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## What's New in Schlemm's Canal MIGS?

### Announcer:

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### Dr. Petrakos:

What does the American Academy of Ophthalmology think about MIGS devices implanted into Schlemm's canal, and does more recent evidence support those recommendations?

This is CME on ReachMD, and I'm Dr. Paul Petrakos.

### Dr. Singh:

And I'm Dr. Paul Singh.

We have, currently, the iStent inject as well as a Hydrus Microstent that are both approved and recommended within a Preferred Practice Patterns for patients with primary open-angle glaucoma, and went mild to moderate, actually. And the iStent is a very, I think, beneficial device and technology because it does preserve the natural anatomy. These are 80-micron stents that go into the conventional pathway, bypass trabecular meshwork, sit in the Schlemm's canal. And so you really maintain a majority of the trabecular meshwork to be untouched. And so we really want to space these stents about 2 or 3 clock-hours away, so it's really getting a good 4 to 5 to 6, even, clock-hours of access to the collector system as well.

What's also nice is the Hydrus, which is a microstent that's also scaffolding the canal. So it enters into the Schlemm's canal, scaffolds the Schlemm's canal, bypass the trabecular meshwork, and allows us access into the collector system, as well. This spans about 3 clock-hours, so because a lot of our patients do have a collapse of the Schlemm's canal, it's not just trabecular meshwork that's been diseased, the canal itself can collapse and also the collector system itself may not be healthy. And so having the Hydrus in there bypassing TM, scaffolding the Schlemm's canal, allows us access to again, multiple collector systems as well. So you have kind of that trimodal effect, as well.

But let's look at the evidence. So what does the evidence show comparing these devices, Paul?

### Dr. Petrakos:

That is a great question. I have two studies that I'd love to talk more about today. The COMPARE study, which was published in 2020 by Dr. Ike Ahmed, and he compared actually, the two iStents versus the Hydrus as standalone procedures. In the outcomes, there was no statistical significance at 12 months in IOP reduction between the two, and the safety profiles were very similar. There were, however, limitations in the study. Unfortunately, there's a reluctance of the investigators to conduct a 12-month washout in a high proportion of the eyes that received the eye stents. And there was too small of a sample size to fully evaluate the safety differences, as the study was powered to detect differences in the overall efficacy.

The HORIZON data, as now we have 5-year data, was published in 2022, and it compared Hydrus and cataract surgery versus cataract

surgery alone. In the outcomes for that, the group that had the Hydrus with cataract surgery, their overall had lower intraocular pressures and a decrease in medication use as compared to the cataract surgery-alone group. And two-thirds of the patients that had the Hydrus and cataract surgery were medication free at 5 years. It showed a reduced need for postoperative incisional glaucoma filtration surgery for the Hydrus group, and importantly, they did not affect corneal endothelial adversely in those patients.

**Dr. Singh:**

I think that's a great summary and I couldn't agree with you more. The safety of these stents are really paramount.

And as we wrap up, I'd just like to make sure that all our colleagues realized these are extremely safe devices that do show now, with large phase 3 clinical trials that are randomized, against cataract surgery alone to be not only safe, but actually have significant efficacy, reducing the drop burden. And the HORIZON 5-year trial showing us less secondary incisional surgeries, less visual field loss based upon the more fields analysis as well, shows us that compared to cataract surgery alone, we have a better chance of reducing the drop burden for our patients and less chance of patients needing secondary incisional surgeries. And that's really key, another surrogate for are we helping stabilize patients, preventing progression over time as well?

Paul, thank you so much for joining me today, as well.

**Dr. Petrakos:**

These are all great points, Paul. I just want to add the iStent and the Hydrus, again, to summarize for our listeners, they both reduce intraocular pressure; they have similar safety profiles overall.

Thank you so much, Paul. And thank you to our audience for tuning in. This has been CME on ReachMD.

**Announcer:**

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