SEE BETTER.
TREAT BETTER.

OPHTHALMOLOGISTS HAVE BEEN AT THE FOREFRONT OF ADVANCES IN IMAGING AND VISUALIZATION SINCE THE FIELD'S INCEPTION, LEADING TO A SIGNIFICANT ADVANTAGE IN COMPARISON TO OTHER SPECIALTIES.

Despite these advances, proper visualization of the iridocorneal angle – essential in the era of minimally invasive glaucoma surgery (MIGS) – remain challenging.

In a recent survey conducted by the American Society of Cataract and Refractive Surgery (ASCRS) (1), nearly half of the members and attendees did not perform MIGS procedures. Furthermore, about one-quarter of respondents did not perform any laser treatments for glaucoma, despite the growing effectiveness of selective laser trabeculoplasty (SLT) and MIGS in reducing dependency on eye drops during the early stages of glaucoma.

Visualization challenges remain a primary reason why many ophthalmologists avoid these procedures.

The first challenge lies in the lack of familiarity with using a gonioscopic lens for proper angle visualization and treatment. Poor visualization with the gonioscope can lead to epithelial complications and missed shots, which can cause inflammation during selective laser trabeculoplasty (SLT).

Even for those who are experienced with gonioscopy, the significant variation in trabecular meshwork (TM) and iridocorneal angle anatomy can complicate visualization. For example, the TM may vary greatly in pigmentation, from heavily pigmented to entirely unpigmented. Additionally, bleeding can obstruct visualization.

This anatomical variability often leads to mistakes. Surgeons may inadvertently treat the wrong tissue or misplace a MIGS device. In some cases, stents may be injected into the sclera or ciliary body, or implanted too deeply into the posterior wall, rendering them ineffective or causing complications. For instance, a study found that 72% of iStent devices (Glaukos) were not optimally positioned within Schlemm's canal.[2]

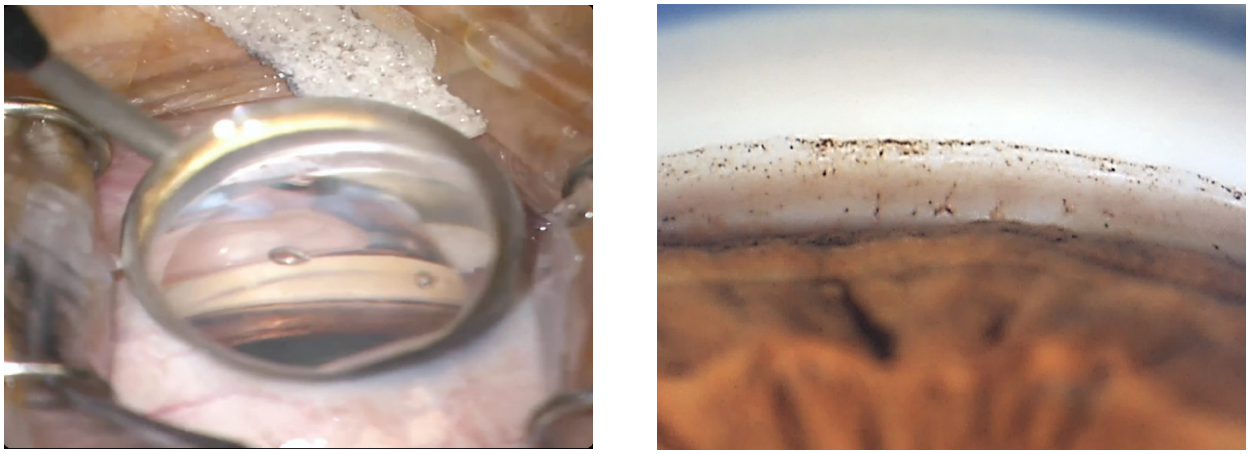

FIGURE 1

Suboptimal visualization with conventional intraoperative gonioscopy vs. exceptional clarity with high-definition, hands-free gonioscopy of FLIGHT

The Future of Visualization is Here.

Recent advancements have introduced novel approaches to address the longstanding challenges in angle-based visualization. One such approach leverages an image-guided femtosecond laser designed to noninvasively create an aperture that connects the anterior chamber to Schlemm's canal with micron-level precision. This procedure, known as femtosecond laser image-guided high-precision trabeculotomy (FLIGHT), bypasses the resistance to aqueous humor outflow, offering a solution to a critical gap in glaucoma treatment.

The FLIGHT procedure uses a handheld gonioscopic camera to provide a real-time, high-resolution video of the iridocorneal angle, helping to identify the precise location for treatment. The femtosecond laser then performs a highly accurate trabeculotomy without the need for a corneal incision.[3]

Key Advantages of FLIGHT.

The FLIGHT platform offers an entirely new level of imaging and precision in glaucoma therapy. Thanks to its high level of accuracy, FLIGHT may provide outcomes comparable to OR-based procedures but without the risks or burdens associated with traditional surgery.

The imaging and visualization capabilities of FLIGHT represent a breakthrough. With high-definition, hands-free gonioscopy, surgeons can visualize key anatomical features in the angle and guide surgical planning with unprecedented clarity. This can help optimize treatment outcomes, ensuring that the target for channel creation is accurately addressed.

Moreover, the proprietary curved patient interface, ViaLens, helps stabilize the patient's head and body during treatment, giving surgeons complete control over the patient's head and body movement.

The FLIGHT procedure represents a technological leap forward in glaucoma management, potentially increasing the efficiency, safety and effectiveness of treatment.

The incision-free nature of FLIGHT opens the possibility for earlier intervention in glaucoma. This could reduce, or even eliminate, the high noncompliance rates associated with topical medications and provide a viable alternative to more invasive surgical procedures.

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