overall, 8.1 mmHg in patients uncontrolled on maximal medications, and 5.5 mmHg in those with failed prior surgery.^{2,9}

Medication use fell by ≥30% in 53% of patients without additional surgical intervention or safety events.⁹

The best utility of the new iStent Infinite for the surgeon is the unique design of the injector. It provides a platform allowing ease of insertion intraoperatively for the surgeon and allows insertion of 3 iStents (rather than 2 in the previous versions).

The iStent Infinite injector allows multiple “clicks” to fire the iStent to ensure it is in the trabecular meshwork, allowing ease of insertion of stents.



Clinical Case Studies

Case 1 – JS

JS presented as an emergency following a routine optometrist eye exam, with open-angle glaucoma and an IOP of 43mmHg. The patient had advanced glaucoma in the left eye (LE) and moderate glaucoma in the right eye (RE). Initial IOPs were managed medically as an emergency until definitive intervention.

- LE management:

Required urgent trabeculectomy due to advanced glaucoma on initial presentation.

- RE management:

- Maxidex for ocular surface toxicity + Simbrinza (only tolerated glaucoma medication due to toxicity).

- Combined cataract extraction and iStent Infinite implantation approximately 9 months later, once the LE had stabilised following urgent glaucoma surgery.

- Post-op results: As of August 2025, right eye uncorrected visual acuity (UAVA) was 6/6 with IOP of 12 mmHg on no topical medications. The patient reported improved comfort and vision stability.

- This case illustrates the benefit of combining cataract surgery with iStent in patients intolerant to glaucoma medications, achieving both functional vision improvement and medication freedom.

Case 2 – PS

PS, a pseudophakic patient with glaucoma, experienced severe ocular surface toxicity from multiple topical agents, including both preserved and preservative-free formulations. He failed to respond adequately to medication changes and did not respond adequately to red-light LLLT therapy.

- **Procedure:** Underwent standalone iStent infinite implantation
- **Post-op results:** At the 8-month follow-up, eyes were white and comfortable, with IOP of 10 mmHg RE and 12 mmHg LE on no glaucoma drops.

This case highlights the potential of iStent infinite as a standalone procedure to achieve excellent IOP control without medications in patients intolerant to drops.

Summary

The Glaukos iStent Infinite offers a minimally invasive, effective, and safe option for lowering IOP in mild-moderate open-angle glaucoma. Whether combined with cataract surgery or performed as a standalone procedure, it can reduce medication burden and improve patient comfort.

- Combined cataract + iStent: Modest IOP reduction with significant medication reduction and minimal risk.
- Standalone iStent: Greater IOP lowering potential, especially for patients with higher baseline IOP or medication intolerance.
- These two cases demonstrate how MIGS devices like iStent can be tailored to individual needs, whether in conjunction with cataract surgery for visual rehabilitation or as a drop-free solution in refractory cases. It provides great results post-operatively with no pain or irritation, and a reduction in IOP without the needs for glaucoma medications.

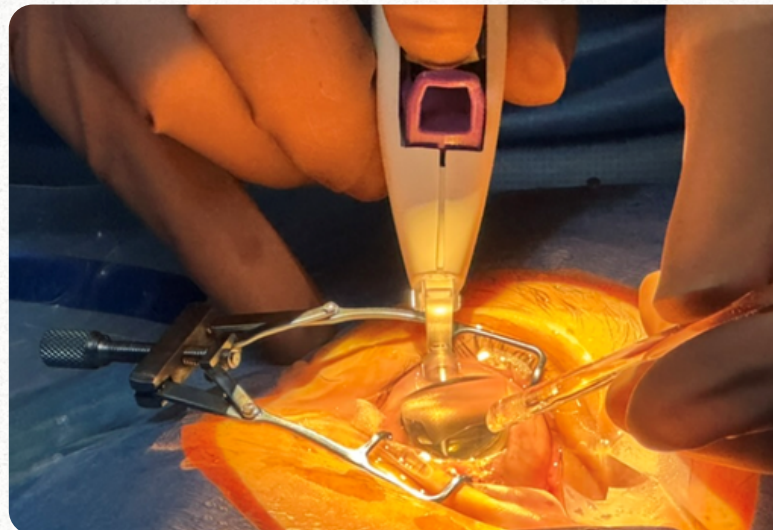


Fig 4. Dr Nisha Sachdev inserting an iStent Infinite in a patient at the end of cataract surgery and intraocular lens insertion. A Gonio lens is used on the eye to view the angle whilst inserting the iStent

References

1. Shalaby WS et al. iStent Inject: Comprehensive Review. *Journal of Cataract and Refractive Surgery*. 2021;47(3):385-399.
2. Reporting Clinical Endpoints in Studies of Minimally Invasive Glaucoma Surgery. *American Academy of Ophthalmology* (2024).
3. Malvankar-Mehta MS et al. iStent With Phacoemulsification Versus Phacoemulsification Alone for Patients With Glaucoma and Cataract: A Meta-Analysis.
4. Wang SY et al. Ocular Antihypertensive Medication Use After iStent Implantation Concurrent With Cataract Surgery vs Cataract Surgery Alone in a Large US Health Care Claims Database. *JAMA Ophthalmology*. 2019;137(1):21-27.
5. Gedde SJ et al. Primary Open-Angle Glaucoma Preferred Practice Pattern. *Ophthalmology*. 2021;128(1):P71-P150.
6. Healey PR et al. Standalone iStent Trabecular Micro-Bypass Glaucoma Surgery: A Systematic Review and Meta-Analysis. *Journal of Glaucoma*. 2021;30(7):606-620.
7. Malvankar-Mehta et al. iStent as a Solo Procedure for Glaucoma Patients: A Systematic Review and Meta-Analysis. *PloS One*. 2015;10(5):e0128146.
8. The Effectiveness and Safety of One-Stage iStent-based Micro-Invasive Glaucoma Surgery-a Retrospective Study. Hajduga-Szewczyk M et al. 2023;10:1273889. doi:10.3389/fmed.2023.1273889.
9. Sarkisian SR et al. Effectiveness and Safety of iStent Infinite Trabecular Micro-Bypass for Uncontrolled Glaucoma. *Journal of Glaucoma*. 2023;32(1):9-18.



FUTURE ADVANCEMENTS IN OPHTHALMOLOGY

WHAT'S COMING NEXT IN GLAUCOMA CARE?

Long-acting drug implants (fewer drops):

- iDose TR (travoprost) is FDA-approved and rolling out in the US; phase 3 data show durable IOP control after a single intracameral implant. Australian availability is TBD. Similar hydrogel/travoprost implants (e.g., OTX-TIC/PAXTRAVA) are in phase 2 with 6–12-month IOP lowering reported.

One-and-done laser - no gonio lens:

- Direct SLT (DSLT) automates SLT through the limbus (no contact lens); the BELKIN “Eagle” platform has FDA clearance and was acquired by Alcon to scale access.

At-home & continuous IOP monitoring:

- iCare HOME2 lets patients capture diurnal/nocturnal IOP at home and shows reasonable agreement with Goldmann; eyemate and other implantable sensors aim for true 24/7, telemetric curves (CE-marked in Europe; not yet US-approved).

AI-guided risk stratification:

- Deep-learning algorithms applied to OCT RNFL and ganglion cell analysis can now predict glaucoma progression more accurately than human graders in some studies. Integration into EMRs is being piloted to help personalise follow-up intervals and treatment intensity.

Minimally invasive drug-eluting stents:

- Beyond standard MIGS, stents embedded with anti-fibrotic or prostaglandin coatings are under investigation. The aim is dual action—outflow enhancement plus local drug delivery to prevent scarring and extend efficacy, with pre-clinical data looking promising.



BEYOND THE PRACTICE

Bringing Sight and Hope: My Charity Mission to Cambodia

In the middle of August, I had the privilege of participating in a life-changing charity mission with Australian Health Humanitarian Aid (AHHA). This remarkable organization provides free dental and cataract surgical care to people in the most remote regions of Cambodia - communities that otherwise have little to no access to healthcare.

A Decade of Dedication

My journey with AHHA began back in 2012, when we were traveling to Vietnam to deliver much-needed Ophthalmic services. From 2012 to 2015, our mission focused on Vietnam, but in 2015, we shifted our attention to Cambodia. This recent trip marked my first return after the COVID-19 pandemic, making it an especially meaningful reunion with fellow surgeons and friends who share a unique passion for humanitarian work.

Journey to Cambodia

Preparation for the mission was no small feat. Our team set off with over 1,000 kilograms of surgical equipment and consumables - most of which had been generously donated by surgical supply companies. The day after our arrival, we immediately set about transforming a local hospital into a fully functioning surgical theater, assembling microscopes, unpacking boxes, and preparing our workspace.

Empowering Local Medical Professionals

One of the highlights of the mission was the opportunity to train local Cambodian ophthalmology trainees. We brought model eyes to demonstrate phacoemulsification - the gold-standard cataract surgery technique - and shared knowledge on incision techniques and surgical best practices. This exchange of expertise is crucial to building sustainable healthcare capacity in the region.

A Marathon of Surgeries

Once our facility was ready, the real work began. Over the first three days, our team of six surgeons performed an astonishing 288 cataract operations, working side by side with dedicated nurses and support staff. Patients were meticulously screened by our optometrists and orthoptists, who confirmed diagnoses and selected the appropriate lenses. The entire process was a testament to teamwork, efficiency, and shared commitment.

The cataracts were unique and very dense as most patients had Perception of Light vision or Hand Movements vision! As an experienced cataract surgeon, this was very rewarding performing these operations.

Witnessing Miracles

The most rewarding moments came during postoperative assessments. Many of our patients had resigned themselves to a life without sight, never imagining they would have access to such life-changing care. To witness their joy - and tears of gratitude - on the day after surgery was profoundly moving. It's a powerful reminder of the impact that compassionate healthcare can have.

A Legacy of Service

This year marked the 10th anniversary of AHHA's work under its current name, though its roots stretch back to the Vietnam Vision Project, which began in 2003. The mission's continued success is thanks to the tireless efforts of our team leaders and organizers, whose behind-the-scenes work ensures every trip runs smoothly.

Looking Ahead

Being part of this mission is an honor and a humbling experience yet again! I am committed to continuing this work in the years ahead, helping to bring sight, hope, and healing to those who need it most.

If you're interested in learning more or supporting this incredible cause, please let me know!



The fantastic team in theatre including surgeons, nurses, sterilisation, and stock team.



Dr Nisha Sachdev performing cataract surgery.



Theatre set up - three surgeons in one theatre room.



Patients waiting for cataract operations.

That's all for this month's edition!

We hope you enjoyed the clinical insights, updates, and a little fun along the way. As always, please don't hesitate to get in touch if you have any questions, referral queries, or if you'd like to discuss a case in more detail, via email or phone.

Thank you for your ongoing partnership - we look forward to working together to provide the best care for your patients.

Warm regards,

Dr Nisha Sachdev and Team.